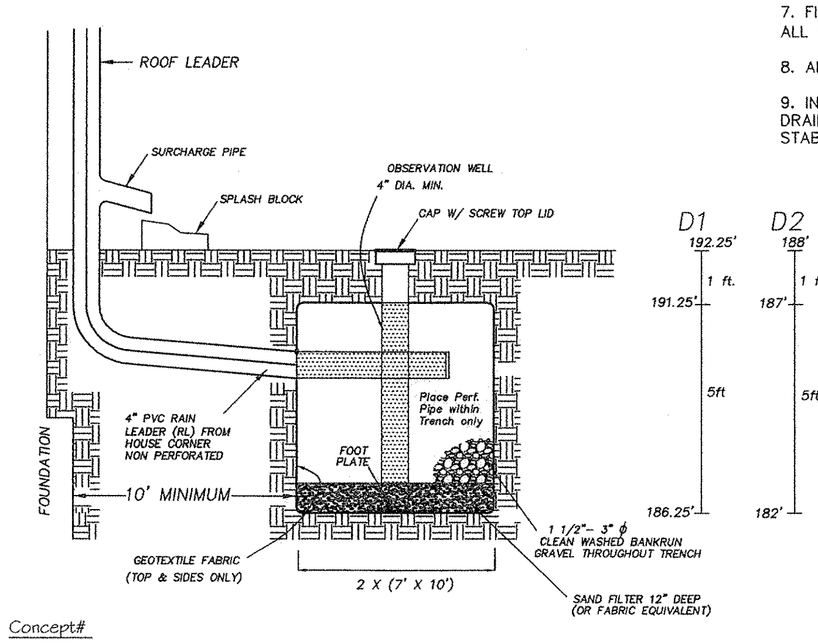
STORMWATER MANAGEMENT BASE DATA

Site Area	=	214,155 SQ.FT= 4.916 AC
100 Year Floodplain Area	=	0 AC
Total Drainage Area (A)	=	214,155 SQ.FT = 4.916 AC
Proposed Disturbed Area	=	40,800 SQ.FT = 0.936 AC
Rooftop Impervious Area	=	3,422 SQ.FT = 0.08 AC
Non-Rooftop Impervious Area	=	7,863 SQ.FT = 0.18 AC
Ex Non-Rooftop Impervious Area	=	0 SQ.FT = 0 AC
Total Proposed Impervious Area	=	11,285 SQ.FT = 0.26 AC
Predominant Soil Types :		

SWM CONCEPT APPROVAL #

Required Water Quality Control :	Infiltration
Required Water Quantity control:	None
Special Conditions required:	Drywells

NOTE: USE DISCONNECTION OF ROOFTOP TO TREAT THE RUN OFF FROM HOUSE
WITH A = 0.95 AC & I = 100 %



Concept#

WATER QUALITY VOLUME = WQv

$WQv = \frac{(P)(Rv)(A)}{12}$ P = 1"

A=0.095
Rv = 0.05 + 0.009(I)
I = Percent Impervious = 100 %

Rv = 0.05 + 0.009(100) = 0.95

$WQv = \frac{(1.0 \times 0.95 \times 0.08)}{12} = 0.00634$ AC-FT =276 CU.FT.

RECHARGE VOLUME

$Rev = \frac{(s)(Rv)(A)}{12}$

Type Soil : s = 0.26

$Rev = \frac{(0.26 \times 0.95 \times 0.095)}{12} = 0.0022$ AC-FT =95 CU.FT.

USE DISCONNECTION OF ROOFTOP AS CREDIT
FOR SWM PER SECTION 5.2 OF SWM MANUAL 2000

DRYWELL DESIGN

Storage volume: WQv = 276 cu.ft.
Void ratio n = 0.4
WQv /0.4 = 690 cu.ft
USE DEPTH OF DRYWELLS OF d=5'
690/5 = 138 sq.ft.

Use: 2 Drywells

D1 – Drywell #1 7' x 10' x 5'
D2 – Drywell #2 7' x 10' x 5'

SITE ANALYSIS

DISTURBED AREA:	40,800 S.F.
EXISTING IMPERVIOUS:	0 S.F.
PROPOSED IMPERVIOUS:	11,285 S.F.
TOTAL IMPERVIOUS:	11,285 S.F.
PERCENTAGE IMPERVIOUS:	5.27 %
TREE DISTURBANCE:	40,800 S.F.

PROPOSED HOUSE ELEVATIONS:
F.F.= 197
B.F.= 188
GAR.= 194

PROPOSED LOT COVERAGE = 5.27 %
PROPOSED HOUSE HEIGHT = 27 FT

NOTES

1. SUBJECT LOT IS CURRENTLY SERVED BY AN INDIVIDUAL WELL & SEPTIC. IT IS PROPOSED TO CONNECT TO THE EXISTING PUBLIC SYSTEMS.

2. UNLESS OTHERWISE SHOWN HEREON, THE HOUSE SITE IS NOT WITHIN THE 100 YEAR FLOOD PLAIN.

3. THIS SITE PLAN COMPLIES WITH ALL CODE REQUIREMENTS OF PRINCE GEORGES COUNTY

4. UNLESS OTHERWISE SHOWN HEREON, THERE ARE NO STRUCTURES OR WELLS WITHIN 100' OF THIS LOT.

CONSULTANTS CERTIFICATION

The Developer's plan to control silt and erosion is adequate to contain the silt and erosion on the property covered by this plan, I certify that this plan of erosion and sediment control represents a practical and workable plan based on my personal knowledge of this site, and was prepared in accordance with the requirements of the Prince George's Soil Conservation District and "Standards and Specifications for Sediment and Erosion Control." I have reviewed this Erosion and Sediment Control Plan with the Owner/Developer.

