

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies Where vegetative stabilization is to be established

Soil Preparation Temporary Stabilization

a. Seedbed 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 mounte n construction equipment. After the soil is loosened, it must not be rolled or dragged smootly but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running

b. Apply fertilizer and lime as prescribed on the plans

- c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable
- 2. Permanent Stabilization
- a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil
- i. Soil pH between 6.0 and 7.0.
- ii. Soluble salts less than 500 parts per million (ppm)
- iii. 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 a moderate amount of moisture. A exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay
- iv. Soil contains 1.5 percent minimum organic matter by weight v. Soil contains sufficient pore space to permit adequate root penetration.

c. Graded areas must be maintained in a true and even grade as specified on the approved plan

- b. Application of amendments or topsoil is required if on-site soils do not meet the above
- The limit of disturbance (LOD) including:
 a. Limit of grading (grading units, if applicable), and

Volume of borrow and spoil quantities;

- 4. The proposed grading and earth disturbance including L Total disturbed area, . Volume of cut and fill quantities, and
- 5. Storm drainage features, including: a. Existing and proposed bridges, storm drains, culverts, outfalls, etc., b. Velocities (v_2 and v_{10}) and flow rates (Q_2 and Q_{10}) at outfalls, and
- 6. Erosion and sediment control practices to minimize on-site erosion and prevent off-site
- sedimentation including:

 a. The salvage and reuse of topsoil, b. Phased construction and implementation of grading unit(s) to minimize disturbances,
- Location and type of all proposed sediment control practices. i. Design details and data for all erosion and sediment control practices, and
- Specifications for temporary and permanent stabilization measures including, at a i. The following "Standard Stabilization Note" on the plan;

Standard Stabilization Note

- Following initial soil disturbance or re-disturbance, permanent or temporary
- a.) Three (3) calendar days as to the surface of all perimeter dikes, swales, ditche b.) Seven (7) calendar days as to all other disturbed or graded areas on the project site
- ii. Details for areas requiring accelerated stabilization; Maintenance requirements as defined in these Standards; iv. Identification of interior areas of surface mines exempted from stabilization requirements to prevent contamination of the recoverable resource by the
- 7. A sequence of construction describing the relationship between the implementation and maintenance of controls, including permanent and temporary stabilization, and the various stages or phases of earth disturbance and construction. The sequence of construction, at a
- a. Request for a pre-construction meeting with the appropriate enforcement authority; Clearing and grubbing as necessary for the installation of perimeter controls;
- c. Construction and stabilization of perimeter controls;
 d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil
- e. 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 equipment to roughen the surface where site conditions will not permit normal seedbe preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregula ondition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches o

- 1 Torsoil 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 moists ontent, 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 four 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:
- a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth b. The soil material is so shallow that the rooting zone is not deep enough to support plants or
- c. The original soil to be vegetated contains material toxic to plant growth
- d. The soil is so acidic that treatment with limestone is not feasible. Areas having slopes steeper than 2:1 require special consideration and design.
- 5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
- a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy san Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Toosoil 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, sticks, roots, trash, or other materials larger than 11/2 inches in diamet
- b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass,
- c. 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. 5. Topsoil Application a. Erosion and sediment control practices must be maintained when applying topsoil.
- b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the rmation of depressions or water pockets.
- c. 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

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 als
- 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 produce
- 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100
- mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by
- 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DEVELOPMENT ENGINEERING DIVISION

DIVISION OF LAND DEVELOPMENT()

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B-43 STANDARDS AND SPECIFICATIONS FOR

SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover

To protect disturbed soils from erosion during and at the end of construction Conditions Where Practice Apolies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

- a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 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
- b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be use later than the date indicated on the container. Add fresh inoculants as directed on the package

Use four times the recommended rate when hydrosceding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit co

d. Sod 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 clapsed (14 days min.) to permit

2. Application

i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

a. Dry Seeding: This includes use of conventional drop or broadcast spreader

- ach direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

 b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
- Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in
- c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer) i. If fertilizer is being applied at the time of seeding, the application rates should not exceed
- the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorous), 200 pounds per acre; K₂O (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by
- hydrosceding). Normally, not more than 2 tons are applied by hydrosceding at any one time. Do not use burnt or hydrated lime when hydrosceding. iii. Mix seed and fertilizer on site and seed immediately and without interruption
- iv. When hydroseeding do not incorporate seed into the soil.

- 1. Mulch Materials (in order of preference)
- a. Straw consisting of thoroughly threshed wheat, rye, out, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of gruss is desired
- b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state. i. WCFM is to be dyed green or contain a green dye in the package that will provide an
- appropriate color to facilitate visual inspection of the uniformly spread slurry. ii. WCFM, including dye, must contain no germination or growth inhibiting factors. iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch
- material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. iv. WCFM material must not contain elements or compounds at concentration levels that will
- v. WCFM must conform to the following physical requirements: fiber length o approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
- a. Apply mulch to all seeded areas immediately after seeding.
- b. 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
- c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pound of wood cellulose fiber per 100 gallons of water. 3. 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
- i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land
- 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 ounds of wood cellulose fiber per 100 gallons of water.
- iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacture ndations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000

Permanent Seeding Summary

	Hardiness Zone (from Figure B.3): 65 Seed Mixture (from Table B.3): 6				Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P2O5	K ₂ 0	Lanerate
6	Tall Foscus	40	3/1 - 5/15 8/1 - 10/15	14- 1/2 in	45 pounds	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
	Perennial Ryegrase	26	3/1 - 5/15 8/1 - 10/15	1/4- 1/2 in	per acre (1.0 lb/			
	White Clover	5	3/1 - 5/15 8/1 - 10/15	1/4- 1/1 in	1000 sf)			

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

- 1. General Specifications
- a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector b. Sod must be machine cut at a uniform soil thickness of 1/2 inch, plus or minus 1/2 inch, at the time
- of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and om or uneven ends will not be acceptab c. Standard size sections of sod must be strong enough to support their own weight and retain their
- size and shape when suspended vertically with a firm grasp on the upper 10 percent of the
- d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its surviva e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its

1-17-14

DATE

1-24-14

a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod. b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly

and irrigating for any piece of sod within eight hours.

- wedged against each other. Stagger lateral joints to promote more uniform growth and strength.

 Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. c. 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. Ensur olid contact exists between soil roots and the underlying soil surface. d. 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

EXSCE CONSTRUCTION ENTRANCE NIN. EXISTING PAVENENT -PIPE (SEE NOTE 6) PROFILE 50 FT MIN. PLAN VIEW

ARMSTRONG & RINALDI PROPERTY

SOILS INVESTIGATION

USDA Soil Texture

Loamy Sand

Sandy Loam

USDA Soil Texture

Sandy Loam-Silt Loam

Sandy Loam-Loamy Sand

Sandy Loam

Coarse Sand

1. A minimum of 48 hours notice must be given to the Howard County

All vegetative and structural practices are to be installed according to

be in conformance with the most current MARYLAND STANDARDS AND

completed within: a) 3 calendar days for all perimeter sediment control

4. All disturbed areas must be stabilized within the time period specified

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND

stabilization with mulch alone can only be done when recommended seeding

. All sediment control structures are to remain in place and are to be

permission for their removal has been obtained from the Howard County

7. Any sediment control practice that is disturbed by grading activity for

placement of utilities must be repaired on the same day of disturbance.

9. On all sites with disturbed areas in excess of 2 acres, approval of the

3. Additional sediment control must be provided, if deemed necessary by the

inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other

not be authorized until this initial approval by the inspection agency is made.

I. Any changes or revisions to the sequence of construction must be reviewed

12. A project is to be sequenced so that grading activities begin on one grading

enforcement authority. Unless otherwise specified and approved by the approval

** To be determined by contractor, with pre-approval of the Sediment Control

authority, no more than 30 acres cumulatively may be disturbed at a given

unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed

that which shall be back-filled and stabilized by the end of each workday,

and approved by the plan approval authority prior to proceeding with

area in the preceding grading unit has be stabilized and approved by the

* Earthwork quantities are solely for the purpose of calculating fees

SEQUENCE OF CONSTRUCTION

2. Notify Howard County Department of Inspections, License and

3. Install Stabilized Construction Entrance, Silt Fence, Super Silt

rough grade site and begin building construction. (I day)

4. After receiving permission from the sediment control inspector

5. Construct driveway and finish building construction. (3 months)

7. Upon stabilization of all disturbed areas and with the permission of

the Sediment Control Inspector, remove all sediment control

measures and stabilize any remaining disturbed area. (2 days)

Fence, Clean Water Diversion swale \$ dike. (I day)

6. Fine grade and permanently stabilize site. (1 week)

Permits at (410) 313-1880 at least 48 hours before starting

Inspector with an approved and active grading permit.

Contractor to verify all quantities prior to the start of construction

earth disturbance or grading. Other building or grading inspection approvals may

Trenches for the construction of utilities is limited to three pipe lengths or

0.162 ac.±

TWO STRAND SMOOTH WIRE

MAXIMUM 20 FEET

BLAZE ORANGE TFLAGGING STREAMERS MIN. 2" WIDE, 12" LONG TIED TO SMOOTH

SMOOTH WIRE -

FOREST PROTECTION DEVICE ONLY.
RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.

BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.

ANCHOR POST MUST BE INSTALLED TO A DEPTH OF NO LESS THAN I/3

PROTECTIVE SIGNAGE MAY ALSO BE USED.

DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCE DETAIL

NOT TO SCALE

OF THE TOTAL HEIGHT OF POST

ROOT DAMAGE SHOULD BE AVOIDED.

ANCHOR POST SHOULD BE

11N1MUM 2" STEEL "U" CHANNEL

permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and

slopes areater than 3:1, b) 7 days as to all other disturbed or graded

3. Following initial soil disturbance or re-disturbance, permanent or

#"TP-2"

#"TP-3"

SEDIMENT CONTROL NOTES

and Permits, Sediment Control Division prior to the start of any

EROSION AND SEDIMENT CONTROL and revisions thereto.

Silt Loam- Loamy Sand

Sandy Loam- Silt Loam

Coarse Sand with rock frags.

Inspection Date: 3-20-2013

Inspector: Stephen Huber

Dark Brown

Dark Grayish

Brown

Brown

Dark Gravish

Dark Grayish

Dark Yellowish

Strong Brown

Department of Inspections, Licenses

the provisions of this plan and are to

structures, dikes, perimeter slopes and all

germination and establishment of grasses.

maintained in operative condition until

Total Area of Site

Area Disturbed

Area to be roofed or paved

Howard County Sediment Control Inspector.

Area to be vegetatively stabilized

Offsite waste/borrow area location

construction (313–1855).

SPECIFICATIONS FOR SOIL

areas on the project site.

SEDIMENT CONTROL for

temporary stabilization shall be

above in accordance with the 2011

mulching (Sec.B-4-3). Temporary

dates do not allow for proper

Sediment Control Inspector.

Site Analysis:

whichever is shorter.

1. Obtain grading permit.

any work.

Notes: Hole dry at completion. Micaceous soils.

Brown & Brown

Notes: Hole dry at completion. Micaceous soils

Brown to Brown

Depth (Ft.) | Color

Depth (Ft.) | Color

Depth (Ft.) Color

0.5- 10.0

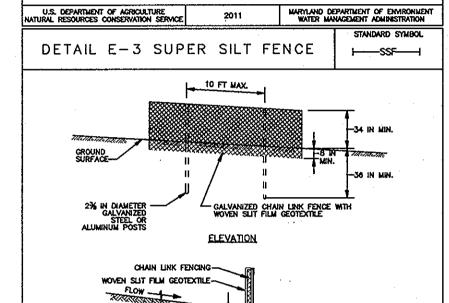
7.2-10.0

DETAIL B-1 STABILIZED

CONSTRUCTION SPECIFICATIONS PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEE SINGLE RESIDENCE LOT), USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE, PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5-1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN, WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY, A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.

PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, 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 LENGTH AND WIDTH OF THE SCE. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKE

SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACULUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



- CROSS SECTION
- INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10-FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DECREES 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 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011 MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION H-5 STANDARDS AND SPECIFICATIONS

DUST CONTROL

Controlling the suspension of dust particles from construction activities

o prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including

Conditions Where Practice Applic Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

- Mulches: See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to
- Vegetative Cover: See Section B-4-4 Temporary Stabilization.

2/ For sandy soils, plant seeds at twice the depth listed above.

DATE

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS

REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE

SIGNATURE OF ENGINEER

- Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and
- Imigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must
- Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan

Table B.1: Temporary Seeding for Site Stabilization Recommended Seeding Dates by Plant Hardiness Zone 3 Seeding Rate 17

I MUL SPECKS	lb/ac	lb/1000 ft²	(inches)	5b and 6a	6b	7a and 7b
	1990		No of the last			7.00 Sec. 10.13
Annual Ryegrass (Lolium perenne ssp. multiflorum)	40	1,0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	Mar I to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Basley (Hordewn vulgare)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar I to May 15; Aug I to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Oats (Avena sativa)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar I to May 15; Aug I to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (Triticum aestivum)	120	2.8	1.0	Mar 15 to May 31; Aug I to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Cereal Ryc (Secale cereale)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug I to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15
	3000	S-66.30/2				
Foxtail Millet (Setaria italica)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May I to Aug 14
Pearl Millet (Pennisetum glaucum)	20	0.5	0.5	Jun I to Jul 31	May 16 to Jul 31	May I to Aug 14
NOTES: If Seeding rates for the warm-seas				LS). Actual planting rates shall be adjusted t	o reflect percent seed germin	nation and purity, as

tested. Adjustments are usually not needed for the cool-season grasses Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl miller, fortall miller), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

DEVELOPER'S CERTIFICATE

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. 30 Sep 2013 SIGNATURE OF DEVELOPER

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

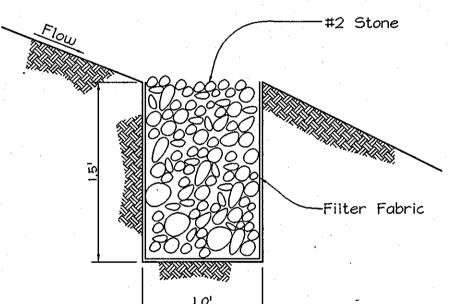
-LEADER MUST REMAIN INTACT -DO NOT HEAVILY PRUNE THE . CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER ONLY CROSSOVER LIMBS, CO DOMINANT LEADERS, AND DETAILS OF PLANTING SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL. BROKEN OR DEAD BRANCHES. SOME INTERIOR THIGS AND LATERAL BRANCHES MAY BE 2. EACH TREE SHALL BE PLANTED SUCH THAT THE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TO THE EDGE OF THE CROWN 3. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE -2 STRANDS OF GALVANIZED WIRE THISTED FOR SUPPORT FIRST GROWING SEASON AFTER -UPRIGHT STAKES- SET IN GROUND TO FIRM BEARING 4. PLACE UPRIGHT STAKES BEYOND EDGE OF ROOT BALL BUILDINGS. -RUBBER HOSE, MIN. 0.5" 5. KEEP MULCH I" FROM TRUNK CUT BURLAP, ROPE AND WIRE LOOPS FROM TOP HALF OF 6. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS ROOT BALL AND FOLD ANY WIRE BASKET DOWN 8" WHICH EXCEED HOWARD COUNTY -MIN. 2" DEPTH MULCH @ 6'0. MINIMUM REQUIREMENTS __4" EARTH SAUCER 7. TREES ARE NOT TO BE PLANTED OVER PRIVATE HIMMEN FINISH GRADE SEWAGE EASEMENT. ROOT BALL SHALL BE FLUSH WITH ORIGINAL GRADE OR -PLANTING MIX- SEE PLANTING -PLACE ROOT BALL ON UNEXCAVATED OR TAMPED

TYPICAL TREE PLANTING AND STAKING DECIDUOUS TREES UP TO 2-1/2" CALIPER

LANDSCAPE SCHEDULE							
KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE			
AR	4	Acer rubrum 'October Glory' October Glory Red Maple	2 1/2"-3" Cal.	B # B			
QR	4	Quercus rubra Northern Red Oak	2 1/2"-3" Cal.	B # B			

VEGETATIVE ASSESSMENT							
TREE # / DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION	COMMENTS			
ST-I / 4I.4"	Tulip Poplar	Liriodendron tulipifera	Good	To Be Removed			
ST-2 / 31.8"	Tulip Poplar	Liriodendron tulipifera	Poor	Large Cavity			
ST-3 / 40"		Liriodendron tulipifera	Poor	Decay / Cavity			
T-I / 9"	Tulip Poplar	Liriodendron tulipifera	Good	-			
T-2 / 8"/12"	Tulip Poplar	Liriodendron tulipifera	Good				
T-3 / 18"	Tulip Poplar	Liriodendron tulipifera	Good				
T-4 / 18"	Tulip Poplar	Liriodendron tulipifera	Good				
T-5 / 8"	Flowering Dogwood	Cornus florida	Good				

This one (1) acre ± property is vegetated with meadow grasses and surrounded by mature tulip poplar forest on two sides. Gravel paving was present in a strip along the northern property line and running in line with the shared driveway where it terminated near an abandoned picnic shelter. Single family residential homes with lawn and driveways bound the property on the north and west. The three specimen trees were found along the southern property line

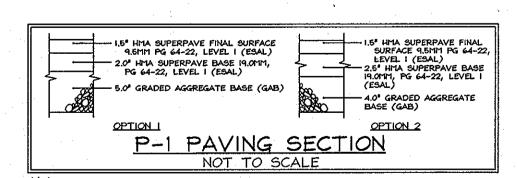


TYPICAL LEVEL SPREADER

NOT TO SCALE

See plan for level spreader lengths

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)] a. Maintenance of areas receiving disconnected runoff is generally no different than that required for other lawn or landscaped areas. The Owner shall ensure the areas receiving runoff are protected from future compaction or development of impervious area. In commercial areas, foot traffic should be discouraged as well.



Paving sections shown are based on a California Bearing Ratio (CBR) of greater than or equal to 7. Actual CBR tests may result in modofications to the paving sections. For other CBR values go to the Howard County Volume IV Design Manual, standard detail R-2.01, for associated P-1 Paving Sections.

Date: 07/29/2015.

30 Sep 2013

OWNER/DEVELOPER

Mark E. Armstrong Patricia M. Rinaldi 9243 Hourglass Place Columbia, MD 21045 (410) 757-4716

PROFESSIONAL CERTIFICATION hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under

the laws of the State of Maryland, License No. #22418, Expiration

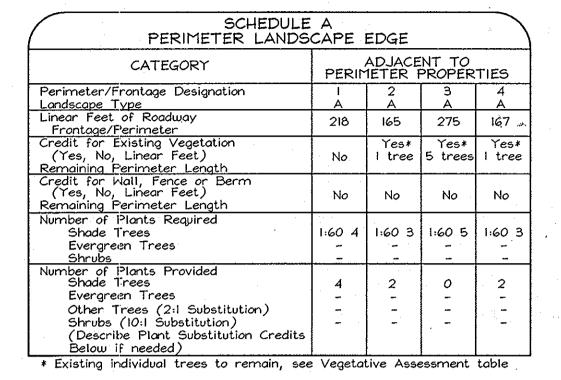
LANDSCAPE NOTES

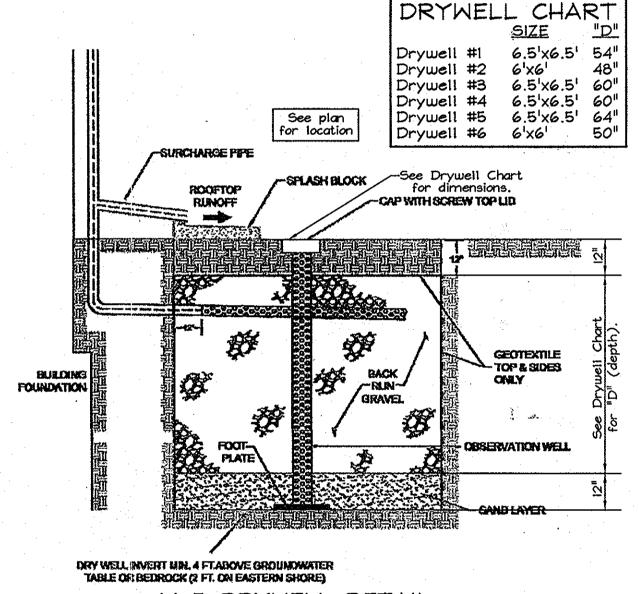
1. At the time of installment, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans

and certificates. 2. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.

3. Financial surety for the required landscaping will be posted as part of the Developer's Grading Permit in the amount of \$2,400.00 (8 trees @ \$300.00 each) at Site Development Plan Stage.

4. Perimeter landscaping shall be planted at the Site Development plan stage.



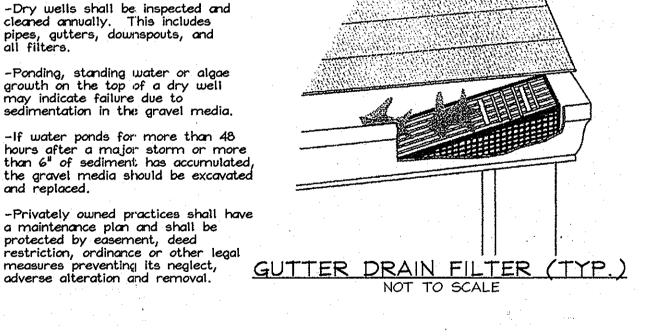


M-5 DRYWELL DETAIL NOT TO SCALE M-5 DRY WELL - RESIDENTIAL OPERATION AND MAINTENANCE

-Dry wells shall be inspected and cleaned annually. This includes pipes, gutters, downspouts, and all filters. -Ponding, standing water or algae

growth on the top of a dry well may indicate failure due to sedimentation in the gravel media. -If water ponds for more than 48 hours after a major storm or more than 6" of sediment has accumulated,

and replaced. -Privately owned practices shall have a maintenance plan and shall be protected by easement, deed restriction, ordinance or other legal measures preventing its neglect, adverse alteration and removal.



STORMWATER MANAGEMENT, SEDIMENT CONTROLS, AND LANDSCAPE DETAILS ARMSTRONG & RINALDI PROPERTY

7938 HARRIET TUBMAN LANE



TAX MAP 35 GRID 23

5TH ELECTION DISTRICT

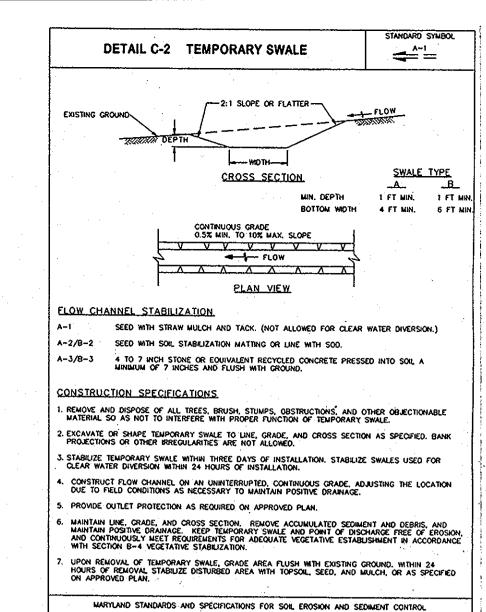
FSH Associates Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562 E-mail: info@fsheri.com

DRAWN BY: CRH2 HECKED BY: ZYF SCALE: None DATE: Sep. 27, 2013 M.O. No.: <u>3800</u> SHEET No.: 2 OF 3

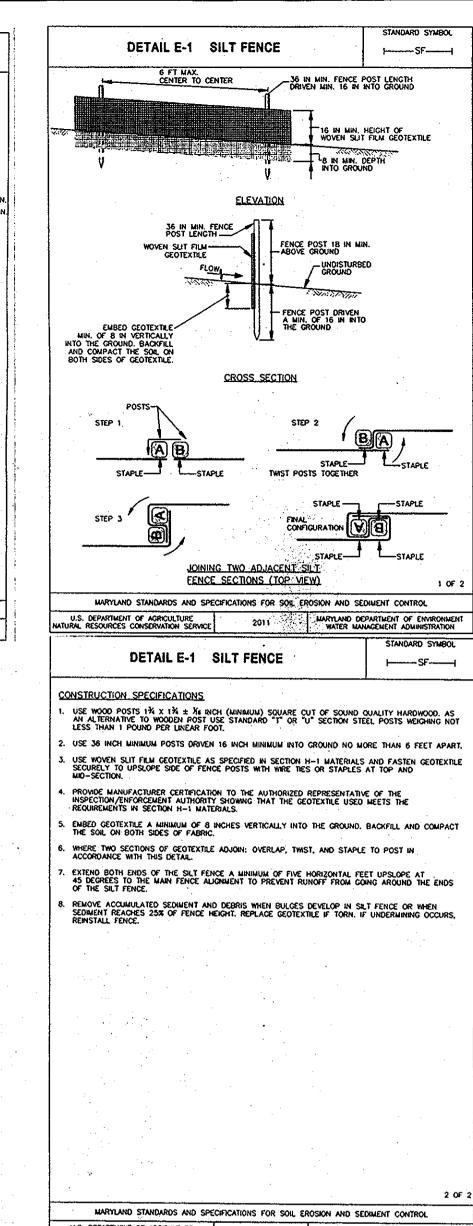
PARCEL 321

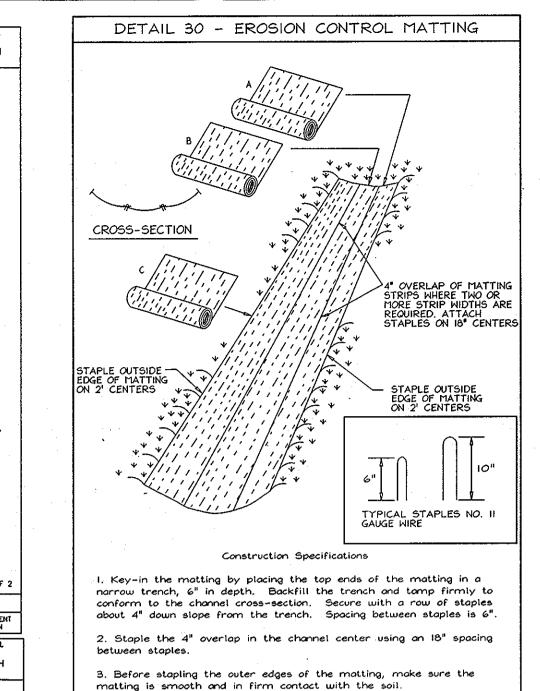
HOWARD COUNTY, MARYLAND

DESIGN BY: __CRH2_



2011





shiplap fashion. Reinforce the overlap with a double row of staples

Note: If flow will enter from the edge of the matting then the area

SOIL CONSERVATION SERVICE G - 22 - 2 WATER MANAGEMENT ADMINISTRATION

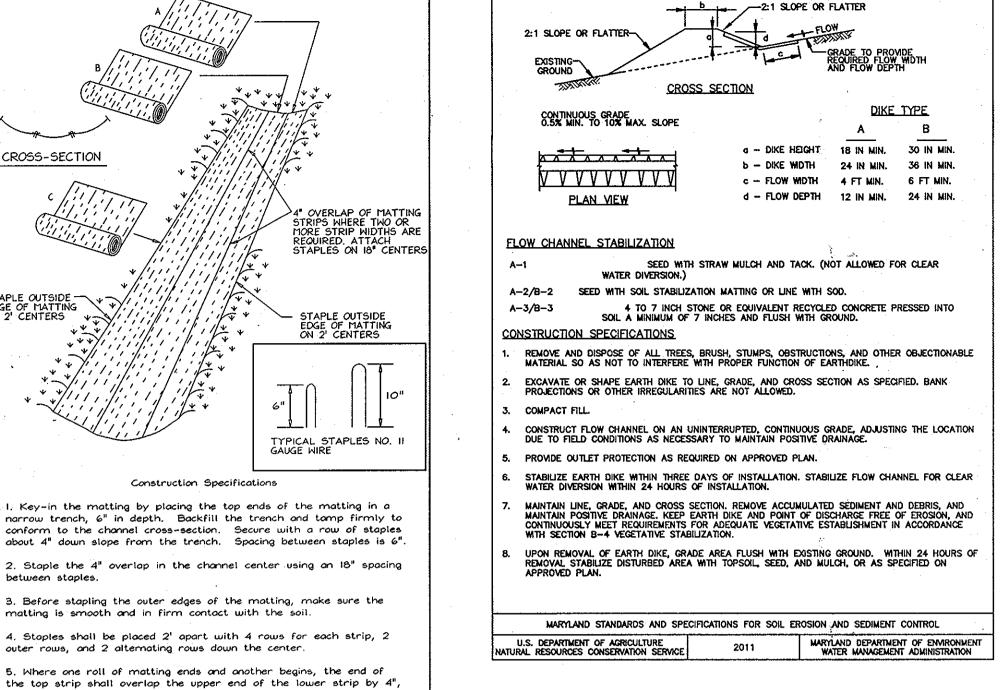
MARYLAND DEPARTMENT OF ENVIRONMENT

spaced 6" apart in a staggered pattern on either side.

secured with 2 double rows of staples.

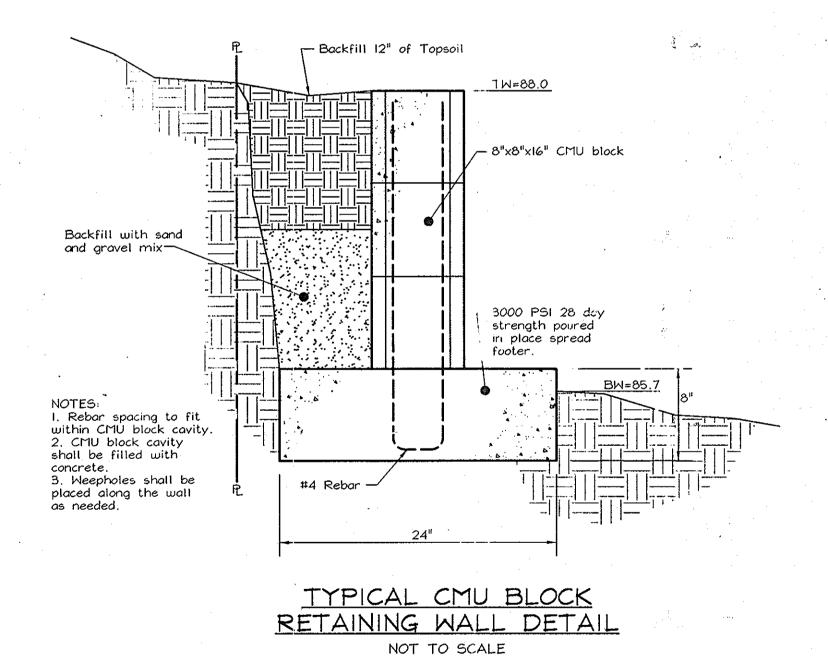
effected by the flow must be keyed-in. U.S. DEPARTMENT OF AGRICULTURE | PAGE

6. The discharge end of the matting liner should be similarly



DETAIL C-1 EARTH DIKE

ON FLOW CHANNEL SIDE OF DIGE.





7938 HARRIET TUBMAN LANE

TAX MAP 35 GRID 23 5TH ELECTION DISTRICT

PARCEL 321 HOWARD COUNTY, MARYLAND



FSH Associates ||Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562

DESIGN BY: CRH2 CHECKED BY: ZYF SCALE: As Noted DATE: Sep. 27, 2013 W.O. No.: <u>3800</u> SHEET No.: 3 OF 3

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.

-OWNER/DEVELOPER

Mark E. Armstrong Patricia M. Rinaldi 9243 Hourglass Place Columbia, MD 21045 (410) 757-4716

PROFESSIONAL CERTIFICATION I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. #22418, Expiration Date: 07/29/2015.

SDP-13-074

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOMARD OF HER PRIVATION DISTRICT DATE AND ZONING HOWARD COUNTY DEPARTMENT OF A

DATE CHIEF DEVELOPMENT FLIGHTERING DIVISION 1-24-14 DATE CHIÉF, DIVISION OF LAUD DEVIL OPMENT

SIGNATURE OF ENGINEER

ENGINEERS CERTIFICATE "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN ELASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. 9/30/13

30 Sep 2013 SIGNATURE OF DEVELOPER