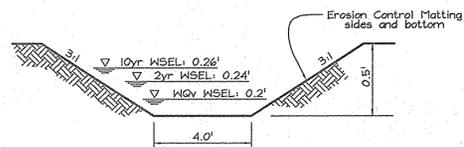


**SITE ANALYSIS DATA CHART**

- Total project area: 0.638 Acres±
- Area of plan submission: 0.544 Acres±
- Limit of disturbed area: 0.544 Acres±
- Subject property zoned R-20 per 02/02/04 Comprehensive Zoning Plan.
- Proposed uses for site & structures: single family detached dwelling.
- Floor space on each level of building(s) per use: See house template sheet
- Total number of units allowed: 1
- Total number of units proposed: 1
- Proposed building coverage of site: 0.100 acres; 15.67% of gross lot area
- Howard County File references: F-06-149

SHEET INDEX	
DESCRIPTION	SHEET No.
Site Development Plan, Landscaping Plan and Details	1 of 2
Sediment and Erosion Control, Soils Plan, and Details	2 of 2



**TYPICAL GRASS CHANNEL**  
Not to Scale

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
BrB2	Brandyvine loam, 3 to 8 percent slopes, moderately eroded	C
BrC2	Brandyvine loam, 8 to 15 percent slopes, moderately eroded	C

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
Perimeter/Frontage Designation Landscape Type	2 B	1 A
Linear Feet of Roadway	187	233
Credit for Existing Vegetation (Yes, No, Linear Feet)	No	No
Remaining Perimeter Length (Yes, No, Linear Feet)	No	No
Number of Plants Required	0	160
Shade Trees	0	4
Evergreen Trees	0	0
Shrubs	0	0
Number of Plants Provided	0**	4
Shade Trees	0	0
Evergreen Trees	0	0
Other Trees (2:1 Substitution)	0	0
Shrubs (10:1 Substitution)	0	0
(Describe Plant Substitution Credits Below if needed)		

\* Existing 2 (two) Hemlocks to Remain  
\*\* House Fronts Road

**LANDSCAPE SCHEDULE**

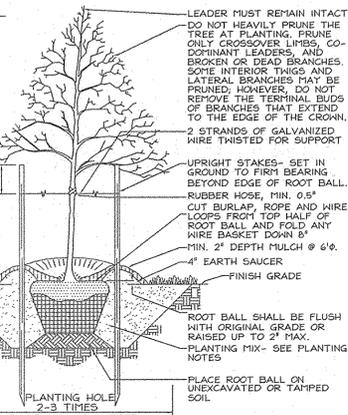
KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
○	2	Quercus phellos Willow Oak	2 1/2"-3" Cal.	B 4 B
●	2	Acer rubrum 'October Glory' Red Maple	2 1/2"-3" Cal.	B 4 B

**LANDSCAPE NOTES**

- At the time of installment, 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 Landscaping Plan may result in denial or delay in the release of landscape survey 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 berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
- Financial surety for the required landscaping will be posted as part of the Developer's Agreement in the amount of \$1,200.00 (4 shade trees @ \$300.00 each) at Site Development Plan Stage.

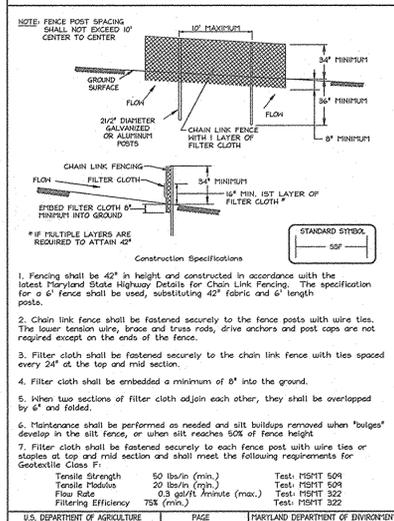
**NOTES**

- CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAILS OF PLANTING SPECIFICATIONS WITH A QUALIFIED PROFESSIONAL.
- EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL.
- STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWER EASEMENT.

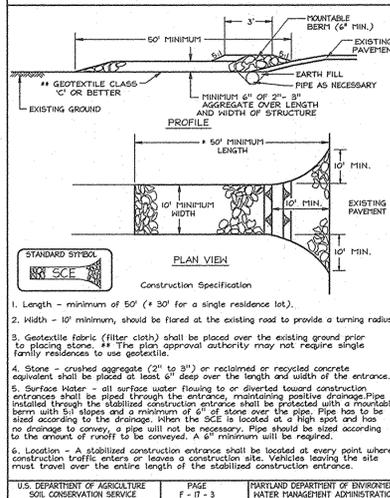


**TYPICAL TREE PLANTING AND STAKING**  
DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

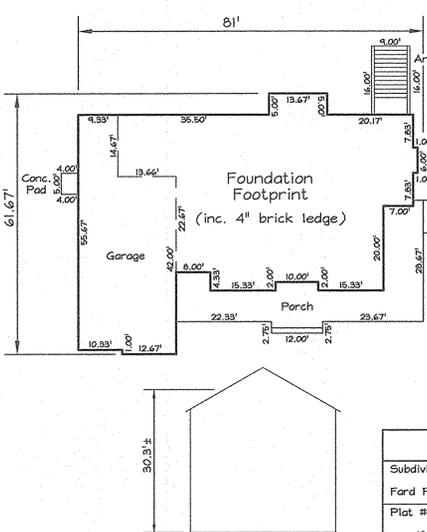
**DETAIL 33 - SUPER SILT FENCE**



**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



**HOUSE TEMPLATE**  
SCALE: 1/4"=1'-0"



**DEVELOPER'S BUILDER'S CERTIFICATE**

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

DATE: 3/9/07

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

CHIEF, DEVELOPMENT ENGINEERING DIVISION YQ [Signature] DATE: 3/26/07

CHIEF, DIVISION OF LAND DEVELOPMENT [Signature] DATE: 3/28/07

DIRECTOR [Signature] DATE: 3/29/07

**REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS**

USDA-NATURAL RESOURCES CONSERVATION SERVICE [Signature] DATE: 3/26/07

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT [Signature] DATE: 3/21/07

**ENGINEERS CERTIFICATE**

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

Zacharia Y. Fisch [Signature] DATE: 3/9/07

SIGNATURE OF ENGINEER ZACHARIA Y. FISCH DATE: 3/9/07

**PERMIT INFORMATION CHART**

Subdivision Name:	Ford Property	Section/Area:	N/A	Lot No.:	3
Plot #:	18659	Grid:	13	Zoning:	R-20
Water Code:	E 29	Tax Map No.:	36	Elect. District:	5th
		Census Tract:	6056.02		
		Sewer Code:	6580000		

**SITE DEVELOPMENT PLAN, LANDSCAPING PLAN AND DETAILS**

**FARD PROPERTY**  
LOT 3 PLAT #18659  
SINGLE FAMILY DETACHED

TAX MAP 36 GRID 13 5TH ELECTION DISTRICT

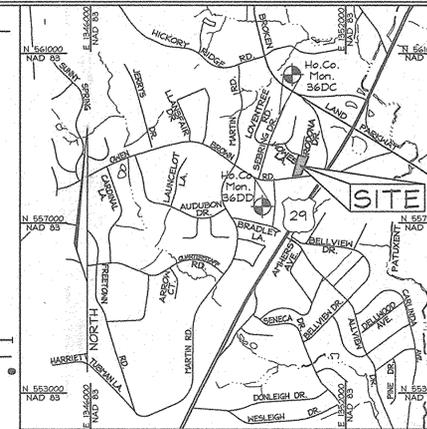
TAX MAP PARCEL 99 HOWARD COUNTY, MARYLAND

DESIGN BY: ZYF  
DRAWN BY: CD  
CHECKED BY: ZYF  
SCALE: As Shown  
DATE: Mar 08, 2007  
N.O. No.: 3302  
SHEET No.: 1 OF 2

**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane, Elkridge MD 21075  
Tel: 410-567-5200 Fax: 410-798-1562  
E-mail: info@FSHRI.com