Signature: _____ MD .#: 33463. Date: 07/03/07

GENERAL NOTES

1.ALL STROM DRAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE KATEST EDITION OF THE STORM WATRER MANAGEMENT STANDARDS AND SPECIFICATIONS OF PRINCE GEORGE'S COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES, UNLESS OTHERWISE NOTED.

2. FOR TYPES OF STRUCTURES REFER TO THE LATEST STORM WATER MANAGEMENT STANDARDS; DETAILS SHOWN ARE OF PRINCE GEORGE'S COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES, UNLESS OTHERWISE NOTED.

3. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDSBUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF EACH MAIN BY DIGGING TEST PITS AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING, IF CLEARANCES ARE LESS THAN SHOWNOR TWELVE INCHES WHICHEVER IS LESS, CONTACT THE DESIGN ENGINEER AND THE OWNER OF THE UTILITY COMPANY BEFORE PROCEEDING WITH CONSTRUCTION.

4. ALL STORM DRAINPIPES MUST HAVE A MINIMUM OF ONE FOOT COVER.

5. CALL MISS UTILITY@ 1-800-257-7777, 48 HOURS PRIOR TO ANY DIGGING FOR SAFETY SAKE AND IT IS THE LAW !

6. SOD ALL AREAS CALLED FOR ON THE PLAN AND SLOPES 3:1 OR GREATER, SEED AND MULCH ALL OTHER AREAS DISTURBED BY THIS CONSTRUCTION.

7. FILL SHALL BE OF PRINCE GEORGE'S COUNTY CLASS I AS SHOWN, ALL OTHER FILL SHALL BE OF PRINCE GEORGE'S COUNTY CLASS II.

8. ALL ROOFDRAIN TO BE CONNECTED TO DRYWELL.

9. INFILTRATION NOT RECEIVE RUNOFF UNTIL THE ENTIRE CONTRIBUTORY DRAINAGE AREA TO THE INFILTRATION SYSTEM IS PERMANENTALY STABILIZED.

DRYWELL NOTES:

1. Timing
A dry well shall not be constructed or placed in service until all of the contributing drainage area has been approved by the responsible inspectot.

2. Drywell Preparation:
Excavate the dry well to the design dimensions. Excavate materials shall be placed away from the excavated sides to enhance well stability. Large tree roots shall be trimmed flush with the sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side walls of the dry well shall be roughened where sheared and sealed by heavy equipment.

3. Fabric Laydown:
The filter fabric roll shall be cut to the proper width prior to installation. The cut width must include sufficient material to conform to well perimeter irregularities and for a 6" minimum top overlap. Place the fabric roll over the well and unroll a sufficient length to allow placement of the fabric down into the well. Stones or other anchoring objects should be placed on the fabric at the edge of the well to keep the lined well open during windy periods. When ovelaps are required between rolls, the upstream roll shall lap a minimum of 2 feet over the downstream roll in order to provide a shingled effect. The overlap ensures fabric continuity or the fabric conforms to the excavation surface during aggregate placement and compaction.

4. Aggregate Placement and Compaction:
Drainage aggregate shall be placed in lifts and compacted using plate compaction. As a rule of thumb, a maximum loose lift thickness of 12 inches is recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil piping and fabric clogging.

5. Overlapping and Covering:
Following aggregate placement, the fabric previously weighed by stones should be folded over the aggregate to form a 6" minimum longitudinal lap. The desired fill soil should be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.

6. Contamination:
Care shall be exercised to prevent natural or fill soils from intermixing with the drainage aggregate. All contaminated aggregate shall be removed and replaced with uncontaminated aggregate.

7. Voids Behind Fabric:
Voids can be created between the fabric and excavation sides and should be avoided. Removing boulders or orthe obstacles from trench walls is one source of such voids. Natural soils should be placed in these voids at the most convenient time during construction to ensure fabric conformity to the excavation sides. Soil piping, fabric clogging, and possible surface subsidence will be avoided by this remedial process.

8. Unstable Excavation Sides:
Vertically excavated trench walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive or cohesionless soils predominate. These conditions may require laying back of the side slope to maintain stability;trapezoidal rather than rectangular cross sections may result.

I HAVE REVIEWED THIS PLAN AND BEEN MADE AWARE OF THE WOODLAND CONSERVATION REQUIREMENTS. I UNDERSTAND THAT ANY ADDITIONAL WOODLAND CLEARING BEYOND THAT SHOWN ON THIS PLAN WILL REQUIRE A REVISED PLAN AND APPROVAL BY M-NCPPC.

SIGNED BY: _____ DATE: 7/3/2007.

M-NCPPC
PRINCE GEORGE'S COUNTY PLANNING DEPARTMENT.
ENVIRNMENTAL PLANNING DEPARTMENT.
APPROVAL
TREE CONSERVATION PLAN
TCP II/ 20/07

	APPROVED BY	DATE
01	CFinch	9/17/07
02		
03		
04		
05		
06		

GRADING CERTIFICATION

I CERTIFY THAT I HAVE INSPECTED THIS SITE AND THAT DRAINAGE ONTO THIS SITE FROM OTHER UPGRADE PROPERTIES AND FROM THIS SITE ONTO OTHER DOWNGRADE PROPERTIES HAS BEEN ADDRESSED IN SUBSTANTIAL ACCORDANCE WITH APPLICABLE CODES

CERTIFICATE OF COMPLIANCE

I Certify that this plan has been designed in accordance with the requirements of Subtitle 4, Division 3 of the Code of Prince George's County, Maryland; and that ii or my staff have inspected this site and that drainage flows from uphill properties onto this site, and from this site onto downhill properties have been addressed in substantial accordance with

	INSPECTED BY:		
	DER	PRIVATE	DPW&T
STORM DRAIN SYSTEM			
S.D. PIPES			
S.D. FLOOD CONTROL			
WATER QUALITY SYSTEM			
INFILTRATION (DRYWELL)		X	X
RETENTION POND			
DETENTION POND			
OIL GRIT SEP.			
EXT. DET. POND			
UNDERGROUND STORAGE			
LANDSCAPE			
OTHERS			

SWM COMCEPT APPROVAL #-----

PROJECT NAME: TM: 173, P: 29, BALDWIN PROP.

