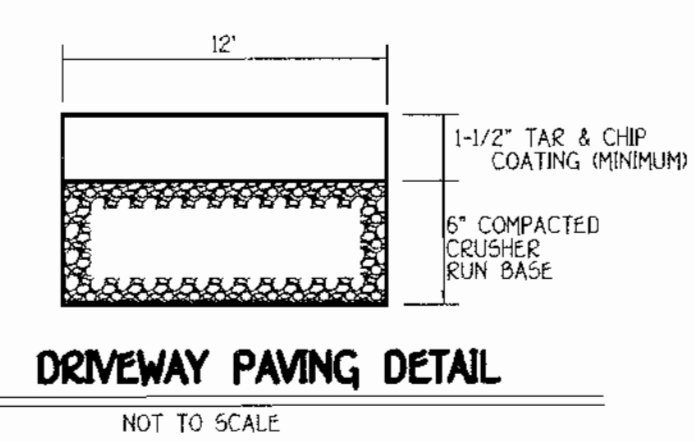


DRY WELL DETAIL
NOT TO SCALE

DRY WELL CHART						
LOT NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	AREA OF STORAGE	AREA OF TREATMENT	NO. OF DRYWELLS	D L W
LOT 61	500 SQ.FT.	40 C ³	100X	100X	5	3 x 4 x 3.5

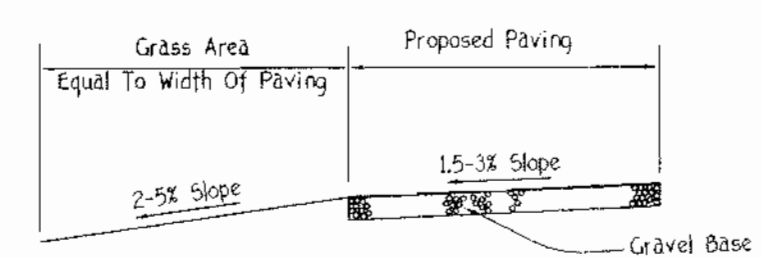
STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL.
- CREDITS ARE GIVEN FOR DISCONNECTION OF IMPERVIOUS COVERS.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE LESS THAN 500 SQ. FT.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% SLOPE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE FIGURE 5-2 OF THE MANUAL AND THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

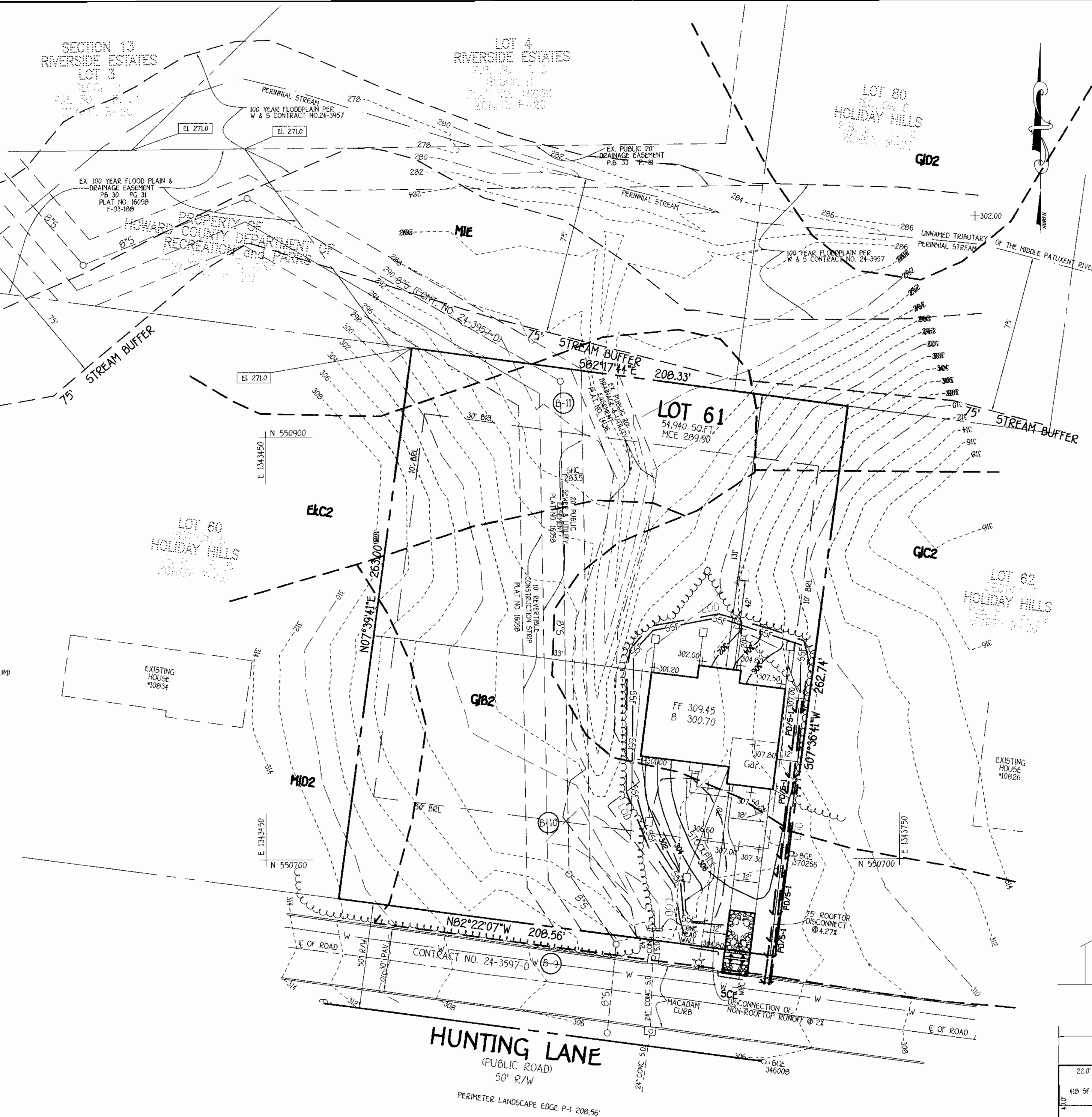


DRIVEWAY PAVING DETAIL
NOT TO SCALE

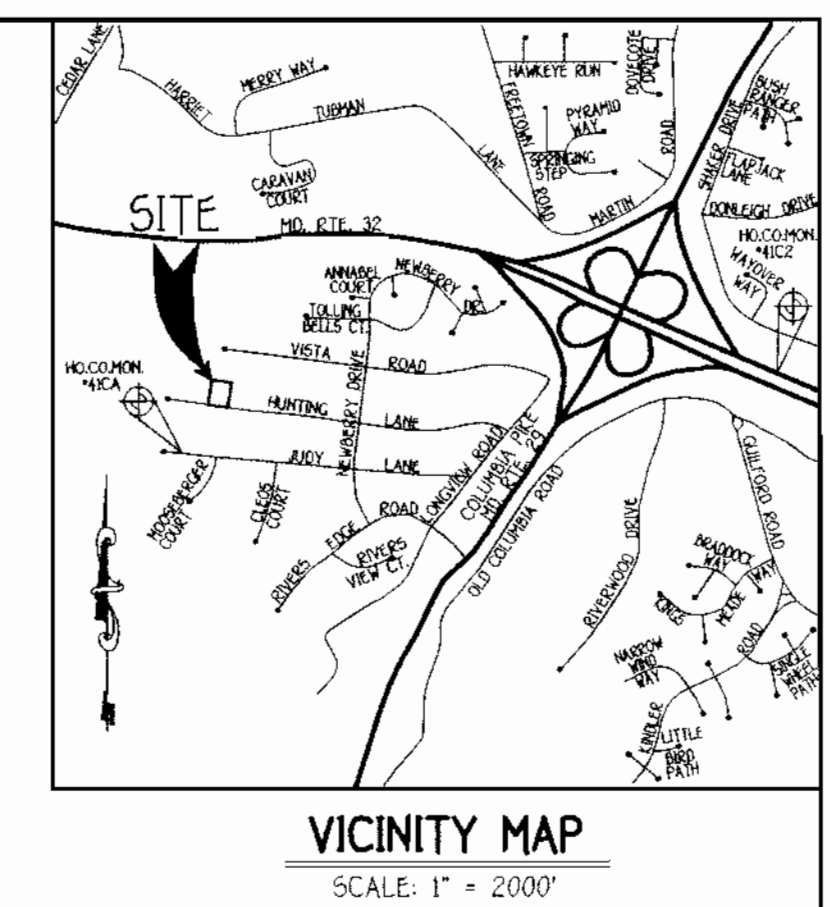
SOILS LEGEND		
SOIL	NAME	CLASS
MIE	Minor loam, 25 to 45 percent slopes	B
EKC2	Elloak silt loam, 0 to 15 percent slopes, moderately eroded	B
GB2	Glenek loam, 3 to 8 percent slopes, moderately eroded	B
GC2	Glenek loam, 0 to 15 percent slopes, moderately eroded	B
GD2	Glenek loam, 15 to 25 percent slopes, moderately eroded	B
MD2	Minor loam, 15 to 25 percent slopes, moderately eroded	B



TYPICAL DRIVEWAY SECTION WITH NON-ROOFTOP DISCONNECT CREDIT
NOT TO SCALE



BENCH MARKS
T.P. 41C ELEV. 295.90
N. 550124.853
E. 1342360.935
LOC. NEAR THE END OF
A ALONG JUDY LANE
T.P. 41C2 ELEV. 395.856
N. 551616.404
E. 1348104.227
LOC. NEAR THE INTERSECTION
OF ROUTE 29 & ROUTE 32



GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2/2/04 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF SITE: 1.261 ACRES.
- TOTAL NUMBER OF LOTS SUBMITTED: 1
- THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)333-1800 24-HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL NOTIFY THIS UTILITY AT 1-800-251-7777 AT LEAST 48 HOURS.
- THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F-75-48, F-10-106, F-03-100, W & S CONTR. NO. 24-3597-D
- THIS PLAN IS BASED ON FIELD RUN TOPOGRAPHY PERFORMED ON MAY 28, 2004 BY FISHER, COLLINS
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- HOWARD COUNTY MONUMENT 41C2 N 551616.404 E 1348104.227
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE
- THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION.
- CONTRACTOR SHALL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR
- THIS LOT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(2)(d) OF THE AMENDED FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH REQUIRES FILING A DECLARATION OF INTENT (DOI) FOR DEVELOPMENT OF AN EXISTING SINGLE LOT OF ANY SIZE IF THE TOTAL CUTTING, CLEARING OR GRADING OF FOREST IS LESS THAN 40,000 SF AND THE FOREST RESOURCES AFFECTED BY THIS DEVELOPMENT ARE NOT SUBJECT TO PREVIOUSLY APPROVED FOREST CONSERVATION PLAN.
- THE TOTAL AREA OF FOREST TO BE CLEARED OR DISTURBED PER THIS SITE DEVELOPMENT PLAN IS 600 SF.
- FOR DRIVEWAY ENTRANCE DETAIL REFER TO HO. CO. DESIGN MANUAL VOL. IV STANDARD DETAIL R.6.05.
- IN ACCORDANCE WITH SECTION 12B OF THE HOWARD COUNTY ZONING REGULATIONS, BAT 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 SETBACKS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE:
 - WIDTH - 12' MIN. IF SERVING MORE THAN ONE RESIDENCE
 - SURFACE - 5" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.)
 - STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS
 - DRAINAGE ELEMENTS CAPABLE OF SAFETY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET
 - MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.
- THERE ARE NO WETLAND AREAS LOCATED ON SITE OR WITHIN 25 FEET OF THIS PROPERTY PER THE ENVIRONMENTAL STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. DATED FEBRUARY 4, 2005. THERE ARE NO STREAMS OR THEIR BUFFERS LOCATED ON THIS LOT. THERE ARE NO FLOODPLAINS LOCATED ON THIS LOT. THERE ARE STEEP SLOPES LOCATED TO THE REAR OF THE LOT AS IDENTIFIED BY THE SYMBOLS. THE STEEP SLOPES ARE LOCATED OUTSIDE OF THE LIMIT OF DISTURBANCE.
- LOT 61 WAS ADDED TO THE METROPOLITAN DISTRICT BY BILL NO. 94-1995, REFERENCE WATER AND SEWER CONTRACT NO. 24-3597-D
- THIS PLAN IS SUBJECT TO THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003 DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.
- IN ACCORDANCE WITH THE LANDSCAPE MANUAL THIS SITE DEVELOPMENT PLAN IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SINCE THIS LOT WAS RECORDED AS PART OF A MAJOR SUBDIVISION THAT HAD BEEN GRANTED PRELIMINARY APPROVAL PRIOR TO THE 1993 EFFECTIVE DATE OF THIS REGULATION.

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
61	10930 HUNTING LANE

INDEX CHART	
SHEET	DESCRIPTION
SHEET 1	SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN
SHEET 2	SEDIMENT AND EROSION CONTROL NOTES

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
+362.2	SPOT ELEVATION
---	PROPOSED WALKOUT
---	DIRECTION OF DRAINAGE
---	SUPER SILT FENCE
---	LIMIT OF DISTURBANCE
---	DRYWELLS
---	PERIMETER DIRT / CLEANWATER DIVERSION
---	25% OR GREATER STEEP SLOPES
---	15-24% STEEP SLOPES
---	EXISTING TREES
---	EXISTING TREES TO BE SAVED

FISHER, COLLINS & CARTER, INC.
CIVIL, ENGINEERING, GEOTECHNICAL, LAND SURVEYING
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
410-481-1955



ENGINEER'S CERTIFICATE
I 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 of Engineer: *Earl D. Collins* Date: *3/14/05*
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.
Signature of Developer: *Rajesh & Vibha Puri* Date: *14 Mar 05*

Review for HOWARD SCD and meets Technical Requirements.
Signature of Engineer: *John K. Roberts* Date: *3/14/05*
Signature of Engineer: *John K. Roberts* Date: *3/14/05*
OWNER/BUILDER
RAJESH & VIBHA PURI
9500 WIND BEAD WAY
COLUMBIA, MARYLAND 21046
301-497-1091

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Department of Planning and Zoning: *Cindy Hamilton* Date: *4/13/05*
Chief, Development Engineering Division: *John C. Roberts* Date: *4/1/05*
Director - Department of Planning and Zoning: *Joseph D. Leggett* Date: *4/14/05*

PROJECT	SECTION	LOTS NO.
HOLIDAY HILLS	5	61

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
1605B	5	R-20	41	FIFTH	6051.02

WATER CODE	SEWER CODE
E-15	7640000

SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN
SINGLE FAMILY DETACHED
HOLIDAY HILLS
SECTION 5
LOT 61
TAX MAP NO.: 41 P/O PARCEL NO.: 273 GRID NO.: 5
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: MARCH, 2005
SHEET 1 OF 2

SDP 05-039

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are Temporary Soil Stabilization, cleared areas with utility ditches, drainage ditches, and areas to be restored to agriculture. Examples of applicable areas for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpile and quarry areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. Site Preparation
 - i. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)
 - i. Soil tests 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 also be used for chemical analysis.
 - ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Rates may be substituted for fertilizers 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.
 - iii. Lime materials shall be ground limestone (hydrated or burnt lime) may be substituted which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 99-100% will pass through a #20 mesh sieve.
 - iv. Incorporate lime and fertilizer into the top 3-5" of soil by dasking or other suitable means.

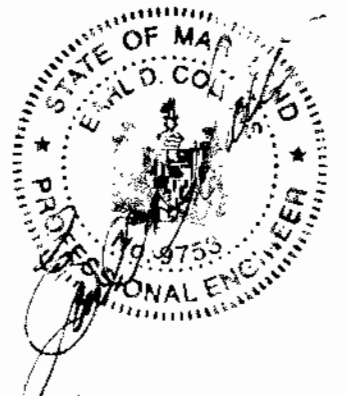
- C. Seeded Preparation
 - i. Temporary Seeding
 - a. Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripper mounted on construction equipment. After the soil is loosened, it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3%) 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 dasking or other suitable means.
 - ii. Permanent Seeding
 - a. Minimum soil conditions required for permanent vegetative establishment:
 1. Soil pH shall be between 5.0 and 7.0.
 2. Soluble salts shall be less than 500 parts per million (ppm).
 3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lowgrass or species indicated is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
 4. Soil shall contain 1.5% minimum organic matter by weight.
 5. Soil must contain sufficient pore space to permit adequate root penetration.
 6. If these conditions cannot be met by soils 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 true and even grade, then scarified or otherwise loosened 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 dasking or other suitable means. Lawn areas should be scarified on the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Slopes shall 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. Seeded loosening may not be necessary on newly disturbed areas.

- D. Seed Specifications
 - i. 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 sowing such material on this job.
 - ii. Seed tags shall be made available to the inspector to verify type and rate of seed used.
 - iii. 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. An exception is if lowgrass or species indicated is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

- E. Methods of Seeding
 - i. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultivator seeder.
 - a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorus) 200 lbs./ac; K2O (potassium) 200 lbs./ac.
 - b. 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 liquid or hydrated lime when hydroseeding.
 - c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - ii. Dry Seeding - This includes use of conventional drop or broadcast spreaders.
 - a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding summaries or Tables 205 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.
 - iii. Drill or Cultivator Seeding - Mechanized seeders that apply and cover seed with soil.
 - a. Cultivator seeders are required to bury the seed in such a fashion as to provide at least 1 1/4 inch of soil cover. Seeded must be firm after plating.
 - 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)
 - i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be moldy, moldy, caked, decayed or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - ii. 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 uniform spread slurry.
 - c. WCFM, including the dye, shall contain no germination or growth inhibiting factors.
 - d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - e. WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 - f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.5% maximum and water holding capacity of 80% minimum.

FISHER, COLLINS & CARTER, INC.
Soils - Consulting - Construction - Land Services
CENTRAL SQUARE OFFICE PARK • 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461 - 2855



ENGINEER'S CERTIFICATE

"I 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 of Engineer: *Earl D. Collins* Date: *3.14.05*

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/We also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer: *Rajesh K. Raji* Date: *14 Mch 05*

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (133-105).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), 500 (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE	1.2612 ACRES
AREA DISTURBED	0.2314 ACRES
AREA TO BE ROOFED OR PAVED	0.0743 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.9575 ACRES
TOTAL CUT	35 CU.YDS.
TOTAL FILL	143 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	0 CU.YDS.
- 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
Seeded 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 one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- 2) Use sod.
- 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
Seeded Preparation - Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

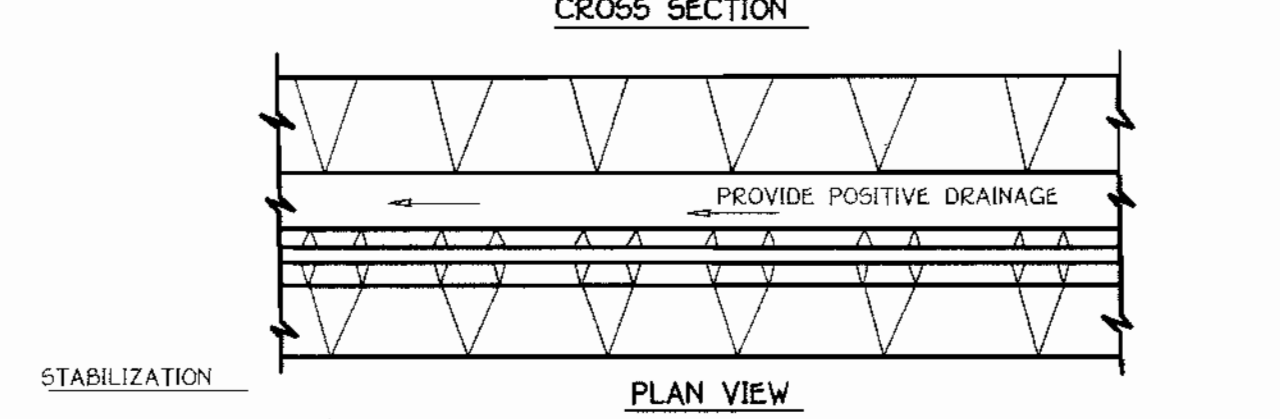
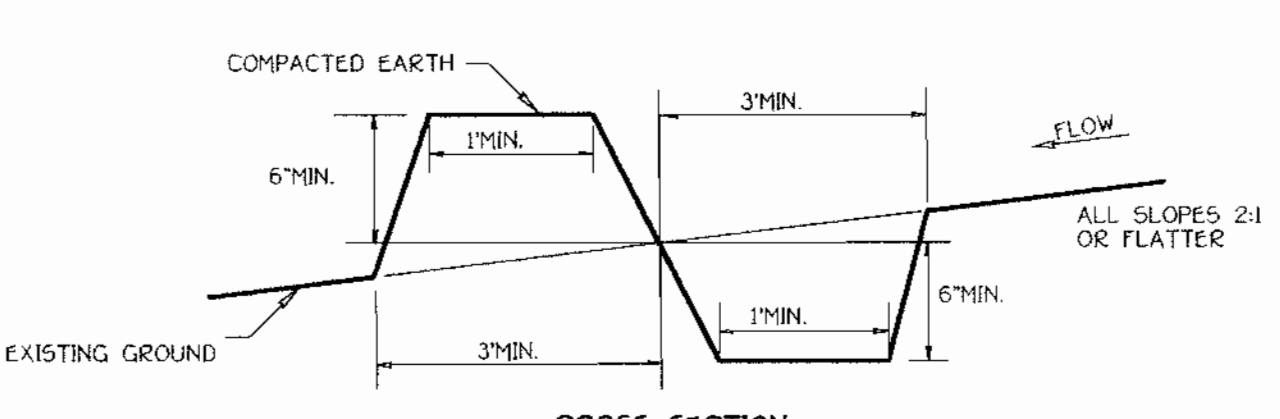
Soil Amendments - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding.
Seeding - For periods March 1 thru April 30 and from August 1 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

SEQUENCE OF CONSTRUCTION

- | | |
|---|---------|
| 1. OBTAIN GRADING PERMIT | 7 DAYS |
| 2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN | 7 DAYS |
| 3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE | 4 DAYS |
| 4. INSTALL TEMPORARY SEEDING | 2 DAYS |
| 5. CONSTRUCT BUILDINGS AND DRIVELAYS | 60 DAYS |
| 6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE | 14 DAYS |
| 7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSIBILITY IS GRANTED BY E/S CONTROL INSPECTOR. | 7 DAYS |



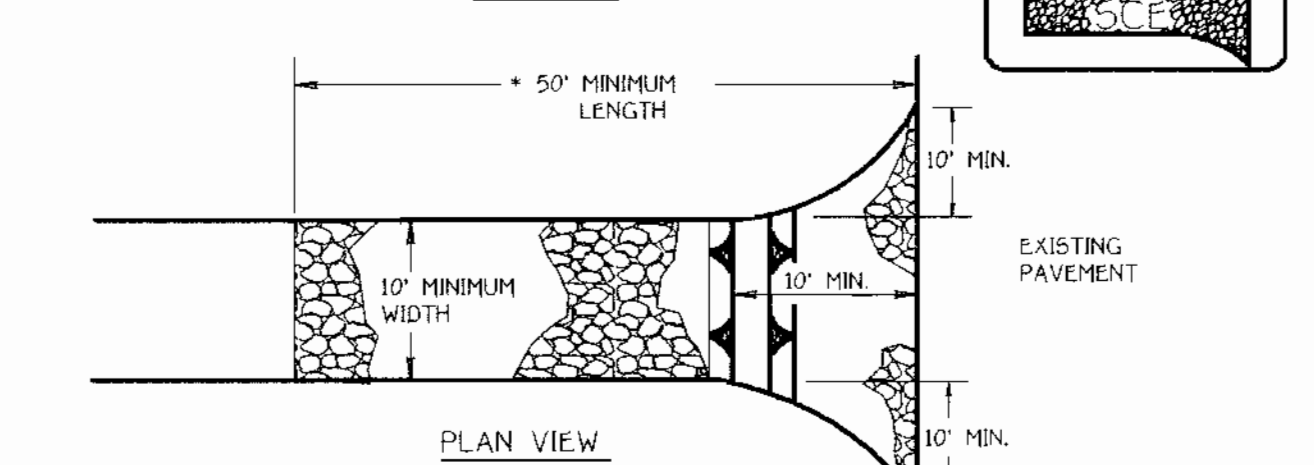
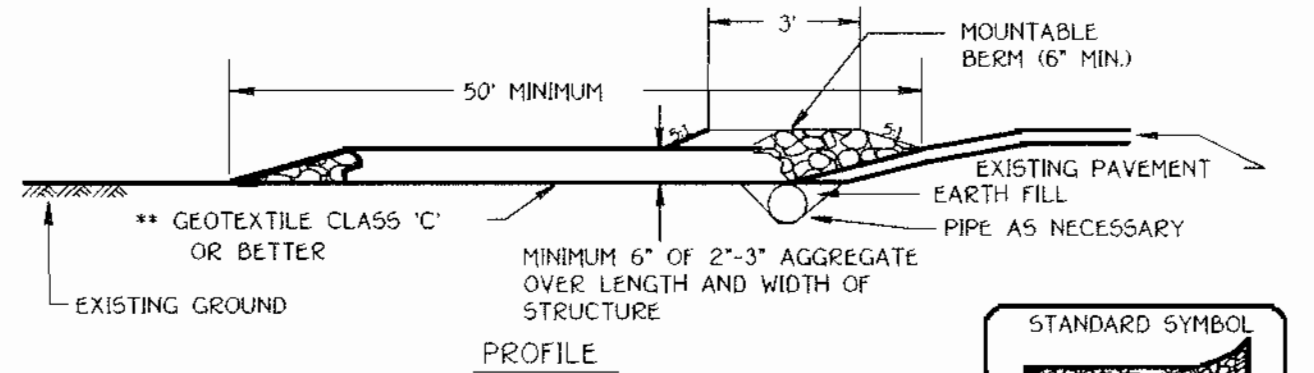
- Construction Specifications
1. All perimeter dikes/swales shall have an uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
 2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
 3. Runoff diverted from an undisturbed area shall outlet into an undisturbed stabilized area at a non-erosive velocity.
 4. The swale shall be excavated or shaped to line, grade, and cross-section as required to meet the criteria specified in the standard.
 5. Fill shall be compacted by earth moving equipment.
 6. Stabilization with seed and mulch or as specified of the area disturbed by the dike and swale shall be completed within 7 days upon removal.
 7. Inspection and required maintenance shall be provided after each rain event.
- Note: The maximum drainage area for this practice is 2 acres.

PERIMETER DIKE/SWALE

NOT TO SCALE

OWNER/BUILDER

RAJESH & VIBHA PUBLI
9500 WIND BEAD WAY
COLUMBIA, MARYLAND 21046
301-497-1091



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.
- NOT TO SCALE

SEDIMENT & EROSION CONTROL DETAIL SHEET

SINGLE FAMILY DETACHED
HOLIDAY HILLS
SECTION 5
LOT 61

TAX MAP NO: 41 P/O PARCEL NO: 273 GRID NO.: 5
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MARCH, 2005
SHEET 2 OF 2

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton 4/26/05
Chief, Division of Land Development DATE

Mike Davidson 4/10/05
Chief, Planning and Engineering Division DATE

Minda K. Luyt 4/14/05
Director - Department of Planning and Zoning DATE

SDP 05-039

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stabilization areas, left side between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

