

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	REPLACEMENT SUPPLEMENTAL STORMWATER MANAGEMENT PLAN
2	SEDIMENT CONTROL NOTES
3	SUPPLEMENTAL LANDSCAPE PLAN

SOILS LEGEND				
SOIL	NAME	CLASS	K FACTOR	
GgB	Glenelg loam, 3 to 8 percent slope	B	.20	
GgC	Glenelg loam, 8 to 15 percent slope	B	.20	
GnB	Glenville-Baile silt loams, 0 to 8 percent slope	C	.37	

Soil Map Number: 16 (Clarksville, MD)

STORMWATER MANAGEMENT SUMMARY			
AREA ID	ESDv REQUIRED CU.FT.	ESDv PROVIDED CU.FT.	REMARKS
SITE	570	633	MICRO-BIORETENTION (M-6)
TOTAL	570	633	

GROSS AREA = 3.00 ACRES (LOT 2)
 LOD = 0.77 ACRES
 RCN = 57.9
 TARGET Pe = 1.0'

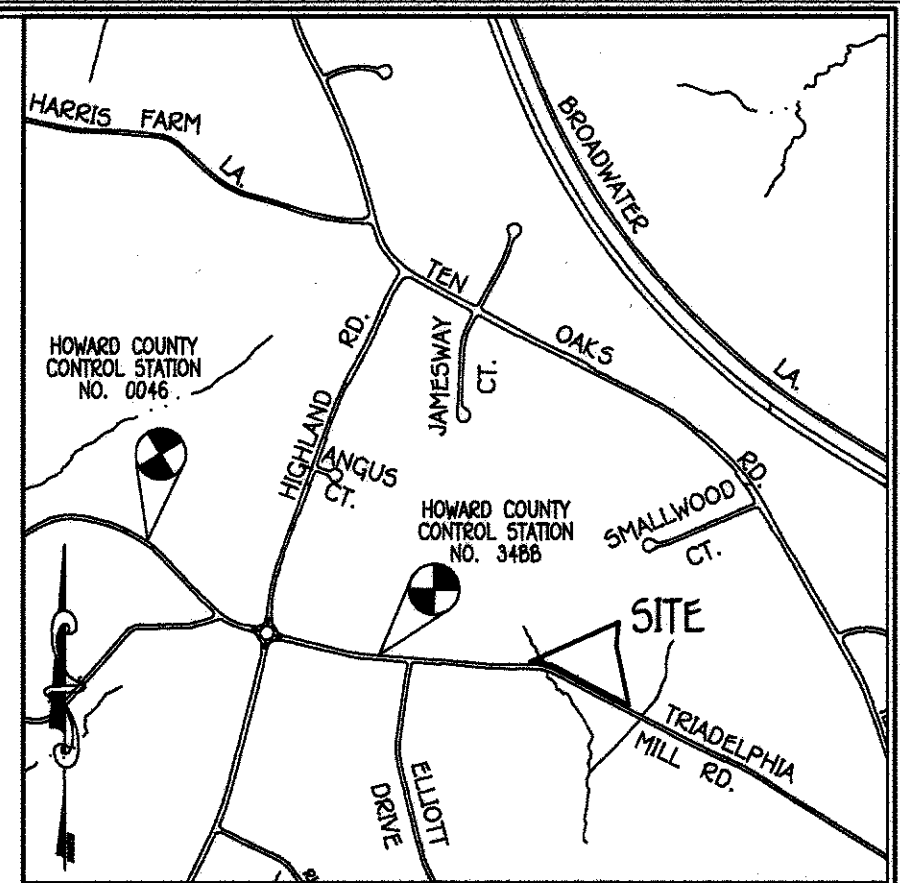
OWNER
 DR. NADU A. TUAKLI
 13503 GILLBRIDE ROAD
 CLARKSVILLE, MARYLAND 21029

DEVELOPER
 BEECHWOOD, LLC
 4652 SHEPPARD LANE
 ELLICOTT CITY, MD 21042
 410-409-0333

- LEGEND**
- EXISTING 2' CONTOURS
 - EXISTING 10' CONTOURS
 - EXISTING TREE LINE
 - SOIL LINES AND TYPES
 - DENOTES EXISTING WELL
 - DENOTES EARTH DIKE
 - DENOTES SILT FENCE
 - DENOTES SUPER SILT FENCE

