General Notes:

1. All construction shall be in accordance with the latest standards 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 the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
4. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
5. Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993)." A minimum spacing of 20' shall be maintained between any streetlight and any tree.
6. ZONING: SITE IS ZONED RR-DEO.
7. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
8. THE CEMETERY INVENTORY MAPS DO NOT SHOW ANY CEMETERIES WITHIN THE PROJECT LIMITS.
9. THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS WITHIN OR ADJACENT TO THE PROJECT LIMITS.
10. SITE ANALYSIS

GROSS SITE AREA:	26.34 ACRES±
AREA OF THIS SUBMISSION	26.34 ACRES±
AREA OF 100 YEAR FLOODPLAIN:	2.46 ACRES±
AREA OF ROADWAY (PUBLIC):	1.21 ACRES±
AREA OF LOTS:	4.76 ACRES±
AREA OF BUILDABLE PRESERVATION PARCEL:	16.73 ACRES±
AREA OF NON-BUILDABLE PRESERVATION PARCEL:	3.63 ACRES±

NUMBER OF LOTS: 6 SFD, 1 BUILDABLE PRESERVATION PARCEL, 2 NON-BUILDABLE PRESERVATION PARCELS

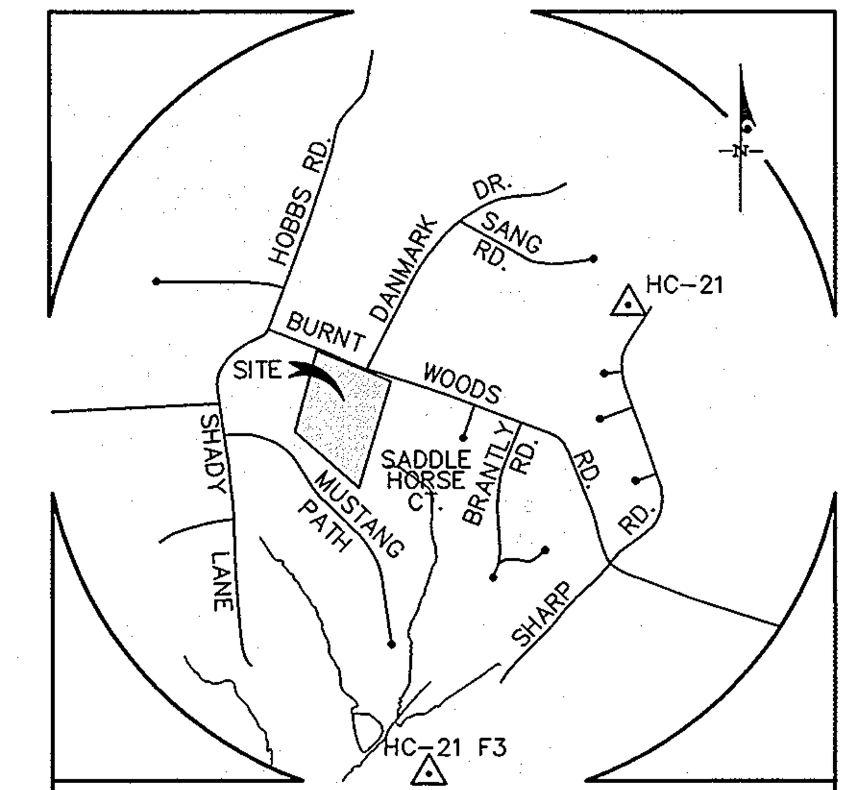
11. SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED JULY 1968.
12. TOPOGRAPHY INDICATED WAS TAKEN FROM AERIAL TOPOGRAPHY PREPARED DURING JULY, 2003 BY MCKENZIE-SNYDER, INC.
13. BOUNDARY INFORMATION SHOWN IS BASED UPON A FIELD SURVEY PREPARED BY GUTSCHICK, LITTLE, AND WEBER, P.A. ON OR ABOUT MAY, 2003.
14. WETLAND DELINEATION BY EXPLORATION RESEARCH, INC. AND APPROVED BY COE 8-23-04.
15. THE 100-YEAR FLOOD PLAIN LIMITS WERE DETERMINED BY THE FLOODPLAIN STUDY PREPARED BY GUTSCHICK, LITTLE AND WEBER, P.A. APPROVED UNDER SP-04-04.
16. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS.
17. TRAFFIC STUDY WAS PREPARED BY TRAFFIC CONCEPTS, INC..
18. NO SEDIMENT CONTROL DEVICES WILL ENCROACH BEYOND THE L.O.D. SHOWN. THE GROUND IN AREA OF THE SEPTIC FIELDS WILL BE RETURNED TO EXISTING GRADE UPON COMPLETION OF THE TRENCH CONSTRUCTION. THEREFORE, NO PROPOSED GRADES HAVE BEEN SHOWN IN THOSE AREAS.
19. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
20. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL REQUIRING 38 SHADE TREES AND 24 EVERGREEN TREES PROVIDED WITH LANDSCAPE SURETY IN THE AMOUNT OF $15,000.00 WITH THE DEVELOPER'S AGREEMENT FOR STORMWATER MANAGEMENT+PERIMETER LANDSCAPING.
21. THE PERENNIAL PORTION OF THE STREAM ON THE SUBJECT PROPERTY IS A CLASS III AND IS SUBJECT TO A 100' STREAM BANK BUFFER. THE PORTIONS THAT ARE INTERMITTENT ARE SHOWN WITH A 50' STREAM BANK BUFFER.
22. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, 100 YEAR FLOOD PLAIN AREAS OR FOREST CONSERVATION EASEMENTS.
23. WATER IS TO BE PROVIDED IN INDIVIDUAL WELLS.
24. SEWER IS TO BE PROVIDED BY A COMMUNITY SEPTIC SYSTEM, AS SHOWN ON NON-BUILDABLE PRESERVATION PARCEL "C". THE PERC CERTIFICATION PLAT WAS APPROVED BY THE HEALTH OFFICER ON NOVEMBER 18, 2003.
25. NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
26. THE GEOTECHNICAL REPORT WAS PREPARED BY HILLIS-CARNES, DATED MAY 25, 2004 AS PART OF THE PRELIMINARY PLAN.
27. THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. HC21 AND 21F3 WERE USED FOR THIS PROJECT.
28. THE BUILDABLE PRESERVATION PARCEL IS TO ENCOMPASS THE FOLLOWING PURPOSES:
    A. CONTAINS THE EXISTING HOUSE AND BARN FOR POSSIBLE EQUESTRIAN USES.
    B. ENVIRONMENTAL PROTECTION, INCLUDING FLOODPLAIN, WETLANDS, STREAMS AND FOREST CONSERVATION.
29. THE NON-BUILDABLE PRESERVATION PARCEL "B" IS SOLELY FOR SWM AND TO BE OWNED BY THE HOA.
30. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION OBLIGATION BY THE PLACEMENT OF 1.99 ACRES OF AFFORESTATION INTO AN EASEMENT AREA WHICH IS SUFFICIENT TO MEET THE BREAK EVEN POINT OF 1.92 ACRES OF THE REQUIRED AFFORESTATION. SURETY IN THE AMOUNT OF $43,432.20 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS PLAN.
31. THERE IS AN EXISTING RESIDENCE, WHICH WILL BE REMOVED, ON BUILDABLE PRESERVATION PARCEL "A". A NEW RESIDENCE WILL BE BUILT IN ITS PLACE

32PUBLIC SEWERAGE FOR THIS DEVELOPMENT IS PROVIDED BY A SHARED SEPTIC COLLECTION SYSTEM AND A SHARED SEPTIC TREATMENT SYSTEM. BOTH COLLECTION AND TREATMENT SYSTEMS ARE TO BE PROVIDED UNDER SEPERATE PLANS PER CONTRACT NUMBERS 50-4458-D & 50-4459-D RESPECTIVLY.

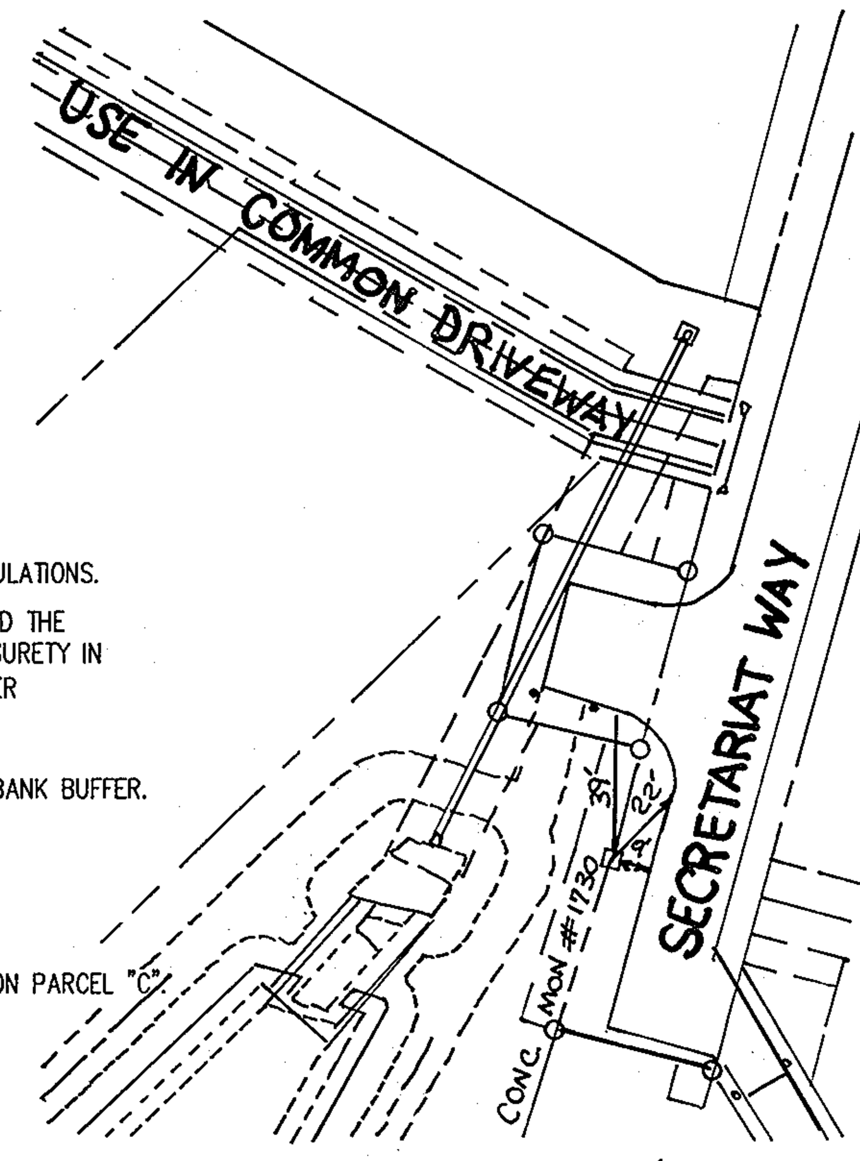
33. PRESERVATION PARCEL EASEMENT HOLDERS:
    PARCEL "A" - AGRICULTURAL LAND PRESERVATION PROGRAM OF HOWARD COUNTY (PRIVATELY OWNED)
    PARCEL "B" - HOWARD COUNTY (TO BE CONVEYED TO THE HOA WITH HOWARD COUNTY AS THE EASEMENT HOLDER)
    PARCEL "C" - HOWARD COUNTY (TO BE CONVEYED TO THE HOA WITH HOWARD COUNTY AS THE EASEMENT HOLDER- Shared Septic system is under 5,000 gpd and so is a non-MDE permit system).
34. A MAINTENANCE AGREEMENT FOR THE SHARED DRIVEWAY BETWEEN BUILDABLE PRESERVATION PARCEL A AND NON BUILDABLE PRESERVATION PARCEL C WILL BE RECORDED SIMULTANEOUSLY WITH THE FINAL PLAT.
35. STORMWATER MANAGEMENT FOR 5.80 ACRES OF THE PROPOSED SITE IS PROVIDED BY THE PROPOSED POCKET POND (P.5). A FOREBAY PROVIDES PRETREATMENT FOR THIS FACILITY. THE WQV REQUIREMENT IS MET BY A PERMANENT POOL AND THE CPV REQUIREMENT IS MET BY 1-YR EXTENDED DETENTION THROUGH A 2.25" ORIFICE. THE REV REQUIREMENT FOR THIS SITE IS MET BY A GRASS CHANNEL PASSING THROUGH THE REAR OF LOTS 1-5. MANAGEMENT OF THE 1-YEAR PEAK DISCHARGE AT STUDY POINT 1 IS ALSO ACCOMPLISHED BY THIS FACILITY. THIS FACILITY IS ENTIRELY WITHIN CUT. THIS IS A NON-MD378 FACILITY. THIS FACILITY IS TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
36. 95% COMPACTION REQUIRED IN FILL PER AASHTO-T180.
37. THE DESIGN FLOW FOR THE SHARED SEPTIC SYSTEMS EQUALS 4950 GPD. (5 LOTS X 5 BEDROOMS X 150 GALS. PER BEDROOM & 2 LOTS X 4 BEDROOMS X 150 GALS. PER BEDROOM)
38. NOTICE OF INTENT TO ISSUE A GROUNDWATER PERMIT AND A WETLAND CROSSING PERMIT ARE COVERED BY MDE TRACKING NO. 200762517

FINAL ROAD PLAN
MAPLEWOOD FARMS
Lots 1 - 6, Buildable Preservation Parcel "A"
And Non-Buildable Preservation Parcels "B" & "C"

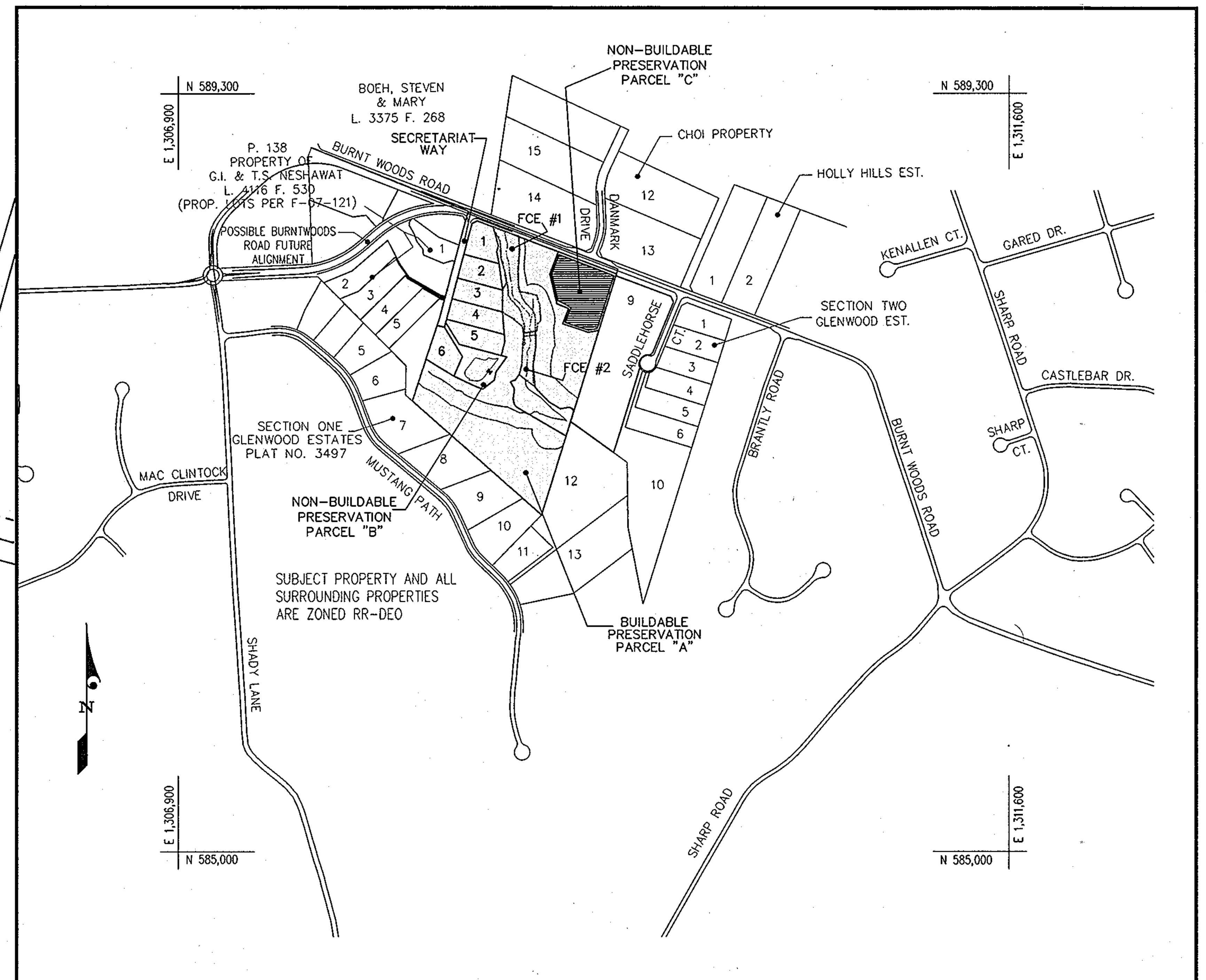
RIGHT OF WAY ELEVATION CHART NAD.83		
R/W PT. NO.	DISCRIPTION	ELEVATION
1002	CONC. MONUMENT	563.47'
1003	REBAR & CAP	563.79'
1004	REBAR & CAP	568.42'
1005	REBAR & CAP	567.44'
1024	REBAR & CAP	559.19'
1730	CONC. MONUMENT	569.95'



VICINITY MAP
SCALE: 1" = 2000'
ADC: MAP PAGE 9: D/E 7.



CONC. MONUMENT #1730

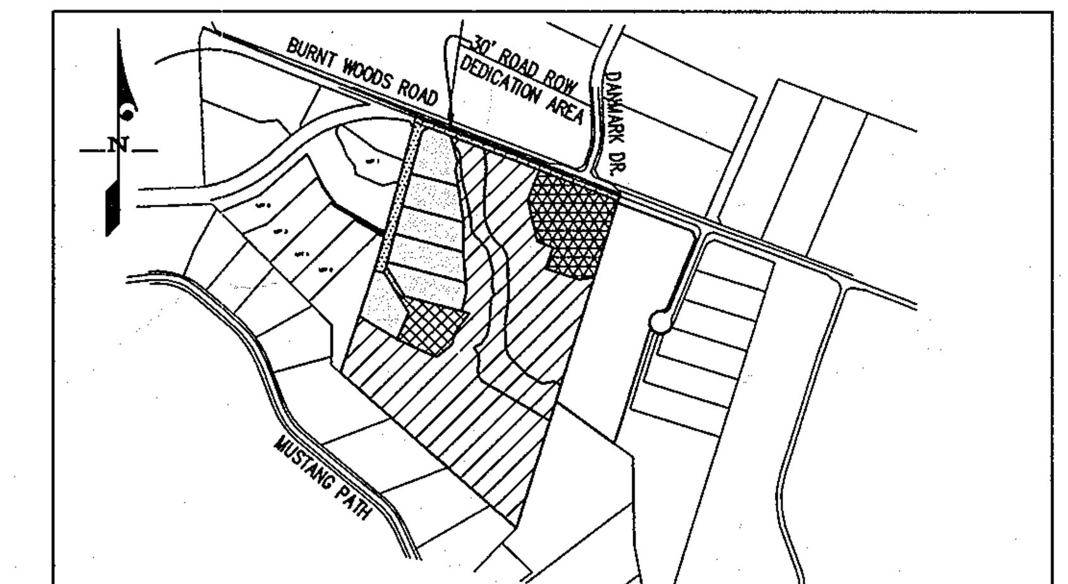


N 589,300
E 1,306,900
BOEH, STEVEN & MARY L. 3375 F. 268
NON-BUILDABLE PRESERVATION PARCEL "C"
N 589,300
E 1,311,600
SECRETARIAT WAY
CHOI PROPERTY
P. 138 PROPERTY OF G.I. & T.S. NESHAWAT L. 4116 F. 530 (PROP. LOTS PER F-07-121)
BURNT WOODS ROAD
15
14
12
HOLLY HILLS EST.
DRIVE
DANMARK
13
POSSIBLE BURNTWOODS ROAD FUTURE ALIGNMENT
FCE #1
KENALLEN CT.
GARED DR.
SECTION TWO GLENWOOD EST.
SADDLEHORSE
CT.
FCE #2
SHARP ROAD
CASTLEBAR DR.
BRANTLY ROAD
SHARP CT.
SECTION ONE GLENWOOD ESTATES PLAT NO. 3497
MUSTANG PATH
MAC CLINTOCK DRIVE
NON-BUILDABLE PRESERVATION PARCEL "B"
BURNT WOODS ROAD
SUBJECT PROPERTY AND ALL SURROUNDING PROPERTIES ARE ZONED RR-DEO
BUILDABLE PRESERVATION PARCEL "A"
SHADY LANE
N
SHARP ROAD
E 1,306,900
N 585,000
E 1,311,600
N 585,000

LOCATION PLAN
SCALE: 1"=600'

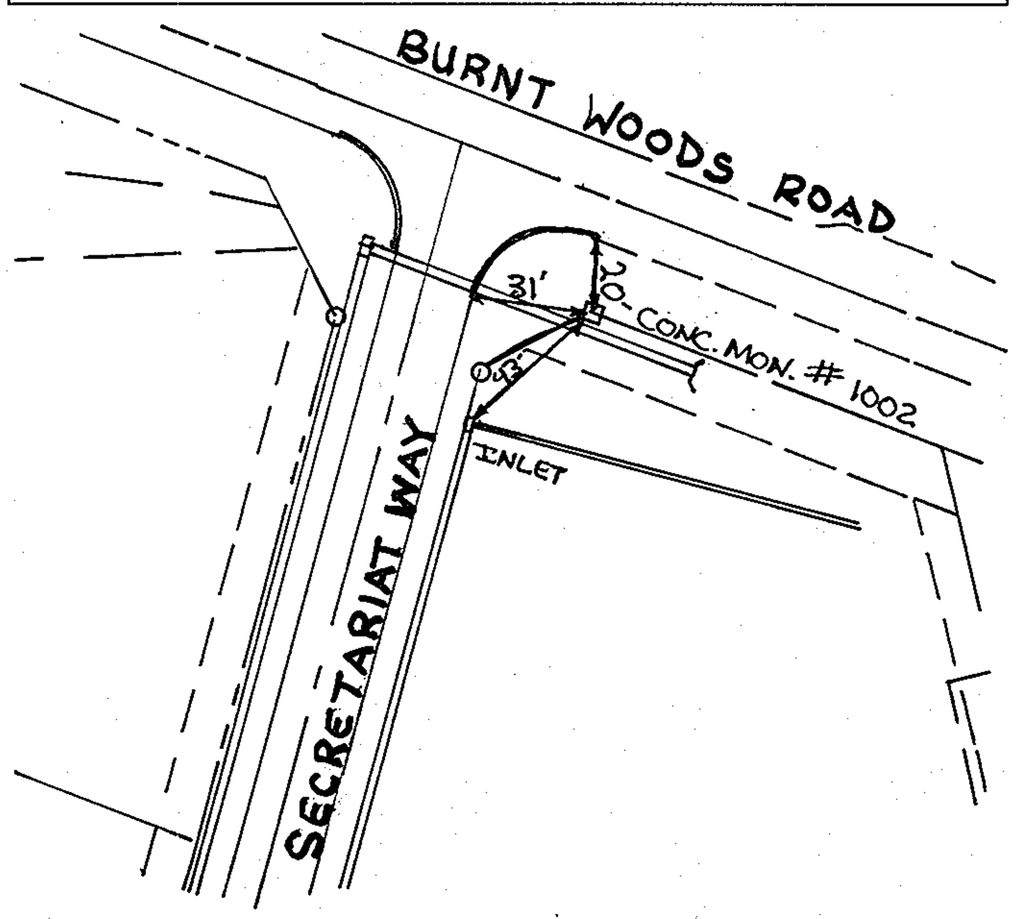
LEGEND

---570---	EXISTING CONTOURS
—570—	PROPOSED CONTOURS
▨ WELL AREA	PROPOSED WELL AREA
———	CENTERLINE OF STREAM
—FP—	100 YR. FLOODPLAIN
—SBB—	STREAM BANK BUFFER
~~	TREE LINE
● ● ● ●	LIMIT OF DISTURBANCE
—-—-—	PROPERTY LINE
B-1	SOIL BORING LOCATION
WB	WETLANDS
WB	25' WETLAND BUFFER (WB)
▭	EASEMENTS
○	PROPOSED STREET TREE
FCE	FOREST CONSERVATION ESMT. (FCE)
▨	SEPTIC FIELD
✹	PROPOSED STREET LIGHT



░	SINGLE FAMILY DETACHED (4.76 Ac.)
▨	BUILDABLE PRESERVATION AREA (16.73 Ac.)
▦	NON-BUILDABLE PRESERVATION PARCEL (SWM) (1.09 Ac.)
▩	NON-BUILDABLE PRESERVATION PARCEL (SEPTIC FIELD) (2.54 Ac.)
░	ROAD ROW (1.21 Ac.)