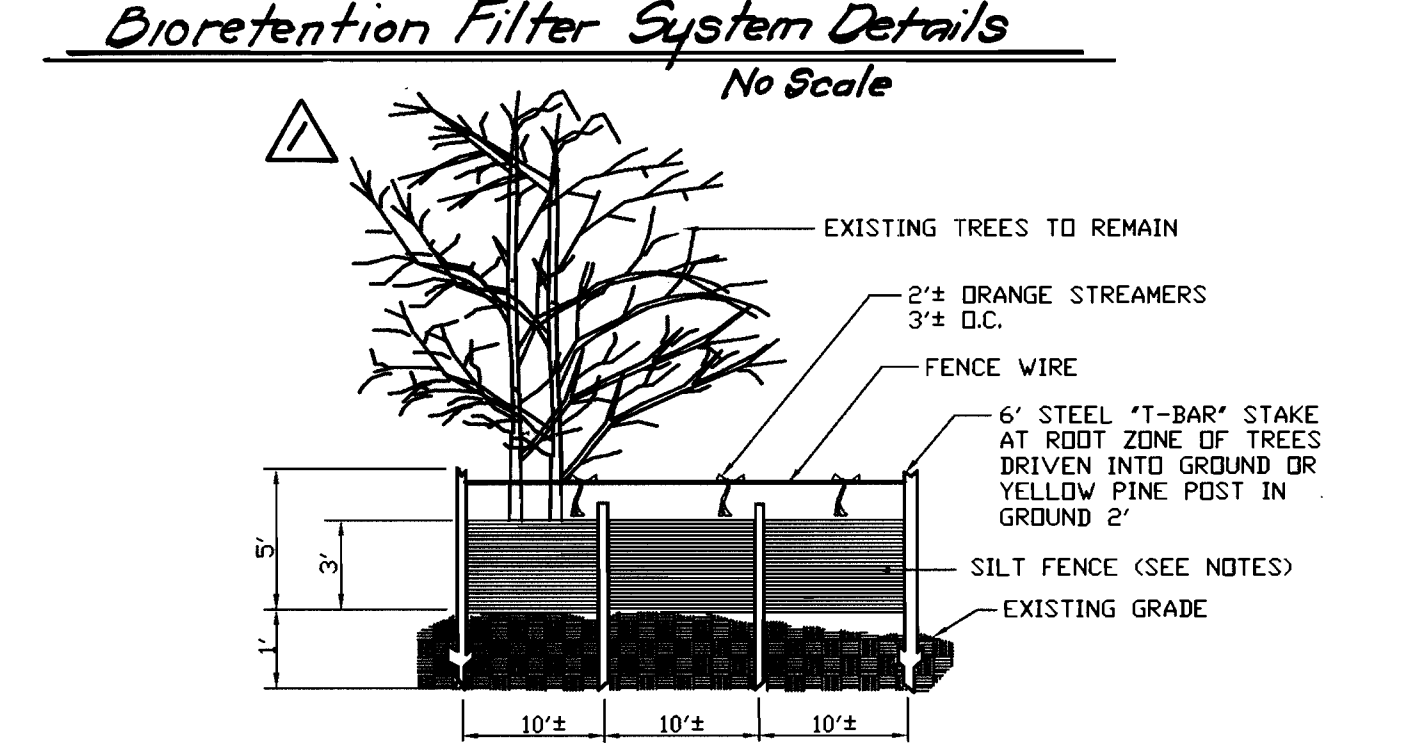
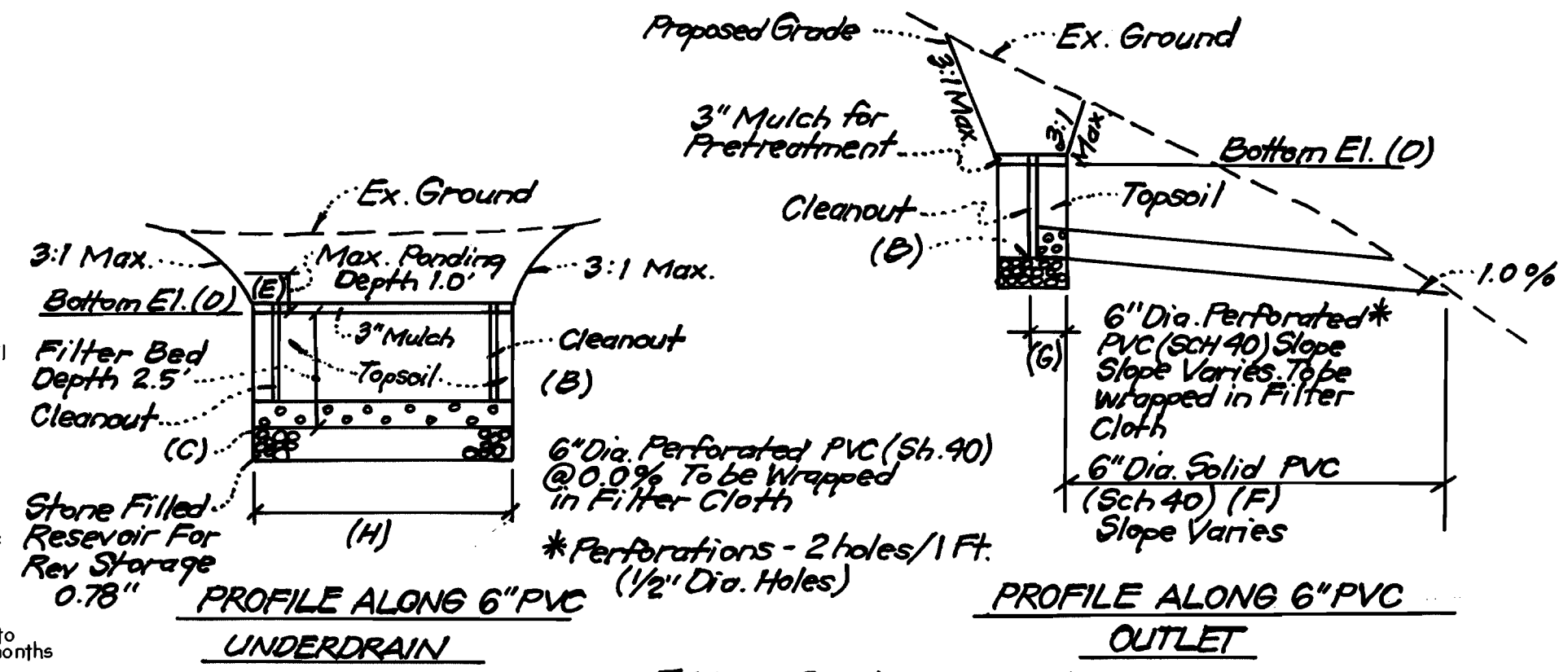
- A. Site Preparation
 - i. Install erosion and sediment control structures (either Temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)
 - i. Soil tests 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 also be used for chemical analysis.
 - ii. 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 warranty of the producer.
 - iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
 - iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- C. Seeded Preparation
 - i. Temporary Seeding
 - a. Seeded 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 ripers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (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.
 - ii. 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% clay, but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lowgrass or mesic leaved areas are to be planted, then a sandy soil (50% silt plus clay) would be acceptable.
 4. Soil shall contain 1.5% minimum organic matter by weight.
 5. Soil must contain sufficient pore space to permit adequate root penetration.
 6. If these conditions cannot be met by soils 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 true and even grade, then scarified or otherwise treated 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 sloping area and to create horizontal erosion check slots to prevent topsoil from sliding down a sloping area and to create horizontal erosion check slots to prevent topsoil from sliding down a sloping area.
 - 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 seeded by hand, while steep slopes and areas with large rocks and debris should be seeded with a drag or roller and ready the area for seed and application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

- D. Seed Specifications
 - i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a certified seed laboratory. Seed lot shall be tested within 6 months immediately preceding the date of sowing such material on this job.
 - ii. Incubant - The incubant for treating incipient seed in the seed lot shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Incubants shall not be used later than the date indicated on the container. Add fresh incubant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep incubant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.
- E. Methods of Seeding
 - i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cut/packer seeder.
 - a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen (20% phosphorous); 200 lbs./ac. K2O (potassium); 200 lbs./ac. lime.
 - b. Lime - use only ground agricultural limestone, 6:1 to 3:1 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.
 - c. Seed and fertilizer shall be moved on site and seeding shall be done immediately and without interruption.
 - ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 266. 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.
 - iii. Drill or Cut/packer Seeding: Mechanized seeders that apply and cover seed with soil.
 - a. Cut/packer seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of 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)
 - i. Straw shall consist of thoroughly threshed wheat, ryegrass or oat straw, reasonable bright in color, and shall not be overly moldy, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - ii. Wood Cellulose Fiber Mulch (WCFM) shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - a. 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.
 - b. WCFM including dye, shall contain no germination or growth inhibiting factors.
 - c. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a bioretention mat on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - d. WCFM material shall contain no elements or compounds at concentrations levels that will be phytotoxic.
 - e. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm, diameter approximately .1 mm, pH range 4.0 to 6.5, ash content of 16% maximum and water holding capacity of 90% minimum.
 - iii. Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

- G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
 - i. If grading is completed outside of the seeding season, mulch shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
 - ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution of depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
 - iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- H. Securing Straw Mulch (Mulch Anchoring) - Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This must be done by one of the following methods listed by preference, depending upon size of area and erosion hazard:
 - i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface to a depth of two (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 be used on the contour if possible.
 - ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - iii. Application of liquid binders should be heavier at the edges where wind catches much, such as in valleys and crest of banks. The remainder of area should be applied uniform after binder application. Synthetic binders - such as Acrylic DLR (Ago-Tack), DCA-70 Petrosel, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.
- I. Incremental Stabilization - Cut Slopes
 - i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
 - ii. Construction sequence (Refer to Figure 3 below):
 - a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
 - b. Perform Phase 1 excavation, dress, and stabilize.
 - c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
 - d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
- J. Incremental Stabilization of Embankments - Fill Slopes
 - i. Embankments shall be constructed in lifts as prescribed on the plans.
 - ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15' or when the grading operation ceases as prescribed on the plans.
 - iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trap.
 - iv. Construction sequence - Refer to Figure 4 (below):
 - a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
 - b. Place Phase 1 embankment, dress and stabilize.
 - c. Place Phase 2 embankment, dress and stabilize.
 - d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completion of the grading operation will necessitate the application of temporary stabilization.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of and placement of topsoil (if required) grading and permanent seed and mulch. Any interruptions in the operation or completion of the grading operation will necessitate the application of temporary stabilization.

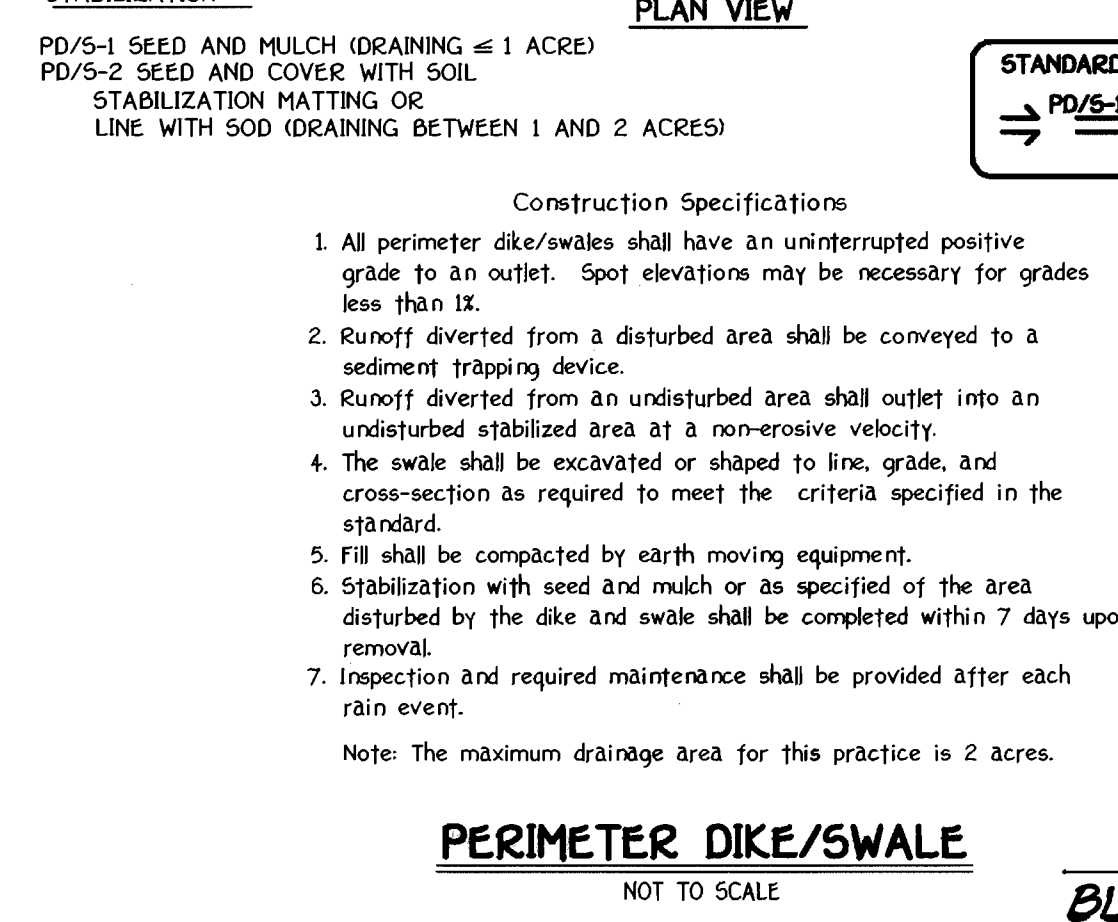
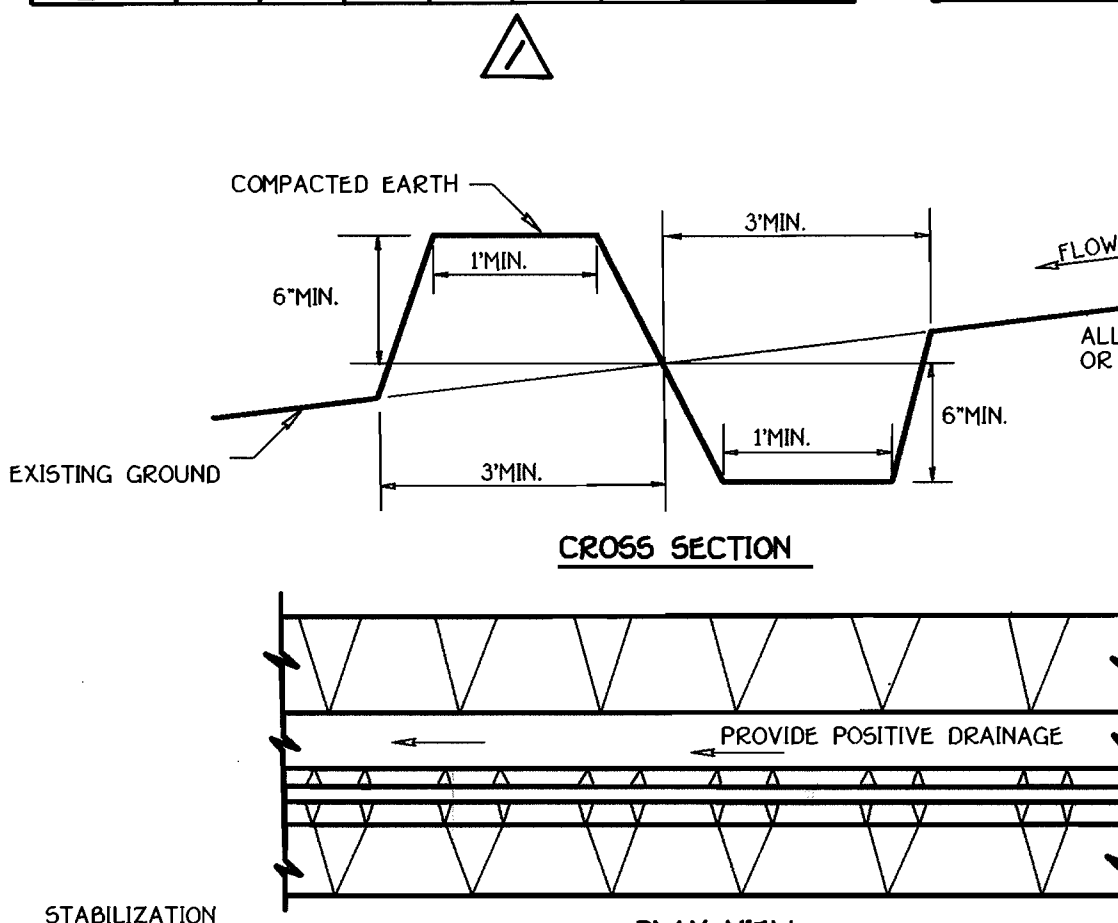


SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (3:00 P.M.).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: 20 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50), 500 (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

Filter No.	A	B	C	D	E	F	G	H
1	228.0	228.5	229.5	321.0	302.0	42	2.5'	36'
2	226.0	226.5	226.5	222.0	300.0	18'	2.5'	36'

Quantity	None	Max Spacing (FT.)
100	Tufted Fossil	1
80	Colice	1



ENGINEER'S CERTIFICATE

I 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 of Engineer: Earl D. Collins Date: 3/14/05

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.

Signature of Developer: Rajesh Pubbi Date: 14 Mar 05

OWNER/BUILDER

RAJESH & VIDHA PUBBI
9500 WIND BEAD WAY
COLUMBIA, MARYLAND 21046
301-497-1091

PERMANENT SEEDING NOTES

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seeded Preparation:** Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendments:** In lieu of soil test recommendations, use one of the following schedules:
- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
 - 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.
- Seeding:** For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:
- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
 - 2) Use sod.
 - 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
- Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Maintenance:** Inspect all seeded areas and make needed repairs, replantments and reseeding.

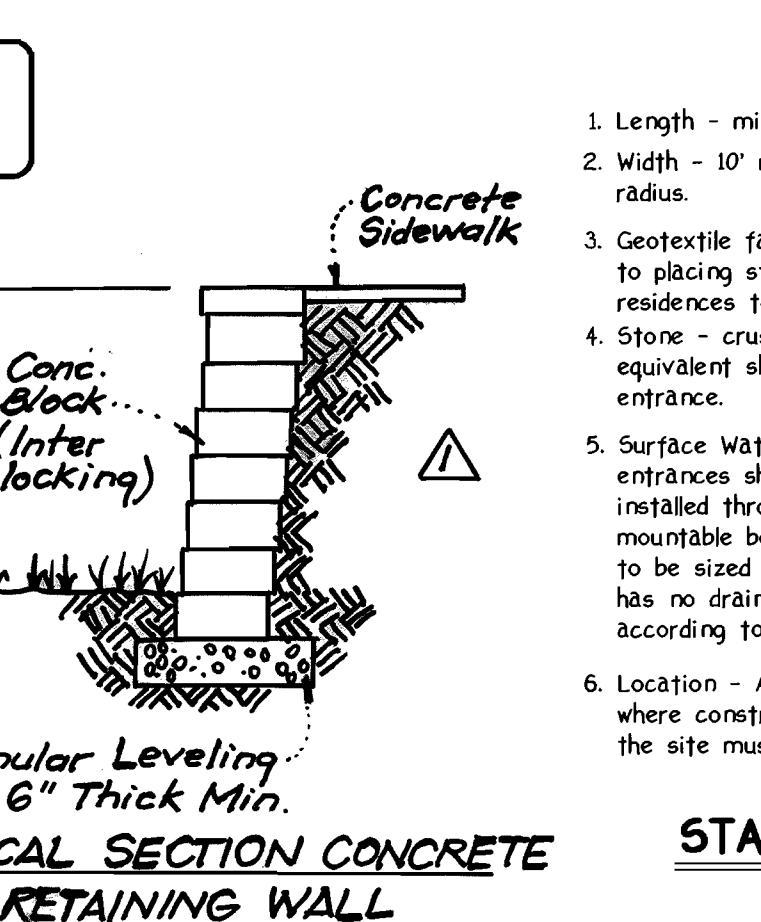
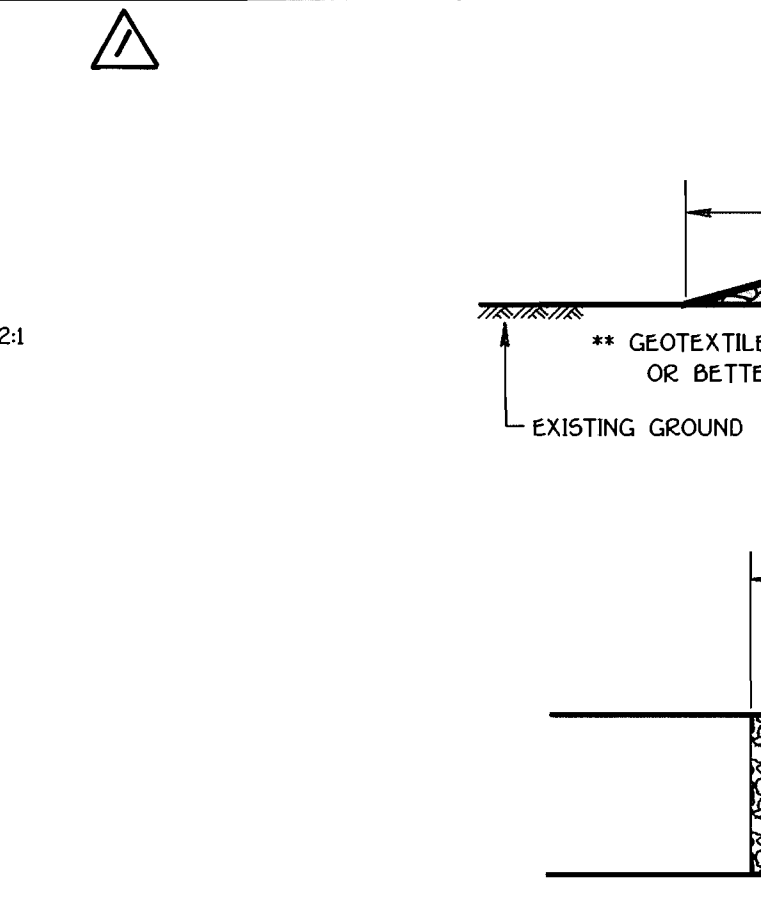
TEMPORARY SEEDING NOTES

- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- Seeded Preparation:** Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendments:** Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.).
- Seeding:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
- Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

SEQUENCE OF CONSTRUCTION

- | | |
|---|---------|
| 1. OBTAIN GRADING PERMIT | 7 DAYS |
| 2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN | 7 DAYS |
| 3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE | 4 DAYS |
| 4. INSTALL TEMPORARY SEEDING | 2 DAYS |
| 5. CONSTRUCT BUILDINGS AND DRYWELLS | 60 DAYS |
| 6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE | 14 DAYS |
| 7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR. | 7 DAYS |

Quantity	None	Max Spacing (FT.)
100	Tufted Fossil	1
80	Colice	1



PERIMETER DIKE/SWALE

NOT TO SCALE

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

1	Add Bioretention Filter and Conc. Block Retaining Wall Details	7-18-05
NO.	REVISION	DATE



ENGINEER'S CERTIFICATE

I 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 of Engineer: Earl D. Collins Date: 3/14/05

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.

Signature of Developer: Rajesh Pubbi Date: 14 Mar 05

Reviewed for HOWARD SCD and meets Technical Requirements.

Signature: Jim M... Date: 3/29/05

Signature: John R... Date: 3/29/05

OWNER/BUILDER

RAJESH & VIDHA PUBBI
9500 WIND BEAD WAY
COLUMBIA, MARYLAND 21046
301-497-1091

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature: Cindy Harman Date: 4/13/05

Signature: [Signature] Date: 4/1/05

Signature: [Signature] Date: 4/1/05

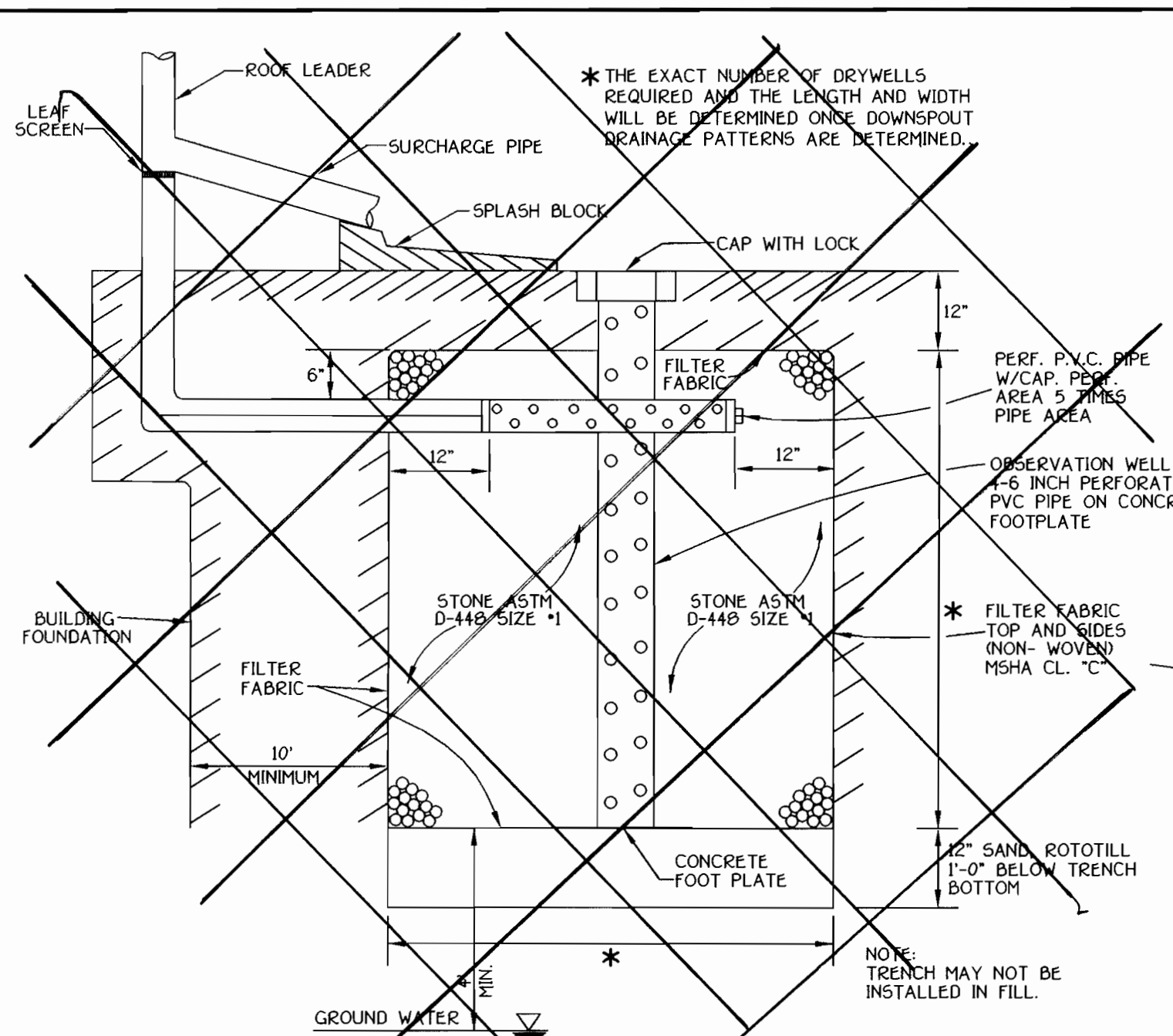
SEDIMENT & EROSION CONTROL DETAIL SHEET

SINGLE FAMILY DETACHED

HOLIDAY HILLS SECTION 5 LOT 61

TAX MAP NO: 41 P/O PARCEL NO: 273 GRID NO: 5
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MARCH, 2005
SHEET 2 OF 2

SDP 05-039

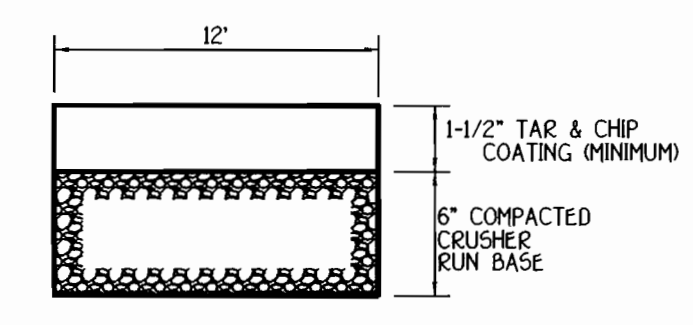


DRY WELL DETAIL
NOT TO SCALE

LOT NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME OF REQUIRED STORAGE	AREA OF TRENCH	NO. OF DRYWELLS	D	L
LOT 61	500' SQ. FT.	100' CU	100' SQ.	9	3'	4' x 3.5'

DRY WELL CHART

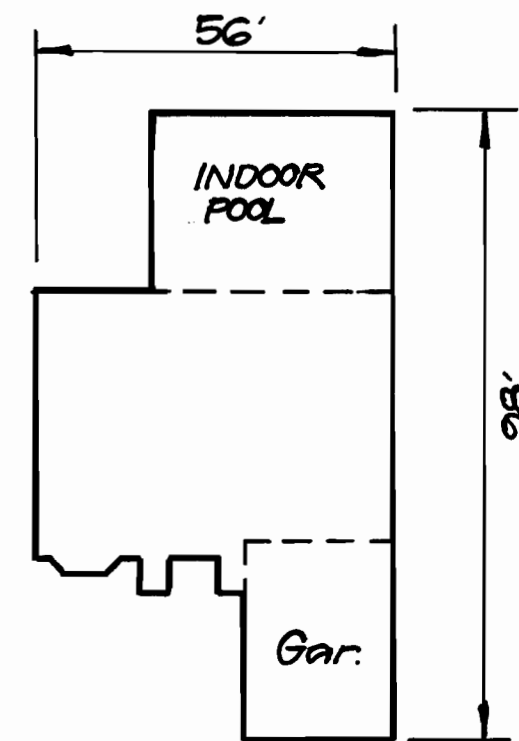
- STORMWATER MANAGEMENT NOTES**
- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL.
 - PERMITS ARE GIVEN FOR DISCONNECTION OF IMPERVIOUS COVERS.
 - MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT.
 - DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% SLOPE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE FIGURE 5.2 OF THE MANUAL AND THE DETAIL SHOWN ON THIS SHEET.
 - FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



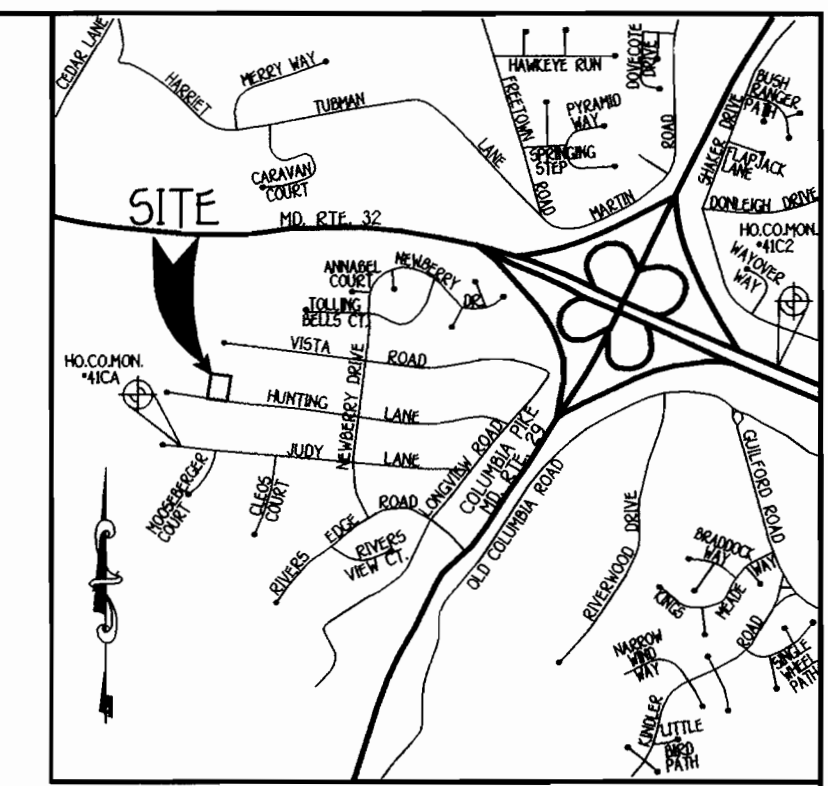
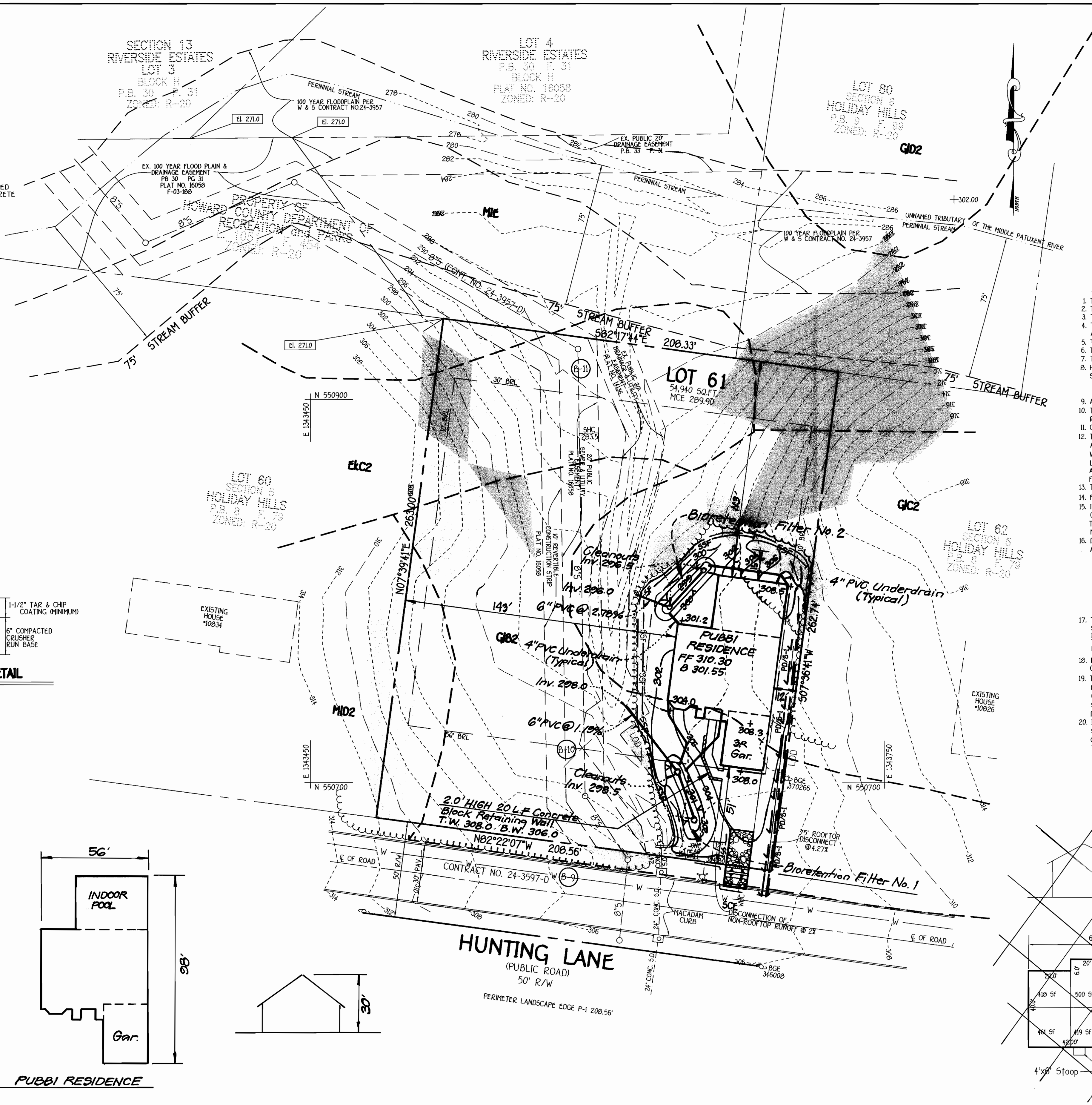
DRIVEWAY PAVING DETAIL
NOT TO SCALE

SOIL	NAME	CLASS
ME	Minor loam, 25 to 45 percent slopes	B
EC2	Eluviated silt loam, 0 to 15 percent slopes, moderately eroded	B
GC2	Clayey loam, 3 to 8 percent slopes, moderately eroded	B
GIC2	Clayey loam, 0 to 15 percent slopes, moderately eroded	B
GD2	Clayey loam, 15 to 25 percent slopes, moderately eroded	B
MD2	Minor loam, 15 to 25 percent slopes, moderately eroded	B

SOILS LEGEND



PUBBI RESIDENCE



VICINITY MAP
SCALE: 1" = 2000'

GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2/2/04 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF SITE: 1.261 ACRES
- TOTAL NUMBER OF LOTS SUBMITTED: 1
- THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 24 HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS BEFORE THE COMMENCEMENT OF WORK.
- THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F-75-48, F-00-106, F-03-188, W & S CONTR. NO. 24-3597-D.
- THIS PLAN IS BASED ON FIELD SURVEY TOPOGRAPHY PERFORMED ON MAY 28, 2004 BY FISHER, COLLINS & CARTER, INC.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- HOWARD COUNTY MONUMENT AIC2 N 550124.053 E 1342960.224
- HOWARD COUNTY MONUMENT AIC2 N 551616.404 E 1348104.227
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION.
- CONTRACTOR SHALL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
- THIS LOT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(2)(d) OF THE AMENDED FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH REQUIRES FILING A DECLARATION OF INTENT (DOI) FOR DEVELOPMENT OF AN EXISTING SINGLE LOT OF ANY SIZE IF THE TOTAL CUTTING, CLEARING OR GRADING OF FOREST IS LESS THAN 40,000 SF, AND THE FOREST RESOURCES AFFECTED BY THIS DEVELOPMENT ARE NOT SUBJECT TO PREVIOUSLY APPROVED FOREST CONSERVATION PLAN.
- THE TOTAL AREA OF FOREST TO BE CLEARED OR DISTURBED PER THIS SITE DEVELOPMENT PLAN IS 600 SF.
- FOR DRIVEWAY ENTRANCE DETAIL REFER TO HO. CO. DESIGN MANUAL VOL. IV STANDARD DETAIL R.6.05.
- IN ACCORDANCE WITH SECTION 12B 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 SETBACKS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE A) WIDTH - 12' (4' IF SERVING MORE THAN ONE RESIDENCE) B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/ TAR AND CHIP COATING (1/2" MIN.) C) STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS D) DRAINAGE ELEMENTS CAPABLE OF SAFETY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE. E) MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.
- THERE ARE NO WETLAND AREAS LOCATED ON SITE OR WITHIN 25 FEET OF THIS PROPERTY PER THE ENVIRONMENTAL STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. DATED FEBRUARY 4, 2005. THERE ARE NO STREAMS OR THEIR BUFFERS LOCATED ON THIS LOT. THERE ARE NO FLOOD PLAINS LOCATED ON THIS LOT. THERE ARE STEEP SLOPES LOCATED TO THE REAR OF THE LOT AS IDENTIFIED BY THE SYMBOL. THE STEEP SLOPES ARE LOCATED OUTSIDE OF THE LIMIT OF DISTURBANCE.
- LOT 61 WAS ADDED TO THE METROPOLITAN DISTRICT BY BILL NO. 91-1995. REFERENCE WATER AND SEWER CONTRACT NO. 24-3597-D.
- THIS PLAN IS SUBJECT TO THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.
- IN ACCORDANCE WITH THE LANDSCAPE MANUAL THIS SITE DEVELOPMENT PLAN IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SINCE THIS LOT WAS RECORDED AS PART OF A MAJOR SUBDIVISION THAT HAD BEEN GRANTED PRELIMINARY APPROVAL PRIOR TO THE 1993 EFFECTIVE DATE OF THIS REGULATION.

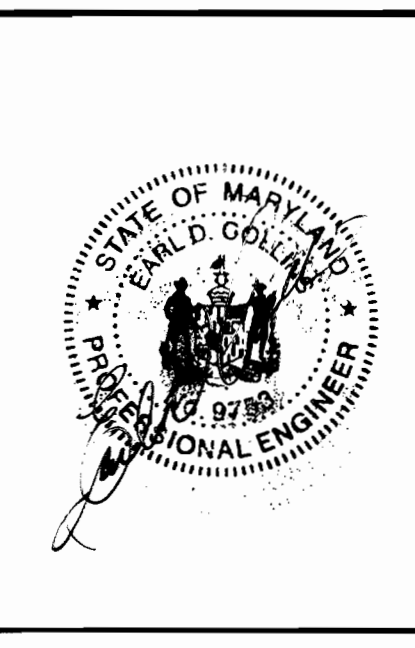
ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
61	10930 HUNTING LANE

INDEX CHART	
SHEET	DESCRIPTION
SHEET 1	SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN
SHEET 2	SEDIMENT AND EROSION CONTROL NOTES

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
+	SPOT ELEVATION
---	PROPOSED WALKOUT
---	DIRECTION OF DRAINAGE
---	SUPER SILT FENCE
---	LOD LIMIT OF DISTURBANCE
□	DRYWELLS
---	PERIMETER DIKE/ CLEANWATER DIVERSION 25% OR GREATER STEEP SLOPES
---	15-24% STEEP SLOPES
---	EXISTING TREES
---	EXISTING TREES TO BE SAVED

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10725 BALTIMORE NATIONAL Fwy.
ELLSWORTH CITY, MARYLAND 21042
410.331.2555

NO.	REVISION	DATE
1	Eliminated drywells, Add Bioretention Filters 1 & 2, Rev. hse. & grd.	7/13/04



ENGINEER'S CERTIFICATE
I 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 of Engineer: *Earl D. Collins* Date: 3/14/05

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.

Signature of Developer: *Rajesh & Vibha Pubbi* Date: 14 Mar 05

Reviewed for HOWARD SCD and meets Technical Requirements.

Signature: *John H. Maguire* Date: 3/29/05
Signature: *John K. Kelmstedt* Date: 3/29/05

OWNER/BUILDER
RAJESH & VIBHA PUBBI
9500 WIND BEAD WAY
COLUMBIA, MARYLAND 21046
301-497-1091

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

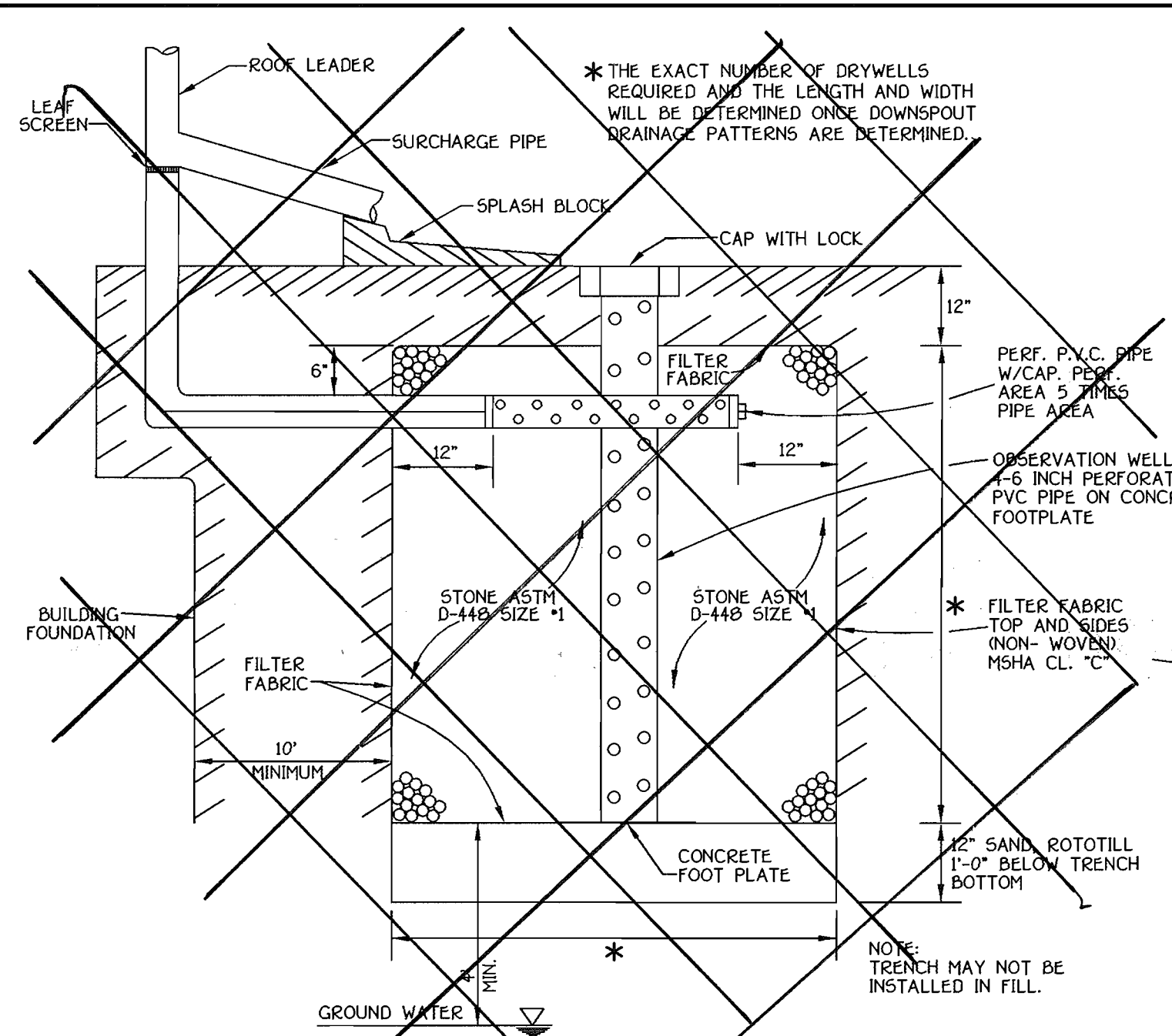
Signature: *Cynthia Hamilton* Date: 4/13/05
Signature: *John V. ...* Date: 4/1/05
Signature: *...* Date: 4/1/05

PROJECT	HOLIDAY HILLS	SECTION	5	LOTS NO.	61
PLAT	1605B	BLOCK NO.	5	ZONE	R-20
TAX/ZONE	41	ELEC. DIST.	FIFTH	CENSUS TR.	6051.02
WATER CODE	E-15	SEWER CODE	7640000		

SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN

SINGLE FAMILY DETACHED HOLIDAY HILLS SECTION 5 LOT 61

TAX MAP NO.: 41 P/O PARCEL NO.: 273 GRID NO.: 5
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: MARCH, 2005
SHEET 1 OF 2



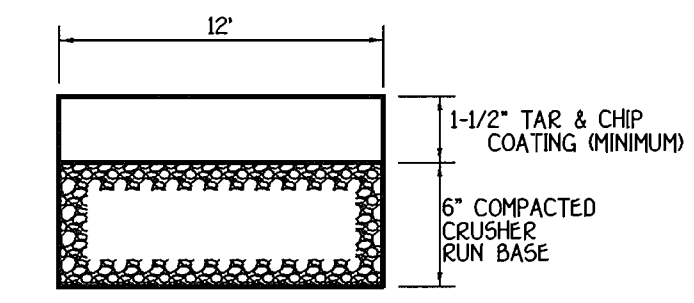
DRY WELL DETAIL
NOT TO SCALE

LOT NO.	AREA OF ROOF PER DOWN SPOT	VOLUME REQUIRED FOR STORAGE	AREA OF DRYWELL	NO. OF DRYWELLS	D	L
LOT 61	500 SQ.FT.	40 CF	1000	5	3	4 x 3.5

DRY WELL CHART

STORMWATER MANAGEMENT NOTES

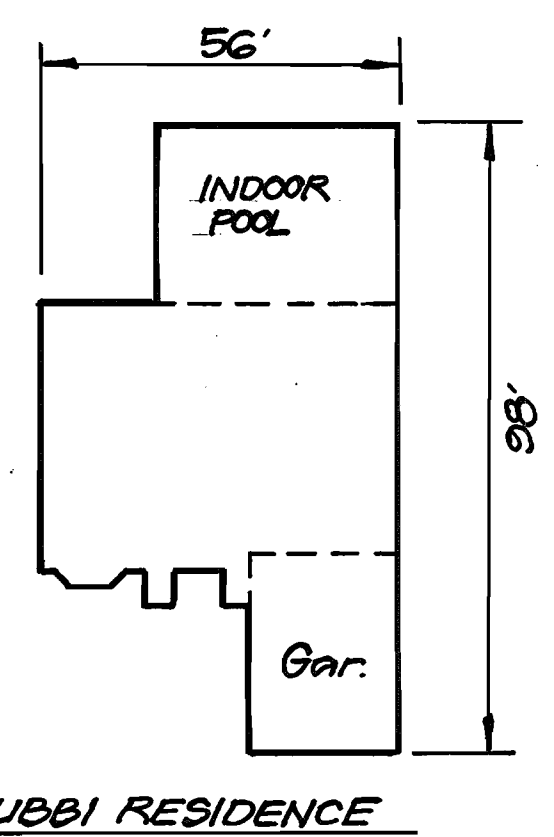
- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL.
- CREDITS ARE GIVEN FOR DISCONNECTION OF IMPERVIOUS COVERS.
- MAXIMUM CONTRIBUTING ROOF AREA TO EACH DRAINOUT SHALL BE LESS THAN 500 SQ. FT.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% SLOPE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE FIGURE 5.2 OF THE MANUAL AND THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



DRIVEWAY PAVING DETAIL
NOT TO SCALE

SOIL	NAME	CLASS
MIE	Major loam, 25 to 45 percent slopes	B
EKC2	Elk oak silt loam, 0 to 15 percent slopes, moderately eroded	B
GB2	Glenn loam, 3 to 8 percent slopes, moderately eroded	B
GC2	Glenn loam, 0 to 15 percent slopes, moderately eroded	B
GD2	Glenn loam, 15 to 25 percent slopes, moderately eroded	B
MID2	Major loam, 15 to 25 percent slopes, moderately eroded	B

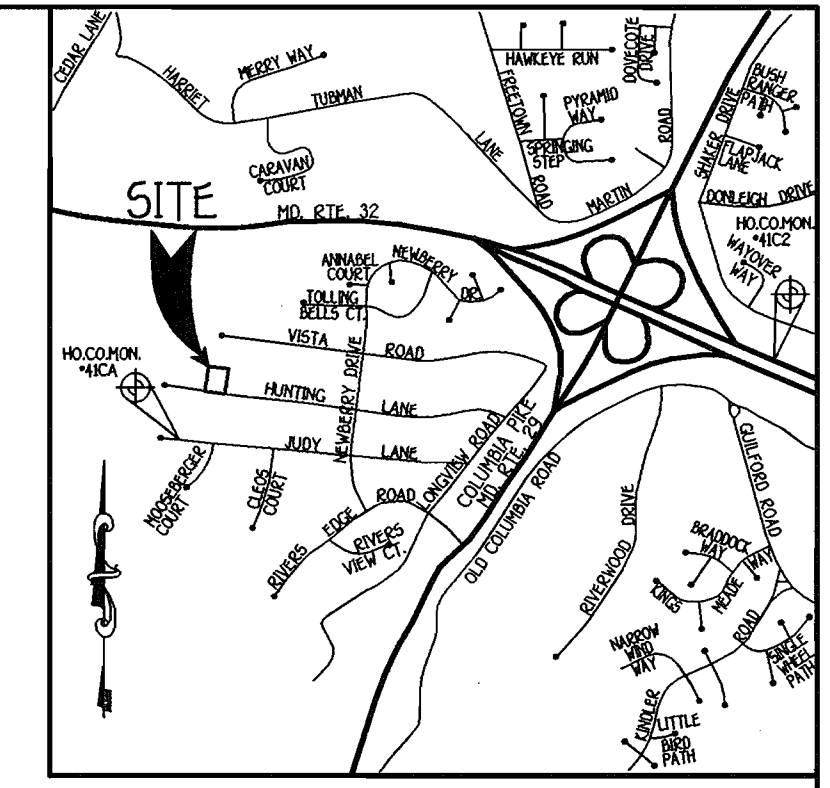
SOILS LEGEND



PUBBI RESIDENCE



BENCH MARKS
 TP. 41C ELEV. 295.90
 N. 550124.853
 E. 1342560.935
 LOC. NEAR THE END OF & ALONG JUDY LANE
 TP. 41C2 ELEV. 395.856
 N. 551616.401
 E. 1348104.227
 LOC. NEAR THE INTERSECTION OF ROUTE 29 & ROUTE 32



VICINITY MAP
SCALE: 1" = 2000'

GENERAL NOTES

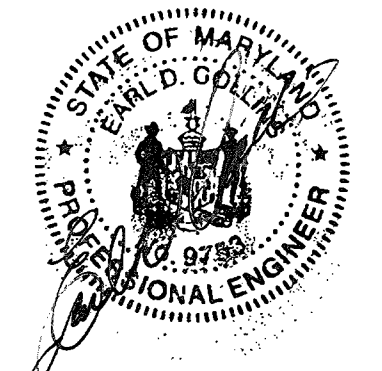
- THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2/2/04 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF SITE: 1.281 ACRES
- TOTAL NUMBER OF LOTS SUBMITTED: 1
- THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 24 HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS.
- THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F-75-48, F-00-186, F-03-188, W & S CONTE. NO. 24-3597-D.
- THIS PLAN IS BASED ON FIELD RUN TOPOGRAPHY PERFORMED ON MAY 28, 2004 BY FISHER, COLLINS & CARTER, INC.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- HOWARD COUNTY MONUMENT 41C N 550124.853 E 1342560.224
- HOWARD COUNTY MONUMENT 41C2 N 551616.401 E 1348104.227
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE TIME OF CONSTRUCTION.
- THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION.
- CONTRACTOR SHALL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
- THIS LOT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.120202K(2) OF THE AMENDED FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH REQUIRES FILING A DECLARATION OF INTENT (DOI) FOR DEVELOPMENT OF AN EXISTING SINGLE LOT OF ANY SIZE IF THE TOTAL CUTTING, CLEARING OR GRADING OF FOREST IS LESS THAN 40,000 SF, AND THE FOREST RESOURCES AFFECTED BY THIS DEVELOPMENT ARE NOT SUBJECT TO PREVIOUSLY APPROVED FOREST CONSERVATION PLAN.
- THE TOTAL AREA OF FOREST TO BE CLEARED OR DISTURBED PER THIS SITE DEVELOPMENT PLAN IS 600 SF.
- FOR DRIVEWAY ENTRANCE DETAIL REFER TO HO. CO. DESIGN MANUAL VOL. IV STANDARD DETAIL R.6.05.
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- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE A) WIDTH - 12' (4" IF SERVING MORE THAN ONE RESIDENCE)
 B) SURFACE - 5' OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN)
 C) STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS
 D) DRAINAGE ELEMENTS CAPABLE OF SAFETY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 E) STRUCTURE CLEARANCES - MINIMUM 12 FEET
 F) MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.
- THERE ARE NO WETLAND AREAS LOCATED ON SITE OR WITHIN 25' FEET OF THIS PROPERTY PER THE ENVIRONMENTAL STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC DATED FEBRUARY 4, 2005. THERE ARE NO STREAMS OR THEIR BUFFERS LOCATED ON THIS LOT. THERE ARE NO FLOOD PLAINS LOCATED ON THIS LOT. THERE ARE STEEP SLOPES LOCATED TO THE REAR OF THE LOT AS IDENTIFIED BY THE SYMBOL. THE STEEP SLOPES ARE LOCATED OUTSIDE OF THE LIMIT OF DISTURBANCE.
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- IN ACCORDANCE WITH THE LANDSCAPE MANUAL THIS SITE DEVELOPMENT PLAN IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SINCE THIS LOT WAS RECORDED AS PART OF A MAJOR SUBDIVISION THAT HAD BEEN GRANTED PRELIMINARY APPROVAL PRIOR TO THE 1993 EFFECTIVE DATE OF THIS REGULATION.

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
61	10830 HUNTING LANE

INDEX CHART	
SHEET	DESCRIPTION
SHEET 1	SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN
SHEET 2	SEDIMENT AND EROSION CONTROL NOTES

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
+362.2	SPOT ELEVATION
---	PROPOSED WALKOUT
---	DIRECTION OF DRAINAGE
---	SUPER SILT FENCE
---	LIMIT OF DISTURBANCE
□	DRYWELLS
---	PERIMETER DIKE/ CLEANWATER DIVERSION
---	25% OR GREATER STEEP SLOPES
---	15-24% STEEP SLOPES
---	EXISTING TREES
---	EXISTING TREES TO BE SAVED

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELLETTT CITY, MARYLAND 21042
 410.461.2266



ENGINEER'S CERTIFICATE
 "I 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 of Engineer: *Earl D. Collins* Date: 3/14/05
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."
 Signature of Developer: *Rajesh & Vibha Pubbi* Date: 14 MAR 05

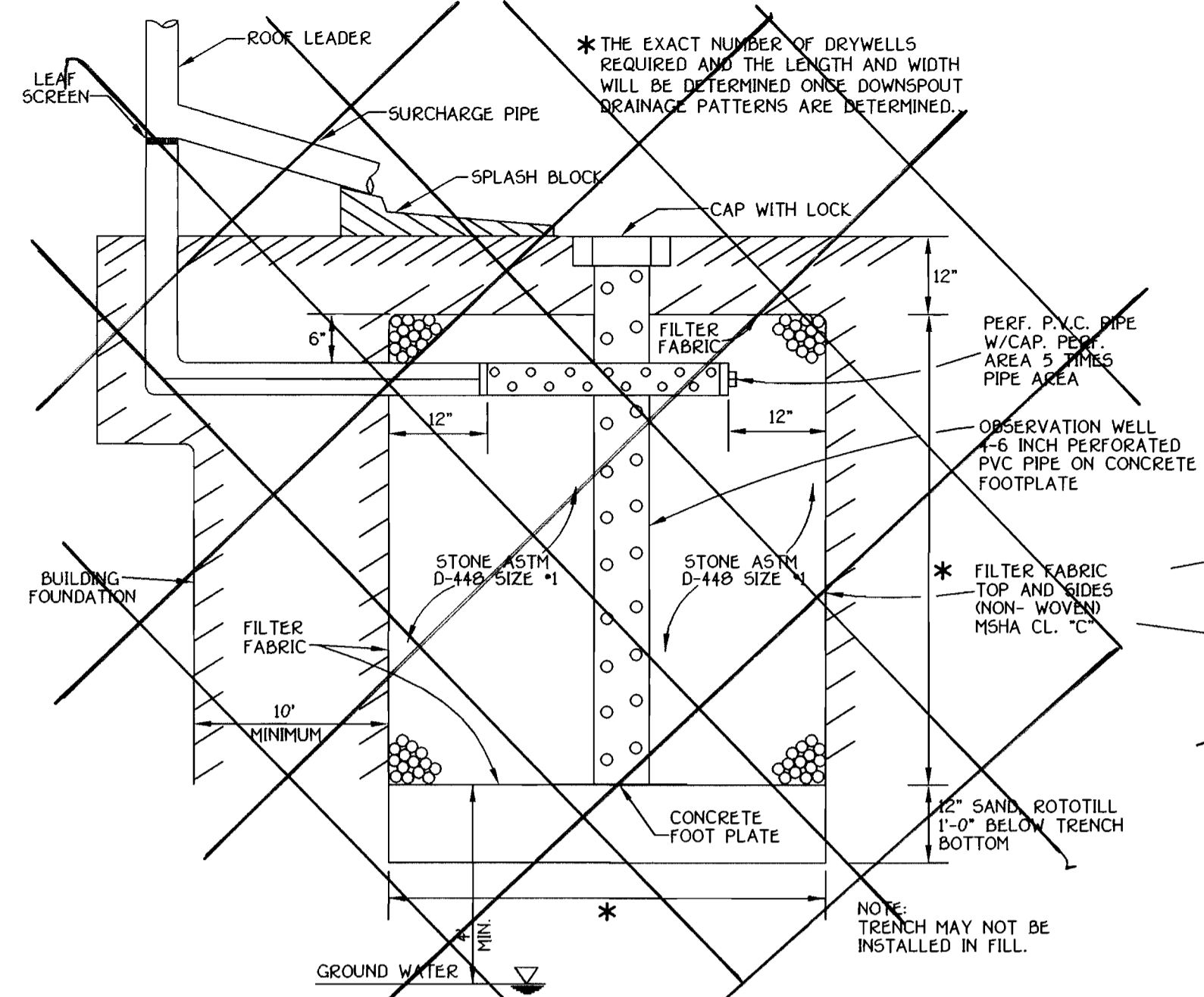
Reviewed for HOWARD SCD and meets Technical Requirements.
 Signature: *John K. Reinhart* Date: 3/29/05
 Signature: *John K. Reinhart* Date: 3/29/05
OWNER/BUILDER
 RAJESH & VIBHA PUBBI
 9500 WIND BEAD WAY
 COLUMBIA, MARYLAND 21046
 301-497-1091

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Signature: *Cynthia Hamilton* Date: 4/13/05
 Signature: *John V. ...* Date: 4/1/05
 Signature: *...* Date: 4/1/05
 PROJECT: HOLIDAY HILLS SECTION 5 LOTS NO. 61

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
1605B	5	R-20	41	FIFTH	6051.02
WATER CODE	SEWER CODE				
E-15	7640000				

SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN
 SINGLE FAMILY DETACHED
HOLIDAY HILLS
 SECTION 5
 LOT 61
 TAX MAP NO.: 41 P/O PARCEL NO.: 273 GRID NO.: 5
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: MARCH, 2005
 SHEET 1 OF 2

SDP 05-039

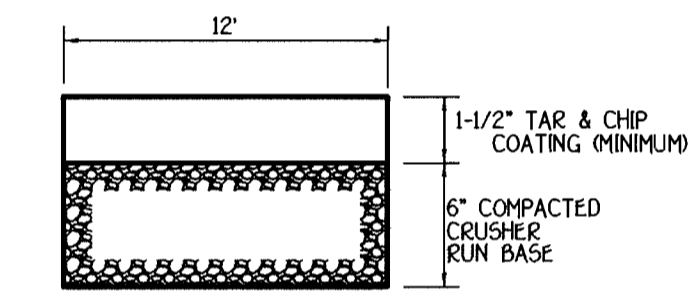


DRY WELL DETAIL
NOT TO SCALE

DRY WELL CHART						
LOT NO.	AREA OF ROOF PER DOWNSPOUT	VOLUME REQUIRED	AREA OF STORAGE	AREA OF TREATMENT	NO. OF DRYWELLS	D L
LOT 61	500 SQ.FT.	40 CF	300	100	5	3' x 4' x 3.5'

STORMWATER MANAGEMENT NOTES

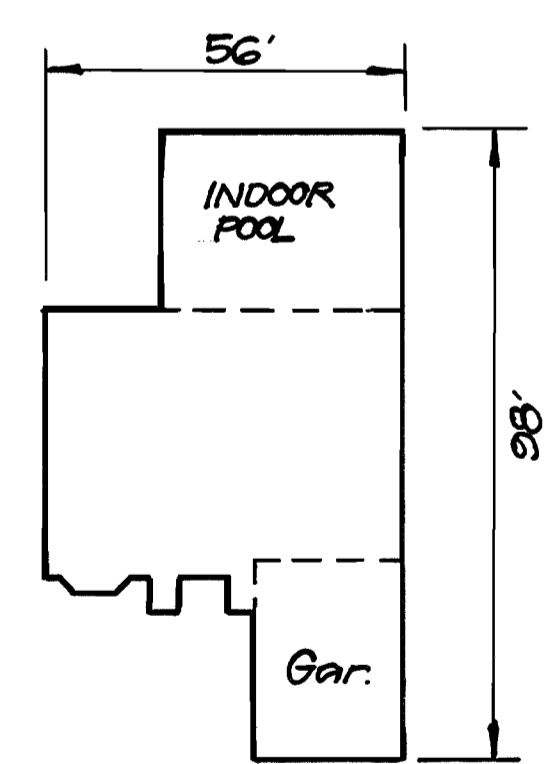
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- CREDITS ARE GIVEN FOR DISCONNECTION OF IMPERVIOUS COVERS.
- MAXIMUM CONTRIBUTING ROOF AREA TO EACH DOWNSPOUT SHALL BE LESS THAN 500 SQ. FT.
- LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% SLOPE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE FIGURE 5.2 OF THE MANUAL AND THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



DRIVEWAY PAVING DETAIL
NOT TO SCALE

SOILS LEGEND

SOIL	NAME	CLASS
MIE	Minor loam, 25 to 45 percent slopes	B
ELC2	Elk oak silt loam, 0 to 15 percent slopes, moderately eroded	B
GB2	Glenn loam, 3 to 8 percent slopes, moderately eroded	B
GC2	Glenn loam, 0 to 15 percent slopes, moderately eroded	B
GD2	Glenn loam, 15 to 25 percent slopes, moderately eroded	B
MD2	Minor loam, 15 to 25 percent slopes, moderately eroded	B



PUBBI RESIDENCE



GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2/2/04 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF SITE: 1.281 ACRES.
- TOTAL NUMBER OF LOTS SUBMITTED: 1
- THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1800 24-HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS BEFORE ANY EXCAVATION OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.
- THIS PLAN IS BASED ON FIELD RUN TOPOGRAPHY PERFORMED ON MAY 28, 2004 BY FISHER, COLLINS & CARTER, INC. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- HOWARD COUNTY MONUMENT #14 N 550124.853 E 1.342960.224 HOWARD COUNTY MONUMENT #12 N 551616.404 E 1.346104.227
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION.
- CONTRACTOR SHALL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
- THIS LOT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(2)(i) OF THE AMENDED FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH REQUIRES FILING A DECLARATION OF INTENT (DOI), FOR DEVELOPMENT OF AN EXISTING SINGLE LOT OF ANY SIZE IF THE TOTAL CUTTING, CLEARING OR GRADING OF FOREST IS LESS THAN 40,000 SQ. FT. AND THE FOREST RESOURCES AFFECTED BY THIS DEVELOPMENT ARE NOT SUBJECT TO PREVIOUSLY APPROVED FOREST CONSERVATION PLAN.
- THE TOTAL AREA OF FOREST TO BE CLEARED OR DISTURBED PER THIS SITE DEVELOPMENT PLAN IS 600 SQ. FT.
- FOR DRIVEWAY ENTRANCE DETAIL REFER TO HO. CO. DESIGN MANUAL VOL. IV STANDARD DETAIL R.6.05.
- IN ACCORDANCE WITH SECTION 12B 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 SETBACKS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING:
 - WIDTH - 12' (14' IF SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN)
 - STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS
 - DRAINAGE ELEMENTS CAPABLE OF SAFETY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET
 - MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.
- THERE ARE NO WETLAND AREAS LOCATED ON SITE OR WITHIN 25 FEET OF THIS PROPERTY PER THE ENVIRONMENTAL STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. DATED FEBRUARY 4, 2005. THERE ARE NO STREAMS OR THEIR BUFFERS LOCATED ON THIS LOT. THERE ARE NO FLOODPLAINS LOCATED ON THIS LOT. THERE ARE STEEP SLOPES LOCATED TO THE REAR OF THE LOT AS IDENTIFIED BY THE SYMBOL. THE STEEP SLOPES ARE LOCATED OUTSIDE OF THE LIMIT OF DISTURBANCE.
- LOT 61 WAS ADDED TO THE METROPOLITAN DISTRICT BY BILL NO. 91-1995. REFERENCE WATER AND SEWER CONTRACT NO. 24-3597-D.
- THIS PLAN IS SUBJECT TO THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.
- IN ACCORDANCE WITH THE LANDSCAPE MANUAL THIS SITE DEVELOPMENT PLAN IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SINCE THIS LOT WAS RECORDED AS PART OF A MAJOR SUBDIVISION THAT HAD BEEN GRANTED PRELIMINARY APPROVAL PRIOR TO THE 1993 EFFECTIVE DATE OF THIS REGULATION.

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
61	10830 HUNTING LANE

INDEX CHART	
SHEET	DESCRIPTION
SHEET 1	SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN
SHEET 2	SEDIMENT AND EROSION CONTROL NOTES

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
+362.2	SPOT ELEVATION
---	PROPOSED WALKOUT
---	DIRECTION OF DRAINAGE
-55' - 56'	SUPER SILT FENCE
LOD	LIMIT OF DISTURBANCE
□	DRYWELLS
PD/S	PERIMETER DIKE / CLEANWATER DIVERSION
---	25% OR GREATER STEEP SLOPES
---	15-24% STEEP SLOPES
---	EXISTING TREES
---	EXISTING TREES TO BE SAVED



NO.	REVISION	DATE
3	Rev. location of Retaining Wall and Bioretention Facilities, Rev. grad. Accord.	7.21.05
2	Rev. Hse. Elev's To Show Ex. Conditions	1-13-05
1	Eliminated drywells, Add Bioretention Filters 1&2, Rev. hse. & grad.	7-15-04



ENGINEER'S CERTIFICATE
I 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 of Engineer: *Earl D. Collins* Date: *3.14.05*

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.

Signature of Developer: *Rajesh & Vibha Pubbi* Date: *14 Mar 05*

Reviewed for HOWARD SCD and meets Technical Requirements.

Signature of Engineer: *John H. Meyer* Date: *3/29/05*

Signature of Developer: *John K. Kuntz* Date: *3/29/05*

OWNER/BUILDER
RAJESH & VIBHA PUBBI
9500 WIND BEAD WAY
COLUMBIA, MARYLAND 21046
301-497-1091

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature of Chief, Division of Planning and Zoning: *Cindy Hamilton* Date: *4/13/05*

Signature of Chief, Development Engineering Division: *Paul D. ...* Date: *4/11/05*

Signature of Director - Department of Planning and Zoning: *...* Date: *3/14/05*

PROJECT	SECTION	LOTS NO.
HOLIDAY HILLS	5	61

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
1605B	5	R-20	41	FIFTH	6051.02

WATER CODE	SEWER CODE
E-15	7640000

SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN

SINGLE FAMILY DETACHED
HOLIDAY HILLS
SECTION 5
LOT 61

TAX MAP NO.: 41 P/O PARCEL NO.: 273 GRID NO.: 5
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: MARCH, 2005

SHEET 1 OF 2

SDP 05-039

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (Up to one year), and Permanent Seeding for long term stabilization. Examples of applicable areas for Temporary Seeding are Temporary Seeding Area Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dms, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. Site Preparation
i. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, or sedimentation basins.
ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

- i. Soil tests 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 also be used for chemical analysis.
ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Nitrogen 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 warranty of the product.
iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seeded Preparation

- i. Temporary Seeding
a. Seeded 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. Sloped areas (greater than 3%) 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.
ii. 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% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if legumes or other species adapted to sandy soil (<30% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils 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 true and even grade, then scarified or otherwise loosened 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 seeded on the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3%) 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. Seeded loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

- i. 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 sowing such material on this job.
ii. Seed tags shall be made available to the inspector to verify type and rate of seed used.
iii. 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 to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding

- i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cutlifter seeder.
a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen; P2O5 (phosphorous): 200 lbs./ac; K2O (potassium): 200 lbs./ac.
b. 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.
c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 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.
iii. Drill or Cutlifter Seeding: Mechanical seeders that apply and cover seed with soil.
a. Cutlifter seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of 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)

- i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
ii. 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 dried 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.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a batter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. WCFM material shall contain no chemicals or compounds of concentration levels that will be phytotoxic.
e. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 16% maximum and water holding capacity of 90% minimum.
f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 16% maximum and water holding capacity of 90% minimum.
Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

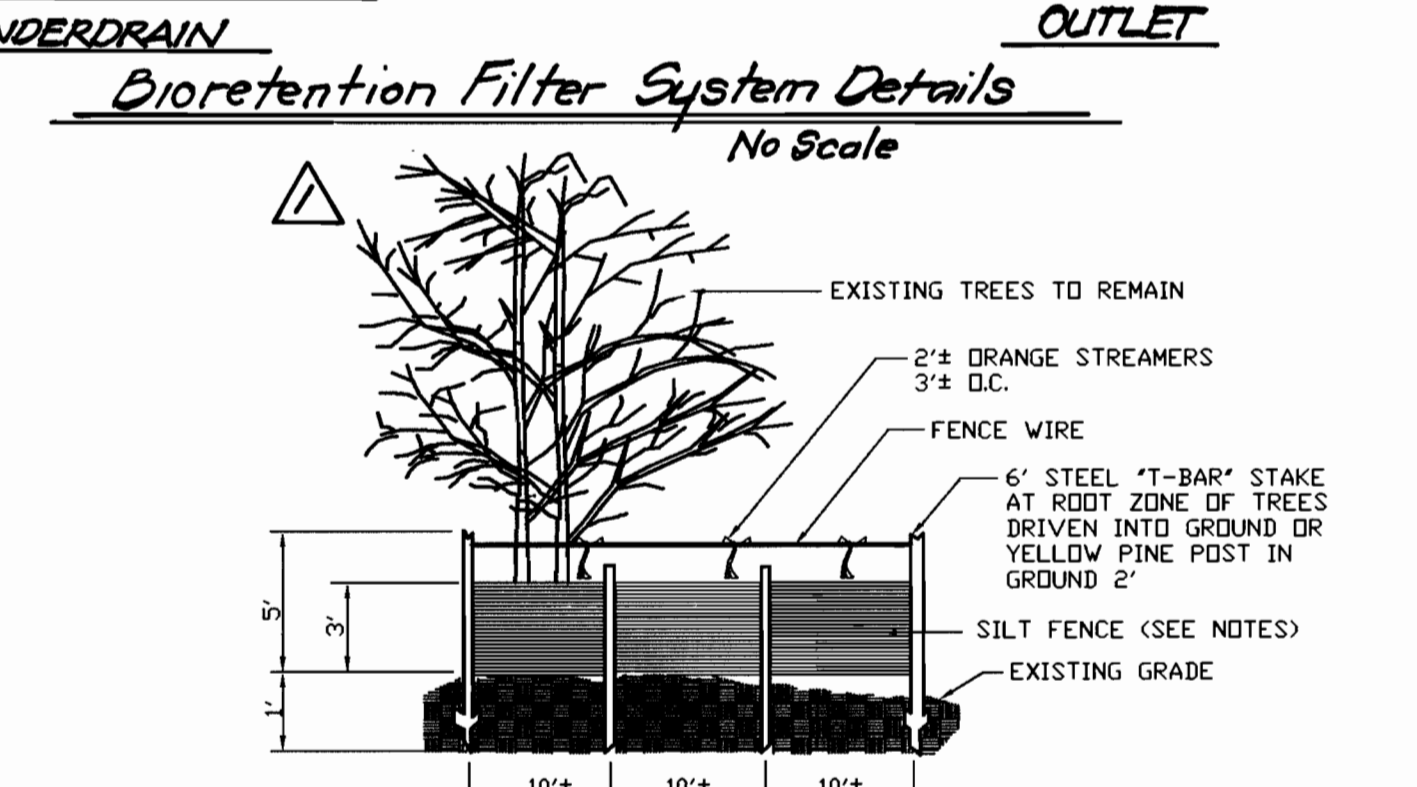
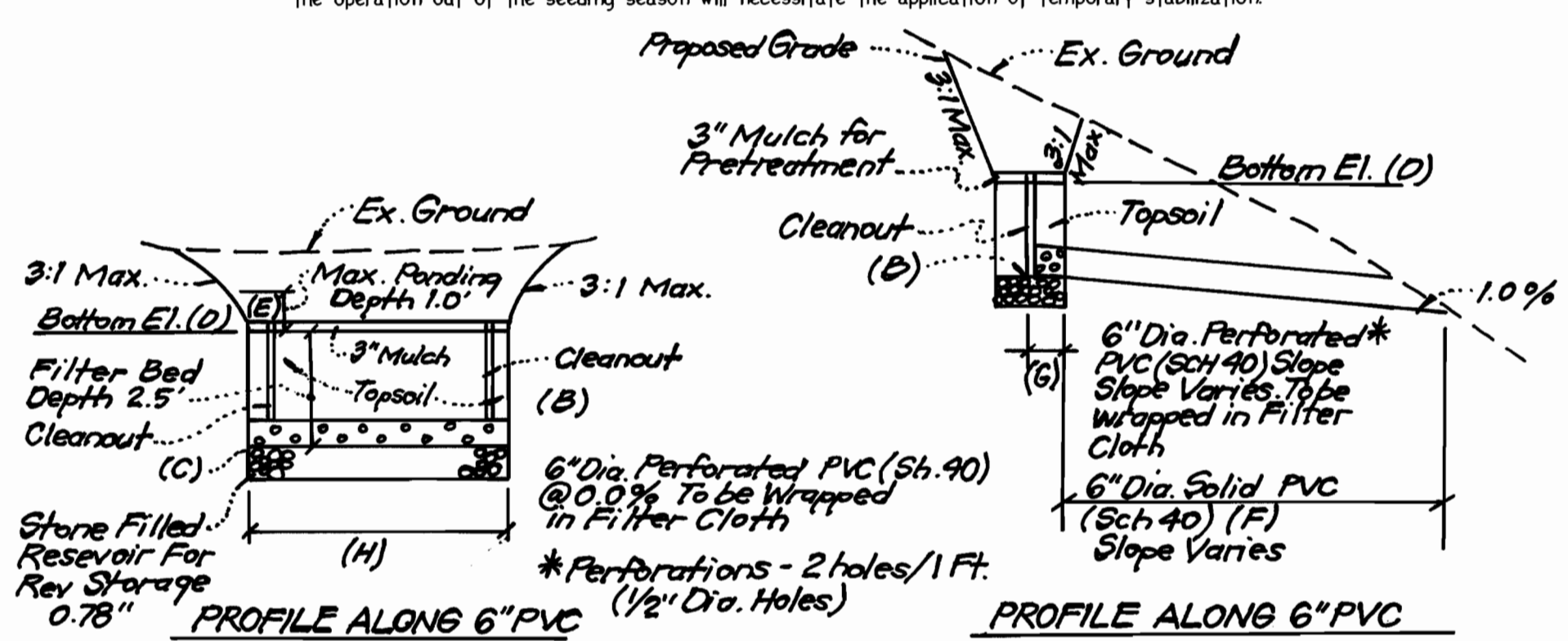
- G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water to a consistency of a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
H. Securing Straw Mulch (Mulch Anchoring) - Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of 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 two (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 be used on the contour if possible.
ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be applied more uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroseal, Terra Tax II, Terra Tack AR, or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

- I. Incremental Stabilization - Cut Slopes
i. All cuts slopes shall be dressed, prepared, seeded & mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
ii. Construction sequence (Refer to Figure 3 below):
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
b. Perform Phase I excavation, dress, and stabilize.
c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completion of the grading will necessitate the application of temporary stabilization.

- J. Incremental Stabilization of Embankments - Fill Slopes
i. Embankments shall be constructed in lifts as prescribed on the plans.
ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sedimentation area.
iv. Construction sequence (Refer to Figure 4 below):
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
b. Place Phase 1 embankment, dress and stabilize.
c. Place Phase 2 embankment, dress and stabilize.
d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completion of the grading will necessitate the application of temporary stabilization.



Bioretention Filter System Details. No Scale. Silt Fence and Tree Protection. NOT TO SCALE.

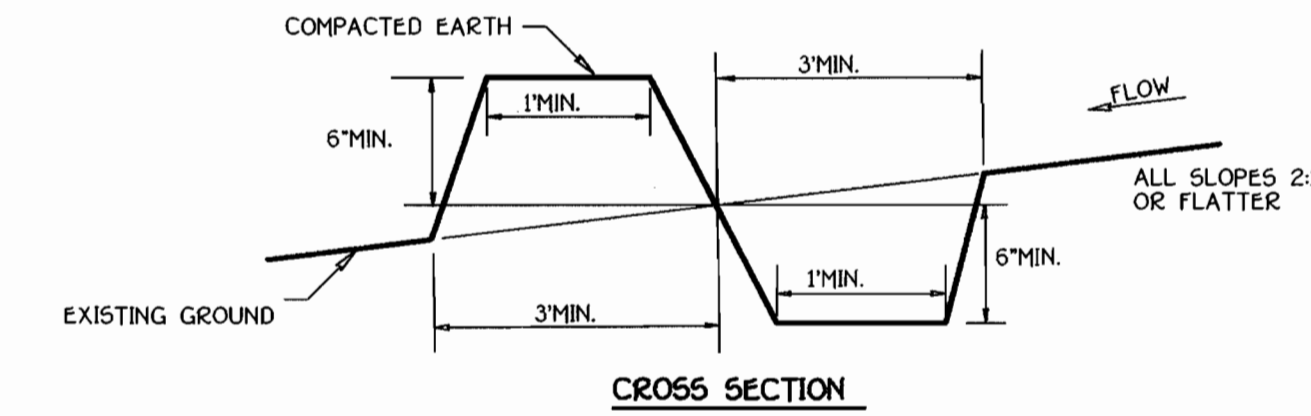
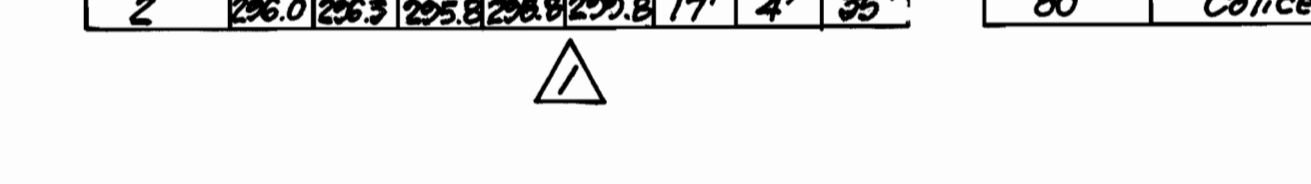
SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. 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 (SEC. 50), SOIL (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
5. 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.

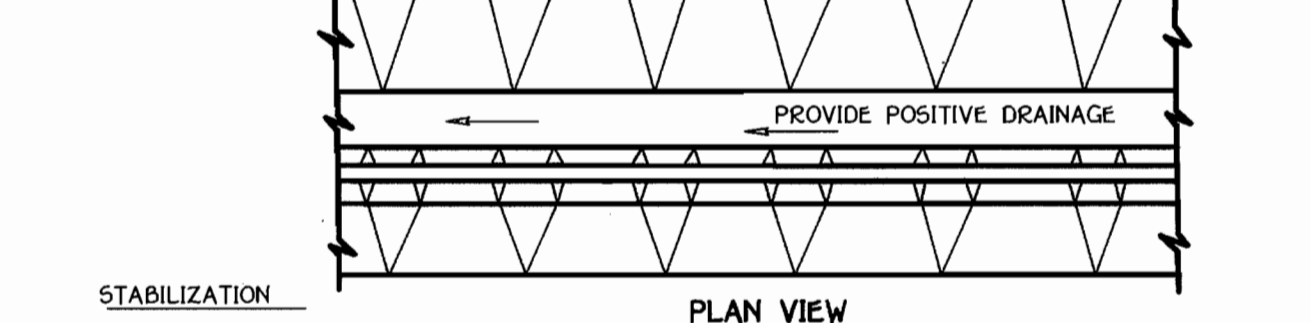
Table with columns for Site Analysis, Total Area of Site, Area to be Excavated or Paved, Area to be Vegetatively Stabilized, Total Cut, Total Fill, and Any Sediment Control Practice which is Disturbed by Grading Activity.

- 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

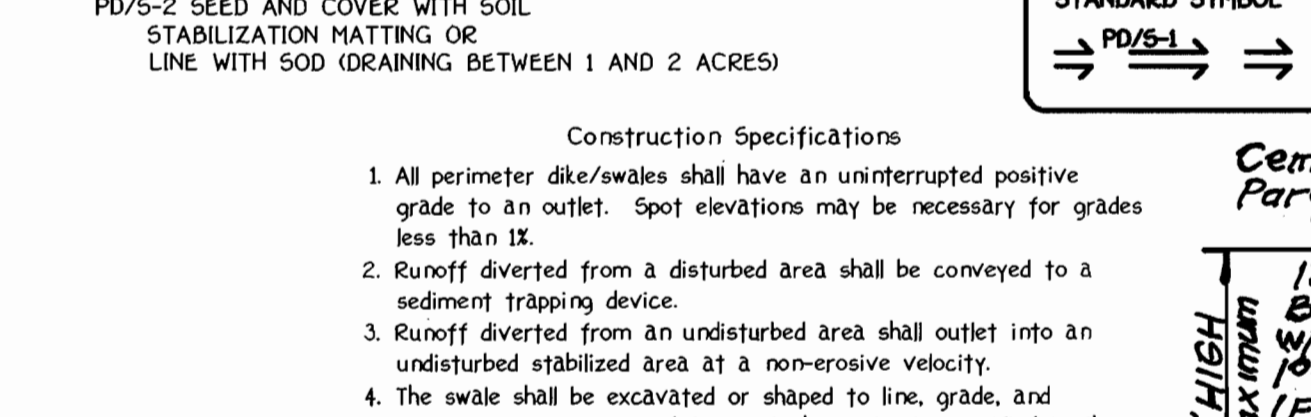
Bioretention Filter Data table with columns for Filter No, A, B, C, D, E, F, G, H, Quantity, None, Max Spacing (ft).



Bioretention Filter Plant Material Lot 61. Standard symbol: POVS-1.



Stabilized Construction Entrance. Construction Specification: Length - minimum of 50' (+30' for single residence lot).



Typical Section Concrete Block Retaining Wall. No Scale.

- 1. All perimeter dikes/swales shall have an uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet into an undisturbed stabilized area at a non-erosive velocity.
4. The swale shall be excavated or shaped to line, grade, and cross-section as required to meet the criteria specified in the standard.
5. Fill shall be compacted by earth moving equipment.
6. Stabilization with seed and mulch or as specified of the area disturbed by the dike and swale shall be completed within 7 days upon removal.
7. Inspection and required maintenance shall be provided after each rain event.
8. Locate device outside the Critical Root Zone.
Note: The maximum drainage area for this practice is 2 acres.

PERIMETER DIKE/SWALE

Perimeter Dike/Swale. NOT TO SCALE.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed. Seeded Preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened. Soil Amendments - In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre domestic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureamform fertilizer (9 lbs. per 1000 sq.ft.).
2) Acceptable - Apply 2 tons per acre domestic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
2) Use sod.
3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed. Seeded Preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened. Soil Amendments - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.). Seeding - For periods March 1 thru April 30 and from August 1 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR rate and methods not covered.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT 7 DAYS
2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS
3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE 4 DAYS
4. INSTALL TEMPORARY SEEDING 2 DAYS
5. CONSTRUCT BUILDINGS AND DRYWELLS 60 DAYS
6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE 14 DAYS
7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR. 7 DAYS

Revision table with columns for NO., REVISION, and DATE.

Engineer's Certificate and Builder/Developer's Certificate sections with signatures and dates.

Approval sections for Howard County and Owner/Builder with dates and signatures.

Sediment & Erosion Control Detail Sheet title block including project name and sheet information.

Project title block: SINGLE FAMILY DETACHED, HOLIDAY HILLS, SECTION 5, LOT 61, SHEET 2 OF 2.

SDP 05-039