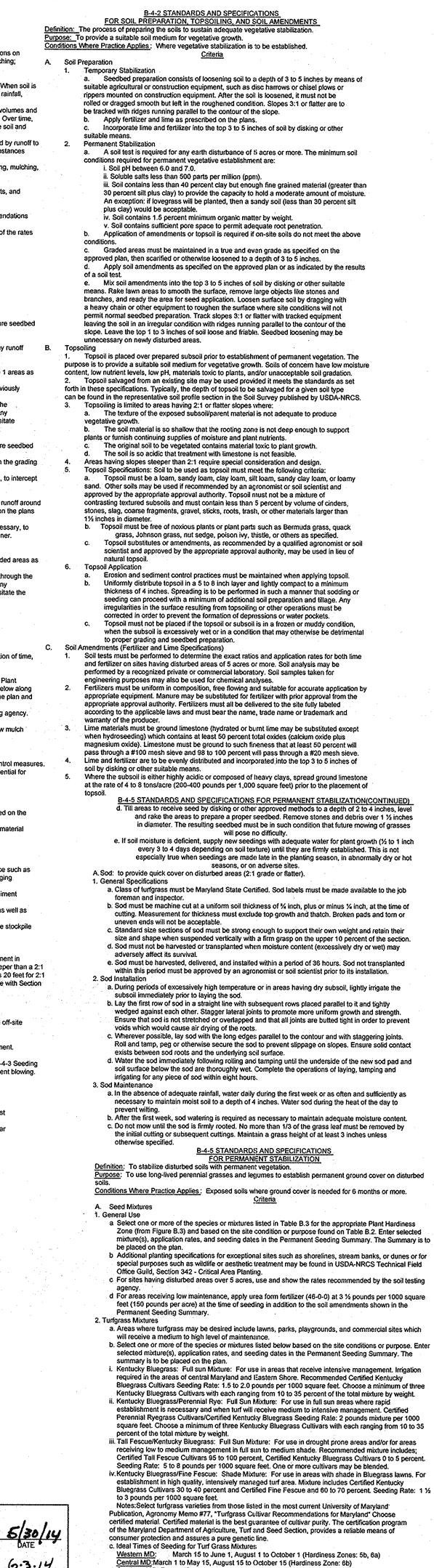
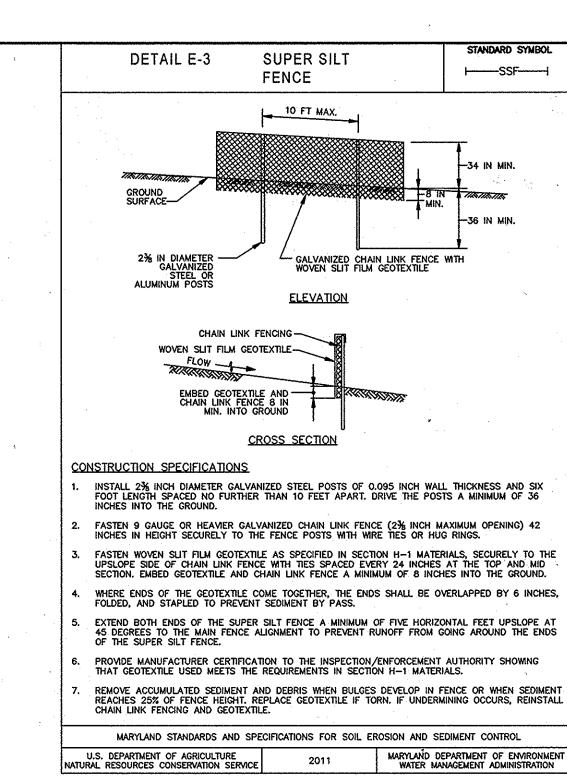


CHIEF, DEVELOPMENT ENGINEERING DIVISION AW

PN/2501\gamp\4029 ECP Porodi Fideg, passed K short 7, edd





SEQUENCE OF CONSTRUCTION

1.) OBTAIN GRADING PERMIT. (DAY 1)

COURSE. (DAY 31-40)

NOTES. (DAY 41-90)

OF CONSTRUCTION

111--115)

germination and establishment of grasses.

Area to be roofed or paved

repaired on the same day of disturbance.

initial approval by the inspection agency is made.

and stabilized by the end of each workday, whichever is shorter.

approval authority prior to proceeding with construction.

30 acres cumulatively may be disturbed at a given time.

may not be authorized until this

Area to be vegetatively stabilized

Offsite waste/borrow are location

Total Area of Site

Area Disturbed

Total Fill

Control Inspector.

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START

2.) INSTALL SEDIMENT CONTROLS AS SHOWN ON FINAL CONSTRUCTION

3.) GRADE ROADBEDS, INSTALL STORM DRAINS AND AND PLACE BASE

PLANS, AND WITH APPROVAL OF THE HOWARD COUNTY SEDIMENT

CONTROL INSPECTOR CONSTRUCT CULVERT CROSSINGS. (DAY 2-30)

4.) FINAL GRADE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED

MANAGEMENT FACILITIES WHICH TREAT ROAD AREAS. (DAY 91-110)

6.) WITH THE APPROVAL OF THE INSPECTOR, REMOVE SEDIMENT CONTROL

EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNTIL VEGETATION IS ESTABLISHED OR SOLID SOD SHOULD BE USED.

2. ON-LOT STORMWATER MANAGEMENT FACILITIES SHALL

BE CONSTRUCTED AS A PART OF THE HOUSE

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses

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

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed

within: a) 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011

permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary

5. All sediment control structures are to remain in place and are to be maintained in operative condition until

36.0 Acres 4.9

Acres

N/A\* Cu. Yds.

permission for their removal has been obtained from the Howard County Sediment Control Inspector.

\*THE PURPOSE OF THIS ENVIRONMENTAL CONCEPT PLAN IS TO ESTABLISH CONCEPTUAL

STORMWATER TREATMENT AND SEDIMENT CONTROL. DETAILED PROJECT GRADING HAS

NOT YET BEEN ESTABLISHED, SO DETAILED DISTURBANCE, STABILIZATION, CUT AND FILL

INFORMATION IS NOT YET AVAILABLE, AND WILL BE PROVIDED ON CONSTRUCTION PLANS.

7. Any sediment control practice that is disturbed by grading activity for placement of utilities must be

9. 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

10. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled

11. Any changes or revisions to the sequence of construction must be reviewed and approved by the plan

12. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of

enforcement authority. Unless otherwise specified and approved by the approval authority, no more than

20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50

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

8. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for

stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper

slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.

and Permits, Sediment Control Division prior to the start of any construction (313-1855).

EROSION AND SEDIMENT CONTROL and revisions thereto.

CONSTRUCTION AND LOT DEVELOPMENT

DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS. (DAY

5.) WHEN CONTRIBUTING AREAS ARE STABILIZED, CONSTRUCT STORMWATER

**B-4-3 STANDARDS AND SPECIFICATIONS** 

Definition: The application of seed and mulch to establish vegetative cover

not under active grading.

1. Specifications

Purpose: To protect disturbed soils from erosion during and at the end of construction.

permit dissipation of phyto-toxic materials.

seed to soil contact.

seeding rate in each direction.

200 pounds per acre.

1. Mulch Materials (in order of preference)

uniformly spread slurry.

application rate to 2.5 tons per acre.

strictly prohibited.

3,000 feet long.

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

FOR SEEDING AND MULCHING

Conditions Where Practice Applies: To the surface of all perimeter controls, slopes, and any disturbed area

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be

available upon request to the inspector to verify type of seed and seeding rate.

Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pur

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

i. 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.

i. Apply seed in two directions, perpendicular to each other. Apply half the

i. If fertilizer is being applied at the time of seeding, the application rates should

ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be

iii. Mix seed and fertilizer on site and seed immediately and without interruption.

. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and

not exceed the following: nitrogen, 100 pounds per acre total of soluble

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

a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably

iv. When hydroseeding do not incorporate seed into the soil.

bright in color. Straw is to be free of noxious weed seeds as specified in the

processed into a uniform fibrous physical state.

the growth of the grass seedlings.

capacity of 90 percent minimum.

50 pounds of wood cellulose fiber per 100 gallons of water.

depending upon the size of the area and erosion hazard:

50 pounds of wood cellulose fiber per 100 gallons of water.

sloping land, this practice should follow the contour.

concentration levels that will be phyto-toxic.

a. Apply mulch to all seeded areas immediately after seeding.

Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty

Note: Use only sterile straw mulch in areas where one species of grass is desired.

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose

provide an appropriate color to facilitate visual inspection of the

i. WCFM is to be dyed green or contain a green dye in the package that will

ii. WCFM, including dye, must contain no germination or growth inhibiting

iii. WCFM materials are to be manufactured and processed in such a

manner that the wood cellulose fiber mulch will remain in uniform

fertilizer and other additives to form a homogeneous slurry. The

having moisture absorption and percolation properties and must

iv. WCFM material must not contain elements or compounds at

cover and hold grass seed in contact with the soil without inhibiting

mulch material must form a biotter-like ground cover, on application

v. WCFM must conform to the following physical requirements: fiber length

pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding

of approximately 10 millimeters, diameter approximately 1 millimeter,

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

pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of

by wind or water. This may be done by one of the following methods (listed by preference),

anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on

net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of

large areas, but is limited to flatter slopes where equipment can operate safety. If used on

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 catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is

iv. Lightweight plastic netting may be stapled over the mulch according to

manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to

c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500

a. Perform mulch anchoring immediately following application of mulch to minimize loss

i. A mulch anchoring tool is a tractor drawn implement designed to punch and

ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a

iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra

suspension in water under aditation and will blend with seed.

nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium),

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

. Mulch alone 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.

not be used later than the date indicated on the container. Add fresh inoculants as

culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must

directed on the package. Use four times the recommended rate when hydroseeding.

above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less

i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate

in each direction. Roll the seeded area with a weighted roller to provide good

B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.

chemicals used for weed control until sufficient time has elapsed (14 days min.) to

Note: It is very important to keep inoculant as cool as possible until used. Temperatures

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

ISOMETRIC VIEW 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-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN, IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH, OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES MOE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT. ESTABLISH AND MAINTAIN VEGETATION 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

PERMANENT SOIL

STABILIZATION MATTING

(\* INCLUDE SHEAR STRESS)

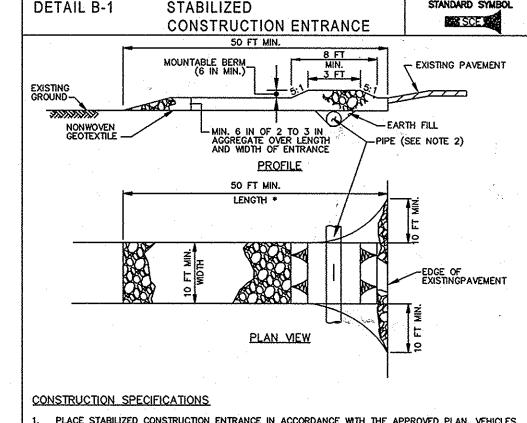
CHANNEL APPLICATION

DETAIL B-4-6-C

-TOP ELEVATION ELEVATION 9 GAUGE CHAIN -UNK FENCE (TYP.) GEOTEXTILE --- 18 IN INTO GROUND --TYPE A TYPE B ISOMETRIC VIEW EDGE OF ROADWAY OR TOP-OF EARTH DIKE 6 IN MIN. -FXCAVATE, BACKFILL AND COMPACT EARTH (TYP.) POST DRIVEN : SECTION FOR TYPE A AND B 1 OF 2 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-1 STANDARD INLET PROTECTION

DETAIL E-9-1 STANDARD INLET PROTECTION SIP CONSTRUCTION SPECIFICATIONS USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION. . FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN, STRETCH & INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY, FASTEN EOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, FOR TYPE B, USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION, EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CRES BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING, IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT. IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

STANDARD SYMBOL

MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (\*30 FEET FOR 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 OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND

SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, 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

U.S. DEPARTMENT OF AGRICULTURE TURAL RESOURCES CONSERVATION SERVICE

NO. DATE

REVISION

**BENCHMARK** ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

PROJECT:

TITLE:

DATE:



JESSICA AND SOPHIE ZIEGLER 730 DOLORES STREET SAN FRANCISCO, CA 94110 212-877-8697 DEVELOPER:

410-381-3263

DRAFT: AM DESIGN: AM CHECK: JC SCALE:

TOLL BROS., INC. 7164 COLUMBIA GATEWAY DRIVE SUITE 230 COLUMBIA, MD 21046

CREATING LOTS 1-36, BUILDABLE PRESERVATION PARCEL 'V' AND NON-BUILDABLE PRESERVATION PARCELS 'S', 'T', 'U' AND 'W' LOCATION:

MAY, 2014

AS SHOWN

TAX MAP: 23, GRID: 23
PARCEL 148
PUDDING LANE, ELLICOTT CITY, MD 21042
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SEDIMENT CONTROL NOTES AND DETAILS

THE CARROLL-ZIEGLER PROPERTY RESUBDIVISION OF BULK PARCEL I

A RESUBDIMISION OF NON-BUILDABLE BULK PARCEL K

AS SHOWN ON PLAT NO. 19790

SHEET OF ECP-14-046

PROJECT NO. 2501

SOILS LEGEND KW MAP SYMBOL SOIL GROUP SOIL TYPE Baa D\* Baile Silt Loam, 0 to 3 percent slopes GLADSTONE SILT LOAM, O TO 3 PERCENT SLOPES B GLADSTONE SILT LOAM, 3 TO 8 PERCENT SLOPES GbB B GLADSTONE SILT LOAM, 8 TO 15 PERCENT SLOPES GnB C\* GLENVILLE-BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES Ha D\* HATBORO-CODORUS, O TO 3 PERCENT SLOPES 24 MaD B MANOR LOAM, 15 TO 25 PERCENT SLOPES

TAKEN FROM NRCS WEB SOIL SURVEY, HOWARD COUNTY, MARYLAND

\* INDICATES HYDRIC SOILS

k×ERODIBLE SOILS

OWNER: