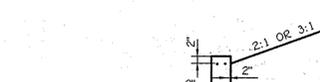
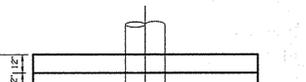
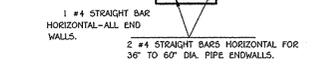
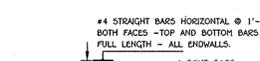


Existing Public Forest Conservation Easement No. 2 (Retention) (Plat Nos. 21339 Thru 21344)

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
Co	Codorus and Harboro silt loams, 0 to 3 percent slopes	C	0.37
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	0.20
GmA	Glenville silt loam, 0 to 3 percent slopes	C	0.37
GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37
McD	Minor loam, 15 to 25 percent slopes, very rocky	B	0.24
MkF	Minor-Brinklow complex, 25 to 85 percent slopes, very rocky	B	0.24



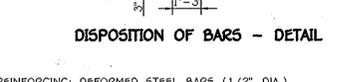
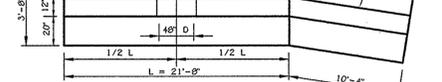
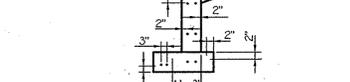
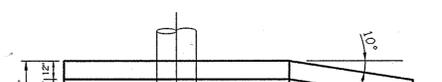
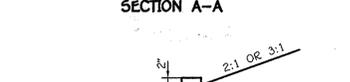
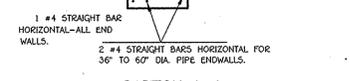
REINFORCING: DEFORMED STEEL BARS (1/2" DIA.)
CHAMFER: ALL EXPOSED EDGES 1" X 1" OR AS DIRECTED.
CONC. SHALL BE S.H.A. A. MIX No. 2.

MODIFIED TYPE 'C' ENDWALL (HW-2)

Developer's/Builder's Certificate

I/We certify that the landscaping shown on this plan will be done according to Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of Landscape Installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Approved: *[Signature]* 8/12/14
Howard S. Co. D. Co.



REINFORCING: DEFORMED STEEL BARS (1/2" DIA.)
CHAMFER: ALL EXPOSED EDGES 1" X 1" OR AS DIRECTED.
CONC. SHALL BE S.H.A. A. MIX No. 2.

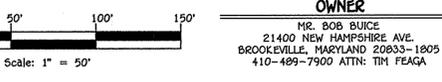
MODIFIED TYPE 'C' ENDWALL (HW-1)

OWNER

MR. BOB BUICE
21400 NEW HAMPSHIRE AVE.
BROOKVILLE, MARYLAND 20833-1805
410-489-7900 ATTN: TIM PEAGA

DEVELOPER

HERITAGE LAND DEVELOPMENT
19550 NORTH AVENUE
P.O. BOX 482
LISBON, MARYLAND 21765
410-489-7900

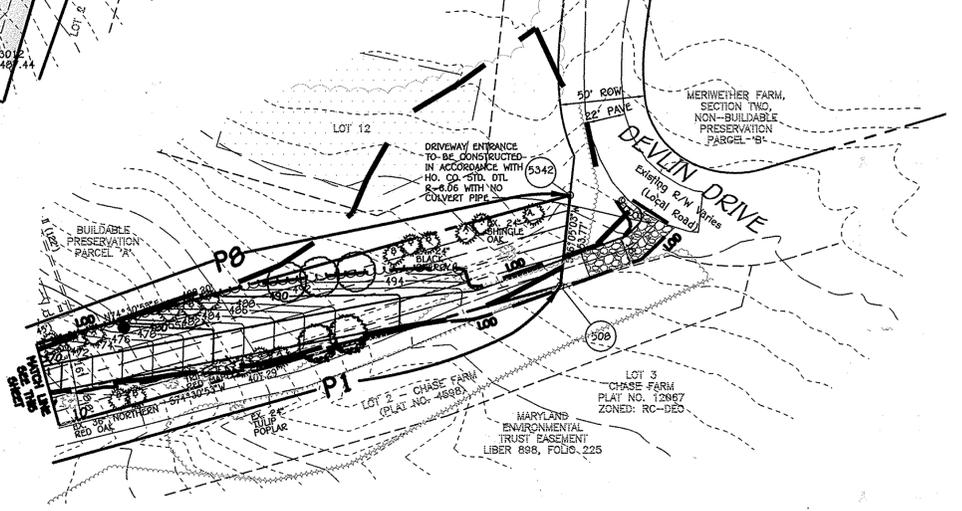


FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10072 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2895

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 8-28-14
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 8-28-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation

Cattle Overlook
Lots 1 Thru 6

(A Resubdivision of Lot 2 Bulce Property - Plat Nos. 5428 - 5429) and (A Resubdivision of Meriwether Farm Section One Non-Buildable Parcel 'e' Plat Nos. 21339 - 21344)

TAX MAP: 21 PARCELS: 24 & 24 GRIDS: 20 & 21
FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
SCALE: 1"=100' DATE: JULY, 2014
SHEET 2 OF 6

F-14-072



Stephanie Tuttle 8/12/14
Stephanie L. Tuttle, P.E. License No. 38386 DATE
Professional certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 38386, Expiration Date 1-12-16.

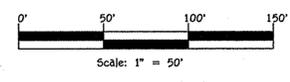
SOILS LEGEND			
SOIL	NAME	CLASS	K. FACTOR
Co	Codorus and Harboro silt loams, 0 to 3 percent slopes	C	0.37
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	0.20
GmA	Glenville silt loam, 0 to 3 percent slopes	C	0.37
GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37
MoD	Manor loam, 15 to 25 percent slopes, very rocky	B	0.24
MkF	Manor-brinklow complex, 25 to 65 percent slopes, very rocky	B	0.24



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SOURCE OFFICE PARK - 10272 BALDWIN INDUSTRIAL PARK
 COLLETT CITY, MARYLAND 21042
 (410) 461-2995

APPROVED: DEPARTMENT OF PLANNING AND ZONING
W. J. Schell 8-28-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Chd. Edwards 8-28-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Developer's/Builder's Certificate
 I/We certify that the landscaping shown on this plan will be done according to Section 15.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of notice of Landscape Installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.
[Signature] 7/10/14
 Developer/Builder Date



OWNER
 MR. BOB BUICE
 21400 NEW HAMPSHIRE AVE.
 BROOKVILLE, MARYLAND 20833-1805
 410-489-7900 ATTN: TIM PEAGA

DEVELOPER
 HERITAGE LAND DEVELOPMENT
 19950 NORTH AVENUE
 P.O. BOX 482
 LISBON, MARYLAND 21765
 410-489-7900

Stephanie J. Tuje 7/10/14
 Stephanie J. Tuje, P.E. 38386 DATE
 "Professional certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 38386, Expiration Date 1-12-16."

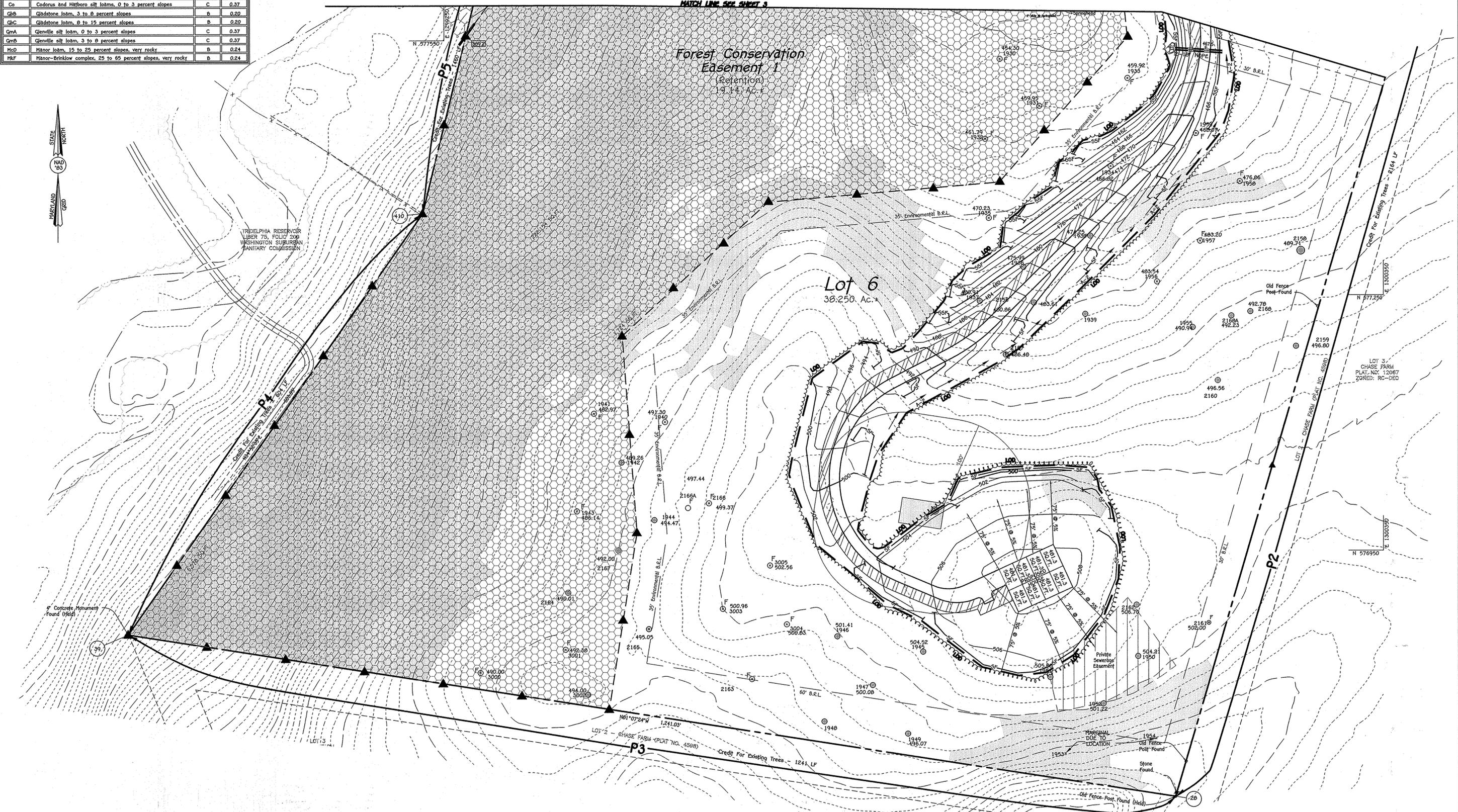
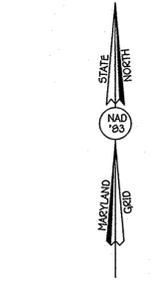


Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation
Cattail Overlook
 Lots 1 Thru 6
 (A Resubdivision Of Lot 2 Buice Property - Plat Nos. 5426 - 5429) And (A Resubdivision Of Meriwether Farm Section One Non-Buildable Parcel "E" Plat Nos. 21339 - 21344)
 ZONED: RC-DEO
 TAX MAP: 21 PARCELS: 24 & 24 GRIDS: 20 & 21
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 SCALE: 1"=100' DATE: JULY, 2014
 SHEET 3 OF 6

F-14-072

K:\SDSPROJ\30536 BUICE MD 83\DWG\RECORD PLATS\30536 Support Plan.dwg, Sheet 3, 7/10/2014 2:43:15 PM, 1:1

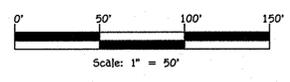
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FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SOURCE OFFICE PARK - 10272 BALDWIN INDUSTRIAL PARK
 GAITHERSBURG, MARYLAND 20878
 (410) 461-2995

APPROVED: DEPARTMENT OF PLANNING AND ZONING
K. S. Salas 8-22-14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Chad Edler 8-22-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Developer's/Builder's Certificate
 I/We certify that the landscaping shown on this plan will be done according to Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of notice of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.
T. C. E. J. 7/10/14
 Developer/Builder



OWNER
 MR. BOB BUICE
 21400 NEW HAMPSHIRE AVE.
 BROOKVILLE, MARYLAND 20833-1805
 410-489-7900 ATTN: TIM PEAGA

DEVELOPER
 HERITAGE LAND DEVELOPMENT
 15950 NORTH AVENUE
 P.O. BOX 492
 LISBON, MARYLAND 21765
 410-489-7900

Stephanie Tufts 7/10/14
 Stephanie Tufts, P.E. 50396 DATE
 "Professional certification, I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 38326, Expiration Date 1-12-16."



Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation
Cattail Overlook
 Lots 1 Thru 6
 (A Resubdivision of Lot 2 Buice Property - Plat Nos. 5426 - 5429) And (A Resubdivision of Meriwether Farm Section One Non-Buildable Parcel "E" Plat Nos. 21339 - 21344)
 TAX MAP: 21 PARCELS: 24 & 94 GRIDS: 20 & 21
 ZONED: RC-DEO
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 SCALE: 1"=100' DATE: JULY, 2014
 SHEET 4 OF 6

NOTES

- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 19.14 ACRES OF FOREST WHICH IS SUFFICIENT TO MEET THE BREAK-EVEN POINT OF 19.14 ACRES OF REQUIRED RETENTION. SURETY IS NOT REQUIRED FOR RETENTION.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, A LANDSCAPE SURETY FOR THE PERMETER LANDSCAPING AND TRASH PAD SCREENING FOR 7 SHADE TREES, 10 EVERGREENS, AND 6 SHRUBS IN THE AMOUNT OF (\$4,980.00) SHALL BE PROVIDED WITH THE GRADING PERMIT.
LOT 1 SURETY: (3) SHADE TREES @300/SHADE TREE & (6) EVERGREENS @150/EVERGREEN = \$1,800.00
LOT 5 SURETY: (4) SHADE TREES @300/SHADE TREE & (12) EVERGREENS @150/EVERGREEN & (6) SHRUBS @ \$30/SHRUB = \$3,180.00
- AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS 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 APPLICABLE PLANS AND CERTIFICATES.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERM, 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.
- SEE THE RECORD PLAT FOR THE BEARING AND DISTANCE DESCRIPTIONS OF THE FOREST CONSERVATION EASEMENTS.

GUARANTEE REQUIREMENTS

A 75 PERCENT SURVIVAL RATE OF REFORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75 PERCENT THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.

PLANTING / SOIL SPECIFICATIONS

- Planting Of Nursery Stock Shall Take Place Between March 15th And April 30th Or September 15th And November 15th.
- A Twelve (12) Inch Layer Of Topsoil Shall Be Spread Over All Reforestation Areas Impacted By Site Grading To Assure A Suitable Planting Area. If Applicable, Disturbed Areas Shall Be Seeded And Stabilized In Accordance With The Sediment & Erosion Control Plan For This Project. Planting Areas Not Impacted By Site Grading Shall Have No Additional Topsoil Installed.
- All Bare Root Planting Stock Shall Have Their Root System Dipped Into An Anti-Desiccant Gel Prior To Planting.
- Plants Shall Be Installed So That The Top Of The Root Mass Is Level With The Top Of Existing Grade. Backfill In The Planting Pits Shall Consist Of 3 Parts Existing Soil To 1 Part Pine Fines Or Equivalent.
- Fertilizer Shall Consist Of Agriform 22-0-2, Or Equivalent, Applied As Per Manufacturer's Specifications.
- A Two (2) Inch Layer Of Hardwood Mulch Shall Be Placed Over The Root Area Of All Plantings. See Planting Detail.
- Plant Material Shall Be Transported To The Site In A Tarped Or Covered Truck. Plants Shall Be Kept Moist Prior To Planting.
- All Non-Organic Debris Associated With The Planting Operation Shall Be Removed From The Site By The Contractor.

MULTIFLORA ROSE CONTROL NOTE:

PRIOR TO PLANTING ALL MULTIFLORA ROSE WITHIN PLANTING AREAS SHALL BE REMOVED. Removal Of The Multiflora Rose May Be Performed With Mowing And Herbicide Treatments. Physical Removal Of All Top Growth Followed By A Periodic Herbicide Treatment Of Stump Sprouts Is Recommended. Native Tree And Shrub Species Occurring Within The Rose Thickets Should Be Retained Wherever Possible. Herbicide Treatments Shall Occur On Two (2) Month Intervals During The First Growing Season And Once In The Spring And Once In The Fall For Subsequent Years. Herbicide Used Shall Be Made Specifically To Address Woody Plant Material And Shall Be Applied As Per Manufacturer's Specifications. Care Should Be Taken Not To Spray Planted Trees Or Naturally Occurring Native Tree And Shrub Seedlings. It Is Recommended That Initiation Of Rose Removal Begin At Least Six Months Prior To Planting So That New Growth Of Roses Is Able To Be More Successfully Managed.

PRE-CONSTRUCTION MEETING

- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
 - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
 - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
 - MAKE ALL NECESSARY ADJUSTMENTS;
 - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

CONSTRUCTION MONITORING

- THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING CONDITIONS.
- ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
- THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

SEQUENCE OF CONSTRUCTION

- Sediment Controls And Tree Protective Devices Shall Be Installed In Accordance With Sediment & Erosion Control Plans For This Site, If Applicable. (2 Days) Site Shall Be Graded In Accordance With The Plans. (1 Week)
- Proposed Landscape Planting Areas (Along The Common Driveway) Impacted By The Site Grading Shall Be Topsoiled And Stabilized As Per Note 2 Of The "Planting / Soil Specifications". (1 Day)
- Plants Shall Be Installed And Maintained As Per Notes And Specifications. (1 Year)

NOTE: Plantings Shall Be Guaranteed And Maintained In Accordance With The "Guarantee Requirements" (1 Year) And "Maintenance Of Plantings" Associated With This Project.