LAND USE MAP
SCALE: 1"=800'



CONC. MONUMENT # 1002

DENSITY CALCULATIONS:

GROSS AREA:	26.34 ACRES
BASE DENSITY:	6 UNITS (GROSS AREA/4.25)
FLOODPLAIN AREA:	2.46± ACRES
NET AREA:	23.88 ACRES
MAXIMUM DENSITY:	11 UNITS (MAXIMUM ALLOWABLE WITH D.E.O.: NET AREA/2)
D.E.O. UNITS REQUIRED:	1 UNIT
UNITS PROPOSED:	6 + 1 BUILDABLE PRESERVATION PARCEL

ONE D.E.O. UNIT PROVIDED UNDER F-07-074(S) /MILLER PROPERTY, TAX MAP 14, BLOCK 5, PARCEL 83

Sheet Index

STORMWATER MANAGEMENT POND A

Stormwater Management Pond A provides Quality Control (WQv) and quantity control for 5.8 acres of the proposed development. WQv is provided via a permanent pool. CPv is provided via Extended Detention. Safe passage of the 100-year design storm has been analyzed. Pond A is a Non-MDE 378 Facility

Total Drainage Area To Facility = 5.8 acres
CN = 73
Zoning: ½ ACRE RESIDENTIAL, 25% impervious
Tc = 0.301 hrs.
WQv Required = 0.11 ac-ft
WQv Provided = 0.40 ac-ft
WQv/Permanent Pool WSEL = 548.00
CPv Required = .18
CPv Provided = .23
CPv WSEL = 548.75
Rev Requirement = .04 ac
Rev To Be Provided By On Site Swales
1-YR (Qp = 0.09 cfs) (WSEL = 548.72)
10-YR (Qp = 3.23 cfs) (WSEL = 549.78)
100-YR (Qp = 14.39 cfs) (WSEL = 550.38)
Lag: 20.3 hours
Aquatic Bench = 547.00
Outfall: LOW-RISE RELEASE STRUCTURE
T.O.D. = 551.00

NOTES FOR WP-05-101

ON 4-18-05, A WAIVER WAS APPROVED ALLOWING SEPARATE ACCESS FOR THE EXISTING HOUSE ONTO BURNTWOODS ROAD (16.116(a)) AND TO DISTURB THE WETLAND BUFFER TO THE EXTENT NECESSARY TO CONSTRUCT THE PUBLIC ACCESS PLACE SHOWN (16.119(f)(1)), SUBJECT TO THE FOLLOWING CONDITIONS:

1. DISTURBANCE WITHIN THE 25' WETLAND BUFFER SHALL BE THE MINIMUM NECESSARY TO CONSTRUCT THE PUBLIC ACCESS PLACE FOR LOTS 1 TO 6 AND NON-BUILDABLE PRESERVATION PARCEL B OF THE HENRY PROPERTY AND LOTS 1 AND 2 OF THE NESHAWAT PROPERTY (SP 05-05).
2. THE APPLICANT SHALL OBTAIN A WETLAND CROSSING PERMIT FOR THE SHARED SEPTIC FORCE MAIN. A NOTE INDICATING THE APPROVED PERMIT NUMBER AND DATE SHALL BE ADDED TO THE FINAL PLAT AS APPLICABLE.
3. COMPLIANCE WITH ALL OTHER STATE AND COUNTY REGULATIONS AND REQUIREMENTS AS APPLICABLE.

STATE OF MARYLAND

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date May 26, 2008.

STATE OF MARYLAND DONALD ALAN MASON PROFESSIONAL ENGINEER No. 21443

[illegible] 2-11-11

AS-BUILT

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 12-21-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[illegible] acting HS — 7/27/07
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kent Sheubrooks for CH [illegible] — 8/08/07
Chief, Division of Land Development — Date
[illegible] — 8/6/07
Chief, Development Engineering Division CE — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\Drawings\02118\Preliminary\02118PP1.dwg | DES. DDS | DRN. DDS | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL.: 410-480-3699

COVER SHEET
MAPLEWOOD FARMS
LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590
LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RR-DEO	02118
DATE	TAX MAP - GRID	SHEET
JULY, 2007	21-5	1 OF 12

F-07-74 AS-BUILT

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STREET LIGHT SCHEDULE				
STATION / RD. AND OFFSET		LAMP TYPE	MOUNTING	
0+26.90	A 15.24' R	150-WATT HPS VAPOR	PREMIER POST TOP	14' BLACK FIBERGLASS

STREET LIGHT LEGEND

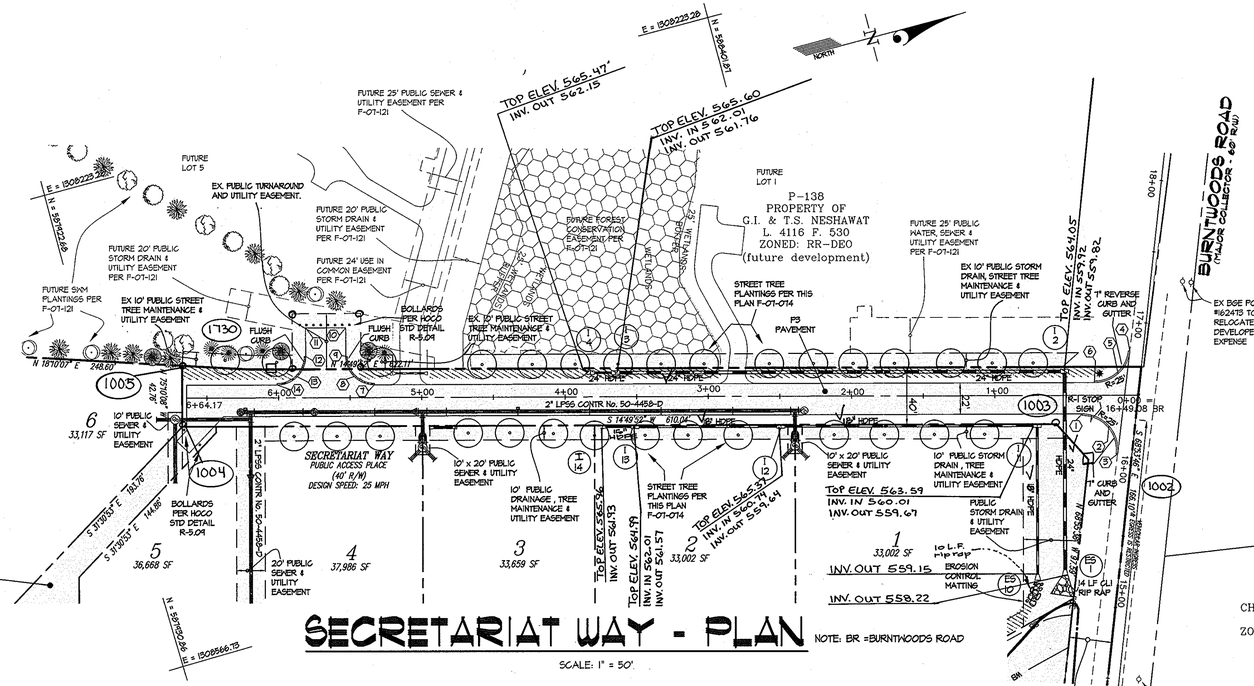
✱ PROPOSED STREET LIGHT.
150 WATT HIGH PRESSURE SODIUM VAPOR TRADITIONAIRE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS EMBEDDED POLE

FLOW LINE ELEVATION TABLE				
PT. NO	STATION	OFFSET	ELEV.	
(1)	0+39.26	13.0' L	564.76	
(2)	0+20.56	21.41' L	564.31	
(3)	0+14.44	40.91' L	~~563.99~~	563.72
(4)	0+05.78	31.09' R	565.50	
(5)	0+14.00	15.32' R	565.20	
(6)	0+30.61	9.0' R	565.34	
(7)	5+33.03	9.0' R	570.41	
(8)	5+47.17	14.86' R	570.90	
(9)	5+53.03	24.0' R	571.28	
(10)	5+53.03	44.0' R	~~571.66~~	570.88
(11)	5+81.03	44.0' R	~~571.99~~	570.94
(12)	5+81.03	29.0' R	571.45	
(13)	5+86.86	14.86' R	571.14	
(14)	6+01.03	9.0' R	570.88	

STREET TREE SCHEDULE	
LINEAR FEET OF ROADWAY	601 L.F.
NUMBER OF STREET TREES REQUIRED: STREET TREES (1:40)	30
NUMBER OF STREET TREES PROVIDED STREET TREES	30
OTHER TREES (2:1 SUBSTITUTION)	0

ALL STREET TREES TO BE OCTOBER GLORY RED MAPLE

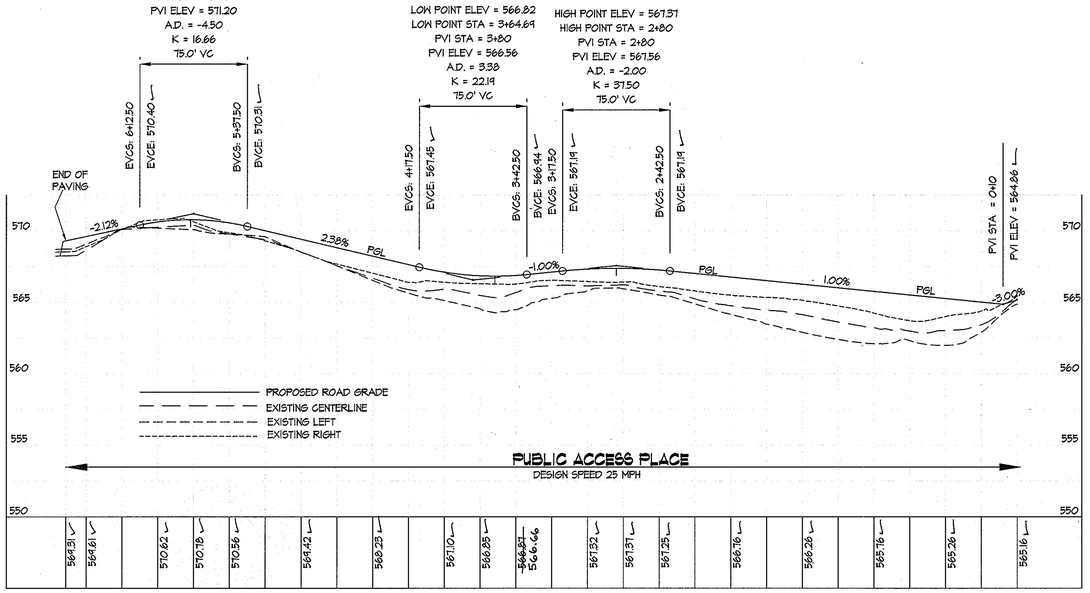
NOTE: STREET TREE SURETY SHALL BE POSTED WITH THE DPW DEVELOPER'S AGREEMENT. SEE SHEET 12 FOR SURETY NOTES AND DETAILS.



SECRETARIAT WAY - PLAN

SCALE: 1" = 50'

NOTE: ALL SIGN POSTS 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 TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.



SECRETARIAT WAY - PROFILE

SCALE: (H): 1" = 50'
(V): 1" = 5'

NOTE: ALL PROPOSED PAVING IS P-3

HOWARD COUNTY R-2.01 SECTION NUMBER

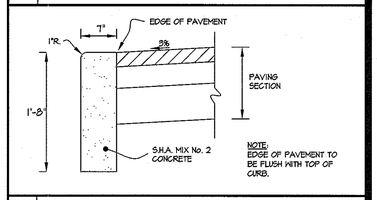
LEGEND

P-3 PAVING

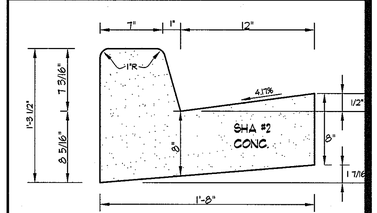
1.5" HMA SUPERPAVE FINAL SURFACE	
1" HMA SUPERPAVE INTERMEDIATE SURFACE	
2" HMA SUPERPAVE BASE	
GRADED AGGREGATE BASE*	

* NOTE:
FOR CBR 3 TO <5, USE 8" GAB
FOR CBR 5 TO <7, USE 4" GAB
FOR CBR >=7, USE 5" GAB

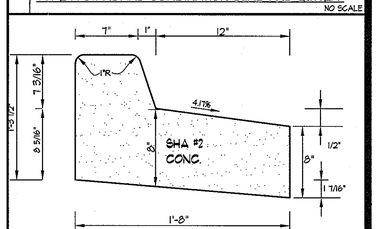
2 P-3 BITUMINOUS PAVING SECTIONS — NO SCALE



3 FLUSH CURB — NO SCALE



TYPE A STANDARD COMBINATION CURB AND GUTTER — NO SCALE



TYPE-A REVERSE CONCRETE CURB AND GUTTER — NO SCALE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date May 26, 2008.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443 Expiration Date: 12-21-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 7/27/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 8/08/07
Chief, Development Engineering Division — Date 8/10/07

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL.: 410-480-3699

ROAD PLAN AND PROFILE AND STREET TREE PLANTINGS

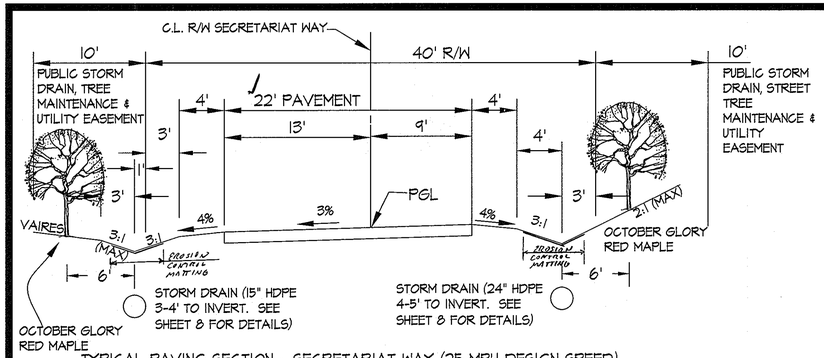
MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

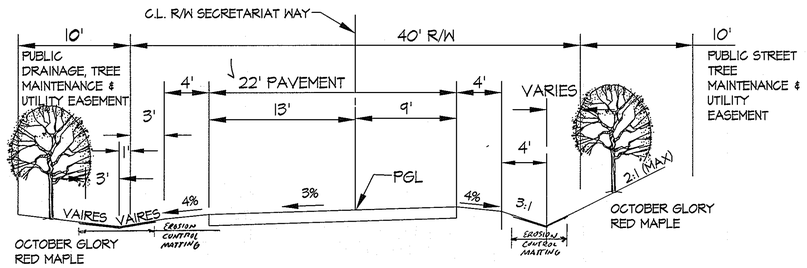
LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RR-DEO	02118
DATE	TAX MAP - GRID	SHEET
JULY, 2007	21-5	2 OF 12

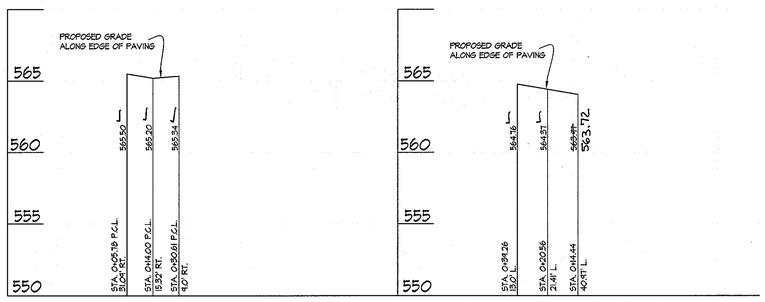
F-07-74 AS-BUILT



TYPICAL PAVING SECTION - SECRETARIAT WAY (25 MPH DESIGN SPEED)
PUBLIC ACCESS PLACE
SCALE: NTS
STA: 0+00 TO 5+77.13



TYPICAL PAVING SECTION - SECRETARIAT WAY (25 MPH DESIGN SPEED)
PUBLIC ACCESS PLACE
SCALE: NTS
STA: 5+77.13 TO 6+60.72



E.O.P. RETURN PROFILE FOR SECRETARIAT WAY AND BURNTWOODS ROAD

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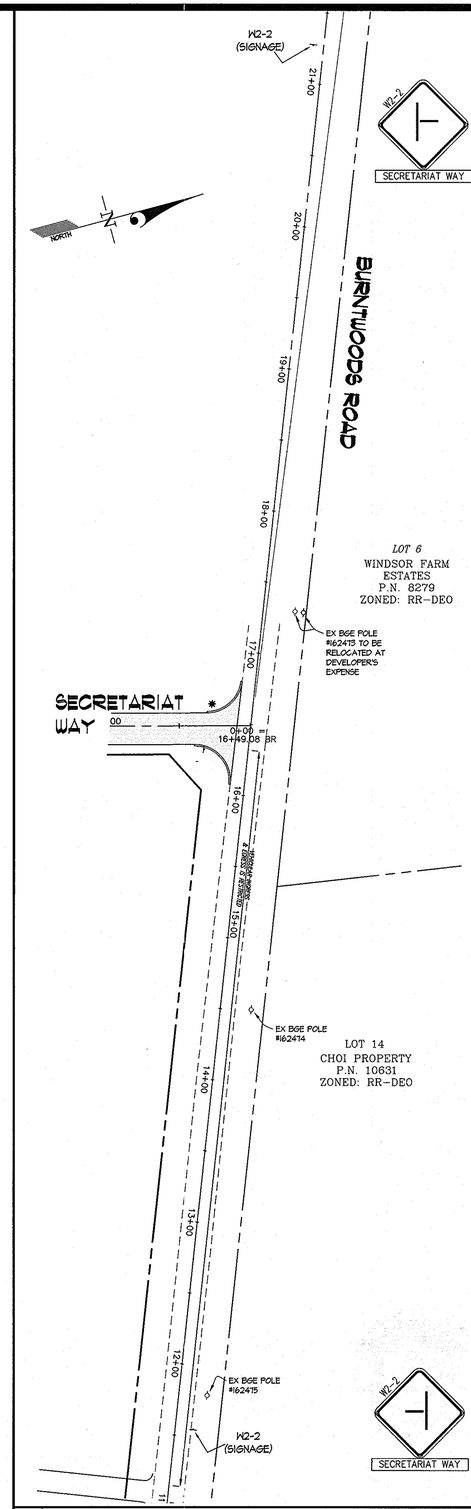


7 BURNTWOODS ROAD SIGNING & IMPROVEMENTS SCALE: 1"=50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 7/27/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 8/08/07
Chief, Development Engineering Division — Date 8/6/07

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12915, Expiration Date May 26, 2008.

STATE OF MARYLAND — DONALD ALAN MASON — No. 21413 — PROFESSIONAL ENGINEER
12-11-11
AS-BUILT

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21413 Expiration Date: 12-21-12

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\02118\FINALS\02118Road.dwg | DES. DDS | DRN. DDS | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL.: 410-480-3699

ROAD DETAILS

MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RR-DEO	02118
DATE	TAX MAP – GRID	SHEET
JULY, 2007	21-5	3 OF 12

F-07-74 AS-BUILT

Reviewed for HOWARD SCD and meets Technical Requirements.