PRINC GEORGE'S COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORK AND TRANSPORTATION
APPROVED for Stormwater Management and Storm Drain only.

SIGNED BY: DATE:

( ) Public storm drain/ SWM system permits required prior to construction

(X) Private storm drain/ SWM system a required maintenance agreement is required.

(X) Pre-construction meeting is required for all DER inspected storm drain/swm systems. call 301 952 4914 to arrange.

REVISION APPROVAL

BY:..... DATE:.....

NOTE:.....

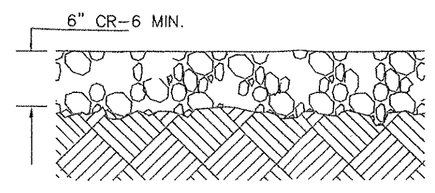
LEGEND

- Denotes Existing Contours
- Denotes Proposed Contours
- Denotes Proosed Silt Fence
- Denotes Limits of Disturbance
- Denotes Perc Tests
- Denotes Failed Perc Tests
- Denotes Edge of Existing Paving
- Denotes Tree Line
- Denotes Utility Pole
- Denotes Proposed Planting
- Denotes 2.82 AC Forest Conservation Area
- Denotes 10,000 S.F. Septic Recovery Area
- Denotes Tree Conservation Signage
- Denotes Tree Protection Device

OWNER'S/DEVELOPER'S CERTIFICATION

"I/We hereby certify that I/we have reviewed this erosion and sediment control plan and that all clearing, grading, construction and/or development will be done in pursuant to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beainning the project.:

NATHAN BALDWIN
Name (Printed):
Signature Date 7/3/2007.
Phone No:____540-371-1558_____
Firm: __NEW CENTURY OF AMERICA_____
Complete Address: 1934 WILLIAM STREET
FREDERICKSBURG, VA 22401



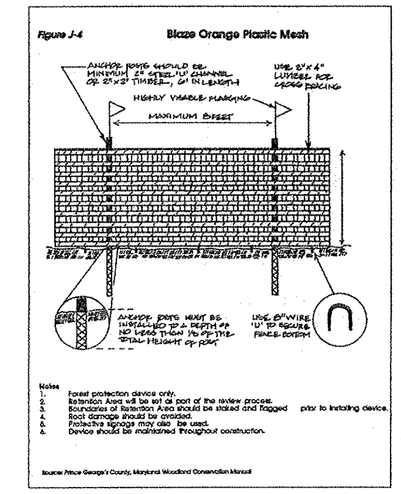
PAVING DETAIL

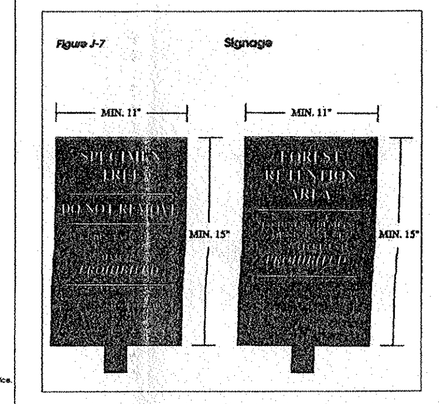
CONSTRUCTION SCHEDULE

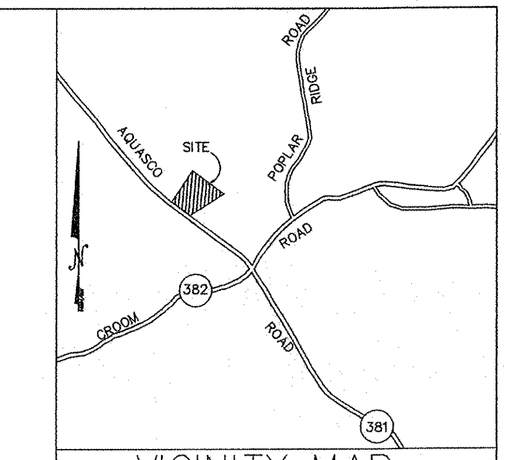
1.) ON SITE, PRE-CONSTRUCTION MEETING	DAY 1
2.) CLEARING & GRUBBING	DAY 1 – DAY 2
3.) INSTALLATION OF SEDIMENT CONTROL FACILITIES	DAY 2 – DAY 4
4.) INSTALLATION OF UTILITIES AND DRIVEWAY	DAY 4 – DAY 10
5.) LIMIT SITE GRADING IN AREA OF HOUSE, EXCAVATE AND POUR FOOTINGS, ERECT FOUNDATIONS AND ENCLOSE HOUSE WITH ALL POSSIBLE EROSION CONTAINED.	DAY 4 – DAY 60
6.) FINAL SITE GRADING AND STABILIZATION WITH PERMINANT VEGETATIVE COVER	DAY 60 – DAY 64
7.) REMOVAL OF SEDIMENT CONTROL FACILITIES, WHEN PERMISSION IS GRANTED BY THE DER SITE INSPECTOR, AND FINAL STABILIZATION OF THESE AREAS OF THESE AREAS	DAY 64 – DAY 65
TOTAL ESTIMATED TIME	65 DAYS

