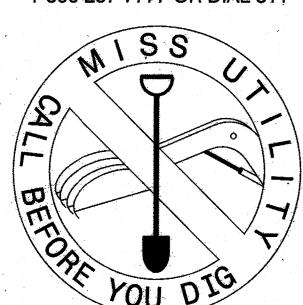
BEFORE YOU DIG CALL 1-800-257-7777 OR DIAL 811



# SITE DEVELOPMENT PLAN VILLAGE OF KINGS CONTRIVANCE SECTION 3 AREA 2, OPEN SPACE LOT #152 LAKE SEDIMENT PLACEMENT SITE

TAX MAP NO. 42 GRID NO.21 PARCEL NO. 442 LOT NO. 152

- 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK
- 5. EXISTING TOPOGRAPHY IS LATEST HOWARD COUNTY GIS DATED SPRING 2011 SUPPLEMENTED WITH FIELD SURVEYS BY NUR & ASSOCIATES DATED SEPTEMBER 25, 2014 AND BAYLAND CONSULTANTS & DESIGNERS INC., DATED NOVEMBER 2015.
- 6. THE EXISTING UTILITIES, GRADES, AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS AND ANY DAMAGE TO THEM SHALL BE REPAIRED IMMEDIATELY AT HIS OWN EXPENSE
- 7. CONTOURS & PLANIMETRICS SHOWN OUTSIDE OF LIMIT OF WORK ARE BASED ON THE LATEST HOWARD COUNTY GIS DATA.
- 8. PROPERTY BOUNDARY SHOWN HEREIN IS TAKEN FROM PLAT NO. 4809.
- 9. THERE ARE NO NON-TIDAL WETLANDS OR ASSOCIATED BUFFERS WITHIN THE PROJECT LIMITS.
- 10. FEMA FIRM #24027C0165D EFFECTIVE NOVEMBER 6, 2013 SHOWS THAT THE PROJECT AREA IS NOT WITHIN FEMA FLOODPLAIN LIMITS
- 12. THIS PLAN IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS UNDER 16.1202(b)(1)(ii) SINCE IT IS PART OF A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY PLAN APPROVAL AND 50% OR MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992, IF THE HOMEOWNERS ASSOCIATION HAS FOREST STEWARDSHIP PLAN DRAFTED BY THE MARYLAND DEPARTMENT OF NATURAL RESOURCES.
- 13. THE CONTRACTOR IS RESPONSIBLE FOR ALL NPDES PERMIT REQUIREMENTS.
- 14. A TRAFFIC STUDY IS NOT REQUIRED BECAUSE THE PROPOSED WORK DOES NOT GENERATE ANY TRAFFIC
- 15. STORMWATER MANAGEMENT FOR THIS PROJECT IS ADDRESSED BY RETURNING THE DISTURBED AREA AND THE ADJACENT MOUND TO FOREST IN GOOD CONDITION. TEMPORARY STORMWATER MANAGEMENT DURING CONSTRUCTION IS ADDRESSED BY OVERSIZING THE SEDIMENT TRAPS AS DIRECTED BY THE
- 16. SEE ALSO DPZ FILES: P-80-003, F-80-087, SDP-93-123, FDP-169-A-2 PART 2, WP-16-074, GP-16-030, AND ECP-17-011
- 17. AN AMENDMENT TO FDP-169-A-II PART II IS REQUIRED IN ACCORDANCE WITH SECTION 125.0.D & 125.0.F OF THE ZONING REGULATIONS TO REVISE SITE DEVELOPMENT PLAN IS ALSO REQUIRED IN ACCORDANCE WITH SECTION 125.0.G OF THE ZONING REGULATIONS
- CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- 19. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE

18. TRAFFIC CONTROL DEVICES. MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC

- 20. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- 21. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- 22. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 4208 AND 42R2 WERE USED FOR THIS PROJECT
- 23. WATER IS PUBLIC. CONTRACT 549-W. MIDDLE PATUXENT RIVER DRAINAGE AREA
- 24. SEWER IS PUBLIC. CONTRACTS 722-S, 30-973-D, 34-3076-D.

26. THERE ARE NO CEMETERIES OR GRAVESITES ON THE PROPERTY

- 25. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY BAYLAND CONSULTANTS & DESIGNERS, DATED FEBRUARY 10, 2016, AND THE ECP WAS APPROVED ON SEPTEMBER 12, 2016. THERE ARE NO WETLANDS WITHIN THE PROJECT AREA.
- 27. COMMUNITY MEETINGS WERE HELD ON OCTOBER 17, 2016, 6:00 PM, AT 7251 EDEN BROOK DRIVE IN COLUMBIA, MD.; AND ON JANUARY 23, 2017, 6:00
- 28. THE SUBJECT PROPERTY IS ZONED NEW TOWN OPEN SPACE" IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING REGULATIONS.
- 29. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- 30. FDP-169-A-II PART II WAS AMENDED TO PERMIT THE PROPOSED USE AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY AS FDP-169-A-III PART II, ON PLAT NUMBERS 30544 24155 THROUGH 30544 2415
- 31. THE DEPARTMENT OF PLANNING AND ZONING HAS ALLOWED THE TEMPORARY ACCESS ONTO MURRAY HILL ROAD FOR THIS PROJECT.

571-17

32. THE PLANNING BOARD APPROVED THIS PLAN AT ITS MEETING ON APRIL 20, 2017 SUBJECT TO COMPLIANCE WITH ALL APPLICABLE ENVIRONMENTAL

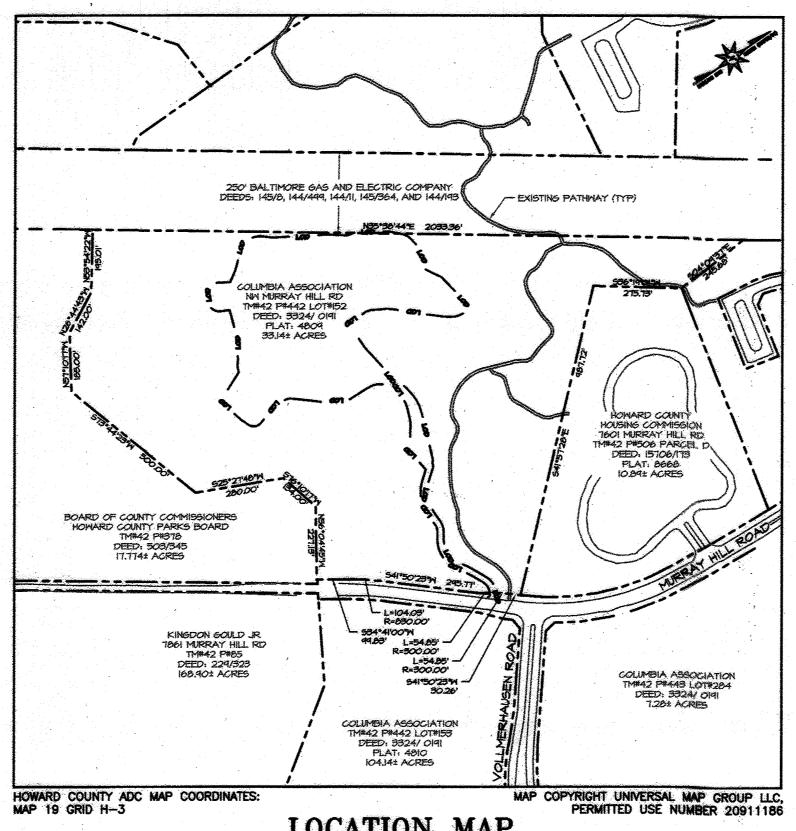
## **APPROVED** PLANNING BOARD OF HOWARD COUNTY APRIL 20, 2017 APPROVED: DEPARTMENT OF PLANNING AND ZONING

### SHEET LIST TABLE

### SHEET DESCRIPTION

- COVER SHEET EXISTING CONDITIONS AND ENVIRONMENTAL CONSTRAINTS
- EROSION AND SEDIMENT CONTROL PLAN PHASE
- EROSION AND SEDIMENT CONTROL PLAN PHASE I
- NOTES & DETAILS
- PLANTING PLAN

## 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



## LOCATION MAP

IRCEND

	<u> </u>	NIN	
EX. PROPERTY LINE/RIGHT-OF-WAY		PR. MAJOR CONTOUR	270
EX. MAJOR CONTOUR	270-	PR. MINOR CONTOUR	
EX. MINOR CONTOUR		PR. DRAINAGE AREA	
EX. ROAD		PR. RIPRAP OUTLET/GABION INFLOW PROTECTION	
EX. STREAM C/L		PR. LIMIT OF CLEARING	~~~~
EX. TREELINE	~~~~~	100-YR FEMA FLOODPLAIN	
EX. DRAINAGE AREA EX. SOIL	AșE	WETLAND BUFFER	—— WB———
EX. 100' STREAM BUFFER	·	NON-TIDAL WETLANDS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
EXESTEEP SLOPES (>25%)			
EX. STORM DRAIN (SD) INLET	<b>□</b>		
EX. LIGHT POLE	<b>-</b> \$-		
EX. TREE	3		

EX. TREE TO REMAIN

### SEQUENCE OF CONSTRUCTION

THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION

3. NOTIFY "MISS UTILITY" AT (410)792-2401 OR 1-800-257-7777 AT LEAST 48 HOURS BEFORE BEGINNING THE CONSTRUCTION.

- ACCESS ROAD, MOUNTABLE BERM.
- WITH THE PERMISSION OF THE SEDIMENT AND EROSION CONTROL INSPECTOR, CLEAR AND GRUB THE REMAINDER OF THE SITE. CONTRACTOR STOCKPILE ENOUGH TOPSOIL TO RE-SPREAD ON PERMANENT SLOPES. THE REMAINING TOPSOIL SHALL BE BLENDED PER THE
- 6. BEGIN GRADING OPERATIONS. AS GRADING PROGRESSES, CONTRACTOR SHALL MAINTAIN THE A-1 EARTH DIKE TO TRAP #1 TO ENSURE POSITIVE DRAINAGE TO THE TRAP. THIS WILL REQUIRE RECONSTRUCTION OF THE DIKE AT THE TOP OF SLOPE AS THE GRADE IS RAISED. SILT FENCE AT THE TOE OF SLOPE IS INTENDED TO FILTER RUNOFF FROM SLOPE ONLY. COMPLETE GRADING OPERATIONS AND PERMANENTLY STABILIZE ALL DISTURBED AREAS
- WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TRAPS #2 AND #3, INCLUDING THE EARTH DIKES AND GABION INFLOW PROTECTIONS. THE CONTRACTOR SHALL IMMEDIATELY STABILIZE ANY DISTURBED AREAS FOR THE TRAP AND DIKE REMOVAL.
- O. PERFORM TREE AND SHRUB PLANTING AS SHOWN ON PLANTING PLAN WITHIN 2 MONTHS OF REMOVING SEDIMENT TRAPS 11. ALL REMAINING SEDIMENT CONTROLS SHALL REMAIN IN PLACE FOR PHASE II OPERATION

- CONSTRUCT, EXTEND, AND MAINTAIN DIKES AS REQUIRED THROUGHOUT PROJECT TO ENSURE POSITIVE DRAINAGE TO TRAP #1
- PERMANENTLY STABILIZE ALL DISTURBED AREAS PLANT OR REPLACE ANY TREES REQUIRED TO COMPLETE THE PLANTING PLAN (SHEET 8) ONCE ALL AREAS HAVE BEEN PERMANENTLY STABILIZED. AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE AL REMAINING SEDIMENT CONTROL MEASURES, INCLUDING PHASE 1 SEDIMENT CONTROLS, IMMEDIATELY STABILIZE ANY

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING O THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

ALSO AUTHORIZE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION

PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT



## HOWARD COUNTY GEODETIC MONUMENTS

THE EARTHWORK QUANTITIES SHOWN HEREON ARE FOR INFORMATION PURPOSE ONLY. BAYLAND MAKES NO GUARANTEES OF ACCURACY OF QUANTITIES OR BALANC

OF SITE. THE DEVELOPER AND CONTRACTOR SHALL TAKE FULL RESPONSIBILITY OF ACTUAL EARTHWORK QUANTITIES ENCOUNTERED DURING CONSTRUCTION.

MAP COPYRIGHT UNIVERSAL MAP GROUP L

33.14 AC.

0.10 AC.

0.10 AC.

0.00 AC.

4.00 AC.

7.00 AC. (329,180 S.F.)/1

<del>7.00 AC.</del> 7.55 AC. ∠\

6.90 AC. 7.45 AC. 1

16,250 CY (PHASE I)

111,003 16,250 CY (PHASE I) 1

67-0 CY (PHASE II)

34,949 CY (PHASE II)

SITE ANALYSIS

1.1. PROPOSED DISTURBED AREA:

2. TOTAL AREA TO BE STABILIZED:

3. PROPOSED IMPERVIOUS AREA:

6. CUMULATIVE CONTIGUOUS AREA

WITH 25%+ SLOPE

2.1. TOTAL EX. IMP AREA: 2.2. TOTAL EX. IMP. AREA TO REMAIN:

TOTAL PR. IMPERVIOUS AREA:

2.4. TOTAL TO BE STABILIZED WITH VEGETATION:

1. TOTAL SITE AREA:

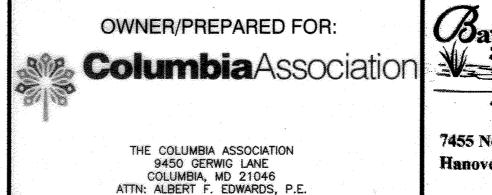
4. ESTIMATED CUT:

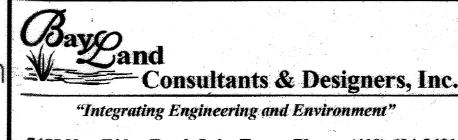
5. ESTIMATED FILL:

		AD	DRESS CHA	<b>ART</b>			
	LOT/PAR	CEL#	STREET		ADDRESS		
LOT 152 / PARCEL 442			7640 MURRAY HILL ROAD				
	F	PERMIT I	NFORMATIO	N CHAR			
SUBDIVISION NAME:			SECTION/AREA:		LOT/PARCEL NO.		
VILLAGE O	F KINGS C	ONTRIVANCE	SECTION 3 /	AREA 2	LOT 152 / PARCEL 442		
PLAT#:	GRID#:	ZONING:	TAX MAP NO.	ELECTION DISTRICT:	CENSUS TRACT:		
4809	21	NEW TOWN	42	6TH	606803		

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARE
OR APPROVED BY ME, AND THAT I AM A DULY LICENSEI PROFESSIONAL ENGINEER UNDER THE LAWS OF T05/12/2024. 4809 21
MARYLAND. LICENSE NO. 14920, EXPIRATION DATE: 05/12/2024. WATER CODE: N/A

SEWER CODE: N/A





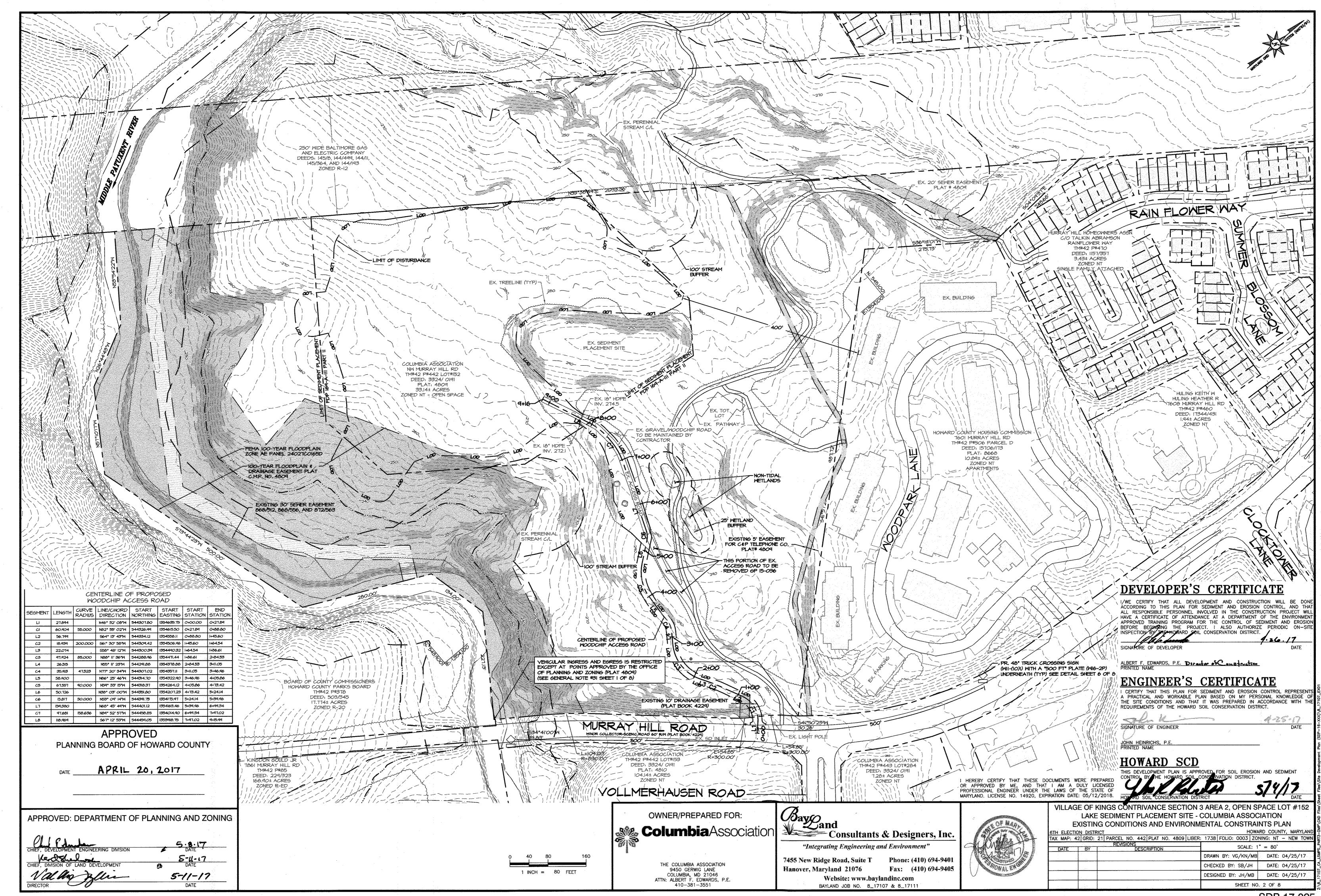
BAYLAND JOB NO. 8\_17107 & 8\_17111

7455 New Ridge Road, Suite T Phone: (410) 694-9401 Fax: (410) 694-9405 Hanover, Maryland 21076 Website: www.baylandinc.com

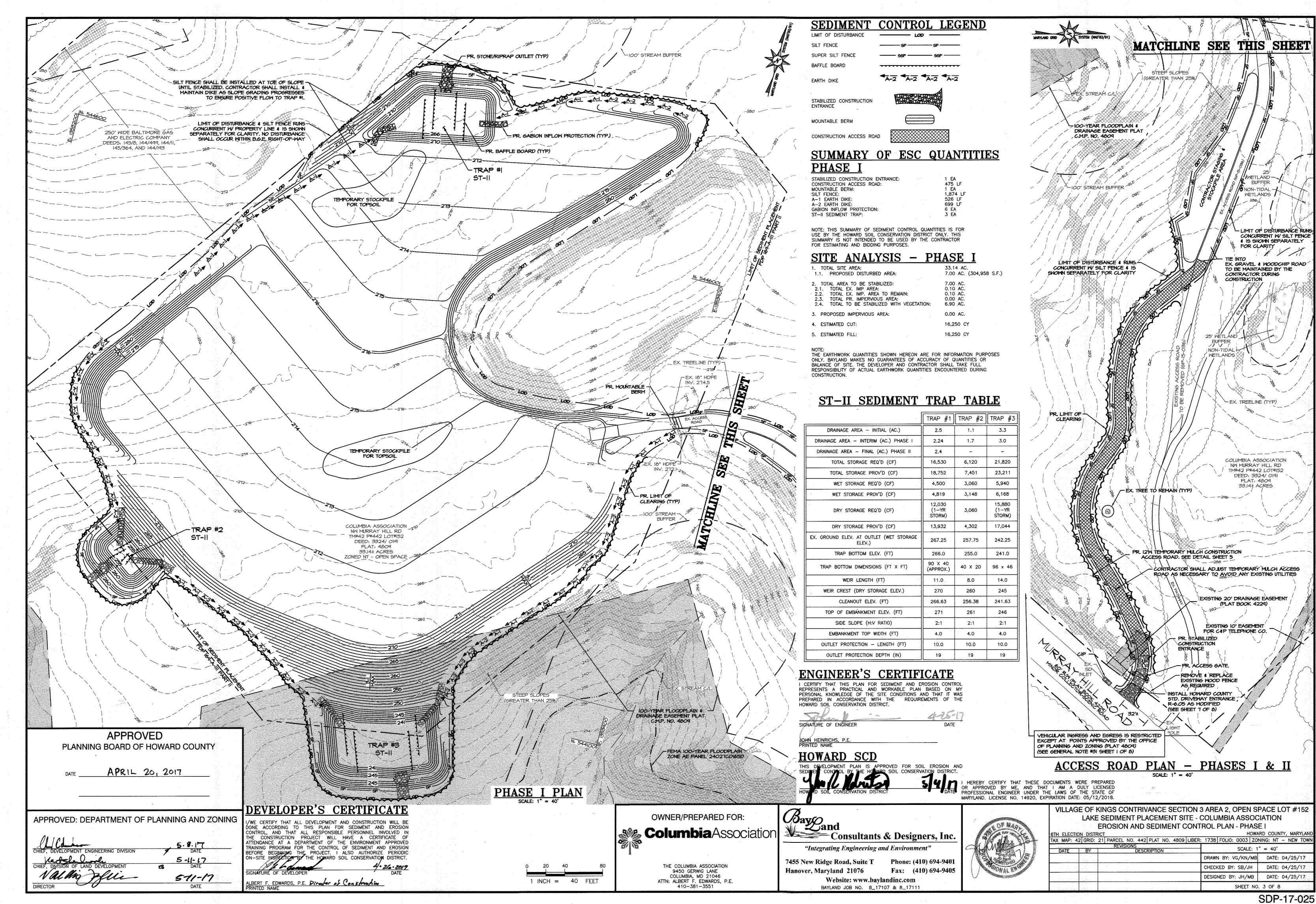


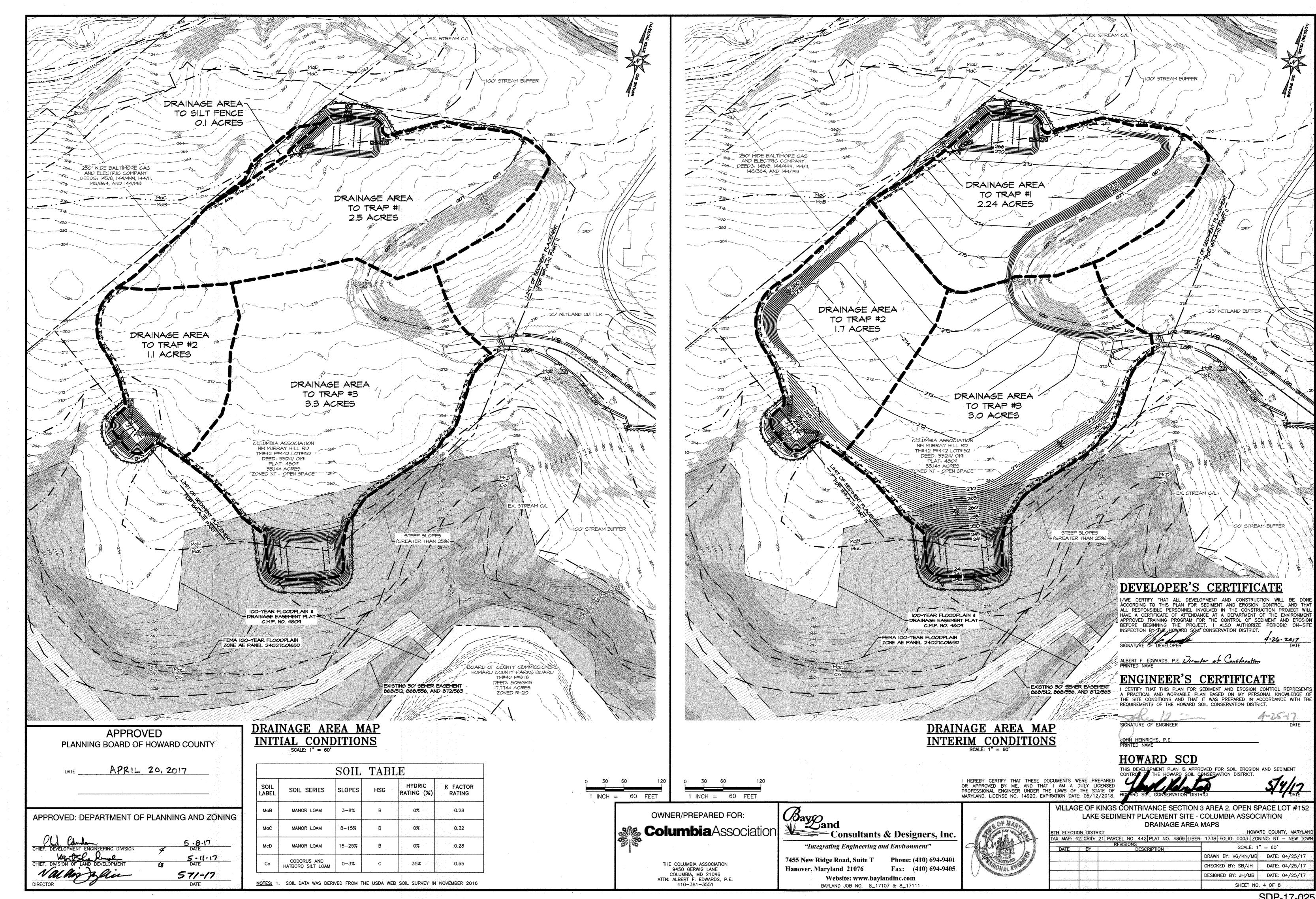
VILLAGE OF KINGS CONTRIVANCE SECTION 3 AREA 2, OPEN SPACE LOT #152 LAKE SEDIMENT PLACEMENT SITE - COLUMBIA ASSOCIATION

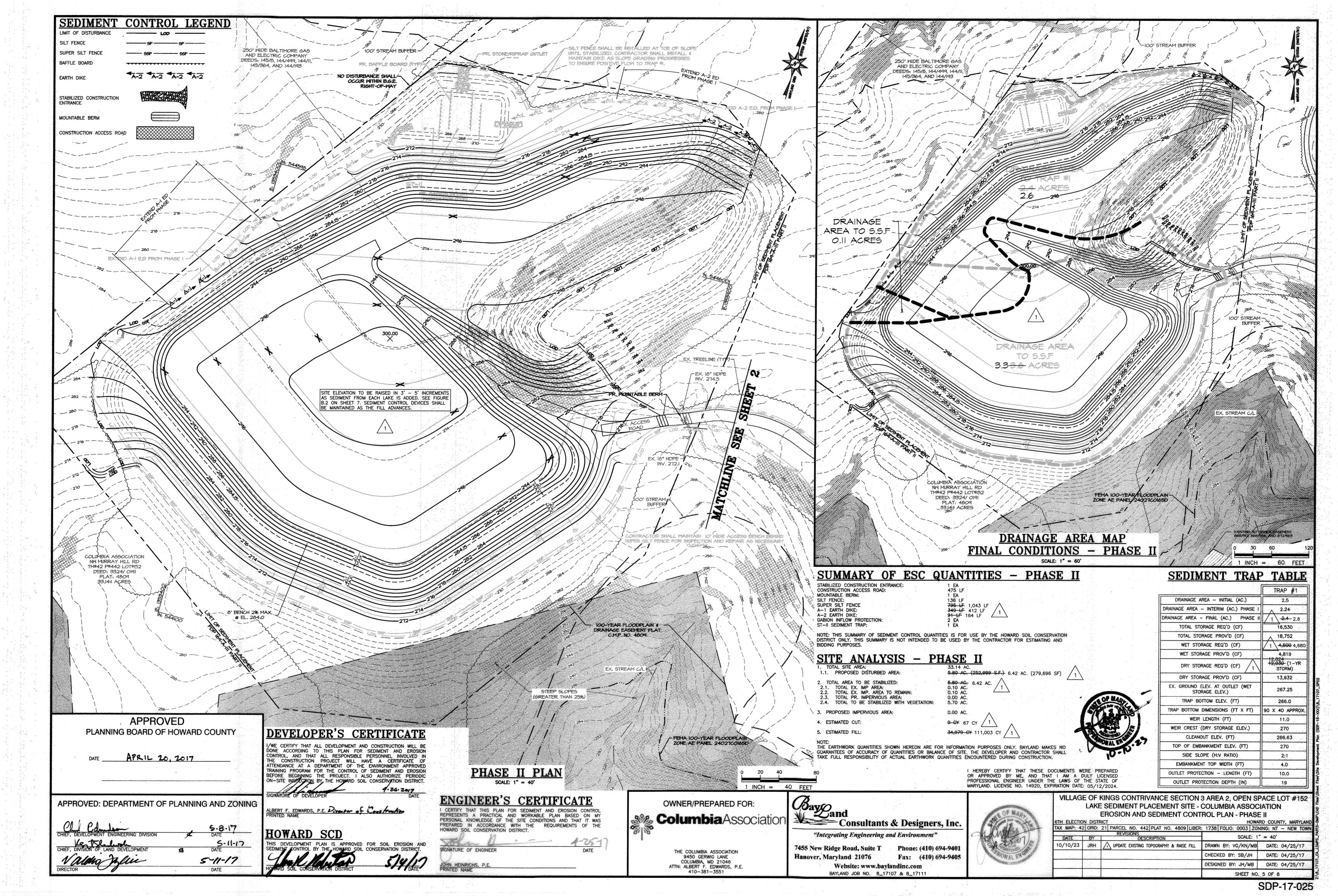
TAX MAP: 42 GRID: 21 PARCEL NO. 442 PLAT NO. 4809 LIBER: 1738 FOLIO: 0003 ZONING: NT - NEW TO DRAWN BY: VG/KN/MB DATE: 04/25/17 10/10/23 JRH \ UPDATE EXISTING TOPOGRAPHY & RAISE FILL. DATE: 04/25/17 DESIGNED BY: JH/MB DATE: 04/25/17 SHEET NO. 1 OF 8

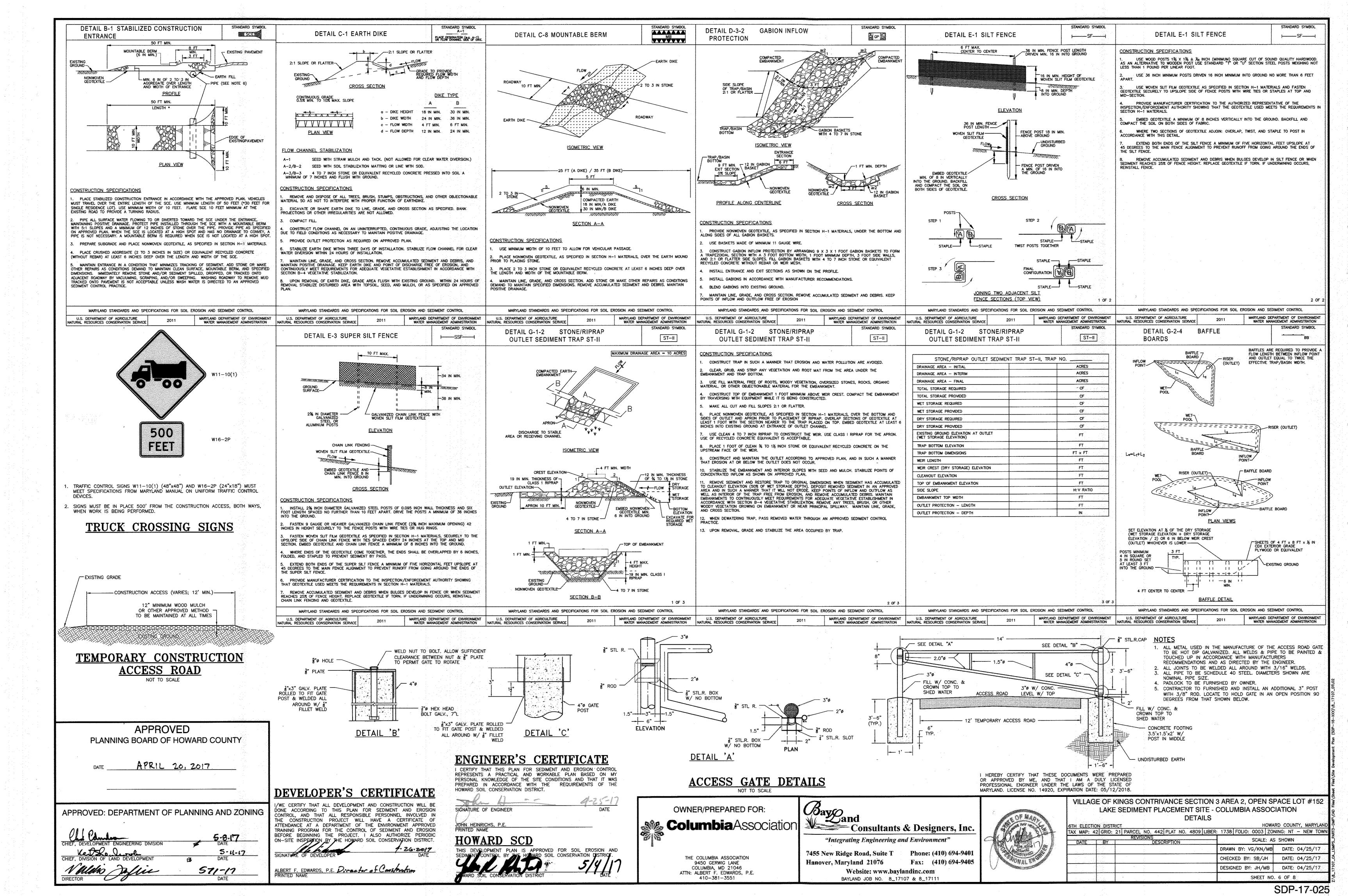


SDP-17-025









#### **B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

DEFINITION: USING VEGETATION AS COVER TO PROTECT EXPOSED SOIL FROM EROSION. PURPOSE: TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL

EFFECTS ON WATER QUALITY AND QUANTITY: STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING 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, MULCHING, AND VEGETATIVE ESTABLISHMENT. ADEQUATE VEGETATIVE ESTABLISHMENT: INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

1. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUNDCOVER.

2.IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, 3.1F AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
4.MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

#### B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

DEFINITION: ESTABLISHMENT OF VEGETATIVE COVER ON CUT AND FILL SLOPES. PURPOSE: TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

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

A. INCREMENTAL STABILIZATION - CUT SLOPES

1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH 2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):

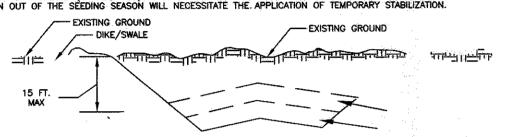
d. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION D. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.

c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.

d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.

d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION 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.



#### FIGURE B.1 INCREMENTAL STABILIZATION - CUT

B. INCREMENTAL STABILIZATION - FILL SLOPES

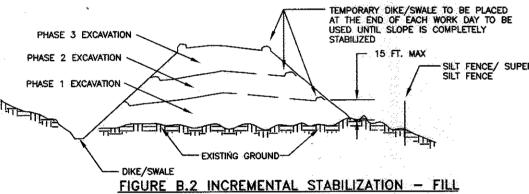
- 1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.

  2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS. 3. 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.
- 4. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):

  a. 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 b. 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.

  c. Place phase 1 fill, prepare seedbed, and stabilize.
  d. Place phase 2 fill, prepare seedbed, and stabilize.
  e. Place final phase fill, prepare seedbed, and stabilize.
  overseed 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.



	F	PERMANE	NT SEE	DING	SUMMA	RY		
HA	RDINESS ZONE (FROM FIGURE B.3): 66 SEED MIXTURE (FROM TABLE B.3)			FERTILIZER RATE (10-20-20)		<u>-</u>		
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P <sub>2</sub> O <sub>6</sub>	к₄о	LIME RATE
1	SWTCHGRASS CREEPING RED FESCUE BUSH CLOVER	10 15 2	2/15 - 4/30 8/15 - 10/31	½" – ¾"	45 lb/ac (1.0 lb/ 1000 af)	(2.0 lb/	90 lb/ac (2.0 lb/ 1000 sf)	2 tons/a c (90 lb/ 1000 sf)
3	DEERTONGUE SHEEP FESCUE COMMON LESPEDEZA	20 20 10	2/15 - 4/30 8/15 - 10/31	<u>1</u> " - 1"				

### **APPROVED** PLANNING BOARD OF HOWARD COUNTY

APRIL 20, 2017

## APPROVED: DEPARTMENT OF PLANNING AND ZONING

5-11-17 DATE

#### B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION

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

PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

2. PERMANENT STABILIZATION

TEMPORARY STABILIZATION

 G. 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. AFTER THE SOIL IS LOOSENED, I'M MUST NOT BE ROLLED OR DRAGGED SMOOTH BLUEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 D. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

Q. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

i. SOIL PH BETWEEN 6.0 AND 7.0.

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

iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER. THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

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

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. 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.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO THE SOURCHEN 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.

. TOPSOILING

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 MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

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

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

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

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

DEVELOPER'S CERTIFICATE

/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL B

DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION

CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN

THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF

ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED

TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC

ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

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 FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

6. TOPSOIL APPLICATION

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

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

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.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS A 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

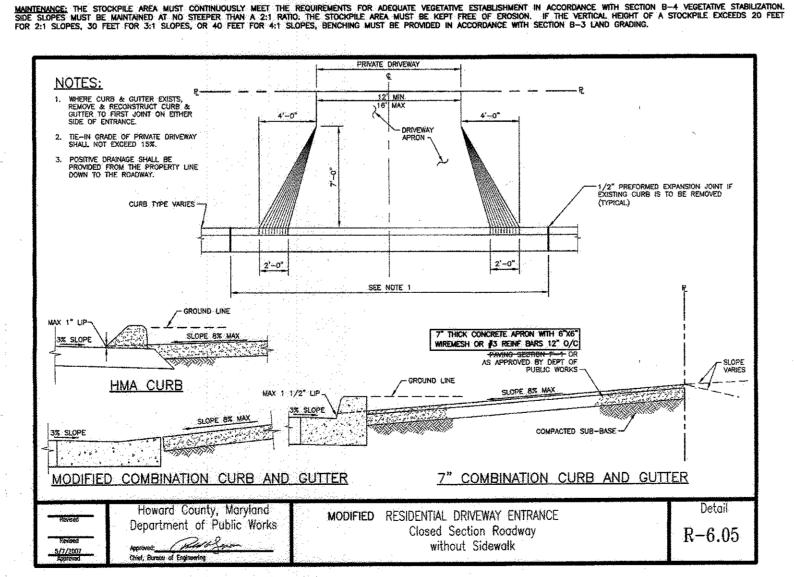
## B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION: A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
3. RUNDER FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. CLEAR WATER RUNDER 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.
5. WHERE RUNDER FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
6. WHERE RUNDER FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION BEGINGHERIT AS WELL AS STABILIZED IN ACCORDANCE WITH THE 3/

STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION. TEMPORANT STABILIZATION.

IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.



### ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE

HOWARD SOIL CONSERVATION DISTRICT.	
Ala L	4-25-17
JOHN HEINRICHS, P.E. PRINTED NAME	DATE
HOWARD SCD	

## OWNER/PREPARED FOR: **Columbia** Association THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND

THE COLUMBIA ASSOCIATION 9450 GERWIG LANE COLUMBIA, MD 21046 ATTN: ALBERT F. EDWARDS, P.E.

## 1 Bay Land Consultants & Designers, Inc. "Integrating Engineering and Environment"

Phone: (410) 694-9401 7455 New Ridge Road, Suite T Fax: (410) 694-9405 Hanover, Maryland 21076 Website: www.baylandinc.com BAYLAND JOB NO. 8\_17107 & 8\_17111

### **B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT** STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION PURPOSE: 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

CRITERIA: A. SEED MIXTURES

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

FOR SEEDING AND MULCHING

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW, ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SE LABORATORY, ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON AI PROJECT, REFER TO TABLE 8.4 REGARDING THE QUALITY OF SEED, SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE SEED AND SEEDING RATE.

. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST

C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES, INOCULANTS MUST NOT BE 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 EFFECTIVE.

. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT

INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC

. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE

II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

III. WOFM 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.

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.

b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE 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

I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, 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 LONG.

SEEDING DEPTHS

0.5"

FERTILIZER RATE

(10 lb/1000 sf) (90 lb/1000 sf)

TABLE B.1: TEMPORARY SEEDING SUMMARY

SEEDING DATES

3/1 - 5/15 8/1

3/1 - 5/15 8/

3/1 - 5/15 8/

- 10/15

-10/15

5/16 - 7/31

SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS, IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

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

**STABILIZATION** 

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 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

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION 8-4-3.A.1.B

TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.

IV. WOFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC

FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING LIPON THE SIZE OF THE AREA AND EROSION HAZARD:

HARDINESS ZONE (FROM FIGURE 8.3): 68 SEED MIXTURE (FROM TABLE B.1

APPLICATION RATE

(lb/ac)

96 (2.2lb/1000 sf)

72 (1.7lb/1000 sf)

30 (0.7lb/1000 sf)

2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

DEFINITION: TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS

PURPOSE: TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES: TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY - DISTURBED AREA NOT UNDER ACTIVE GRADING.

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

O. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

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

iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL

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

SPECIES

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

B. MULCHING

2. APPLICATION

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 ON 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.
 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.
 c. 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 ½ 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.

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL 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.

TURF WILL RECEIVE MEDIUM TO INTENSIVE 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.

III. 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 TO 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

W. 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

WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 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 ZONE: 6B)

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 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. 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).

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 % inch, plus or minus % inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
 standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 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.

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 EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

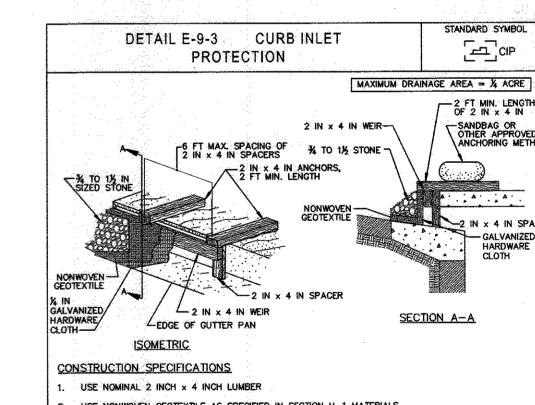
d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET, COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

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 1/2 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.

NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR



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).

4. ATTACH A CONTINUOUS PIECE OF 1/4 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 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. 5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE  $2\times4$  WEIR.

6. 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 ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.

AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET

10. 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.

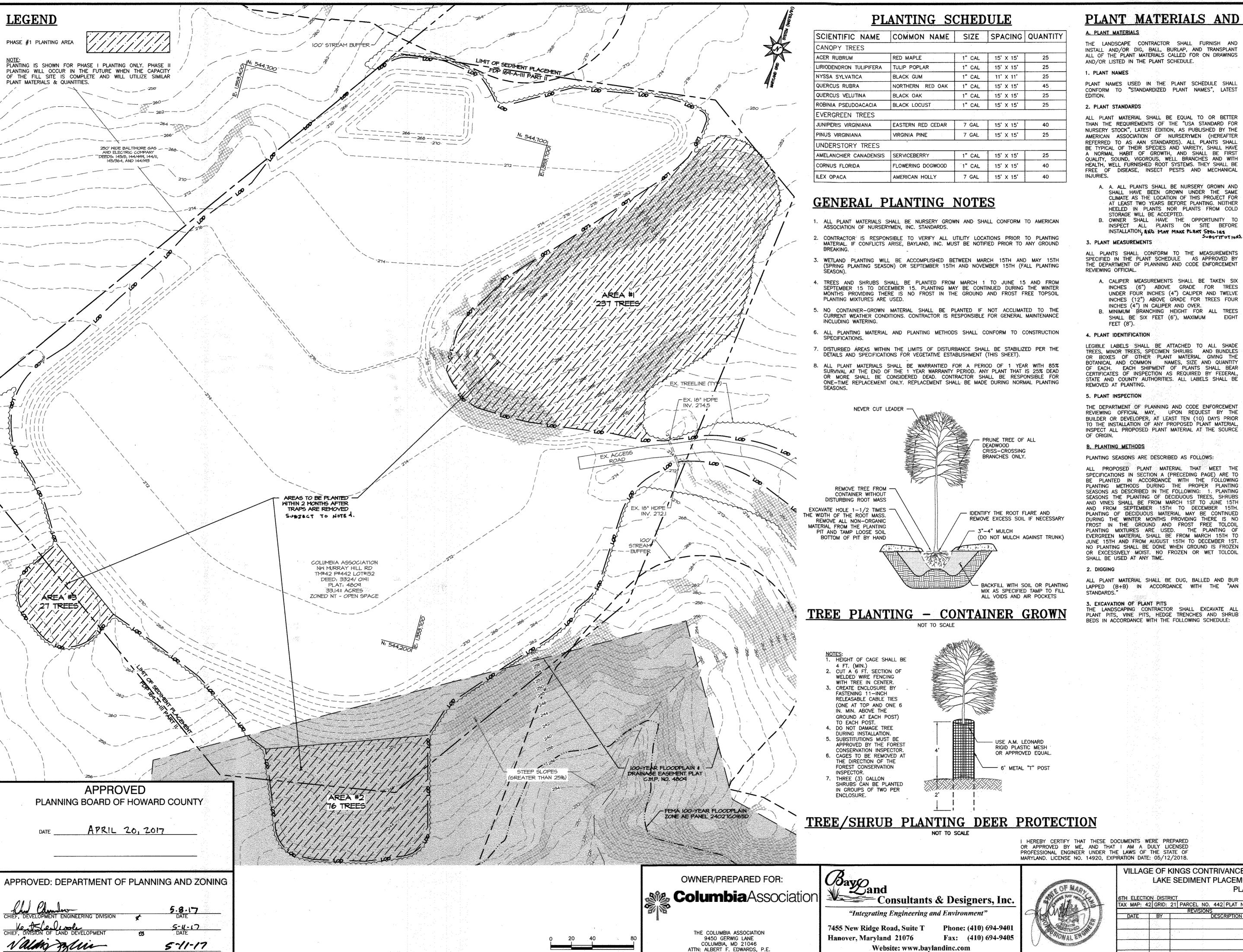
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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. 14920, EXPIRATION DATE: 05/12/2018. VILLAGE OF KINGS CONTRIVANCE SECTION 3 AREA 2, OPEN SPACE LOT #152 LAKE SEDIMENT PLACEMENT SITE - COLUMBIA ASSOCIATION **NOTES & DETAILS** 

HOWARD COUNTY, MARYLAN TAX MAP: 42 GRID: 21 PARCEL NO. 442 PLAT NO. 4809 LIBER: 1738 FOLIO: 0003 ZONING: NT - NEW TOWN SCALE: AS SHOWN DRAWN BY: VG/KN/MB DATE: 04/25/17 DATE: 04/25/17 CHECKED BY: SB/JH DESIGNED BY: JH/MB DATE: 04/25/17 SHEET NO. 7 OF 8

SDP-17-025



1 INCH = 40 FEET

410-381-3551

BAYLAND JOB NO. 8\_17107 & 8\_17111

### PLANT MATERIALS AND PLANTING METHODS

THE LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR DIG, BALL, BURLAP, AND TRANSPLANT ALL OF THE PLANT MATERIALS CALLED FOR ON DRAWINGS

PLANT NAMES USED IN THE PLANT SCHEDULE SHALL CONFORM TO "STANDARDIZED PLANT NAMES", LATEST

ALL PLANT MATERIAL SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (HEREAFTER REFERRED TO AS AAN STANDARDS), ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, SHALL HAVE NORMAL HABIT OF GROWTH, AND SHALL BE FIRST QUALITY, SOUND, VIGOROUS, WELL BRANCHES AND WITH HEALTH, WELL FURNISHED ROOT SYSTEMS, THEY SHALL BE FREE OF DISEASE, INSECT PESTS AND MECHANICAL

- A. A. ALL PLANTS SHALL BE NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATE AS THE LOCATION OF THIS PROJECT FOR AT LEAST TWO YEARS BEFORE PLANTING. NEITHER HEELED IN PLANTS NOR PLANTS FROM COLD
- B. OWNER SHALL HAVE THE OPPORTUNITY TO INSPECT ALL PLANTS ON SITE BEFORE

ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED IN THE PLANT SCHEDULE AS APPROVED BY THE DEPARTMENT OF PLANNING AND CODE ENFORCEMENT

- INCHES (6") ABOVE GRADE FOR TREES UNDER FOUR INCHES (4") CALIPER AND TWELVE INCHES (12") ABOVE GRADE FOR TREES FOUR
- B. MINIMUM BRANCHING HEIGHT FOR ALL TREES SHALL BE SIX FEET (6'), MAXIMUM EIGHT

LEGIBLE LABELS SHALL BE ATTACHED TO ALL SHADE TREES, MINOR TREES, SPECIMEN SHRUBS AND BUNDLES OR BOXES OF OTHER PLANT MATERIAL GIVING THE BOTANICAL AND COMMON NAMES, SIZE AND QUANTITY OF EACH. EACH SHIPMENT OF PLANTS SHALL BEAR CERTIFICATES OF INSPECTION AS REQUIRED BY FEDERAL, STATE AND COUNTY AUTHORITIES. ALL LABELS SHALL BE

THE DEPARTMENT OF PLANNING AND CODE ENFORCEMENT REVIEWING OFFICIAL MAY, UPON REQUEST BY THE BUILDER OR DEVELOPER, AT LEAST TEN (10) DAYS PRIOR TO THE INSTALLATION OF ANY PROPOSED PLANT MATERIAL, INSPECT ALL PROPOSED PLANT MATERIAL AT THE SOURCE

ALL PROPOSED PLANT MATERIAL THAT MEET THE SPECIFICATIONS IN SECTION A (PRECEDING PAGE) ARE TO BE PLANTED IN ACCORDANCE WITH THE FOLLOWING PLANTING METHODS DURING THE PROPER PLANTING SEASONS AS DESCRIBED IN THE FOLLOWING: 1. PLANTING SEASONS THE PLANTING OF DECIDUOUS TREES. SHRUBS AND VINES SHALL BE FROM MARCH 1ST TO JUNE 15TH AND FROM SEPTEMBER 15TH TO DECEMBER 15TH. PLANTING OF DECIDUOUS MATERIAL MAY BE CONTINUED DURING THE WINTER MONTHS PROVIDING THERE IS NO FROST IN THE GROUND AND FROST FREE TOLCOIL PLANTING MIXTURES ARE USED. THE PLANTING OF EVERGREEN MATERIAL SHALL BE FROM MARCH 15TH TO JUNE 15TH AND FROM AUGUST 15TH TO DECEMBER 1ST NO PLANTING SHALL BE DONE WHEN GROUND IS FROZEN OR EXCESSIVELY MOIST. NO FROZEN OR WET TOLCOIL

ALL PLANT MATERIAL SHALL BE DUG, BALLED AND BUR LAPPED (B+B) IN ACCORDANCE WITH THE "AAN

THE LANDSCAPING CONTRACTOR SHALL EXCAVATE ALL PLANT PITS, VINE PITS, HEDGE TRENCHES AND SHRUB

### A. LOCATIONS OF ALL PROPOSED PLANT MATERIAL

- SHALL BE STAKED AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT BEFORE ANY OF THE PROPOSED PLANT MATERIAL IS INSTALLED BY THE LANDSCAPE CONTRACTOR.
- B. BALL PITS SHALL BE GENERALLY CIRCULAR II OUTLINE, VERTICAL SIDES; DEPTH SHALL NOT BE LESS THAN 6" DEEPER THAN THE ROOT BALL.
- DIAMETER SHALL NOT BE LESS THAN TWO TIMES THE DIAMETER OF THE ROOT BALL AS SET FORTH IN THE FOLLOWING SCHEDULE. C. IF AREAS ARE DESIGNATED AS SHRUB BEDS OR HEDGE TRENCHES, THEY SHALL BE EXCAVATED TO AT LEAST 18" DEPTH MINIMUM, AREAS
- DEPTH MINIMUM. D. DIAMETER AND DEPTH OF TREE PITS SHALL GENERALLY BE AS FOLLOWS:

DESIGNATED FOR GROUND COVERS AND VINES

SHALL BE EXCAVATED TO AT LEAST 12" IN

 $2 \frac{1}{2}$ " - 3" CAL. 3 1/2" - 4" CAL. 4" - 4 1/2" CAL. 41/2" - 5" CAL. 5" - 5 1/2" CAL. 5 1/2" - 6" CAL.

A 20% COMPACTING FIGURE OF THE SOIL BE REMOVED IS ASSUMED AND WILL BE ALLOWED ! CALCULATION OF EXTRA TOLCOIL. THE TABULATED PIT SIZES ARE FOR PURPOSES OF UNIFORM CALCULATION AND SHALL NOT OVERRIDE THE SPECIFIED DEPTHS BELOW THE BOTTOMS OF THE ROOT BALLS.

#### 4. STAKING, GUYING AND WRAPPING

ALL PLANT MATERIAL SHALL BE STAKED OR GUYED, AND WRAPPED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

- E. STAKES: SHALL BE SOUND WOOD 2" X 2" ROUGH SAWN OAK OR SIMILAR DURABLE WOODS OR LENGTHS. MINIMUM 7' - 0" FOR MAJOR TREES AND 5' - 0" MINIMUM FOR MINOR TREES. WIRE AND CABLE: WIRE SHALL BE #10 GA. GALVANIZED OR BETHANIZED ANNEALED STEEL WIRE. FOR TREES OVER 3" CALIPER, PROVIDE 5/16" TURN BUCKLES, EYE AND EYE WITH 4" TAKEUP, FOR TREES OVER 5" CALIPER, PROVIDE 3/16", 7 STRAND CABLE CADMIUM PLATED STEEL, WITH GALVANIZED "EYE" THIMBLES OF
- CALIPER. G. HOSE: SHALL BE NEW, 2 PLY REINFORCED RUBBER HOSE, MINIMUM 1/2" I.D. "PLASTIC LOCK TIES" OR "PAUL'S TREE BRACES" MAY BE USED IN PLACE OF WIRE AND HOSE ON TREES UP TO 3" IN CALIPER.

WIRE AND HOSE ON TREES UP TO 3"

H. ALL TREES UNDER 3" IN CALIPER ARE TO PLANTED AND STAKED IN ACCORDANCE WITH THE "TYPICAL TREE STAKING DETAIL". ALL TREES OVER 3" IN CALIPER ARE TO BE PLANTED AND GUYED IN ACCORDANCE WITH THE "TYPICAL TREE GUYING DETAIL."

#### 5. PLANT PRUNING, EDGING AND MULCHING

- EACH TREE, SHRUB OR VINE SHALL BE PRUNED IN AN APPROPRIATE MANNER TO ITS PARTICULAR REQUIREMENTS, IN ACCORDANCE WITH ACCEPTED STANDARD PRACTICE. BROKEN OR BRUISED BRANCHES SHALL BE REMOVED WITH CLEAN CUTS FLUSH WITH THE ADJACENT TRUNK OF BRANCHES.
- ALL TRENCHES AND SHRUB BEDS SHALL BE EDGED AND CULTIVATED TO THE LINES SHOWN ON THE DRAWING. THE AREAS AROUND ISOLATED PLANTS SHALL BE EDGED AND CULTIVATED TO THE FULL DIAMETER OF THE PIT. SOD WHICH HAS BEEN REMOVED AND STACKED SHALL USED TO TRIM THE EDGES OF ALL EXCAVATED AREAS TO THE NEAT LINES OF THE PLANT PIT SAUCERS, THE EDGES OF SHRUB AREAS, HEDGE TRENCHES AND VINE POCKETS.
- . AFTER CULTIVATION, ALL PLANT MATERIALS SHALL BE MULCHED WITH 3-4 INCHES OF SHREDDED HARDWOOD MULCH OR APPROVED EQUAL. THE MULCH MAY NOT BE PLACED AGAINST THE TRUNK, OVER THE ENTIRE AREA OF THE BED OR

### SEEDING AND SODDING

SEEDING AND SODDING SHALL BE AS PE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN URBANIZED AREAS" AS PUBLISHED BY THE DEPARTMENT OF NATURAL RESOURCES.

VILLAGE OF KINGS CONTRIVANCE SECTION 3 AREA 2, OPEN SPACE LOT #152 LAKE SEDIMENT PLACEMENT SITE - COLUMBIA ASSOCIATION

PLANTING PLAN HOWARD COUNTY, MARYLAN AX MAP: 42 GRID: 21 PARCEL NO. 442 PLAT NO. 4809 LIBER: 1738 FOLIO: 0003 ZONING: NT - NEW TOW SCALE: 1'' = 40'DRAWN BY: VG/KN/MB DATE: 04/25/17 CHECKED BY: SB/JH DATE: 04/25/17 DESIGNED BY: JH/MB DATE: 04/25/17 SHEET NO. 8 OF 8