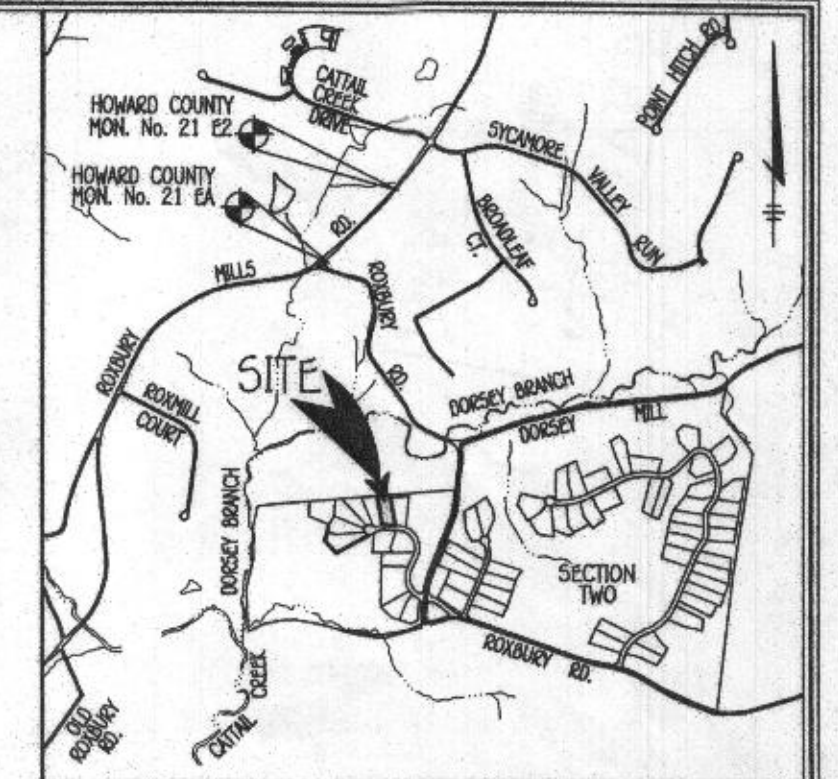


LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
X062.5	SPOT ELEVATION
SSF-SSF	SUPER SILT FENCE
SF-SF	SILT FENCE
PSM/C	PERMANENT SOIL STABILIZATION MATTING
LOD	LIMITS OF DISTURBANCE
---	SOILS LINE & TYPE

NOTE: (1) STOCKPILING EXCEEDING 15 FEET IN HEIGHT MUST BE BENCHED.



VICINITY MAP  
SCALE: 1" = 2000'  
HOWARD COUNTY ADC MAP  
MAP NO.: 4812, GRID NO.: D-9

GENERAL NOTES

- SUBJECT PROPERTY ZONED: RC-DEO
- TOTAL AREA OF PROPERTY: 42,904 SQ. FT. OR 0.98 AC.
- LIMIT OF DISTURBANCE: 31,030 SQ. FT. OR 0.71 ACRES.
- LENGTH OF TRENCH TO BE DETERMINED AT TIME OF SEPTIC PERMIT ISSUANCE.
- CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
- BOUNDARY OF LOT BASED ON PLAT #21343.
- TOPOGRAPHY SHOWN HEREON BASED ON FIELD RUN TOPOGRAPHIC SURVEY CONDUCTED BY FISHER, COLLINS & CARTER, INC. IN DECEMBER 2015. TOPOGRAPHY IS SUPPLEMENTED BY HOWARD COUNTY 200 SCALE TOPOGRAPHY.
- NO WETLANDS EXIST ON THIS LOT.
- CULVERT PIPE TO BE CONSTRUCTED IN ACCORDANCE WITH APPROVED CULVERT SIZE (12" PIPE) SHOWN ON F-DB-139.
- STORMWATER MANAGEMENT IS PROVIDED UNDER F-DB-139. NO ON-LOT STORMWATER MANAGEMENT IS REQUIRED.