Buffer Yard Planting Schedule 4.7

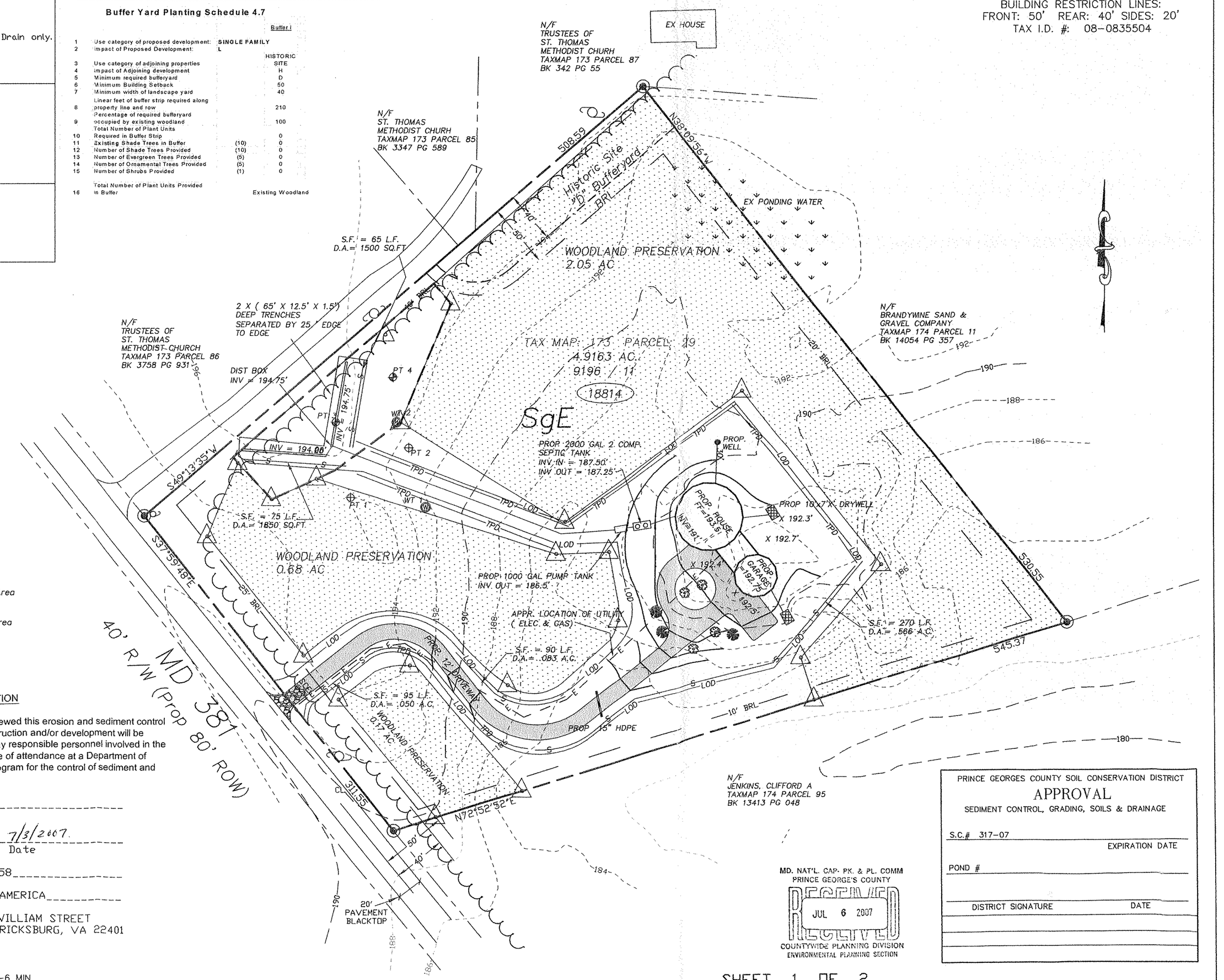
			Buffer I
1	Use category of proposed development:	SINGLE FAMILY	
2	Impact of Proposed Development:	L	
3	Use category of adjoining properties		HISTORIC SITE
4	Impact of Adjoining development		H
5	Minimum required bufferyard		D
6	Minimum Building Setback		50
7	Minimum width of landscape yard		40
8	Linear feet of buffer strip required along property line and row		210
9	Percentage of required bufferyard occupied by existing woodland		100
10	Total Number of Plant Units Required in Buffer Strip		0
11	Existing Shade Trees in Buffer	(10)	0
12	Number of Shade Trees Provided	(10)	0
13	Number of Evergreen Trees Provided	(5)	0
14	Number of Ornamental Trees Provided	(5)	0
15	Number of Shrubs Provided	(1)	0
16	Total Number of Plant Units Provided in Buffer		Existing Woodland







VICINITY MAP
SCALE: 1" = 2,000'
TAX MAP: 173 PARCEL 29
ZONING: O-S
BUILDING RESTRICTION LINES:
FRONT: 50' REAR: 40' SIDES: 20'
TAX I.D. #: 08-0835504



PRINCE GEORGES COUNTY SOIL CONSERVATION DISTRICT
APPROVAL
SEDIMENT CONTROL, GRADING, SOILS & DRAINAGE
S.C.# 317-07 EXPIRATION DATE
POND #
DISTRICT SIGNATURE DATE

MD. NAT'L. CAP. PK. & PL. COMM
PRINCE GEORGE'S COUNTY
RECEIVED
JUL 6 2007
COUNTYWIDE PLANNING DIVISION
ENVIRONMENTAL PLANNING SECTION

SHEET 1 OF 2

WILKERSON & ASSOCIATES INC.
ENGINEERS & SURVEYORS

SITE, SEPTIC, GRADING PLAN SWM AND TCP II
EROSION AND SEDIMENT CONTROL

TM: 173, GRID: F3, PARCEL: 29

BALDWIN PROPERTY

DATE	JAN 2007
SCALE	1" = 50'
DRAWN BY	AI
DRAWING #	PG486SP29

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, lot pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where;

a. The texture of the exposed subsoil/ parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must met the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil must not be composed of primarily textured subsoils and shall contain less tha 5 % by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 $\frac{1}{2}$" in diameter.

ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or other as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - **Section I - Vegetative Stabilization Methods and Materials.**

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the site into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less tha 6.0 sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxid materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientistand approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - **Section I - Vegetative Stabilization Methods and Materials.**

IV. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slop Stil Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8"higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8"layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded 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:

i. 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:

a. 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 COMST 26.04.06.

b. 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.

c. Composted sludge shall be applied at a rate of 1 ton/ 1,000 square feet.

iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and $\frac{1}{2}$ 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.

Table 28 Stone Size

	SIZE RANGE	D_{50}	D_{100}	AASHTO	WEIGHT
NUMBER 57*	3/8" - 1 1/2"	1/2"	1 1/2"	M-43	N/A
NUMBER 1	2" - 3"	2 1/2"	3"	M-43	N/A
RIP-RAP**	4" - 7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150lb max
CLASS II	N/A	16"	24"	N/A	700lb max
CLASS III	N/A	23"	36"	N/A	2000lb max

* This classification is to be used on the inside face of stone outlets and check dams.

** This classification is to be used when ever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (#905.01.04).

Stone For Gabion Baskets

BASKET THICKNESS		SIZE OF INDIVIDUAL STONES	
INCHES	MM	INCHES	MM
6	150	3 - 5	75 - 125
9	225	4 - 7	100 - 175
12	300	4 - 7	100 - 175
18	460	4 - 7	100 - 175
36	910	4 - 12	100 - 300

NOTE: Recycled concrete equivalent may be substituted for all stone classifications. Recycled concrete equivalent shall be concrete broken into the sizes meeting the appropriate classification, shall contain no steel reinforcement, and shall have a density of 150 pounds per cubic foot.

H-24-2

1994

Seed Mixture (For Hardiness Zone 7a) (From Table 25)

Fertilizer Rate (10-20-10)

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	Lime Rate
1	Tall Fescue (TFS) Conclub Bluegrass (CBG) Pennlawn Fine Fescue (FFG) Benchup (BG)	150	3/1-5/15	1"-2"				
2	Tall Fescue (TFS) Perennial Ryegrass (RG) Kentucky Bluegrass (KBG)	125 15 10	3/1-5/15	1"-2"	90 lb/ac (2.0 lb/ 1000 sf)	175lb/ac (4.0 lb/ 1000 sf)	175lb/ac (4.0 lb/ 1000 sf)	2 tons/ac (100 lb/ 1000 sf)
3	Tall Fescue (TFS) or Perennial Ryegrass (RG) Plus Crownvetch or Flatpea	110 20 20	3/1-5/15	1"-2"				

CONSTRUCTION SPECIFICATIONS

1. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved erosion and sediment control plan until they are adequately stabilized.
2. All erosion and sediment control practices and measures shall be constructed, applied and maintained in accordance with the appropriate sediment control plan and the "Standards and Specifications for Soil Erosion and Sediment Control."
3. Topsoil required for the establishment of vegetation shall be stockpiled in amount necessary to complete finished grading of all exposed areas.
4. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable materials.
5. Areas which are to be topsoiled shall be scarified to a minimum depth of 3 inches prior to placement to topsoil.
6. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with the local requirements or codes.
7. All fill shall be placed and compacted in layers not to exceed 8 inches in thickness.
8. Except for approved landfills or nonstructural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other questionable materials that would interfere with or prevent construction of satisfactory fills.
9. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills.
10. Fill shall be the required size to provide a firm foundation.
11. All benches shall be kept free of sediment during all phases of developments.
12. Seeps or springs encountered during construction shall be handled in accordance with the Standards and Specifications for Subsoilee Drain, or other approved methods.
13. All graded areas shall be permanently stabilized immediately following finished grading.
14. Stockpiles, borrow areas, adn spoil areas shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

General Notes:

1.) The developer is responsible for the acquisition of all required easements, rights-of-way, and/or rights-of-way pursuant to the discharge from the sediment and erosion control practices, storm water management practices and the discharge of stormwater onto or across and grading or other work performed on adjacent or downstream properties affected by this plan.

2.) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: six(seven calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes and all slopes greater than 3 horizontal to 1 vertical (3:1) and 10 (ten) days as to all other disturbed or graded areas on the project site. The in-place sediment control measures will be maintained on a continuing basis until the site is permanently stabilized and all permit requirements are met.

3.) On all sites with disturbed areas in excess of 3 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment control, 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; and Approval shall be requested upon final stabilization of all sites with disturbed areas in excess of 2 acres before removal of controls.

4.) Approval shall be requested upon final stabilization of all sites with disturbed areas in excess of two acres before removal of controls.

