



TECHNICAL STAFF REPORT

Planning Board Meeting of March 30, 2017

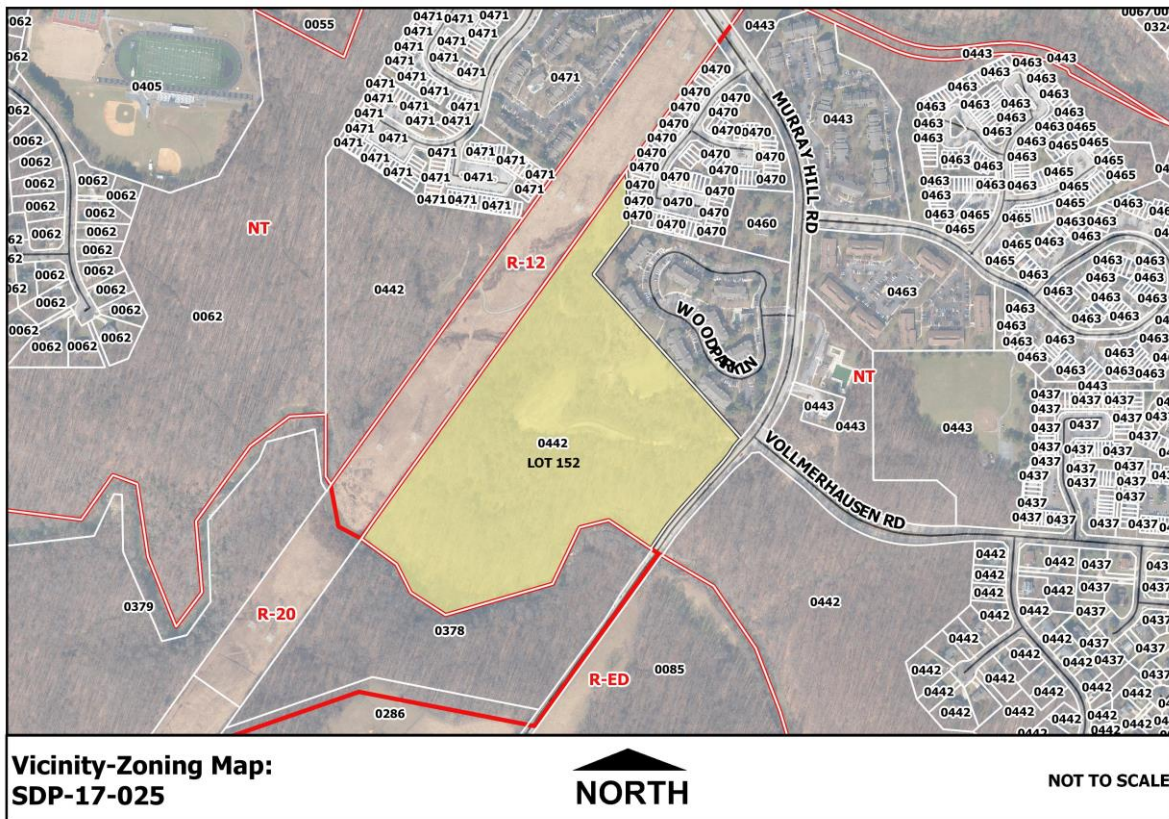
File No./Petitioner: SDP-17-025, Village of King's Contrivance, Section 3, Area 2- Open Space Lot 152
The Columbia Association, Petitioner

DPZ Planner: Eric Buschman, 410-313-0729, ebuschman@howardcountymd.gov

Request: To approve Site Development Plan (SDP-17-025) to grade and stockpile approximately 34,949 cubic yards of dredged lake sediment on Open Space Lot 152.

Location: The property (Tax Map 42, Grid 21, Parcel 442, Lot 152, Sixth Election District) is accessed via Murray Hill Road.

Recommendation: **Approval**, subject to complying with remaining technical comments from the Subdivision Review Committee (SRC).



Vicinal Properties:

North – Columbia Commons apartment complex and a townhome community along Rain Flower Way

East – Vollmerhausen Road, with the Huntington Pool located on the north and forested open space on the south

South – The Middle Patuxent River runs along the southern boundary

West – A BGE overhead transmission line right-of-way

Site History: **FDP-169 Part II:** Recorded April 21, 1980, as Plat Book 3054-A, Folio 250, which designated Lot 152 as “credited open space” and established permitted uses and required setbacks.

P-80-003: Preliminary Plan for the lot and road layout of the Village of King’s Contrivance - Section 3 Area 2; approved by the Planning Director December 19, 1979.

F-80-087: Recorded February 23, 1981, as Plat Nos. 4807-4816; a subdivision that created Open Space Lot 152.

SDP-92-031: Site Development Plan to construct a pathway, as shown on the Village of King’s Contrivance Huntington Neighborhood Open Space Master Plan, which received signature approval October 14, 1992.

SDP-93-123: Site Development Plan to construct a playground on Lot 152, in the rear of the Columbia Commons apartment complex, which received signature approval November 19, 1993.

ECP-17-011: Environmental Concept Plan, which proposed a sediment stockpile on Lot 152, and received signature approval November 14, 2016.

WP-16-074: Petition seeking alternative compliance for Section 16.155(a)(1)(i) of the Subdivision Regulations to submit a grading plan, in lieu of a Site Development Plan, to grade and stockpile sediment on Open Space Lot 152, which was denied March 7, 2016.

FDP-169-A-III Part II: Amendment to FDP-169-A-II Part II to include grading and sediment/soil placement within a designated area on Open Space Lot 152 in the list of permitted uses.

Analysis:

Site Improvements - While no structures are proposed, a 12’ wide temporary mulch access road, with a concrete driveway apron and access gate, will be constructed along Murray Hill Road. In Phase 1 the site will be graded and approximately 16,250 cubic yards of soil will be stockpiled and sediment control devices constructed. In Phase 2 approximately 34,949 cubic yards of dredged lake sediment will be dried and stockpiled and then both areas will be landscaped. The entire stockpile area will be reforested once it reaches full capacity and the project is complete.

Stormwater Management (SWM) - During construction temporary stormwater management will be addressed by oversizing sediment traps, as directed by the Howard Soil Conservation District. Disturbed areas will be re-planted once the project is done.

Environmental Considerations - While the property contains a 100-year floodplain, wetlands, streams, and steep slopes neither they nor their associated buffers will be disturbed.

Landscaping/Reforestation - The existing and proposed stockpiles will be re-forested using a variety of native canopy, evergreen, and understory trees. In Phase 1 the existing stockpile and sediment traps will be replanted, while in Phase 2 the larger stockpile will be replanted once the capacity of the fill site has been reached.

Development Criteria- The Site Development Plan complies with Final Development Plan FDP-169-A-III Part II, as follows:

- **Setbacks:** Since structures are not proposed, setback requirements do not apply.
- **Land Use:** Grading and sediment stockpiling are permitted within Lot 152, as designated on Sheet 7 of the FDP, and all proposed activities are contained within those limits.
- **Height Limitations:** Since structures are not proposed, height requirements do not apply.
- **Parking:** Parking is not proposed, nor do parking requirements apply. However, a contractor staging and stockpile area is identified on the SDP, along the proposed access drive.

SRC Action: The Subdivision Review Committee (SRC) determined that the Site Development Plan can be approved, subject to addressing minor drafting errors. These may be corrected prior to DPZ signature approval.

Recommendation: The Department of Planning and Zoning recommends approving Site Development Plan (SDP-17-025), subject to complying with SRC agency comments.


Valdis Lazdins, Director
Department of Planning and Zoning

3/9/17
Date

This file is available for public review by appointment at the Department of Planning and Zoning's public service counter, Monday through Friday, 8:00 a.m. to 5:00 p.m.



CENTERLINE OF PROPOSED WOODCHIP ACCESS ROAD

SEGMENT	LENGTH	CURVE RADIUS	LINE/CHORD DIRECTION	START NORTHING	START EASTING	START STATION	END STATION
L1	21.894		146° 52' 00" N	548207.80	554885.75	0+00.00	0+21.89
C1	60.404	35.000	182° 55' 02" N	54826.91	554885.30	0+21.89	0+82.30
L2	56.794		56° 17' 45" N	54834.12	554886.11	0+82.30	1+39.09
C2	18.991	200.000	56° 30' 59" N	54830.42	554886.96	1+39.09	1+58.08
L3	22.074		55° 48' 12" N	54830.91	554440.32	1+58.08	1+80.15
C3	41.924	65.000	182° 17' 36" N	54826.96	554471.44	1+80.15	2+22.07
L4	24.295		182° 17' 36" N	54826.96	55477.84	2+22.07	2+46.37
C4	35.869	418.29	177° 20' 54" N	54821.02	55487.11	2+46.37	3+02.24
L5	58.400		184° 25' 46" N	54834.10	554822.10	3+02.24	3+60.64
C5	47.897	10.000	151° 35' 57" N	54834.12	554822.10	3+60.64	4+08.54
L6	50.126		182° 09' 00" N	54834.10	554207.25	4+08.54	4+58.67
C6	15.817	30.000	182° 09' 14" N	54834.12	55478.41	4+58.67	4+74.49
L7	24.380		184° 49' 44" N	54440.12	55485.46	4+74.49	4+98.87
C7	47.861	58.658	184° 52' 57" N	54440.10	55484.40	4+98.87	5+46.73
L8	18.864		56° 12' 59" N	54440.10	55484.75	5+46.73	5+65.59

APPROVED
PLANNING BOARD OF HOWARD COUNTY

DATE _____

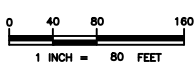
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE _____

CHIEF, DIVISION OF LAND DEVELOPMENT DATE _____

DIRECTOR DATE _____

VEHICULAR INGRESS AND EGRESS IS RESTRICTED EXCEPT AT POINTS APPROVED BY THE OFFICE OF PLANNING AND ZONING (PLAT 4804) (SEE GENERAL NOTE 481 SHEET 1 OF 8)



DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER _____ DATE _____
ALBERT F. EDWARDS, P.E.
PRINTED NAME

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.

SIGNATURE OF ENGINEER _____ DATE _____
JOHN HENRICHS, P.E.
PRINTED NAME

HOWARD SCD

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

HOWARD SOIL CONSERVATION DISTRICT DATE _____

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 14920, EXPIRATION DATE: 05/12/2018.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE _____

CHIEF, DIVISION OF LAND DEVELOPMENT DATE _____

DIRECTOR DATE _____

OWNER/PREPARED FOR:

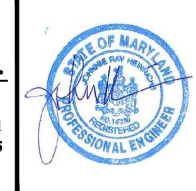
Columbia Association

THE COLUMBIA ASSOCIATION
8450 GERWIG LANE
COLUMBIA, MD 21046
ATTN: ALBERT F. EDWARDS, P.E.
410-381-3551

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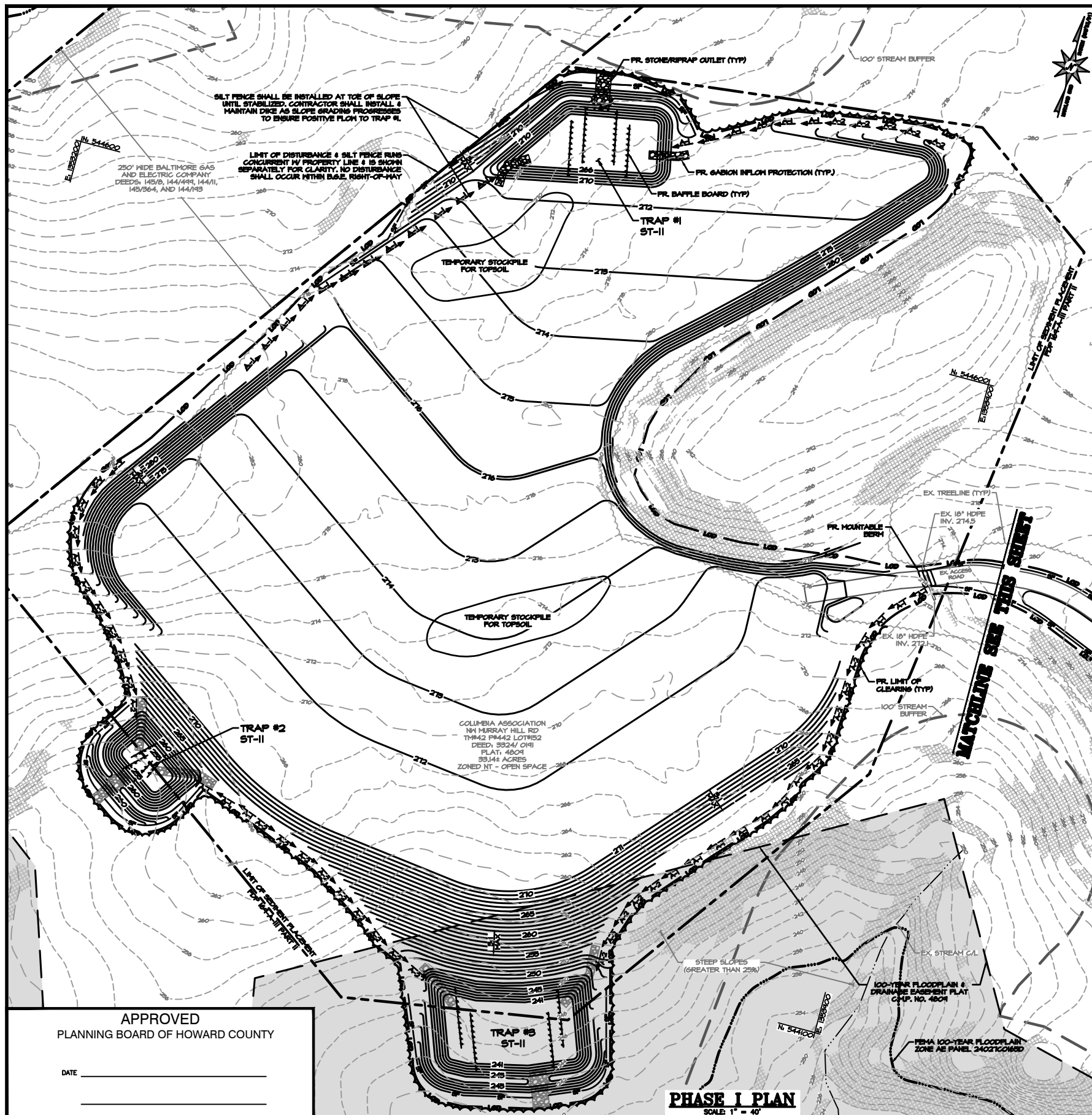
VILLAGE OF KINGS CONTRIVANCE SECTION 3 AREA 2, OPEN SPACE LOT #152
LAKE SEDIMENT PLACEMENT SITE - COLUMBIA ASSOCIATION
EXISTING CONDITIONS AND ENVIRONMENTAL CONSTRAINTS PLAN

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TAX MAP: 421 GRID: 211 PARCEL NO. 4421 PLAT NO. 4809 LIBER: 1738 FOLIO: 0003 ZONING: NT - NEW TOWN

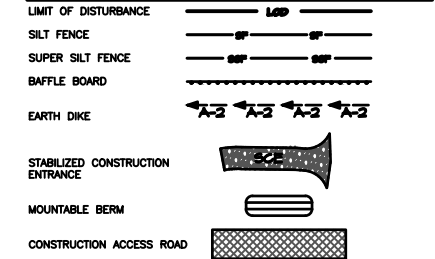
DATE	BY	DESCRIPTION	SCALE: 1" = 80'

DRAWN BY: VG/KN/MB DATE: 03/09/17
CHECKED BY: SB/JH DATE: 03/09/17
DESIGNED BY: JH/MB DATE: 03/09/17

SHEET NO. 2 OF 8



SEDIMENT CONTROL LEGEND



SUMMARY OF ESC QUANTITIES PHASE I

STABILIZED CONSTRUCTION ENTRANCE:	1 EA
CONSTRUCTION ACCESS ROAD:	475 LF
MOUNTABLE BERM:	1 EA
SILT FENCE:	1,874 LF
A-1 EARTH DIKE:	526 LF
A-2 EARTH DIKE:	689 LF
GABION INFLOW PROTECTION:	8 EA
ST-II SEDIMENT TRAP:	3 EA

NOTE: THIS SUMMARY OF SEDIMENT CONTROL QUANTITIES IS FOR USE BY THE HOWARD SOIL CONSERVATION DISTRICT ONLY. THIS SUMMARY IS NOT INTENDED TO BE USED BY THE CONTRACTOR FOR ESTIMATING AND BIDDING PURPOSES.

SITE ANALYSIS - PHASE I

- TOTAL SITE AREA: 33.14 AC.
- PROPOSED DISTURBED AREA: 7.00 AC. (304,958 S.F.)
- TOTAL AREA TO BE STABILIZED: 7.00 AC.
- TOTAL EX. IMP. AREA: 0.10 AC.
- TOTAL EX. IMP. AREA TO REMAIN: 0.10 AC.
- TOTAL PR. IMPERVIOUS AREA: 0.00 AC.
- TOTAL TO BE STABILIZED WITH VEGETATION: 6.90 AC.
- PROPOSED IMPERVIOUS AREA: 0.00 AC.
- ESTIMATED CUT: 16,250 CY
- ESTIMATED FILL: 16,250 CY

NOTE: THE EARTHWORK QUANTITIES SHOWN HEREON ARE FOR INFORMATION PURPOSES ONLY. BAYLAND MAKES NO GUARANTEES OF ACCURACY OF QUANTITIES OR BALANCE OF SITE. THE DEVELOPER AND CONTRACTOR SHALL TAKE FULL RESPONSIBILITY OF ACTUAL EARTHWORK QUANTITIES ENCOUNTERED DURING CONSTRUCTION.

ST-II SEDIMENT TRAP TABLE

	TRAP #1	TRAP #2	TRAP #3
DRAINAGE AREA - INITIAL (AC.)	2.5	1.1	3.3
DRAINAGE AREA - INTERIM (AC.) PHASE I	2.24	1.7	3.0
DRAINAGE AREA - FINAL (AC.) PHASE II	2.4	-	-
TOTAL STORAGE REQ'D (CF)	16,530	6,120	21,820
TOTAL STORAGE PROV'D (CF)	18,752	7,451	23,211
WET STORAGE REQ'D (CF)	4,500	3,060	5,940
WET STORAGE PROV'D (CF)	4,819	3,148	6,168
DRY STORAGE REQ'D (CF)	12,030 (1-YR STORM)	3,060 (1-YR STORM)	15,880 (1-YR STORM)
DRY STORAGE PROV'D (CF)	13,932	4,302	17,044
EX. GROUND ELEV. AT OUTLET (WET STORAGE ELEV.)	267.25	257.75	242.25
TRAP BOTTOM ELEV. (FT)	266.0	255.0	241.0
TRAP BOTTOM DIMENSIONS (FT X FT)	90 X 40 (APPROX.)	40 X 20	96 X 46
WEIR LENGTH (FT)	11.0	8.0	14.0
WEIR CREST (DRY STORAGE ELEV.)	270	260	245
CLEANOUT ELEV. (FT)	266.63	256.38	241.63
TOP OF EMBANKMENT ELEV. (FT)	271	261	246
SIDE SLOPE (H:V RATIO)	2:1	2:1	2:1
EMBANKMENT TOP WIDTH (FT)	4.0	4.0	4.0
OUTLET PROTECTION - LENGTH (FT)	10.0	10.0	10.0
OUTLET PROTECTION DEPTH (IN)	19	19	19

ENGINEER'S CERTIFICATE

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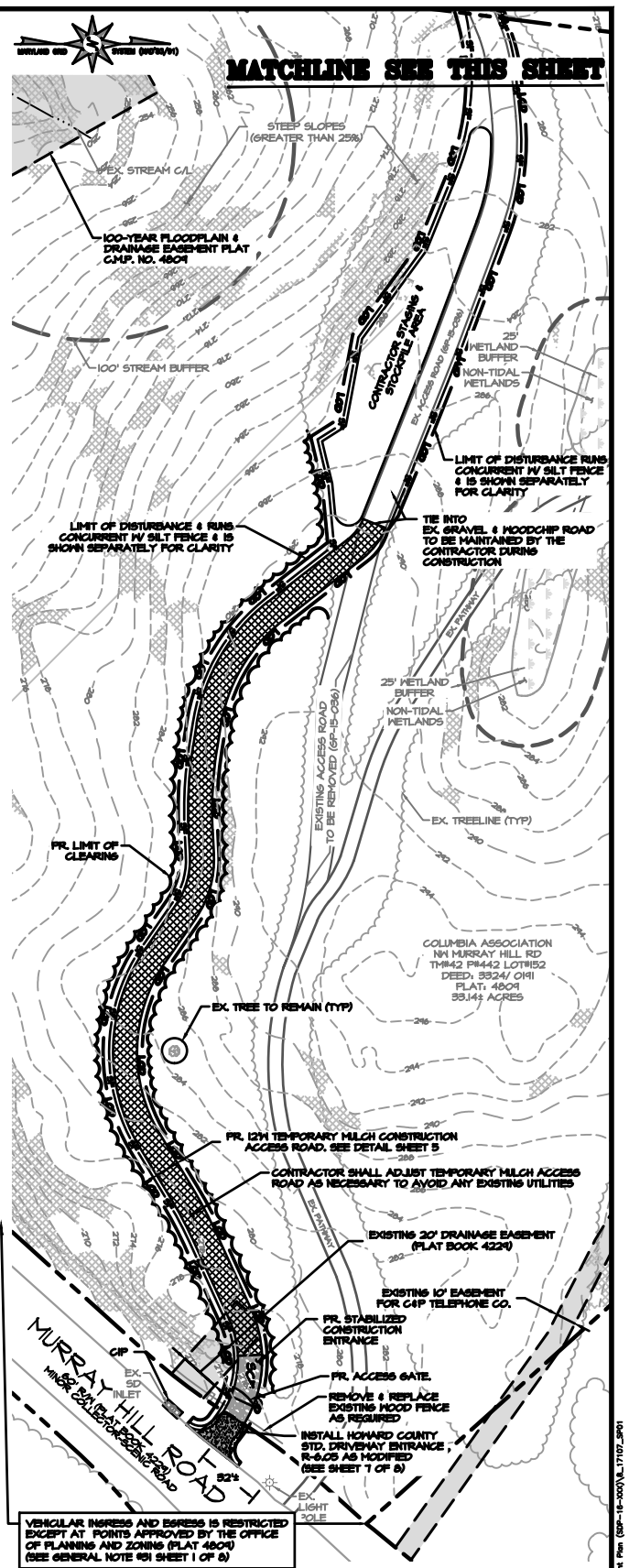
SIGNATURE OF ENGINEER _____ DATE _____

JOHN HENRICHS, P.E.
PRINTED NAME

HOWARD SCD

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

HOWARD SOIL CONSERVATION DISTRICT DATE _____



ACCESS ROAD PLAN - PHASES I & II

SCALE: 1" = 40'

VILLAGE OF KINGS CONTRIVANCE SECTION 3 AREA 2, OPEN SPACE LOT #152
LAKE SEDIMENT PLACEMENT SITE - COLUMBIA ASSOCIATION
EROSION AND SEDIMENT CONTROL PLAN - PHASE I

6TH ELECTION DISTRICT	HOWARD COUNTY, MARYLAND		
TAX MAP: 421 GRID: 211 PARCEL NO. 4421 PLAT NO. 4809 LIBER: 1738 FOLD: 0003 ZONING: NT - NEW TOWN			
DATE	BY	DESCRIPTION	SCALE: 1" = 40'
			DRAWN BY: VG/KN/MB DATE: 03/09/17
			CHECKED BY: SB/JH DATE: 03/09/17
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SHEET NO. 3 OF 8			

APPROVED
PLANNING BOARD OF HOWARD COUNTY

DATE _____

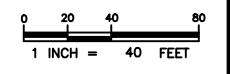
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SIGNATURE OF DEVELOPER _____ DATE _____
ALBERT F. EDWARDS, P.E.
PRINTED NAME

PHASE I PLAN

SCALE: 1" = 40'



OWNER/PREPARED FOR:

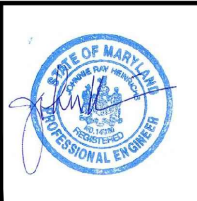
Columbia Association

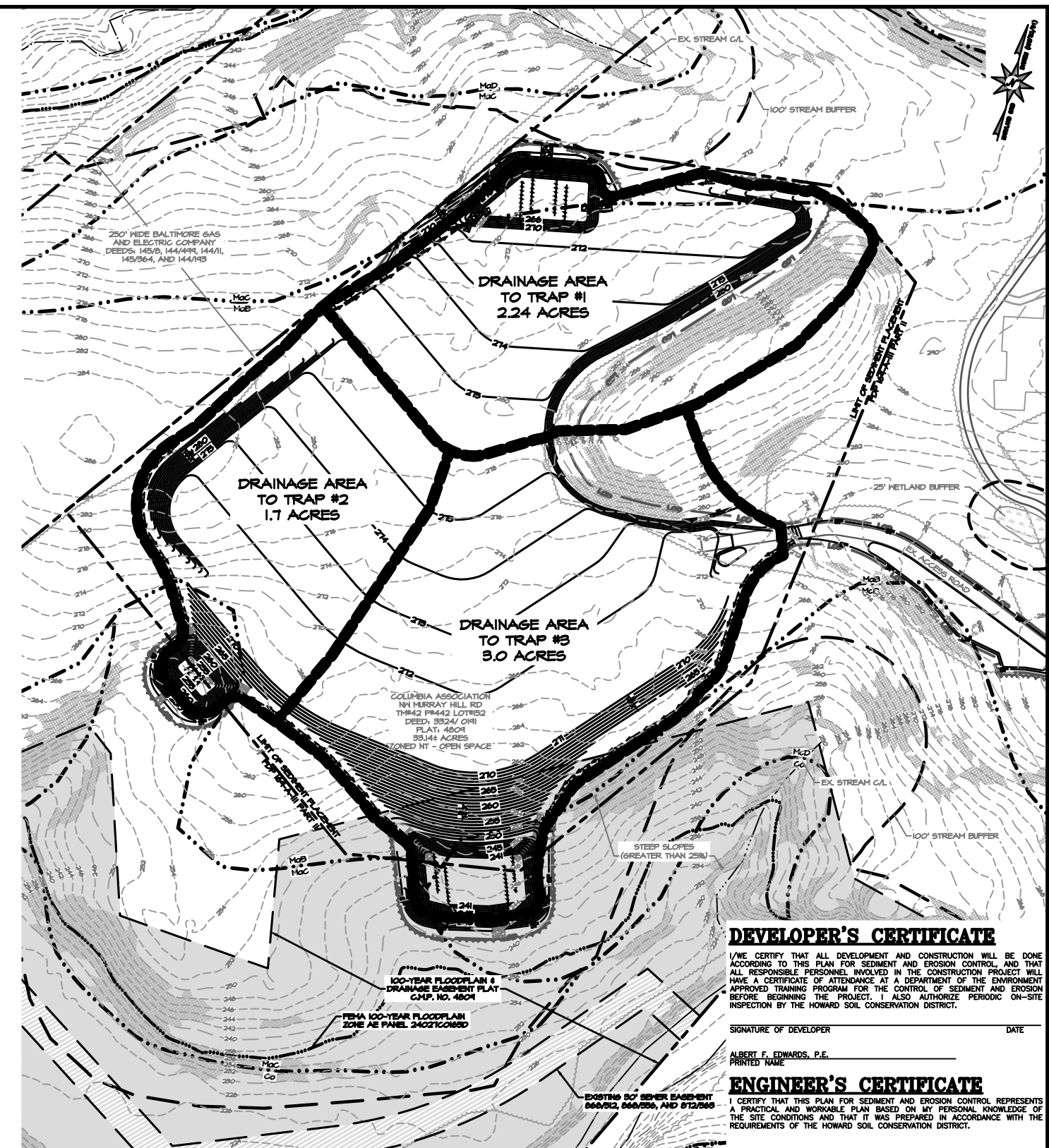
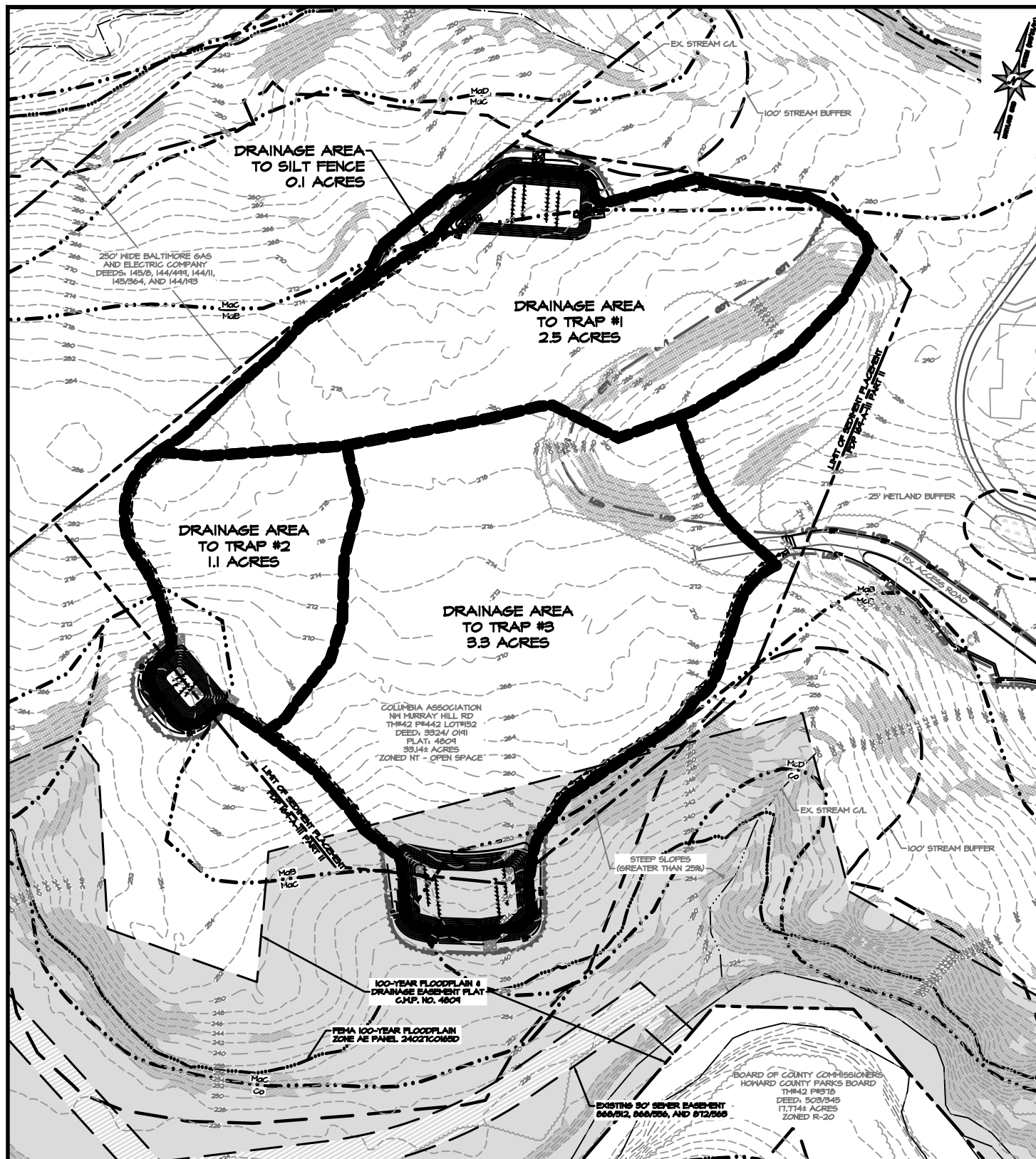
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SIGNATURE OF ENGINEER _____ DATE _____
 JOHN HEINRICH, P.E.
 PRINTED NAME

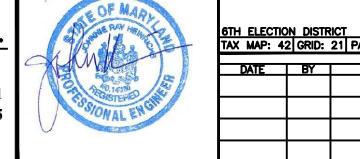
HOWARD SCD

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SIGNATURE OF HOWARD SOIL CONSERVATION DISTRICT _____ DATE _____

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HOWARD SOIL CONSERVATION DISTRICT



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

HOWARD COUNTY, MARYLAND
 6TH ELECTION DISTRICT
 TAX MAP: 42 | GRID: 21 | PARCEL NO. 442 | PLAT NO. 4809 | LIBER: 1738 | FOLIO: 0003 | ZONING: NT - NEW TOWN

DATE	BY	DESCRIPTION	SCALE: 1" = 60'

DRAWN BY: VG/JN/MB DATE: 03/09/17
 CHECKED BY: SB/JH DATE: 03/09/17
 DESIGNED BY: JH/MB DATE: 03/09/17

SHEET NO. 4 OF 8

DRAINAGE AREA MAP INITIAL CONDITIONS
 SCALE: 1" = 60'

SOIL LABEL	SOIL SERIES	SLOPES	HSG	HYDRIC RATING (%)	K FACTOR RATING
MoB	MANOR LOAM	3-8%	B	0%	0.28
MoC	MANOR LOAM	8-15%	B	0%	0.32
MoD	MANOR LOAM	15-25%	B	0%	0.28
Co	CODORUS AND HATBORO SILT LOAM	0-3%	C	35%	0.55

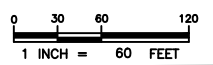
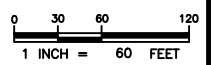
NOTE: 1. SOIL DATA WAS DERIVED FROM THE USDA WEB SOIL SURVEY IN NOVEMBER 2016

APPROVED
 PLANNING BOARD OF HOWARD COUNTY

DATE _____

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION _____ DATE _____
 CHIEF, DIVISION OF LAND DEVELOPMENT _____ DATE _____
 DIRECTOR _____ DATE _____

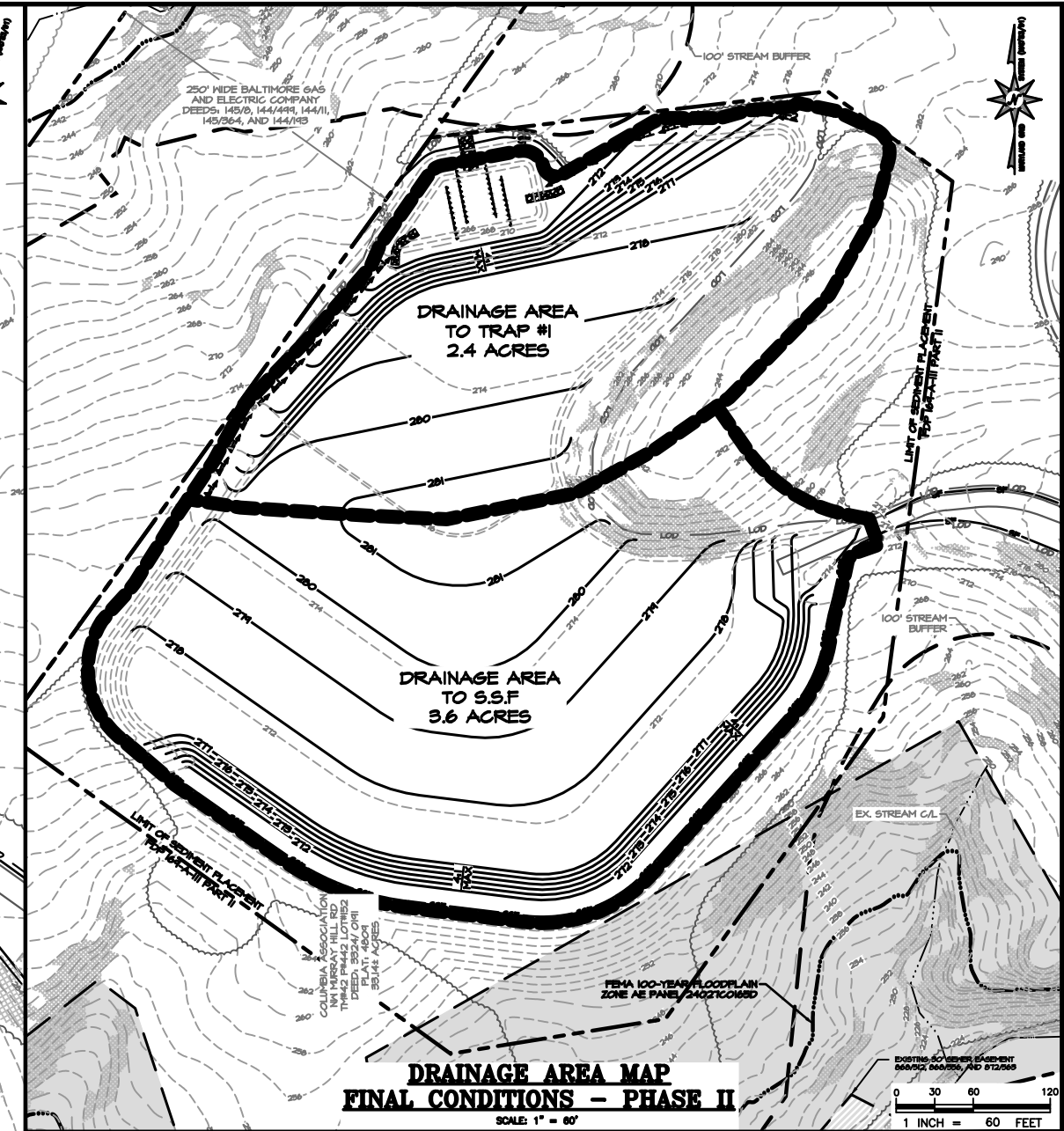
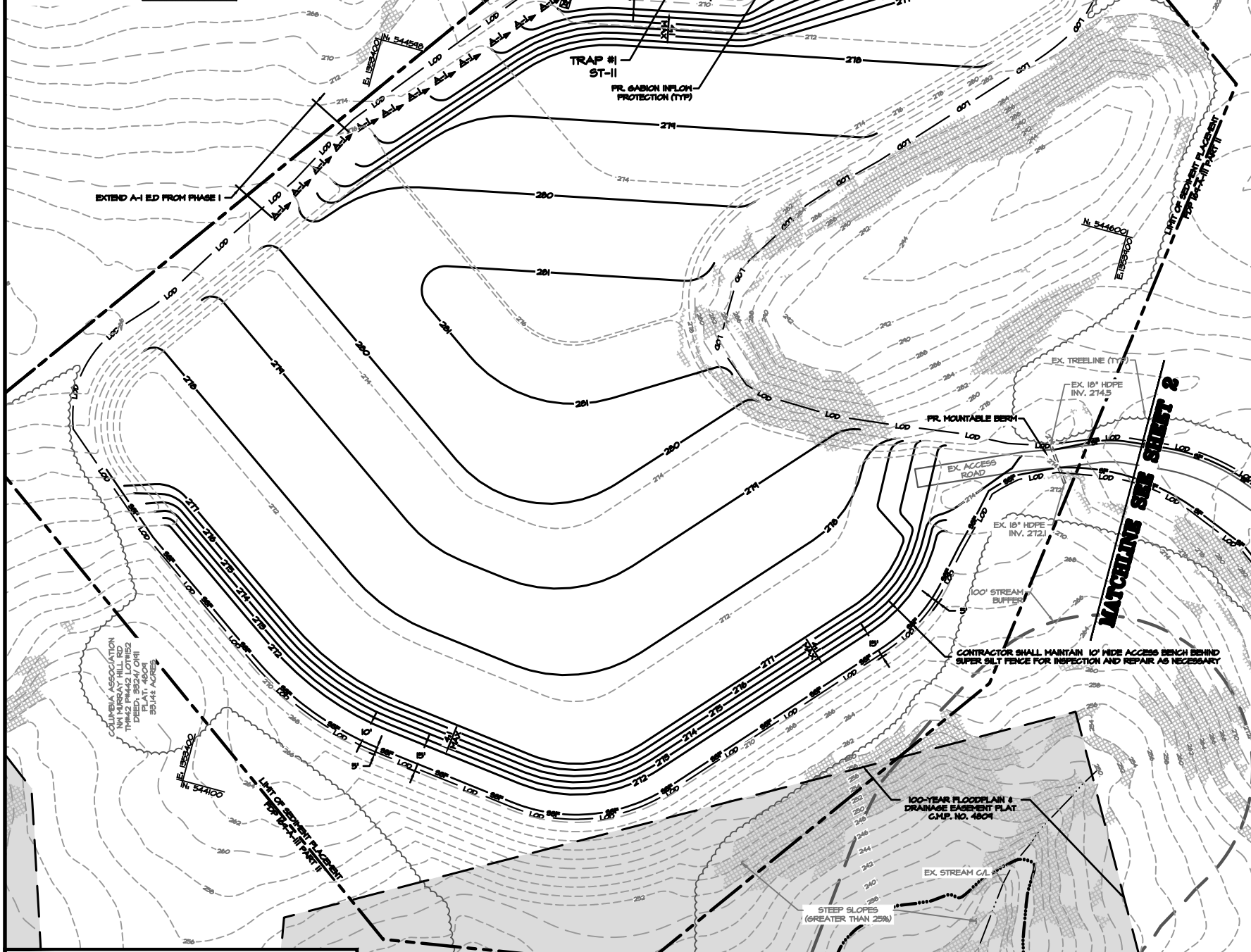


OWNER/PREPARED FOR:
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SEDIMENT CONTROL LEGEND

- LIMIT OF DISTURBANCE
- SILT FENCE
- SUPER SILT FENCE
- BAFFLE BOARD
- EARTH DIKE
- STABILIZED CONSTRUCTION ENTRANCE
- MOUNTABLE BERM
- CONSTRUCTION ACCESS ROAD



SUMMARY OF ESC QUANTITIES - PHASE II

STABILIZED CONSTRUCTION ENTRANCE:	1 EA
CONSTRUCTION ACCESS ROAD:	475 LF
MOUNTABLE BERM:	1 EA
SILT FENCE:	136 LF
SUPER SILT FENCE:	705 LF
A-2 EARTH DIKE:	349 LF
GABION INFLOW PROTECTION:	91 LF
ST-II SEDIMENT TRAP:	2 EA
	1 EA

NOTE: THIS SUMMARY OF SEDIMENT CONTROL QUANTITIES IS FOR USE BY THE HOWARD SOIL CONSERVATION DISTRICT ONLY. THIS SUMMARY IS NOT INTENDED TO BE USED BY THE CONTRACTOR FOR ESTIMATING AND BIDDING PURPOSES.

SITE ANALYSIS - PHASE II

- TOTAL SITE AREA: 33.14 AC.
- PROPOSED DISTURBED AREA: 5.80 AC. (252,999 S.F.)
- TOTAL AREA TO BE STABILIZED: 5.80 AC.
- TOTAL EX. IMP. AREA: 0.10 AC.
- TOTAL EX. IMP. AREA TO REMAIN: 0.10 AC.
- TOTAL PR. IMPERVIOUS AREA: 0.00 AC.
- TOTAL TO BE STABILIZED WITH VEGETATION: 5.70 AC.
- PROPOSED IMPERVIOUS AREA: 0.00 AC.
- ESTIMATED CUT: 0 CY
- ESTIMATED FILL: 34,979 CY

NOTE: THE EARTHWORK QUANTITIES SHOWN HEREON ARE FOR INFORMATION PURPOSES ONLY. BAYLAND MAKES NO GUARANTEES OF ACCURACY OF QUANTITIES OR BALANCE OF SITE. THE DEVELOPER AND CONTRACTOR SHALL TAKE FULL RESPONSIBILITY OF ACTUAL EARTHWORK QUANTITIES ENCOUNTERED DURING CONSTRUCTION.

SEDIMENT TRAP TABLE

	TRAP #1
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DRY STORAGE PROV'D (CF)	13,932
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TRAP BOTTOM ELEV. (FT)	266.0
TRAP BOTTOM DIMENSIONS (FT X FT)	90 X 40 APPROX.
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WEIR CREST (DRY STORAGE ELEV.)	270
CLEANOUT ELEV. (FT)	266.63
TOP OF EMBANKMENT ELEV. (FT)	270
SIDE SLOPE (H/V RATIO)	2:1
EMBANKMENT TOP WIDTH (FT)	4.0
OUTLET PROTECTION - LENGTH (FT)	10.0
OUTLET PROTECTION DEPTH (IN)	19

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APPROVED
PLANNING BOARD OF HOWARD COUNTY

DATE _____

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE _____

CHIEF, DIVISION OF LAND DEVELOPMENT DATE _____

DIRECTOR DATE _____

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER DATE _____

ALBERT F. EDWARDS, P.E.
PRINTED NAME

HOWARD SCD

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

HOWARD SOIL CONSERVATION DISTRICT DATE _____

PHASE II PLAN
SCALE: 1" = 40'

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.

SIGNATURE OF ENGINEER DATE _____

JOHN HEINRICH, P.E.
PRINTED NAME

OWNER/PREPARED FOR:

Columbia Association

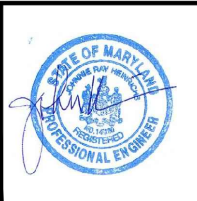
THE COLUMBIA ASSOCIATION
8450 GERWIG LANE
COLUMBIA, MD 21046
ATTN: ALBERT F. EDWARDS, P.E.
410-381-3551

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VILLAGE OF KINGS CONTRIVANCE SECTION 3 AREA 2, OPEN SPACE LOT #152
LAKE SEDIMENT PLACEMENT SITE - COLUMBIA ASSOCIATION
EROSION AND SEDIMENT CONTROL PLAN - PHASE II

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TAX MAP: 421 GRID: 211 PARCEL NO. 4421 PLAT NO. 4809 LIBER: 1738 FOLD: 0003 ZONING: NT - NEW TOWN

DATE BY DESCRIPTION SCALE: 1" = 40'

DRAWN BY: VG/JN/MB DATE: 03/09/17
CHECKED BY: SB/JH DATE: 03/09/17
DESIGNED BY: JH/MB DATE: 03/09/17

SHEET NO. 5 OF 8

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.
CONDITIONS WHERE PRACTICE APPLIES: ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCIDENTAL STABILIZATION, SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING, SEEDING AND MULCHING, TEMPORARY STABILIZATION, AND PERMANENT STABILIZATION.
CRITERIA:
 1. VEGETATIVE 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.
 2. PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF. INFILTRATION, EVAPORATION, TRANSPIRATION, AND GRASSROOT RECHARGE. OVER TIME, VEGETATION WILL INCREASE GROUND WATER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH.
 3. 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.
 4. PERMANENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GROWING, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.
ADDITIONAL VEGETATIVE ESTABLISHMENT: INSPECT SEEDING AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.
 1. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUND COVER.
 2. IF AN AREA HAS LESS THAN 40 PERCENT GROUND COVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDING, AND MULCHING.
 3. IF AN AREA HAS BETWEEN 40 AND 84 PERCENT GROUND COVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
 4. MAINTAINANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.4.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCIDENTAL 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. INCIDENTAL STABILIZATION - CUT SLOPES
 1. EXCAVATE AND STABILIZE CUT SLOPES IN INCIDENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDING AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS TO PROTECT GROUND COVER. RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDING, AND MULCHING.
 2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
 a. CONSTRUCT AND STABILIZE ALL TEMPORARY WATER CONVEYANCE PRACTICES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
 b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDING, AND STABILIZE.
 c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDING, AND STABILIZE. OVERSEED PREVIOUSLY SEED AREAS AS NECESSARY.
 d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDING, AND STABILIZE. OVERSEED PREVIOUSLY SEED AREAS AS NECESSARY.
 3. 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.

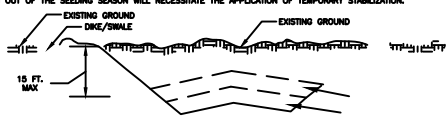


FIGURE B.1 INCREMENTAL STABILIZATION - CUT SLOPES

B. INCIDENTAL STABILIZATION - FILL SLOPES
 1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCIDENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDING 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 PRACTICES, 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. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICES, AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
 b. PLACE PHASE 1 FILL, PREPARE SEEDING, AND STABILIZE.
 c. PLACE PHASE 2 FILL, PREPARE SEEDING, AND STABILIZE.
 d. PLACE FINAL PHASE FILL, PREPARE SEEDING, AND STABILIZE. OVERSEED PREVIOUSLY SEED AREAS AS NECESSARY.
 5. 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.

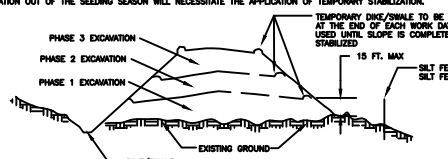


FIGURE B.2 INCREMENTAL STABILIZATION - FILL SLOPES

PERMANENT SEEDING SUMMARY					
HARDNESS ZONE (FROM FIGURE B.3): 6b		SEED MIXTURE (FROM TABLE B.1)		FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/1000)	SEEDING DATES	SEEDING DEPTH	
1	SMITHSONIAN CREEPING RED FESCUE CLOVER	2/15 - 2/20 10 2	2/15 - 2/20 8/15 - 8/31	0.5"	2 lbs/c 3 (90 lb/1000 sf)
2	DEERTRONGUE SHEEP FESCUE COMMON LESPEDEZA	20 10	2/15 - 2/20 8/15 - 8/31	0.5"	2 lbs/c 3 (90 lb/1000 sf)

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

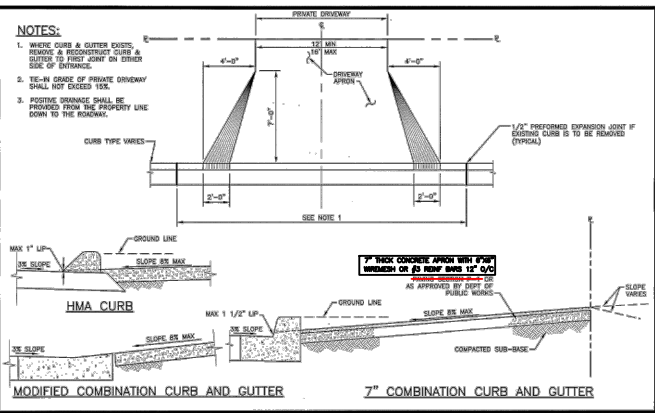
DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.
PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
CONDITIONS WHERE PRACTICE APPLIES: WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.
CRITERIA:
 A. SOIL PREPARATION
 1. TEMPORARY STABILIZATION
 a. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS HARROWS OR CHISEL PLOWS OR OTHER EQUIPMENT 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 SLOPE.
 b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 c. APPLY FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 2. PERMANENT STABILIZATION
 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:
 i. SOIL SALINITY LESS THAN 500 PARTS PER MILLION (PPM).
 ii. SOIL CONTAINS LESS THAN 10 PERCENT CLAY BUT SHOULD BE FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF WATER.
 iii. SANDY SOILS CONTAIN LESS THAN 10 PERCENT SANDY SILT PLUS CLAY.
 iv. SOIL CONTAINS SUFFICIENT NUTRIENT LEVELS TO SUPPORT VEGETATIVE GROWTH.
 v. SOIL CONTAINS SUFFICIENT PHOSPHORUS TO PERMIT ADEQUATE ROOT PENETRATION.
 b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED WHEN 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 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. USE SOIL AMENDMENTS TO A DEPTH OF 3 TO 5 INCHES OF SOIL. BY DISKING OR OTHER SUITABLE MEANS. DRAIN LINES ARE TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DISKING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDING PREPARATION, TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDING EQUIPMENT MAY BE NECESSARY ON NEARLY DISTURBED AREAS.

B. 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 CHEMISTRY.
 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 ORIGINAL SOIL IS HEAVY CLAY OR OTHER MATERIALS ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 c. THE ORIGINAL SOIL IS HEAVILY ACIDIC AND 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.
 5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
 a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY SILT LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT OR AN APPROVED APPROPRIATE AUTHORITY. TOPSOIL MUST NOT BE A Mixture OF CONTRASTING TEXTURED SUBSTRATES AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CONCRETES, STONES, SLAG, COARSE FUNDMENTS, OR OTHER MATERIALS LARGER THAN 1/8 INCH IN DIAMETER.
 b. TOPSOIL MUST BE FREE OF MOULDS, PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHER WEEDS.
 c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRICULTURIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

6. SOIL APPLICATION
 a. EXCAVATION AND SEEDMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
 b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 3 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 OVERSEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE TOPSOIL RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING OPERATION.
 C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS. SOIL ANALYSES MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
 2. FERTILIZER MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
 4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT A RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-3 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.
CONDITIONS WHERE PRACTICE APPLIES: STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.
CRITERIA:
 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 SOIL AND BE ON A SLOPE NOT TO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED TO PREVENT SOIL FROM SPILLING OFF THE STOCKPILE.
 3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
 4. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MANAGED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE TO PREVENT SOIL FROM ENTERING THE STOCKPILE.
 5. WHERE NEARBY CONCERNS EXIST AS TO THE STOCKPILE AREA, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO PREVENT THE DISCHARGE OF SEDIMENT INTO NEARBY WATER BODIES OR TO PREVENT THE STOCKPILE FROM BEING A SOURCE OF POLLUTION.
 6. STOCKPILES MUST BE COVERED IN ACCORDANCE WITH SECTION B-4-4. STOCKPILES MUST BE COVERED WITH A STOCKPILE COVERING CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE LINING.
 7. STOCKPILES MUST BE COVERED WITH IMPERMEABLE LINING.
 8. STOCKPILES MUST BE COVERED WITH IMPERMEABLE LINING.
 9. STOCKPILES MUST BE COVERED WITH IMPERMEABLE LINING.
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 17. STOCKPILES MUST BE COVERED WITH IMPERMEABLE LINING.
 18. STOCKPILES MUST BE COVERED WITH IMPERMEABLE LINING.
 19. STOCKPILES MUST BE COVERED WITH IMPERMEABLE LINING.
 20. STOCKPILES MUST BE COVERED WITH IMPERMEABLE LINING.



MODIFIED COMBINATION CURB AND GUTTER
 7" COMBINATION CURB AND GUTTER

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

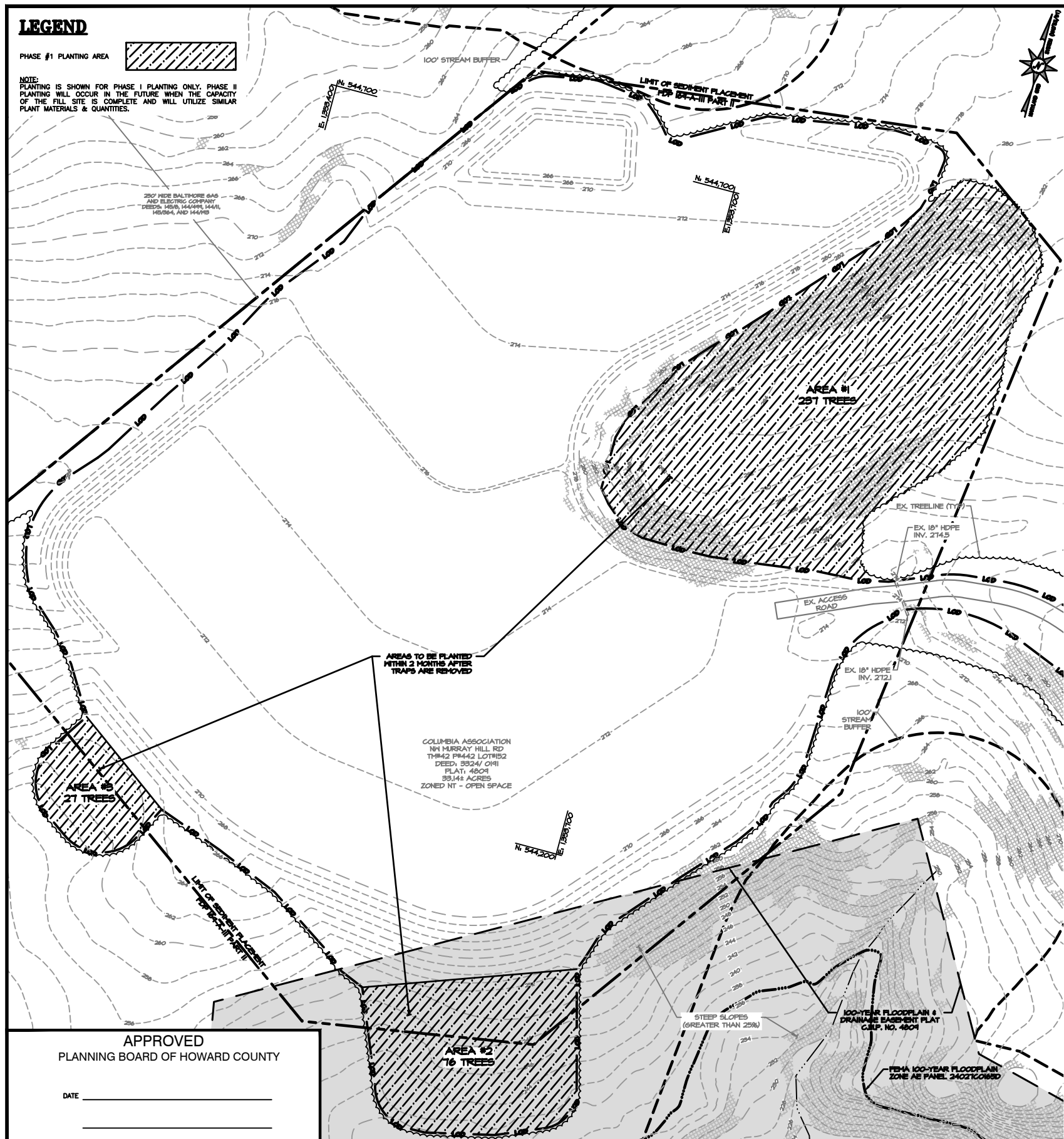
DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.
PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.
CONDITIONS WHERE PRACTICE APPLIES: TO THE SURFACE OF ALL PERMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.
CRITERIA:
 A. SEEDING
 1. SPECIFICATIONS
 a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SEEDING SUCH MATERIAL ON ANY LABEL, REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
 b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED BEFORE THE GROUND THAWES.
 c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS SPECIFIED 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.
 d. SOIL OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUPPORTIVE TESTS HAVE BEEN MADE (14 DAYS MIN) TO PREVENT DISPERSION OF PHYTO-TOXIC MATERIALS.
 2. APPLICATION
 a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 b. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
 c. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDING AREA WITH A HEAVY ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 d. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDING THAT IS APPLIED AND COVER SEED WITH SOIL.
 e. CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FIRM AFTER PLANTING.
 f. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
 g. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
 h. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING THE APPLICATION RATE SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE. TOTAL OF SOLUBLE NITROGEN: P205 (PHOSPHORUS), 200 POUNDS PER ACRE. K2O (POTASSIUM), 200 POUNDS PER ACRE.
 i. 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 WITH HYDROSEEDING.
 j. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
 k. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
 l. WHEN HYDROSEEDING SHOULD FOLLOW THE CONTOR.
 B. MULCHING
 1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
 a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF MOULDS AND SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT HEAVILY DUSTY. EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
 b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 c. WCFM IS TO BE DRY AND CLEAN AND CONTAIN A GREEN DYE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORM SPREAD SURFACE.
 d. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 e. 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 APPLICATION AND LAUNCH. WCFM IS TO BE MANUFACTURED TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A SLURRY-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 SEEDLING.
 f. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATIONS THAT WILL BE PHYTO-TOXIC.
 g. 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 15 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
 2. APPLICATION
 a. APPLY MULCH TO ALL SEEDING AREAS IMMEDIATELY AFTER SEEDING.
 b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDING AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO AVOID THE BENCHING 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.
 c. WOOD CELLULOSE FIBER MULCH IS TO 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.
 3. ANCHORING
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 i. A MULCH ANCHORING TOOL IS A TRACTION DRIVEN 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 CONTOR.
 ii. WOOD CELLULOSE FIBER MULCH 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 SULF (AQUO-TACK), DCA-70, PEGBOND, TERRA TACK, A TERRA TACK OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. APPLY THE BINDERS TO THE MULCH AT THE END OF EACH ROW. THE MULCH SHOULD BE APPLIED TO THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN 4' X 10' TO 15' FEET WIDE AND 300 TO 3,000 FEET LONG.
 b. MULCH ANCHORING SHOULD BE PERFORMED IMMEDIATELY AFTER MULCHING. MULCHING SHOULD BE PERFORMED IMMEDIATELY AFTER MULCHING.
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2. APPLICATION
 a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 b. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
 c. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDING AREA WITH A HEAVY ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 d. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDING THAT IS APPLIED AND COVER SEED WITH SOIL.
 e. CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FIRM AFTER PLANTING.
 f. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
 g. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
 h. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING THE APPLICATION RATE SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE. TOTAL OF SOLUBLE NITROGEN: P205 (PHOSPHORUS), 200 POUNDS PER ACRE. K2O (POTASSIUM), 200 POUNDS PER ACRE.
 i. 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 WITH HYDROSEEDING.
 j. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
 k. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
 l. WHEN HYDROSEEDING SHOULD FOLLOW THE CONTOR.
 B. MULCHING
 1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
 a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF MOULDS AND SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT HEAVILY DUSTY. EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
 b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 c. WCFM IS TO BE DRY AND CLEAN AND CONTAIN A GREEN DYE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORM SPREAD SURFACE.
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LEGEND



NOTE: PLANTING IS SHOWN FOR PHASE 1 PLANTING ONLY. PHASE II PLANTING WILL OCCUR IN THE FUTURE WHEN THE CAPACITY OF THE FILL SITE IS COMPLETE AND WILL UTILIZE SIMILAR PLANT MATERIALS & QUANTITIES.



PLANTING SCHEDULE

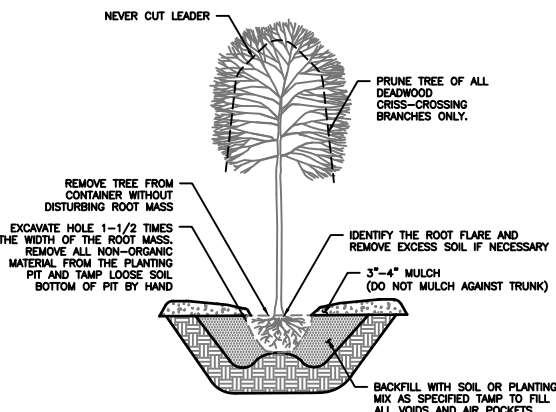
SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	QUANTITY
CANOPY TREES				
ACER RUBRUM	RED MAPLE	1" CAL	15' X 15'	25
LIRIODENDRON TULIPIFERA	TULIP POPLAR	1" CAL	15' X 15'	25
NYSSA SYLVATICA	BLACK GUM	1" CAL	11' X 11'	25
QUERCUS RUBRA	NORTHERN RED OAK	1" CAL	15' X 15'	45
QUERCUS VELUTINA	BLACK OAK	1" CAL	15' X 15'	25
ROBINIA PSEUDOACACIA	BLACK LOCUST	1" CAL	15' X 15'	25
EVERGREEN TREES				
JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	7 GAL	15' X 15'	40
PINUS VIRGINIANA	VIRGINIA PINE	7 GAL	15' X 15'	25
UNDERSTORY TREES				
AMELANCHIER CANADENSIS	SERVICEBERRY	1" CAL	15' X 15'	25
CORNUS FLORIDA	FLOWERING DOGWOOD	1" CAL	15' X 15'	40
ILEX OPACA	AMERICAN HOLLY	7 GAL	15' X 15'	40

GENERAL PLANTING NOTES

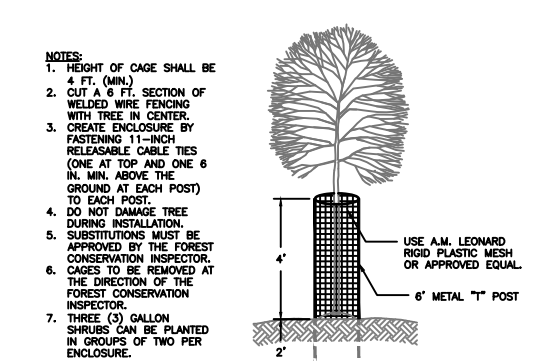
- ALL PLANT MATERIALS SHALL BE NURSERY GROWN AND SHALL CONFORM TO AMERICAN ASSOCIATION OF NURSERYMEN, INC. STANDARDS.
- CONTRACTOR IS RESPONSIBLE TO VERIFY ALL UTILITY LOCATIONS PRIOR TO PLANTING MATERIAL. IF CONFLICTS ARISE, BAYLAND, INC. MUST BE NOTIFIED PRIOR TO ANY GROUND BREAKING.
- WETLAND PLANTING WILL BE ACCOMPLISHED BETWEEN MARCH 15TH AND MAY 15TH (SPRING PLANTING SEASON) OR SEPTEMBER 15TH AND NOVEMBER 15TH (FALL PLANTING SEASON).
- TREES AND SHRUBS SHALL BE PLANTED FROM MARCH 1 TO JUNE 15 AND FROM SEPTEMBER 15 TO DECEMBER 15. PLANTING MAY BE CONTINUED DURING THE WINTER MONTHS PROVIDING THERE IS NO FROST IN THE GROUND AND FROST FREE TOPSOIL PLANTING MIXTURES ARE USED.
- NO CONTAINER-GROWN MATERIAL SHALL BE PLANTED IF NOT ACCLIMATED TO THE CURRENT WEATHER CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR GENERAL MAINTENANCE INCLUDING WATERING.
- ALL PLANTING MATERIAL AND PLANTING METHODS SHALL CONFORM TO CONSTRUCTION SPECIFICATIONS.
- DISTURBED AREAS WITHIN THE LIMITS OF DISTURBANCE SHALL BE STABILIZED PER THE DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT (THIS SHEET).
- ALL PLANT MATERIALS SHALL BE WARRANTED FOR A PERIOD OF 1 YEAR WITH 85% SURVIVAL AT THE END OF THE 1 YEAR WARRANTY PERIOD. ANY PLANT THAT IS 25% OR MORE DEAD OR MORE SHALL BE CONSIDERED DEAD. CONTRACTOR SHALL BE RESPONSIBLE FOR ONE-TIME REPLACEMENT ONLY. REPLACEMENT SHALL BE MADE DURING NORMAL PLANTING SEASONS.

PLANT MATERIALS AND PLANTING METHODS

- A. PLANT MATERIALS**
- THE LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR DIG, BALL, BURLAP, AND TRANSPANT ALL OF THE PLANT MATERIALS CALLED FOR ON DRAWINGS AND/OR LISTED IN THE PLANT SCHEDULE.
- 1. PLANT NAMES**
- PLANT NAMES USED IN THE PLANT SCHEDULE SHALL CONFORM TO "STANDARDIZED PLANT NAMES", LATEST EDITION.
- 2. PLANT STANDARDS**
- ALL PLANT MATERIAL SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE TUSA 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 A NORMAL HART OF GROWTH, AND SHALL BE FIRST QUALITY, SOUND, VIGOROUS, WELL BRANCHED AND WITH HEALTHY, WELL FURNISHED ROOT SYSTEMS. THEY SHALL BE FREE OF DISEASE, INSECT PESTS AND MECHANICAL INJURIES.
- 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 HELED IN PLANTS NOR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
- B. OWNER SHALL HAVE THE OPPORTUNITY TO INSPECT ALL PLANTS ON SITE BEFORE INSTALLATION.
- 3. PLANT MEASUREMENTS**
- ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED IN THE PLANT SCHEDULE AS APPROVED BY THE DEPARTMENT OF PLANNING AND CODE ENFORCEMENT REVIEWING OFFICIAL.
- A. CALIPER MEASUREMENTS SHALL BE TAKEN SIX INCHES (6") ABOVE GRADE FOR TREES UNDER FOUR INCHES (4") CALIPER AND TWELVE INCHES (12") ABOVE GRADE FOR TREES FOUR INCHES (4") IN CALIPER AND OVER.
- B. MINIMUM BRANCHING HEIGHT FOR ALL TREES SHALL BE SIX FEET (6'), MAXIMUM EIGHT FEET (8').
- 4. PLANT IDENTIFICATION**
- 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 NAME 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 REMOVED AT PLANTING.
- 5. PLANT INSPECTION**
- 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 OF ORIGIN.
- B. PLANTING METHODS**
- PLANTING SEASONS ARE DESCRIBED AS FOLLOWS:
- 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 EVERGREEN MATERIAL MAY BE CONTINUED DURING THE WINTER MONTHS PROVIDING THERE IS NO FROST IN THE GROUND AND FROST FREE TOPSOIL PLANTING MIXTURES ARE USED. THE PLANTING OF EVERGREEN MATERIAL SHALL BE FROM MARCH 15TH TO JUNE 15TH AND FROM AUGUST 15TH TO DECEMBER 15TH. NO PLANTING SHALL BE DONE WHEN GROUND IS FROZEN OR EXCESSIVELY MOIST. NO FROZEN OR WET TOPSOIL SHALL BE USED AT ANY TIME.
2. DIGGING
- ALL PLANT MATERIAL SHALL BE DUG, BALLED AND BUR LAPPED (B+B) IN ACCORDANCE WITH THE "AAN STANDARDS."
3. EXCAVATION OF PLANT PITS
- THE LANDSCAPING CONTRACTOR SHALL EXCAVATE ALL PLANT PITS, VINE PITS, HEDGE TRENCHES AND SHRUB BEDS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
- 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. PITS SHALL BE GENERALLY CIRCULAR IN 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" DEEP MINIMUM. AREAS DESIGNATED FOR GROUND COVERS AND VINES SHALL BE EXCAVATED TO AT LEAST 12" IN DEPTH MINIMUM.
- D. DIAMETER AND DEPTH OF TREE PITS SHALL GENERALLY BE AS FOLLOWS:
- | PLANT SIZE | ROOT BALL | DIAMETER | DEPTH |
|------------------|-----------|----------|-------|
| 2 1/2" - 3" CAL. | 28" | 56" | 24" |
| 3" - 3 1/2" CAL. | 32" | 64" | 28" |
| 3 1/2" - 4" CAL. | 36" | 72" | 32" |
| 4" - 4 1/2" CAL. | 40" | 80" | 36" |
| 4 1/2" - 5" CAL. | 44" | 88" | 40" |
| 5" - 5 1/2" CAL. | 48" | 96" | 44" |
| 5 1/2" - 6" CAL. | 52" | 104" | 48" |
- E. A 20% COMPACTING FIGURE OF THE SOIL TO BE REMOVED IS ASSUMED AND WILL BE ALLOWED IN 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' FOR MAJOR TREES AND 5' - 0" MINIMUM FOR MINOR TREES.
- F. WIRE AND CABLE: WIRE SHALL BE #10 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 "TIE" THIMBLES OF WIRE AND HOSE ON TREES UP TO 3" IN 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.
- H. ALL TREES UNDER 3" IN CALIPER ARE TO BE 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**
- I. EACH TREE, SHRUB OR VINE SHALL BE PRUNED IN AN APPROPRIATE MANNER TO ITS PARTICULAR REQUIREMENTS, IN ACCORDANCE WITH ACCEPTED STANDARD PRACTICE. BROKEN OR BRUSED BRANCHES SHALL BE REMOVED WITH CLEAN CUTS FLUSH WITH THE ADJACENT TRUNK OR BRANCHES.
- J. 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. SOIL WHICH HAS BEEN REMOVED AND STACKED SHALL BE 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.
- K. AFTER CULTIVATION, ALL PLANT MATERIALS SHALL BE MULCHED WITH 3-4 INCHES OF SHREDED HARDWOOD MULCH OR APPROVED EQUAL. THE MULCH MAY NOT BE PLACED AGAINST THE TRUNK, OVER THE ENTIRE AREA OF THE BED OR SAUCER.
- SEEDING AND SODDING**
- ALL SEEDING AND SODDING SHALL BE AS PER STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN URBANIZED AREAS AS PUBLISHED BY THE DEPARTMENT OF NATURAL RESOURCES.



TREE PLANTING - CONTAINER GROWN



TREE/SHRUB PLANTING DEER PROTECTION

- NOTES:
- HEIGHT OF CAGE SHALL BE 4 FT. (MIN.)
 - CUT A 6 FT. SECTION OF WELDED WIRE FENCING WITH TREE IN CENTER.
 - CREATE ENCLOSURE BY FASTENING 11-INCH RELEASEABLE CABLE TIES (ONE AT TOP AND ONE 6 IN. MIN. ABOVE THE GROUND AT EACH POST) TO EACH POST.
 - DO NOT DAMAGE TREE DURING INSTALLATION.
 - SUBSTITUTIONS MUST BE APPROVED BY THE FOREST CONSERVATION INSPECTOR. CAGES TO BE REMOVED AT THE DIRECTION OF THE FOREST CONSERVATION INSPECTOR.
 - THREE (3) GALLON SHRUBS CAN BE PLANTED IN GROUPS OF TWO PER ENCLOSURE.

APPROVED
PLANNING BOARD OF HOWARD COUNTY

DATE _____

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE _____

CHIEF, DIVISION OF LAND DEVELOPMENT DATE _____

DIRECTOR DATE _____

APPROVED
PLANNING BOARD OF HOWARD COUNTY

DATE _____

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE _____

CHIEF, DIVISION OF LAND DEVELOPMENT DATE _____

DIRECTOR DATE _____

OWNER/PREPARED FOR:

Columbia Association

THE COLUMBIA ASSOCIATION
8450 GERWIG LANE
COLUMBIA, MD 21046
ATTN: ALBERT F. EDWARDS, P.E.
410-381-3551

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

PLANTING PLAN

HOWARD COUNTY, MARYLAND

6TH ELECTION DISTRICT
TAX MAP: 421 GRID: 211 PARCEL NO. 4421 PLAT NO. 4809 LIBER: 1738 FOLIO: 0003 ZONING: NT - NEW TOWN

DATE	BY	DESCRIPTION	SCALE: 1" = 40'

DRAWN BY: VG/KN/MB DATE: 03/09/17
CHECKED BY: SB/JH DATE: 03/09/17
DESIGNED BY: JH/MB DATE: 03/09/17

SHEET NO. 8 OF 8