SOILS LEGEND			
SOIL	NAME	CLASS	Kw FACTOR
GgB	Glenelig loam, 3 to 8 percent slopes	B	0.28
GgC	Glenelig loam, 8 to 15 percent slopes	B	0.28
McC	Manor-channery loam, 8 to 15 percent slopes	B	0.28
M&D	Manor loam, 15 to 25 percent slopes	B	0.28
M&F	Manor-brinklow complex, 25 to 65 percent slopes, very rocky	B	0.24

WELL CERTIFICATION:  
THE EXISTING WELL, TAG NO. HO-95-1690, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

46  
GP-16-047

GRADING PLAN  
MERIWETHER FARM  
SECTION ONE LOT 2

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2016.  
*Stephanie J. Jurek*  
Signature of Professional Engineer DATE



FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CORONADO SQUARE OFFICE PARK - 10776 BALTIMORE NATIONAL PIKE  
GAITHERSBURG, MD 20878-4200  
(410) 481-3899

NO.	REVISION	DATE
1		

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
APPROVED:  
*John C. Blanton* 4/12/16  
Signature of District Director DATE

ENGINEER'S CERTIFICATE  
"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."  
*Stephanie Jurek* 4/12/16  
Signature of Engineer DATE

DEVELOPER'S CERTIFICATE  
"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of 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."  
*DJCA* 04/14/16  
Signature of Developer DATE

BUILDER/DEVELOPER  
BURKARD HOMES  
5300 DORSEY HALL DRIVE,  
SUITE 107  
ELLCOTT CITY, MARYLAND 21042  
(443) 367-0422

TAX MAP NO.: 21 PARCEL NO.: 24 GRID NO.: 21  
ZONED: RC-DEO PLAT NO.: 21342  
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1"=30' DATE: APRIL, 2016  
SHEET 1 OF 2

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

## A. Soil Preparation

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

## B. Topsoiling

- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
- Topsoiling is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
  - Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, roots, trash, or other materials larger than 1 1/2 inches in diameter.
  - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
  - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
- Topsoil Application
  - Erosion and sediment control practices must be maintained when applying topsoil.
  - Uniformly distribute topsoil in a 5 to 6 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that seeding or sowing can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
  - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

## C. Soil Amendments (Fertilizer and Lime Specifications)

- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
- Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
- Lime materials must be ground limestone (hydrated or burnt lime) but shall not be substituted except when hydroseeding which contains at least 50 percent total oxidized calcium oxide plus magnesium oxide. Limestone must be ground to which 95 percent will pass through a #20 mesh sieve and 98 to 100 percent will pass through a #40 mesh sieve.
- Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

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

- Definition: The application of seed and mulch to establish vegetative cover.
- Purpose: To protect disturbed soils from erosion during and at the end of construction.
- Conditions Where Practice Applies: This is to be used on all perimeter controls, slopes, and any disturbed area not under active grading.
- Criteria: The application of seed and mulch to establish vegetative cover.
- Application:
  - Soil Preparation:
    - All seed must meet the requirement of the Maryland Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B-4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
    - Seeds may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
    - Inoculate the inoculant for treating legume seed in the seed mixture must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculant must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
    - Soil or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min) to permit dissipation of phytotoxic materials.
  - Seed Application:
    - By Seeding: This includes use of conventional drop or broadcast seeders.
    - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
    - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
    - Soil or Cultivator Seeding: Mechanical seeders that apply and cover seed with soil.
    - Outdrilling 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 applied when the ground thaws.
    - Hydroseeding:
      - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
      - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
      - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of available nitrogen; P<sub>2</sub>O<sub>5</sub> (phosphorus), 200 pounds per acre; K<sub>2</sub>O (potassium), 200 pounds per acre.
      - 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.
      - Mix seed and fertilizer on site and seed immediately and without interruption.
      - When hydroseeding do not incorporate seed into the soil.

- Mulching (in order of preference)
  - Straw consisting of thoroughly cleaned wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weeds as specified in the Maryland Seed Law and not musty, moldy, decayed, or excessively dirty. Note: Use only straw straw mulch in areas where one species of grass is desired.
  - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state. WCFM is to be of a uniform color and texture. WCFM is to be applied in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
  - WCFM including dye, must contain no germination or growth inhibiting factors.
  - WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water and will not settle or separate from other additives to form a homogeneous slurry. The mulch material must be in contact with the ground cover, on application, having moisture absorption and permeation properties and must cover and hold grass seed in a moist state without inhibiting the growth of the grass seedlings.
  - WCFM material must not contain elements or compounds of concentration levels that will be phytotoxic.
  - WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, with content of 15 percent maximum and water holding capacity of 90 percent minimum.
- Application
  - Apply mulch to all seeded areas immediately after seeding.
  - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
  - Wood cellulose fiber used on mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Anchoring
  - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
    - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
    - Wood Cellulose Fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
    - Synthetic binders such as Acrylic DLR (Ago-Tack), DCA-70, Polymat, Terra Tex II, Terra Lock AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches much, such as in valleys or on crests of banks. Use of capillary binders is strictly prohibited.
    - Lightweight plastic netting may be applied over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 1000 feet long.

## TEMPORARY SEEDING NOTES (B-4-4)

- Definition: To stabilize disturbed soils with vegetation for up to 6 months.
- Purpose: To use fast growing vegetation that provides cover on disturbed soils.
- Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.
- Criteria:
  - Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not part of the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
  - For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
  - When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.1.b and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"
			436 lb/acre (10 lb / 1000 sq ft)
			2 tons/acre (90 lb / 1000 sq ft)

## PERMANENT SEEDING NOTES (B-4-5)

- General Use
  - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them in the Permanent Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not part of the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
  - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USGS-NRCS Technical Field Guide, Section 342 - Critical Area Planting.
  - For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1,000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
  - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
  - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
    - Kentucky Bluegrass/Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of Central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2 pounds per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
    - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
    - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 6 pounds per 1,000 square feet. One or more cultivars may be blended.
    - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1,000 square feet.

Hardness Zone (from Figure B.3):	6b	Fertilizer Rate (10-20-20)	Lime Rate
No. Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths
1 TALL FESCUE	100	Mar. 1-May 15	1 1/2-2 in.
			45 lb. per acre (12 lb. / 1000 sq ft)
			90 lb/acre (24 lb. / 1000 sq ft)
			90 lb/acre (24 lb. / 1000 sq ft)
			2 tons/acre (90 lb / 1000 sq ft)

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

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

## B-4-6 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

- Definition: A mound or pile of soil protected by appropriate designed erosion and sediment control measures.
- Purpose: To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.
- Conditions Where Practice Applies: Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
- Criteria:
  - The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
  - The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
  - Runoff from the stockpile area must drain to a suitable sediment control practice.
  - Access the stockpile area from the upslope side.
  - Clear water runoff into the stockpile area must be minimized by use of a diversion ditch such as an earth ditch, temporary awale or diversion fence. Provisions for discharge of runoff must be made for discharging construction water.
  - Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
  - Stockpiles must be established in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
  - If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

## HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-315-1855 after the future LUD and project site are clearly in the field. A minimum of 48 hour notice of CID must be given at the following stages:
  - Prior to the start of earth disturbance.
  - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
  - Prior to the start of another phase of construction or opening of another grading unit.
  - Prior to the removal or modification of sediment control measures.
- Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND EROSION AND SEDIMENT CONTROL, PERMANENT AND TEMPORARY STABILIZATION, AND RESTORATION PRACTICES, and related practices.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter control areas on the project site except for those areas under active grading.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PERMANENT AND TEMPORARY STABILIZATION, AND RESTORATION PRACTICES. If this Summary is not part of the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- Temporary stabilization with mulch alone can only be applied between the fill and grading seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be applied to areas with >15% cut and/or fill. Stockpiles (Sec. B-4-6) in excess of 20 ft. must be bonded with stable outer-lin. All constructed fill, steep slopes and highly erodible areas shall require soil stabilization matting (Sec. B-4-6).
- 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 CID.
- Site Analysis:
 

Total Area of Site:	0.98	Acres
Area Disturbed:	0.71	Acres
Area to be reseeded or planted:	0.11	Acres
Area to be vegetatively stabilized:	0.62	Acres
Total Cut:	550	Cu. Yds.
Total Fill:	550	Cu. Yds.
- Off-site white/erosion area location: N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each site event. A written report by the contractor, made available upon request, a part of every inspection and should include:
  - Inspection type (routine, pre-storm event, during rain event)
  - Name and title of inspector
  - Weather information (current conditions as well as time and amount of last recorded precipitation)
  - Brief description of project status (e.g., percent completed) and/or current activities
  - Difference of sediment discharge
  - Condition of sediment control structures
  - Identification of sediment control that require maintenance
  - Identification of missing or improperly installed sediment control
  - Compliance status regarding the sequence of construction and stabilization requirements
  - Photographs
  - Non-compliance/deficiency
  - Maintenance and/or corrective action performed
  - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MS4).
- Changes for the construction of utilities limited to those pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- Any major changes or additions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
- Disturbance shall not occur outside the LUD. A project is to be sequenced so that grading activities begin on one grading unit (minimum average of 20 ft. per grading unit) at a time that may proceed until at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the CID, no more than 30 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheelbarrows, and other sources must be treated in a sediment basin or other approved washwater structure.
- Final erosion control shall be established and maintained on-site for redistribution until final grade.
- All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be installed at 25 minimum intervals, with lower ends curled uphill by 2:1 in elevation.
- Stream channels must not be disturbed during the following restricted time periods (inclusive):
  - Use 1 and 2: March 1 - June 15
  - Use 3 and 4: October 1 - April 30
  - Use 5: March 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

## PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30386, EXPIRATION DATE: 01/12/2018.

*Stephen J. Junt* 4/12/16  
Signature of Professional Engineer DATE

## ENGINEER'S CERTIFICATE

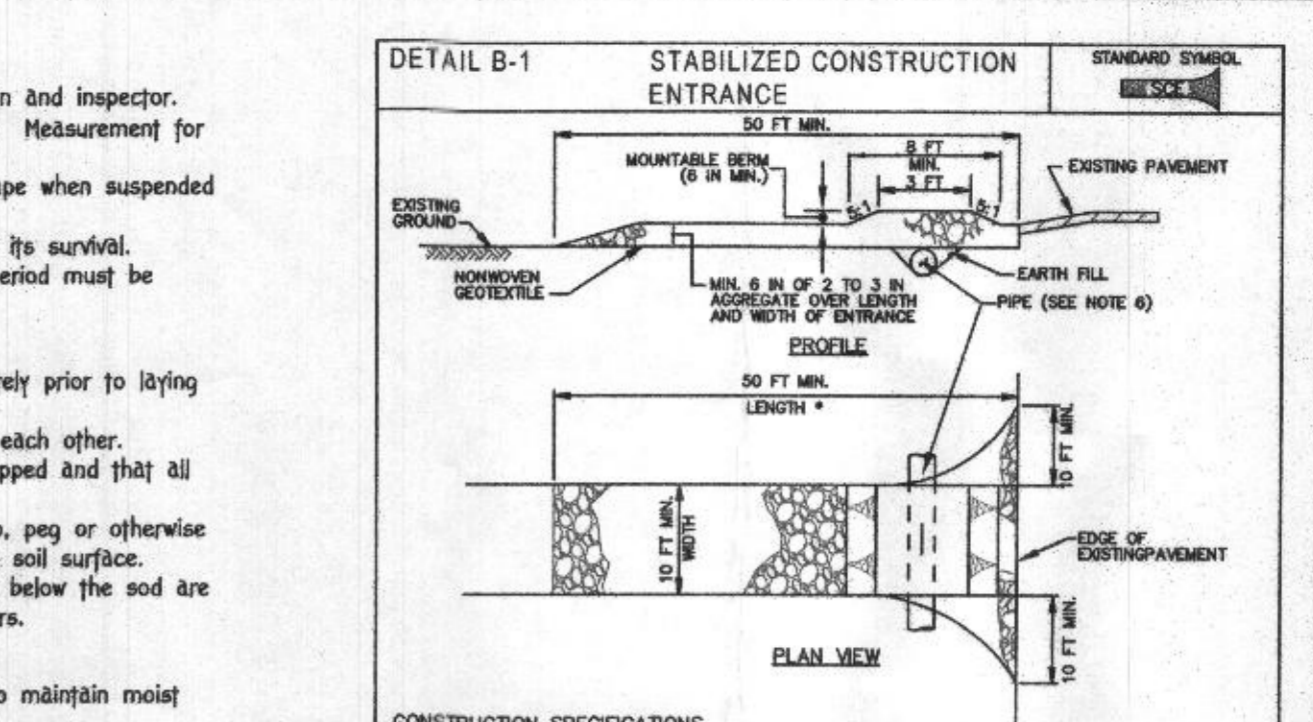
"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

*Stephen J. Junt* 4/12/16  
Signature of Engineer DATE

## DEVELOPER'S CERTIFICATE

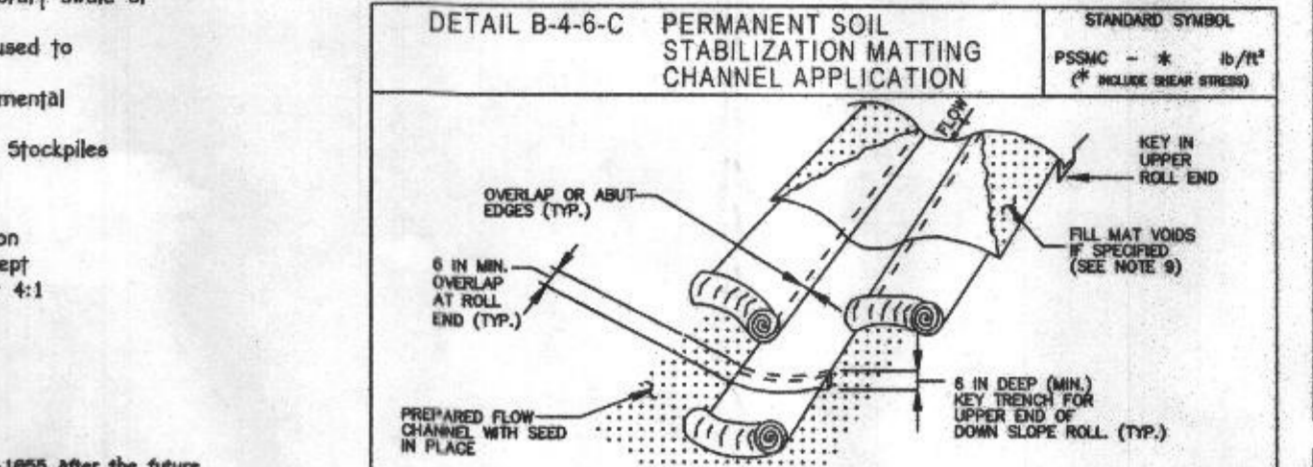
"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

*Stephen J. Junt* 4/12/16  
Signature of Developer DATE



- ### CONSTRUCTION SPECIFICATIONS
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SOIL. USE MINIMUM LENGTH OF 50 FEET (30 FEET FOR SMALL RESURFACE LOTS) AND MINIMUM WIDTH OF 6 FEET. FLARE SIDE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
  - PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SOIL UNDER THE ENTRANCE. VEHICLES MUST BE PROHIBITED FROM ENTERING THE ENTRANCE. PROVIDE A MOUNTABLE SOIL WITH 6 IN MIN. DEPTH AND A MINIMUM OF 12 INCHES OF SOIL OVER THE PIPE. PROVIDE PIPE AS SPECIFIED IN APPROVED PLAN. PROVIDE A MINIMUM OF 12 INCHES OF SOIL OVER THE PIPE. PROVIDE A MOUNTABLE SOIL WITH 6 IN MIN. DEPTH AND A MINIMUM OF 12 INCHES OF SOIL OVER THE PIPE. PROVIDE A MOUNTABLE SOIL WITH 6 IN MIN. DEPTH AND A MINIMUM OF 12 INCHES OF SOIL OVER THE PIPE.
  - PREPARE SUBGRADE AND PLACE NONWOOL CELLULOSE FIBER MULCH AS SPECIFIED IN SECTION H-1 MATERIALS.
  - PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE SOIL AND WITHIN OF THE SOIL.
  - MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ASIDE STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MAINTAIN ENTRANCE AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DRIPPED, OR TRACKED ONTO ADJACENT ROADWAY BY WASHING, SCOURING, AND/OR BRUSHING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

## DETAIL B-4-6 C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION



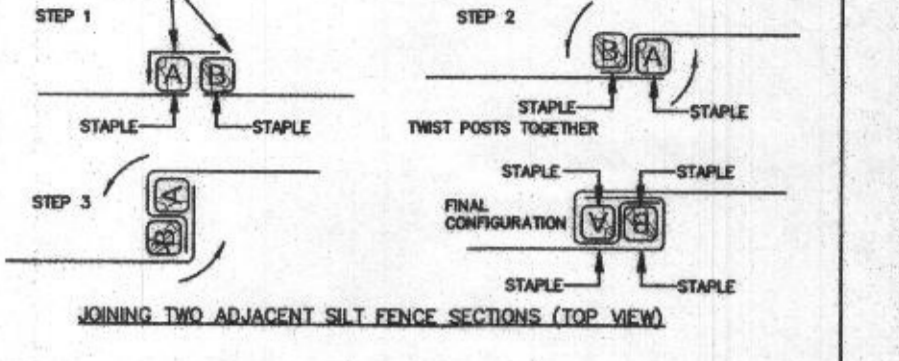
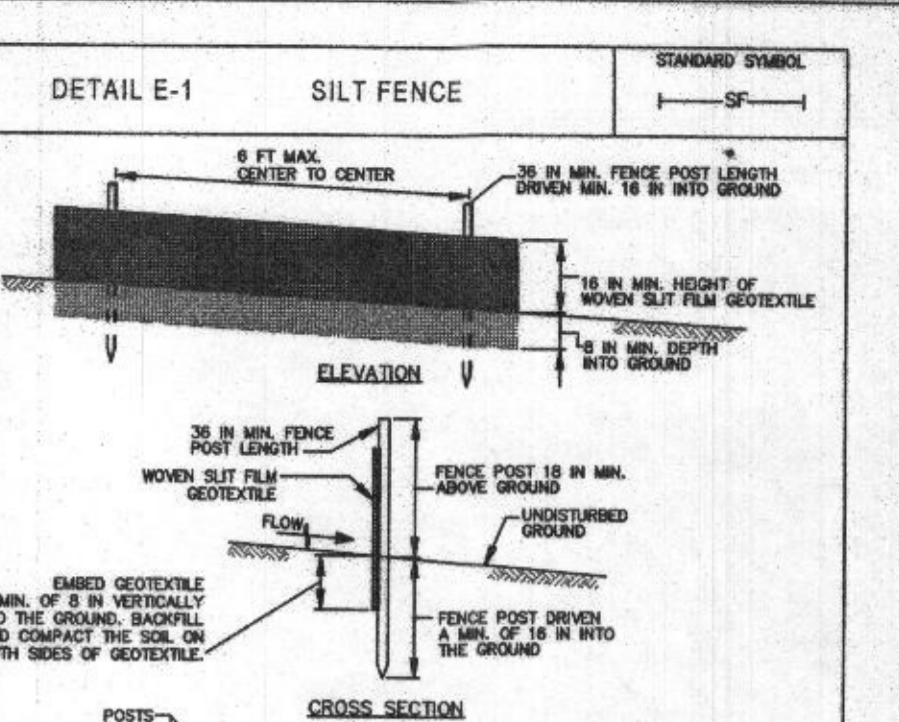
- ### CONSTRUCTION SPECIFICATIONS
- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
  - USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC NON-Biodegradable FIBERS OR BLENDS OF UNWASHED FIBERS AND DISTRIBUTION THROUGHOUT. OPENINGS IN THE MAT MUST BE NON-LEAKING AND NON-TOO TO WEATHERING AND SOIL DEGRADATION AND NON-FLAMMABLE TO THE SOIL. IF OPENINGS ARE NECESSARY, THEY MUST BE COVERED WITH A MINIMUM 1/2 INCH THICKNESS OF 20 MESH AND PREVENT SEPARATION OF THE MAT FROM THE PARENT MATERIAL.
  - SEEDING MATTING USING STEEL STAPLES OR WOOD STAPLES. STAPLES MUST BE "T" OR "U" SHAPED STEEL. SEE DRAWING FOR MINIMUM SIZE OF NO. 11 AND NO. 8 RESPECTIVELY. "T" SHAPED STAPLES MUST HAVE: 1 TO 1.5 INCHES WIDE AND BE A MINIMUM OF 12 INCHES LONG. "U" SHAPED STAPLES MUST HAVE A MINIMUM OF 1.5 INCHES WIDE AND BE A MINIMUM OF 12 INCHES LONG. STAPLES MUST BE PLACED AT 12 INCHES ON CENTER AND 12 TO 24 INCHES IN LENGTH, 1/2 INCH IN CROSS SECTION, AND WIDE SHAPE AT THE BOTTOM.
  - PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING BEFORE BEGINS ANY CONSTRUCTIVE PERMANENT SEEDING. UNLESS END OF WORKSTOP APPLICATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
  - UNROLL MATTING IN DIRECTION OF WATER FLOW. CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD. UNROLL BEHIND PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SUBGRADE SURFACE AND STRETCHING THE MATTING.
  - OVERLAP OR BUTT ENDS OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP SOIL ENDS BY 4 INCHES. BUTT ENDS WITH THE UPPER MATTING OVERLAPPING THE TOP OF THE LOWER MATTING.
  - KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY USING A TRENCH. PLACE THE MATTING ROLL END IN THE TRENCH, STAPLE THE MAT IN PLACE, REPLACE THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
  - STAPLE/STAKE MAT IN A STAGGERED PATTERN ON A FOOT (MINIMUM) CENTERS THROUGHOUT AND 2 FOOT (MINIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
  - IF REQUIRED BY THE DESIGNER OR MANUFACTURER AND SPECIFIED ON THE TYPE OF MAT BEING INSTALLED, OVER THE MATTING IS KEPT AND STAPLED IN PLACE. FILL THE MAT VOIDS WITH TOP SOIL OF GRANULAR MATERIAL AND LOVELY CONTACT OR ROLL TO INSURE SOIL CONTACT WITHOUT OVERLAP MAT.
  - EXTEND AND MAINTAIN MATTING SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

- ### MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION
- INSTALL 36 INCH DIAMETER GALVANIZED STEEL POSTS OF 6.000 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
  - FASTEN A GAUGE OR HEAVY GALVANIZED CHAIN LINK FENCE (26 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HARD RINGS.
  - FASTEN 8 INCH WOVEN SILT FENCE GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH THIS SPACED 24 INCHES AT THE TOP AND END SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 6 INCHES INTO THE GROUND.
  - WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEEDING BY PASS.
  - EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
  - PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
  - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

## SEQUENCE OF CONSTRUCTION

- OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS)
- NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-315-1850 AT LEAST 24 HOURS BEFORE STARTING WORK.
- INSTALL CULVERT PIPE AND STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)
- INSTALL SILT FENCE AND SUPER SILT FENCE. (1 DAY)
- SOIL GRADING SITE AND INSTALL TEMPORARY SEEDING AS NECESSARY. (5 DAYS)
- CONSTRUCT BUILDING, ASSOCIATED DRIVEWAY, AND SEPTIC SYSTEM, INSTALL PERMANENT SOIL STABILIZATION MATTING WHEN APPROPRIATE. (4 MONTHS)
- FINE GRADE SITE AND INSTALL PERMANENT SEEDING. (2 DAYS)
- ALL FINAL GRADING AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS ASSOCIATED WITH THE LOT, WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PRESERVATION OF THE SEDIMENT CONTROL INSPECTOR, SEDIMENT CONTROL DEVICES MAY BE REMOVED FROM LOT. (2 DAYS)

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS.



- ### CONSTRUCTION SPECIFICATIONS
- USE WOOD POSTS 1 1/2 X 1 1/2 X 6 INCH (MINIMUM) SQUARE CUT OF