5.) The owner/developer that signs the certification on an erosion and sediment control plan is the responsible party regardless of any sale of the property or work of subcontractors. Erosion and sediment control plans are approved for the owner/developer only. All permits under an erosion and sediment control plan must and can only be issued to the owner/developer that signs the certification on the plan.

6.) PGSCD approval of a erosion and sediment control plan, pursuant to meeting local permit requirements for grading, building or street permits, etc., is valid only when the work to be performed under the permit is the same as (no monthly less than) that contained in the plan as approved by the PGSCD.

7.) Any changes or modifications to an approved erosion and sediment control plan, not approved by the PGSCD, shall invalidate the plan approval.

8.) Offsite borrow or spoil areas must have an approved and active erosion and sediment control plan.

9.) Temporary designed sediment basins shall be removed within 36 months after the beginning of construction of the basin.

10.) On small pond approvals:

A.) The owner or engineer will notify PGSCD promptly in writing when construction is begun and when construction is completed.

B.) The project shall be constructed under the supervision of the engineer-in-charge. Within 30 days of the completion of construction, the engineer-in-charge that designed the structure shall provide PGSCD with an as-built plan and shall certify, with the engineer's seal, that the MD-378 pond was constructed as shown on the as-built plans.

C.) The approval is valid only for site by the applicant and may not be transferred to another unless written approval for such transfer is obtained from PGSCD.

11.) Disturbed surface area _____ 0.65 AC

Volume of spoil material _____ 202 CY

Volume of borrow material _____ 202 CY

12.)List predominant soil types and general description per PGSCD soil survey.

MlB2 ShB2 AvE

19.0 STANDARDS AND SPECIFICATIONS FOR LAND GRADING

Definition

Reshaping of the existing land surface in accordance with a plan or determined by engineering survey and layout.

Purpose

The purpose of a land grading specification is to provide for erosion control and vegetative establishment on those areas where the existing land surface is to be reshaped by grading according to plan.

Design Criteria

To grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extensive grades modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitation that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measures for drainage and water removal and vegetative treatment, etc.

Many counties have regulations and design procedures already established or land grading and cut and fill slopes. Where these requirements exist, they shall be followed. The plan must show existing and proposed contours of the area (s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, and reverse slope subsurface drains. The plan shall also include phasing of these practices. The following shall be incorporated into the plan:

1. Provisions shall be made to safely conduct surface runoff to storm drains, protected outlet or to stable water courses to insure that surface runoff will not damage slopes or other graded areas.

2. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1 (Where the slope is to be mowed the slope should be no steeper than 3:1. 4:1 is preferred because of safety factors related to mowing steep slopes.) Slopes exceeding 2:1 shall require special design and stabilization considerations that shall be adequately shown on the plans.

3. Reverse benches shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slope it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Soils, scope, rock outcrops, etc., shall also be taken into consideration when designing benches.

a. Benches shall be minimum of six-feet wide to provide for ease of maintenance.

b. Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 5 percent, unless accompanied by appropriate design and computations.

c. The flow length within a bench shall not exceed 800' unless accompanied by appropriate design and computations. For flow channel stabilization see turnpoint swale.

4. Surface water shall be diverted from the face of all cut and / or fill slopes by the use of earth dikes, ditches and swales or conveyed downslope by the use of a designed structure, except where:

a. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected from surface runoff until they are stabilized.

b. The face of the slope shall not be subject to erosion or any concentrated flows of surface water such as from natural drainageways, graded swales, downspouts, etc.

c) The face do the slope will be protected by special erosion control materials, to include, but not limited to: approved vegetative stabilization practices (see section G), rip-rap or to other approved stabilization methods.

5. Cut slopes occurring in rippable rock shall be scarred as shown on the following diagram. These scarifions shall be made with conventional equipment as the excavation is made. Each step or scrarifion shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1:1. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization. Overland flow shall be diverted from the top of all scarred cut slopes and carried to a suitable outlet.

6. Subsurface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.

7. Slopes shall not be created so close to property lines as to endanger adjoining properties without adequately protecting such properties against sedimentation, erosion, slippage, settlement, subsidence or other related damages.

8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter when compacted by hand or mechanical tampers or over eight (8) inches in diameter when compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.

9. Stockpiles, borrow areas and spoil shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

All disturbed areas shall be stabilized structurally or vegetatively in compliance with 20.0 Standards and Specifications for Vegetative Stabilization.

24.0 MATERIALS SPECIFICATIONS

Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

* US Std Sieve CW-02215

The properties shall be determined in accordance with the following procedures:

-Apparent opening size MSMT 323

-Grab tensile strength ASTM D 1682; 4x8" specimen, 1x2" clamps, 12"/min. strain rate in the principal directions of geotextile fabric.

-Burst strength ASTM D 3786

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed a minimum of 85% by weight of polyolephins, polyesters, or polyamides. The geotextile fabric shall exs deterioration from ultraviolet exposure.

In addition, Classes A through E shall have a 0.01 cm./sec. minimum permeability when tested in accordan with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance w the grab tensile strength requirements listed above.

Silt Fence

Class F geotextile fabrics for silt fence shall have a 50 lb./in. minimum tensile strength and a 20 lb./ minimum tensile modulus when tested in accordance with MSMT 509. The material shall also have a gal./ft./min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordan with MSMT 322.

Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposu The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

A. Site Preparation

1. Install erosion and sediment control structures (either temporary or permanent) such as diversions,grade stabilization structures, berms, waterways, or sediment control basins.
2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
3. Schedule required soil test to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil test must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may be used for chemical analyses.
2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
3. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50 oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50 pass through a #100 mesh sieve and 98 - 100 through a #20 mesh sieve.
4. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

C. Seeded Preparation

1. Temporary Seeding

A. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Slopes steep (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
B. Apply fertilizer and lime as prescribed on the plans.
C. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

2. Permanent Seeding

A. Minimum soil conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40 % silt plus enough fine grained material (>30clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedeza is to be planted, then a sandy soil (<30 % silt plus clay) would be acceptable.
4. Soil shall contain 1.5 by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soil on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

B. Areas previously graded in conformance with the drawings shall be maintained in a trueand even grade, then scarified or otherwise loostened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

C. Apply soil amendments as per soil test or as included on the plans.

D. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

1. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sale of such material on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of use.
2. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding.
Note : It is very important temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding

1. Hydroseeding - Apply seed uniformly with hydroseeder (slurry included seed and fertilizer). Broadcast or drop seeder, or a cultipacker seeder.
2. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: Nitrogen: maximum of 150 lbs. per acre total of soluble nitrogen. P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.
3. Lime - use only ground agricultural limestone. Up to 3 tons per acre may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
4. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

2. Dry Seeding - This includes use of conventional drop or broadcast spreaderse

a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

3. Drill or Cultipacker Seeding and cover seed with soil.

A. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least soil covering. Seeded must be firm after planting.
B. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (in order of preference)

1. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

2. Wood Cellulose Fiber Mulch (WCFM)

A. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
B. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
C. WCFM including dye, shall contain no germination or growth inhibiting factors.

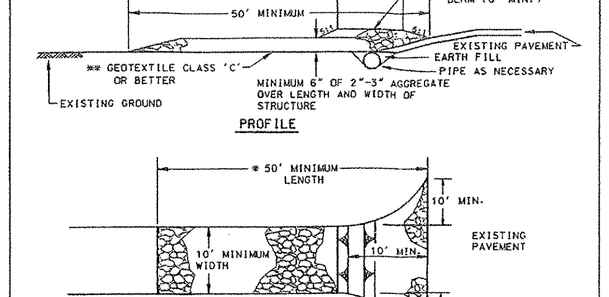
Design Data

130	Linear feet of Drain field.
84.5	Volume of 4" Drainpipe in Gallons (0.65xlinear feet)
2	Diameter of Force Main (inches)
232	Linear Feet of Force Main Pipe
27	equivalent length of Force Main Pipe (add for elbows, swing check valve, tees and 6" of pipe in tank).
259	Total pipe length (linear and equivalent)
22.7	Gallons per inch drawdown (tank capacity)X(outlet elev.- inside tank elev.)x12).
84.5	Gallons pumped per cycle (Volume of drain field pipe or the equivalent to a three inches drawdown, whichever is greater.
3.72	Inches drawdown per pump cycle
0.31	Drawdown (in feet)
50	Gallons Pumped per minute (15-20/lateral/minute)
4.67	Frictional loss per 100' of pipe. (minimum velocity of 2 ft per second)
12.10	Frictional loss for system (total pipe length x frictional loss per 100' of pipe.
10.59	Static head loss (highest force main elevation-pump off elevation.)
22.70	Total head loss(frictional loss + static head loss).
485	Gallons of reserve capacity. (inlet elev.-alarm elev.)x12gallons/inch drawdown)
1/2	Required pump (horsepower).
1.69	Drawdown time: \ 1 min 41sec\.....@150 .gal/min.

Recommended make and model pump.....WE05L.....
Recommended make and model control panel...Simplex / w Alarm.

PLANTING SCHEDULE					
Symbol	Quantity	Latin name	Common name	Planting size	Root preparation
	4	Tilia Americana	Amer. Linden	1 1/2"-2"Cal	B & B
	3	Magnolia SPP	Magnolia	5'-6'@ 6'.0.c	B & B

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



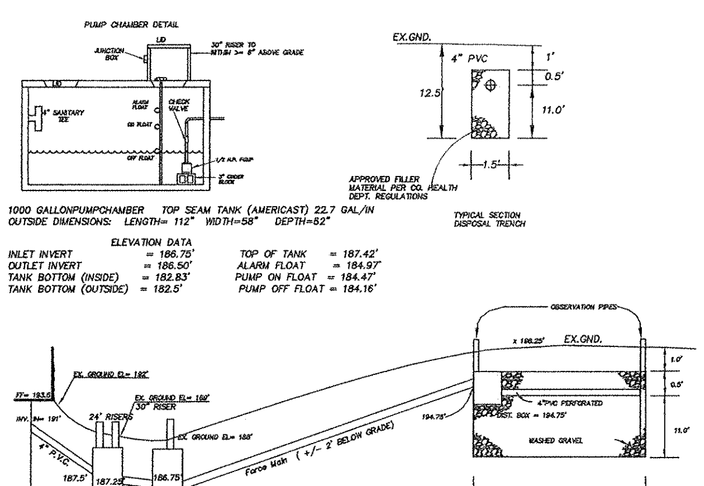
Construction Specification

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

TOTAL HOUSE SQUARE FOOTAGE	>4000 sq-ft (4 Rooms)
MINIMUM DRAINFIELD LENGTH	130' DEEP PERCOLATION TEST
USE 2000 GALS. SEPTIC TANK (DOUBLE COMPT. TOP SEAM)	
DESIGN FLOW	1000 GAL/DAY
ABSORPTIVE AREA	5
LOADING RATE	2.0 GAL/DAY/SQ FT USE (PT2)
L.F. REQUIRED =	1000/(2.0x5.5) = 91 L.F.
TRENCH LENGTH:	130 (2x65')
TRENCH DEPTH:	14" 0"
TRENCH WIDTH:	18"
GRAVEL DEPTH:	12" 0"
TRENCH SEPARATION:	20'

1. Septic Tank and Distribution Box shall be of adequate structural strength to support imposed loads.
2. P.V.C. will conform to ASTMD - 3033 type P.S.P. or ASTMD - 3034 type P.M.S. all shall be SDR - 35.



Woodland Conservation Worksheet
for
Prince George's County

Zone:	O-S		
Gross Tract:	4.9163		
Floodplain:	0.00		
Previously Dedicated Land:	0.00		
Net Tract (NTA):	4.9163	0.00	0.00

*Include acreage in the corresponding columns for each zone.

Property Description or Subdivision Name: BALDWIN PROPERTY

Reforestation Requirement Reduction Questions		
Is this one (1) single family lot? (y,n)	Y	
Are there prior TCP approvals which include a combinationof this lot and/or other lots. (y,n)	N	
Is this a Mitigation Bank	N	
Break-even Point (preservation) =	2.94978	acres
Clearing permitted w/o reforestion=	1.96652	acres

Woodland Conservation Calculations:		Net Tract (acres)	Floodplain (acres)	Off-site Impacts (acres)
Existing Woodland		2.92	0.00	
Woodland Conservation Threshold (NTA) =	50.00%	2.45815		
Smaller of a or b		2.45815		
Woodland above WCT		2.45815		
Woodland cleared		1.42	0.00	
Smaller of a or e		1.42		
Clearing above WCT (0.25 : 1) replacement requirement		0.36		
Clearing below WCT (2:1 replacement requirement)		0.00		
Afforestation Threshold (AFT) =	20.00%	0.00		
Woodland Conservation Required		**2.81**		

Woodland Conservation Provided:	(acres)	
Woodland Preservation	2.90	
Reforestation / Replacement	0.00	
Afforestation	0.00	
Area approved for fee-in-lieu	0.00	$0.00
Credits for Off-site Mitigation on another property	0.00	
Off-site Mitigation provided on this property	0.00	
Total Woodland Conservation Provided	**2.90**	

Area of woodland not cleared 3.4963 acres
Woodland retained not part of requirements: 0.5963 acres

Prepared by:

Signed

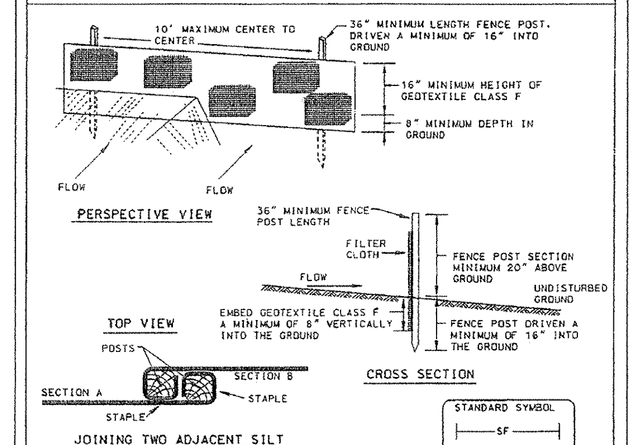
Revised 7/18/03

M-NCPPC
PRINCE GEORGE'S COUNTY PLANNING DEPARTMENT.
ENVIRNMENTAL PLANNING DEPARTMENT.
APPROVAL
TREE CONSERVATION PLAN
TCP II/ 20/07

APPROVED BY	DATE
[signature]	9/17/07

01
02
03
04
05
06

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 1½" x 1½" square (minimum) out. or 1¾" 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 ft²/ 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Removal of Hazardous Trees or Hazardous Limbs By Developers or Builders

The developer and/or builder is responsible for the complete preservation of all forested areas shown on the approved plan to remain undisturbed. Only trees or parts thereof designated by the Department of Environmental Resources as dead, dying, or hazardous may be removed.

1. A tree is considered hazardous if a condition is present which leads a Licensed Arborist or a Licensed Tree Expert to believe that the tree or a portion of the tree has a potential to fall and strike a structure, parking area, or other high use area and result in personal injury or property

2. If a hazardous condition may be alleviated by corrective pruning, the Licensed Arborist or a Licensed Tree Expert may proceed without further authorization. The pruning must be done in accordance with the latest edition of the ANSI A-300 Pruning Standards (Tree, Shrub, and Other Woody Plant Maintenance - Standard Practices").

3. Corrective measures requiring the removal of the hazardous tree or portions thereof shall require authorization by the building or grading inspector if there is a valid grading or building permit for the subject lots or parcels on which the trees are located. Only after approval of the appropriate Inspector may tree be cut by chainsaw to near the existing ground level. The stump may not be removed or covered with soil, mulch or other materials that would inhibit sprouting.

4. Debris from the tree removal or pruning that occurs within 35 feet of the woodland edge may be removed and properly disposed of by recycling, chipping or other acceptable means. All debris that is more than 35 feet from the woodland edge shall be cut up to allow contact with the ground, thus encouraging decomposition. The smaller materials shall be placed into brush piles that will serve as

Removal of Hazardous Trees, Hazardous Limbs, Noxious Plants, Invasive Plants or Non-Native Plants in Woodland Conservation Areas Owned by Individual Homeowners

1. If the developer or builder no longer has an interest in the property the home owner shall obtain a written statement from the Licensed Arborist or Licensed Tree Expert identifying the hazardous condition and the proposed corrective measures prior to having the work conducted. The tree may then be removed by the arborist or tree expert. The stump shall be cut close to the ground as possible and