**LEGEND**

- Existing Contour
- Proposed Contour
- Existing Spot Elevation
- Proposed Spot Elevation
- Direction of Flow
- Existing Trees to Remain
- Proposed Landscaping
- Existing Trees to be Removed
- Existing Utility Pole
- Stabilized Construction Entrance
- Super Silt Fence
- Limit of Disturbance
- Landscape Perimeter



**ADDRESS CHART**

LOT	STREET
3	760 Houses Lane

**BENCHMARKS**

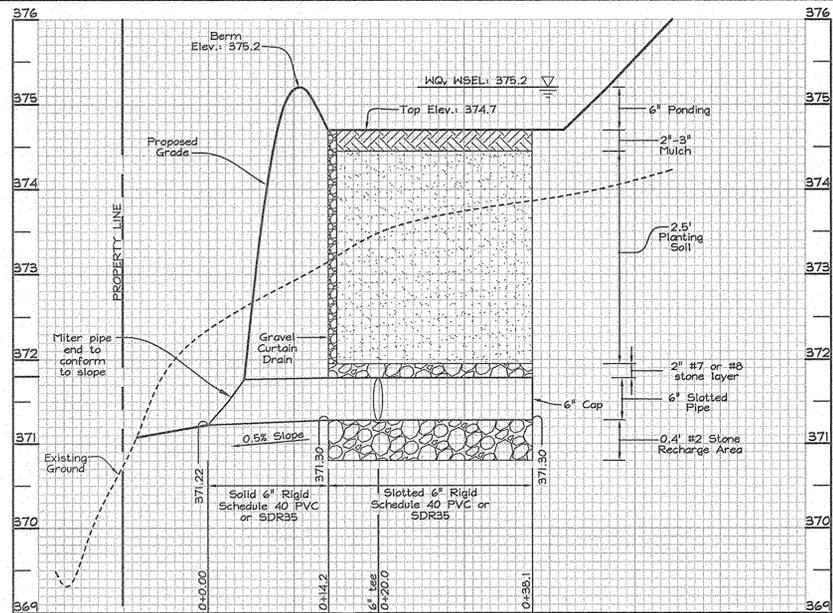
Sta. 36DC	N 559,590.570	E 1,350,440.606	Elev. 381.007 ft.
Sta. 36DD	N 558,056.573	E 1,349,842.314	Elev. 393.153 ft.

**GENERAL NOTES**

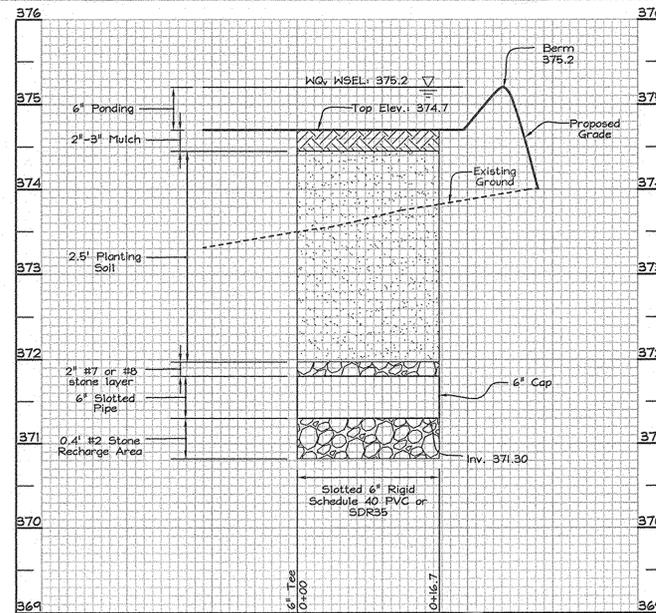
- This property is zoned R-20 per the 02/02/04 Comprehensive Zoning Plan and the Comp Lite Zoning Regulations Amendments effective 07/28/06.
- Public water and sewer will be used within this site.
- The Contractor shall notify the following utility companies or agencies at least five(5) working days before starting work shown on these plans:
  - Verizon: 1.800.743.0033/410.224.9210
  - AT&T: 1.800.252.1133
  - State Highway Administration: 410.531.5533
  - BGE(Contractor Services): 410.850.4620
  - BGE(Underground Damage Control): 410.787.9068
  - Miss Utility: 1.800.257.7777
  - Colonial Pipeline Company: 410.795.1390
  - Howard County, Dept. of Public Works, Bureau of Utilities 410.313.4900
  - Howard County Health Department: 410.313.2640
- The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- The contractor shall notify the Department of Public Works/Bureau of Engineering Construction Inspection Division at (410) 313-1800 at least five (5) working days prior the start of work.
- The lot shown hereon complies with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
- On-site topography based on a Field Run Topographic Survey prepared by FSH Associates in February, 2005. Offsite topography taken from Howard County aerial topography in 1993.
- Contractor to confirm all dimensions, utilities and topography in the field. If any conflicts arise, contact Engineer before beginning any work.
- Howard County Soil Map #29.
- There are no floodplains, streams, wetlands, steep slopes, wetland and stream buffers, or cemeteries on site.
- The project is in conformance with the latest Howard County Standards unless waivers have been approved.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 36DC and 36DD were used for this project.
- In accordance with Section 128 of the Howard County Zoning Regulations, bay windows, chimneys, or exterior stairways not more than 16 feet in width may project not more than 4 feet into any setbacks. Porches, or decks, open or enclosed may project not more than 10 feet into the front or rear yard setback. BRL's shown taken from Howard County Zoning Regulation for the Zoning District.
- Driveway(s) shall be provided prior to issuance of a use and occupancy permit for any new dwelling to insure safe access for fire and emergency vehicles per the following (minimum) requirements:
  - a) Width-12 feet (14' serving more than one residence).
  - b) Surface-6 inches of compacted crusher run base with 1 1/2" Min. tar and chip coating.
  - c) Geometry-max. 14% grade, max. 10% grade change, and 45 foot turning radius.
  - d) Structures (bridges/culverts)-capable of supporting 25 gross tons (125+ loading).
  - e) Drainage elements-capable of safely passing 100 year flood with no more than one foot depth over driveway surface.
  - f) Structure clearance-minimum 12 feet.
  - g) Maintenance-sufficient to insure all weather use.
- All Sewer House Connections to be a minimum of 1% and a maximum of 5%. If no slope is shown, 2.0% may be assumed.
- This project is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations and the 2004 Zoning Regulations. Development or Construction on this parcel must comply with Setback and Buffer Regulations in effect at the time of submission of the SDP, Waiver Petition Application, or Building / Grading Permit.
- The landscape plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape manual. 4 shade trees are proposed. Surety in the amount of \$1,200 (4 shade trees x \$300 per tree) will be provided with the Developer's Agreement.
- SMN Requirements:
  - WQV and REV for the proposed house on Lot 3 is provided by a Bio-Retention Facility. WQV and REV for the proposed driveway on Lot 3 is provided by a Bio-Retention Facility and a grass channel.
- Provide Residential Driveway Apron per Howard County Standard Detail R-6.06.
- Forest Conservation Obligations for this Lot have been met by Payment of a Fee-in-Lieu under F-06-149.
- No moderate slopes, 15% - 24.9%, nor steep slopes 25% or greater exist on this site.
- A Fee-in-Lieu of Open Space in the amount of \$1500.00 has been paid under F-06-149.

**OWNER/DEVELOPER**

HOVSEP TAYMOORIAN FARD  
& ROZIK ABARCHIAN  
10142 Owen Brown Road  
Columbia, Maryland 21044  
(410) 465-6700



**SECTION A-A**  
Bioretention Facility #1 Section Through Facility  
Scale: Hor.: 1"=10'  
Vert.: 1"=1'



**SECTION B-B**  
Bioretention Facility #1 Section Through Facility  
Scale: Hor.: 1"=10'  
Vert.: 1"=1'

**PERMANENT SEEDING NOTES**

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

**SEEDBED PREPARATION:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

**SOIL AMENDMENTS:** In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (42 lbs/1000 s.f.) and 400 lbs. / acre (20.7 lbs./1000s.f.) of 10-20-20 before seeding. Harrow or disc into upper 3 in. of soil.

**SEEDING:** Apply a mixture of Turf Type Tall Fescue (80%) and Hard Fescue (20%) in accordance with seeding dates and rates shown in the Permanent Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below and apply permanent seeding within proper seeding dates.

**MULCHING:** Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. of wood fiber/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agra-Tack), DCA-70, Petrosol and other approved equals may be used at rates recommended by the manufacturers.

No.	Species	Application Rate (lb/oc)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)			Lime Rate
					N	P2O5	K2O	
10	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/1-5/15 8/15-11/15	0.5 in.	90lb/ac (2.0lb/1000sf)	175lb/ac (4lb/1000sf)	175lb/ac (4lb/1000sf)	2tons/ac (100lb/1000sf)

**TEMPORARY SEEDING NOTES**

**SEEDBED PREPARATION:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

**SOIL AMENDMENTS:** In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (42 lbs/1000 s.f.) and 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil. **SEEDING:** Apply the Maryland State Highway approved seed mixture of Barley or Rye plus Foxtail Millet in accordance with seeding dates and rates shown in the Temporary Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below.

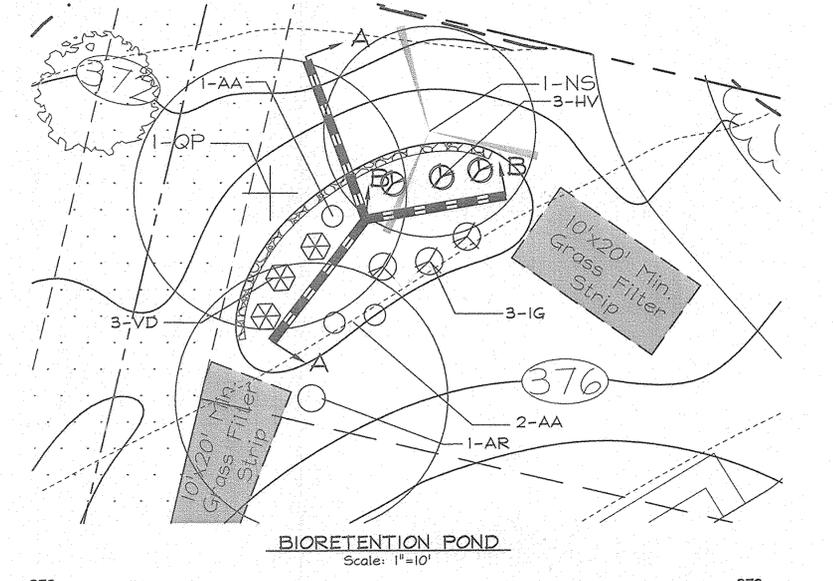
**MULCHING:** Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. of wood fiber/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agra-Tack), DCA-70, Petrosol and other approved equals may be used at rates recommended by the manufacturers.

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

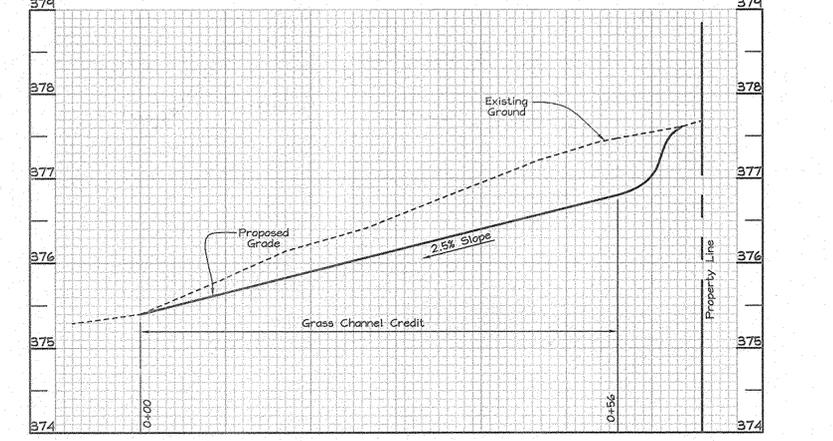
No.	Species	Application Rate (lb/oc)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-10-10)			Lime Rate
					N	P2O5	K2O	
2	Barley or Rye plus Foxtail Millet	150 lbs (3.5lbs/1000sqft)	2/1-11/30 (7a) 3/15-10/31 (6a)	1/4 in-1/2 in	600 lb/oc (15lb/1000sf)	600 lb/oc (15lb/1000sf)	2 tons/oc (100lb/1000sf)	

**SEQUENCE OF CONSTRUCTION**

- Obtain building permit.
  - Notify Howard County Department of Inspections, License and Permits at (410) 313-1880 at least 24 hours before starting work.
  - Install Stabilized Construction Entrance and Silt Fence. (1 week)
  - After receiving permission from the sediment control inspector, rough grade site and begin building construction. (1 week)
  - Complete house construction, construct driveway, fine grade site and construct Bioretention Facility. Contractor to protect Bio-Retention Facility from receiving sediments. (3 months)
  - Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed area. (1 week)
- Note: Following initial soil disturbance or any redisturbances, permanent or temporary stabilization shall be completed within:
- a 7 calendar days for all perimeter sediment control structures, dikes, berms and all slopes greater than 3:1.
  - 14 calendar days for all other disturbed areas.
- During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the sediment control measures on this plan.



**BIORETENTION POND**  
Scale: 1"=10'



**GRASS CHANNEL**  
Scale: Hor.: 1"=10'  
Vert.: 1"=1'

**SPECIFICATIONS FOR BIORETENTION**

Taken from the Maryland Stormwater Design Manual Volumes I & II, Section B.3.B

**1. Material Specifications**  
The allowable materials to be used in bioretention area are detailed in Table B.3.2 of the 2000 Maryland Storm Water Design Manual, Volumes I & II.

**2. Planting Soil**  
The soil shall be a uniform mix, free of stones, stumps, or roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under C.2.1.15.0.0.1.0.0.

The planting soil shall be tested and shall meet the following criteria:  
 pH range: 5.2 - 7.0  
 organic matter: 1% - 4% (by weight)  
 magnesium: 75 lb./ac.  
 phosphorus (phosphate - P<sub>2</sub>O<sub>5</sub>): 75 lb./ac.  
 potassium (potash - K<sub>2</sub>O): 85 lb./ac.  
 soluble salts: not to exceed 500 ppm

All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A texture analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

Since different labs calibrate their testing equipment differently, all testing results shall be compared to the same testing facility.

Should the pH fall out of acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

**3. Compaction**  
It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoses to remove original soil. If bioretention areas are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or tires resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel, plow, ripper or subsoiler. These tilling operations are to restructure the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the required sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention basin, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention material with light equipment such as a compact loader or a dozer/loader with marsh tracks.

**4. Plant Material**  
Recommended plant material for bioretention areas can be found in Appendix A, Section A.2.3, of the 2000 Maryland Storm Water Design Manual, Volumes I & II.

**5. Plant Installation**  
Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be used only (6 to 12 months) for acceptance.

Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/3<sup>rd</sup> of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers, defects, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

**6. Underdrains**  
Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next, followed by the gravel bedding. The ends of underdrain pipes not terminating in an observation well shall be capped.

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

**7. Miscellaneous**  
The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

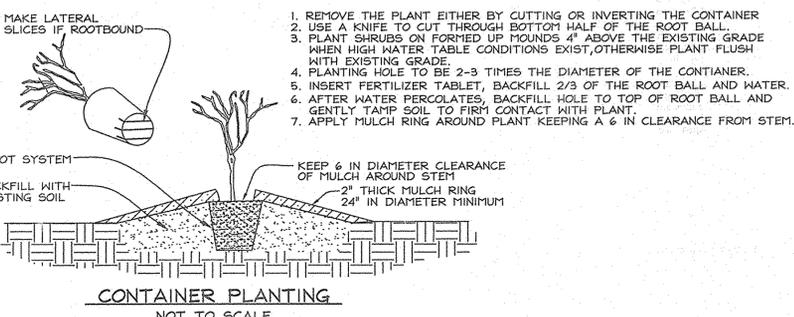
**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-6)**

- Annual maintenance of plant material, mulch layer and soil layer if required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Biomaterial shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
- Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
- Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once 2 to 3 years.
- Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.

**BIORETENTION SEEDING**

To be planted with Red Top (*Agrostis alba*) at 5 lbs / 1000 s.f. and Perennial Ryegrass (*Lolium perenne*) at 10 lbs / 1000 s.f.

**PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS**



**CONTAINER PLANTING**  
NOT TO SCALE

**21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL**

**Definition**  
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

**Purpose**  
To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

**Conditions Where Practice Applies**  
1. 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.

2. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**  
1. 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 Experiment Station.  
 2. Topsoil Specifications - Soil to be used as topsoil must meet the following:  
 i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority.  
 ii. Topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.  
 iii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.  
 iv. 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.

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

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.  
 iii. For sites having disturbed areas over 5 acres:  
 1. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:  
 a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.  
 b. Organic content of topsoil shall be not less than 1.5 percent by weight.  
 c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.  
 d. No sod or seed shall be placed on soil soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

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

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.  
 v. Topsoil Application  
 1. When topsoiling, maintain needed erosion and stabilization structures, Earth Dikes, Slope Silt Fence and sediment control practices such as diversions, Grade Sediment Traps and Basins.  
 ii. Grades on the areas to be topsoiled, which have been previously established, must 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".  
 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.

**SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (313-1885).
  - All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
  - Following initial soil disturbance or redisturbances, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed areas on the project site.
  - All sediment traps/basins shown must be fenced and warning signs posted around the perimeter in accordance with Vol. I, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drains.
  - All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, soil, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
  - All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
  - Site Analysis:  
 Total Area: 0.638 Acres  
 Area Disturbed: 0.544 Acres  
 Area to be roofed or paved: 0.100 Acres  
 Area to be vegetatively stabilized: 0.444 Acres  
 Total Cut: 4504 CY  
 Total Fill: #1320 CY  
 Offsite waste/borrow area location: #
  - Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
  - Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
  - On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
  - Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
- \* Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify all quantities prior to the start of construction.  
 \*\* To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.

**BIORETENTION LANDSCAPE SCHEDULE**

KEY	TABLE	QUAN.	BOTANICAL NAME	SIZE	NOTE
AR	1*		Acer rubrum 'October Glory Red Maple'	1 1/2"-2" Cal.	B & B
NS	1		Nyssa sylvatica Black gum	1 1/2"-2" Cal.	B & B
GP	1*		Quercus phellos Willow Oak	1 1/2"-2" Cal.	B & B
AA	3		Aronia arbutifolia Red Chokeberry	2-3'	Cont.
HV	3		Hamamelis virginiana Witch Hazel	2-3'	Cont.
IG	3		Ilex glabra Inkberry	2-3'	Cont.
VD	3		Viburnum dentatum Arrowwood	2-3'	Cont.

\* Quantity does not include trees also used for perimeter buffering

**OWNER/DEVELOPER**

HOVSEP TAYMOORIAN FARD  
 & ROZIK ABARCHIAN  
 10142 Owen Brown Road  
 Columbia, Maryland 21044  
 (410) 465-6700

**SEDIMENT AND EROSION CONTROL AND STORM WATER MANAGEMENT FARD PROPERTY**  
 LOT 3 PLAT #18659  
 SINGLE FAMILY DETACHED

TAX MAP 36 GRID 13 5TH ELECTION DISTRICT  
 TAX MAP PARCEL 99 HOWARD COUNTY, MARYLAND

**FSH Associates**  
 Engineers Planners Surveyors  
 6339 Howard Lane, Elkridge MD 21075  
 Tel: 410-587-5200 Fax: 410-798-1552  
 E-mail: info@FSHERI.com

DESIGN BY: ZYF  
 DRAWN BY: CD  
 CHECKED BY: ZYF  
 SCALE: As Shown  
 DATE: Mar. 08, 2007  
 P.L.O. No.: 3302  
 SHEET No.: 2 OF 2

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF DEVELOPMENT ENGINEERING DIVISION  
 DATE: 3/20/07

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS  
 USA-NATURAL RESOURCES CONSERVATION SERVICE  
 DATE: 3/21/07

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
 DATE: 3/21/07

**ENGINEERS CERTIFICATE**  
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED ACCORDING TO THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch  
 SIGNATURE OF ENGINEER  
 DATE: 3/9/07

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

DATE: 3/9/07