

EFFECTS ON WATER QUALITY AND QUANTITY STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL, WHEN A SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING THE SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS.

PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH.

VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE.

SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING,

ADEQUATE VEGETATIVE ESTABLISHMENT INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RE-SEEDINGS WITHIN THE PLANTING SEASON.

ADEQUATE VEGETATIVE STABILIZATION REQUIRED 95 PERCENT GROUNDCOVER. IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RE-STABILIZE FOLLOWING THE ORIGINAL

RECOMMENDATIONS FOR LINE, FERTILIZER, SEED BED PREPARATION, AND SEEDING. IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.

MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

AROUND THE EXCAVATION.

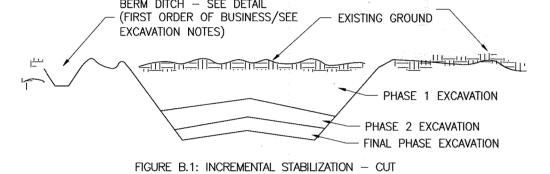
B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES

 A. INCREMENTAL STABILIZATION — CUT SLOPES. A.1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT, PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES. A.2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1.): CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF

PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED AND STABILIZE. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED AND STABILIZE. OVER-SEED PHASE 1 AREAS AS

PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED AND STABILIZE. OVER-SEED PREVIOUSLY SEEDED AREAS AS NECESSARY NOTE: ONCE EXCAVATIONS HAVE BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.



 INCREMENTAL STABILIZATION — FILL SLOPES. B.1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS WORK PROGRESSES. B.2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF LIFT REACHES 15 FEET, OR WHEN THE

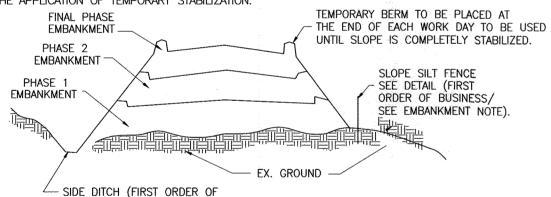
GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE (S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.

CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2.): CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.

AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY TO INTERCEPT SURFACE RUNOFF AND CONEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER. PLACE PHASE 1 FILL, PREPARE SEEDBED AND STABILIZE.

PLACE PHASE 2 FILL, PREPARE SEEDBED AND STABILIZE B.4.d. PHASE FINAL PHASE FILL, PREPARE SEEDBED AND STABILIZE. OVER-SEED PREVIOUSLY SEEDED AREAS

AS NECESSARY. NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION



BUSINESS/SEE EMBANKMENT NOTE). FIGURE B.2: INCREMENTAL STABILIZATION - FILL B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

CONDITIONS WHERE PRACTICE APPLIES WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

A. SOIL PREPARATION

A.1. TEMPORARY STABILIZATION A.1.a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOILS TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS PERMANENT STABILIZATION

A.2.a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE: SOIL pH BETWEEN 6.0 AND 7.0.

SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM) SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION OF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30

PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE

GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED

PLAN THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND

BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE, LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

A. (SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS CONT.) B. TOPSOILING

B.6. TOPSOIL APPLICATION

OF THE PRODUCER.

TOPSOIL.

A.1. SPECIFICATIONS

A.2. APPLICATION

A.2.c.d.

B.2. APPLICATION

ANCHORING

B. MULCHING

AND SEEDING RATE.

INOCULANT LESS EFFECTIVE

PHYTO-TOXIC MATERIALS.

DIRECTION.

LIME WHEN HYDROSEEDING.

UNIFORM FIBROUS PHYSICAL STATE.

PHYTO-TOXIC

PER 100 GALLONS OF WATER

FOLLOW THE CONTOUR.

B.1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

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

THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

MAY ALSO BE USED FOR CHEMICAL ANALYSES.

SOIL BY DISKING OR OTHER SUITABLE MEANS.

OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

B.4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

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

JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

B.6.1. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL

B.3.d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

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

B.1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW

FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

B.3.b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS

B.3.a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE

B.5.a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND

OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY

THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED

SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE

B.5.b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS,

B.6.2. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS

B.6.3. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN

C.1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME

C.2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY

APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED

C.3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN

C.4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF

C.5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT

B-4-3 STANDARDS AND SPECIFICATIONS FOR

SEEDING AND MULCHING

CONDITIONS WHERE PRACTICE APPLIES

A.1.a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO

A.1.b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN.

A.1.d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHEN IT HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS

A.2.a.a. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1;

DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

A.2.c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

MIX SEED FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

WCFM, INCLUDING DYE. MUST CONTAIN NO GERMINATION OF GROWTH INHIBITING FACTORS

B.1.a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR.

B.1.b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A

#100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREAS NOT UNDER ACTIVE GRADING

THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.

A.2.a. DRY SEEDING: THIS INCLUDED USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

OF SOIL COVERING SEEDBED MUST BE FIRM AFTER PANTING

PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.

WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

B.2.a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING

WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.

HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM

APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE

ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY

OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A

THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF

RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS

THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED

IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING

INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF

THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS

USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MINIMUM) TO PERMIT DISSIPATION OF

APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH

CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEASE 1 INCH

FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O2 (PHOSPHORUS), 200 POUNDS

LIME: USE ONLY GROUND LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY,

NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED

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

WCFM IS O BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE

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,

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

MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT

UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT

THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO

WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX

THE WOOD FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER

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

A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE

FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD

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

SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR

APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS

RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER.

IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER

SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO

FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A

WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE

WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10

WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A

DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH

IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE

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

POSSIBLE UNTIL USED. TEMPERATURES ABOVE 50 TO 60 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE

FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, AND OTHER MATERIALS LARGER THAN 1 1 INCHES IN DIAMETER.

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.

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 SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER

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

MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL B.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 TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE

DES: **RLI** DRN: RLI CHK: EJS DATE: **JUNE 2024**

EROSION AND SEDIMENT CONTROL NOTES

ELECTION DISTRICT NO. 1

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT DEMOLITION

HOWARD COUNTY, MARYLAND

TAX MAP: 38

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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.

CONDITIONS WHERE PRACTICE APPLIES

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.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 B.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 SEEDING. 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SEEDING AND MULCHING SECTION, PART A SEEDING, NUMBER 1 SPECIFICATIONS SUB HEADING b. AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.
TEMPORARY SEEDING SUMMARY

	SEED MI FROM TA	XTURE (HARDINE ABLE 26	FERTILIZER RATE	LIME RATE		
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING (10-10-10) DEPTHS		LIME RATE
1	CEREAL RYE	112	3/15-5/15 8/1-11/15	1 INCH	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/
2	FOXTAIL MILLET	20	5/16-7/31	1/2 INCH	(10 LB) 1000 SI)	1000 SF)

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

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

A.1. GENERAL USE A.1.a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND BASED ON THE SITE CONDITION OR PURPOSE FOUND IN TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN 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

FOR AREAS RECEIMING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENT SHOWN IN THE PERMANENT SEEDING SUMMARY.

AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE.

ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE

SUMMARY IS TO BE PLACED ON THE PLAN. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE, RECOMMEND 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. 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 INTENSE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE 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. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95-100 PERCENT; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE

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 60 TO 70 PERCENT. SEEDING RATE 1 1 TO 3 POUNDS PER 1000 SQUARE FEET. NOTES: 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. THE CERTIFICATION PROGRAM OF MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

A.2.c. IDEAL TIMES OF SEEDING FOR TURFGRASS MIXTURES WESTERN MARYLAND: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL MARYLAND: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) SOUTHERN MARYLAND, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A,

A.2.d. 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 1 1 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY

A.2.e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH () 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

PERMANENT SEEDING SUMMARY

	SEED MI FROM TA	XTURE (HARD ABLE B5	FEF (10	LIME				
NO.	SPECIES	APPLICATION RATE(LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	RATE
1	ERNST SEED MIX ERNMX-138 WILDLIFE FOOD & SHELTER MIX	20	3/15-10/31	1 INCH		NOT NEE	DED	NOT NEEDED

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER)

B.1. GENERAL SPECIFICATIONS B.1.a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR

SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF \$\frac{1}{4}\$ INCH, PLUS OR MINUS \$\frac{1}{4}\$ INCH, AT THE TIME OF CUTTING, MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH, BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE STANDARD SIZE SECTION 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. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL

SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION. B.2. SOD INSTALLATION B.2.a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE

SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. 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.

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 UNDERLYING SOIL SURFACE.

WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND RRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS. B.3. SOD MAINTENANCE

B.3.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 AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

DO NO MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN \$ OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

B-4-6 STANDARDS AND SPECIFICATIONS FOR SOIL STABILIZATION MATTING

CONDITIONS WHERE PRACTICE APPLIES ON NEWLY SEEDED SURFACES TO PREVENT THE APPLIED SEED FROM WASHING OUT; IN CHANNELS AND ON STEEP SLOPES WHERE THE FLOW HAS EROSIVE VELOCITIES OR CONVEYS CLEAR WATER; ON TEMPORARY SWALES, EARTH DIKES, AND PERIMETER DIKE SWALES AS REQUIRED BY THE RESPECTIVE DESIGN STANDARD; AND, ON STREAM BANKS

WHERE MOVING WATER IS LIKELY TO WASH OUT NEW VEGETATIVE PLANTINGS. THE SOIL STABILIZATION MATTING THAT IS USED MUST WITHSTAND THE FLOW VELOCITIES AND SHEAR STRESSES DETERMINED FOR THE AREA, BASED ON THE 2-YEAR, 24-HOUR FREQUENCY STORM FOR TEMPORARY APPLICATIONS AND THE 10-YEAR, 24-HOUR FREQUENCY STORM FOR PERMANENT APPLICATIONS. DESIGNATE ON THE PLAN

THE TYPE OF SOIL STABILIZATION MATTING USING THE STANDARD SYMBOL AND INCLUDE THE CALCULATED SHEAR STRESS FOR THE RESPECTIVE TREATMENT AREA. MATTING IS REQUIRED ON PERMANENT CHANNELS WHERE THE RUNOFF VELOCITY EXCEEDS TWO AND A HALF FEET PER SECOND (2.5 FPS) OR THE SHEAR STRESS EXCEEDS TWO POUNDS PER SQUARE FOOT (2 LBS/FT2). ON TEMPORARY CHANNELS DISCHARGING TO A SEDIMENT TRAPPING PRACTICE, PROVIDE MATTING WHERE THE RUNOFF VELOCITY EXCEEDS FOUR FEET PER SECOND (4 FPS)

TEMPORARY SOIL STABILIZATION MATTING IS MADE WITH DEGRADABLE (LASTS 6 MONTHS MINIMUM), NATURAL, OR MANMADE FIBERS OF UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND IS SMOLDER RESISTANT. THE MAXIMUM PERMISSIBLE VELOCITY FOR TEMPORARY MATTING IS 6 FEET PER SECOND.

PERMANENT SOIL STABILIZATION MATTING IS AN OPEN WEAVE, SYNTHETIC MATERIAL CONSISTING OF NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION OF WEAVE THROUGHOUT. THE MAXIMUM PERMISSIBLE VELOCITY FOR PERMANENT MATTING IS 8.5 FEET PER SECOND.

5. CALCULATE THE CHANNEL VELOCITY AND SHEAR STRESS USING THE FOLLOWING PROCEDURE:

t = SHEAR STRESS (LB/FT³)Y = WEIGHT DENSITY OF WATER (62.4 LB/FT³)

R = AVERAGE WATER DEPTH (HYDRAULIC RADIUS) (FT)

 $S_{W} = WATER SURFACE SLOPE (FT/FT)$

VELOCITY (V) MEASURES THE RATE OF FLOW THROUGH A DEFINED AREA AND IS CALCULATED AS:

 $V = 1.486 * R^{2/3} * s^{1/2}$

 $t = Y * R * S_w$

V = VELOCITY (FT/SEC)n = MANNINGS COEFFICIENT OF ROUGHNESS

R = HYDRAULIC RADIUS (FT)S = CHANNEL SLOPE (FT/FT)

6. USE TABLE B.7 TO ASSIST IN SELECTING THE APPROPRIATE SOIL STABILIZATION MATTING FOR SLOPE APPLICATIONS BASED ON THE SLOPE, THE SLOPE LENGTH, AND THE SOIL-ERODABILITY K FACTOR.

Τ.	ABL	E B	.7:	S 0 1	L S	TABI	LIZ	ATIO	N O	N S	SLO	PES			
SLOPE	20:1	OR FL (≤ 5%)		<20:1	TO 4:1 - 25%)		<4:1 T	ГО 3:1 – 33%	(>25		:1 TO 2 33 - 4	2.5:1 -0%)		5:1 TO 40 – 5	
SLOPE LENGTH (FEET)*	0-30	30–60	60-120	0-30	30–60	60-120	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120
STRAW MULCH/WOOD CELLULOSE FIBER			X	F	OR K	$\zeta \leq 0.3$	35 **	*							
TEMPORARY MATTING WITH DESIGN SHEAR ≥ 1.5 LB/SF															
TEMPORARY MATTING WITH DESIGN SHEAR STRESS ≥ 1.75 LB/SF															
TEMPORARY MATTING WITH DESIGN SHEAR STRESS ≥ 2.0 LB/SF															
TEMPORARY MATTING WITH DESIGN SHEAR STRESS ≥ 2.25 LB/SF														·	

EFFECTIVE RANGE FOR ALL K VALUES UNLESS OTHERWISE SPECIFIED

* SLOPE LENGTH INCLUDES CONTRIBUTING FLOW LENGTH. ** SLOPES STEEPER THAN 2:1 MUST BE ENGINEERED

*** SOIL HAVING A K VALUE LESS THAN OR EQUAL TO 0.35 CAN BE STABILIZED EFFECTIVELY WITH STRAW MULCH OR WOOD CELLULOSE FIBER WHEN LOCATED ON SLOPES STEEPER THAN 5%. SOIL STABILIZATION MATTING IS REQUIRED ON ALL SLOPES STEEPER THAN 5% THAT HAVE A K FACTOR GREATER THAN 0.35. K FACTOR RATINGS ARE PUBLISHED IN THE NRCS SOIL SURVEY http://websoilsurvey.nrcs.usda.gov/app. DURING CONSTRUCTION OR RECLAMATION, THE SOIL ERODABILITY K VALUE SHOULD REPRESENT THE UPPER 6 INCHES OF THE FINAL FILL MATERIALS RE-SPREAD AS THE LAST LIFT. ONLY THE EFFECTS OF ROCK FRAGMENTS WITHIN THE SOIL PROFILE ARE CONSIDERED IN THE ESTIMATION OF THE K VALUE. DO NOT ADJUST K VALUES TO ACCOUNT FOR ROCKS ON THE SOL SURFACE OR INCREASES IN SOIL ORGANIC MATTER RELATED TO MANAGEMENT ACTIVITIES.

MAINTENANCE VEGETATION MUST BE ESTABLISHED AND MAINTAINED SO THAT THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH VEGETATIVE STABILIZATION SECTION

> B-4-7 STANDARDS AND SPECIFICATIONS FOR **HEAVY USE AREA PROTECTION**

CONDITIONS WHERE PRACTICE APPLIES THIS PRACTICE APPLIES TO INTENSIVELY USED AREAS (e.g., EQUIPMENT AND MATERIAL STORAGE, STAGING AREAS, HEAVILY USED TRAVEL LANES).

A MINIMUM 4-INCH BASE COURSE OF CRUSHED STONE OR OTHER SUITABLE MATERIALS INCLUDING WOOD CHIPS OVER NONWOVEN GEOTEXTILE SHOULD BE PROVIDED AS SPECIFIED IN SECTION H-1 MATERIALS.

SELECT THE STABILIZING MATERIAL BASED ON THE INTENDED USE, DESIRED MAINTENANCE FREQUENCY, AND RUNOFF CONTROL

THE TRANSPORT OF SEDIMENTS, NUTRIENTS, OILS, CHEMICALS, PARTICULATE MATTER ASSOCIATED WITH VEHICULAR TRAFFIC AND EQUIPMENT, AND MATERIAL STORAGE NEEDS TO BE CONSIDERED IN THE SELECTION OF MATERIAL. ADDITIONAL CONTROL MEASURES MAY BE NECESSARY TO CONTROL SOME OF THESE POTENTIAL POLLUTANTS.

SURFACE EROSION CAN BE A PROBLEM ON LARGE HEAVY AREAS. IN THESE SITUATIONS, MEASURES TO REDUCE THE FLOW LENGTH OF RUNOFF OR EROSIVE VELOCITIES NEED TO BE CONSIDERED.

THE HEAVY USE AREAS MUST BE MAINTAINED IN A CONDITION THAT MINIMIZES EROSION. THIS MAY REQUIRE SUITABLE MATERIAL, AS SPECIFIED ON THE APPROVED PLANS, TO MAINTAIN A CLEAN SURFACE.

> B-4-8 STANDARDS AND SPECIFICATIONS FOR <u>STOCKPILE AREA</u>

CONDITIONS WHERE PRACTICE APPLIES STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH LAND GRADING SECTION.

RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. ACCESS TO THE STOCKPILE AREA FROM UPGRADE SIDE. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.

WHERE RUNOFF CONCENTRATED ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE

7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS INCREMENTAL STABILIZATION STANDARD AND TEMPORARY 8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH VEGETATIVE STABILIZATION SECTION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH LAND GRADING SECTION.

APPROVED: DEPARTMENT OF PLANNING AND ZONING Dun Cp/28/2A

CHIEF DEVELOPMENT ENGINEERING DIVISION 6/27/24 CHIEF, DIVISION OF LAND DEVELOPMENT

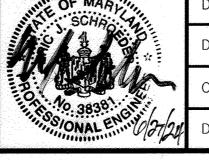
MARYLAND, 10461 MILL RUN CIRCLE

OWINGS MILLS, MD 21117-55

PHONE: 410.265.9500

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

EXPIRATION DATE: JANUARY 5, 2026 LICENSE NO. 38381 Madelle



600 SCALE MAP NO. 38 BLOCK NO. 10 REVISIONS

CONTRACT NO. 10 - 4635

CAPITAL PROJECT NO. W - 8603

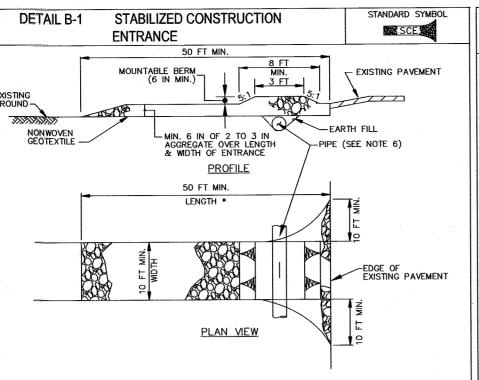
GRID: 10 PARCELS: 359-366 368-370,372,821,833

SHEET 7 OF 1

SDP-79-11Z

SILT FENCE CONSTRUCTION SPECIFICATIONS

- 1. USE WOOD POSTS 13/4 X 13/4 ± 1/6 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD " OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR
- 2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART
- 3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS & FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE
- 4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE
- USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- 5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL & COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- 6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, & STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. 7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET
- 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT & DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25 percent OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.



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 FEET) FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE
- 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 & 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 & HAS NO DRAINAGE 1 CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED
- PREPARE SUBGRADE & PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT
- 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, & SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE &/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, &/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 & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTRO MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

> 3-1 STANDARDS AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE

- A layer of aggregate that is underlain with nonwoven geotextile at points of ingress and egress of the construction site.
- To reduce tracking of sediment onto roadways and provide a stable area for entrance to or exit from the construction site.
- CONDITIONS WHERE PRACTICE APPLIES Stabilized construction entrances must be located at all points of construction ingress and

- 1. Where possible, locate the stabilized construction entrances at the high side of the project area. For single family residential lots, locate the entrance at the permanent drivewa
- Stabilized construction entrances cannot be installed over pavement. . Minimum lenath is 50 feet (30 feet for single family residential lots)
- 5. Minimum width is 10 feet. Flare entrance 10 feet minimum at the existing road to 6. The orientation of the stabilized construction entrance may vary from a straight line
- to a curve or "T" shape depending on the topography and right-of-way. 7. All surface water flowing to or diverted toward the stabilized construction entrance (SCE) must be piped under the entrance. Size the pipe to convey the runoff generated by the 2-year, 24-hour frequency storm at minimum. The minimum permissible pipe size is 6 inches. When the entrance is located at a high spot and has no drainage to convey, a pipe is not necessary.

MECHANICAL PLUG

CONCRETE MIX

Abandonment

Pipe at Manhole

RESHAPE AND FILL EXISTING CHANNEL AS NECESSARY TO PROVIDE SMOOTH CONTOUR BETWEEN INCOMING AND OUTGOING PIPES.

PARGING TO EXTEND 2"
MINIMUM ON MANHOLE
WALL ALL AROUND PIPE

- EXISTING MANHOLE TO REMAIN

PIPE TO BE

The SCE must be maintained in a condition that minimizes tracking of sediment. This may equire adding stone or making other repairs as conditions demand to maintain a clean surface, the mountable berm, and the specified dimensions. All stone or sediment spilled dropped, or tracked onto the adjacent roadway must be removed immediately by vacuuming, scraping, and/or sweeping. Washing the roadway to remove mud tracked onto pavement is not acceptable unless the wash water is directed to an approved sediment

STANDARD SEDIMENT CONTROL NOTES

STANDARD SYMBOL

 \boxtimes FB

5 percen

WULCH, LEAF/WOOD COMPOST

ASTM D-4833

ASTM D-4491

WATER MANAGEMENT ADMINISTRATION

ASTM D-4355

FILTER

PLAN VIEW

ELEVATION

TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.

STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.

PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR

STRAW BALES) LOCATED ON A LEVEL OR 5 percent MAXIMUM SLOPING SURFACE. DISCHARGE TO A

CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE

WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING

REMOVE & PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA & STABILIZE WITH SEED & MULCH BY THE END OF THE

USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. S

70 GAL/MIN/FT2

SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST B MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL

REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP

CONNECTION BETWEEN PUMP HOSE & FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES

MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL

F-4 STANDARDS AND SPECIFICATIONS FOR FILTER BAG

When dewatering is needed in association with excavations, trenches, cofferdams, sediment

The filter bag should be placed in a location that allows for ease of disposal of the

sediment and has minimal interference with construction activities and pedestrian traffic.

If the filter bag clogs, it needs to be replaced. Rips, tears, and punctures also necessitate replacement of the filter bag. The connection between the pump hose and the filter bag.

needs to be kept water tight during operation. If the bedding becomes displaced, it must

A geotextile bag through which sediment laden water is pumped.

To filter sediment laden water prior to discharge

CONDITIONS WHERE PRACTICE APPLIES

DESIGN CRITERIA

be replaced.

WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL

70 percent STRENGTH @ 500 HOURS

-STRAF

PUMP DISCHARGE HOSE

FLOW RATE

UV RESISTANCE

SEAM STRENGTH

CONSTRUCTION SPECIFICATIONS

- 1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD & PROTECTED AREAS ARE MARKED 1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: PRIOR TO THE START OF EACH DISTURBANCE; UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION & SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING; PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT; & PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- 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 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 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) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- 4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN TEMPORARILY 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 OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
- 5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.
- SITE IS DEFINED AS AREAS INVOLVING ANY IMPROVEMENT 6. SITE ANALYSIS

6.00 Acres TOTAL AREA OF SITE <u>1.80</u> Acres AREA DISTURBED <u>0.00</u> Acres AREA TO BE PAVED _1.80 __ Acres AREA TO BE VEGETATIVELY STABILIZED 720 Cu. Yds. 1592 Cu. Yds. TOTAL CUT TOTAL FILL

OFFSITE WASTE/BORROW AREA LOCATION: A SITE WITH AN ACTIVE GRADING PERMIT APPROVED BY THE CID INSPECTOR

- 7. ANY SEDIMENT CONTROL PRACTICES WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE & ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; & THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION & SHOULD INCLUDE: INSPECTION DATE, INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT), NAME & 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) AND/OR CURRENT ACTIVITIES, 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 & STABILIZATION REQUIREMENTS, PHOTOGRAPHS, MONITORING/SAMPLING, MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED, OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- 9. 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 EACH WORKDAY, WHICHEVER IS SHORTER.
- 10. ANY MAJOR CHANGES OR REVISIONS ON THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED & APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
- 11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. 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 LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED & APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED & APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- 12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, & OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ONOSITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- 14. ALL SILT FENCE & SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR & BE IMBRICATED AT 25' MINIMUM INTERVALS WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
- 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIOD: USE CLASS I, MARCH 1ST TO JUNE 15TH.
- 16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL, & ASSOCIATED PERMITS SHALL BE ON-SITE & AVAILABLE WHEN THE SITE IS ACTIVE.

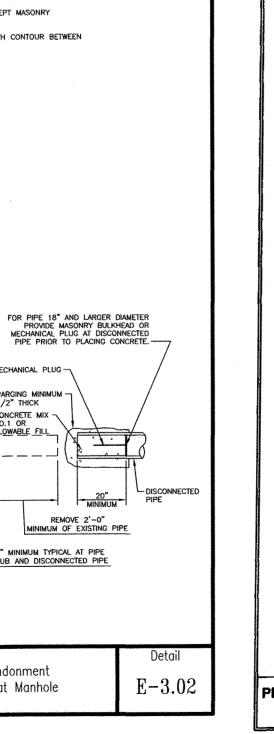
REMOVE MANHOLE TO 1'-6" MINIMUM BELOW GRADE FILL MANHOLE SOLID WITH FLOWABLE FILL OPTION 2 REMOVE MANHOLE SECTION TO BASE, PLUG PIPES & FILL WITH FLOWABLE FILL

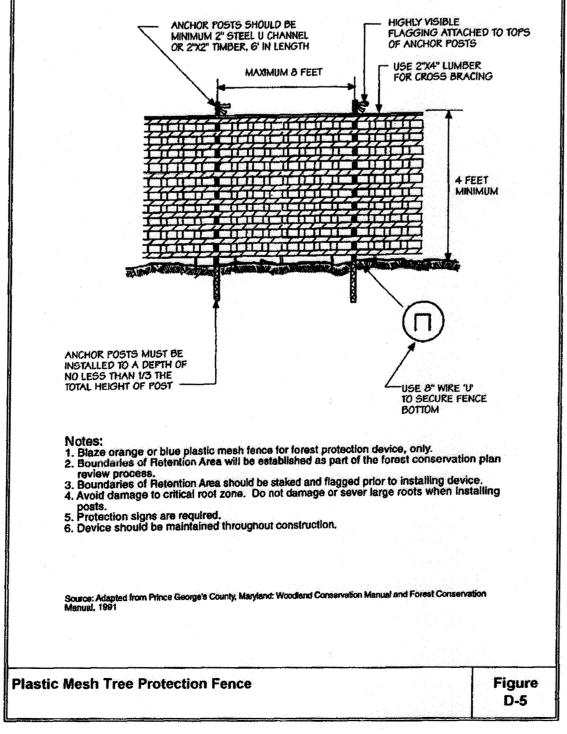
MANHOLE ABANDONMENT

NOT TO SCALE

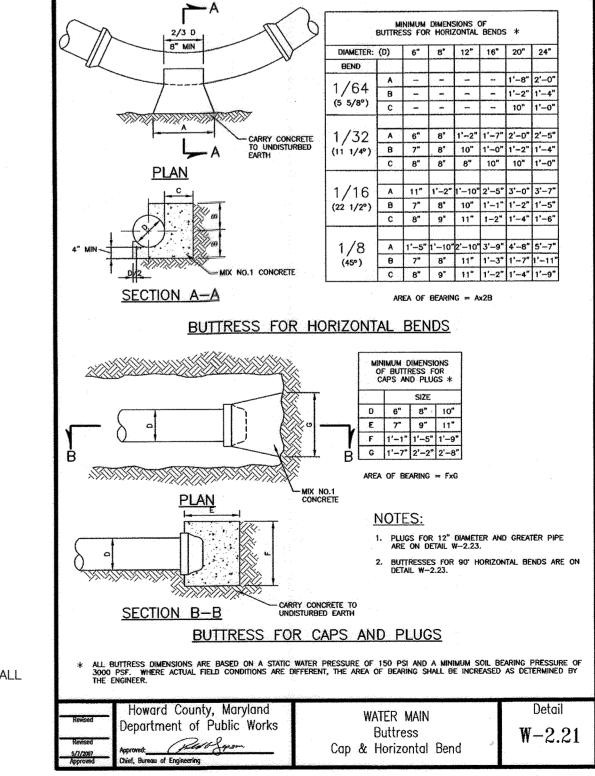
BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, & 100 YEAR FLOODPLAIN

- NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
- 2. PLACE MATERIALS IN A LOCATION & MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR
- 3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF ANY WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER
- 4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS.
- 5. REPAIR & MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100 YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- IMPACTED BY ANY CONSTRUCTION.
- 7. ALL STABILIZATION IN THE NONTIDAL WETLAND & NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), &/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS & WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED & MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- 8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES & ELEVATIONS THE SAME AS THE ORIGINAL GRADES & ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- 9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM: USE CLASS I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1ST JUNE 15TH, INCLUSIVE, DURING ANY YEAR.
- 10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS
- 11. CULVERTS SHALL BE CONSTRUCTED & ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATION SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER. THIS PROJECT DOES NOT INCLUDE INSTALLATION OF CULVERTS OR RIPRAP.
- 12. DEEP RUN IS NOT A TIER II WATERWAY.
- 13. DEEP RUN IMPAIRMENT RESULTS FROM MDE; CONTAINS BACTERIA, IONS, METALS, NUTRIENTS, SEDIMENTS, & CHLORDANE PESTICIDE. CHECKED OCTOBER 10, 2023.





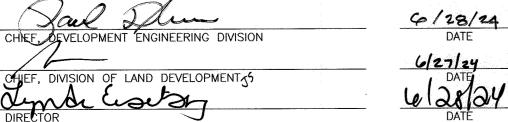
-SET MECHANICAL PLUGS INTO ALL PIPES ENTERING MANHOLE AS



APPROVED: DEPARTMENT OF PLANNING AND ZONING

PIPE TO REMAIN

Howard County, Maryland epartment of Public Works



Dewberry Dewberry Engineers Inc. 10461 MILL RUN CIRCLE

SUITE #300

OWINGS MILLS, MD 21117

PHONE: 410.265.9500

FAX: 410.265.8875

PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED R APPROVED BY ME. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF

LICENSE NO. 38381

Whedle

Signature of Engineer

EXPIRATION DATE: JANUARY 5, 2026

DES: RLI DRN: RLI CHK: **EJS** DATE: **JUNE 2024** NO. REVISIONS

EROSION AND SEDIMENT CONTROL DETAILS

600 SCALE MAP NO. 38

BLOCK NO. 10

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT DEMOLITION

ELECTION DISTRICT NO. 1

CAPITAL PROJECT NO. W - 8603

CONTRACT NO. 10 - 4635

368-370,372,821,833 SHEET 8 OF 11 **HOWARD COUNTY, MARYLAND**

SCALE:

DEED: 97/423

TAX MAP: 38

PARCELS: 359-366

GRID: 10

3. Site analysis field work completed in October 2023 by Dewberry.

All vertical controls are based on NAVD '88.

- 4. Horizontal and Vertical Survey Controls: The coordinates shown on the drawings refer to the Maryland State Reference System NAD '83/'91 based on GPS observation using the following National Spatial Reference System control stations: JV0983 and JV6581.
- 5. Contractor shall remove trees, stumps and roots along the line of excavation. Payment for such removal shall be included in the unit price bid for abandonment or demolition of structures and utilities.
- 6. Trench repair shall be in accordance with Howard County Standard Details.
- 7. Contractor is advised that existing overhead and underground electrical services may be active and hazardous. Contact BGE to deactivate.
- 8. Wetland areas shown were obtained from MD DNR GIS Database

WEB SOIL SURVEY TABLE

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP	HYDRIC RATING
Ср	Codorus & Hatboro soils, 0-2% slopes	D	YES
Ha	Hatboro-Codorus silt loam, 0-3% slopes	D	YES
SfB	Sassafras gravelly sandy loam, 2-5% slopes	С	YES

STAND SUMMARY:

Down and Down MV AD		D-4 10/20/22	
Prepared By: MV, AD Stand Variable	To: To:	Date: 10/20/23	Ta: 14 FG 2
Stariu Variable	Stand #FS-1	Stand # FS-2	Stand #FS-3
Dominant species/Codominant species	Pinus strobus, Ulmus americana,Prunus serotina	Quercus coccinea, Quercus stellata, Quercus alba	Platanus occidentalis, Prunus serotina, Acer rubrum, Fraxinus pennsylvanica
Successional stage	Mid	Mid-late	Mid
3. Basal area in s.f. per acre	70	75	70
4. Size class of dominant species	12" - 19.9" DBH	12" - 19.9" DBH	20" - 29.9" DBH
5. Percent of canopy closure	61%	65%	52%
6. Number of tree species per acre	3	4	6
7. Common understory species per acre	Lonicera spp., Ligustrum sinense	Lonicera spp., Ligustrum vulgare, Pyrus calleryana, Wisteria sp.	Lonicera sp., Fraxinus pennsylvanica
Percent of understory cover 3' to 20' tall	70%	72%	65%
9. Number of woody plant species 3' to 20' tall	4	4	4
10. Common herbaceous species 0' to 3' tall	Lonicera japonica, Smilax rotundifolia, Toxicodendron radicans	Wisteria sp., Lonicera japonica, Smilax rotundifolia, Allaria periolata	Lonicera japonica, Alliaria petiolata Rubus allegheniensis
11. Percent of herbaceous & woody plant cover 0' to 3' tall	30%	70%	45%
12. List of major invasive plant species & percent of cover	Lonicera spp., Ligustrum sinense, Lonicera japonica, Celastrus orbiculatus, Ampelopsis brevipedunculata - 85% of understory and 90% of herbaceous	Lonicera japonica, Wisteria sp., Allaria periolata - 98% of understory and 68% of herbaceous	Lonicera spp.,Lonicera japonica, Alliaria petiolate- 75% of understory and 60% of herbaceous
13. Number of standing dead trees 6" dbh or greater	0	1	1
14. Comments	Priority 1 due to 100 year floodplain.	Priority 1 due to 100 year floodplain and stream buffer.	Priority 1 due to 100 year floodplain a

SPECIMEN TREE TABLE

TREE	COMMON NAME	SCIENTIFIC NAME	DBH (in.)	CRZ (ft.)	CONDITION	REMARKS	LOSS
1	Scarlet Oak	Quercus Coccinea	31	46.5	Poor	Large broken stem and cavity.	Х
2	Scarlet Oak	Quercus Coccinea	45	67.5	Poor	Covered with vines.	
3	Sycamore	Platanus Occidentalus	40	60	Poor	Multi-stem below 4.5 feet. Tree #4 is one of the other stems.	
4	Sycamore	Platanus Occidentalus	39	58.5	Poor	Multi-stem below 4.5 feet. Tree #3 is one of the other stems.	
5	Red Maple	Acer Rubrum	50	75	Fair		
6	Sycamore	Platanus Occidentalus	45	67.5	Good		
7	Sycamore	Platanus Occidentalus	32	48	Poor	Multi-stem below 4.5 feet. Two smaller stems are dead.	
8	Scarlet Oak	Quercus Coccinea	37	55.5	Good		

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Co/28/24 DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION UZ7/ZY

DATE

DATE CHIEF, DIVISION OF LAND DEVELOPMENTS

Dewberry 10461 MILL RUN CIRCLE **SUITE #300 OWINGS MILLS, MD 21117-55**

PHONE: 410.265.9500

FAX: 410.265.8875

DES: MJS DRN: MJS CHK: MV DATE: JUNE 2024 BY NO. **REVISIONS**

SCALE: 1"=50'

FOREST STAND DELINEATION PLAN

BLOCK NO. 10

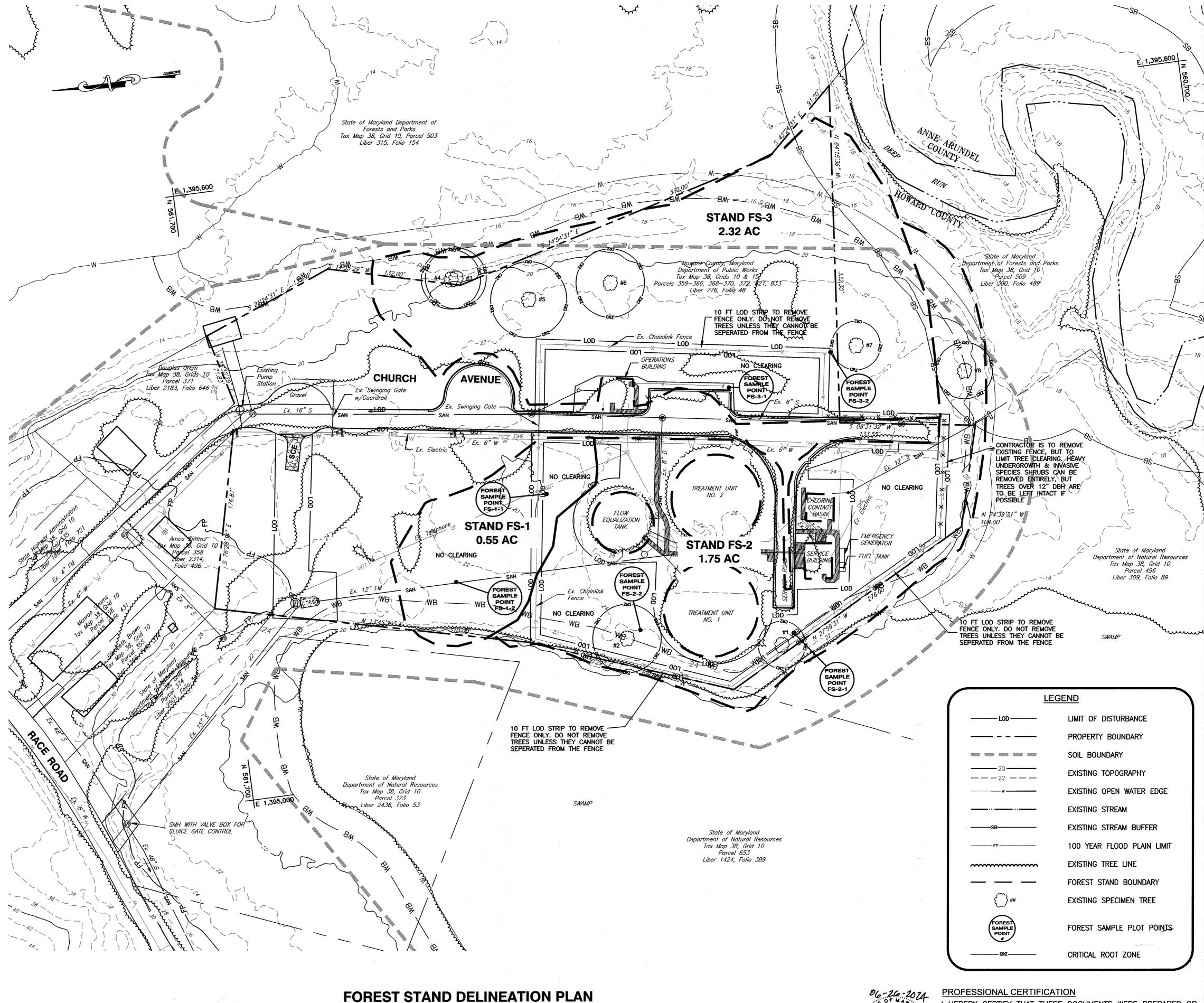
600 SCALE MAP NO. 38

CONTRACT NO. 10 - 4635

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT DEMOLITION

HOWARD COUNTY, MARYLAND

DEED: 97/423



ELECTION DISTRICT NO. 1

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 3420 EXPIRATION DATE 07-12-2029

CAPITAL PROJECT NO. W - 8603

TAX MAP: 38 SCALE: GRID: 10 PARCELS: 359-366, 368-370,372,821,833 SHEET

SDP-79-11Z

<u>9</u> OF <u>11</u>

2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON MAY 2008 BY DEWBERRY.

3. SITE ANALYSIS FIELD WORK COMPLETED IN OCTOBER 2023 BY DEWBERRY. 4. HORIZONTAL AND VERTICAL SURVEY CONTROLS:

THE COORDINATES SHOWN ON THE DRAWINGS REFER TO THE MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 BASED ON GPS OBSERVATION USING THE FOLLOWING NATIONAL SPATIAL REFERENCE SYSTEM CONTROL STATIONS: JV0983 AND JV6581.

ALL VERTICAL CONTROLS ARE BASED ON NAVD '88.

5. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ABANDONMENT OR DEMOLITION OF STRUCTURES AND UTILITIES.

6. TRENCH REPAIR SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS.

7. CONTRACTOR IS ADVISED THAT EXISTING OVERHEAD AND UNDERGROUND ELECTRICAL SERVICES MAY BE ACTIVE AND HAZARDOUS. CONTACT BGE

8. WETLAND AREAS SHOWN WERE OBTAINED FROM MD DNR GIS DATABASE

SITE DATA:

1. TOTAL PARCEL AREA: 6.00 ACRES

TOTAL TRACT AREA: 6.00 ACRES

AREA IN 100-YEAR NONTIDAL FLOODPLAIN: 5.91 ACRES

. NET TRACT AREA: 6.00 ACRES EXISTING LAND USE CATEGORY: INSTITUTIONAL

6. TOTAL AREA OF EXISTING FOREST COVER: 4.27 ACRES

TOTAL AREA OF PROPOSED FOREST CLEARING: 0.77 ACRES 8. TOTAL AREA OF PROPOSED REFORESTATION: 0.00 ACRES

9. TOTAL AREA OF PROPOSED AFFORESTATION: 0.00 ACRES

	FOREST CONSERVATION WORKSHEET		: Use 0 for a
N	et Tract Area	that	tive number result fron
		the G	alculation
	 A. Total Tract Area B. Deductions (Critical Area, area restricted by local ordinance or program) 	B=	
	C. Net Tract Area Net Tract Area = Total Tract (A) - Deductions (B)	C=	
Lan	d Use Category: Institutional		
	 D. Afforestation Inresnoid (Net Tract Area [C] x 15 %) E. Conservation Threshold (Net Tract Area [C] x 20 %) 	D = E=	
Exis	sting Forest Cover		
	F. Existing Forest Cover within the Net Tract Area	F=	
	G. Area of Forest Above Conservation Threshold	G=	0.01
	If the Existing Forest Cover (F) is greater than the Conservation Threshold (E), then $G = F - E$; otherwise $G = 0$.		
	G-I-L, Otherwise G-U.		
Bre	akeven Point		
	H. Breakeven Point (Amount of forest that must be retained so that no mitigation is required)	H=	0.02
	(1) If the Area of Forest Above Conservation Threshold (G) is greater than 0, then H = (0.2 x the Area of Forest Above Conservation Threshold (G)) + the		
	Conservation Threshold (E); (2) If the Area of Forest Above Conservation Threshold (G) is <u>equal to</u> 0, then H= Existing Forest Cover (F)		
	I. Forest Clearing Permitted Without Mitigation	-	0.02
	I = Existing Forest Cover (F) – Breakeven point (H)		
_			
Pro	posed Forest Clearing		0.0
	1 Total Area of Forest to be Cleared	J=	v.v
	J. Total Area of Forest to be Cleared	J=	Ų.V
	J. Total Area of Forest to be Cleared K. Total Area of Forest to be Retained	J= K=	
Dior	K. Total Area of Forest to be RetainedK = Existing Forest Cover (F) – Forest to be Cleared (J)		
Plar	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Iting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no		
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Plar	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Iting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no	K=	0.03
Plar L.	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Iting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no planting is required, and no further calculations are necessary (L=0, M=0, N=0, P=0, Q=0, R=0). Otherwise, calculate the planting requirement(s) as follows: Reforestation for Clearing Above the Conservation Threshold		0.03
	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Inting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no planting is required, and no further calculations are necessary (L=0, M=0, N=0, P=0, Q=0, R=0). Otherwise, calculate the planting requirement(s) as follows: Reforestation for Clearing Above the Conservation Threshold (1) If the Total Area of Forest to be Retained (K) is greater than the	K=	0.03
	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Iting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no planting is required, and no further calculations are necessary (L=0, M=0, N=0, P=0, Q=0, R=0). Otherwise, calculate the planting requirement(s) as follows: Reforestation for Clearing Above the Conservation Threshold (1) If the Total Area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then L = the Area of Forest to be Cleared (J) x 0.25;	K=	0.03
	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Inting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no planting is required, and no further calculations are necessary (L=0, M=0, N=0, P=0, Q=0, R=0). Otherwise, calculate the planting requirement(s) as follows: Reforestation for Clearing Above the Conservation Threshold (1) If the Total Area of Forest to be Retained (K) is greater than the	K=	0.03
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L. M.	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Inting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no planting is required, and no further calculations are necessary (L=0, M=0, N=0, P=0, Q=0, R=0). Otherwise, calculate the planting requirement(s) as follows: Reforestation for Clearing Above the Conservation Threshold (1) If the Total Area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then L = the Area of Forest to be Cleared (J) x 0.25; (2) If the Forest to be Retained (K) is less than or equal to the Conservation Threshold (E), then L = Area of Forest Above Conservation Threshold (G) x 0.25 Reforestation for Clearing Below the Conservation Threshold (1) If Existing Forest Cover (F) is greater than the Conservation Threshold (E) and the Forest to be Retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 x (Conservation Threshold (E) – Forest to be Retained (K)) (2) If Existing Forest Cover (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 x Forest to be Cleared (J) Credit for Retention Above the Conservation Threshold If the area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then N = K - E; Otherwise N=0 Total Reforestation Required P = L + M - N	K= M=	0.03
L. M. N.	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Itting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no planting is required, and no further calculations are necessary (L=0, M=0, N=0, P=0, Q=0, R=0). Otherwise, calculate the planting requirement(s) as follows: Reforestation for Clearing Above the Conservation Threshold (1) If the Total Area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then L = the Area of Forest to be Cleared (J) x 0.25; (2) If the Forest to be Retained (K) is less than or equal to the Conservation Threshold (E), then L = Area of Forest Above Conservation Threshold (G) x 0.25 Reforestation for Clearing Below the Conservation Threshold (1) If Existing Forest Cover (F) is greater than the Conservation Threshold (E) and the Forest to be Retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 x (Conservation Threshold (E) – Forest to be Retained (K)) (2) If Existing Forest Cover (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 x Forest to be Cleared (J) Credit for Retention Above the Conservation Threshold If the area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then N = K - E; Otherwise N=0	K= N= P=	0.03
L. M. N.	K. Total Area of Forest to be Retained K = Existing Forest Cover (F) – Forest to be Cleared (J) Inting Requirements If the Total Area of Forest to be Retained (K) is at or above the Breakeven Point (H), no planting is required, and no further calculations are necessary (L=0, M=0, N=0, P=0, Q=0, R=0). Otherwise, calculate the planting requirement(s) as follows: Reforestation for Clearing Above the Conservation Threshold (1) If the Total Area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then L = the Area of Forest to be Cleared (J) x 0.25; (2) If the Forest to be Retained (K) is less than or equal to the Conservation Threshold (E), then L = Area of Forest Above Conservation Threshold (G) x 0.25 Reforestation for Clearing Below the Conservation Threshold (G) x 0.25 Reforestation for Clearing Below the Conservation Threshold (E), then M = 2.0 x (Conservation Threshold (E) – Forest to be Retained (K)) is less than or equal to the Conservation Threshold (E), then M = 2.0 x (Conservation Threshold (E) – Forest to be Retained (K)) (2) If Existing Forest Cover (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 x Forest to be Cleared (J) Credit for Retention Above the Conservation Threshold If the area of Forest to be Retained (K) is greater than the Conservation Threshold (E), then N = K – E; Otherwise N=0 Total Reforestation Required Total Afforestation Required	K= M=	0.03 0 0 0

State of Maryland Department of Forests and Parks Tax Map 38, Grid 10, Parcel 503 **VICINITY MAP** STAND FS-3 SCALE: 1" = 2000' 2.32 AC State of Maryland Department of Forests and Parks Parcels 359+366, 368+370, 372+82 + to ft lod strip to remove + F Fence +only.+do not remove 2 SCARLET O TREES, SEE PLAN' CHURCH AVENUE CONTRACTOR IS TO REMOVE EXISTING FENCE, BUT TO LIMIT TREE CLEARING. HEAVY UNDERGROWTH & INVASIVE SPECIES SHRUBS CAN BE REMOVED ENTIRELY, BUT TREES OVER 12" DBH ARE TREATMENT UNIT State of Maryland Department of Natural Resources Tax Map 38, Grid 10 **EQUALIZATION** Liber 309, Foljo 89 0.55 AC STAND FS-2 -10 FT LOD STRIP TO REMOVE FENCE ONLY. DO NOT REMOVE TREES UNLESS THEY CANNOT BE SEPERATED FROM THE FENCE TREATMENT UNIT LEGEND BUILDING LIMIT OF DISTURBANCE FOREST SAMPLE POINT FS-2-1 PROPERTY BOUNDARY SOIL BOUNDARY EXISTING TOPOGRAPHY --- EXISTING OPEN WATER EDGE ----- EXISTING STREAM EXISTING STREAM BUFFER State of Maryland Department of Natural Resources Tax Map 38, Grid 10 Parcel 373 100 YEAR FLOOD PLAIN LIMIT Liber 2436, Folio 53 State of Maryland EXISTING TREE LINE Department of Natural Resources Tax Map 38, Grid 10 SMH WITH VALVE BOX FOR Parcel 653 FOREST STAND BOUNDARY SLUICE GATE CONTROL Liber 1424, Folio 389 EXISTING SPECIMEN TREE EXISTING SPECIMEN TREE TO BE REMOVED TREE RETENTION AREA FOREST CONSERVATION PLAN FOREST SAMPLE PLOT POINTS SCALE: 1"=50' CRITICAL ROOT ZONE PROPOSED TREE PLANTING TREE PLANTING SCHEDULE

WEB SOIL SURVEY TABLE

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP	HYDRIC RATING
Ср	Codorus & Hatboro soils, 0-2% slopes	D	YES
Ha	Hatboro-Codorus silt loam, 0-3% slopes	D	YES
SfB	Sassafras gravelly sandy loam, 2-5% slopes	C	YES

			<u> </u>			and the second second
COMMONE NAME	SCIENTIFIC NAME	SIZE	FORM	SPACING	QUANTITY	NOTES
SCARLET OAK	QUERCUS COCCINEA	3" CALIPER MINIMUM	CONTAINER/ B&B	AS SHOWN	2	FULL, EVENLY BRANCHING NO SIGNS OF STRESS

OWINGS MILLS, MD 21117-5544

PHONE: 410.265.9500 FAX: 410.265.8875

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION CHIEF, DIVISION OF LAND DEVELOPMENTS

	Dewberry Engineers Inc.
	10461 MILL RUN CIRCLE

DATE: JUNE 2024	BY	NO.	REVISIONS		DATE
CHK: MV					
DRN: MJS					
DES: MJS				**************************************	

FOREST CONSERVATION **PLAN**

600 SCALE MAP NO. 38 BLOCK NO. 10

CAPITAL PROJECT NO. W - 8603 CONTRACT NO. 10 - 4635

MARYLAND.

LICENSE NO. 3420

EXPIRATION DATE 07-12-2029

PROFESSIONAL CERTIFICATION

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT DEMOLITION

GRID: 10 PARCELS: 359-366, 368-370,372,821,833

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL

LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF

<u>10</u> OF <u>11</u> HOWARD COUNTY, MARYLAND

TAX MAP: 38

SDP-79-112

SCALE:

SHEET

4/27/24 6/28/24 DATE

SUITE #300

ELECTION DISTRICT NO. 1

FOREST CONSERVATION NOTES:

- 1. THIS PLAN HAS BEEN PREPARED USING THE STATE FOREST CONSERVATION TECHNICAL MANUAL, THIRD EDITION, 1997.
- 2. THIS PROJECT IS WITHIN THE PATAPSCO RIVER LOWER NORTH BRANCH WATERSHED. THE 100 YEAR FLOOD PLAIN IS PRESENT WITHIN THE TRACT AREA PER FEMA INSURANCE RATE MAP #24027C0180D

FOREST PROTECTION:

- 1. FIELD LOCATE THE PROPOSED LIMIT OF DISTURBANCE AND RETENTION BOUNDARY (CONCURRENT) PRIOR TO THE START OF CONSTRUCTION. SEE SEQUENCE OF CONSTRUCTION, THIS SHEET.
- 2. SPECIMEN TREES SHALL BE PRESERVED IF LESS THAN 30% OF THE CRITICAL ROOTZONE IS DISTURBED. IF MORE THAN 30% OF THE CRITICAL ROOT ZONE IS DISTURBED, THE TREE SHALL BE REMOVED AS INDICATED ON THIS PLAN.
- 3. SOIL AND ROOT COMPACTION AVOID UNNECESSARY COMPACTION WHENEVER AND WHEREVER POSSIBLE. COMPACTED SOILS SHALL BE AERATED AFTER CONSTRUCTION IS COMPLETE BUT BEFORE PLANTING BEGINS
- 4. ROOT PRUNING SHALL OCCUR PRIOR TO CONSTRUCTION. ROOTS SHALL BE CUT CLEANLY USING WELL-MAINTAINED PRUNING EQUIPMENT THAT DOES NOT TEAR UP THE ROOTS. COVER EXPOSED ROOTS IMMEDIATELY WITH TOPSOIL, PEAT MOSS OR OTHER SUITABLE MATERIAL. MONITOR FOR SIGNS OF STRESS AND APPLY WATER AND FERTILIZER IF NEEDED.
- 5. WATER ONLY AS NECESSARY FOR TREES THAT HAVE BEEN ROOT PRUNED OR CROWN PRUNED. WHERE GRADING AFFECTS THE WATER TABLE, MONITOR FOR STANDING WATER OR EXCESSIVE DRYNESS.
- 6. INTERIOR FOREST CANOPIES ARE SUSCEPTIBLE TO SUNSCALD, CAUSING STRESS AND DROUGHT-LIKE CONDITIONS TO SHADE TOLERANT SPECIES. CUTTING IN THESE AREAS SHOULD BE LIMITED TO CUTTING DURING THE DORMANT SEASON IN

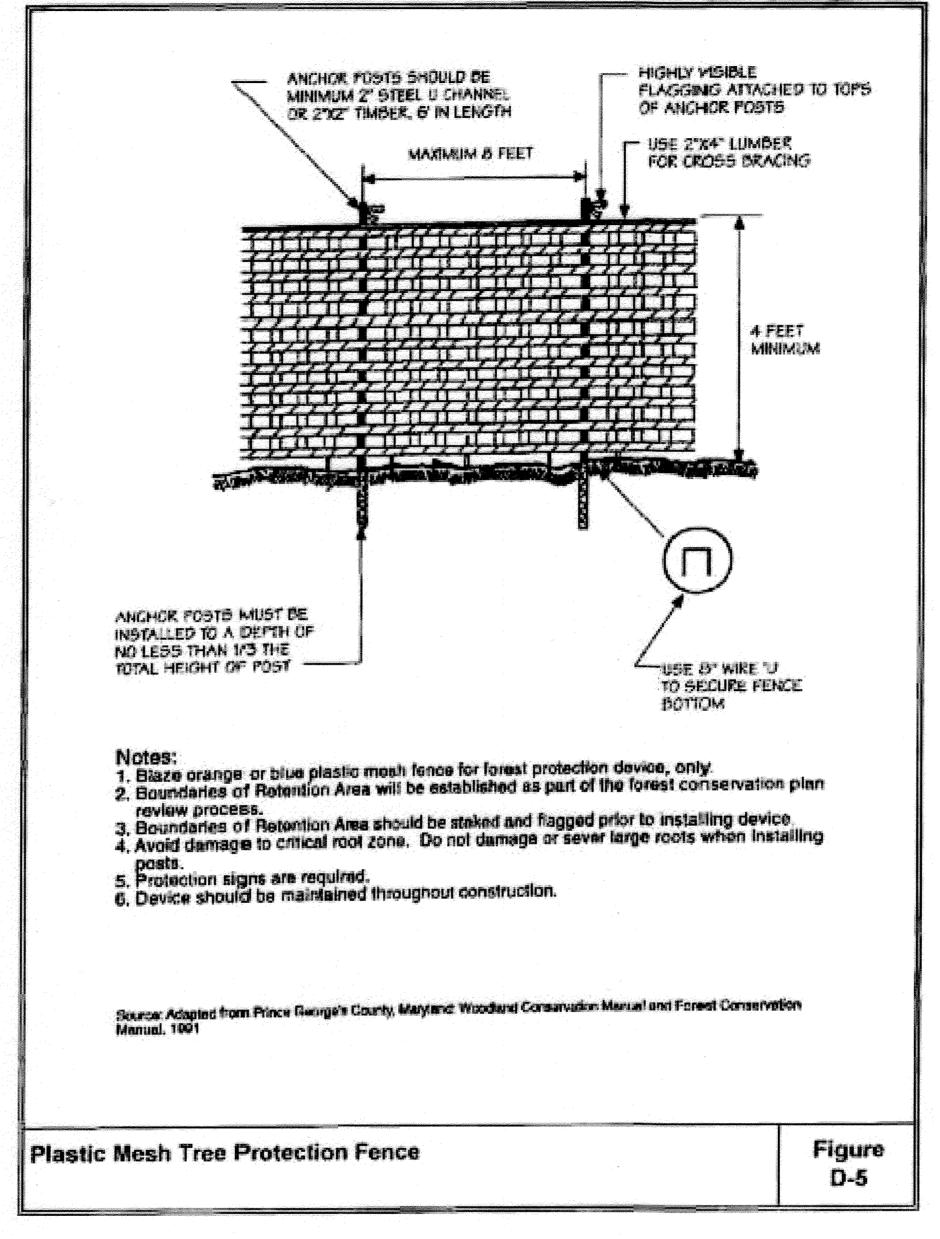
7. EQUIPMENT, VEHICLES, MACHINERY, DUMPING, STORAGE OR OTHER CONSTRUCTION ACTIVITIES SHALL NOT BE LOCATED

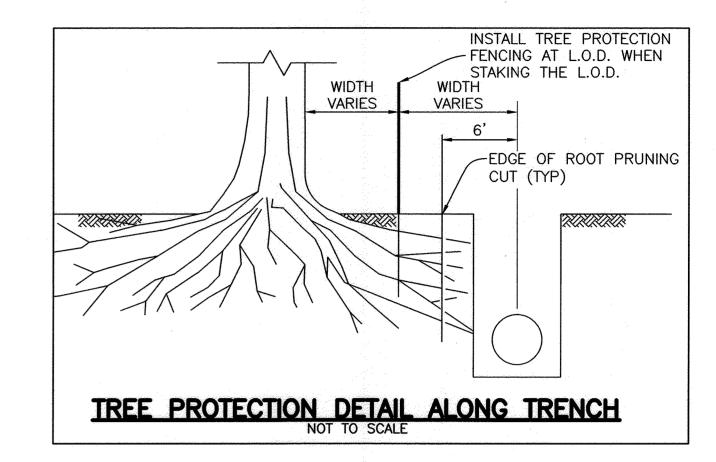
- 8. FOREST RETENTION AREA PROTECTIVE DEVICES SHALL BE A COMBINATION OF SILT FENCE AND TREE PROTECTION FENCE OR PLASTIC MESH TREE PROTECTION FENCE. FENCING SHALL BE VISIBLE, WELL ANCHORED, APPROVED IN THE FIELD PRIOR TO CLEARING, GRADING OR COMMENCEMENT OF CONSTRUCTION ACTIVITIES, AND REMAIN IN PLACE AND BE MAINTAINED UNTIL THE COMPLETION OF CONSTRUCTION AND FINAL INSPECTION. AVOID INJURY TO ROOTS WHILE INSTALLING ANCHOR POSTS. FENCING SHALL BE AT LEAST 4' HIGH WITH HIGHLY VISIBLE FLAGGING. FENCING SHALL BE SECURELY ANCHORED WITH AT LEAST 1/5 OF THE ANCHOR POST BELOW GROUND LEVEL. SIGNS SHALL BE POSTED AT ALL RETENTION AREAS CLEARLY DEFINING THE AREA.
- 9. THERE WILL BE NO CLEARING WITHIN THE RETENTION AREAS, BUT A CONSERVATION EASEMENT WILL NOT BE RECORDED AS PART OF

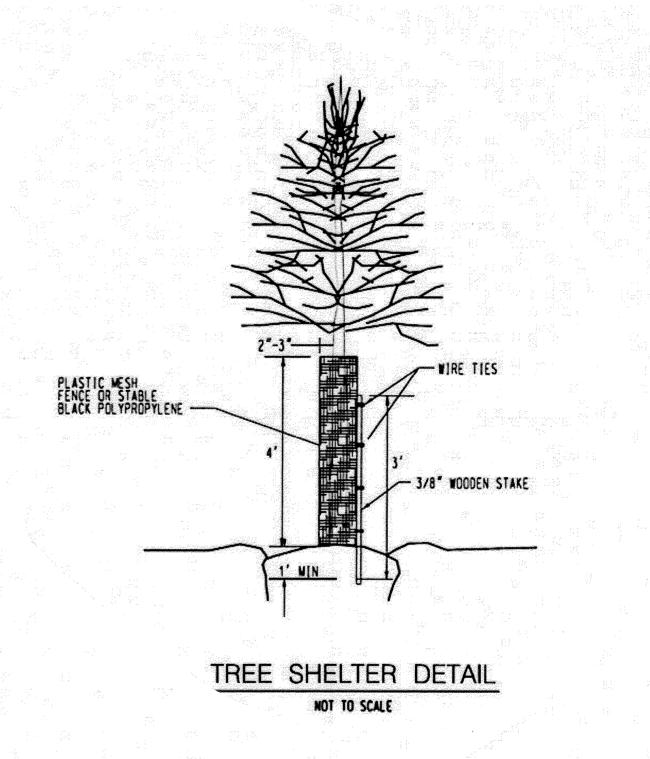
SEQUENCE OF CONSTRUCTION:

WITHIN FOREST RETENTION AREAS.

- 1. PRECONSTRUCTION
 - a. LOCATE LIMITS OF DISTURBANCE AND TEMPORARY FOREST PROTECTION
 - DEVICES. b. INSPECTION AND APPROVAL OF LOCATIONS BY APPROVING AUTHORITY.
 - c. ROOT PRUNE AND CROWN PRUNE, WITH STRESS REDUCTION MEASURES AS
 - NEEDED (WATERING, FERTILIZING, MULCHING). d. INSTALL PLASTIC MESH TREE PROTECTION FENCE.
- 2. DURING CONSTRUCTION
 - a. CLEAR DESIGNATED AREAS.
 - MONITOR TREES AND FOREST DURING CONSTRUCTION FOR SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, FLOOD CONDITIONS, DROUGHT CONDITIONS.
- 3. POST CONSTRUCTION
 - a. REMOVE PLASTIC MESH TREE PROTECTION FENCE.
 - b. MONITOR TREES AND FOREST FOR SIGNS OF STRESS INCLUDING SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, FLOOD CONDITIONS, DROUGHT CONDITIONS.







D - 6

REVISIONS



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 3420 EXPIRATION DATE 07-12-2029

DEED: 97/423 **CAPITAL PROJECT NO. W - 8603** TAX MAP: 38 **CONTRACT NO. 10 - 4635**

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT DEMOLITION

GRID: 10 PARCELS: 359-366, 368-370,372,821,833

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION ONIEF, DIVISION OF LAND DEVELOPMENTAS and Esilon,

Dewberry®

6/28/24 DATE

6/27/24 DATE DATE

10461 MILL RUN CIRCLE SUITE #300 **OWINGS MILLS, MD 21117-5544** PHONE: 410.265.9500

FAX: 410.265.8875

CHK: MV DATE: JUNE 2024

BY NO.

DES: MJS

DRN: MJS

600 SCALE MAP NO. 38

FOREST CONSERVATION

PLAN

BLOCK NO. 10

ELECTION DISTRICT NO. 1

HOWARD COUNTY, MARYLAND

SHEET 11 OF 11

SCALE: