

DISTURBANCE OR GRADING. OF ANOTHER GRADING UNIT PRACTICES. AVOID CONFLICTS WITH THIS PLAN. CONTROL. AND REVISIONS THERETO. SITE ANALYSIS: TOTAL AREA OF SITE: AREA DISTURBED: AREA TO BE ROOFED OR PAVED: TOTAL CUT: TOTAL FILL (1) REFER TO ITEM 11 BELOW INSPECTION DATE AND/OR CURRENT ACTIVITIES STABILIZATION REQUIREMENTS PHOTOGRAPHS MONITORING/SAMPLING EACH WORKDAY, WHICHEVER IS SHORTER HSCD-APPROVED FIELD CHANGES. 2' IN FLEVATION. TIME PERIODS (INCLUSIVE) USE IV MARCH 1 - MAY 31 MEASURES SHOWN HEREON. STABILIZATION SHALL BE COMPLETED WITHIN: OWNER/DEVELOPER CERTIFICATION: I AN. INCLUDING INSPECTING AND MAINTAINING CONTROLS. AND THAT ALL ESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT—OF—ENTRY FOR ERIODIC ON—SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL ONSERVATION DISTRICT AND/OR MDE." Michael Pfan WNER389EVELLOPLER SIGNATURE Michael Pfau PRINTED NAME & TITLE DESIGN CERTIFICATION: THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURREN ARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGI F THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF IE HOWARD SOIL CONSERVATION DISTRICT DocuSigned by Robert H. Vone ESIGNER PS STENEAFUR <u>D</u> REGISTRATION NO. <u>16193</u> F) RIS OR RIA Toircle one APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING Paul DiMarco CHIEF, DEVELOPMENT PROGNEERING DIVISION CHIEF, DIVISIONER DEVELOPMENT lynda Eisenberg 4220B635863942E...

DocuSign Envelope ID: E193E3DD-67E3-4AF3-9484-D73C6F670228 HOWARD SOIL CONSERVATION DISTRICT (HSCD) <u>STANDARD SEDIMENT CONTROL NOTES</u> A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMEN OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: PRIOR TO THE START OF EARTH DISTURBANCE, UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL HIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO E PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT 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 CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1). AND SEVEN (7) CALENDAL DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIFD AROVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN, INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL, STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT, MUST BE BENCHED WITH STABLE OUTLIFT ALL CONCENTRATED FLOW STEEP SLOPE AND HIGHLY ERODIBLE AREAS SHALL RECEIVE 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 ACRES _ ACRES 2.819 ACRES 6,600 CU. YE AREA TO BE VEGETATIVELY STABILIZED: CU. YDS. TOTAL OFFSITE WASTE/BORROW AREA LOCATION: 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 ID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE: INSPECTION 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'S STATUS (E.G., PERCENT COMPLETE) EVIDENCE OF SEDIMENT DISCHARGES IDENTIFICATION OF PLAN DEFICIENCIES IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE). TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LÉAST 50 PERCENT OF THE DISTURBED AREA N 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, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED USE I AND IP MARCH 1 - JUNE 15 USE III AND IIIP OCTOBER 1 - APRIL 30 16 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. ITEM 11, REGARDING PROJECT DISTURBANCE IS NO LONGER A REQUIREMENT. DURING GRADING AND AFTER FACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY A 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES DIKES. PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B. 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT VILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL

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C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FRO7FN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. . 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 ANALYSES. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR CCURATE 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. 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEFDING) 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. 4 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. 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS,

PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

R-4-2 STANDARDS AND SPECIFICATIONS FOR

O PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE

II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM)

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CONDITIONS WHERE PRACTICE APPLIES

OR OTHER SUITABLE MEANS.

BE ACCEPTABLE.

THE RESULTS OF A SOIL TEST

PRODUCE VEGETATIVE GROWTH.

SOIL SCIENTIST AND APPROVED

AS SPECIFIED.

6. TOPSOIL APPLICATION

5 INCHES

B. TOPSOILING

I. SOIL PH BETWEEN 6.0 AND 7.0.

P. PERMANENT STABILIZATION

TEMPORARY STABILIZATION

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE 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 MOUNTED ON CONSTRUCTION EQUIPMENT

IN THE ROUGHENED CONDITION SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH

INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING

MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL

À MODERATE AMOUNT OF MOISTURE. AN EXCÉPTION: IF LOVEGRASS WILL BE

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO

SUITABLE MEANS RAKE LAWN AREAS TO SMOOTH THE SURFACE REMOVE LARGE OBJECTS

SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN

LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN

PREPARATION TRACK SLOPES 3:1 OR FLATTER WITH TRACKED FOLLIPMENT LEAVING THE

SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOLIR

OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE.

I. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT

PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE

STANDARDS AS SET FORTH IN THESE SPECIFICATIONS, TYPICALLY, THE DEPTH OF

REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO

TO SUPPORT PLANTS OR FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT

D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING

A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM

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, STICKS, ROOTS,

TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED

AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL

B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA

A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING

B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT

MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL

TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A

SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM

OPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE

SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS

Olexander Bratchie

3/20/2024

GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS

TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.

AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

FORMATION OF DEPRESSIONS OR WATER POCKETS.

OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OF

B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH

C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE

GROWTH. SOILS OF CONCEM HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW

B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET

C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY

F. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER

THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED

SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

(GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD

PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD

A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE

AFTER THE SOIL IS LOOSENED. IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT

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

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER <u>PURPOSE</u>

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION. CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING. <u>CRITERIA</u>

A. SEEDING 1 SPECIFICATIONS

A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE 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. B. 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

. 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 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 AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS FEFECTIVE 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 ELAPSED (14 DAYS MIN.) TO

. APPLICATION A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS. I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE 8.1. PERMANENT SEEDING TABLE 8.3. OR SITE—SPECIFIC SEEDING SUMMARIES. 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. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. I. CUITIPACKING 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

C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND

FFRTILIZER). 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; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE. II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEFDING), NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEFDING AT ANY ONE TIME, DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEFDING III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MUI CHING I MUICH MATERIALS (IN ORDER OF PREFERENCE)

RATE IN EACH DIRECTION.

PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, OAT, 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 GRASS 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 BI

V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

A. APPLY MUICH 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 MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE. . 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 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

A. 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 FROSION HAZARD: I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS. BI LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR. II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW, APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50

POUNDS 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 CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED. IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION **DEFINITION**

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

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.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3). AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

	TEMPORARY SEEDING SUMMARY										
	HARDINESS Z SEED MIXTUR	FERTILIZER RATE	LIME RATE								
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)						
1	COOL SEASON ANNUAL RYEGRASS OR EQUAL	40 LB / AC	MAR 1 TO MAY 15 AUG 1 TO OCT 15	1/2 IN.	436 LB/AC (10 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)					
2	WARM SEASON FOXTAIL MILLET	30 LB / AC	MAY 16 TO JUL 31	1/2 IN.							

SEQUENCE OF CONSTRUCTION

STAKEOUT LIMITS OF DISTURBANCE. (1 DAY

- OBTAIN GRADING PERMIT. (1 DAY) NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. (1 DAY) DRY UTILITIES (CABLE, GAS ELECTRIC) MUST BE INSTALLED AFTER ROAD CONSTRUCTION AND PRIOR TO THE INSTALLATION OF THE F-23-018
- MICRO BIO RETENTION FACILITIES. STORMWATER FACILITIES, ARE NOT CONSTRUCTED UNTIL THEIR CONTRIBUTING DRAINAGE AREAS ARE STABILIZED ANY F-23-018 STORMWATER MANAGEMENT FACILITIES IN PLACE SHALL BE PROTECTED FROM RECEIVING SEDIMENT LADEN WATERS FROM HOME CONSTRUCTION ACTIVITIES.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY IN ACCORDANCE WITH DETAILS HEREON, INSTALL SEDIMENT CONTROL MEASURES AS SHOWN IN PLAN VIEW. EXISTING GRADES SHOWN HEREON ARE THE PROPOSED GRADES FROM F-23-018 CONTRACTOR SHALL UTILIZE THE EXISTING CONTROLS INSTALLED UNDER F-23-018 AS SHOWN HEREON IF BASINS ARE IN PLACE. IF TRAPS #1 & #2 HAVE BEEN BACKFILLED, CONTRACTOR SHALL USE ONLOT CONTROLS (AFTER OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED.
- ROUGH GRADE INDIVIDUAL LOT FOR HOUSE CONSTRUCTION. STOCKPILING SHALL BE LIMITED TO ON—LOT OR AS SHOWN HEREÒN. STOCKPILES SHALL BE STABILIZED AS DETAILED HEREON. (1 DAY)

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

<u>CRITERIA</u> A. SEED MIXTURES

I. GENERAL USE A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN. B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES,

STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 — CRITICAL AREA PLANTING. . FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY. D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TUREGRASS MIXTURES A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE, ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED

ON THE PLAN. I. 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 2.0 POUNDS PER 1000 SQUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT. II. 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 1000 SQUARE FEFT. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH FACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FUL SUN TO MEDIUM SHADE, RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE

PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED. IV. 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.

CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. E CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC

SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET.

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

WESTEM MD: MARCH 15 TO JUNE 1, AUGUST ITO OCTOBER 1 (HARDINESS ZONES: SB, 6A) - CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)

. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED, REMOVE STONES AND DEBRIS OVER 11/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

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 3/4 INCH, PLUS OR MINUS 1/4 INCH. AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE OP GROWTH AND THATCH. BROKEN PADS AND TOM OR UNEVEN ENDS WILL NOT BE 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 SECTION. D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL. SOD MUST BE HARVESTÉD, 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 INSTALLATION.

2. SOD INSTALLATION 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 WEDGED AGAINST FACH 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. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE . 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

SOD MAINTENANCE A. 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. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN

ADEQUATE MOISTURE CONTENT. C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS EAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED. PERMANENT SEEDING SUMMARY

		ONE (FROM FIGURE E (FROM TABLE B.3			LIME RATE			
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ O ₅	к ₂ 0	
1	COOL SEASON TALL FESCUE & KENTUCKY BLUEGRASS OR EQUAL	T.F. 60 LB / AC K.B. 40 LB / AC	MAR 1 TO MAY 15 AUG 15 TO OCT 15	1/4-1/2 IN.	(1 LB PER	(2 LB PER	(2 LB PER	2 TONS/AC (90 LB PER 1000 SF)

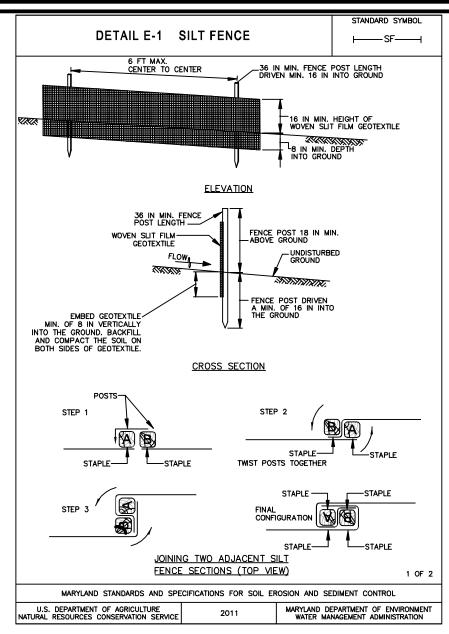
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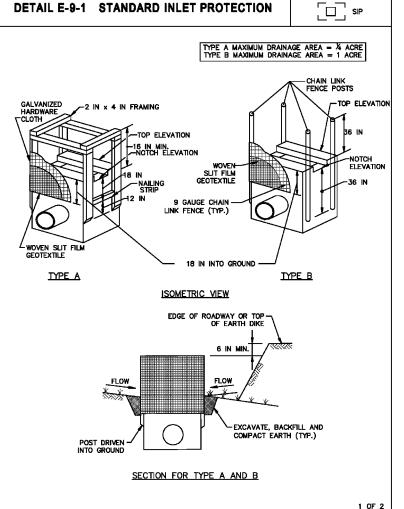
CONSTRUCT HOUSES. THE FIRST FLOOR ELEVATIONS CANNOT BE MORE THAN 1' HIGHER OR 0.2' LOWER THAN THE ELEVATIONS SHOWN ON THIS PLAN. (6 MONTHS) FINE GRADE LOT AS DETAILED HEREIN AND PER SPOT ELEVATIONS AS SHOWN TO BE IN CONFORMANCE WITH STORMWATER MANAGEMENT SCHEME APPROVED FOR THE

UPON COMPLETION OF HOME CONSTRUCTION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING, INSTALL ON-LOT STORMWATER MANAGÉMENT FACILITIES TO INCLUDE: RAIN GARDENS, AND PERMEABLE PAVEMENT DRIVEWAYS. INSTALL ROOF GUTTER DOWNSPOUTS TO DIRECT ROOFTOP RUNOFF AS DIRECTED PER F- PLAN STORMWATER DESIGN. -STORMWATER FACILITIES, ARE NOT CONSTRUCTED UNTIL THEIR CONTRIBUTING DRAINAGE AREAS ARE STABILIZED. (1 DAY PER LOT)

ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON. (1 DAY WITH ALL ON-LOT DISTURBANCES COMPLETED, STABILIZE WITH PÉRMANENT SEEDING MIXTURE AND STRAW MULCH OR EQUAL STABILIZATION. (1 DAY) AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING E/S CONTROLS AND STABILIZE THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 DAY)

NOTE: ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION





MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 DETAIL E-9-1 STANDARD INLET PROTECTION 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.

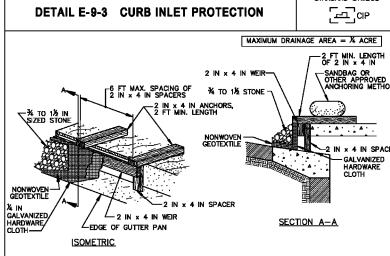
FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH X INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE 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, THEN FASTENED TO THE POST.

FOR TYPE B, USE 236 INCH DIAMETER GALVANIZED STEEL POSTS OF 0,095 INCH WALL THICKNESS AND 5 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WER 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 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES. 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 STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

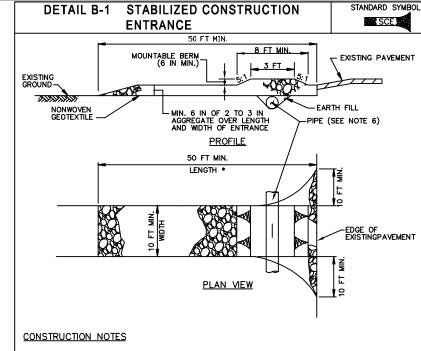
MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION



CONSTRUCTION SPECIFICATIONS . USE NOMINAL 2 INCH x 4 INCH LUMBER

- 2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- 3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
- ATTACH A CONTINUOUS PIECE OF % INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH O SO INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE. . PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
- 5. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- 8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN % TO 1% INCH STONE OR EQUIVALENT RECYCLED CONCRETE. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET 0. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT CLOGGED, WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE DESCRIPTION AND STORM.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011 MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION



PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES IUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEE 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 DRAINAGTO 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

2011

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

SEDIMENT CONTROL MEASURES.

SECTION B-3 LAND GRADING.

INTERCEPT THE DISCHARGE.

CONTROL PRACTICE.

FOR LATER USE.

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT

CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE

CONDITIONS WHERE PRACTICE APPLIES

STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL

: HE 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

RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT

OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR

DIVERSION FENCE PROVISIONS MUST BE MADE FOR DISCHARGING

STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DA

STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.

STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS

SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN

FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH

MAINTAINED AT NO STEEPER THAN A 2:1 RATIO.THE STOCKPILE AREA

MUST BE KEPT FREE OF FROSION. IF THE VERTICAL HEIGHT OF A

STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1

ACCORDANCE WITH SECTION B-3 LAND GRADING.

SECTION B-4 VEGETATIVE STABILIZATION.SIDE SLOPES MUST BE

CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE

WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN

APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO

STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL

BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES

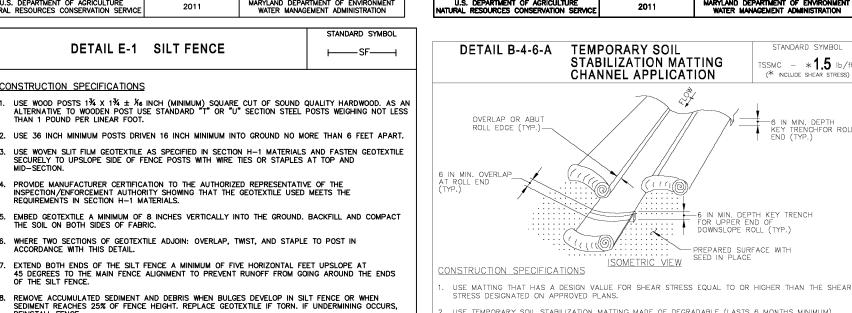
CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE

8 IF THE STOCKPUE IS LOCATED ON AN IMPERVIOUS SURFACE A LINER SHOULD

ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.

CONCENTRATED FLOW IN A NON-EROSIVE MANNER.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THA 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 REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIC TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 222 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, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. 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 1½ INCHES WIDE 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 A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED 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 PLAN.

DETAIL E-3 SUPER SILT FENCE

WOVEN SLIT FILM GEOTEXTILE ---

-row

CONSTRUCTION NOTES

ELEVATION

CROSS SECTION

FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED 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 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.

-----SSF------I

STANDARD SYMBO

TSSMC - *1.5 Ib

(* INCLUDE SHEAR STE

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. 6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.

. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. 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

S MARY LAND, LLC

AVE., SUITE 301

2011

OWNER	DEVELOPER
BEECHWOOD MANOR, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 (410) 480-0023	TRINITY HOMES MARY LAN 3675 PARK AVE., SUITE ELLICOTT CITY, MD 21 (410) 480-0023

REVISION

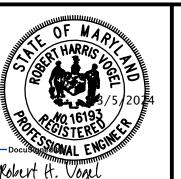
SITE DEVELOPMENT PLAN SOIL EROSION AND SEDIMENT CONTROL PLAN NOTES

BEECHWOOD MANOR SFD AND SFA RESIDENTIA L. 1271 / F. 186 TAX MAP: 50 GRID: 1 6TH ELECTION DISTRICT

PZ REFERENCE: SEE SITE DATA HOWARD COUNTY, MARYLAI **VOGEL ENGINEERING TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043

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DESIGN BY: ONB DRAWN BY: CHECKED BY: RHV DATE: <u>SEPTEMBER 2023</u> SCALE: ____AS SHOWN W.O. NO.: <u>17–26</u>

ROFESSIONAL CERTIFICATE 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. 16193 EXPIRATION DATE: 09-27-2024

SHEET

SDP-23-047

ZONED: R-S

3. COMPACTION

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1. 2. FILTERING MEDIA OR PLANTING SOIL

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

* SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION). * ORGANIC CONTEN - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).

* CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%. * PH RANGE — SHOULD BE BETWEEN 5.5 — 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH. THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE. COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED

4. PLANT MATERIAL RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SC 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

* PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HDPE).

* PERFORATIONS — IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH.

* GRAVEL — THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

* THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
* A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

* A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24". PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

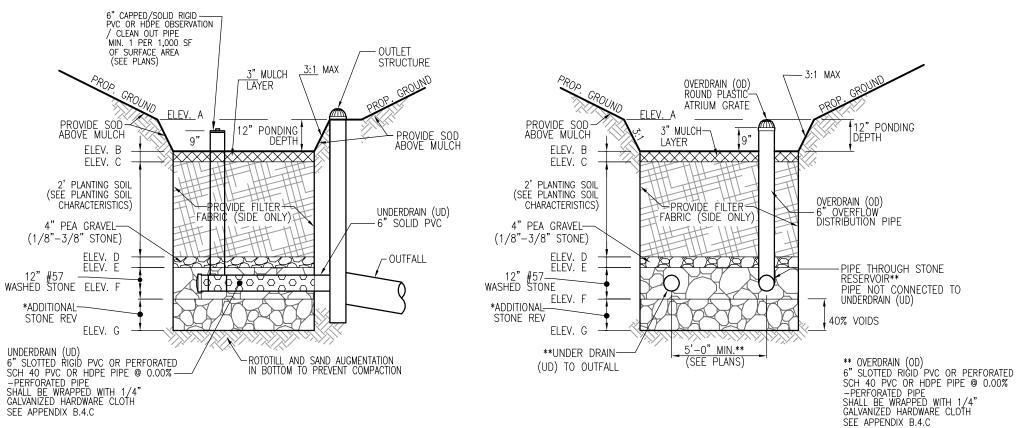
7. MISCELLANEOUS THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6)RAIN GARDENS (M-7), BIORETENTION SWALE (M-8),

BIO-RETENTION (F-6) AND ENHANCED FILTERS (M-9) 1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALL' MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2

2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES. 3. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO

THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED. 4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



RAIN GARDEN (M-7)

*ADDITIONAL STONE PROVIDED FOR REV

RAIN GARDEN (M-7)

*ADDITIONAL STONE PROVIDED FOR REV

1. ONLY THE SIDES OF THE BIORETENTION, MICROBIORETENTION OR RAIN GARDEN ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE FACILITY WILL CAUSE THE FACILITY TO FAIL, AND THERFORE SHALL NOT BE INSTALLED. 2. WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED

HARDWARE CLOTH. 3. PROVIDE 5' MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFERATED PIPE THROUGH STONE RESIVOIR

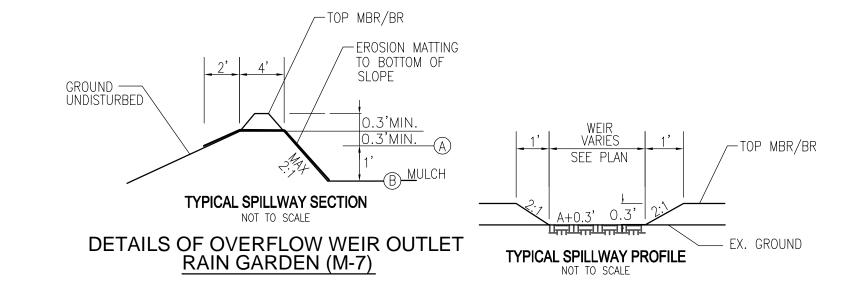
OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

THE TRUE STATE OF THE TRUE STA	THING THE ZOITH
Paul DiMarco	3/22/2024
CHIEF, DEVELOPMENTES ENGINEERING DIVISION	DATE
h	3/22/2024
CHIEF, DIVIS ON BOTH DEVELOPMENT	DATE
Lynda Eisenberg	3/22/2024
DIRECTOR 4220B635863942E	DATE

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f' _c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand



PERMEABLE PAVEMENTS CONSTRUCTION CRITERIA:

- THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH PERMEABLE PAVEMENT: EROSION AND SEDIMENT CONTROL: FINAL GRADING FOR INSTALLATION SHOULD NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS STABILIZED. IF THIS CANNOT BE ACCOMPLISHED, RUNOFF FROM DISTURBED AREAS SHALL BE DIVERTED AROUND PROPOSED PAVEMENT LOCATIONS.
- SUB SOILS SHALL NOT BE COMPACTED. CONSTRUCTION SHOULD BE PERFORMED SOIL COMPACTION: WITH LIGHTWEIGHT, WIDE TRACKED EQUIPMENT TO MINIMIZE COMPACTION. EXCAVATED MATERIALS SHOULD BE PLACED IN A CONTAINED AREA.
- DISTRIBUTION SYSTEMS: OVERDRAIN, UNDERDRAIN, AND DISTRIBUTION PIPES SHALL BE CHECKED TO ENSURE THAT BOTH THE MATERIAL AND PERFORATIONS MEET SPECIFICATIONS (SEE APPENDIX B. 4). THE UPSTREAM ENDS OF PIPES SHOULD BE CAPPED PRIOR TO INSTALLATION. ALL UNDERDRAIN OR DISTRIBUTION PIPES USED SHOULD BE INSTALLED FLAT ALONG THE BED BOTTOM.
- SUBBASE AGGREGATE SHALL BE CLEAN AND FREE OF FINES. THE SUBBASE SUBBASE INSTALLATION: SHALL BE PLACED IN LIFTS AND LIGHTLY ROLLED ACCORDING TO THE SPECIFICATIONS (SEE APPENDIX B.4).

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:

- DURING EXCAVATION TO SUB GRADE.
- DURING PLACEMENT AND BACKFILL OF ANY DRAINAGE OR DISTRIBUTION SYSTEM(S).
- DURING PLACEMENT OF THE CRUSHED STONE SUBBASE MATERIAL. DURING PLACEMENT OF THE SURFACE MATERIAL

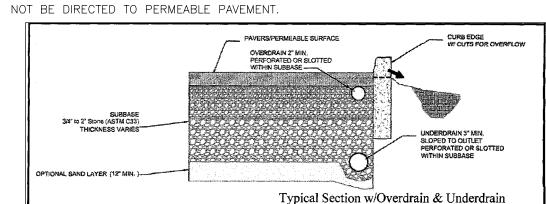
UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION. MAINTENANCE CRITERIA:

- THE FOLLOWING PROCEDURES SHOULD BE CONSIDERED ESSENTIAL FOR MAINTAINING PERMEABLE PAVEMENT SYSTEMS:
- PAVEMENTS SHOULD BE USED ONLY WHERE REGULAR MAINTENANCE CAN BE PERFORMED. MAINTENANCE AGREEMENTS SHOULD CLEARLY SPECIFY HOW TO CONDUCT ROUTINE TASKS TO ENSURE LONG-TERM PERFORMANCE.
- PAVEMENT SURFACES SHOULD BE SWEPT AND VACUUMED TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING SYSTEMS AND COMPRESSED AIR UNITS SHOULD NOT BE
- USED TO PERFORM SURFACE CLEANING. DRAINAGE PIPES, INLETS, STONE EDGE DRAINS, AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE SHOULD BE CLEANED OUT AT REGULAR INTERVALS
- TRUCKS AND OTHER HEAVY VEHICLES CAN GRIND DIRT AND GRIT INTO THE POROUS SURFACES, LEADING TO CLOGGING AND PREMATURE FAILURE. THESE VEHICLES SHOULD BE PREVENTED FROM TRACKING AND SPILLING MATERIAL ONTO THE PAVEMENT.
- DEICERS SHOULD BE USED IN MODERATION. WHEN USED, DEICERS SHOULD BE NON-TOXIC AND ORGANIC AND CAN BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT. SNOW PLOWING SHOULD BE DONE CAREFULLY WITH BLADES SET ONE-INCH HIGHER THAN NORMAL. PLOWED SNOW PILES AND SNOW MELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT

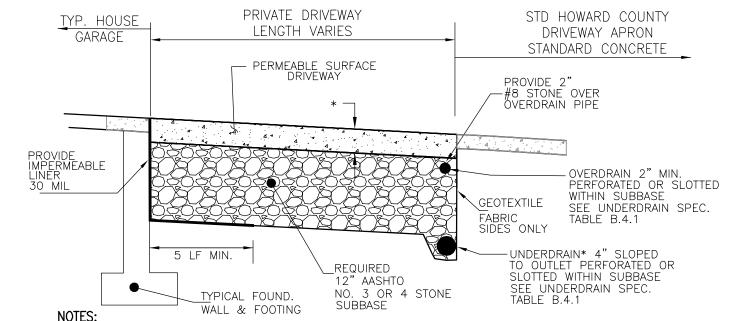
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

A. THE INDIVIDUAL LOT OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.

- THE INDIVIDUAL LOT OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE
- THE INDIVIDUAL LOT OWNER SHALL USE DEICERS IN MODERATION. DEICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT. THE INDIVIDUAL LOT OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE-INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOW MELT SHOULD



PERMEABLE SURFACE TYPICAL SECTION NOT TO SCALE



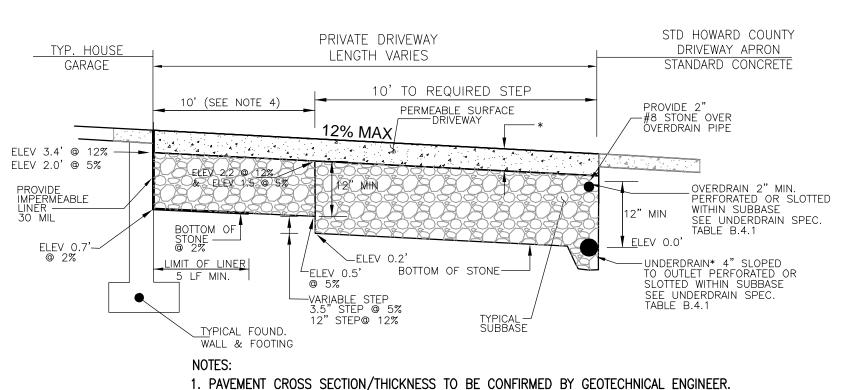
1. PAVEMENT CROSS SECTION/THICKNESS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER. 2. UNDERDRAIN SHALL BE LOCATED SUCH THAT IT CAN DAYLIGHT OR CONNECT TO

STORM DRAIN SYSTEM.

3. OVERDRAIN SHALL COMBINE WITH UNDERDRAIN.

4. AN UNDERDRAIN CLEANOUT SHALL BE PROVIDED ON THE HIGH AND LOW SIDE OF THE DRIVEWAY. DETAIL - PERMEABLE SURFACE DRIVEWAY - 5% OR LESS NOT TO SCALE

> * PERMEABLE CONCRETE THICKNESS, MIX AND SUB-BASE TO BE DETERMINED BY GEOTECHNICAL ENGINEER ONSITE



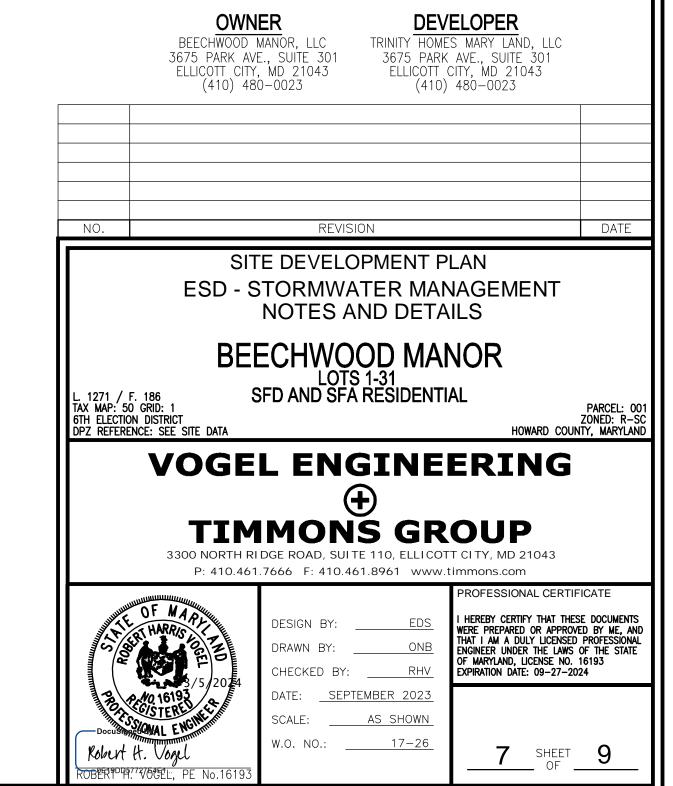
2. UNDERDRAIN SHALL BE LOCATED SUCH THAT IT CAN DAYLIGHT OR CONNECT TO. STORM DRAIN SYSTEM.

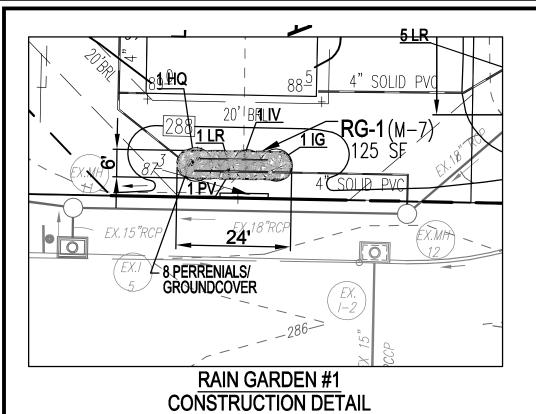
3. OVERDRAIN SHALL COMBINE WITH UNDERDRAIN.

4. AN UNDERDRAIN CLEANOUT SHALL BE PROVIDED ON THE HIGH AND LOW SIDE OF THE DRIVEWAY. 5. ABOVE EXAMPLE ASSUMES 20' DRIVEWAY (HOUSE TO RIGHT-OF-WAY / STANDARD DRIVEWAY APRON), 2% BOTTOM STONE.

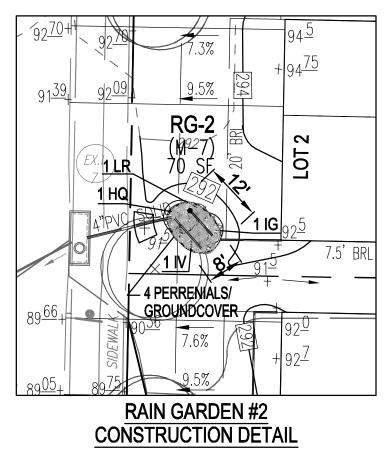
DETAIL - PERMEABLE SURFACE DRIVEWAY - 5% TO 12% (MAX)

* ALL PERMEABLE CONCRETE THICKNESS, MIX AND SUB-BASE TO BE DETERMINED BY GEOTECHNICAL ENGINEER ONSITE

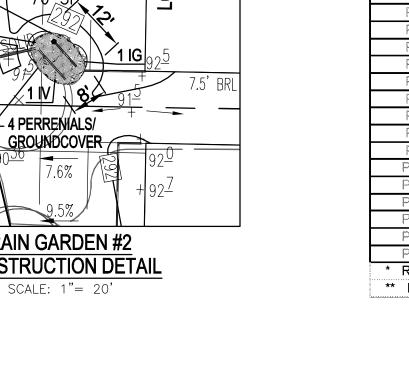


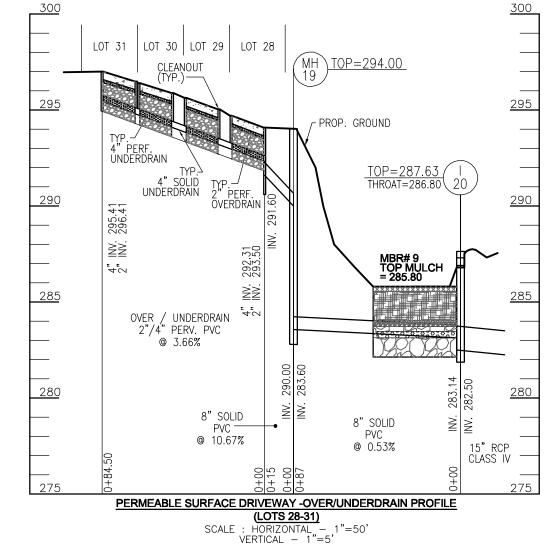


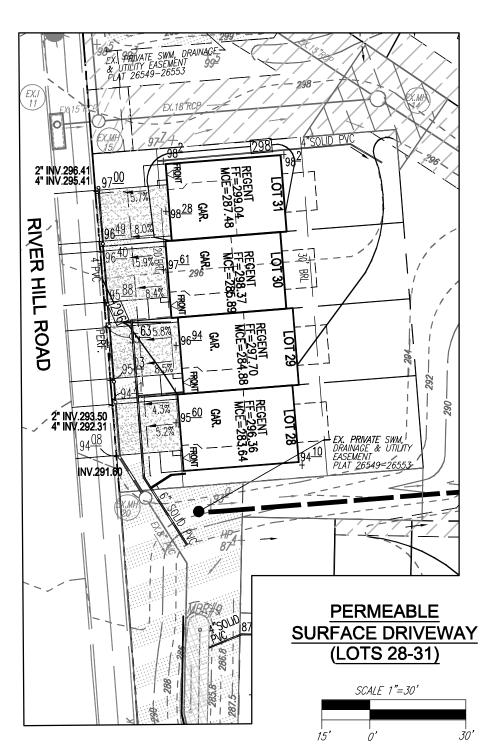
SCALE: 1"= 20'

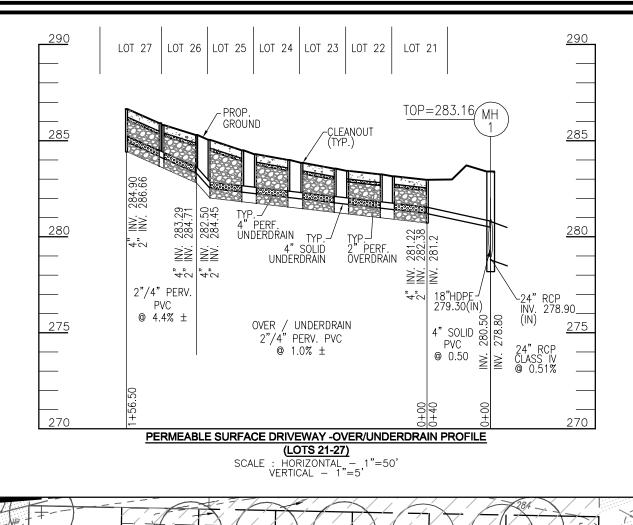


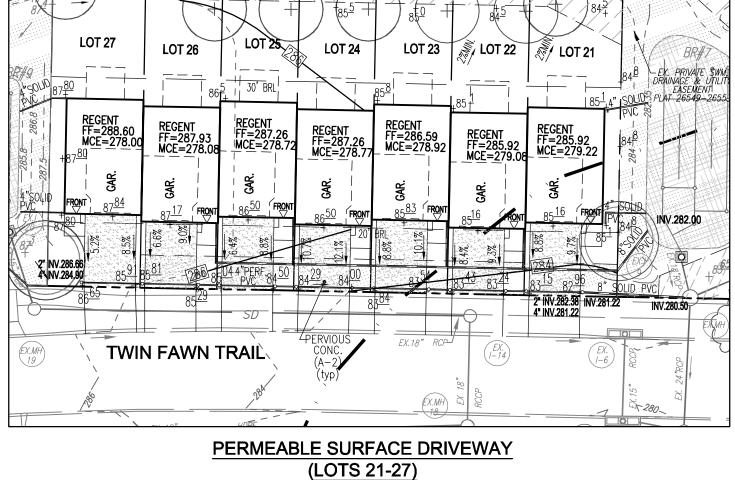
		,	163	T PIT DATA			1
BORING #	APPROX	APPROX	INVERT	MIN.			
	EXIST	PROP	FACILITY /	DEPTH TO	воттом	REQ PIT	CONDITION
	GROUND	GROUND	PRACTICE	GROUNDWATER	PIT	DEPTH*	
	ELEV	ELEV					
TEST PITS							
P-1	290.00	292.00	288.00	4.00	284.00	6.00	
P-2	290.50	292.00	288.00	4.00	284.00	6.50	
P-3	298.20	298.00	294.00	4.00	290.00	8.20	
P-4	301.20	297.00	293.00	4.00	289.00	12.20	
P-5	289.20	285.00	281.00	4.00	277.00	12.20	
P-6	287.90	286.00	282.00	4.00	278.00	9.90	
P-7	286.00	282.50	278.50	4.00	274.50	11.50	
P-8	283.00	282.00	278.00	4.00	274.00	9.00	
P-9	283.50	282.00	278.00	4.00	274.00	9.50	
P-10	287.00	286.00	282.00	4.00	278.00	9.00	
P-11	290.20	290.00	286.00	4.00	282.00	8.20	
P-12	290.00	286.00	284.50	4.00	280.50	9.50	PERM SURFACE
P-13	285.00	285.80	284.30	4.00	280.30	4.70	PERM SURFACE
P-14	295.00	296.20	294.70	4.00	290.70	4.30	PERM SURFACE
P-15	292.00	294.20	292.70	4.00	288.70	3.30	PERM SURFACE
* REQUIRE	D DEPTH OR U	JNTIL REFUSA	L				











2" OVERDRAIN -PERMEABLE SURFACE DRIVEWAY — TYPICAL PERMEABLE 4" UNDERDRAIN ─ **SURFACE DRIVEWAY** UNDERDRAIN / OVERDRAIN **OUTLET DETAIL**

BEECHWOOD MANOR, LLC

3675 PARK AVE., SUITE 301 3 ELLICOTT CITY, MD 21043 (410) 480-0023	675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 (410) 480–0023	
REVISION		DATE
SITE DEVELOPM	ENT PLAN	

DEVELOPER

TRINITY HOMES MARY LAND, LLC

NOT TO SCALE

RAIN GARDEN & PERMEABLE DRIVEWAY CONSTRUCTION DETAILS

BEECHWOOD MANOR LOTS 1-31 SFD AND SFA RESIDENTIAL

L. 1271 / F. 186 TAX MAP: 50 GRID: 1 6TH ELECTION DISTRICT DPZ REFERENCE: SEE SITE DATA ZONED: R-SC HOWARD COUNTY, MARYLAND **VOGEL ENGINEERING TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043

DATE: <u>SEPTEMBER 2023</u> SCALE: AS SHOWN W.O. NO.: 17-26

P: 410.461.7666 F: 410.461.8961 www.timmons.com 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. 16193 EXPIRATION DATE: 09-27-2024 ONB RHV

SHEET ___OF__

Appendix A. Landscaping Guidance for Stormwater BMPs Specific Landscaping Criteria

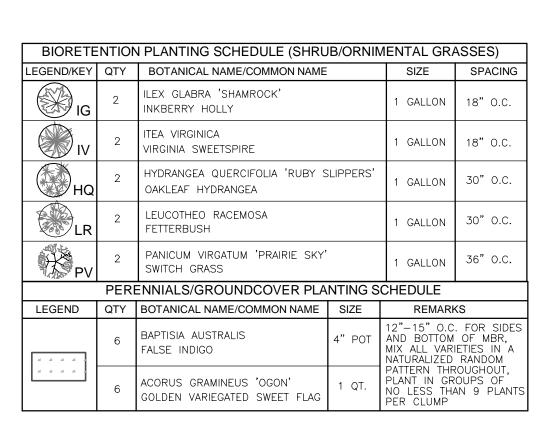
Frees	Shrubs	Herbaceous Species
er rubrum	Aesculus pariviflora	Andropogon virginicus
Re Maple	Bottlebrush Buckeye	Broomsedge
Bette a nigra	Cephalanthus occidentalis	Eupatorium perpurea
River Birch	Buttonbush	Joe Pye Weed
Tunipel is virginiana	Hamemelis virginiana	Scirpus pungens
Eastern ed Cedar	Witch Hazel	Three Square Bulrush
Chionanth is virgin cus	Vaccinium corymbosum	Iris versicolor
Fringe-tree	Highbush Blueberry	Blue Flag
Nyssa sylvati a	Ilex glabra	Lobelia cardinalis
Black Gum	Inkberry	Cardinal Flower
Diospyros virginana	Ilex verticillata	Panicum virgatum
Persimmon	Winterberry	Switchgrass
Platanus occidentalis	Viburnum dentatum	Dichanthelium scopariun
Sycamor	Arrowwood	Broom Panic Grass
Quercu palustris	Lindera benzoin	Rudbeckia laciniata
Pin Ook	Spicebush	Tall Coneflower
Que cus phellos	Myrica pennsylvanica	Scirpus cyperinus
Willow Oak	Bayberry	Woolgrass
ix nigra		Vernonia noveboracensis
lack willow	V	New York Ironweed

1. TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II – APPENDIX A.

(ETAB, 1993) or the Design of Stormwater Filtering Systems (Claytor and Schueler, 1997).

- 2. CONTRACTOR SHALL BE FAMILIAR WITH APPENDIX B.4.C. CONSTRUCTION SPECIFICATIONS AND TABLE B.4.1 MATERIAL SPECFICAITIONS. IN ADDITION THE "2000 MARYLAND STORMWATER DESIGN MANUAL - VOLUME II - APPENDIX A OFFERS ADDITIONAL HELPFUL INFORMATION.
- NO TREES SHALL BE PLANTED WITHIN A MICRO-BIORETENTION FACILITY. USE ONLY SHRUB OR HERBACEOUS SPECIES. 4. ABOVE TABLE A.4. IS FOR INFORMATIONAL PURPOSES ONLY. LANDSCAPE CONTRACTOR
- SHALL INSTALL PLANTINGS SPECIFIED OR USE APPROVED EQUAL SPECIES WHICH ARE TOLERANT TO FLUCTUATING WATER LEVELS. 5. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.

APPROVED: HOWARD COUNTY DEPARTMENT OF P Paul DilMarco	PLANNING AND ZONING 3/22/2024
CHIEF, DEVELOPMENT GINEERING DIVISION	DATE 3/22/2024
CHIEF, DIVISION DEVELOPMENT Lynda Eisenburg	DATE 3/22/2024
DIRECTOR 4220B035803942E	DATE



MICRO-BIORETENTION PLANTING REQUIREMENTS				PLANTINGS PROVIDED					PERRENIALS/GROUND COVER PROVIDED			
MBR#	LF	AREA	STEMS REQUIRED (0.0229)	STEMS PROVIDED	IG	IV	HQ	LR	PV	ВА	AG	TOTAL
RG #1	55	125	3	5	1	1	1	1	1	4	4	8
RG #2	33	70	2	5	1	1	1	1	1	2	2	4
TOTALS :	88	195	5	10	2	2	2	2	2	6	6	12
BIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0229 STEMS PER SQUARE FOOT).												

	BIORETENTION / MICRO-BIORETENTION / RAINGARDEN FACILITY - DESIGN ELEVATION CHART											
		ESD	TOP	TOP	BOTTOM	BOTTOM	INV	INV	SURFACE	APPROX	OWNER	MAINTENANCE
FACILITY	FACILITY	WSEL	MULCH	PLANT SOIL F	LANT SOIL F	EA GRAVEL	PIPE (1)	STONE	AREA	DIM	PRIVATE/	PRIVATE/
#	TYPE	Α	В	С	D	E	F	G	SF		PUBLIC	PUBLIC/JOINT
RG-1	M-7	287.00	286.00	285.75	284.25	283.92	283.34	282.34	125	SEE PLAN	PRIVATE	PRIVATE ON-LOT
RG-2	M-7	291.50	290.50	290.25	288.75	288.42	287.84	286.84	70	SEE PLAN	PRIVATE	PRIVATE ON-LOT
1) UNDERDRAIN PIPE AND OVERFLOW DISTRIBUTION PIPE												