Jim Myers/CB 7/19/07
USDA - Natural Resources Conservation Service Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[signature] 7/19/07
Howard S.C.D. Date

ENGINEER'S CERTIFICATE

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

[signature] 7-12-07
Signature of Registered Engineer DATE

DEVELOPER'S/BUILDER'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 ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIORNMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

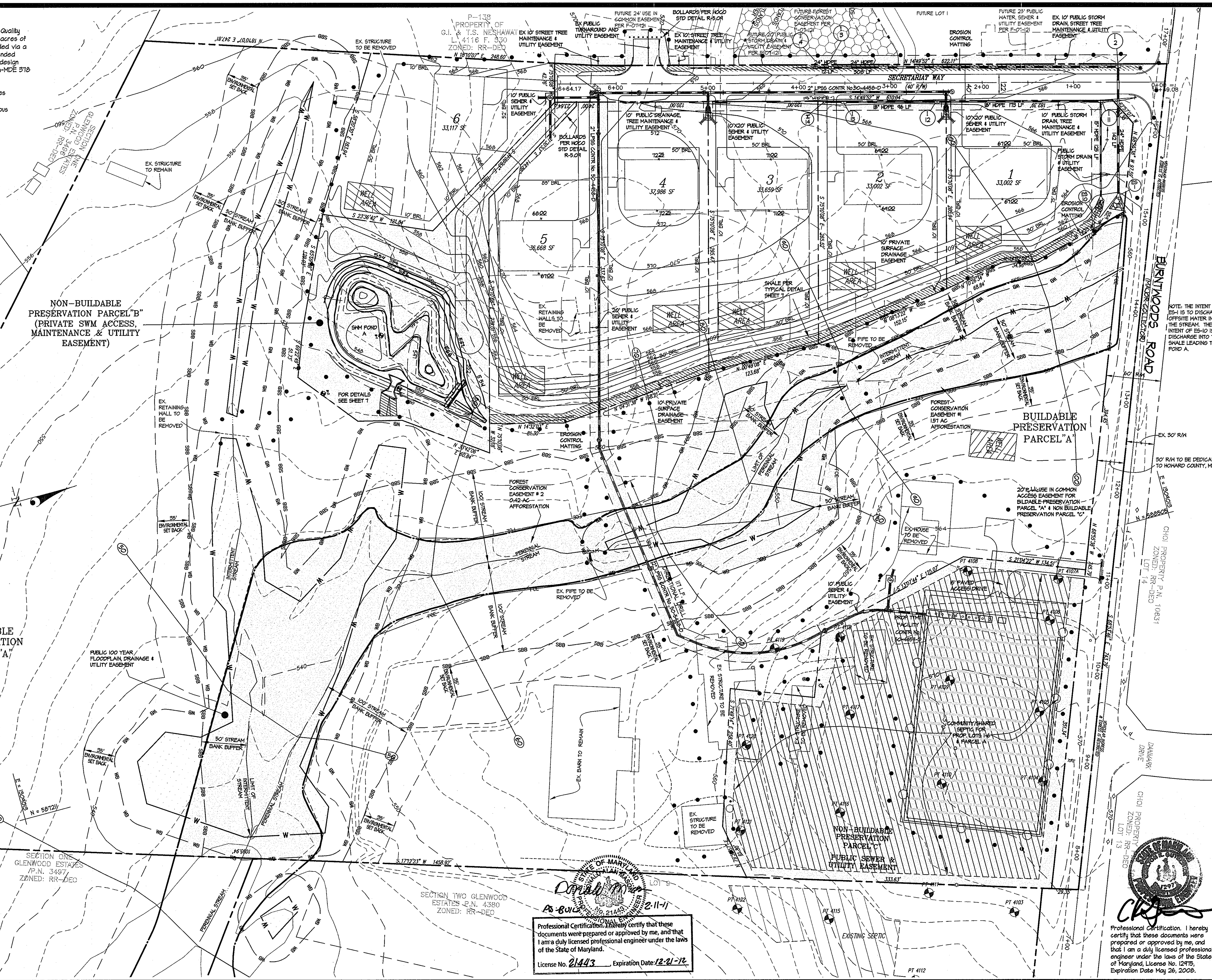
[signature] 7/12/07
SIGNATURE OF DEVELOPER/BUILDER DATE

STORMWATER MANAGEMENT POND A

Stormwater Management Pond A provides Quality Control (WQv) and quantity control for 5.8 acres of the proposed development. WQv is provided via a permanent pool. CPv is provided via Extended Detention. Safe passage of the 100-year design storm has been analyzed. Pond A is a Non-MDE 378 Facility

Total Drainage Area To Facility = 5.8 acres
CN = 73
Zoning: ½ ACRE RESIDENTIAL, 25% Impervious
Tc = 0.301 hrs.
WQv Required = 0.11 ac-ft
WQv Provided = 0.40 ac-ft
WQv/Permanent Pool WSEL = 548.00
CPv Required = .18
CPv Provided = .23
CPv WSEL = 548.75
Rev Requirement = .04 ac
Rev To Be Provided By On Site Swales
1-YR (Qp = 0.09 cfs) (WSEL = 548.72)
10-YR (Qp = 3.23 cfs) (WSEL = 549.78)
100-YR (Qp = 14.39 cfs) (WSEL = 550.38)
Lag: 20.3 hours
Aquatic Bench = 547.00
Outfall: LOW-RISE RELEASE STRUCTURE
T.O.D. = 551.00

NOTE: REMOVE ANY OLD AND NEW JUNK, TRASH, DEBRIS AND OTHER NON-NATURAL MATERIAL FROM THE FLOODPLAIN, STREAM, WETLAND, BUFFERS AND FORESTED AREAS.



FLOODPLAIN INFORMATION

STA.	Q TOTAL (CFS)	W.S. ELEV. (FT.)
100	203.90	557.17
90	203.90	553.00
80	203.90	549.58
70	203.90	547.19
60	203.90	543.55
50	274.62	540.05
40	455.16	535.82
30	455.16	530.15

LEGEND

—— 100 YEAR FLOODPLAIN

(120) CROSS SECTION IDENTIFIER

ALL AREA WITHIN THE DRAINAGE AREAS IS ZONED: RR-DEO.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[signature] acting 7/27/07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[signature] for CH 8/08/07
Chief, Division of Land Development Date
[signature] 8/6/07
Chief, Development Engineering Division Date

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443, Expiration Date: 12-21-12
AS-BUILT 2-11-11

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date May 26, 2008.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\02118\FINALS\02118GRADING.dwg | DES. DDS | DRN. DDS | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:
OWNER: LISA A. GABRIEL-HENRY, 14337 BURNT WOODS ROAD, GLENWOOD, MARYLAND 21738
DEVELOPER: RICHARD AZRAEL, 5850 WATERLOO ROAD, SUITE 230, COLUMBIA, MARYLAND 21045, TEL.: 410-480-3699

GRADING PLAN

MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"

LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

LISBON ELECTION DISTRICT No. 4 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	RR-DEO	02118
DATE	TAX MAP – GRID	SHEET
JULY, 2007	21-5	4 OF 12

F-07-74 As-Built

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND ARRANGE THE PRE-CONSTRUCTION MEETING WITH THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR (SCI), CONTRACTOR, DESIGN ENGINEER, & DEVELOPER. (1 DAY)
2. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AND THE SILT FENCE PERIMETER CONTROLS. (2 DAYS)
3. INSTALL STORM DRAIN FROM ES-1 TO I-4 WITH SAME DAY STABILIZATION USING ECM AND PERMANENT SEED. (1 WEEK)
4. INSTALL AND IMMEDIATELY STABILIZE DITCH ON WEST SIDE OF ROAD (2 DAYS)
5. INSTALL BASIN A. (4 DAYS)
6. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, MASS GRADE ROAD. (1 WEEK)
7. INSTALL STORM DRAIN FROM ES-10 TO ES-14. (1 WEEK)
8. INSTALL AND STABILIZE SWALE IN REAR OF LOTS 1-5 & SWALE IN REAR OF LOT 6. (4 DAYS)
9. INSTALL REMAINING UTILITIES

   REMOVE ANY OLD AND NEW JUNK, TRASH, DEBRIS AND OTHER NON-NATURAL MATERIAL FROM THE FLOODPLAIN, STREAM, WETLAND, BUFFERS AND FORESTED AREAS INCLUDING PIPE CULVERTS AND RETAINING WALLS. USE SILT FENCE AND PUMP AROUNDS AS SHOWN ON PLAN. CONTACT MDE INSPECTOR PRIOR TO REMOVAL PIPE CULVERTS AND RETAINING WALLS. AFTER REMOVAL OF CULVERTS, STABILIZE STREAM IN AREA OF REMOVAL PER DETAIL SHEET 6. (2 WEEKS)
10. MASS GRADE AND STABILIZE LOTS. (3 WEEKS)
11. UPON APPROVAL OF THE SCI, CONVERT BASIN A TO ITS ULTIMATE CONFIGURATION AS POND A. (3 DAYS)

FLOODPLAIN INFORMATION		
STA.	Q TOTAL (CFS)	W.S. ELEV. (FT.)
100	203.90	557.17
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40	455.16	535.82
30	455.16	530.15

LEGEND

——— 100 YEAR FLOODPLAIN

(120) CROSS SECTION IDENTIFIER

ALL AREA WITHIN THE DRAINAGE AREAS IS ZONED: RR-DEO.

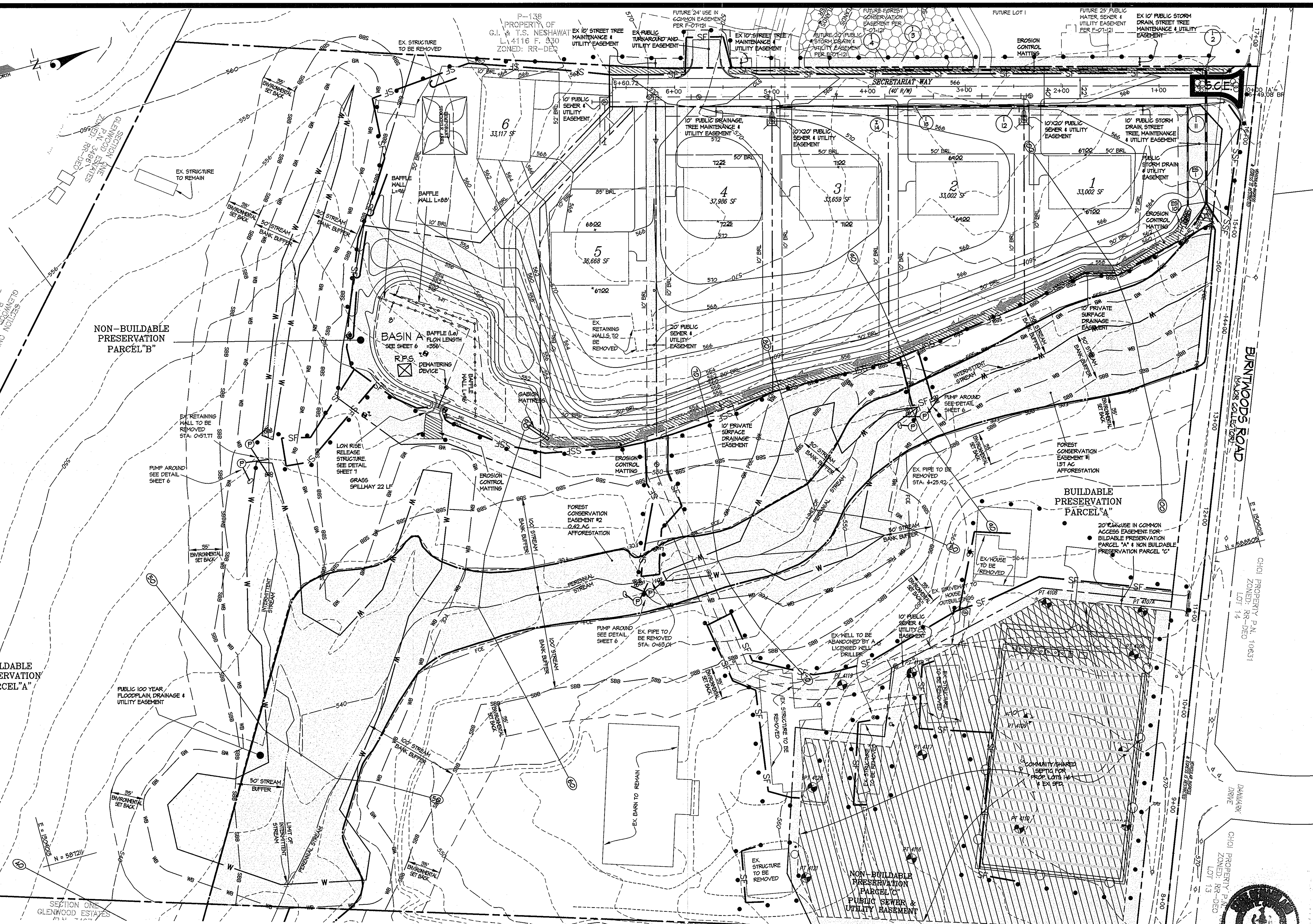
PUMP-AROUND LEGEND

SANDBAGS

(P) PUMP

HOSE

DEWATERING DEVICE



STATE OF MARYLAND — DONALD ALAN MASON — No. 21443 — PROFESSIONAL ENGINEER

AS-BUILT [illegible] 2-11-11

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 12-21-12

"NO AS-BUILT INFORMATION" IS REQUIRED ON THIS SHEET

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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[illegible] acting 7/27/07
Chief, Bureau of Highways HS — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[illegible] for CH 8/08/07
Chief, Division of Land Development — Date

[illegible] 8/6/07
Chief, Development Engineering Division CE — Date

Reviewed for HOWARD SCD and meets Technical Requirements.

[illegible] 7/19/07
USDA - Natural Resources Conservation Service — Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[illegible] 7/19/07
Howard S.C.D. — Date

ENGINEER'S CERTIFICATE

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[illegible] 7-12-07
Signature of Registered Engineer — DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

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[illegible] 7/12/07
SIGNATURE OF DEVELOPER/BUILDER — DATE

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L:\CADD\DRAWINGS\02118\FINALS\02118-SNE.dwg | DES. DDS | DRN. DDS | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL.: 410-480-3699

SEDIMENT EROSION CONTROL PLAN

MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	RR-DEO	02118
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F-07-74 AS-BUILT

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

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

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE 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 SLOPE 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 SUPPLIED 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.

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 RESPECTIVE 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:

A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY A AGRONOMIST OR 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 THAN 1 1/2" IN DIAMETER.

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

C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE IF 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.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE SEEDING NOTES).

IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

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

1. 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.
2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
3. TOPSOIL HAVING SOLUBLE SALT GREATER THAN 500 PARTS PER MILL SHALL NOT BE USED.
4. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHOTO-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.

B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE SEEDING NOTES).

V. TOPSOIL APPLICATION

A. WHEN TOPSOILLING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
B. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"-8" HIGHER IN ELEVATION.

C. 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 TOPSOILLING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER
D. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS 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.

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

A. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.

2. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.

3. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.

B. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT A RATE OF 4LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VA PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (410) 313-1855

2. ALL VEGETATIVE 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 AND 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. I, CHAPTER 12, OF THE 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 SEEDINGS, SOD, TEMPORARY SEEDINGS AND MULCHING (SEC. G). TEMPORARY STABILIZATION, WITH MULCH ALONE, CAN ONLY 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.

TOTAL AREA OF SITE	26.34 AC
AREA DISTURBED	5.8 AC
AREA TO BE ROOFED OR PAVED	0.33 AC
AREA TO BE VEGETATIVELY STABILIZED	5.47 AC
TOTAL CUT	20,000 CU-FT
TOTAL FILL	20,000 CU-FT
OFF-SITE WASTE/BORROW AREA LOCATION :	NA

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 CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW 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 3 PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN 1 WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA 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 (UNLESS 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/1000 SQUARE FEET) 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 TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM FERTILIZER (9 LBS/1000 SQ FT).
2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE OF 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 OF 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

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

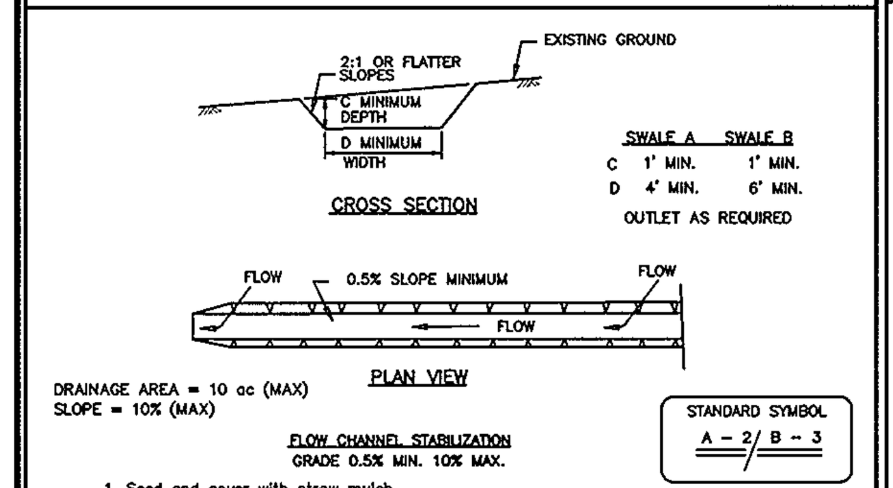
SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED).

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 OCTOBER 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 16 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, WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

DETAIL 2 - TEMPORARY SWALE



DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

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 soil in a minimum 7" layer.

Construction Specifications

1. All temporary swales 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 swale.

5. The swale 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.

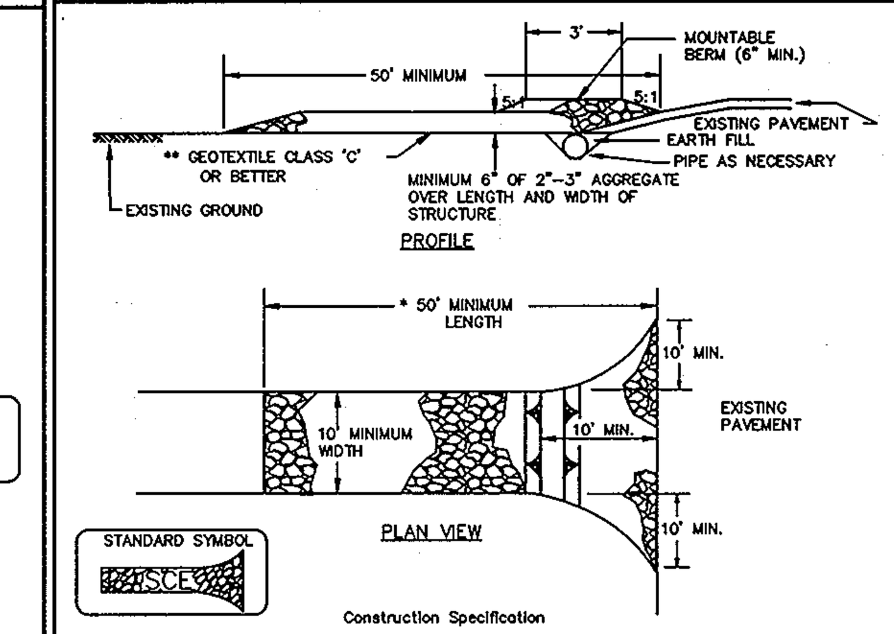
6. Fill, if necessary, shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.

8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 2 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*30' for 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.

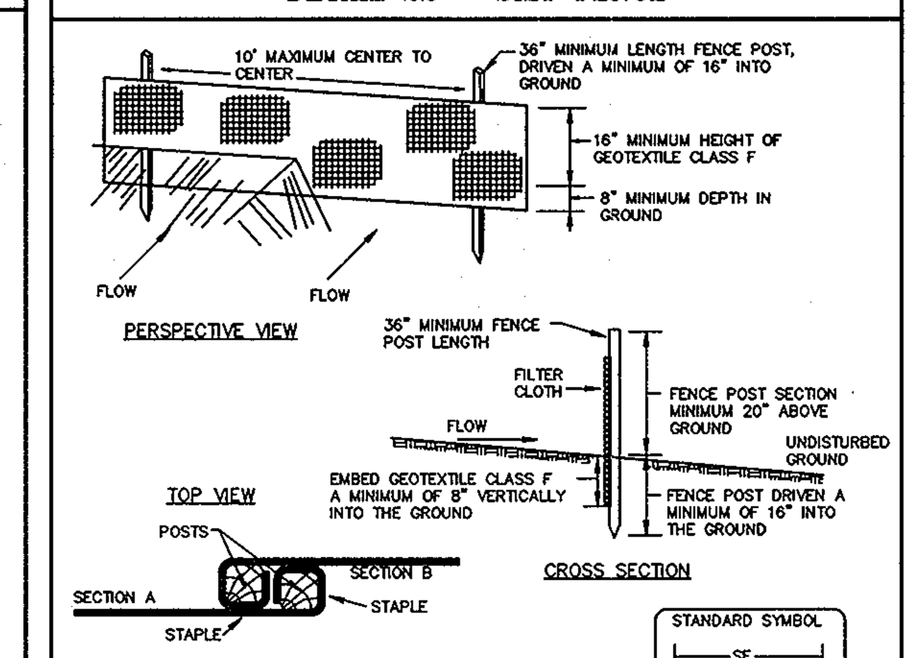
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

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 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile 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

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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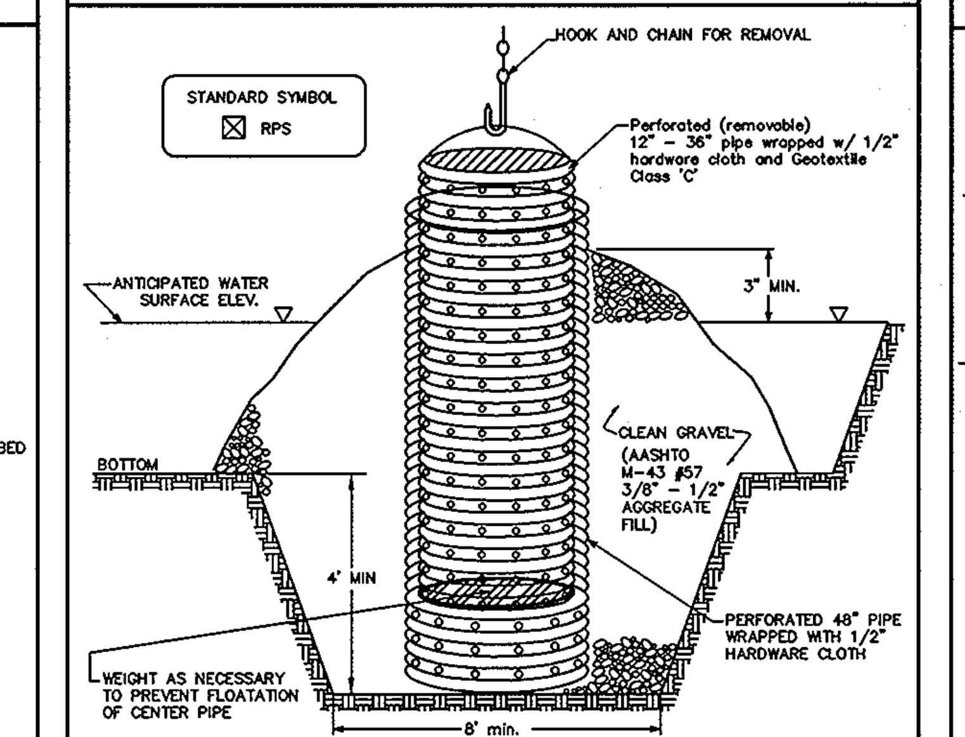
DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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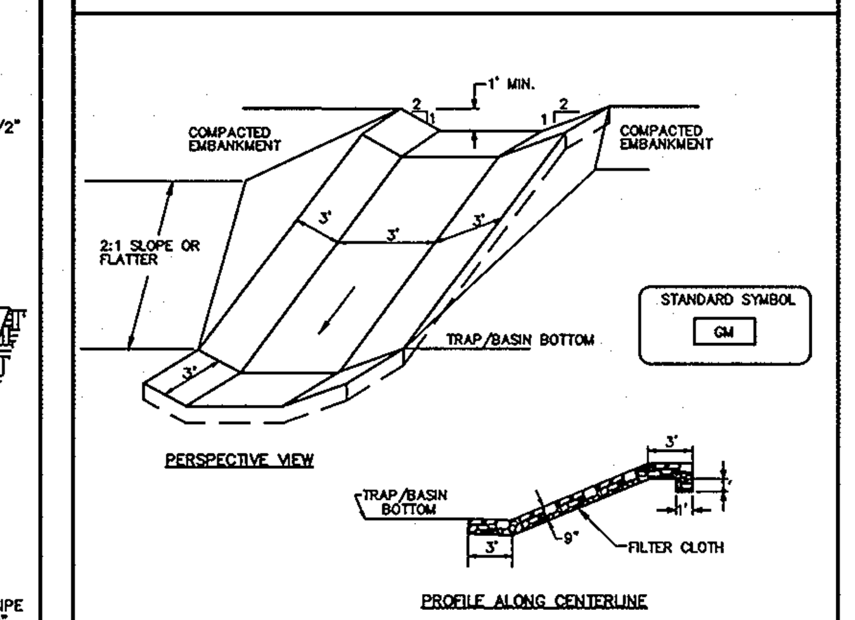
DETAIL 6 - GABION INFLOW PROTECTION



Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

2. Geotextile Class C shall be installed under all gabion baskets.

3. The stone used to fill the gabion baskets shall be 4" - 7".

4. Gabions shall be installed in accordance with manufacturers recommendations.

5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

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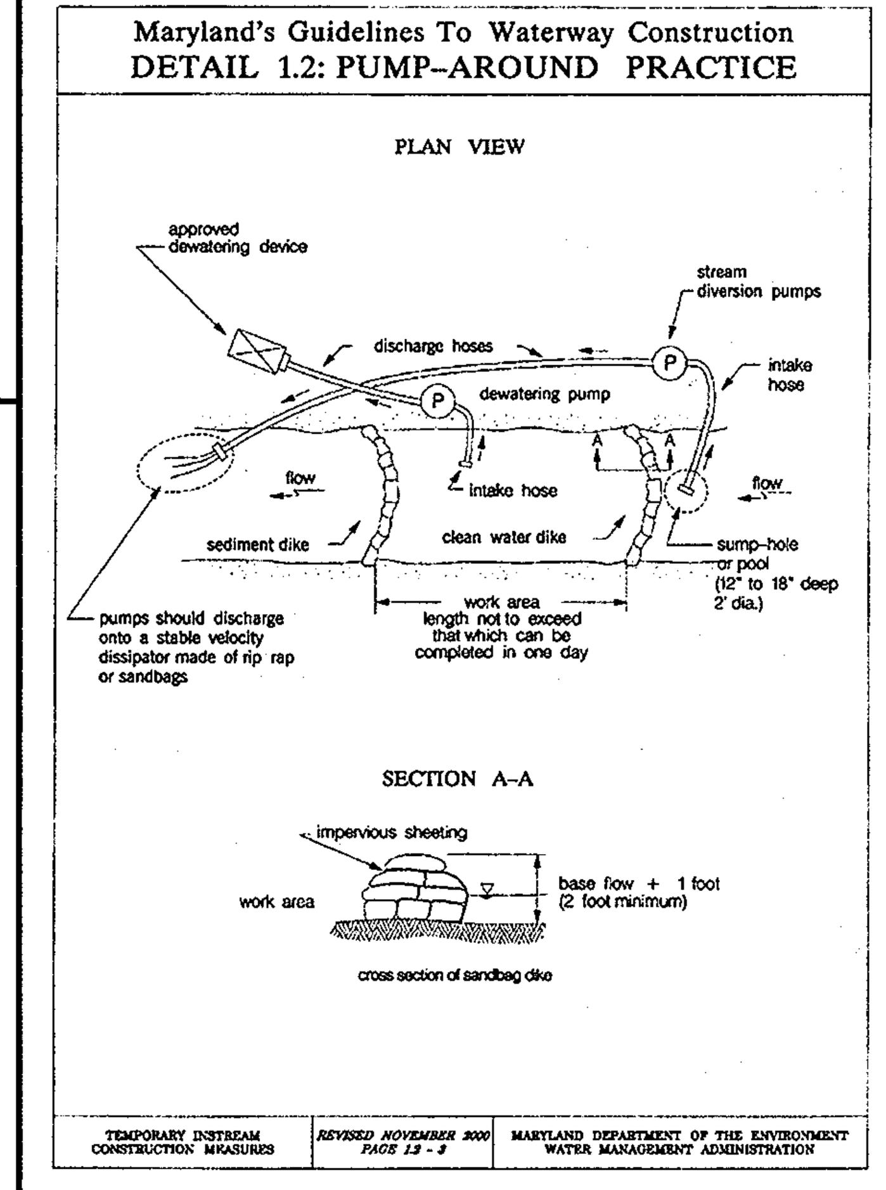
Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP-AROUND PRACTICE



TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2000 PAGE 1.2 - 3	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.

IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.

2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.

3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.

4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.

5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.

6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

TEMPORARY INSTREAM CONSTRUCTION MEASURES — *MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000*

PAGE 1.2 - 1

MGWC 1.2: PUMP-AROUND PRACTICE

7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.

8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (*See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction*).

9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.

10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.

11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.

12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.

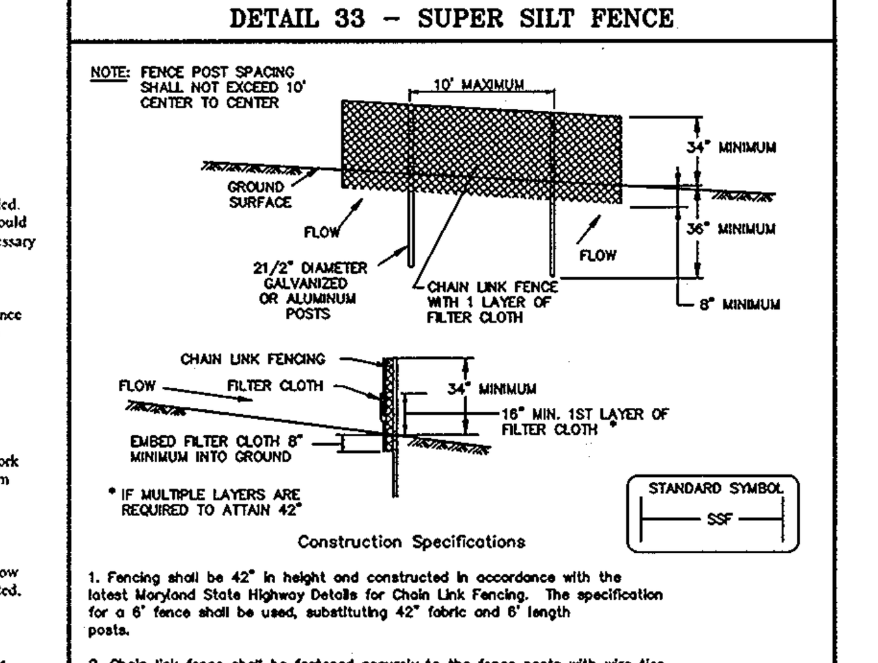
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.

14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

TEMPORARY INSTREAM CONSTRUCTION MEASURES — *MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000*

PAGE 1.2 - 2

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

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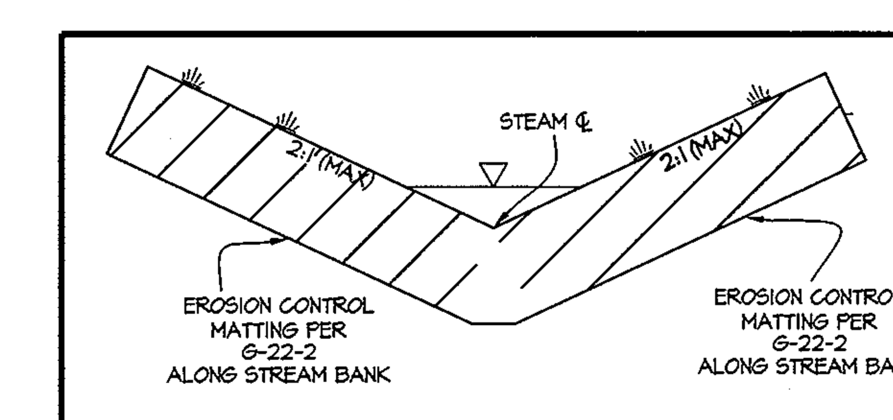
BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS AND WATERS OF THE U.S.

1. Conduct the activity so as not to restrict or impede the movement of wildlife indigenous to the nontidal wetland or adjacent waterway.
2. Remove excess fill or construction material or debris to an upland disposal area.
3. Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland or waters of the U.S.
4. If backfill is obtained from sources other than the originally excavated material, utilize clean fill, free from waste metal products, unsightly debris, toxic material, or any other deleterious substance.
5. Place heavy equipment on mats or suitably design the equipment to prevent damage to the nontidal wetlands or waters of the U.S.
6. Rectify any nontidal wetlands or waters of the U.S. temporarily impacted by any construction.
7. After installation has been completed, make post-construction grades and elevations of nontidal wetlands the same as the original grades and elevations in temporarily impacted areas.
8. All stabilization in the wetland and buffer shall be of the following recommended species: Annual Ryegrass (Lolium multiflorum), millet (Setaria italica), Barley (Hordeum spp.), Oats (Uniola spp.), and/or Rye (Secale cereale). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Division. Kentucky 31 Fescue and Birdsfoot Trefoil shall not be utilized in the wetland or wetland buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.



STREAM STABILIZATION — NOT TO SCALE

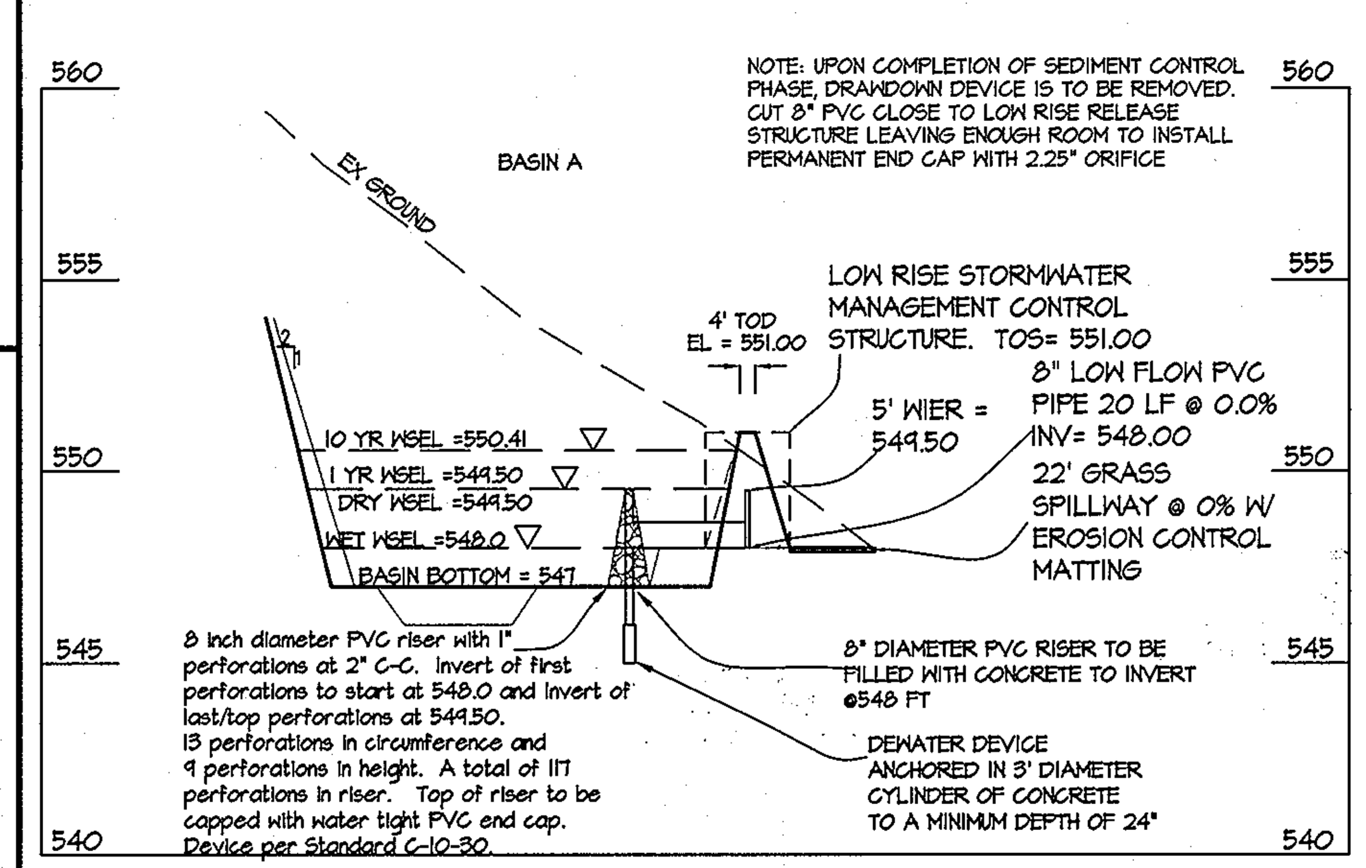
SEDIMENT BASIN A DATA TABLE

INTERIM DRAINAGE AREA : 5.8 AC (INT-3)

WET STORAGE VOL. REQUIRED : 0.24 AC-FT
WET STORAGE VOL. PROVIDED : 0.29AC-FT
WET STORAGE ELEV : 548.00
DRY STORAGE REQUIRED: 0.24 AC-FT
DRY STORAGE PROVIDED = 0.55 AC-FT
DRY STORAGE WSEL = 549.50
BASIN CLEANOUT ELEVATION = 547.50
EXISTING Q-1YR = 0.52 cfs
INTERIM Q-1YR = 0.52 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q10 = 15.53 cfs
10-YR WSEL = 550.41 ft.
BOTTOM ELEVATION : 547.00
TOP OF EMBANKMENT : 551
OUTFALL: LOW RISE RELEASE STRUCTURE
RISER WEIR CREST ELEVATION : 549.50
RISER WEIR LENGTH : 5'
RISER TRASH RACK/ANTIVORTEX: N/A

DEWATERING DEVICE = 8" PERFORATED PVC -WITH 8" PVC BARREL AT 0.0%
DEWATERING INVERT AT 12" RISER = 548.0
INVERT FIRST PERFORATION = 548.0
DEWATERING PERFORATION CONFIGURATION:
WITH 1" HOLES @ 2" C-O-C.
13 HOLES PER CIRCUMFERENTIAL ROW.
9 HOLES RUNNING VERTICALLY.
117 HOLES TOTAL.

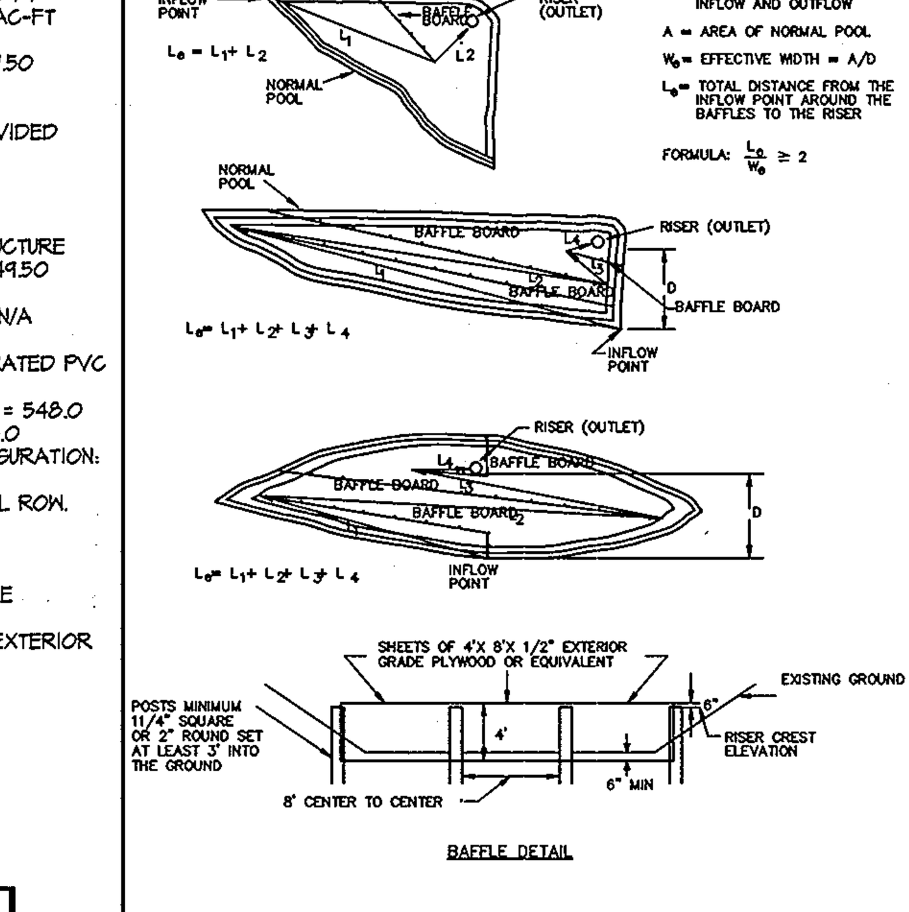
EMERGENCY SPILLWAY ELEV : NONE
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR



SEDIMENT BASIN A - PROFILE THROUGH PRINCIPLE SPILLWAY

SCALE: (H) 1" = 50'
(V) 1" = 5'

DETAIL 18 - SEDIMENT BASIN BAFFLES



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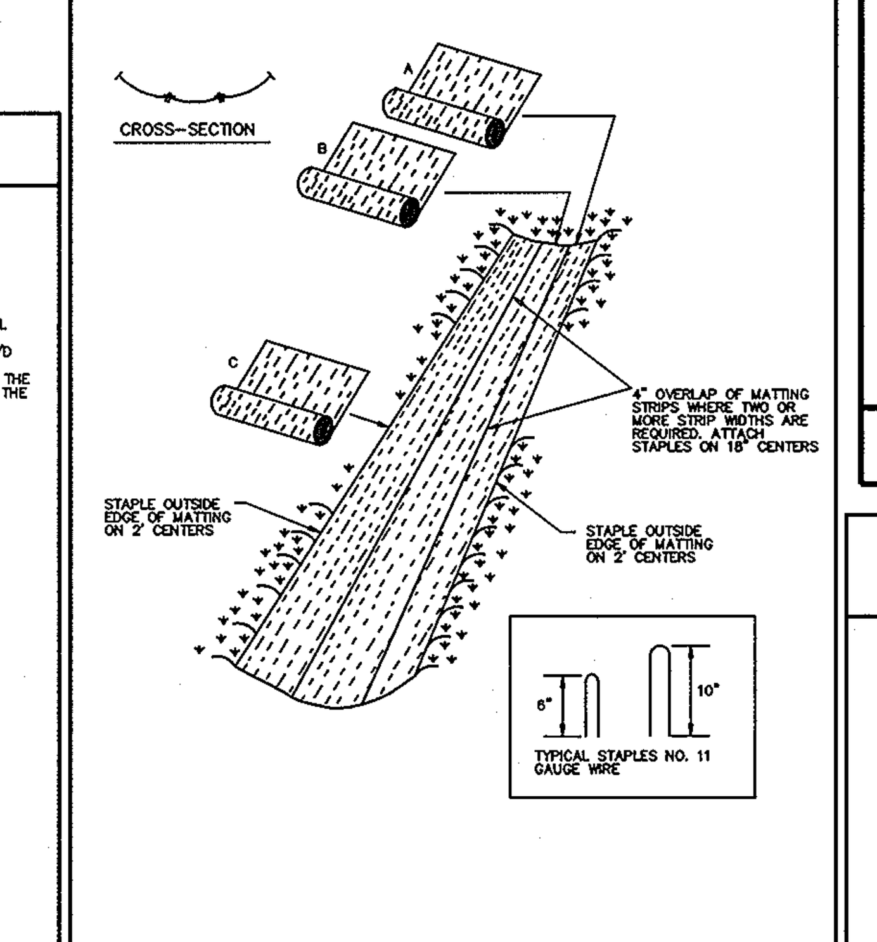
DETAIL 30 - EROSION CONTROL MATTING



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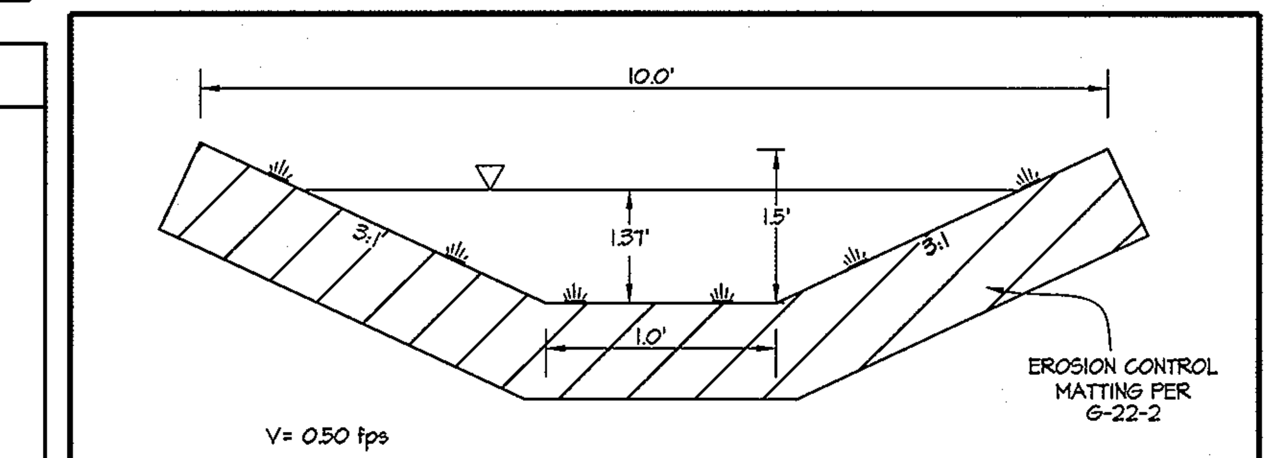
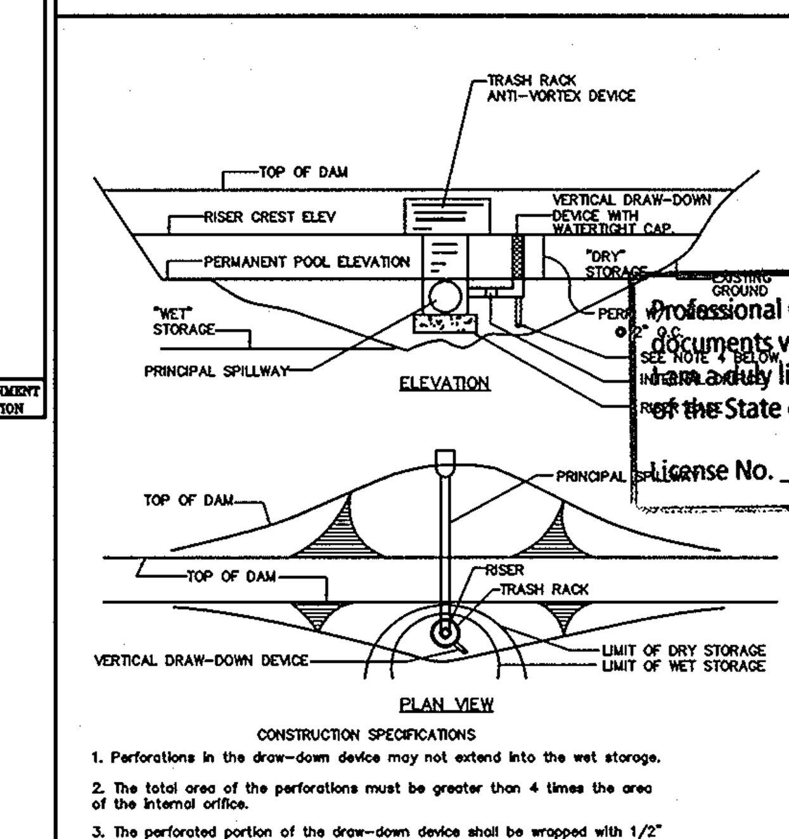


STANDARD SWALE A DETAIL — NOT TO SCALE

BASIN DRAWDOWN SCHEMATIC
VERTICAL DRAW-DOWN DEVICE



CONSTRUCTION SPECIFICATIONS

1. Perforations in the draw-down device may not extend into the wet storage.
2. The total area of the perforations must be greater than 4 times the area of the internal orifice.
3. The perforated portion of the draw-down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
4. Provide support of draw-down device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of draw-down device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 30	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. ____________, Expiration Date: ____________

STATE OF MARYLAND — DONALD ALAN MASON — No. 21443 — PROFESSIONAL ENGINEER

2-11-11

NO AS-BUILT INFORMATION IS REQUIRED ON THIS SHEET

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date May 26, 2008.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 7/27/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 8/08/07
Chief, Development Engineering Division — Date 8/6/07

Reviewed for HOWARD SCD and meets Technical Requirements.
USDA - Natural Resources Conservation Service — Date 7/19/07

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
Howard S.C.D. — Date 7/19/07

ENGINEER'S CERTIFICATE

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

Signature of Registered Engineer — DATE 7-12-07

DEVELOPER'S/BUILDER'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 ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIORNMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER/BUILDER — DATE 7/12/07

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\02118\FINALS\02118-SNE.dwg | DES. DDS | DRN. DDS | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL.: 410-480-3699

SEDIMENT EROSION CONTROL DETAILS AND NOTES

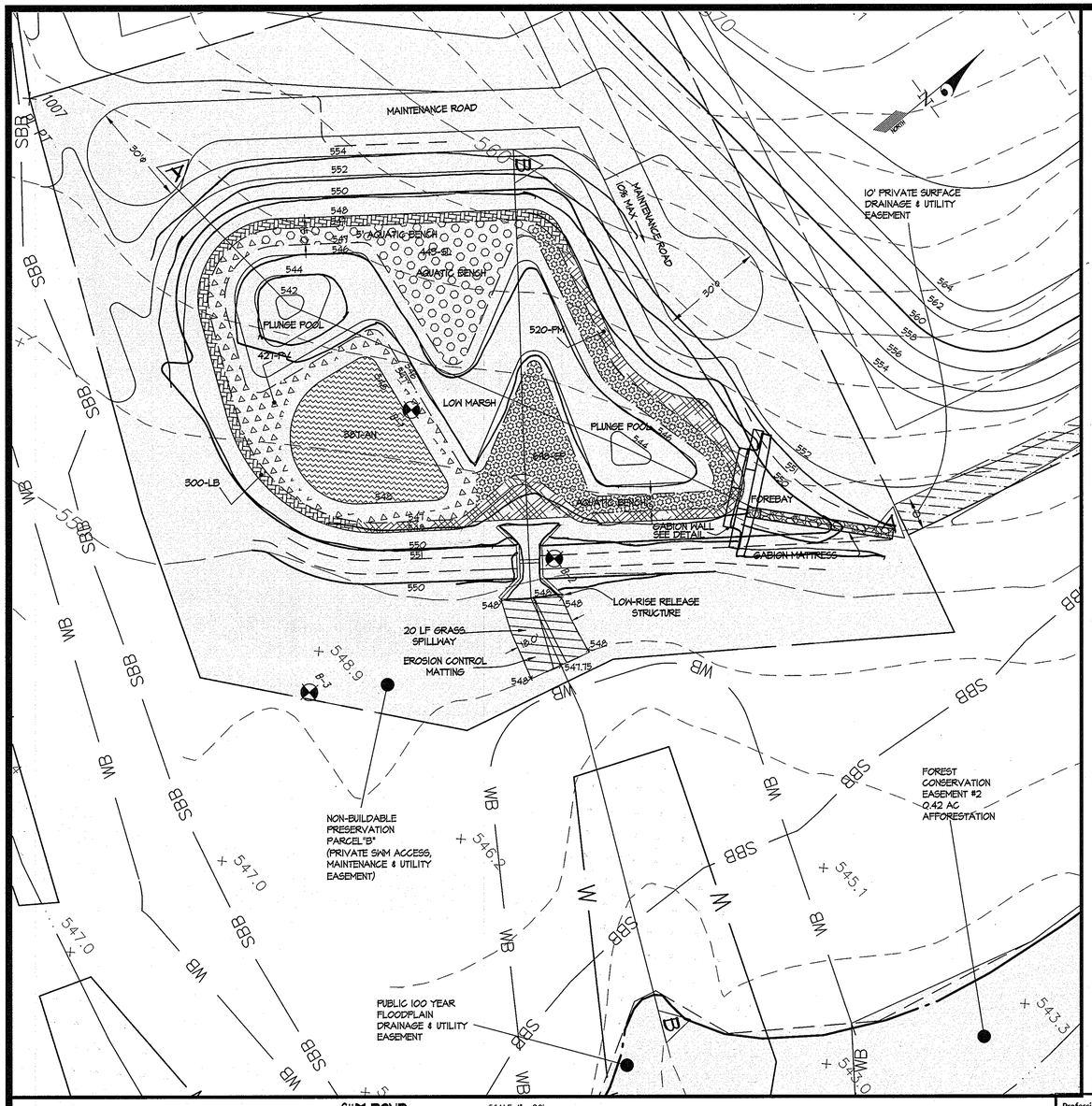
MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

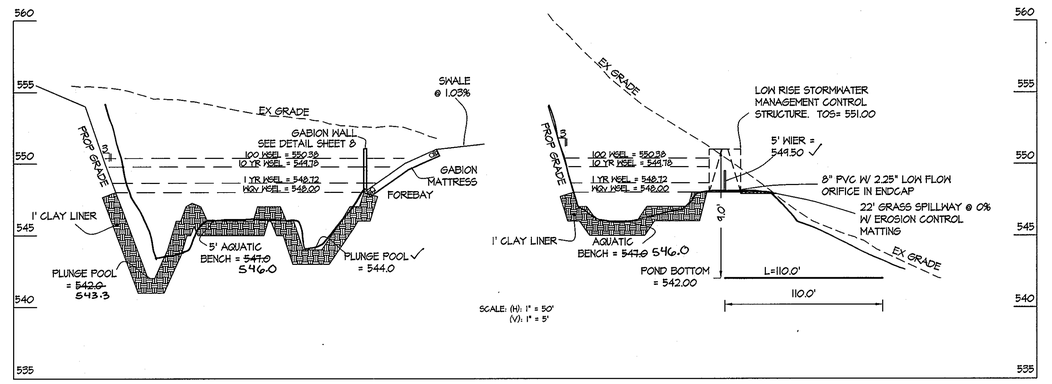
LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RR-DEO	02118
DATE	TAX MAP - GRID	SHEET
JULY, 2007	21-5	6 OF 12

F-07-74 AS-BUILT



SWM POND SCALE: 1" = 20'



PROFILE THROUGH A-A

PROFILE THROUGH PRINCIPAL SPILLWAY (B-B)

STORMWATER MANAGEMENT POND A

Stormwater Management Pond A provides Quality Control (WQv) and quantity control for 5.8 acres of the proposed development. WQv is provided via a permanent pool. CPv is provided via Extended Detention. Safe passage of the 100-year design storm has been analyzed. Pond A is a Non-MDE 378 Facility

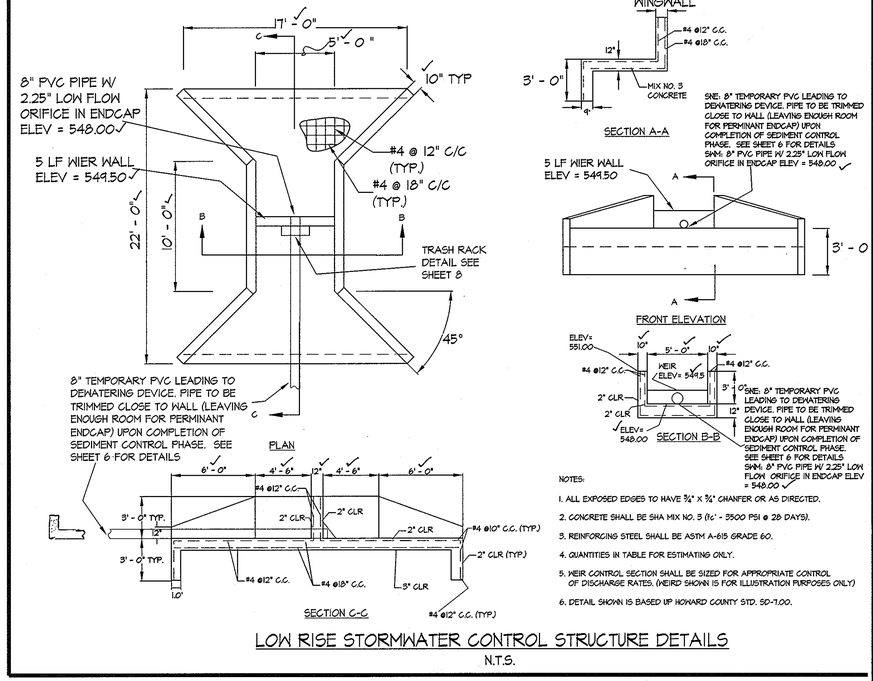
Total Drainage Area To Facility = 5.8 acres
CN = 73
Zoning: ½ ACRE RESIDENTIAL, 25% Impervious
Tc = 0.301 hrs.
WQv Required = 0.11 ac-ft
WQv Provided = 0.40 ac-ft
WQv/Permanent Pool WSEL = 548.00
CPv Required = .18
CPv Provided = .23
CPv WSEL = 548.15
Rev Requirement = .04 ac
Rev To Be Provided By On Site Swales
1-YR (Qp = 0.09 cfs) (WSEL = 548.72)
10-YR (Qp = 3.23 cfs) (WSEL = 544.78)
100-YR (Qp = 14.39 cfs) (WSEL = 550.38)
Lag: 20.3 hours
Aquatic Bench = 547.00
Outfall: LOW-RISE RELEASE STRUCTURE
T.O.D. = 551.00

Pond A:

MD-378-2 Exemptions

1. The calculation of 10H + 20 = L, where H = height from the pond bottom to the top of dam, is provided, and
   Top of Dam = 551.00
   Pond Bottom = 542.00
   H = 551.00 - 542.00 = 9.0 feet
   L = (10 x 9.0) + 20 = 110 feet
2. The projection of L horizontally downstream from the pond bottom is below existing or proposed ground, and we have illustrated L on this sheet. It is well below existing/proposed grade.
3. The existing or proposed downstream ground slope within the projection of L is less than 10% at any point. The existing grade is within 10%.

Pond A is class a facility and is MD-378 exempt.



NOTES:

1. ALL EXPOSED EDGES TO HAVE ¾" X ¾" CHAMFER OR AS DIRECTED.
2. CONCRETE SHALL BE SHA MIX NO. 3 (fc' - 3500 PSI @ 28 DAYS).
3. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
4. QUANTITIES IN TABLE FOR ESTIMATING ONLY.
5. WEIR CONTROL SECTION SHALL BE SIZED FOR APPROPRIATE CONTROL OF DISCHARGE RATES. (WEIRD SHOWN IS FOR ILLUSTRATION PURPOSES ONLY)
6. DETAIL SHOWN IS BASED UP HOWARD COUNTY STD. SD-7.00.

LOW RISE STORMWATER CONTROL STRUCTURE DETAILS

N.T.S.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date May 26, 2008.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 21443 Expiration Date: 12-21-12

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN HEREON WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

DONALD A. MASON — REG. NO. 21443 — DATE 2-11-11

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIALTESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 2/23/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 8/08/07

Chief, Development Engineering Division — Date 8/6/07

Reviewed for HOWARD SCD and meets Technical Requirements.

USDA - Natural Resources Conservation Service — Date 2/9/07

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Howard S.C.D. — Date 2/9/07

ENGINEER'S CERTIFICATE

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

Signature of Registered Engineer — DATE 7-12-07

DEVELOPER'S/BUILDER'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 ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIORNMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER/BUILDER — DATE 7/12/07

OPERATION AND MAINTENANCE SCHEDULE STORMWATER MANAGEMENT FACILITY POND A

ROUTINE MAINTENANCE (BY HOA)

1. THE FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE (BY HOA)

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY.

PLANT LIST FOR STORMWATER MANAGEMENT POND 'A'

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	NOTES
PERENNIALS/GROUNDCOVER				
SP	698	Scirpus pungens Three-square Bulrush	1 gal. cont.	18" o.c.
PV	427	Peltandra virginica Arrow Arum	1 gal. cont.	18" o.c.
SL	443	Sagitaria latifolia Duck Potato	1 gal. cont.	18" o.c.
AN	387	Aster novi-belgii New York Aster	1 gal. cont.	18" o.c.
PM	520	Phlox maculata Meadow Phlox	1 gal. cont.	18" o.c.
LB	300	Poa alplgena Low Bluegrass	1 gal. cont.	18" o.c.

NOTE: STORMWATER MANAGEMENT POND PLANTINGS ARE PER MDE 2000 REQUIREMENTS PROVIDE WETLAND SEED MIX PER MDE APPENDIX A.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\02118\FINALS\02118SWMDET.dwg | DES. DDS | DRN. DDS | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL: 410-480-3699

STORMWATER MANAGEMENT AND STORM DRAIN DETAILS

MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RR-DEO	02118
DATE	TAX MAP - GRID	SHEET
JULY, 2007	21-5	7 OF 12

F-07-74 As-Built

HILLIS - CARNES
ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Henry Property — Boring No. B-1
Location: Burntwoods Road Howard County, MD — Job # 04338A

SAMPLER
Datum: — Hammer Wt. 140 lbs. — Hole Diameter 5" — Foreman Steve McManus
Surf. Elev. 552.9 Ft. — Hammer Drop 30" in. — Rock Core Diameter x — Inspector x
Date Started 5/17/04 — Pipe Size 2.0" in. — Boring Method HSA — Date Completed 5/17/04

Elevation/ Depth	Soil Symbols/ Sample Conditions	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot N
0	D	Topsoil; Brown moist medium stiff sandy CLay (CL; CLay Loam)	Trace roots in S-1	4"			7
	D	Brown and red, moist, stiff to hard Silt and fine Sand with rock fragments (SM-ML; Loam to Sandy Loam)		18"			10
5	D			10"			50/5"
	D			16"			50/4"
10	D	Bottom of Test Boring at 10.2'	No Water Encountered While Drilling	5"			50/5"

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER / CAVE IN DEPTH: AT COMPLETION dry ft. 4.5' ft.; AFTER 24 HRS. ft. ft.; AFTER 2 HRS. dry ft. 4.1' ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES
ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Henry Property — Boring No. B-2
Location: Burntwoods Road Howard County, MD — Job # 04338A

SAMPLER
Datum: — Hammer Wt. 140 lbs. — Hole Diameter 5" — Foreman Steve McManus
Surf. Elev. 550.5 Ft. — Hammer Drop 30" in. — Rock Core Diameter x — Inspector x
Date Started 5/17/04 — Pipe Size 2.0" in. — Boring Method HSA — Date Completed 5/17/04

Elevation/ Depth	Soil Symbols/ Sample Conditions	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot N
0	D	Topsoil; Brown moist medium stiff sandy CLay (CL; CLay Loam)		12"			7
	D	Brown moist to wet, and stiff to hard Silt and fine Sand with rock fragments (SM-ML; Loam to Sandy Loam)		12"			20
5	D		Encountered Water at 6.2' on Spoon	16"			64
	D			2"			50/2
10	D	Bottom of Test Boring at 10.2'		2"			50/2

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER / CAVE IN DEPTH: AT COMPLETION dry ft. 4.5' ft.; AFTER 24 HRS. ft. ft.; AFTER 2 HRS. dry ft. 4.1' ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES
ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

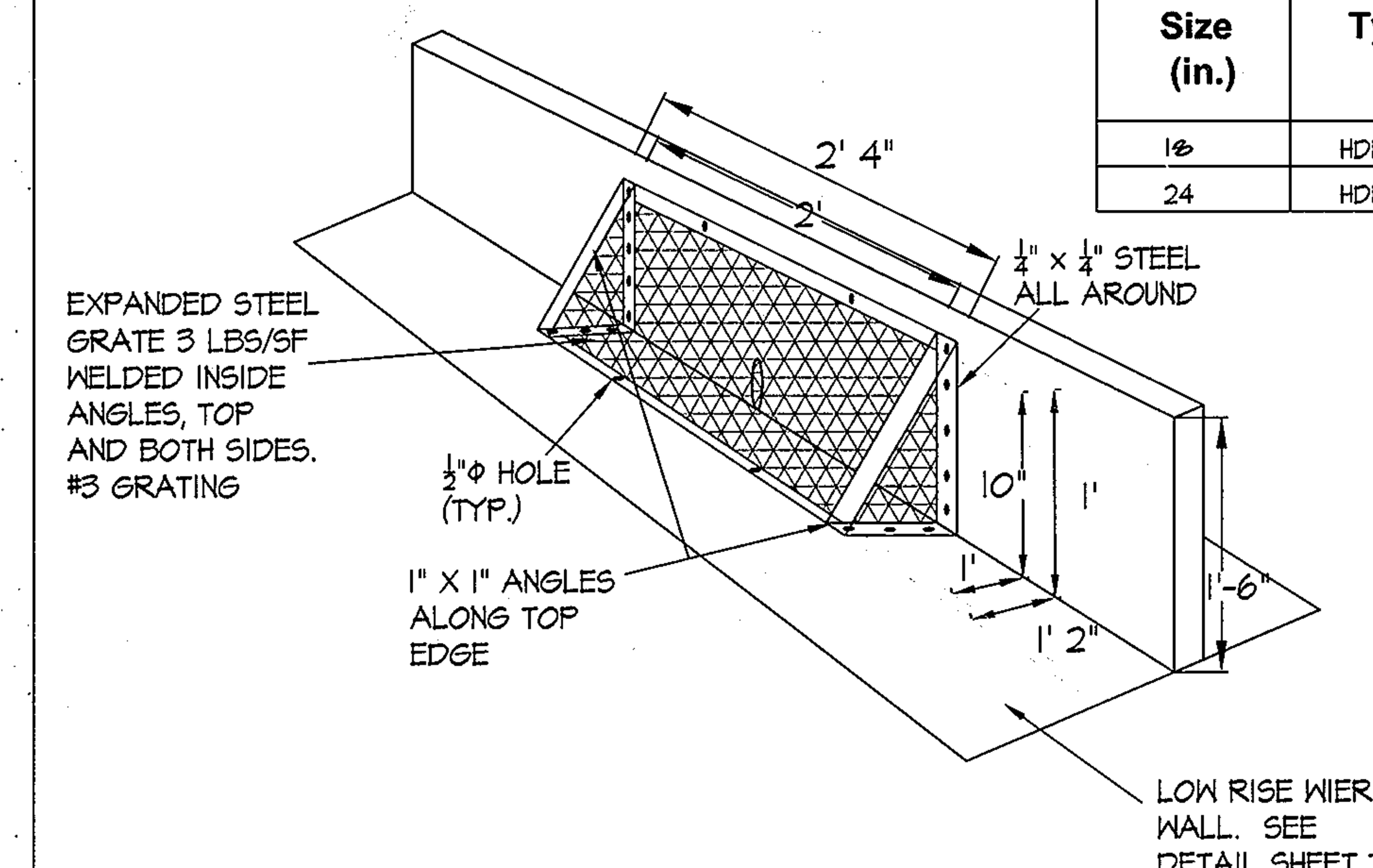
Project Name: Henry Property — Boring No. B-3
Location: Burntwoods Road Howard County, MD — Job # 04338A

SAMPLER
Datum: — Hammer Wt. 140 lbs. — Hole Diameter 5" — Foreman Steve McManus
Surf. Elev. 548.4 Ft. — Hammer Drop 30" in. — Rock Core Diameter x — Inspector x
Date Started 5/17/04 — Pipe Size 2.0" in. — Boring Method HSA — Date Completed 5/17/04

Elevation/ Depth	Soil Symbols/ Sample Conditions	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot N
0	D	Topsoil; Brown moist stiff lean sandy Clay (CL; Clay Loam)		10"			12
	I	Brown moist, soft to hard to loose to dense Silt and fine Sand with mica and fine rock fragments (SM-ML; Loam to Sandy Loam)		12"			4
5	D			24"			8
	D			18"			69
10	D	Bottom of Test Boring at 11.3'	No Water Encountered While Drilling.	8"			50/4"

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER / CAVE IN DEPTH: AT COMPLETION dry ft. 4.0' ft.; AFTER 24 HRS. ft. ft.; AFTER 2 HRS. 4.1' ft. 4.7' ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

Note: At the time the Geotechnical Report was completed, the subdivision name was "Henry Property."



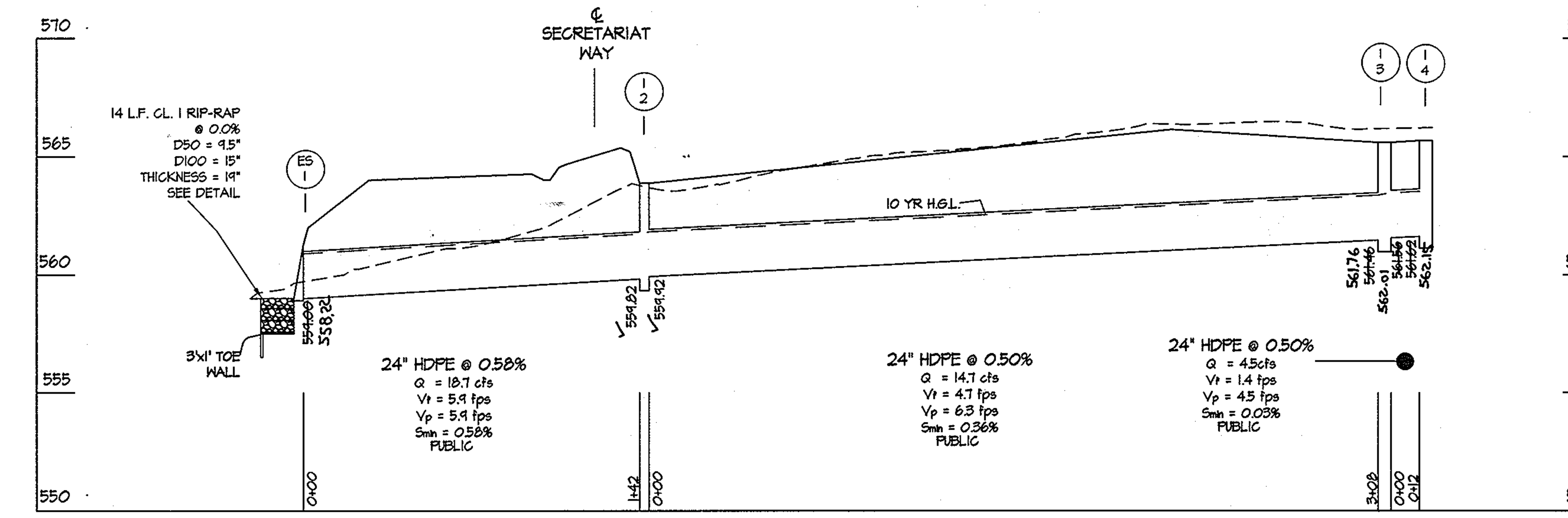
TRASH RACK DETAIL N.T.S.

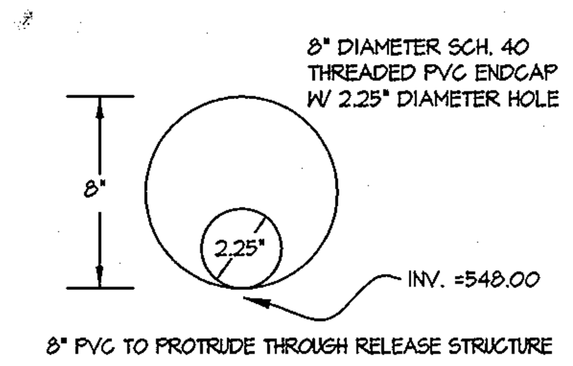
S.D. Pipe Summary Table
PUBLICLY OWNED AND MAINTAINED

Size (in.)	Type	Quantity (L.F.)	Remarks
18	HDPE	389	
24	HDPE	462	

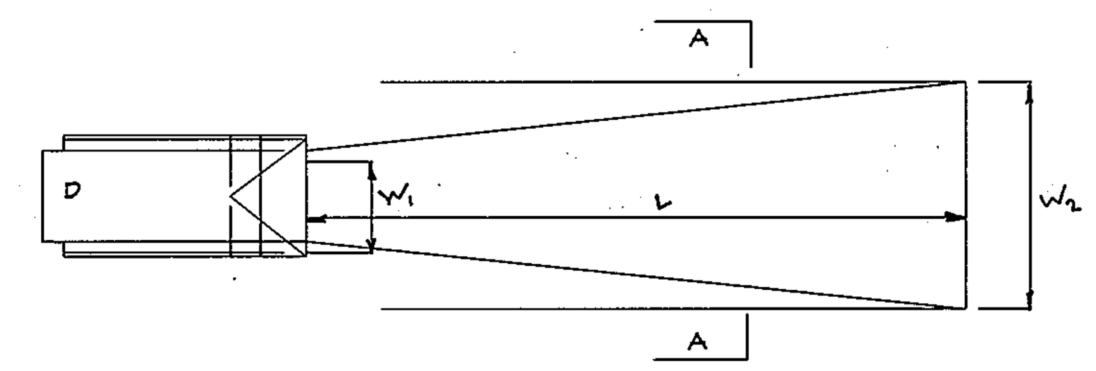
S.D. STRUCTURE SCHEDULE

NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION UPPER	TOP ELEVATION LOWER	INVERT ELEVATION UPPER	INVERT ELEVATION LOWER	STANDARD DETAIL	NOTES	OWNERSHIP & MAINTENANCE
I-4	DOUBLE S	3'-6"	565.97 ~~565.67~~	-----	562.15 ~~561.62~~	terminal	HO. CO. SD. 4.23		PUBLIC
I-3	DOUBLE S	3'-6"	565.60✓	-----	562.01 ~~561.56~~	561.76 ~~564.46~~	HO. CO. SD. 4.23		PUBLIC
I-2	DOUBLE S	3'-6"	564.05✓	-----	559.92✓	559.82✓	HO. CO. SD. 4.23		PUBLIC
ES-1	END SECTION	NA	561.00✓	-----	558.22 ~~559.00~~	----			PUBLIC
I-13	SINGLE S	3'-6"	564.99✓	-----	561.57✓	561.22✓	HO. CO. SD. 4.22		PUBLIC
I-12	SINGLE S	3'-6"	565.37✓	-----	560.74✓	560.64✓	HO. CO. SD. 4.22		PUBLIC
I-11	SINGLE S	3'-6"	563.59✓	-----	560.01 ~~559.77~~	559.67✓	HO. CO. SD. 4.22		PUBLIC
ES-10	END SECTION	NA	560.40✓	-----	559.15✓	----			PUBLIC
I-14	Single S	3'-6"	565.96✓	-----	561.93 ~~561.66~~	terminal	Ho. Co. SD. 4.22		PUBLIC

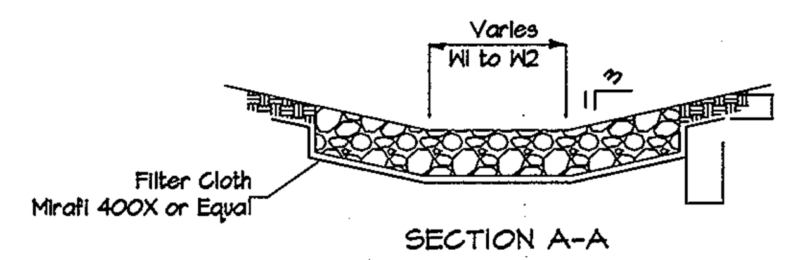




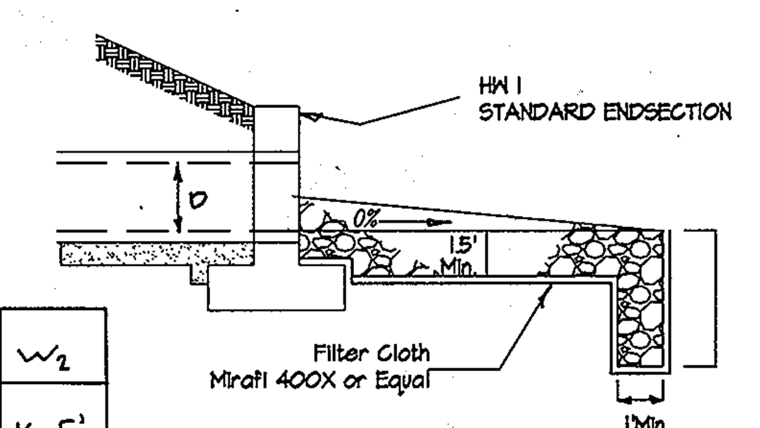
FACILITY A ORIFICE DETAIL NTS



PLAN VIEW



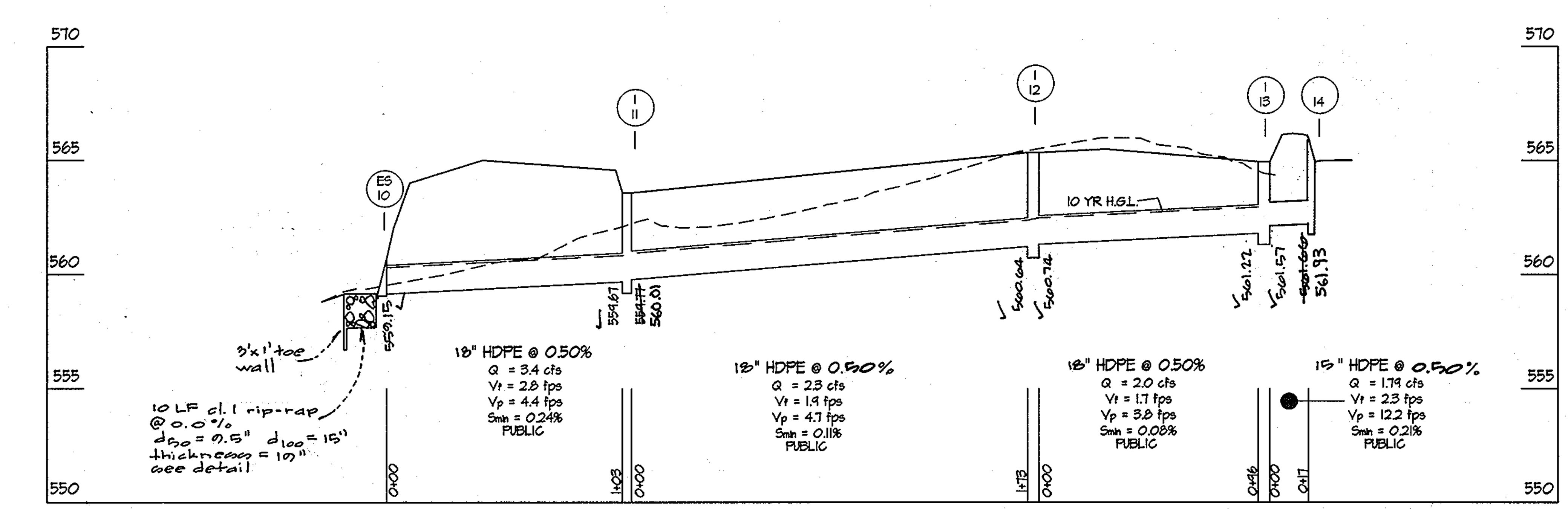
SECTION A-A

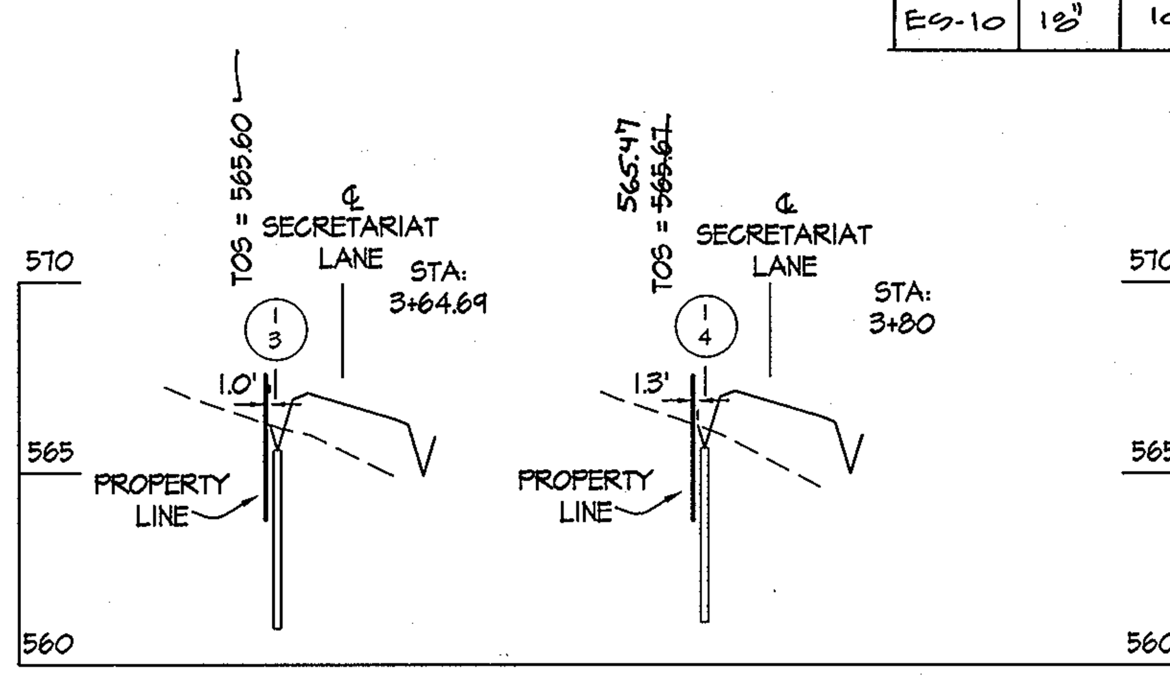


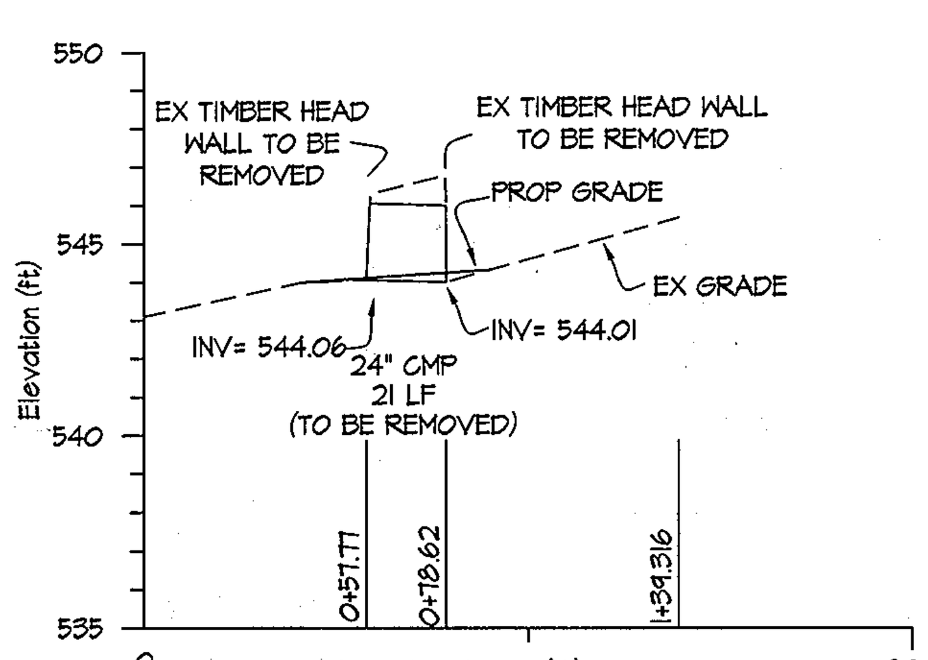
PROFILE

	D	L	W1	W2
ES-1	24"	14'	2'	16.5'
ES-10	18"	10'	6'	6'

Outlet Protection Detail
N.T.S.



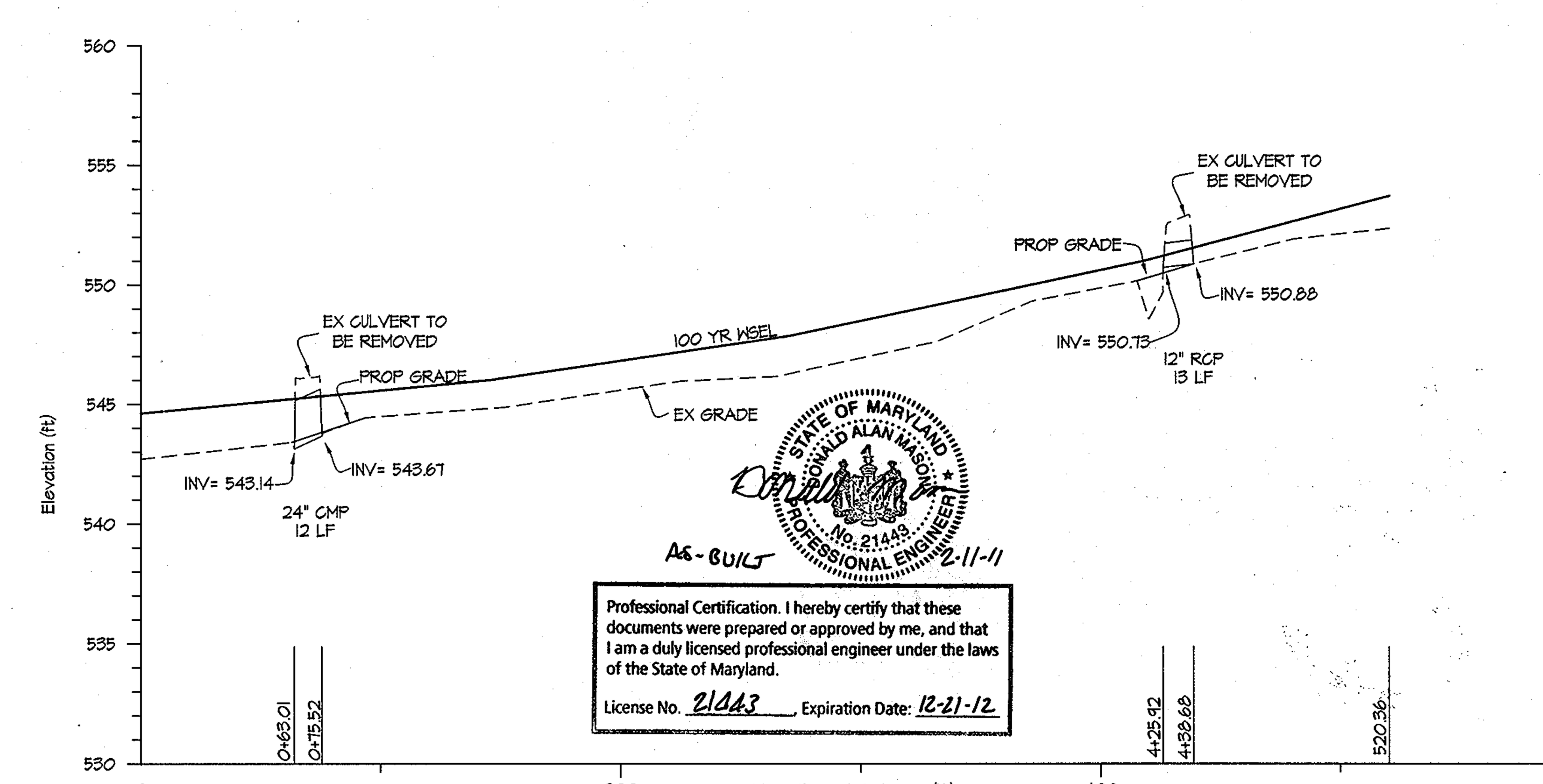




STATE OF MARYLAND — PROFESSIONAL ENGINEER

[illegible]

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date May 26, 2008.



STATE OF MARYLAND — DONALD ALAN MASON — No. 21443 — PROFESSIONAL ENGINEER

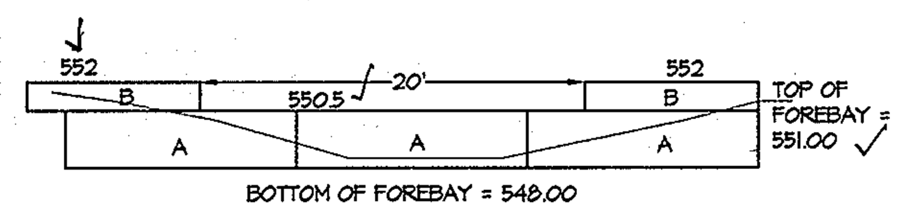
AS-BUILT [illegible] 2-11-11

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

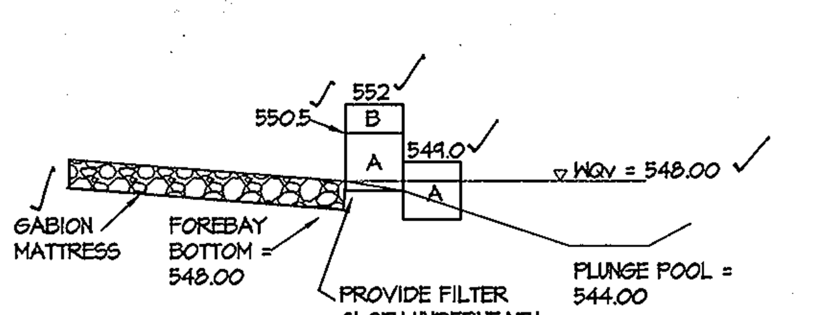
License No. 21443, Expiration Date: 12-21-12

GABION SIZES

LETTER CODE	LENGTH	WIDTH	HEIGHT
A	12'	3'	3'
B	9'	3'	1'-6"
C	6'	3'	1'-6"
D	12'	3'	1'-6"



FRONT VIEW FROM FOREBAY



PROFILE

GABION DETAILS SCALE: 1" = 10'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[illegible] acting — 7/27/07
Chief, Bureau of Highways HS — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[illegible] — 8/02/07
Chief, Division of Land Development BB — Date
[illegible] — 8/6/07
Chief, Development Engineering Division CE — Date

Reviewed for HOWARD SCD and meets Technical Requirements.
[illegible] — 7/19/07
USDA / Natural Resources Conservation Service — Date
This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
[illegible] — 7/19/07
Howard S.C.D. — Date

ENGINEER'S CERTIFICATE
"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
[illegible] — 7-12-07
Signature of Registered Engineer — DATE

DEVELOPER'S/BUILDER'S CERTIFICATE
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[illegible] — 7/12/07
SIGNATURE OF DEVELOPER/BUILDER — DATE

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\02118\FINALS\02118SWMDET.dwg | DES. DDS | DRN. DDS | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:
OWNER: LISA A. GABRIEL-HENRY, 14337 BURNT WOODS ROAD, GLENWOOD, MARYLAND 21738
DEVELOPER: RICHARD AZRAEL, 5850 WATERLOO ROAD, SUITE 230, COLUMBIA, MARYLAND 21045, TEL.: 410-480-3699

STORMWATER MANAGEMENT AND STORM DRAIN DETAILS
MAPLEWOOD FARMS
LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A"
AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590
LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RR-DEO	02118
DATE	TAX MAP – GRID	SHEET
JULY, 2007	21-5	8 OF 12

F-07-74 As-Built

LEGEND

HYDROLOGIC SOIL GROUP

▨	'D' SOILS
▨	'C' SOILS
☐	'B' SOILS
■ ■ ■ ■ ■	DRAINAGE DIVIDE
A— — B— —	Tc PATH

NOTES: 1. ALL AREA WITHIN THE DRAINAGE AREAS IS ZONED RR-DEO.

Study Point Summary Table

Study Point (No.)	Qex-1YR (cfs)	Qex-10YR (cfs)	Qex-100YR (cfs)
1	14.50	128.52	258.94

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[illegible] HS 7/30/07
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[illegible] BB 8/08/07
Chief, Division of Land Development — Date

[illegible] CE 8/6/07
Chief, Development Engineering Division — Date

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 21443 Expiration Date: 12-21-12

STATE OF MARYLAND
DONALD ALAN MASON
No. 21443
PROFESSIONAL ENGINEER

[illegible] 2-11-11

NO 'AS-BUILT' INFORMATION IS REQUIRED ON THIS SHEET

STATE OF MARYLAND
PROFESSIONAL ENGINEER

[illegible]

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date May 26, 2008.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\Drawings\02118\Preliminary\02118PP4.dwg | DES. DDS | DRN. BJM | CHK. BJM

DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL.: 410-480-3699

EXISTING CONDITION DRAINAGE AREA MAP

MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	RR-DEO	02118
DATE	TAX MAP – GRID	SHEET
JULY, 2007	21-5	9 OF 12

F-07-74 AS-BUILT

LEGEND

HYDROLOGIC SOIL GROUP

▨ 'D' SOILS

▨ 'C' SOILS

▨ 'B' SOILS

▬ ▬ ▬ ▬ ▬ DRAINAGE DIVIDE

A — — B — — Tc PATH

Study Point Summary Table

Study Point (No.)	Qex-1YR (cfs)	Qprop-1YR (cfs)	Qex-10YR (cfs)	Qprop-10YR (cfs)	Qex-100YR (cfs)	Qprop-100YR (cfs)
1	14.50	13.64	128.52	120.77	258.94	255.60

NOTES:
1. ALL AREA WITHIN THE DRAINAGE AREAS IS ZONED RR-DEO.
2. REACH LENGTH FROM DA 3 TO STUDY POINT NEGLECTED.

STORMWATER MANAGEMENT POND A

Stormwater Management Pond A provides Quality Control (WQv) and quantity control for 5.8 acres of the proposed development. WQv is provided via a permanent pool. CPv is provided via Extended Detention. Safe passage of the 100-year design storm has been analyzed. Pond A is a Non-MDE 378 Facility

Total Drainage Area To Facility = 5.8 acres
CN = 73
Zoning: ½ ACRE RESIDENTIAL, 25% impervious
Tc = 0.301 hrs.
WQv Required = 0.11 ac-ft
WQv Provided = 0.40 ac-ft
WQv/Permanent Pool WSEL = 548.00
CPv Required = .18
CPv Provided = .23
CPv WSEL = 548.75
Rev Requirement = .04 ac
Rev To Be Provided By On Site Swales
1-YR (Qp = 0.09 cfs) (WSEL = 548.72)
10-YR (Qp = 3.23 cfs) (WSEL = 549.78)
100-YR (Qp = 14.39 cfs) (WSEL = 550.38)
Lag: 20.3 hours
Aquatic Bench = 547.00
Outfall: LOW-RISE RELEASE STRUCTURE
T.O.D. = 551.00

STATE OF MARYLAND DONALD ALAN MASON No. 21443 PROFESSIONAL ENGINEER

[illegible] 2-11-11

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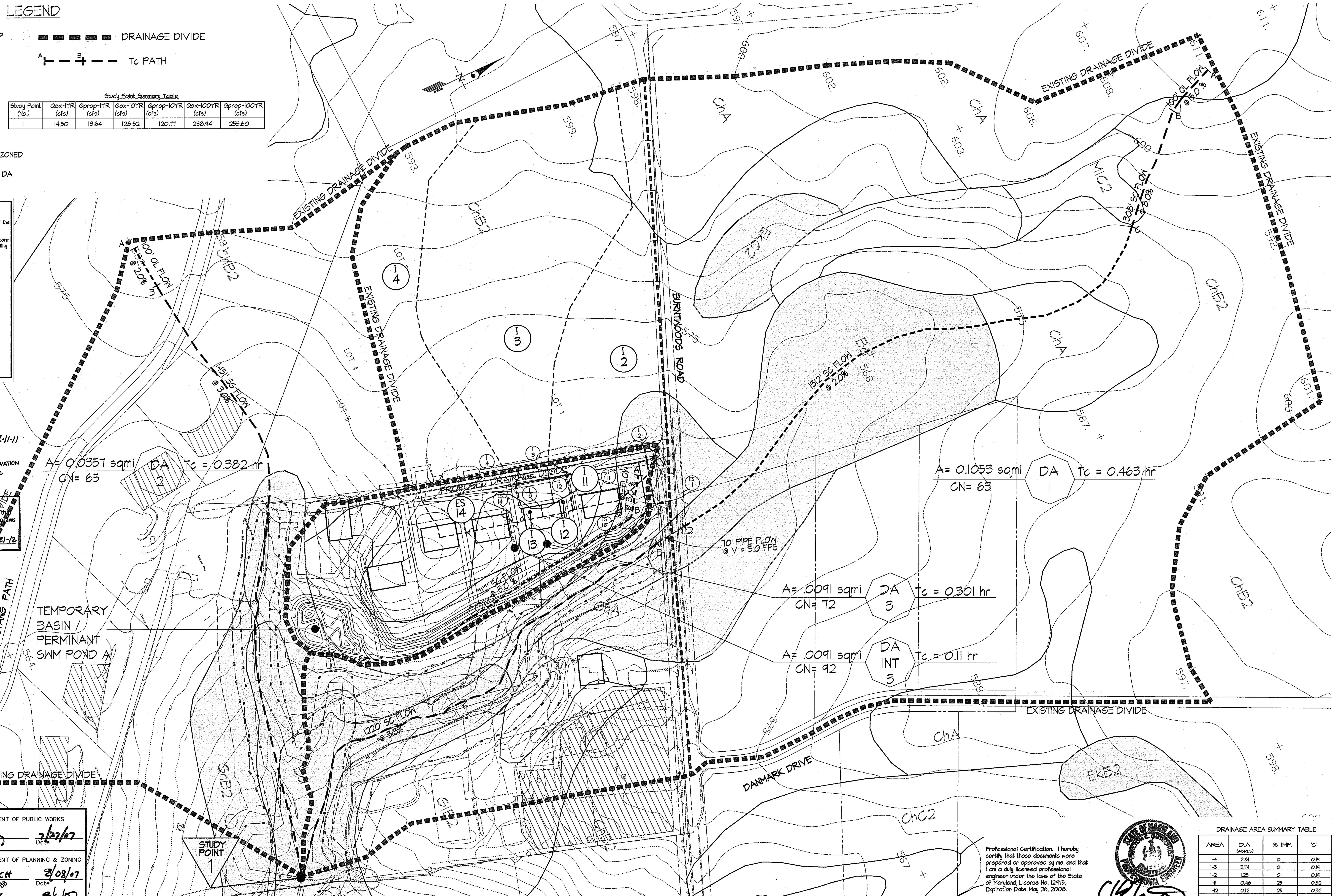

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[illegible] 7/27/07
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[illegible] 8/08/07
Chief, Division of Land Development — Date
[illegible] 8/6/07
Chief, Development Engineering Division — Date

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STATE OF MARYLAND PROFESSIONAL ENGINEER

[illegible]

DRAINAGE AREA SUMMARY TABLE

AREA	D.A (ACRES)	% IMP.	'C'
I-4	2.81	0	0.19
I-3	5.79	0	0.19
I-2	1.25	0	0.19
I-11	0.46	25	0.32
I-12	0.12	25	0.32
I-13	0.18	25	0.32
ES-14	0.57	25	0.32

GLW GUTSCHICK LITTLE & WEBER, P.A.
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3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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DATE	REVISION	BY	APP'R.

PREPARED FOR:

OWNER
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14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
COLUMBIA, MARYLAND 21045
TEL.: 410-480-3699

PROPOSED-INTERIM CONDITION DRAINAGE AREA MAP

MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

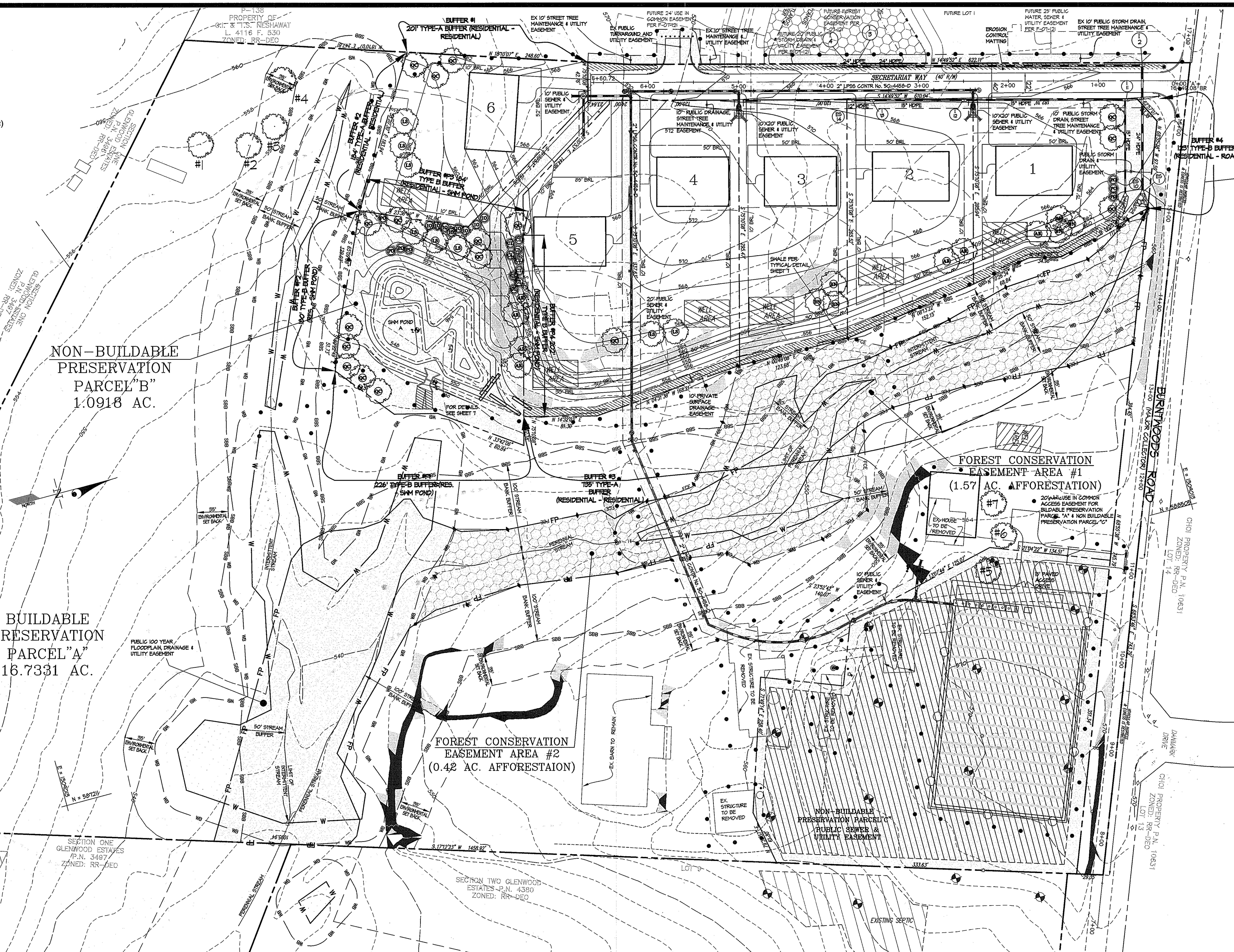
SCALE	ZONING	G. L. W. FILE No.
1"=100'	RR-DEO	02118
DATE	TAX MAP – GRID	SHEET
JULY, 2007	21-5	10 OF 12

F-07-74 AS-BUILT

LEGEND

	EXISTING TOPOGRAPHY		STEEP SLOPES (15% - 25%) STEEP SLOPES (25% - UP)
	PROPOSED CONTOURS		FOREST CONSERVATION EASEMENT FOREST CONSERVATION SIGN (SEE DETAIL SHEET 12)
	EXISTING TREE LINE		AFFORESTATION AREA
	EXISTING STRUCTURES		SPECIMEN TREE (TO REMAIN)
	STREAM BUFFER	GnA Bz	SOILS
FP	FLOODPLAIN		
	WETLANDS AND WETLAND BUFFER		
●	LIMIT OF DISTURBANCE		

The locations of all plantings will comply with all current Howard County regulations and standards. No plantings shall be located over any existing or proposed utilities or within any existing or proposed easements.



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STATE OF MARYLAND DONALD ALAN MASON No. 21443 PROFESSIONAL ENGINEER
2-11-11

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License No. 21443, Expiration Date: 12-21-12

STATE OF MARYLAND Michael B. Tran REGISTERED LANDSCAPE ARCHITECT 933

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[illegible] 7/27/07
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[illegible] 8/08/07
Chief, Division of Land Development — Date

[illegible] 8/6/07
Chief, Development Engineering Division — Date

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FOREST CONSERVATION PLAN SWM AND PERIMETER LANDSCAPE

MAPLEWOOD FARMS

LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590

LISBON ELECTION DISTRICT No. 4 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50'	RR-DEO	02118
DATE	TAX MAP - GRID	SHEET
JULY, 2007	21-5	11 OF 12

F-07-74 AS-BUILT

SCHEDULE A: PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES		
LANDSCAPE BUFFER TYPE	B	A	A	A
LOCATION	BUFFER #4	BUFFER #1	BUFFER #2	BUFFER #3
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	123 L.F.	201 L.F.	184 L.F.	735 L.F.
CREDIT FOR EXISTING VEGETATION	NONE	NONE	NONE	NONE
CREDIT FOR WALL FENCE OR BERM	NONE	NONE	NONE	NONE
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	 3 3 0	 3 0 0	 3 0 0	 12 0 0
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 sub) SHRUBS (10:1 sub) SUBSTITUTIONS	 3 3 0 0 NONE	 3 0 0 0 NONE	 3 0 0 0 NONE	 12 0 0 0 NONE

SCHEDULE D: STORM WATER MANAGEMENT AREA LANDSCAPING

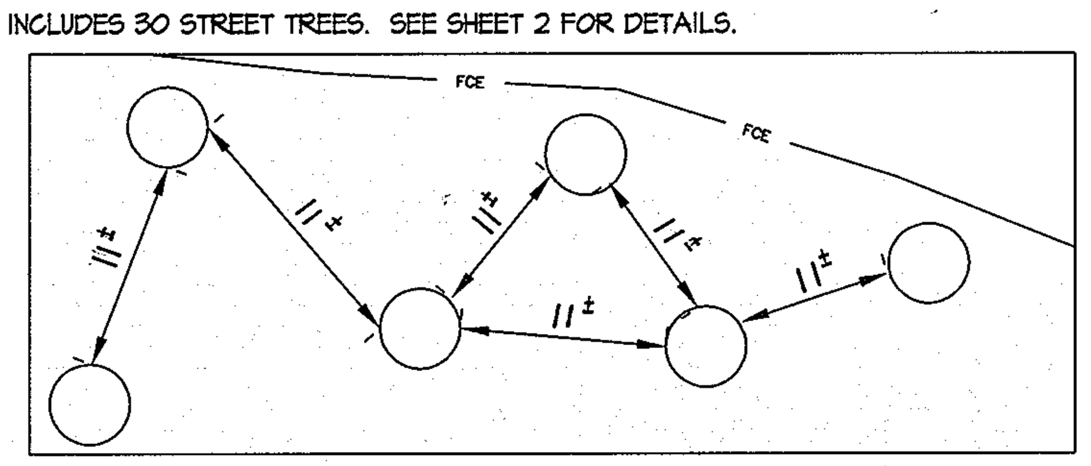
LOCATION	BUFFER #P1	BUFFER #P2	BUFFER #P3	BUFFER #P4
LINEAR FEET OF PERIMETER	226 L.F.	180 L.F.	184 L.F.	202 L.F.
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	 5 6 0	 4 5 0	 4 5 0	 4 5 0
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 sub) SHRUBS (10:1 sub) SUBSTITUTIONS	17 TOTAL 21 TOTAL NOTE: PLANTING CONCENTRATED NEXT TO LOTS 5 & 6 FOR MORE EFFECTIVE SCREENING			

LANDSCAPE SURETY FOR REQUIRED TREES PER SCHEDULE A & D:
38 SHADE TREES @ $300/TREE = $11,400.00
24 EVERGREEN TREES @ $150/TREE = $3,600.00
TOTAL SURETY = $15,00.00

PLANT LIST

SYMBOL	QTY	NAME (SCIENTIFIC/COMMON)	SIZE	NOTES
		SHADE TREES		
AR	37*	ACER RUBRUM 'OCTOBER GLORY' / OCTOBER GLORY RED MAPLE	2-1/2" - 3" CAL.	
LS	8	LIQUIDAMBAR STYRACIFLUA / SWEETGUM	2-1/2" - 3" CAL.	
QC	17	QUERCUS COCCINEA / SCARLET OAK	2-1/2" - 3" CAL.	
BN	6	BETULA NIGRA 'HERITAGE' / HERITAGE CLUMP BIRCH	10' - 12' HT.	
		EVERGREEN TREES		
IO	8	ILEX OPACA / AMERICAN HOLLY	5' - 6' HT.	
PO	7	PICEA OMORIKA / SERBIAN SPRUCE	5' - 6' HT.	
CL	9	CUPRESSOCYPARIS LEYLANDI / LEYLAND CYPRESS	5' - 6' HT.	

* INCLUDES 30 STREET TREES. SEE SHEET 2 FOR DETAILS.



POSSIBLE AFFORESTATION PLANTING PATTERN NTS

NOTE: AFFORESTATION PLANTING IS TO BE AT RANDOM WITH 11'± SPACING BETWEEN TREES ⚠1

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[illegible] 7/27/07
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[illegible] 8/08/07
Chief, Division of Land Development Date
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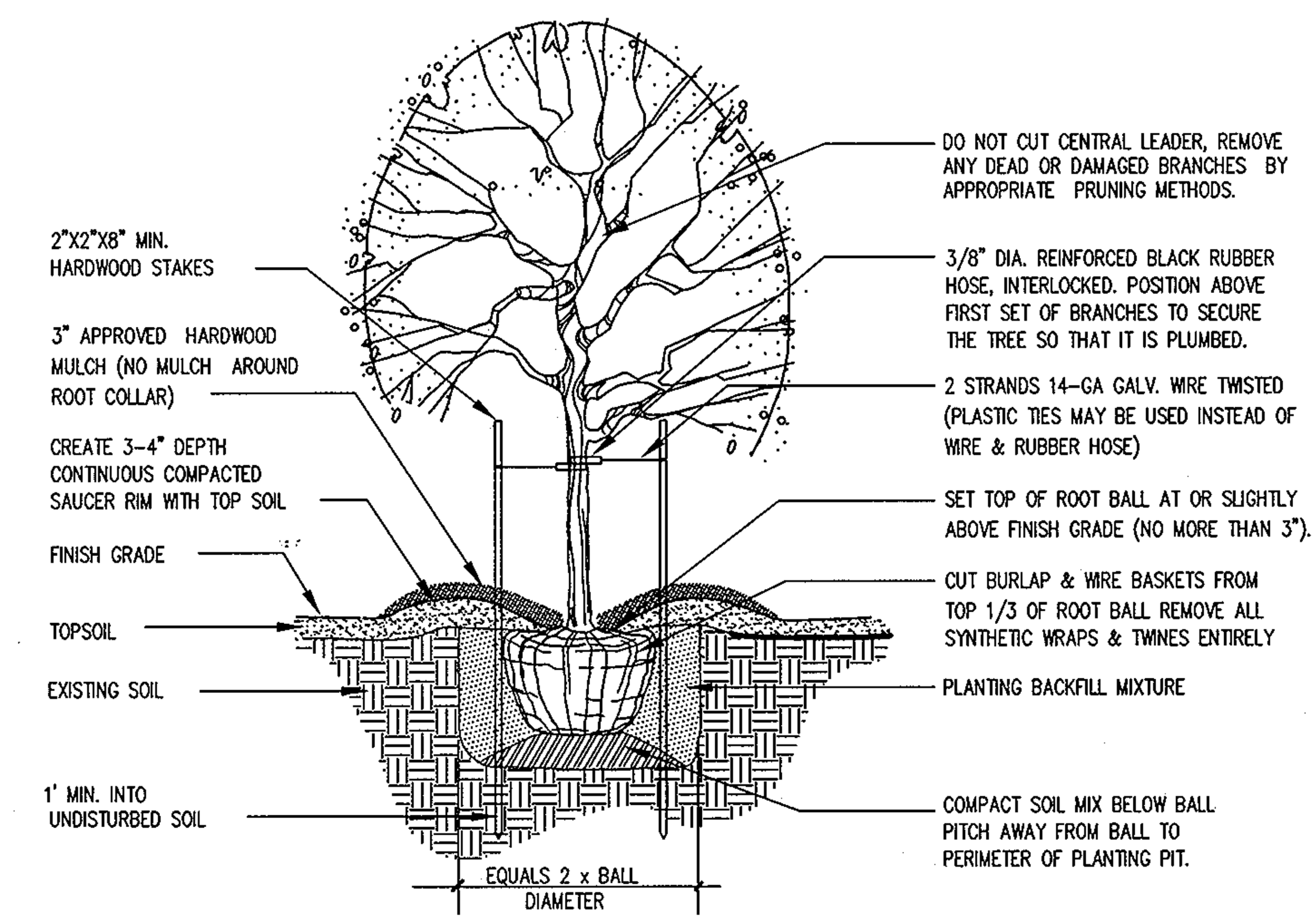
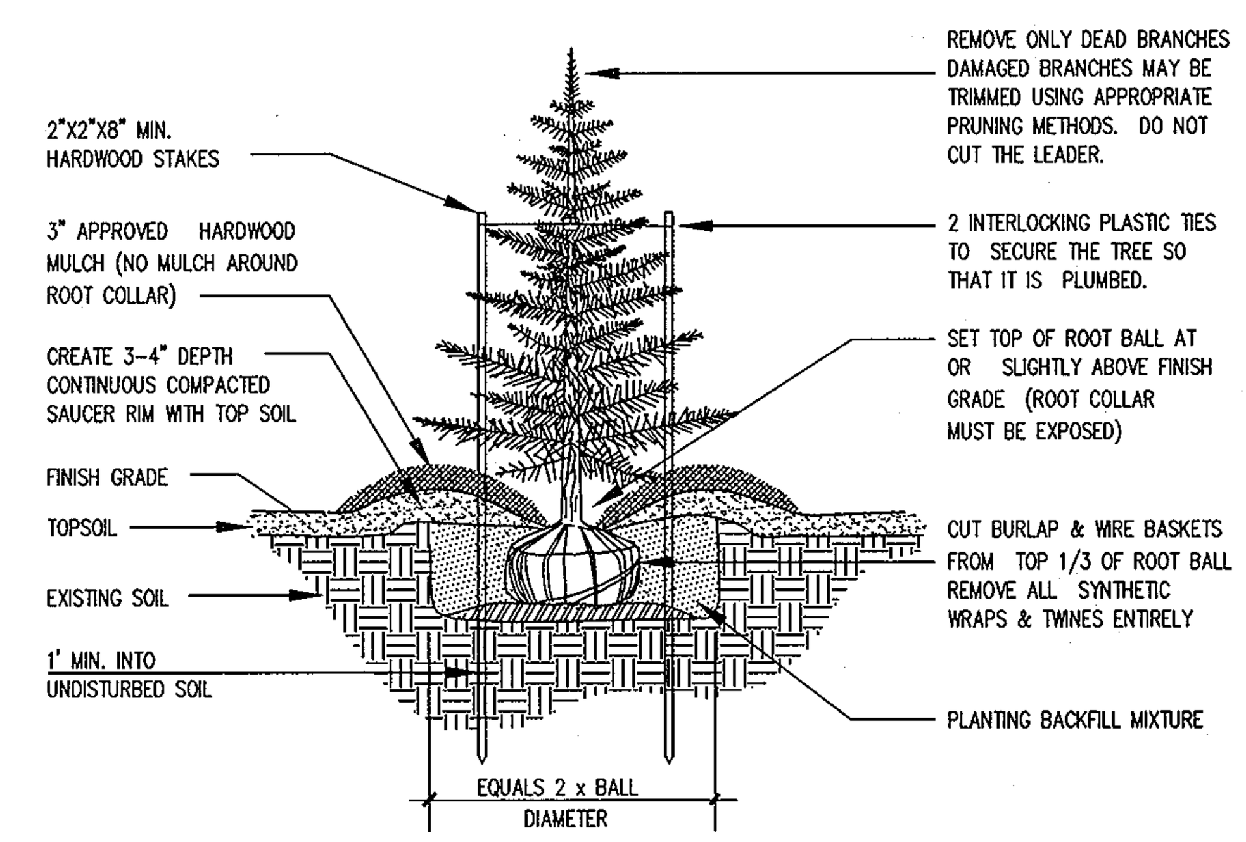
Chief, Development Engineering Division Date

STATE OF MARYLAND
Michael B. Tran
REGISTERED 933 LANDSCAPE ARCHITECT



NOTE: ALL SUPPORTING DEVICES (STAKES, WIRES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

DECIDUOUS TREE PLANTING DETAIL
FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER NTS



NOTE: ALL SUPPORTING DEVICES (STAKES, TIES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

EVERGREEN TREE PLANTING DETAIL NTS

LANDSCAPING NOTES:

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE OF THE HOWARD COUNTY LANDSCAPE MANUAL. PLANT MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL.

2. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST (5) FIVE DAYS BEFORE STARTING WORK. ALL GENERAL NOTES, ESPECIALLY THOSE REGARDING UTILITIES, ON SHEET 1 SHALL APPLY.

3. FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK. CONTACT ENGINEER / LANDSCAPE ARCHITECT IF ANY RELOCATIONS ARE REQUIRED.

4. PLANT QUANTITIES SHOWN ON PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.

5. ALL PLANT MATERIAL SHALL BE FULL, HEAVY, WELL FORMED, AND SYMMETRICAL, AND CONFORM TO THE A.A.N. SPECIFICATIONS, AND BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

6. NO SUBSTITUTION SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR HIS REPRESENTATIVE AND DPZ.

7. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED, OR MULCHED SHALL BE SEEDED OR SODDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

8. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF HE/SHE ENCOUNTERS SOIL DRAINAGE CONDITIONS WHICH MAY BE DETRIMENTAL TO THE GROWTH OF THE PLANTS.

9. ALL EXPOSED EARTH WITHIN LIMITS OF PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER PLANTING DETAILS.

10. THE OWNER, TENANT, 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 AND REPLACED.

11. "SCHEDULE A – PERIMETER LANDSCAPE EDGE: AND "SCHEDULE D – STORMWATER MANAGEMENT AREA LANDSCAPING" ARE PROVIDED FOR LANDSCAPE SURETY CALCULATION PURPOSES ONLY. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $15,000 FOR:

38 SHADE TREES @ $300/TREE = $11,400.00
24 EVG. TREES @ $150/TREE = $3,600.00

12. 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 DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.

FOREST CONSERVATION WORKSHEET

1. SITE DATA

GROSS SITE AREA	9.61± AC*
AREA WITHIN 100-YEAR FLOOD PLAIN	0.00± AC
NET TRACT AREA	9.61± AC
LAND USE CATEGORY	RESIDENTIAL – RURAL MEDIUM DENSITY

2. INFORMATION FOR CALCULATIONS

A. NET TRACT AREA	9.61± AC
B. REFORESTATION THRESHOLD (25% x A)	2.40±
C. AFFORESTATION THRESHOLD (20% x A)	1.92±
D. EXISTING FOREST ON NET TRACT AREA	0.00±
E. FOREST AREAS ON NET TRACT TO BE CLEARED	0.00±
F. FOREST AREAS ON NET TRACT TO BE RETAINED	0.00±

3. AFFORESTATION CALCULATIONS

A. NET TRACT AREA	9.61± AC
B. AFFORESTATION THRESHOLD (20% x A)	1.92±
C. EXISTING FOREST ON NET TRACT AREA	0.00±
D. FOREST AREAS ON NET TRACT TO BE CLEARED	0.00±
E. FOREST AREAS ON NET TRACT TO BE RETAINED	0.00±

4. REQUIRED FOREST CONSERVATION

A. AFFORESTATION UP TO THRESHOLD (3B-3C)	1.92± AC
B. REFORESTATION FOR CLEARING BELOW THRESHOLD (3D x 2)	0.00±
C. TOTAL CONSERVATION PLANTING AREA REQUIRED (4A + 4B)	1.92±
D. TOTAL FOREST CONSERVATION EASEMENT AREA REQUIRED (3E + 4C)	1.92±

5. PROPOSED METHODS OF FULFILLING FOREST CONSERVATION OBLIGATIONS

RETENTION OF EXISTING FOREST ON NET TRACT	0.00± AC
ON-SITE FOREST PLANTING (ON BUILDABLE PRESERVATION PARCEL)	1.99± AC
TOTAL AREA OF FOREST CONSERVATION EASEMENT TO BE RECORDED	1.99± AC

* OPTION A USED FROM APPENDIX L – GUIDELINES FOR RURAL CLUSTER SUBDIVISIONS FROM THE HOWARD COUNTY FOREST CONSERVATION MANUAL, MARCH 2, 1998.
Gross Tract Area is the total area of the site (26.34 AC) – Buildable Preservation Parcel 'A' (16.73 AC) = 9.61 AC

FOREST CONSERVATION SURETY

AFFORESTATION AT $0.50/SF X (1.99 AC X 43,560 SF/AC) = $43,342.20
TOTAL FOREST CONSERVATION SURETY = $43,342.20

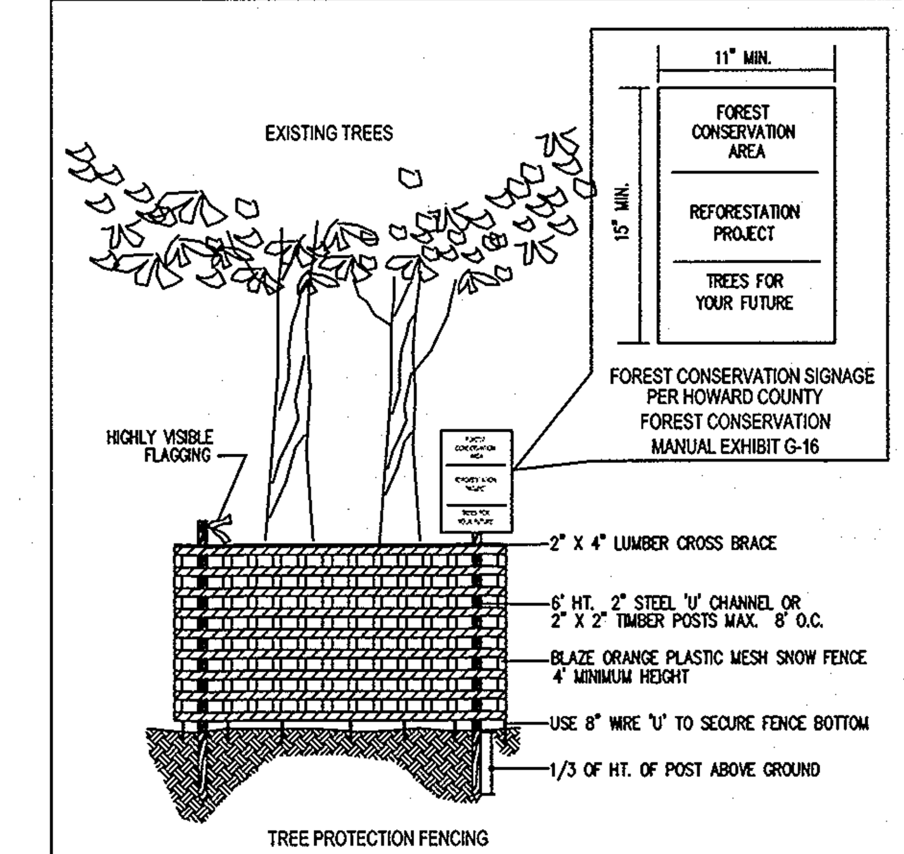
NOTE: SURETY SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT WITH THIS PLAN

FOREST CONSERVATION EASEMENT AREA TABULATION		
FOREST CONSERVATION EASEMENT (FCE) AREA	1	2
PARCEL WHERE FCE IS LOCATED	A	A
CREDITED FOREST RETENTION AREA ON NET TRACT (IN AC.)	N/A	N/A
NON-CREDITED FOREST RETENTION AREA IN FLOODPLAIN (IN AC.)	N/A	N/A
FOREST PLANTING AREA (IN AC.)	1.57	0.42
FOREST PLANTING AREA WITHIN THE FLOODPLAIN (IN AC.)	N/A	N/A
NATURAL REGENERATION AREA (IN AC.)	N/A	N/A
MINIMUM TOTAL AREA IN CONSERVATION EASEMENT (IN AC.)	1.57	0.42

⚠1 FOREST CONSERVATION PLANTING QUANTITY SCHEDULE		
FOREST CONSERVATION LOCATION	1	2
FOREST PLANTING AREA (IN AC.)	1.57	0.42
TOTAL ACRAGE OF AFFORESTATION PROVIDED (IN AC.)	1.57	0.42
BASE QUANTITY OF Whips with Tree shelters Required (At 350 Trees/Ac.)	550	147
REQUIRED QUANTITY OF WHIP TREES TO BE PLANTED*	550	147
NOTE: THE QUANTITY SHOWN ABOVE IS FOR PLANTING WITH Whips with Tree shelters at 11'x11' spacing		

⚠1 FOREST CONSERVATION PLANT LIST		
PLANT NAME (BOTANICAL/COMMON)	FOREST CONSERVATION EASEMENT AREA	
ACER RUBRUM/ RED MAPLE (WHIPS)	137	37
PLATANUS OCCIDENTALIS/ AMERICAN SYCAMORE (WHIPS)	137	37
QUERCUS BICOLOR/ SWAMP WHITE OAK (WHIPS)	138	37
BETULA NIGRA/ RIVER BIRCH (WHIPS)	138	36
TOTAL	550	147

TREE PROTECTION FENCE & FOREST CONSERVATION SIGNAGE
NOT TO SCALE



TREE PROTECTION FENCING

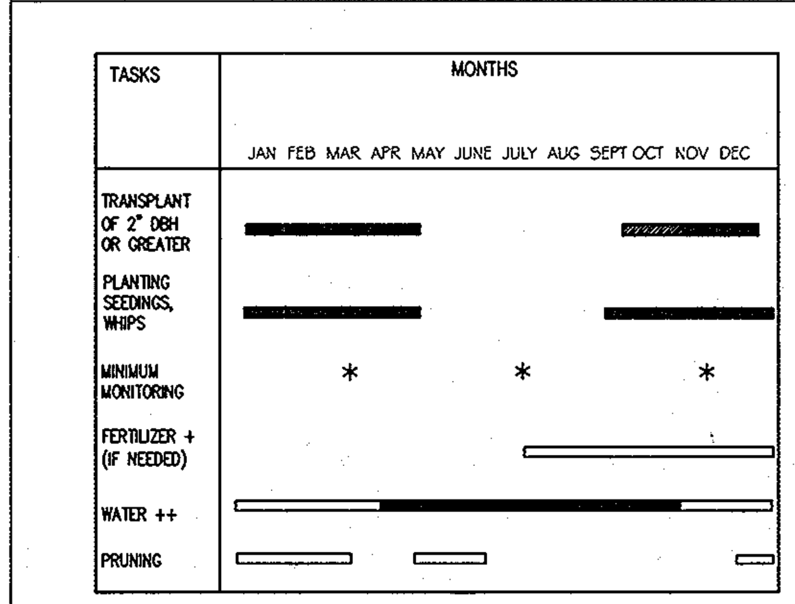
NOTES:

1. THE TREE PROTECTION FENCING SHOWN ON THESE PLANS IS TEMPORARY AND SHALL REMAIN IN PLACE DURING CONSTRUCTION ACTIVITY, BUT THE FOREST CONSERVATION SIGNAGE IS PERMANENT AND SHALL REMAIN IN PLACE AROUND THE FOREST CONSERVATION EASEMENTS AFTER THE REMOVAL OF THE TREE PROTECTION FENCING.

2. FOREST CONSERVATION SIGNAGE SHALL BE INSTALLED ALONG THE PERIMETER OF THE CONSERVATION EASEMENT AT 50' TO 100' APART.

3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.

TREE PLANTING AND MAINTENANCE CALENDAR



KEY
* ACTIVITIES DURING THESE MONTHS ARE DEPENDENT UPON GROUND CONDITIONS
■ GREATLY RECOMMENDED
▨ RECOMMENDED WITH ADDITIONAL CARE
□ RECOMMENDED
\+ DEPENDENT UPON SITE CONDITIONS
++ DEPENDENT UPON SITE CONDITIONS; WEEKLY WATERING IS GREATLY RECOMMENDED FROM MAY THROUGH OCTOBER UNLESS WEEKLY RAINFALL EQUALS 1"

NOTE:
THE PLANTING AND CARE OF TREES IS MOST SUCCESSFUL WHEN COORDINATED WITH THE LOCAL CLIMATIC CONDITIONS. THIS CALENDAR SUMMARIZES SOME OF THE RECOMMENDED TIME FRAMES FOR BASIC REFORESTATION AND STRESS REDUCTION ACTIVITIES.

SOURCE: ADAPTED FROM THE MARYLAND STATE FOREST CONSERVATION MANUAL

CONSTRUCTION PERIOD PROTECTION PROGRAM
(TO BE PERFORMED AT FINAL PLAN STAGE)

1. THE LIMIT OF FOREST RETENTION SHALL BE STAKED AND FLAGGED.

2. A PRE-CONSTRUCTION MEETING AT THE SITE SHOULD BE HELD TO CONFIRM THE LIMITS OF CLEARING SPECIFIED. THE MEETING SHOULD INCLUDE THE OWNER OR THE OWNER'S REPRESENTATIVE, THE ON-SITE FOREMAN IN CHARGE OF LAND DISTURBANCE, THE ENVIRONMENTAL CONSULTANT AND THE APPROPRIATE HOWARD COUNTY INSPECTORS.

3. FOREST PROTECTION DEVICES AND SIGNS (SEE DETAILS) SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING. THE PROTECTION DEVICES AND SIGNS SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD. NONE OF THE DEVICES SHALL BE ANCHORED OR ATTACHED IN ANY WAY TO THE TREES TO BE SAVED.

4. EQUIPMENT, VEHICLES AND BUILDING MATERIALS SHALL NOT BE WITHIN THE PROTECTED AREA. ACTIVITIES STRICTLY TO IMPLEMENT ANY REFORESTATION PLANTING AND MAINTENANCE (I.E. WATERING, FERTILIZING THINNING, PRUNING, REMOVAL OF DEAD AND DISEASED TREES WHERE NECESSARY, ETC.) OF THE CONSERVATION AREA ARE PERMITTED. CLEARING FOR THE PURPOSE OF SODDING OR PLANTING GRASS IS NOT PERMITTED WITHIN THE FOREST CONSERVATION AREAS ONCE THEY'RE ESTABLISHED.

5. AT THE END OF THE CONSTRUCTION PERIOD, THE DESIGNATED QUALIFIED PROFESSIONAL SHALL CONVEY TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM CERTIFICATION THAT ALL FOREST RETENTION AREAS HAVE BEEN PRESERVED, ALL REFORESTATION AND/OR AFFORESTATION PLANTINGS (IF APPLICABLE) HAVE BEEN INSTALLED AS REQUIRED BY THE FOREST CONSERVATION PLAN, AND THAT ALL PROTECTION MEASURES REQUIRED FOR THE POST-CONSTRUCTION PERIOD HAVE BEEN INSTALLED. UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE PROGRAM COORDINATOR WILL NOTIFY THE OWNER OF RELEASE FROM THE CONSTRUCTION PERIOD OBLIGATIONS. THE 2-YEAR (MIN.) POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THEN COMMENCES.

GENERAL NOTES

1. THIS REFORESTATION PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION" OF THE HOWARD COUNTY CODE.

2. IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN AFFORESTATION/REFORESTATION TECHNIQUES AND PRACTICES.

3. AT FINAL PLAN STAGE, THE OWNER IS RESPONSIBLE FOR A 2-YEAR (MIN.) POST-CONSTRUCTION MAINTENANCE PERIOD WHICH INVOLVES ACTIVITIES NECESSARY TO ENSURE SURVIVAL AND GROWTH OF THE CONSERVATION AREA. TWO INSPECTIONS PER YEAR BY A QUALIFIED PROFESSIONAL AT BEGINNING AND END OF THE GROWING SEASON, ARE RECOMMENDED IN ORDER TO TAKE REMEDIAL STEPS AS NECESSARY. IF, AFTER ONE YEAR, THE POSSIBILITY EXISTS THAT THE ORIGINAL PLANTING (IF APPLICABLE) WILL NOT MEET SURVIVAL RATE STANDARDS, THE APPLICANT MAY CHOOSE TO ESTABLISH REINFORCEMENT PLANTINGS.

4. AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD, CERTIFICATION BY A QUALIFIED CONSULTANT WILL BE REQUIRED BEFORE TO THE OWNER CAN BE RELEASED FROM HIS/HER FOREST CONSERVATION OBLIGATION TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

5. THE DEVELOPER/BUILDER SHALL (IN WRITING) NOTIFY ALL LOT OWNERS OF THIS DEVELOPMENT OF THE EXISTENCE OF FOREST CONSERVATION AREAS AND THAT DISTURBANCE TO THE FOREST CONSERVATION AREAS OR THE REMOVAL OF FOREST CONSERVATION SIGNAGE IS PROHIBITED.

6. TTHIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION OBLIGATION BY THE PLACEMENT OF 1.99 ACRES OF AFFORESTATION INTO AN EASEMENT AREA WHICH IS SUFFICIENT TO MEET THE BREAK EVEN POINT OF 1.92 ACRES OF THE REQUIRED AFFORESTATION. SURETY IN THE AMOUNT OF $43,342.20 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS PLAN.

7. 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 DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.

8. 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.

9. REFORESTATION/AFFORESTATION TREE PLANTINGS SHOULD BE INSTALLED IN A CURVILINEAR PATTERN TO FACILITATE MAINTENANCE BUT AVOID A GRID APPEARANCE. EACH SPECIES OF TREE SHALL BE DISTRIBUTED EVENLY WITHIN EACH FOREST CONSERVATION EASEMENT AREA.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443, Expiration Date: 12-21-12

STATE OF MARYLAND
DONALD ALAN MASON
No. 21443
PROFESSIONAL ENGINEER
2-11-11

NO 'AS-BUILT INFORMATION IS REQUIRED ON THIS SHEET

FOREST CONSERVATION PROGRAM SEQUENCE

1. OBTAIN ALL NECESSARY PERMITS.
2. STAKEOUT LIMITS OF DISTURBANCE.
3. FIELD MEETING TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE SITE GRADING AND CONSTRUCTION.
4. INSTALL FOREST CONSERVATION SIGNS AND FOREST PROTECTION DEVICES (FENCES) ALONG THE PORTION OF THE LIMIT OF DISTURBANCE (THAT INVOLVES CLEARING AND/OR RETENTION OF TREES).
5. COMMENCE SITE CONSTRUCTION.
6. INSTALL FOREST PLANTING AND THE REMAINDER OF THE CONSERVATION SIGNS ALONG THE EDGE OF THE CONSERVATION EASEMENT. MOVE CONSERVATION SIGNS INSTALLED IN #4 (ABOVE) TO THE EDGE OF THE CONSERVATION EASEMENT.
7. INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS; START OF POST-CONSTRUCTION MANAGEMENT PERIOD.
8. POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN.).
9. FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION SURETY.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.
10/07/09	FCE Requirements Changed For Whip Trees ⚠1	WMJ	DDM

PREPARED FOR:
OWNER
LISA A. GABRIEL-HENRY
14337 BURNT WOODS ROAD
GLENWOOD, MARYLAND 21738

DEVELOPER
RICHARD AZRAEL
5850 WATERLOO ROAD, SUITE 230
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FOREST CONSERVATION - LANDSCAPE DETAILS AND NOTES
MAPLEWOOD FARMS
LOTS 1 - 6, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCELS "B" & "C"
LIBER 2820, FOLIO 150 AND LIBER 6321, FOLIO 590
LISBON ELECTION DISTRICT No. 4 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RR-DEO	02118
DATE	TAX MAP – GRID	SHEET
JULY, 2007	21-5	12 OF 12

F-07-74 As-Built