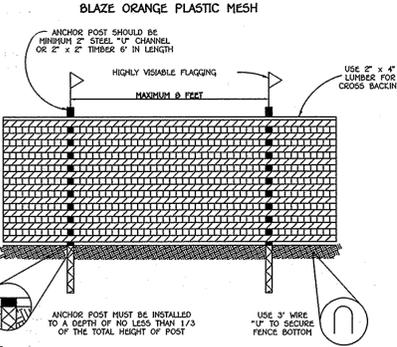
FOREST PROTECTION GENERAL NOTES

- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
- THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES, UNLESS ROOT PRUNING IS PROPOSED.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
- INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
- THE GENERAL CONTRACTOR SHALL PERFORM GRUBBING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
- ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

KEY	SPECIES	SIZE (DBH)	COMMENTS
1	TULIP POPLAR	35"	GOOD CONDITION
2	SYCAMORE	36"	GOOD CONDITION
3	TULIP POPLAR	34"	GOOD CONDITION
4	TULIP POPLAR	34"	GOOD CONDITION
5	SYCAMORE	31"	GOOD CONDITION
6	SYCAMORE	56"	SPLITS INTO 3 ABOVE EAGLEST HEIGHT
7	SYCAMORE	33"	TWIN STEMS INCLUDES A 3" TRUNK
8	TULIP POPLAR	40"	GOOD CONDITION
9	TULIP POPLAR	40"	GOOD CONDITION
10	NORTHERN RED OAK	36"	GOOD CONDITION

NOTE: ALL SPECIMEN TREES ARE TO BE RETAINED.

BASIC SITE DATA:		
A. TOTAL TRACT AREA		25.19 Ac
B. AREA WITHIN 100 YEAR FLOODPLAIN		5.46
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION		0
D. NET TRACT AREA		19.71 Ac
LAND USE CATEGORY (from Table 3.2.1, page 40, HSM&I)		
ASA	MDE	IDA
INFO: INFORMATION FOR CALCULATIONS:		
D. AFFORESTATION THRESHOLD	0.20% x D =	9.94
E. FOREST CONSERVATION THRESHOLD	0.25% x D =	12.43
F. EXISTING FOREST COVER		45.00
G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD		33.57
BREAK-EVEN POINT:		
H. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION		19.14
I. CLEARING PERMITTED WITHOUT MITIGATION		26.86
PROPOSED FOREST CLEARING:		
J. TOTAL AREA OF FOREST TO BE CLEARED		26.86
K. TOTAL AREA OF FOREST TO BE RETAINED		19.14
PLANTING REQUIREMENTS:		
L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD		6.72
M. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD		0
N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD		-6.72
O. TOTAL REFORESTATION REQUIRED		0
P. TOTAL AFFORESTATION REQUIRED		0
Q. TOTAL REFORESTATION AND AFFORESTATION REQUIRED		0
R. EXCESS FOREST CREDIT		0

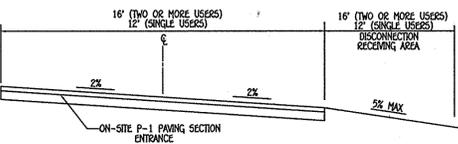


- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

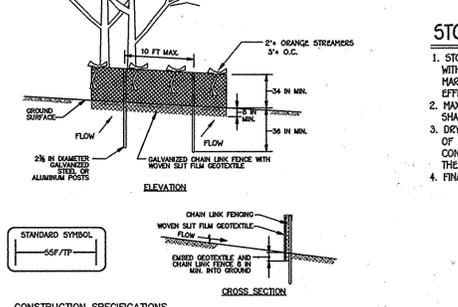
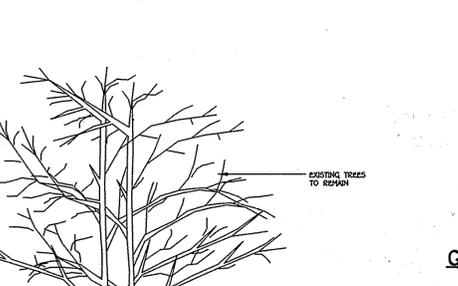
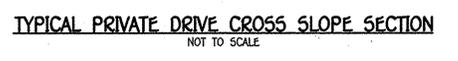


Table B.4. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

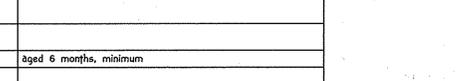
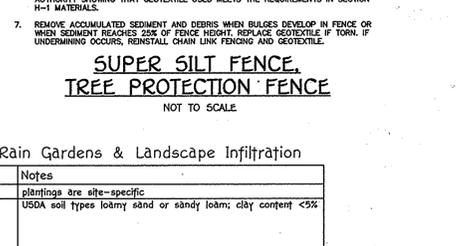
Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand 60-85% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 75#, Type P5 2B or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" pert. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underdrain pipe. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 28 days, normal weight, air-entrained, referring to meet ASTM-615-60	n.a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved state or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8/89; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gneiss (AASHTO #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.



NOTE: ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME 1, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.



- CONSTRUCTION SPECIFICATIONS**
- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
 - FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% MINIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR U-BOLTS.
 - FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND SECTION, EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
 - WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
 - EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT AN ANGLE TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
 - PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
 - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

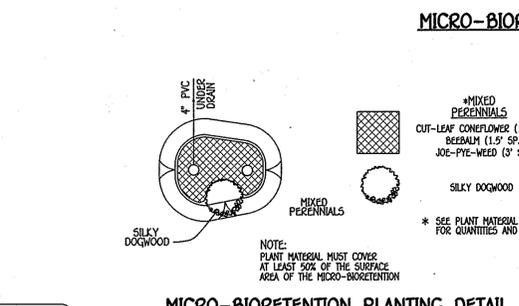
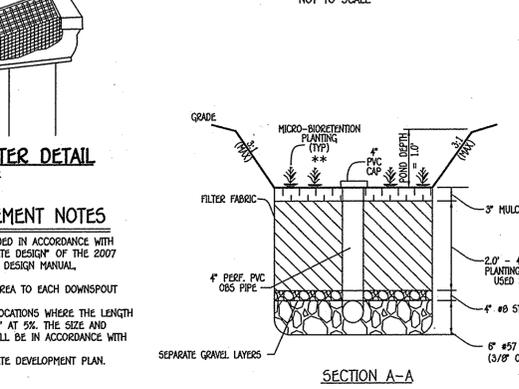
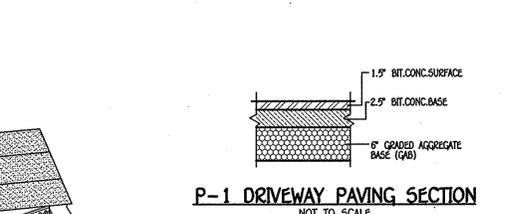


QTY.	KEY	NAME	SIZE
4	1	ACER RUBRUM 'OCTOBER GLOW' (OCTOBER RED MAPLE)	2.5"-3" CAL. FULL CROWN, B&B
3	2	TILIA CODATA 'GREENSPIRE' (GREENPIRE LITTLELEAF LINDEN)	2.5"-3" CAL. FULL CROWN, B&B
9	3	ILEX 'NELLIE R. STEVENS' (NELLIE R. STEVENS HOLLY)	5" - 6" HT. B&B
9	4	THUJA PLICATA (GIANT ARBOVITAE 'GREEN GIANT')	5" - 6" HT. B&B

TOTAL: 7 SHADE TREES, 16 EVERGREEN

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF ROOFTOP RUNOFF (N-1) DISCONNECTION OF NONROOFTOP RUNOFF (N-2)

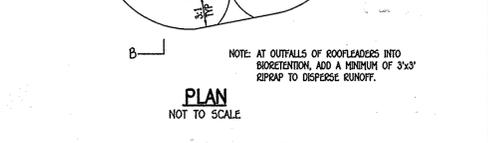
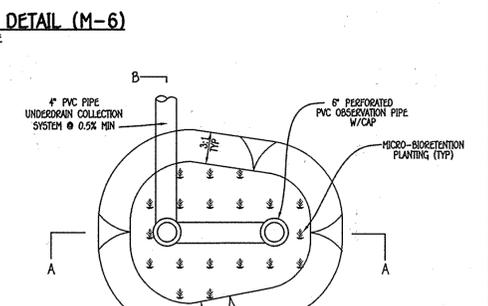
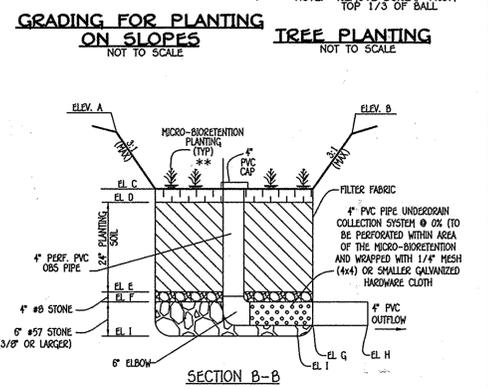
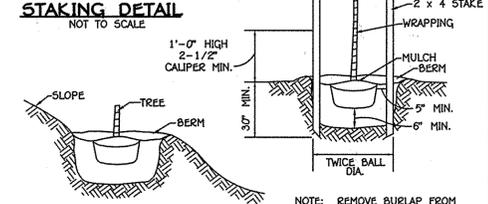
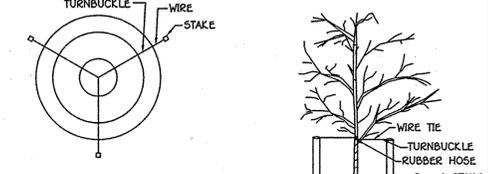
- MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE CONSTRUCTION OR DEVELOPMENT OF IMPROVED AREA IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.



OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OFF. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME 1, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

MICRO-BIO 1 QUANTITY	MICRO-BIO 2 QUANTITY	MICRO-BIO 3 QUANTITY	MICRO-BIO 4 QUANTITY	MICRO-BIO 5 QUANTITY	MICRO-BIO 6 QUANTITY	NAME	MAXIMUM SPACING (FT.)
45	30	25	30	32	40	MIXED PERENNIALS	1.5 TO 3.0 FT.
1	1	1	1	1	1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION



OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OFF. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME 1, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
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45	30	25	30	32	40	MIXED PERENNIALS	1.5 TO 3.0 FT.
1	1	1	1	1	1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION

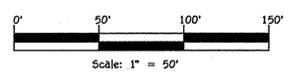
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SERVICE OFFICE: 15272 BALDORNE INDUSTRIAL PARK
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2885

Developer's/Builder's Certificate

I/We certify that the landscaping shown on this plan will be done according to Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of notice of Landscape Installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

DATE: 8-28-14

DATE: 8-28-14



OWNER

MR. BOB BUICE
21400 NEW HAMPSHIRE AVE.
BROOKVILLE, MARYLAND 20833-1805
410-489-7900 ATTN: TIM PEAGA

DEVELOPER

HERITAGE LAND DEVELOPMENT
19950 NORTH AVENUE
P.O. BOX 482
LISBON, MARYLAND 21076
410-489-7900

Stephanie J. Tufts 7/10/14

Stephanie J. Tufts, P.E. 36396
Professional certification, I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 36396, Expiration Date 1-12-16.

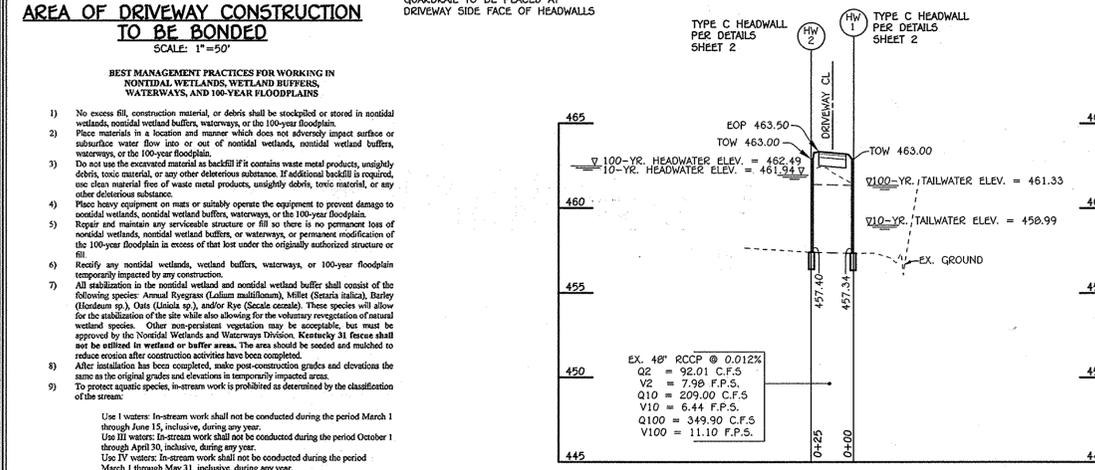
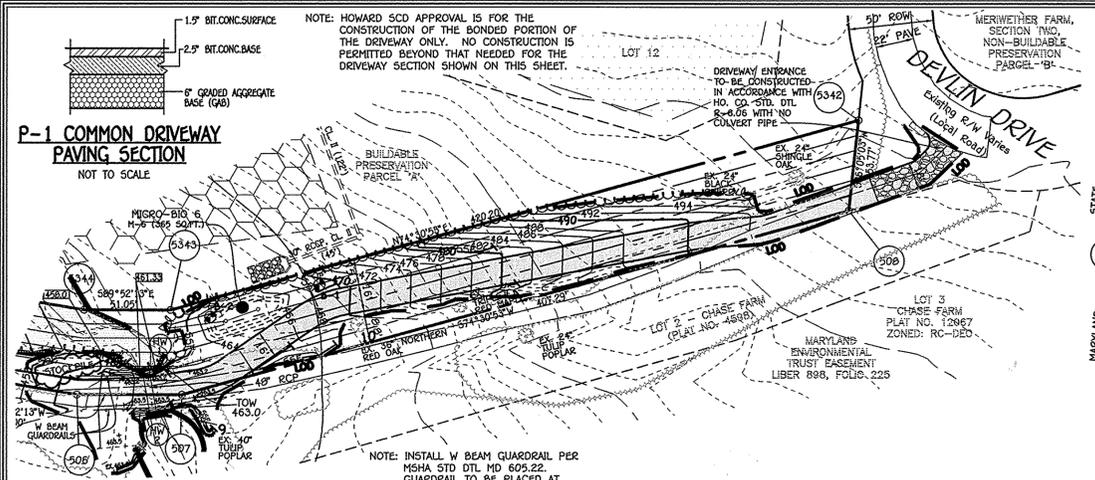


Supplemental Plan - Topography, Stormwater Management, Landscaping, & Forest Conservation

Cattail Overlook
Lots 1 Thru 6

(A Re subdivision of Lot 2 Bice Property - PRR No. 5428 - 5429) And (A Re subdivision of Meriwether Farm Section One Non-Buildable Parcel C Plat No. 21339 - 21344)

ZONED: RC-DEO
TAX MAP: 21 PARCELS: 24 & 84
FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
SCALE: 1"=100' DATE: JULY, 2014
SHEET 5 OF 6



BEST MANAGEMENT PRACTICES FOR WORKING IN NONWATER SATURATED WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- No access fill, construction material, or debris shall be stockpiled or stored in nonwater saturated wetlands, waterways, or the 100-year floodplain.
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow in or out of nonwater saturated wetlands, waterways, or the 100-year floodplain.
- Do not use the excavated material as backfill if it contains waste metal products, unweighed debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unweighed debris, toxic material, or any other deleterious substance.
- Place heavy equipment on mats or suitably operate the equipment to prevent damage to nonwater saturated wetlands, waterways, or the 100-year floodplain.
- Repair and maintain any accessible structure or fill so there is no permanent loss of nonwater saturated wetlands, nonwater saturated wetlands, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the original authorized structure or fill.
- Reclaim any nonwater saturated wetlands, waterways, or 100-year floodplain temporarily impacted by any construction.
- All stabilization in the nonwater saturated wetland and nonwater saturated wetland buffer shall consist of the following species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria italica*), Barley (*Hordeum sp.*), Oats (*Avena sp.*), and/or Rice (*Oryza sativa*). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-permanent vegetation may be acceptable, but must be approved by the Natural Wetlands and Waterways Division, Kentucky State Police, before such is utilized in wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
- After installation has been completed, make post-construction grading and diversions the same as the original grades and elevations in temporarily impacted areas.
- To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream.

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation

- Temporary Stabilization
 - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment such as disc harrows or plow blades or ripper mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with rippers running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
- Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetation establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the ability to hold a moderate amount of moisture. An exception is if loess will be planted, then a sandy soil less than 30 percent silt plus clay would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Disc soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by disking with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeding loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of construction have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth to be salvaged for a given soil can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
- Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and bare nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.

C. Soil Amendments (Fertilizer and Lime Specifications)

Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.

- Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
- Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 to 100 percent will pass through a #20 mesh sieve.
- Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (800-4000 pounds per 1,000 square feet) prior to the placement of topsoil.

TEMPORARY SEEDING NOTES (B-4-4)

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria:

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with seeding dates and seeding depths. If the Summary is not completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing Agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate (100-20-20)
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them on site conditions or grading. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

TEMPORARY SEEDING NOTES (B-4-4)

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria:

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with seeding dates and seeding depths. If the Summary is not completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing Agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate (100-20-20)
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth
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PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

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 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
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- For sites having soil tests performed, use and show the recommended rates by the testing Agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate (100-20-20)
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them on site conditions or grading. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

TEMPORARY SEEDING NOTES (B-4-4)

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria:

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with seeding dates and seeding depths. If the Summary is not completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing Agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate (100-20-20)
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them on site conditions or grading. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

TEMPORARY SEEDING NOTES (B-4-4)

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria:

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with seeding dates and seeding depths. If the Summary is not completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing Agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate (100-20-20)
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them on site conditions or grading. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

TEMPORARY SEEDING NOTES (B-4-4)

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria:

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with seeding dates and seeding depths. If the Summary is not completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing Agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate (100-20-20)
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them on site conditions or grading. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
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TEMPORARY SEEDING NOTES (B-4-4)

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria:

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with seeding dates and seeding depths. If the Summary is not completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing Agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.B and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate (100-20-20)
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them on site conditions or grading. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that require intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars