G	ENERAL NOTES
1.	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MDOT SHA STANDARDS AN SPECIFICATIONS, IF APPLICABLE. ALL WORK AND MATERIALS SHALL COMPLY WITH O.S.H.A. STANDARDS.
2. 3.	THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

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MISS UTILITY:		1-800-257-7777
VERIZON:		1-800-743-0033
BUREAU OF UTILI	IES:	410-313-4900
RC &F (CONSTRI	ICTION SERVICES).	410_637_8713
B.G.&E. (EMERGEN	JCY).	410-685-0123
STATE HIGHWAY A	DMINISTRATION:	410-531-5533
COLONIAL PIPELIN	E CO.:	410-795-1390
4. THE CONTRACTOR SHAL	L NOTIFY THE DEPARTMENT OF	PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT
LEAST FIVE (5) WORKIN	IG DAYS PRIOR TO THE START	OF WORK.
5. THE CONTRACTOR AND SPECIFICATIONS INCLUE STANDARDS AND SPECI	DEVELOPER OR A REPRESENTATION BUT NOT LIMITED TO HOWA	TIVE SHALL HAVE, ON THE JOB SITE, THE LATEST EDITION OF ALL APPLICABLE STANDARDS AND IND COUNTY DESIGN MANUAL, VOLUME IV, S.H.A. SPECIFICATION BOOK, AND LATEST MARYLAND ID SEDIMENT CONTROL.
6. ANY DAMAGE TO PUBL	IC RIGHT-OF-WAY, PAVING, OF	R EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
 EXISTING UTILITIES LOC RECORD DRAWINGS. AF EXISTING UTILITIES WEI MAINTAIN UNINTERRUPT DOCUMENT 	CATED FROM ROAD CONSTRUCT PROXIMATE LOCATION OF EXIS LL IN ADVANCE OF CONSTRUCT FED SERVICE. ANY DAMAGE INC	ION PLANS, FIELD SURVEYS, PUBLIC WATER AND AND SEWER EXTENSION PLANS AND AVAILABLE TING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE ION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO URRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S
EXPENSE. 8 TRAFFIC CONTROL DEVI	050.	
A. THE R1-1 SIGN B. THE TRAFFIC CO DIVISION (410-3 C. ALL TRAFFIC CO	AND THE STREET NAME SIGN (NTROL DEVICE LOCATIONS SHOW 13-2430) PRIOR TO THE INST/ NTROL DEVICES AND THEIR LOC	(SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED. IN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC ALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES. ATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM
TRAFFIC CONTRO	IL DEVICES (MdMUTCD).	
D. ALL SIGN POSTS PERFORATED, SC LONG. THE ANCH MOUNTED ON TC	USED FOR TRAFFIC CONTROL NARE TUBE POST (14 GAUGE) HOR SHALL NOT EXTEND MORE OP OF EACH POST.	SIGNS INSTALLED IN THE COUNTY RIGHT OF WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, INSERTED IN TO A $2-1/2$ " GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE)-3' THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE
9. ESTIMATES OF EARTHW	VORK QUANTITIES ARE PROVIDED) SOLELY FOR THE PURPOSE OF CALCULATING FEES.
10. SOIL COMPACTION SPE GEOTECHNICAL ENGINE CONSTRUCTION.	CIFICATIONS, REQUIREMENTS, MI ER. GEOTECHNICAL ENGINEER T	ETHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT O CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST PRIOR TO
11. THE COORDINATES AN	D ELEVATIONS SHOWN HEREON	ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND
STATE PLANE COORDIN	IATE SYSTEM - NAD83(1991). I	HOWARD COUNTY MONUMENT NUMBERS 29IF AND 30DC WERE USED FOR THIS PROJECT.
12. THE PROPERTY LINES 13. THE EXISTING TOPOGR ROBERT H. VOGEL EN	SHOWN HEREON IS BASED ON APHY SHOWN HEREON IS BASEI GINEERING, INC.; DATED JANUAR	A BOUNDARY SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC.; DATED MARCH 22, 2018. D ON AND A FIELD TOPOGRAPHICAL SURVEY WITH 2-FOOT CONTOUR INTERVALS; PERFORMED BY Y 25, 2018. OFFSITE AND SUPPLEMENTAL TOPOGRAPHY FROM HOWARD COUNTY GIS.
14. GEOTECHNICAL/TEST F	IT REPORT PREPARED BY VOGE	L ENGINEERING + TIMMONS GROUP; DATED JULY 25, 2021.
15. THE GEOTECHNICAL EN	IGINEER TO CONFIRM PAVING SI	ECTION PRIOR TO CONSTRUCTION. REFERENCE SHEET 04 FOR PAVING SECTIONS.
16. ALL CURB AND GUILE	R TO BE HOWARD COUNTY STAT	NUARD DETAIL 3.01 UNLESS OTHERWISE NOTED.
17. WHERE DRAINAGE FLU	TO FLOW INF / BOTTOM OF CURB	TOR TO REVERSE THE GUTTER FAIN.
19 ALL ELEVATIONS ARE	TO FACE OF CURB UNLESS OT	HERWISE NOTED.
20. CONTRACTOR RESPON	SIBLE FOR CONSTRUCTING ALL	HANDICAP RAMPS AND HANDICAP ACCESS IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
21. ALL REINFORCED CON	CRETE FOR STORM DRAIN STRU	CTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3,500 P.S.I.
22. ALL STORMDRAIN PIPE	BEDDING IS TO BE CLASS 'C',	, AS REQUIRED BY AASHTO-180.
23. ALL BUILDINGS TO HA	VE ROOF LEADERS WHICH EMPT	Y INTO STORM DRAIN SYSTEM.
24. THIS PROJECT IS SUE DEVELOPMENT OR CON	JECT TO COMPLIANCE WITH THE VSTRUCTION ON THIS PROPERTY MENT DIAN ALTERNATIVE COME	AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION
25. APFO TRAFFIC STUDY SUMMARY OF FINDING	FOR THIS PROJECT WAS PREPA S FOR APFO TRAFFIC ANALYSIS:	RED BY THE TRAFFIC GROUP, DATED JUNE 16, 2022, AND WAS APPROVED ON JULY 21, 2022.
A. DATE OF REPOR	i: DATED AUGUST 23, 2021 &	REVISED JUNE 16, 2022
B. DATE OF COUNT	S): BETWEEN THE HOURS OF 1	0:00 AM TO 2:00 PM ON SUNDAY, AUGUST 1, 2021
D. PROVIDE STATEM	ED AS PART OF PLAN NUMBER: ENT THAT SCHOOLS WERE IN ST WERE NOT IN SESSON ON AUG	ESSION ON THAT DATE(S)
E. LIST INTERSECTIO	INS STUDIED. IDENTIFY JURISDIC	TION, AND LABEL LOS FOR THE HORIZON YEAR OF EACH INTERSECTION:
- MD 108 (STATE JURISDICTION) AND CENTE	ENNIAL LANE (COUNTY JURISDICTION), LOS "A" FOR 2025
- MD 108 (STATE JURISDICTION) AND HOME	WOOD ROAD/HARPERS FARM ROAD (COUNTY JURISDICTION), LOS "A" FOR 2025
F. PROVIDE A STATE	EMENT AS TO WHETHER MITIGATI	ON IS REQUIRED AND EXPLAIN THE METHOD OF MITIGATION/IN LIEU FEE:
- THE RESU	LTS OF THE CAPACITY ANALYSES	S FOR THE STUDY INTERSECTIONS SHOW GOOD LEVEL OF SERVICE "A" CONDITIONS CAN BE
MAINTAINEE IS NOT RE) THROUGHOUT THE STUDY ARE QUIRED FOR THE PROPOSED DI	A DURING SUNDAY PEAK HOUR UNDER TOTAL PROJECTED TRAFFIC VOLUMES. THEREFORE, MITIGATION EVELOPMENT OF THE NEW PATH REFORMED CHURCH.
20. A NUISE STUDY IS NO	TI REQUIRED FUR THIS PROJEC	
27. INE SUBJELT PRUPER 28 THERE ARE NO WETTA	NDS / RUFFEDS STEED SUDDES	IU/UU/ZUIJ COMPRENISTE ZUNNUG PLAN. FLAADDIANS AR STREAMS LAPATED WITHIN THE LIMIT AF DISTURDAMPE
29. A SITE EVALUATION FO	DR THE PRESENCE OF WETLAND	S AND STREAMS WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS. INC., DATED ALIGUST 11
2020. IT WAS DETERM	INED THAT NO WETLANDS, STRE	AMS OR BUFFERS ARE PRESENT ON THE PROPERTY.
30. NO GRADING, REMOVA	L OF VEGETATIVE COVER OR TR	EES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE WETLANDS, STREAMS, OR THEIR
REQUIRED BUFFERS, F	LOODPLAIN AND FOREST CONSE	RVATION EASEMENT AREAS.
31. IN ACCORDANCE WITH CONSERVATION. THE T	SECTION 16.1200 OF THE SUB OTAL AFFORESTATION REQUIREM	NDIVISION AND LAND DEVELOPMENT REGULATIONS, THIS PROJECT IS SUBJECT TO FOREST ENT OF 0.30 ACRES HAS BEEN FULFILLED THROUGH THE PURCHASE OF CREDITS FROM THE HIMEL

- PROPERTY RETENTION BANK (SDP-05-132) 32. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL 33. FINANCIAL SURETY FOR THE PROPOSED LANDSCAPING AND VINYL FENCE HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN IN THE AMOUNT OF \$49,090.00 FOR THE PROPOSED 45 SHADE TREES, 166 EVERGREEN TREES, 49 SHRUBS, AND 922 LF OF VINYL FENCE. 34. ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR
- 35. LANDSCAPING NOT PERMITTED WITHIN 7-1/2' OF EACH SIDE OF THE FIRE DEPARTMENT CONNECTION. PROVIDE A CLEAR UNOBSTRUCTED ACCESS PATH TO THE FIRE DEPARTMENT CONNECTION. NFPA-1 13.1.4 36. FIRE LANES SHOULD BE PROVIDED IN THIS SITE TO ALLOW EMERGENCY VEHICLE ACCESS. EITHER FIRE LANE SIGNAGE SHOULD BE INSTALLED, OR
- THE CURBS SHOULD BE PAINTED IN RED AND STENCILED TO IDENTIFY THE ROAD AS A FIRE LANE.
- 37. A FIRE DEPARTMENT CONNECTION FOR FIRE PROTECTION SYSTEMS SHALL BE LOCATED: A. ON THE SIDE OF THE STRUCTURE DISPLAYING THE ADDRESS (UNLESS OTHERWISE APPROVED BY THE AHJ) AND BE CLEARLY VISIBLE TO THE RESPONDING UNITS;
- B. WITHIN 100 FT. OF A FIRE HYDRANT; (II) THE APPROPRIATE SIGN SHALL BE MOUNTED ON THE BUILDING'S WALL BETWEEN 8 AND 12 FEET ABOVE THE FIRE DEPARTMENT CONNECTION; (III) A FREE-STANDING FIRE DEPARTMENT CONNECTION SHALL HAVE THE SIGN MOUNTED ON A POLE DIRECTLY BEHIND THE CONNECTION APPROXIMATELY 6 FEET HIGH:
- (IV) SIGNS SHALL HAVE A WHITE REFLECTIVE BACKGROUND WITH A RED REFLECTIVE BORDER, RED REFLECTIVE LETTERS AND A RED REFLECTIVE ARROW. THE BORDER SHALL HAVE A 3/8" STROKE. THE LETTERS SHALL BE 6" HIGH WITH A 1" STROKE. THE ARROW SHALL HAVE A STROKE NOT LESS THAN 2". THE OVERALL SIGN MEASUREMENTS SHALL BE 12" BY 18"; (V) ANY OBSTRUCTION OR CONDITION THAT DETERS OR HINDERS ACCESS TO A FDC IS PROHIBITED. A MINIMUM CLEAR SPACE OF 15 FEET (7.5 FEET ON
- ALL SIDES) SHALL BE MAINTAINED. 38. A KNOX BOX IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4-5' IN HEIGHT AND NO MORE THAN 6' LATERALLY FROM THE DOOR. IT'S LOCATION IS SHOWN ON THESE PLANS. THE BOX SHALL BE ELECTRONICALLY
- SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTEGRATED WITH THE FIRE ALARM SYSTEM). PRIOR TO ORDERING AND PLACING KNOX BOXES, IT IS RECOMMENDED THAT THE CONTRACTOR CONTACT THE OFFICE OF THE FIRE MARSHAL TO DETERMINE THE REQUIRED NUMBER AND PLACEMENT OF KNOX BOXES. 39. THE PROPOSED BUILDING WILL HAVE AN INSIDE METER SETTING, AND AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- 40. PUBLIC WATER AVAILABLE THROUGH CONTRACT NO. 127-W. PUBLIC SEWER AVAILABLE FOR THIS PROJECT THROUGH CONTRACT NO. 356-S. 41. THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY,
- 42. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- 43. EXISTING CLARKSVILLE PIKE (MD 108) IS A STATE ROAD CLASSIFIED AS A MINOR ARTERIAL. 44. ALL EXTERIOR LIGHTING TO COMPLY WITH THE REQUIREMENTS FOUND IN ZONING SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. 45. TRASH AND RECYCLING COLLECTION TO BE PRIVATE. 46. STORMWATER MANAGEMENT TO BE DESIGNED IN ACCORDANCE WITH THE 2007 MDE STORMWATER DESIGN MANUAL, CHAPTER 5, ENVIRONMENTAL SITE
- DESIGN. STORMWATER MANAGEMENT IS BEING PROVIDED FOR A LARGE MAJORITY OF THE IMPERVIOUS SURFACES. THE PRACTICES USED FOR STORMWATER MANAGEMENT FOR THIS PROJECT INCLUDES MICRO-BIORETENTION (M-6). ALL SWM FACILITIES TO BE PRIVATELY OWNED AND MAINTAINED. 47. THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING FOR THIS PROJECT WAS HELD VIRTUALLY ON NOVEMBER 23, 2021 (REF. WP-22-037, NEW PATH REFORMED CHURCH).
- 48. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- 49. BA-19-031C SPECIAL EXCEPTION GRANTED FOR A RELIGIOUS FACILITY CONDITIONAL USE IN AN R-20 (RESIDENTIAL: SINGLE) ZONING DISTRICT WAS GRANTED FEBRUARY 26, 2020 SUBJECT TO: 1. THE CONDITIONAL USE SHALL BE CONDUCTED IN CONFORMANCE WITH AND SHALL APPLY ONLY TO THE USES AS DESCRIBED IN THE PETITION AND DEPICTED ON THE CONDITIONAL USE PLAN (JUNE 2019) AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES, OR ADDITIONS ON THE PROPERTY.
- 2. PETITIONER SHALL COMPLY WITH ALL AGENCY COMMENTS. 3. LIGHTING SHALL BE RESIDENTIAL IN CHARACTER AND ORIENTED AWAY FROM AREA RESIDENCES AND IN COMPLIANCE WITH COUNTY LIGHTING REGULATIONS. 4. PETITIONER SHALL OBTAIN ALL REQUIRED PERMITS.
- 5. PETITIONER SHALL COMPLY WITH ALL FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS. 50. THE PROJECT IS SUBJECT TO WP-23-029. ON JANUARY 24, 2023; THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, DIRECTOR OF THE RECREATION AND PARKS AND ADMINISTRATOR OF THE OFFICE OF COMMUNITY SUSTAINABILITY APPROVED AN ALTERNATIVE COMPLIANCE TO SECTION 16.1205(g)(3) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO REMOVE 8 SPECIMEN TREES. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
- 1. THE ALTERNATIVE COMPLIANCE APPROVAL IS TO REMOVE EIGHT (8) SPECIMEN TREES AS DEPICTED ON THE EXHIBIT. 2. A MINIMUM OF 16 (SIXTEEN) NATIVE SHADE TREES WITH A 3" DBH SHALL BE PROVIDED ON-SITE AS MITIGATION FOR THE REMOVAL OF THE EIGHT (8) SPECIMEN TREES FROM THE PROPERTY. THE MITIGATION FOR THESE TREES MUST BE PROVIDED ON SDP-22-007 AND WILL BE BONDED AS PART OF

	,	
APPROVED : FOR PUBLIC WATER AND PUBLIC SEWERAGE SYST	EMS	
Michael Darvis	2/12/2024	
COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PL	ANNING AND ZONING	
(HAD Edmondson	2/19/2024	
CHIEF, DEVELOPMENT SNGINEERING DIVISION	DATE	
/h-	2/12/2024	
CHIEF, DIVISION-OF STAND DEVELOPMENT	DATE	
lynda Eisenberg	2/19/2024	
DIRECTOR	DATE	

THE LANDSCAPING SURFTY

- GENERAL NOTES (CONT'D...
- BUILDING PERMIT FOR THE RELIGIOUS FACILITY WAS GRANTED ON FEBRUARY 25, 2022.
- SUBJECT TO THE FOLLOWING CONDITIONS:
- 38 OF THE APPROVED 71 PARKING SPACES, TO BE SUBSTANTIALLY CONSTRUCTED BY FEBRUARY, 2025. SPACES, AND THE SMALL PLAYGROUND AREA. THE SECOND PHASE WILL BE SUBSTANTIALLY CONSTRUCTED BY FEBRUARY, 2028.
- SUBJECT TO THE FOLLOWING CONDITIONS:
- 2. THE MYLARS FOR SDP-22-007 MUST BE SUBMITTED FOR SIGNATURES ON OR BEFORE DECEMBER 2, 2023. REQUEST(S), SECTION(S) OF THE REGULATIONS, ACTION AND DATE.
- CHANGE







		SPE		E CHART	
KEY (X#)	SPECIES	COMMENTS			
1	BLACK OAK	48	72	POOR TO FAIR, DECAY IN LOWER TRUNK	TO BE REMOVED
2	WHITE OAK	40	60	POOR, SOME DIEBACK, LIMITED CROWN	TO BE REMOVED
3	WHITE OAK	43.5	65.25	GOOD TO FAIR CONDITION	TO BE REMOVED
4	CHESTNUT OAK	38.5	57.75	GOOD CONDIITON, LEANING CROWN	TO BE REMOVED
5	SYCAMORE	49	73.5	GOOD CONDITION, VINE COVER	TO BE REMOVED
6	SWEET GUM	30	45	GOOD CONDITION	TO BE REMOVED
7	NORWAY MAPLE	32	48	POOR, STORM DAMAGE	TO BE REMOVED
8	BLACK CHERRY	40*	60	POOR, MULTI-STEMMED ABOVE BH, NOTABLE ROT	TO BE REMOVED



NEW PATH REFORMED CHURCH INC 8074 TROTTERS CHASE ELLICOTT CITY, MD 21043 410-829-8829 CONTACT: TAEBOK LEE EMAIL: nprchurch@gmail.com ZONED: R-20 PARCEL 106 HOWARD COUNTY, MARYLAND ROFESSIONAL CERTIFICATE HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, ANI THAT I AM A DULY LICENSED PROFESSIONAL INGINEER UNDER THE LAWS OF THE STATE STANDAR UNDER THE LAWS OF THE STATE 3 SHEET 13

15 MIN.-12 BRS. OR DAYTIME USE ONL

SHOLLDER

RGAQ RGRX 1500 FT

MD 104.02-0

MD 104.02-





PROPERTY LINE RIGHT-OF-WAY LINE ----- ADJACENT PROPERTY LINE ---- ---- EXISTING PAVING - - - - - - - EXISTING 2' CONTOUR SsE SOILS SfC2 EXISTING TREELINE EXISTING OVERHEAD LINE EXISTING MAILBOX \boxtimes EXISTING JUNCTION BOX EXISTING SIGN EXISTING UTILITY POLE EXISTING CONC. CURB & GUTTER Antonina antonin (INSTALLED UNDER H01495187) PROPOSED CURB & GUTTER -430 PROPOSED CONTOUR PROPOSED TREE LINE PROPOSED LIGHT POLE PROPOSED BUILDING ACCESS PROPOSED MICRO-BIORETENTION EXISTING STORM DRAIN EXISTING STORM DRAIN (INSTALLED UNDER H01495187) PROPOSED STORM DRAIN (BY DEVELOPER) EHH PROPOSED STORM DRAIN (BY DEVELOPER UNDER MDOT SHA ACCESS PERMIT) PROPOSED SIDEWALK PROPOSED PUBLIC WATER & UTILITY EASEMENT LOD LOD LOD LOD LOD LOD LOD LIMIT OF DISTURBED AREA SUPER SILT FENCE PROPOSED STANDARD INLET PROTECTION PROPOSED FLEXSTORM CATCH-IT ្រុទ STABILIZED CONSTRUCTION ENTRANCE TEST PIT LOCATION PHASE Carlos and a set PHASING LIMITS PHASE MAPPED SOILS TYPES - HOWARD COUNTY, MARYLAND GROUP HYDRIC KW RANGE ERODIBLE GLADSTONE-URBAN LAND COMPLEX, 0 TO 8% SLOPE 0.28 NO Δ | NO TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, AND HOWARD COUNTY SOIL CONSERVATION DISTRICT WEBSITE DOCUMENTS HTTS://WWW.HOWARDSCD.ORG/DOCUMENTS HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT. **OWNER/DEVELOPER** NEW PATH REFORMED CHURCH INC. 8074 TROTTERS CHASE ELLICOTT CITY, MD 21043 410-829-8829 CONTACT: TAEBOK LEE EMAIL: nprchurch@gmail.com REVISE PLAN FOR DROP OFF AREA TO BE COMPLIANT WITH ADA REQUIREMENTS 5-7-24 REVISION SITE DEVELOPMENT PLAN GRADING, SEDIMENT AND EROSION CONTROL PLAN; SOILS MAP NEW PATH REFORMED CHURCH 10425 CLARKSVILLE PIKE (MD RTE 108)) ZONED: R-2(PARCEL 100 HOWARD COUNTY, MARYLAND ELLICOTT CITY, MD **VOGEL ENGINEERING** \mathbf{E} TIMMONS GROUP 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com ROFESSIONAL CERTIFICATE HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AN THAT I AM A DULY LICENSED PROFESSIONA ENGINEER UNDER THE LAWS OF THE STATE DE WARP AND LICENSE NO. 16103 DESIGN BY: RHV/ACS DRAWN BY: ACS CHECKED BY: RHV DATE: JANUARY 2024 SCALE: AS SHOWN

LEGEND:

5 SHEET 13

W.O. NO.: <u>41079</u>



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.

<u>CRITERIA</u> A. SOIL PREPARATION 1. TEMPORARY STABILIZATION

- A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISCHARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED. IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
- B. 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.
- 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 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 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT
- V. 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
- 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
- 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 ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.
- 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 CONCEM 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 FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
- C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH . THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- . 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 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 11/2 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 A. 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. 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 SEEDBED PREPARATION
- 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 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.
- 2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OF 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 GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE. 4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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 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.

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

	HARDINESS Z SEED MIXTUR	FELIZER RATE	lime rate										
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)								
1	COOL SEASON ANNUAL RYEGRASS OR EQUAL	40 LB / AC	MAR 1 TO MAY 15 AUG 1 TO OCT 15	0.5 IN.	436 LB/AC (10 LB PER	2 TONS/AC							
2	WARM SEASON FOXTAIL MILLET OR EQUAL	30 LB / AC	MAY 16 TO JUL 31	0.5 IN.	1000 SF)	1000 SF)							

B-4-3 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 PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

- 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 SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY YPE OF SEED AND SEEDING RATE. B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS
- FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS. 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 D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS. 2. APPLICATION
- A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS. I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE 8.1, PERMANENT SEEDING TABLE 8.3, OR SITE-SPECIFIC SEEDING SUMMARIES
- II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT. B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING. II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH
- DIRECTION. C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN. 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN: P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
- II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
- B. MULCHING 1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
- A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
- B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN
- APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY. II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOL
- CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WIL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER. ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS. IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BI
- PHYTO_TOXIC 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. 2 APPLICATION
- A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO HAT 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 USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND,
- HIS PRACTICE SHOULD FOLLOW THE CONTOUR. II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WFIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELI SE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- III, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED. IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER
- RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION A MOUND OR PILE OF SOIL PROTECTION 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 UTILILIZED 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 MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION
- 3–3 LAND GRADIN 3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE. 5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN
- EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER. 6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT
- CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE. 7. 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.
- 8. 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 SHEFTING

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

- NOTES: 1. DURING GRADING AND AFTER EACH RAINFALL, CONTRACTOR WILL INSPECT AND PROVIDE 1. DURING GRADING AND AFTER EACH RAINFALL, CONTRACTOR WILL INSPECT AND PROVIDE NECESSARY MAINTENANCE TO THE SEDIMENT CONTROL MEASURES ON THIS PLAN. 2. FOLLOWING INITIAL SOIL DISTURBANCES OR REDISTURBANCE, PERMANENT OR TEMPORARY
- STABILIZATION SHALL BE COMPLETED WITHIN: A. THREE (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3
- HORIZONTAL TO 1 VERTICAL (3:1); AND B. SEVEN (14) CALENDAR DAYS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE
- PROJECT SITE NOT UNDER ACTIVE GRADING. 3. ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- OWNER/DEVELOPER CERTIFICATION: DESIGN CERTIFICATION: <u>OWNER/DEVELOPER CERTIFICATION:</u> "I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE." APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 2/19/2024 (Hal) Edmondson CHIEF, DEVELOPMENT DE CONSIGNEERING DIVISION DATE 2/12/2024 -DocuSigned by: Robert H. Vogel Taebok lee 1/26/2024 CHIEF, DIVISION DEVELOPMENT DATE 2/19/2024 OWNER / DEVELOPER ASIGNATURE DATE DESIGNER S°SIGNATURE lynda Eisenberg Taebok Lee ROBERT H. VOGEL PRINTED NAME DIRECTOR DATE PRINTED NAME & TITLE

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION <u>DEFINITION</u> TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

<u>'URPOSE</u> O USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED

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

<u>CRITERIA</u> A. SEED MIXTURES 1. GENERAL US

- A.SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
- B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING. 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 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
- 2. TURFGRASS MIXTURES A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR
- PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN. I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35PERCENT OF THE
- TOTAL MIXTURE BY WEIGHT II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE 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 BLENDED.
- IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET.
- SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND". CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE. C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
- WESTEM 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 ZONES: 7A,
- 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 11/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES

PERMANENT SEEDING SUMMARY

	Hardiness Z Seed Mixtur	ONE (FROM FIGURE E (FROM TABLE B.3		lime rate				
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	seeding Depths	N	P2 05	к ₂ 0	
1	COOL SEASON TALL FESCUE & KENTUCKY BLUEGRASS OR EQUAL	T.F. 60 LB / AC K.B. 40 LB / AC	MAR 1 TO MAY 15 AUG 15 TO OCT 15	1/4-1/2 IN.	45 LB/AC (1 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)

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

- A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
- B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND
- TOM OR UNEVEN ENDS WILL NOT BE ACCEPTABLE. C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE
- SECTION. D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY
- ADVERSELY AFFECT ITS SURVIVAL. E. 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. 2. SOD INSTALLATION A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE
- SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST 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. 3 SOD MAINTENANCE A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND
- SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- 1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: A PRIOR TO THE START OF FARTH DISTURBANCE UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
 - D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES
- OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO
- THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. AND REVISIONS THERETO
- 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING
- 4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST
- BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6). 5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.
- 6. SITE ANALYSIS: 1.771 ACRES 1.906 ACRES TOTAL AREA OF SITE: AREA DISTURBED: AREA TO BE ROOFED OR PAVED: 0.904 ACRES 0.867 ACRES AREA TO BE VEGETATIVELY STABILIZED: TOTAL CUT: **8,444** CU. YDS. TOTAL FILL:
- OFFSITE WASTE/BORROW AREA LOCATION:
- * ESTIMATE ONLY; CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION. ** TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR. WITH AN APPROVED AND ACTIVE GRADING PERMIT
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE INSPECTION DATE
 - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT) NAME AND TITLE OF INSPECTOR - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND
 - AMOUNT OF LAST RECORDED PRECIPITATION) - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT DISCHARGES
 - IDENTIFICATION OF PLAN DEFICIENCIES IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE). 9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS
- OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH
- CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES. 11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE
- SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN
- 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME. 12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE
- 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE. 14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND
- BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION. 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED
- TIME PERIODS (INCLUSIVE): – USÈ I AND IP MARCH 1 – JUNE 15 – USE III AND IIIP OCTOBER 1 – APRIL 30
- USE IV MARCH 1 MAY 31 16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.
 - REV. 8/2015

Table B.1: Temporary Seeding for Site Stabilization Recommended Seeding Dates by Plant Hardiness Zone³ Seeding Rate ^{1/} Seeding Depth lant Species lb/ac lb/1000 ft² (inches) 7a and 7b 5b and 6a 6b ool-Season Grasses Mar 1 to May 15; Aug | Feb 15 to Apr 30; Aug Annual Ryegrass (Lolium peren 1.0 40 0.5 Mar 15 to May 31; Aug 1 to Sep 30 n. multiflorum) 1 to Oct 15 15 to Nov 30 Mar 1 to May 15; Aug Feb 15 to Apr 30; Aug arley (Hordeum vulgare) 2.2 Mar 15 to May 31; Aug 1 to Sep 30 1.0to Oct 15 15 to Nov 30 Mar 1 to May 15; Aug Feb 15 to Apr 30; Aug 1.7 ats (Avena sativa) 1.0 Mar 15 to May 31; Aug 1 to Sep 30 15 to Nov 30 FERTILIZER RATE to Oct 15 I LIME RATE Mar 1 to May 15; Aug | Feb 15 to Apr 30; Aug (10-20-20) Wheat (Triticum aestivum) 120 2.8 1.0 Mar 15 to May 31; Aug 1 to Sep 30 15 to Nov 30 1 to Oct 15 Mar 1 to May 15; Aug Feb 15 to Apr 30; Aug ereal Rye (Secale cereale) 112 2.8 1.0 Mar 15 to May 31; Aug 1 to Oct 31 1 to Nov 15 15 to Dec 15 6 LB/AC 2 TONS/AC Warm-Season Grasses 10 LB PER (90 LB PEF 0.7 0.5 Jun 1 to Jul 31 1000 SF) 1000 SF) oxtail Millet (Setaria italica 30 May 16 to Jul 31 May 1 to Aug 14 Pearl Millet (Pennisetum glau 0.5 0.5 Jun 1 to Jul 31 May 16 to Jul 31 May 1 to Aug 14

Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail 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.

Oats are the recommended nurse crop for warm-season grasses.

For sandy soils, plant seeds at twice the depth listed above. The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone

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

Alexander Bratchie 2/12/2024

HOWARD S.C.D.

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."



- 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.

SEQUENCE OF CONSTRUCTION (PHASE 2)

- 1. DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION. (1 DAY) NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410–313–1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. (1 DAY)
- 3. STAKEOUT LIMITS OF DISTURBANCE. (1 DAYS)
- 4. INSTALL PHASE 2 STABILIZED CONSTRUCTION ENTRANCE AS SHOWN HEREON. (1 DAY) 5. CLEAR AND GRUB ONSITE PHASE 2 AREA FOR THE INSTALLATION OF PHASE 2 PERIMETER 5. INSTALL PHASE 1 STABILIZED CONSTRUCTION ENTRANCE AS SHOWN HEREON. (1 DAY) CONTROLS. (1 DAY)
 - INSTALL PHASE 2 PERIMETER SILT FENCE AND SUPER SILT FENCE. (1 WEEK) UPON COMPLETION OF ABOVE, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CLEAR & GRUB REMAINDER OF PHASE 2 AREA. (2 WEEKS) WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR BEGIN PHASE 2 SITE ROUGH GRADING. (3 DAYS)
 - THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROLS SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS (DAILY).
- BEGIN CONSTRUCTION ON THE PHASE 2 PORTION OF THE BUILDING. (6 MONTHS) 10. WHEN BUILDING IS SUBSTANTIALLY COMPLETED AND SITE BROUGHT TO APPROPRIATE GRADES AND STABILIZED, BEGIN INSTALLATION OF MICRO BIO-RETENTION FACILITY #1. PROTECT SWM FACILITY FROM SEDIMENTATION WITH SILT FENCE OR AS DIRECTED BY INSPECTOR. (2 WEEKS)
- BRING PHASE 2 PARKING AREAS TO COMPACTED SUBGRADE ELEVATION WHERE SHOWN AND BEGIN INSTALLATION OF CURB AND GUTTER. INSTALL BASE COURSE PAVING. (1 WEEK)
- 12. COMPLETE CONSTRUCTION OF THE PHASE 2 PORTION OF THE BUILDING. (6 MONTHS) 13. INSTALL SIDEWALK, BASE COURSE PAVING, SURFACE PAVING, LANDSCAPING, LIGHTING AND SIGNAGE IN THE PHASE 2 AREA OF THE SITE. (2 WEEKS)
- 14. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING IN ACCORDANCE WITH STORMWATER MANAGEMENT CRITERIA, ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON, AND STABILIZE ANY REMAINING DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 WEEK) 15. AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY
- REMAINING PERIMETER CONTROLS AND STABILIZE THESE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 WEEK)
- ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 2. SEE SHEET 5 FOR LIMITS OF CONSTRUCTION FOR PHASE 1 AND PHASE 2.

SEQUENCE OF CONSTRUCTION (PHASE 1)

1. OBTAIN GRADING PERMIT. (1 DAY)

- 2. DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION. (1 DAY)
- 3. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. (1 DAY)
- 4. STAKEOUT PHASE 1 LIMITS OF DISTURBANCE. (3 DAYS)
- 6. CLEAR AND GRUB ONSITE PHASE 1 AREA, INCLUDING REMOVAL OF ANY PAVED AREAS FOR THE INSTALLATION OF PHASE 1 PERIMETER CONTROLS. (1 DAY)
- 7. INSTALL PHASE 1 PERIMETER SILT FENCE AND SUPER SILT FENCE. (1 WEEK)
- 8. UPON COMPLETION OF ABOVE, AND WITH PERMISSION OF THE SEDIMENT CONTROL
- INSPECTOR, CLEAR & GRUB REMAINDER OF PHASE 1 AREA. (2 WEEKS) 9. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR BEGIN SITE ROUGH GRADING. (3 DAYS)

PERIMETER DEVICES, SILT FENCE AND SUPER SILT FENCE, SHALL BE INSPECTED AND REPAIRED AS REQUIRED ON A DAILY BASIS.

- 10. AS SITE IS BROUGHT TO PROPOSED GRADE, BEGIN CONSTRUCTION OF SITE UTILITIES TO INCLUDE SEWER, WATER AND STORM DRAIN. ONCE STORM DRAIN STRUCTURES ARE CONSTRUCTED WITHIN MICRO BIO-RETENTION FACILITIES, PROVIDE STANDARD INLET PROTECTION AS SHOWN ON PLANS. PROVIDE FLEXSTORM CATCH-IT INLET PROTECTION FOR INLET I-4. STORM DRAIN MH-4, THE PIPE SEGMENT BETWEEN MH-4 AND INLET I-5, AND INLET I-5 ARE TO BE CONSTRUCTED IN PHASE 1. (8 WEEKS)
- THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROLS SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS (DAILY).
- ONLY THAT PORTION OF SEWER, WATER AND STORM DRAIN WORK THAT CAN BE COMPLETED, BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY MAY BE EXCAVATED (DAILY).
- BEGIN CONSTRUCTION ON THE PHASE 1 PORTION OF THE BUILDING. (6 MONTHS) 11. WHEN UTILITIES ARE INSTALLED, BUILDING IS SUBSTANTIALLY COMPLETED AND SITE
- BROUGHT TO APPROPRIATE GRADES AND STABILIZED, BEGIN INSTALLATION OF MICRO BIO-RETENTION FACILITIES IN PHASE 1 AREA (SWM#2-4). PROTECT SWM FACILITIES FROM SEDIMENTATION WITH SILT FENCE OR AS DIRECTED BY INSPECTOR. (2 WEEKS)
- 13. BRING DRIVEWAYS AND PARKING AREAS TO COMPACTED SUBGRADE ELEVATION WHERE SHOWN AND BEGIN INSTALLATION OF CURB AND GUTTER. INSTALL BASE COURSE PAVING. (1 WEEK)
- 14. COMPLETE CONSTRUCTION OF THE PHASE 1 PORTION OF THE BUILDING. (6 MONTHS)
- 15. INSTALL SIDEWALK RAMPS, BASE COURSE PAVING, SURFACE PAVING, LANDSCAPING, LIGHTING AND SIGNAGE IN THE PHASE 1 AREA OF THE SITE. (2 WEEKS)
- 16. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING IN ACCORDANCE WITH STORMWATER MANAGEMENT CRITERIA, ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON, AND STABILIZE ANY REMAINING DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 WEEK)
- 17. AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING PERIMETER CONTROLS DESIGNATED ONLY FOR PHASE 1 AND STABILIZE THESE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 WEEK)

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

2. SEE SHEET 5 FOR LIMITS OF CONSTRUCTION FOR PHASE 1 AND PHASE 2.

SEDIMENT CONTROL NOTES:

SEDIMENT CONTROLS INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE T BE REPAIRED IMMEDIATELY.

- 2. A DOUBLE ROW OF "SUPER" SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- STOCKPILES EXCEEDING 15 FEET IN HEIGHT SHALL BE BENCHED. 4. SILT FENCE SHALL BE CURLED UPHILL WHEREVER IT RUNS DOWNHILL.
- 5. EITHER TEMPORARY OR PERMANENT SEEDING AND STABILIZATION IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR A
- THE INTERVALS PROVIDED IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE STRINGENT.

OWNER/DEVELOPER

NEW PATH REFORMED CHURCH INC.

8074 TROTTERS CHASE ELLICOTT CITY, MD 21043 410-829-8829 CONTACT: TAEBOK LEE

EMAIL: nprchurch@gmail.com



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING DocuSigned by: (HD) Edmondson 2/19/2024 CHIEF DEVELOPMENT ENCINEERING DIVISION	OWNER/DEVELOPER CERTIFICATION: ^{*1} /WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND CEDIMENT DEPONDENT TO THE DEPONDENT OF THE ENVIRONMENT - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND - (MDE) APPROVED TRAINING PROGRAM FOR THE PROFILE PROVENTION FOR A PROVENTI	DESIGN CERTIFICATION: "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
CHIEF, DEVELOFINGENGINEERING DIVISION DATE 2/12/2024	SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON ESTIFE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE." - 1/26/2024	DocuSigned by:
CHIEF, DIVISION DEUSLAND DEVELOPMENT DATE Lynda Eisenherg 2/19/2024 DIRECTOR 4220B035863942E DATE	OWNER/DEVELOPER SIGNATURE DATE Taebok Lee PRINTED NAME & TITLE	DESIGNER'S'SIGNATURE DATE ROBERT H. VOGEL MD REGISTRATION NO. 16193 PRINTED NAME (circle one)

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

Olexander Bratchie 2/12/2024 HOWARD S.C.D. 65648D5BA9B64C1...

DATE

FENCE

MIN. INTO GROUND

PAVEMENT

- CERTREPORT

2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE

PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE

KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS.

WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN

SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.

2011

10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

5	SOIL EF	ROSION AND	SEDIMENT C	ONTROL
		MARYLAND WATER	DEPARTMENT MANAGEMENT	OF ENVIRONMENT ADMINISTRATION

CONSTRUCTION NOTES

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT 2011 NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

ROBER¹²¹⁹⁷⁷VOGEL, PE No.161

		STORM DRAIN ST	RUCT
STR #	ТҮРЕ	INV. IN	INV. OU
 MH-1	4' MANHOLE	432.05 / 431.80	431.55
MH-2	4' MANHOLE	433.86 / 434.11	433.76
MH-3	4' MANHOLE	434.66	434.56
MH-4	4' MANHOLE	437.03	436.93
l-1	'S'	432.37 (6" Underdain)	432.19
I-2	'S'	435.12 (6" Underdain) / 434.41	434.16
I-3	'S'	435.12 (6" Underdain)	435.02
I-4	8" ADS INLET	440.55 (RD)	440.55
I-5	'S'	438.42 (6" Underdrain)	437.40
PT-1	PASS THRU INLET	437.30	
PT-2	PASS THRU INLET	440.70	
PT-3	PASS THRU INLET	444.00	
CO-1	CLEANOUT	439.52 / 439.52	439.36
CO-2	CLEANOUT	439.92	439.92
CO-3 *	CLEANOUT	440.14	440.14
CO-4 *	CLEANOUT		441.09

PUBLIC WATER PIPE SCHEDULE												
SIZE	TYPE	MATERIAL	LENGTH (LF)									
8"	PUBLIC WATER	C-900	173									
6"	PUBLIC WATER	C-900	10									
6"	PUBLIC WATER	DIP (FH)	21									

20' * CONSTRUCTION OF SWM#1 TO BE DELAYED UNITL PHASE 2

SCALE 1"=20'

			·							
MICRO BIO-RETENTION PLANTING				ſ	PLANTINGS	S PROVIDE	PERRENIALS/GROUND COVER			
MBR #	AREA	STEMS REQUIRED (0.0227)	STEMS PROVIDED	TS	DP	AA	PV	BA	AG	TOTAL
SWM#1	840	20	24	6	6	6	6	29	29	58
SWM#2	950	22	24	6	6	6	6	33	33	66
SWM#3	1610	37	36	9	9	9	9	56	56	112
SWM#4	475	11	12	3	3	3	3	16	16	32
TOTALS :	3875	90	96	24	24	24	24	134	134	268

	MICRO-BIORETENTION DATA CHART														
MBR Facility Number	Ponding Depth (ft)	Ponding Elevation ELEV.	Top of Mulch ELEV.	Bottom of Mulch ELEV.	Depth of Plant Mix (ft)	Bottom of Plant Mix ELEV.	Depth of Pea Gravel (ft.)	Bottom of Pea Gravel ELEV.	Depth of #57 Stone (ft.)	Invert of Underdrain ELEV.	Invert of HDPE Outfall ELEV	Bottom of #57 Stone ELEV.	Depth of REV Stone (ft.) ELEV.	Depth of Additional Stone (ft.)	Bottom of Stone ELEV.
-		Α	В	с		D		E				F	G		н
SWM #1 (MBR M-6)	1.00	443.50	442.50	442.25	2.00	440.25	0.33	439.92	1.00	438.92	438.21	438.92	0.83	3.00	435.09
SWM #2 (MBR M-6)	1.00	440.20	439.20	438.95	2.00	436.95	0.33	436.62	1.00	435.62	435.12	435.62	0.83	3.00	431.79
SWM #3 (MBR M-6)	1.00	440.20	439.20	438.95	2.00	436.95	0.33	436.62	1.00	435.62	434.26	435.62	0.83	3.00	431.79
SWM #4 (MBR M-6)	1.00	436.70	435.70	435.45	2.00	433.45	0.33	433.12	1.00	432.37	432.19	432.12	0.83	3.00	428.29

LANDSCAPE CONTRACTOR SHALL INSTALL PLANTINGS SPECIFIED OR USE APPROVED FOUAL WHICH ARE TO FRANT TO FLUCTUATING WATER LEVELS 2. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.

AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0227 STEMS PER SQUARE FOOT).

PLANTING SCHEDULE (SHRUB/ORNIMENTAL GRASSES)						
LEGEND/KEY	QTY	BOTANICAL NAME/COMMON NAME		S	IZE	REMARKS
TS	24	SCIRPUS PUNGENS COMMON THREE-SQUARE		PLANT STOCK		CONT
DP	24	SAGGITARIA LATIFOLIA ARROWHEAD/DUCK POTATO			9–12" SPACE	
AA	24	PELTANDRA VIRGINICA ARROW ARUM		PLAN'	т ѕтоск	9–12" SPACE
PV	24	PANICUM VIRGATUM SWITCHGRASS		1	GAL.	_
					-	
MICRO-BIC	RETE	NTION PERENNIALS/GROUNDC	OVI	ER P	LANTIN	G SCHEDULE
LEGEND	QTY	BOTANICAL NAME/COMMON NAME	SI	ZE	RE	MARKS
	134	BAPTISIA AUSTRALIS FALSE INDIGO	4" POT BOTTOM OF MBR, MIX VARIETIES IN A NATUR/ RANDOM PATTERN THR		D.C. FOR SIDES AND IF MBR, MIX ALL IN A NATURALIZED PATTERN THROUGHOUT,	
	134	ACORUS GRAMINEUS 'OGON'. GOLDEN VARIEGATED SWEET FLAG	1	PLANT IN GROUPS O 1 QT. THAN 9 PLANTS PER		GROUPS OF NO LESS 'LANTS PER CLUMP

MICRO-BIORETENTION (UNDERDRAIN) (M-6) NOT TO SCALE

MIC	RO-BIORETEN
1.	ONLY THE SIDES OF BOTTOM OF THE MIC
2.	WRAP THE PERFORA PROVIDE 5' MINIMUM
4.	EQUALLY ACROSS BO SEE STORM DRAIN F

<u>TEST</u>	PIT	SU	MMA
THE DE FACILITY GROUNE COMPAR	VELOPI LOCA WATER RED TO	ER'S TIONS LEVI THE	CONTI . TES ELS A EXIS
the Wit Facilitii	iness Es.	TEST	PITS

APPROVED: HOWARD COUNTY DEPARTMENT OF	PLANNING AND ZONING
CHAD Edmondson	2/19/2024
CHIEF, DEVELOPMENT BRIDEERING DIVISION	DATE
M	2/12/2024
CHIEF, DIVISION OF SCAND DEVELOPMENT	DATE
lynda Eisenberg	2/19/2024
DIRECTOR	DATE

DETAILED PLAN VIEW (SWM#2-#4)

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

MICRO-BIORETENTION (OVERFLOW) (M-6) NOT TO SCALE

TION NOTES: F MICRO-BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE ICRO-BIORETENTION WILL CAUSE THE MBR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED. ATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH. M SPACING BETWEEN UNDERDRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE 30TTOM FOR SMALL BIOS. (SEE PLANS) PROFILES ON SHEET 9 OF 12 FOR HOW EACH FACILITY WILL DISCHARGE INTO THE SYSTEM IN MD 108

TRACTOR PERFORMED THE REQUIRED TEST PIT HOLES LOCATED NEAR THE PROPOSED MICRO-BIORETENTION ST PITS WERE WITNESSED BY A REPRESENTATIVE OF VOGEL ENGINEERING + TIMMONS GROUP TO ASSESS AND PRESENCE OF ROCK. TEST PITS VARIED IN DEPTH ACCORDING TO THE PROPOSED FACILITY ELEVATIONS TING GROUND ELEVATION.

REVEALED NO GROUNDWATER OR ROCK THAT WOULD PREVENT THE INSTALLATION OF THE PROPOSED

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil type
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, 1
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonw
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perfor row; minimum of underneath piper galvanized hard
Poured in place concrete (if required)	MSHA Mix No. 3; $f_c = 3500$ psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of 28 day strength or pre-cast) not a standards requir professional stru - design to incluu [H-10 or H-20]; pressures); and a
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitution #10 are not acce substitutions are

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS 1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

2. FILTERING MEDIA OR PLANTING SOIL

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

- * SOIL COMPONENT LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION). * ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
- * CLAY CONTENT MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.

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

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY FOUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL

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

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

FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

- * PIPE SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HDPE).
- * PERFORATIONS IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF
- FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH. * GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
- * THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
- * A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER. * A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT
- MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS
- THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS

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

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY, MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.

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

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

OWNER/DEVELOPER

NEW PATH REFORMED CHURCH INC.

8074 TROTTERS CHASE ELLICOTT CITY, MD 21043 410-829-8829 CONTACT: TAEBOK LEE EMAIL: nprchurch@gmail.com

/ REVISE PLAN FOR DROP OFF AREA TO BE COMPLIANT WITH ADA REQUIREMENTS 5-7-24

and soons In Eltration	NO.	REVISION	DATE	
anuscape mmranon-		n en en sen en e		
lantings are site-specific ISDA soil types loamy sand or sandy loam; clay content < 5%	SITE STORMWA	DEVELOPMENT	F PLAN IENT NOTES	
	AND DETAILS NEW PATH REFORMED CHURCH 10425 CLARKSVILLE PIKE (MD RTE 108)			
zed 6 months, minimum; no pine or wood chips	L. 20171 / F. 20 TAX MAP 29 BLOCK 18 5TH ELECTION DISTRICT	ELLICOTT CITY, MD	ZONED: R-20 PARCEL 106 IOWARD COUNTY, MARYLAND	
E Type 1 nonwoven	VOGE	L ENGINE	ERING	
lotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per w; minimum of 3" of gravel over pipes; not necessary nderneath pipes. Perforated pipe shall be wrapped with 1/4-inch alvanized hardware cloth	TIM 3300 NORTH RJ P: 410.461	HONS GR IMONS GR IDGE ROAD, SUITE 110, ELLICOT .7666 F: 410.461.8961 www.1	OUP T CITY, MD 21043 immons.com	
n-site testing of poured-in-place concrete required: 8 day strength and slump test; all concrete design (cast-in-place repre-cast) not using previously approved State or local andards requires design drawings sealed and approved by a rofessional structural engineer licensed in the State of Maryland design to include meeting ACI Code 350.R/89; vertical loading H-10 or H-20]; allowable horizontal loading (based on soil ressures); and analysis of potential cracking	OF MARLEN THE HARRIS OF THE SOUTH HARRIS OF THE 29/202	DESIGN BY: <u>RHV/ACS</u> DRAWN BY: <u>ACS</u> CHECKED BY: <u>RHV</u>	PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2024	
and substitutions such as Diabase and Graystone (AASHTO) 10 are not acceptable. No calcium carbonated or dolomitic sand ibstitutions are acceptable. No "rock dust" can be used for sand.	ROBERT H. VOGEL, PE No.16193	DATE:AX 2023_ SCALE:ASSHOWN W.O. NO.:41079_		

Net Trac	Area		
A.	Total (Gross) Tract Area	A =	1.70
B.	Area within 100-vear Floodplain	B =	0.00
C.	Other Deductions (Identify:	C =	0.00
D.	Net Tract Area	D =	1.70
Land Use Insert the	e Category number "1" under the appropriate land use (limit to only one entry)		
	Resid. Resid. Resid. Inst./ Retail/Ind./ Mixed Use/		
	Rural LD Rural MD Suburban Linear Office PUD		
	0 0 0 1 0 0		
E.	Afforestation Threshold (Net Tract Area x 15%)	E =	0.30
F.	Reforestation Threshold (Net Tract Area x 20%)	F≖	0.30
Existing	Forest Cover	~	and the second
G.	Existing Forest Cover within the Net Tract Area	G =	0.00
п. 1	Area of Forest above Afforestation Threshold	H =	0.00
1.	Area of Porest above Reforestation Threshold	1 =	0.00
Break Ev	en Point		
J.	Break Even Point	J =	0.00
К.	Forest Clearing Permitted without Mitigation	K =	0.00
Propose	d Forest Clearing		
L.	Total Area of Forest to be Cleared	L =	0.00
M.	Total Area of Forest to be Retained	M =	0.00
Planting	Requirements Inside Watershed		
N.	Reforestation for Clearing above the Reforestation Threshold	N =	0.00
P	Reforestation for Clearing below the Reforestation Threshold	P =	0.00
Q.	Credit for Retention above the Reforestation Threshold	Q =	0.00
R.	Total Reforestation Required	R =	0.00
S.	Total Afforestation Required	s =	0.30
1	I otal Reforestation and Afforestation Requirement	1=	0.30
U	75% of Total Obligation (Retention + Planting)	U=	0.20
V	Planting Required Unsite to meet 75% Obligation	V=	0.20
Planting	Requirements Outside Watershed		
W.	Total Planting within Development Site Watershed	W=	0.00
Х.	Total Afforestation Required	X=	0.30
Υ.	Remaining Planting within Watershed for Reforestation Credit	Y=	0.00
Ζ.	Reforestation for Clearing above the Reforestation Threshold	Z=	0.00
AA.	Reforestation for Clearing below the Reforestation Threshold	AA=	0.00
BB.	Credit for Retention above the Reforestation Threshold	BB=	0.00
CC.	Total Reforestation Required	CC=	0.00
DD.	Total Afforestation and Reforestation Requirement	DD=	0.30

	SC PERIMETER	HEDULE 'A' R LANDSCAPE E	DGE			
CATEGORY ADJACENT TO PERIMETER AND ROADWAY			DUMPSTERS	TOTAL		
/FRONTAGE DESIGNATION	1 C	2 C	3 A	4 B	5 C	
ET OF ROADWAY E/PERIMETER	377'	212'	464'	123'	32'	
R EXISTING VÉGETATION), LINEAR FEET E BELOW IF NEEDED)	NO	NO	NO	NO	NO	
R WALL, FENCE OR BERM), LINEAR FEET E BELOW IF NEEDED)	YES 340LF	YES 206LF	Yes 376LF	No	No	
F PLANTS REQUIRED TREES REEN TREES 3S	1:40 10 1:20 19 -	1:40 6 1:20 11 -	1:60 8 	1:50 3 1:40 4 -	1:40 1 1:20 2 -	28 36
F PLANTS PROVIDED TREES REEN TREES TREES (2:1 SUBSTITUTION) 3S (10:1 SUBSTITUTION) PLANT SUBSTITUTION CREDITS	7 (1) 2 (2) -	3 (1) - (2) -	7 (1) - -	3 4 - -	1 2 - -	21 8 -

(1) 1 SHADE TREE TO BE PROVIDED FOR EVERY 60' ALONG 922LF FENCE (15 SHADE TREES). SCHEDULE SHADE TREES TO BE PLANTED OUTSIDE THE FENCED AREA. (2) EVERGREEN TREES (WITHIN THE FENCED AREA REQUIRED BY THE CU) CREDITED TOWARD SCHEDULE A REQUIREMENTS. SCENDULE A EVERGREEN TREES TO BE PLANTED OUTSIDE THE FENCED AREA.

	PLANT LIST - SCHEDULE 'A'		
QUAN.	BOTANICAL NAME	SIZE	CAT
15	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2.5"-3" CAL	B & B
6	ZELKOVA SERRATA 'VILLAGE GREEN' VILLAGE GREEN JAPANESE ZELKOVA	2.5"-3" CAL	B & B
8	PINUS STROBUS EASTERN WHITE PINE	6'8' HT.	B & B

	PLANT LIST - CONDITIONAL USE PLANTINGS		
UAN.	BOTANICAL NAME	SIZE	CAT
65	THUJA OCCIDENTALIS 'SMARAGD' EMERALD GREEN ARBORVITAE	4'-5' HT.	B & B
60	THUJA OCCIDENTALIS 'HOLMSTRUP' HOLMSTRUP ARBORVITAE	4'-5' HT.	B & B
49	VIBURNUM X RHYTIDOPHYLLOIDES ALLEGHANY	2.5'-3' HT.	B & B
18	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	2.5'-3'HT.	B & B
15	ILEX X AQUIPERNYI DRAGON LADY HOLLY	2.5'-3'HT.	В&В

SCHEDULE 'B'	
METER LOT INTERNAL LANDSC	APING
F PARKING SPACES	73
F TREES REQUIRED	8
F TREES PROVIDED	
REES	8
REES (2:1 SUBSTITUTION)	ware

	PLANT LIST - SCHEDULE 'B' (PARKING LOT)				
UAN.	BOTANICAL NAME	SIZE	CAT		
8	CERCIS CANDADENSIS EASTERN REDBUD	2.5"-3" CAL	B & B		
0					

PECIMEN TREE REPLACEMENT REQUIREMENT	
SCRIPTION	TOTAL QUANTITY
PECIMEN TREES TO BE REMOVED	8
ENT TREES REQUIRED	16
ENT TREES PROVIDED	16

	PLANT LIST - SPECIMEN TREE REPLACEMENT			
UAN.	BOTANICAL NAME	SIZE *	CAT	
5	QUERCUS COCCINEA SCARLET OAK	3" CAL (DBH)	B & B	
5	QUERCUS PHELLOS WILLOW OAK	3" CAL (DBH)	B & B	

5	WILLOW OAK	5 CAL (DBH)	
6	NYSSA SYLVATICA BLACK GUM	3" CAL (DBH)	В&В
16	* DIAMETER AT BREAST HEIGHT	OF AT LEAST 3	INCHES

FOREST CONSERVATION WORKSHEET FOR NEW PATH REFORMED CHURCH

IN ACCORDANCE WITH SECTION 16.1200 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THIS PROJECT IS SUBJECT TO FOREST CONSERVATION. THE TOTAL AFFORESTATION REQUIREMENT OF 0.30 ACRES HAS BEEN FULFILLED THROUGH THE PURCHASE OF CREDITS FROM THE HIMEL PROPERTY RETENTION BANK (SDP-05-132). PROPERTY LOCATION IS: 17794 OLD FREDERICK RD, MT AIRY, MD 21771 (MDE 12-DIGIT NUMBER: 021309081028, PART OF 8-DIGIT WATERSHED NUMBER: 02130908, WATERSHED NAME: S BRANCH PATAPSCO)

LEGEND:

(2001)
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PROPOSED TREELINE PROPOSED CURB PROPOSED SIDEWALK

PERIMETER 3 - TYPE 'A' BUFFER

PHASE

 PROPOSED 10' CONTOUR ----- PROPOSED 2' CONTOUR PROPOSED PUBLIC WATER & UTILITY EASEMENT

MICRO BIO-RETENTION SURFACE LAYER

PROPERTY LINE

RIGHT-OF-WAY LINE

ADJACENT PROPERTY LINE

EXISTING STREAM BUFFER

EXISTING UTILITY POLE

EXISTING LIGHT POLE

EXISTING CLEANOUT

EXISTING TREELINE

PROPOSED STORMDRAIN

PROPOSED STORM DRAIN

SHA ACCESS PERMIT)

PROPOSED STORMDRAIN INLET

(BY DEVELOPER UNDER MDOT

EXISTING SANITARY LINE

PROPOSED PRIVACY FENCE

(SEE PRIVACY FENCING DETAIL, SHEET 4

EXISTING CURB AND GUTTER

PROPOSED CURB AND GUTTER

CENTERLINE OF EXISTING STREAM

### EXISTING VEGETATION (APPROXIMATE LOCATION)

EXISTING TREE TO BE REMOVED

PROPOSED SHADE TREES

PROPOSED EVERGREEN TREES PROPOSED SHRUBS PERIMETER DESIGNATION / TYPE

PHASING LIMITS

LANDSCAPE SCHEDULE NOTES:

. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENTS, BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT (

PHASE

- PLANNING AND ZONING, ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS. THE OWNER. TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF EQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS.
- ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY
- MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED. 3. SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL. . CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. . FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS.
- TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES. 6. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- LANDSCAPE GENERAL NOTES:
- I. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. THE REQUIRED PARKING AND PERIMETER LANDSCAPING WILL BE BONDED PER THIS SUBMISSION. . FINANCIAL SURETY FOR THE PROPOSED LANDSCAPING AND VINYL FENCE HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN IN THE AMOUNT OF \$49,090.00 FOR THE PROPOSED 45 SHADE TREES, 166 EVERGREEN TREES, 49 SHRUBS AND
- 22 LF OF VINYL FENCE.

![](_page_11_Picture_54.jpeg)

![](_page_12_Figure_1.jpeg)