SITE ANALYSIS DATA CHART

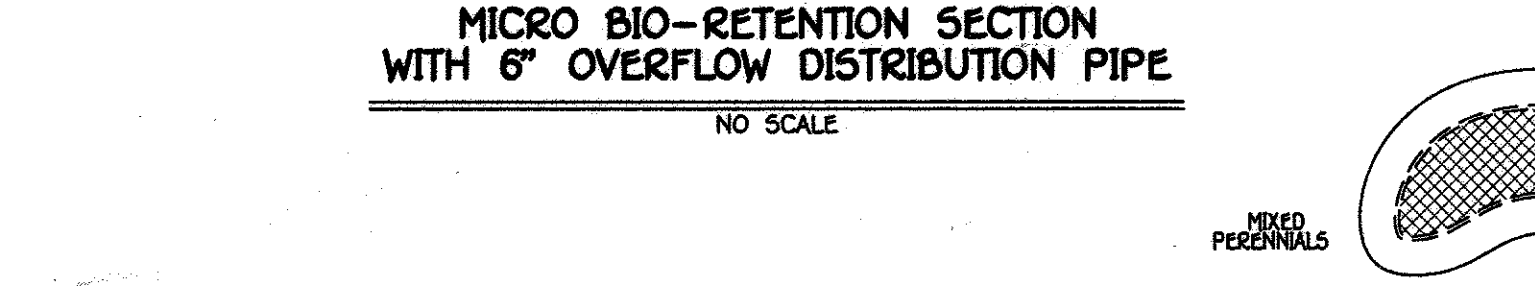
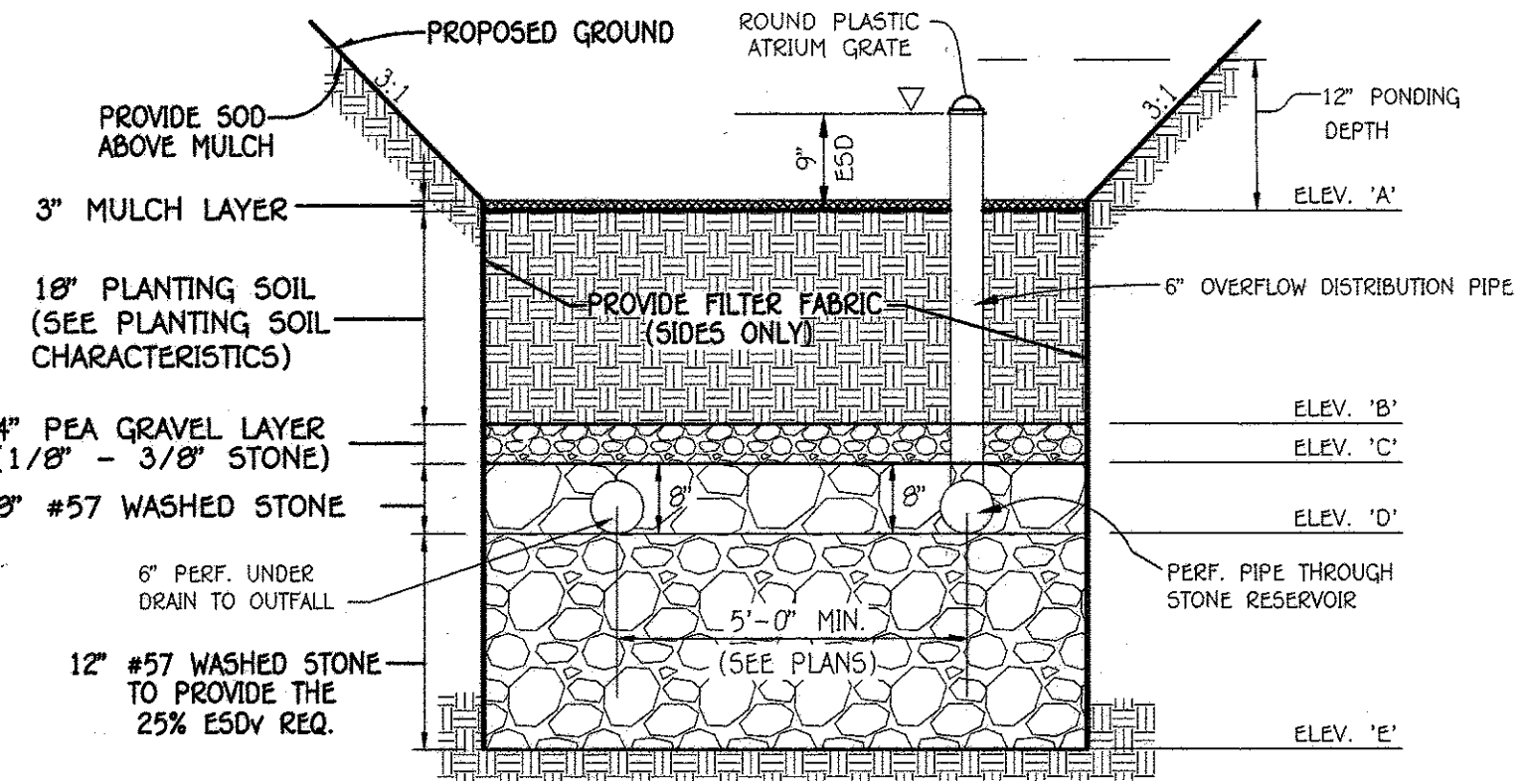
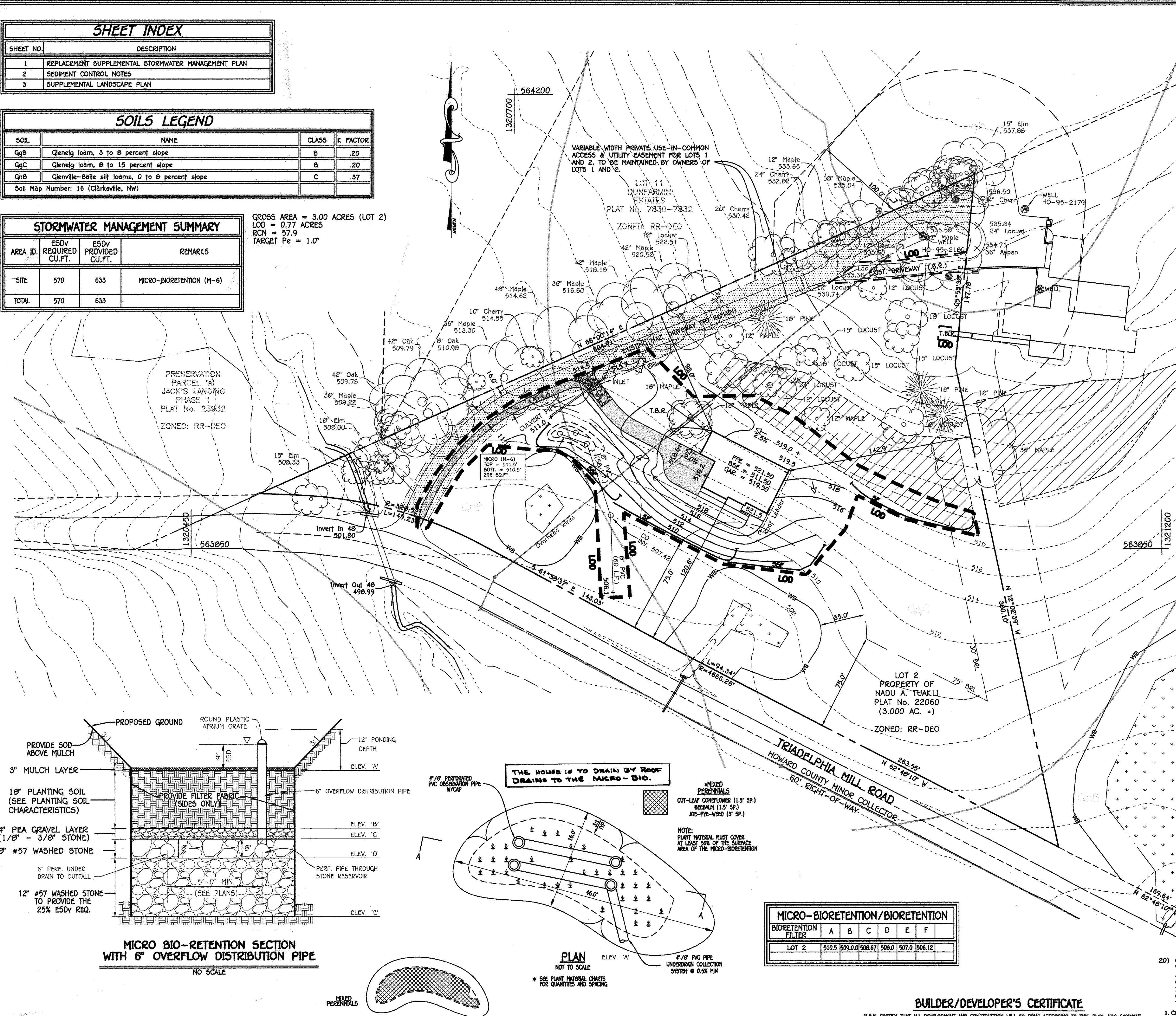
- TOTAL AREA OF THIS SUBMISSION = 3.00 AC
- LIMIT OF DISTURBED AREA = 0.77 AC (SITE)
- PRESENT ZONING DESIGNATION = RR-DEO (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- PREVIOUS HOWARD COUNTY FILES: ECP-11-042, F-11-071, WP-10-075, WP-12-074
- TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.07 AC
- TOTAL AREA OF STEEP SLOPES = 0.00 AC
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0 AC
- TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0 AC
- TOTAL AREA OF FOREST TO BE RETAINED = 0 AC
- (A) DECLARATION OF INTENT FOR CLEARING OF LESS THAN 20,000 SQ.FT. OF FOREST WILL BE UTILIZED
- TOTAL GREEN OPEN AREA = 2.97 AC
- TOTAL IMPERVIOUS AREA = 0.13 AC
- TOTAL AREA OF ERODIBLE SOILS = 0 AC



SCALE: 1" = 1200'

GENERAL NOTES:

- SUBJECT PROPERTY IS ZONED 'RR-DEO' (RURAL RESIDENTIAL - DENSITY EXCHANGE OPTION) PER THE 2/02/04 COMPREHENSIVE ZONING PLAN
- THERE ARE NO KNOWN CEMETERIES, BURIAL GROUNDS OR HISTORIC SITES AND STRUCTURES ON THIS SITE
- THIS SUBDIVISION IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION IT IS A SUBDIVISION THAT CREATES 1 ADDITIONAL LOT AND HAS NO FURTHER SUBDIVISION. POTENTIAL IN ACCORDANCE WITH SECTION 16.1202(b)(1)(iii) OF THE HOWARD COUNTY CODE
- THERE IS AN EXISTING DWELLING LOCATED ON LOT 1 TO REMAIN. NO NEW BUILDINGS, EXTENSION OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS.
- LANDSCAPING SURETY FOR THE REQUIRED PERIMETER LANDSCAPING FOR LOT 2 IN THE AMOUNT OF \$1800.00 (FOR 6 SHADE TREES) SHALL BE PROVIDED AT THE TIME OF ISSUANCE OF THE GRADING PERMIT. LANDSCAPING IS NOT REQUIRED FOR LOT 1 SINCE IT HAS AN EXISTING HOUSE WHICH WILL REMAIN.
- FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF FLAG OR PIPE STEM LOT AND ROAD RIGHT-OF-WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
- PREVIOUS COUNTY FILES: WP-10-075, ECP-11-042, F-11-071, WP-12-074
- SITE IS SERVED BY PRIVATE WATER AND PRIVATE SEWER. PERCOLATION CERTIFICATION PLAN WAS SIGN BY THE HEALTH DEPARTMENT ON JUNE 22, 2009.
- STORMWATER MANAGEMENT IS PROVIDED FOR THIS SITE BY MEANS OF A MICRO-BIORETENTION FACILITY WHICH WILL BE OWNED AND MAINTAINED BY THE OWNER(S) OF LOT 2. A D.O.C. HAVE BEEN RECORDED FOR THIS FACILITY IN THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN LIBER 14250, FOLIO 375.
- WETLANDS ON THIS SITE WERE MARKED BY EXPLORATION RESEARCH ON 9/09/2009. SEE WETLANDS REPORT DATED 9/11/2009. STREAMS AND WETLANDS MARKING WERE FIELD LOCATED BY SHANBERGER & LANE.
- THERE ARE NO WETLANDS ON SITE THAT WILL BE DISTURBED OR THAT WILL REQUIRE 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN EASEMENT AREA EXCEPT AS ALLOWED BY WP-10-075 (SEE NOTE 18)
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
 - SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1 - 1/2" MINIMUM);
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING);
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER SURFACE;
 - STRUCTURE CLEARANCE - MINIMUM 12 FEET;
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- ON FEBRUARY 10, 2010, WP-10-075 WAS APPROVED, WAIVING SECTION 16.116.(a),(3), SECTION 16.120.(b),(4),(iii),(b), SECTION 16.120.(b),(6),(vi) AND SECTION 16.120.(c),(2) OF THE LAND DEVELOPMENT AND SUBDIVISION REGULATIONS TO ALLOW ENVIRONMENTAL FEATURES TO BE INCLUDED ON RESIDENTIAL LOTS UNDER 10 ACRES IN SIZE, TO ALLOW A DRIVEWAY THROUGH LOT 1 FOR THE USE OF LOT 2, TO IMPROVE THE EXISTING DRIVEWAY TO 16 FEET IN WIDTH WITHOUT DISTURBING WETLANDS AND STREAM BUFFERS EXCEPT AS ALLOWED BY THE DEVELOPMENT ENGINEERING DIVISION AS 'NECESSARY DISTURBANCE' AND TO NOT RELOCATE PARTS OF THE EXISTING DRIVEWAY IN ORDER TO ALLOW A FULL 10-FOOT LANDSCAPE EDGE ALONG THE WESTERN PERIMETER OF THE SITE. THIS WAIVER IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - COMPLIANCE WITH ALL SRC COMMENTS DURING REVIEW OF FINAL PLANS
 - WIDENING THE EXISTING DRIVEWAY TO 16 FEET WITHIN THE STREAM BUFFER
 - GRADING, REMOVAL OF EXISTING VEGETATIVE COVER AND TREES IS ONLY ALLOWED FOR CONSTRUCTION OF THE DRIVEWAY IMPROVEMENTS TO THE EXTENT REQUIRED TO MEET 16' MINIMUM WIDTH.
 - PERIMETER LANDSCAPING WILL BE PLANTED WITHIN VARIABLE-WIDTH LANDSCAPE EDGE LOCATED BETWEEN THE SHARED DRIVEWAY AND THE WESTERN PROJECT BOUNDARY, AND WILL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS AND LANDSCAPE MANUAL.
 - NO CLEARING, GRADING OR CONSTRUCTION WILL BE PERMITTED WITHIN THE WETLANDS AND STREAMS OR THEIR REQUIRED BUFFERS EXCEPT FOR THE NECESSARY WIDENING OF THE USE-IN-COMMON DRIVEWAY.
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY CIVIL DESIGN SERVICES LC, DATED 6/04/2010 AND WAS PREPARED ON 5/03/2011.
- THE MAINTENANCE AGREEMENT FOR THE 24' PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 1 AND 2 HAS BEEN RECORDED IN THE LAND RECORDS OF HOWARD COUNTY MARYLAND IN LIBER 14250, FOLIO 372.
- PORTIONS OF THE FRONT BRL'S SHOWN ON LOTS 1 AND 2 AND THE SIDE BRL SHOWN ON LOT 2 COINCIDE WITH THE BOUNDARY OF THE 35' ENVIRONMENTAL SETBACK ESTABLISHED FROM THE EDGE OF THE 25' WETLAND BUFFER, SECTION 16.120.(b)(4)(iii) OF THE SUBDIVISION REGULATION PROHIBITS THE BUILDING ENVELOPE TO BE CLOSER THAN 35' FEET FROM THE EDGE OF THE WETLAND BUFFER. THEREFORE THE DISTANCE FROM THE FRONT AND/OR SIDE BRL'S TO THE FRONT AND/OR SIDE PROPERTY LINES WILL VARY IN DISTANCE AND SHALL NOT BE LESS THAN 75' FRONT AND/OR 30' SIDE SETBACKS REQUIRED BY THE ZONING REGULATIONS.
- THE REQUIREMENTS OF SECTION 16.121.(a)(2) FOR OPEN SPACE FOR NON-CLUSTER LOT 1 HAVE BEEN SATISFIED THROUGH THE PAYMENT OF A FEE-IN-LIEU IN THE AMOUNT OF \$1500.00 WHICH HAS BEEN DEPOSITED INTO ACCOUNT #4030090010-1300-422000.
- NO CLEARING, FILLING, ALTERING DRAINAGE OR IMPERVIOUS PAVING MAY OCCUR ON LAND LOCATED IN A FLOODPLAIN UNLESS REQUIRED OR AUTHORIZED BY THE DEPARTMENT OF PLANNING AND ZONING UPON THE ADVICE OF THE DEPARTMENT OF INSPECTION, LICENSE & PERMITS, THE DEPARTMENT OF PUBLIC WORKS, THE DEPARTMENT OF RECREATION & PARKS, THE HOWARD SOIL CONSERVATION DISTRICT OR THE MARYLAND DEPARTMENT OF THE ENVIRONMENT. ANY PROPOSED CONSTRUCTION OF A STRUCTURE LOCATED WITHIN A FLOODPLAIN SHALL BE SUBJECT TO THE REQUIREMENT OF THE HOWARD COUNTY BUILDING CODE. BUILDING MATERIALS AND OTHER DEBRIS SHALL NOT BE STORED OR DISCARDED IN FLOODPLAIN.
- THE PORTION OF THE EXISTING DRIVEWAY THROUGH LOT 2 THAT LIES OUTSIDE THE VARIABLE-WIDTH USE-IN-COMMON ACCESS EASEMENT IS TO BE REMOVED WITH THE BUILDING PERMIT APPLICATION FOR LOT 2. THE PART OF THE WALK FROM THE EXISTING HOUSE WHICH CROSSES THE LOT LINE ONTO LOT 2 IS TO BE REMOVED WITH THE BUILDING PERMIT APPLICATION FOR LOT 2.



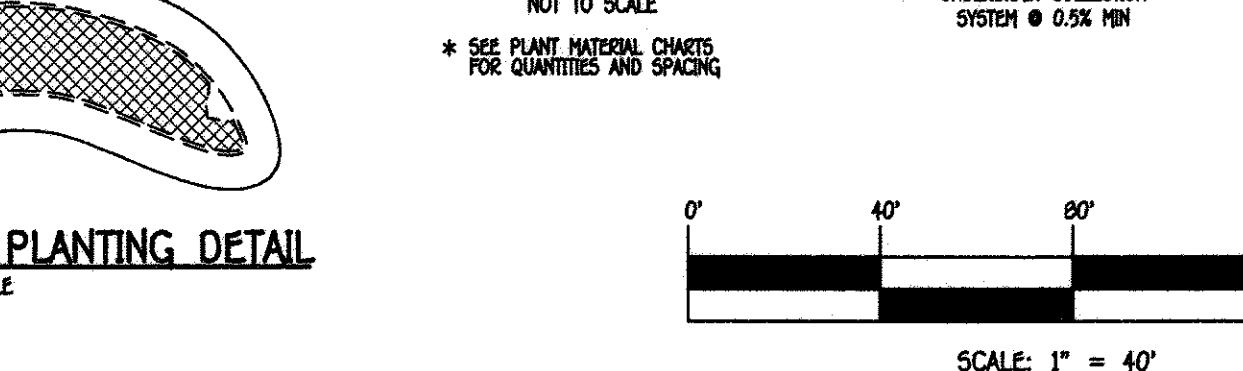
F-11-071

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

John L. Carter 5/22/18
 HOWARD SOIL CONSERVATION DISTRICT DATE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE BLDG - 10222 BALTIMORE NATIONAL FEE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2295

MICRO-BIORETENTION/BIORETENTION						
BIORETENTION FILTER	A	B	C	D	E	F
LOT 2	510.5	509.0	508.67	508.0	507.0	506.12



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38366, EXPIRATION DATE: 01/12/2020.

Stephen Link 5/22/18
 Signature of Professional Engineer DATE

BUILDER/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 ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT 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."

S. Tuakli 5/22/18
 SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE

"I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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."

Stephen Link 5/22/18
 SIGNATURE OF ENGINEER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

J. Macneil for KS 6-11-18
 Chief, Division of Land Development DATE

Ch. P. ... 6-7-18
 Chief, Development Engineering Division DATE

REPLACEMENT SUPPLEMENTAL STORMWATER MANAGEMENT PLAN
 PROPERTY OF NADU A. TUAKLI,
 LOT 2
 13150 TRIADELPHIA MILLS ROAD
 ZONED RR-DEO
 TAX MAP No. 34 GRID No. 03 PARCEL No. 08
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: APRIL, 2018
 SHEET 1 OF 3

F-11-071

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 chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must be rolled or dragged to the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges 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 vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soil salinity less than 50 parts per million (ppm).
 - Soil drainage less than 40-percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if loesslike soil is present, then a ratio 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.
 - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rotate lawn areas and remove the sods, like sods and branches, and ready the area for seed application. Remove surface soil by dragging 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. Seeded 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. Areas of concern 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 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-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 plant 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.
- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of clinders, stones, slag, coarse fragments, gravel, sticks, trash, or other materials larger than 1 1/2 inches in diameter.
 - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quick grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - 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.
- Erosion and sediment control practices must be maintained when applying topsoil.
- Uniformly distribute topsoil in a 4 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding and seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
- Topsoil must not be placed if 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.

C. Soil Amendments (Fertilizer and Lime Specifications)

- Soil tests must be performed to determine the exact ratios 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. Fertilizer must be submitted for approval prior to application of 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 99 to 100 percent will pass through a #200 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.
- The subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (2000-4000 pounds per 1000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

- The application of seed and mulch to establish vegetative cover.
- Purpose**
To protect disturbed soils from erosion during and at the end of construction.
- Conditions Where Practice Applies**
To the surface of all perimeter controls, slopes, and other disturbed areas not under active grading.
- Criteria**
- Seeding
 - All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tests must be available upon request to the inspector to verify type of seed and seeding rate.
 - Seeds must be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - Inoculant: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculant must be used later than the date indicated on the container. Add fresh inoculant as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 70 to 80 degrees Fahrenheit can weaken bacteria and reduce the inoculant's effectiveness.
 - Seed or seed must not 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 phytotoxic materials.
 - Application
 - Soil Seeding: This includes use of conventional dress or broadcast seeders.
 - Drill Seeding: This includes use of the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
 - Drill or Chiselplow Seeding: Mechanized seeders that apply and cover seed with soil.
 - Hydroseeding: Seeders are required to bury the seed to such a depth as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry including seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - Time: Use only ground limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, no more than 2 tons are applied by hydroseeding at any one time. Do not broadcast or broadcast lime and hydroseeding. Do not broadcast or broadcast lime and hydroseeding. Do not broadcast or broadcast lime and hydroseeding.
 - When hydroseeding do not incorporate seeds into the soil.

- Mulching
 - Mulch Materials (in order of preference):
 - Straw consisting of thoroughly tumbled wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weeds as specified in the Maryland Seed Law and not musty, moldy, coated, decayed, or excessively dirty. Note: Use only freshly straw mulch in areas where one species of grass is desired.
 - Wood cellulose fiber mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state. i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformity of the material. ii. WCFM, including dye, must contain no germination or growth inhibiting factors. iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water and will not settle. Fertilizer and other additives to form a homogeneous slurry. The mulch material must form a loam-like ground cover, an application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. iv. WCFM material must not contain herbicides or compounds of concentration levels that will be phytotoxic. v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 6.5, ash content of 1.5 percent maximum and water holding capacity of 90 percent minimum.
 - Application
 - Apply mulch to all seeded areas immediately after seeding.
 - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. iii. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1000 pounds per acre. Mix the wood cellulose fiber with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Anchoring
 - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the site of the area and erosion hazard: i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water to a maximum of 30 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Aqua-Tack), DCA-70, Patosene, Terra Tack II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches much, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

TEMPORARY SEEDING NOTES (B-4-4)

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

Purpose
To use fast growing vegetation that provides cover to 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 Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and 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 much alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)		Lime Rate
				N	P ₂ O ₅	K ₂ O
BARLEY	96	3/1 - 5/15	1"	436 lb/acre		2 tons/acre
OATS	72	8/15 - 10/15	1"	10 lb/acre		(90 lb)
RYE	112		1"	1000 sf		1000 sf

PERMANENT SEEDING NOTES (B-4-5)

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixtures, 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 342 - Critical Area Planting.
 - For sites having disturbed area 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 require 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 mixtures, 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 receive intensive maintenance. 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 maintenance. 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 area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Notes:
Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

Criteria

- Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zones: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)
- Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)			Lime Rate
					N	P ₂ O ₅	K ₂ O	
B	TALL FESCUE	100	Mar. 15 - Aug. 15	1 1/4" - 1 1/2"	45 lb/a	90 lb/acre	90 lb/acre	2 tons/acre
					(10 lb per 1000 sf)	(2 lb/ 1000 sf)	(2 lb/ 1000 sf)	(90 lb) 1000 sf

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

APPROVED: *[Signature]* DATE

HOWARD SOIL CONSERVATION DISTRICT

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
NATIONAL SQUARE OFFICE PARK - 5672 BROADWAY NATIONAL FIRE ELLICOTT CITY, MARYLAND 21114
(410) 481 - 8895

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] DATE 6-11-18

[Signature] DATE 6-7-18

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

- General Specifications
 - Clas of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
 - Sod must be machine cut to a uniform soil thickness of 3/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurements for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
 - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
 - Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
 - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
- Sod Installation
 - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
 - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tightly in order to prevent voids which would cause air drying of the roots.
 - Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
 - Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.
- Sod Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Irrigation should be discontinued when the sod is well established.
 - After the first week, sod watering is required as necessary to maintain adequate moisture content.
 - Do not mow until the sod is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

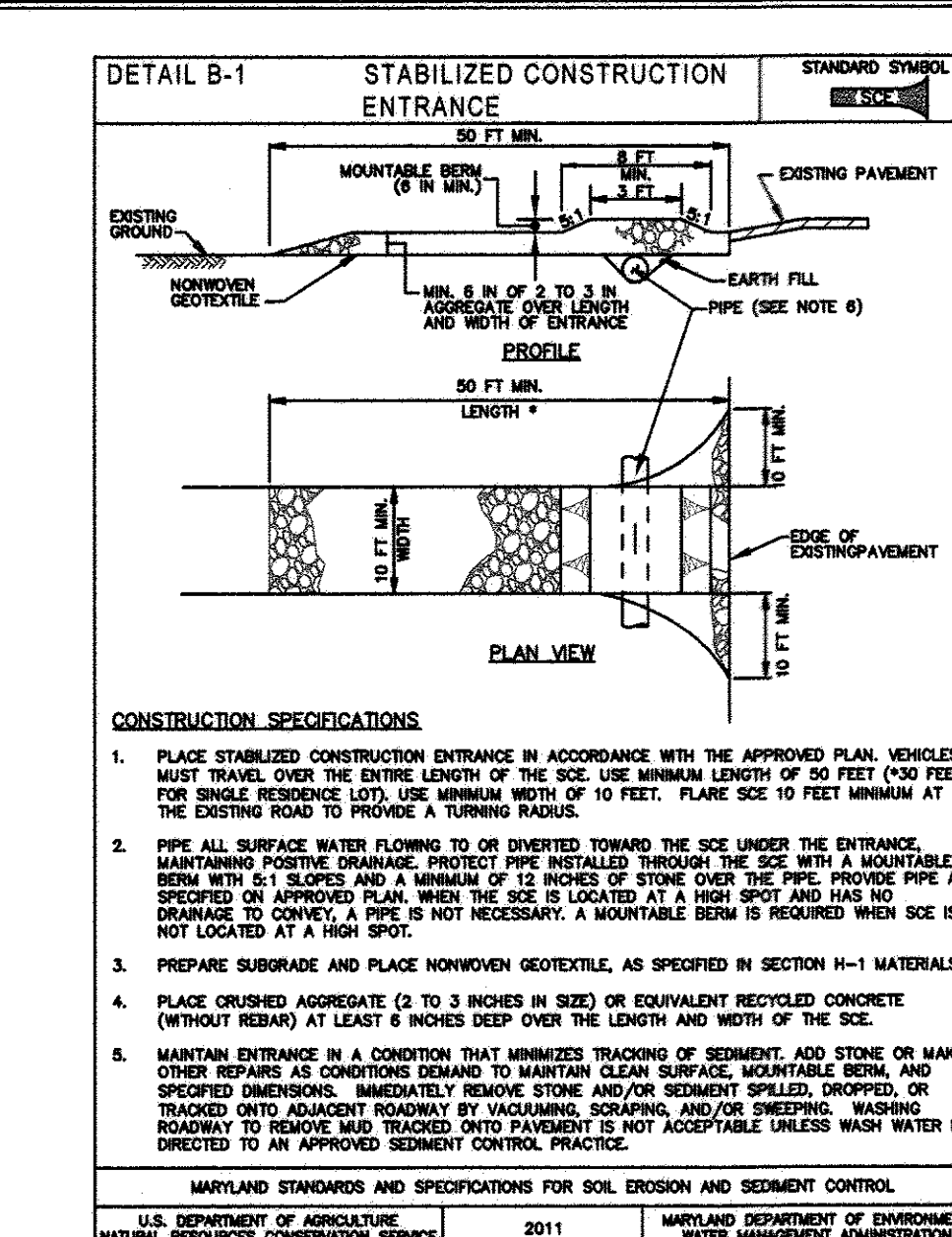
- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1895 after the future L.O.D. and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
 - Prior to the start of construction or grading.
 - Prior to the start of another phase of construction or opening of another grading unit.
 - Prior to the removal or modification of sediment control practices.
- Other grading or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced to ensure coordination and to avoid conflicts with this plan.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance, permanent sediment retention structures shall be required within three (3) calendar days to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1) and seven (7) calendar days to all other disturbed areas on the project site except for those areas under active grading.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch shall be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15% of cut and/or fill. Stabilization (Sec. B-4-4) in areas of 20 ft. must be bonded with stable outlet. All concentrated flow, steep slopes, and highly erodible areas shall require soil stabilization matting (Sec. B-4-1).
- 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 CID.
- Site Details:
 - Total Area of Site: 3.00 Acres
 - Area Disturbed: 0.77 Acres
 - Area to be seeded or paved: 0.12 Acres
 - Area to be vegetatively stabilized: 2.87 Acres
 - Total Cut: 350 Cu. Yds.
 - Off-site water/borrow area location: N/A
- 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 control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
 - Inspection dates
 - Inspection time (routine, pre-storm event, during rain event)
 - Name and title of inspector
 - Weather information (current conditions as well as time and amount of last recorded precipitation)
 - Brief description of work status (e.g., percent completed) and/or current activities
 - Existence of sediment discharges
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance status regarding the sequence of construction and stabilization requirements
 - Photographs
 - Maintaining/stormwater
 - Maintenance and/or corrective action performed
- Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Minor repairs may be allowed by the CID per the list of HSCD-approved field notes.
- Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 50 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheelbarrows, and other sources must be treated in a sediment basin or other approved washout structure.
- Washed shall be accumulated and recirculation until the ground is frozen.
- All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be installed at 25 minimum intervals, with lower ends curled up by 2' elevation.
- Stream channels must not be disturbed during the following restricted time periods (inclusive):
 - Use I and II March 1 - June 15
 - Use III and IV April 1 - April 30
 - Use IV March 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

B-4-B STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

- Purpose**
A mound or pile of soil protected by appropriately designed erosion and sediment control practices.
- Conditions Where Practice Applies**
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
- Criteria**
- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
 - The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
 - Runoff from the stockpile must drain to a suitable sediment control practice.
 - Access the stockpile area from the updrift side.
 - Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erodible manner.
 - Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
 - Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
 - If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.
- Maintenance**
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

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

Material	Specification	Size	Notes
Planting	see Appendix A: Table A.4	n/a	plantings are site-specific
Perforated pipe (2" to 4" deep)	polypropylene 60-65% composite 35-40X		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 8974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel/diaphragm	pea gravel: ASTM-D-448	No. 8 or No. 9 (1/2" to 3/8")	
Curbs/drain	ornamental stone, washed cobble	stone: 2" to 6"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASHTO M-43	No. 57 or No. 10 (1/2" to 3/8")	
Underdrain piping	F 756, Type PS 28 or ASHTO M-276	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" part. @ 6" on center. 4 holes per row, minimum of 3" of gravel over pipes; 2" of 20 mesh geotextile under pipes. 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; 28 day, normal weight; air-entrained; reinforcing to meet ASTM-615-60	n.a	on-site testing of poured-in-place concrete required: 28 day strength and slump tests; all concrete design (cast-in-place or pre-cast) not using previously approved mix and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 308.2R-09; vertical loading 30-10 or H-200; allowable horizontal loading (based on soil pressure); and analysis of potential cracking
Sand	ASHTO-M-6 or ASTM-C-33	0.075" to 0.04"	Sand substitutions such as Diabase and Graystone (ASHTO) #10 are not acceptable. No calcium chlorinated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

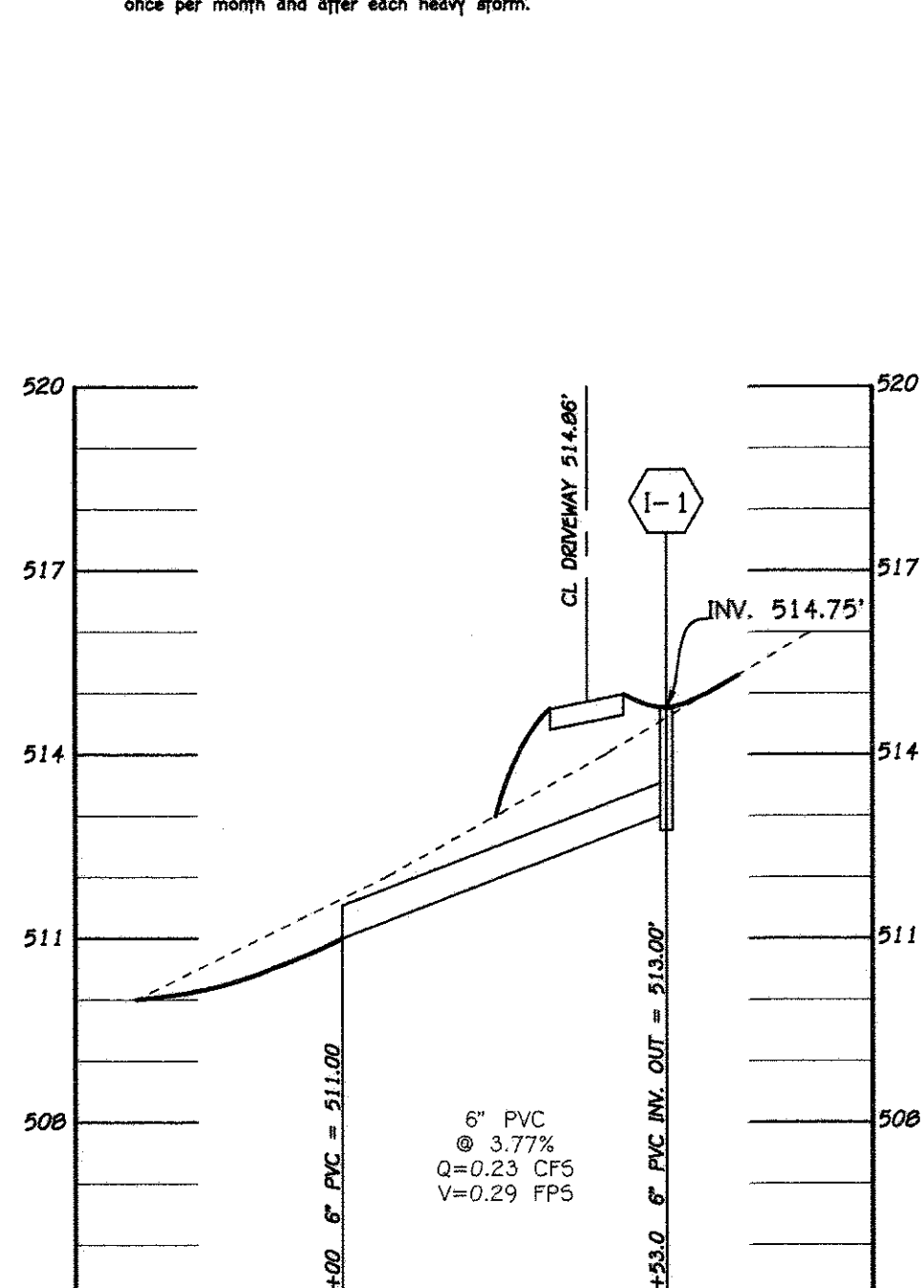


CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SOE. USE MINIMUM LENGTH OF 50 FEET (40 FEET FOR SINGLE RESIDENCE LOTS). USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR INVERTED TOWARD THE SOE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SOE WITH A MOUNTAINABLE BERM WITH 6:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE PIPE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONNECT, A PIPE IS NOT NECESSARY. A MOUNTAINABLE BERM IS REQUIRED WHEN SOE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE OR EQUIVALENT IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 8 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SOE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTAINABLE BERM, AND SLOPED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY WAGGING, SCRAPING, AND/OR SWEEPING. SWEEPING TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION AREAS (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 out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintained as needed. Mulch and soil shall be replaced as needed. Acceptable replacement plant material is limited to the following: 2000 Maryland Stormwater design manual volume II, table A.4.1 and 2.
- The owner shall perform a plant in the spring and in the fall each year, during the inspection, the owner shall remove dead and diseased material and considered before treatment; replace dead plant material with an acceptable replacement plant material. Treat diseased trees and shrubs and replace all deficient shrubs and vines.
- The owner shall inspect the mulch each year. 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.



ENGINEER'S CERTIFICATE

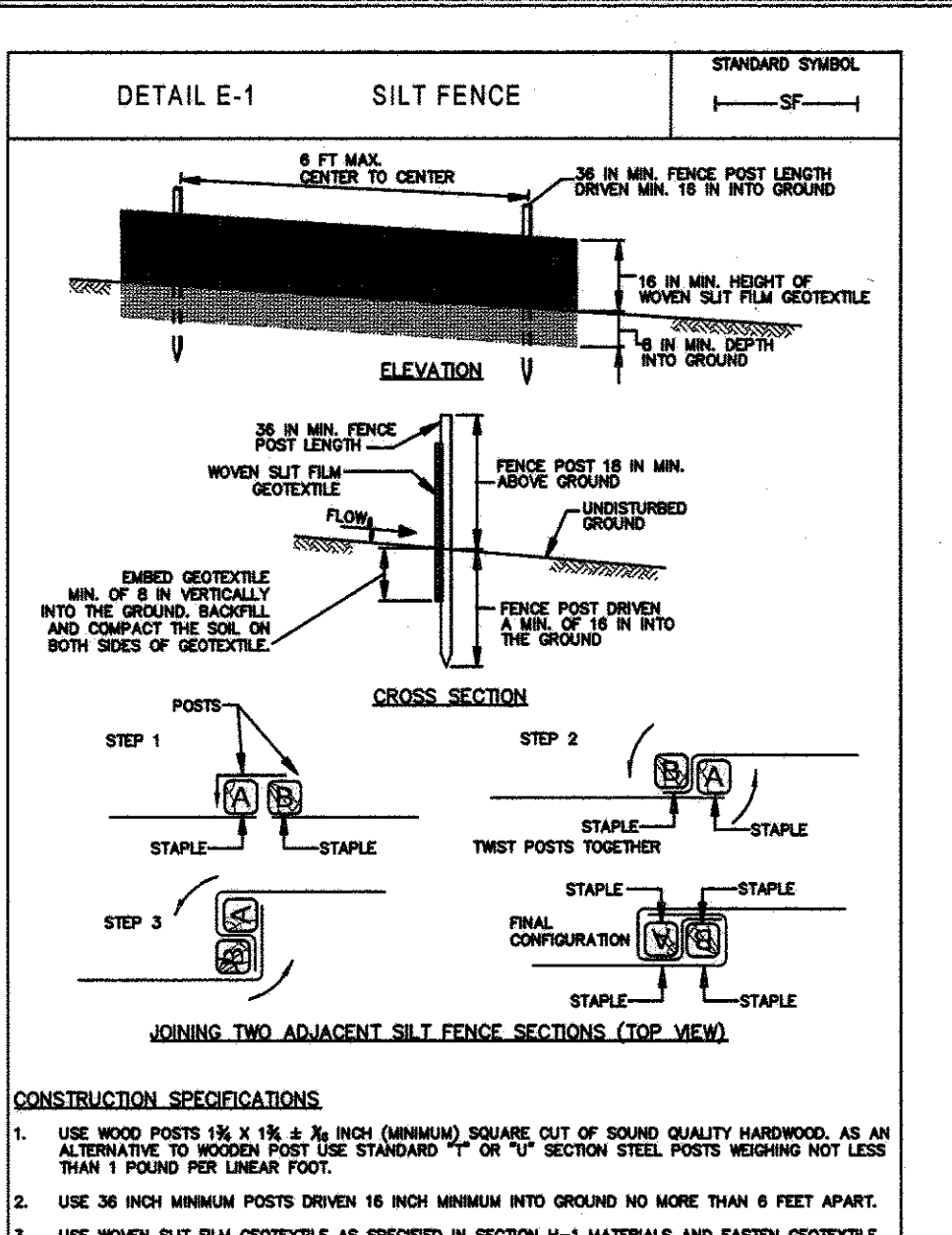
"I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] DATE 5/22/18

BUILDER/DEVELOPER'S CERTIFICATE

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

[Signature] DATE 5/22/18

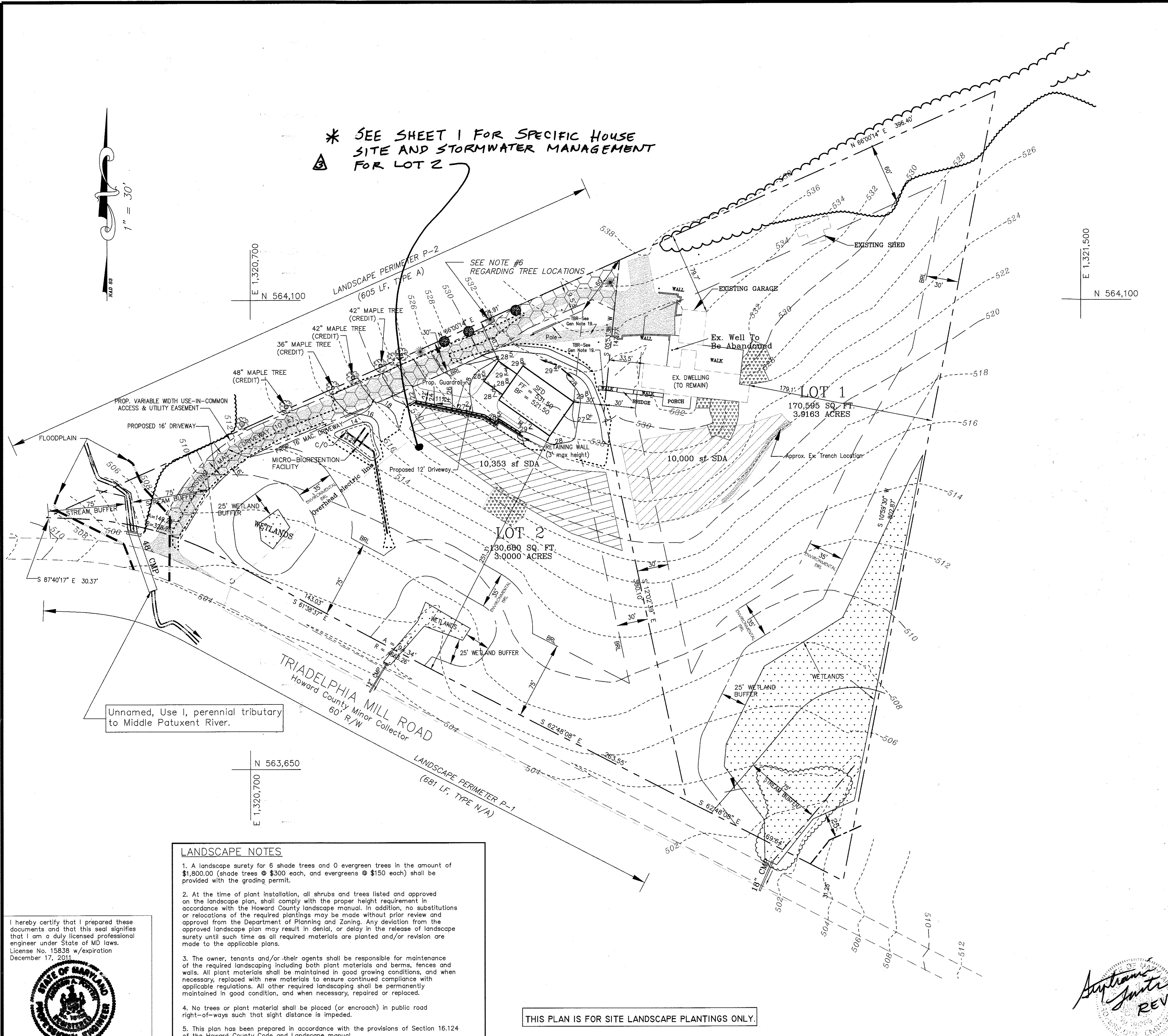


CONSTRUCTION SPECIFICATIONS

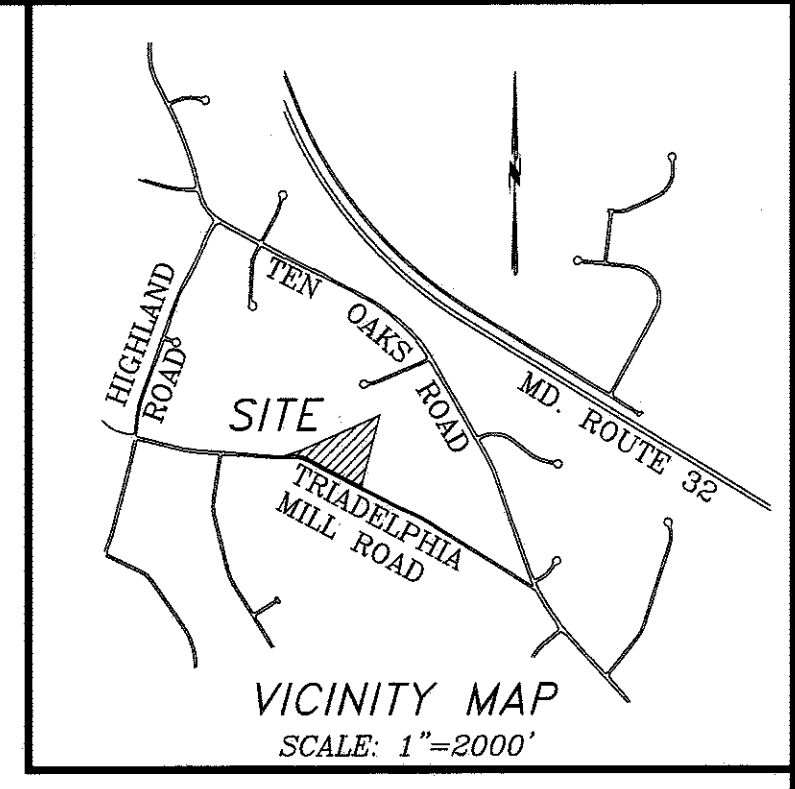
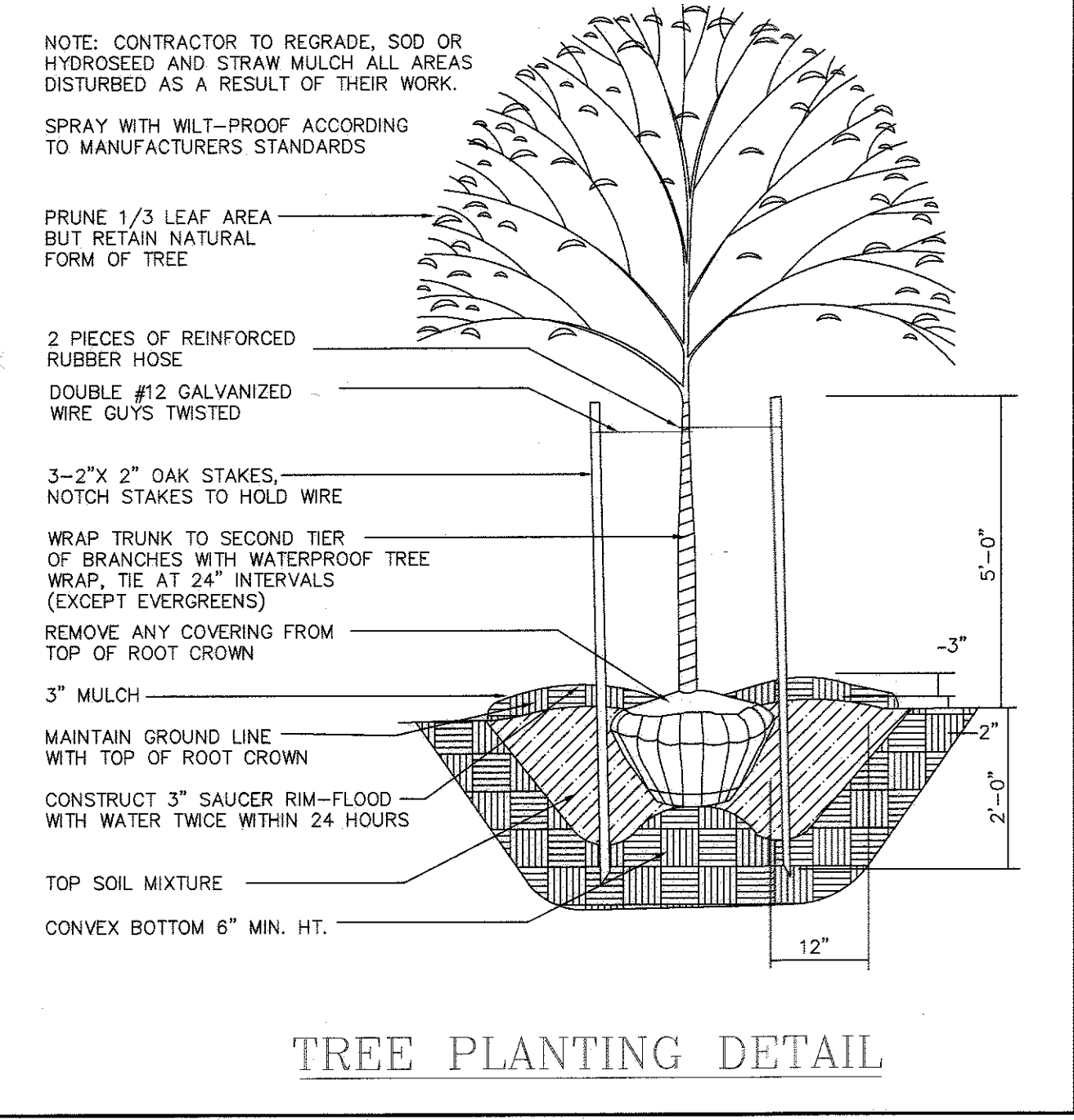
- USE WOOD POSTS 1 1/2 X 1 1/2 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOOD POSTS, USE STANDARD "Q" OR "Q" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTOR/ENVIRONMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 6 INCHES VERTICALLY INTO THE GROUND, BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF GEOTEXTILE.
- WEDGE TOP SECTIONS OF GEOTEXTILE ADJOINING OVERLAP, TRIM, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT THE UPSLOPE SIDE OF FENCE POSTS TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BLENDS DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDOING OCCURS, REINSTALL FENCE.

SEQUENCE OF CONSTRUCTION

- OBTAIN A GRADING PERMIT AND HOLD PRE-

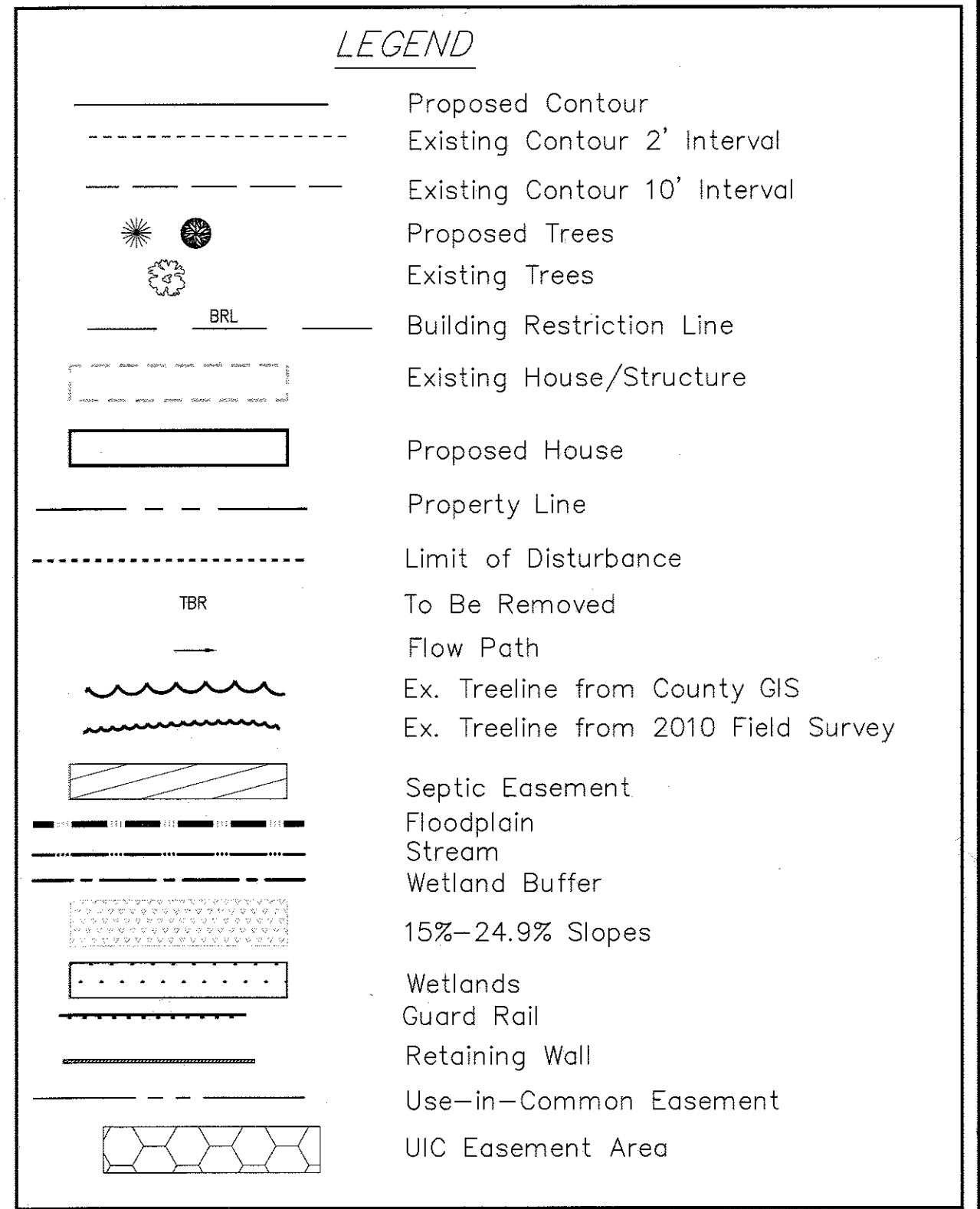


* SEE SHEET 1 FOR SPECIFIC HOUSE SITE AND STORMWATER MANAGEMENT FOR LOT 2



LANDSCAPE PLANT LIST			
QTY.	KEY	NAME	SIZE
3		FAGUS GRANDIFOLIA (AMERICAN BEECH)	2 1/2" - 3" CALIPER FULL CROWN, B&B
3		QUERCUS COCCINEA (SCARLET OAK)	2 1/2" - 3" CALIPER FULL CROWN, B&B

SCHEDULE A - LANDSCAPE PERIMETER		
PERIMETER	P-1	P-2
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	N/A	A
LINEAR FEET OF PERIMETER	681 LF	605 LF
CREDIT FOR EXISTING VEGETATION	-	4 TREES (See Plans)
NUMBER OF PLANTS REQUIRED		(605/60) - 4 = 6
SHADE TREES	0	0
EVERGREEN TREES	0	0
NUMBER OF PLANTS PROVIDED:		
SHADE TREES	0	6
EVERGREEN TREES	0	0



LANDSCAPE NOTES

- A landscape surety for 6 shade trees and 0 evergreen trees in the amount of \$1,800.00 (shade trees @ \$300 each, and evergreens @ \$150 each) shall be provided with the grading permit.
- At the time of plant installation, all shrubs and trees listed and approved on the landscape plan, shall comply with the proper height requirement in accordance with the Howard County landscape manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from the approved landscape plan may result in denial, or delay in the release of landscape surety until such time as all required materials are planted and/or revision are made to the applicable plans.
- The owner, tenants and/or their agents shall be responsible for maintenance of the required landscaping including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing conditions, 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.
- No trees or plant material shall be placed (or encroach) in public road right-of-ways such that sight distance is impeded.
- This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape manual.
- The proposed trees can be re-located to avoid existing off-site trees. However, they must remain along Perimeter 2 with the intent to provide a buffer between the proposed house and adjacent property.

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under State of MD laws. License No. 15838 w/expiration December 17, 2011

Andrew A. Porter 7/21/11
ANDREW A. PORTER MD #15838

THIS PLAN IS FOR SITE LANDSCAPE PLANTINGS ONLY.

BUILDER/DEVELOPER'S CERTIFICATE

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

Nadu A. Tuakli
NADU A. TUAKLI
Signature of Owner/Developer

7-19-11
Date

OWNER & DEVELOPER

Dr. Nadu A. Tuakli
13603 Gilbride Road
Clarksville, Maryland 21029

Contact: Dr. Roberto Sanchez
202.485.2629
risanche@aol.com



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Robert Sanchez 7/27/11
Chief, Division of Land Development Date

Andrew Porter 7/26/11
Chief, Development Engineering Division Date

CIVIL DESIGN SERVICES, LC
6123 Holly Ridge Court, Columbia, Maryland 21044
410.531.0572 phone/fax
civildesign@comcast.net

SUPPLEMENTAL LANDSCAPE PLAN

TUAKLI PROPERTY
LOTS 1 & 2
Clarksville
Tax Map 34 Parcel 8
ZONING: RR-DEO
5th ELECTION DISTRICT, HOWARD COUNTY, MD
SCALE: 1" = 50' DATE: JUNE 24, 2011