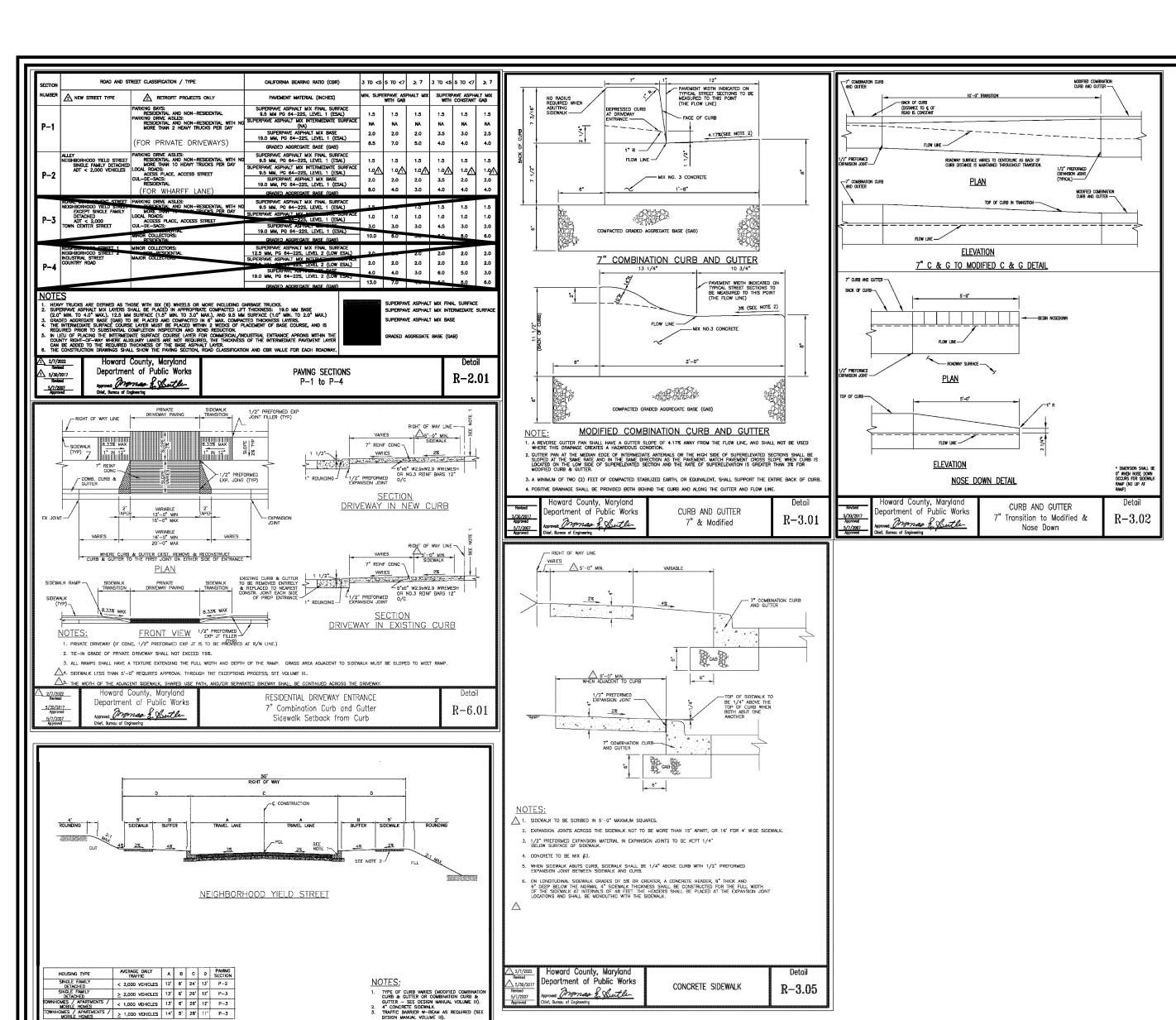
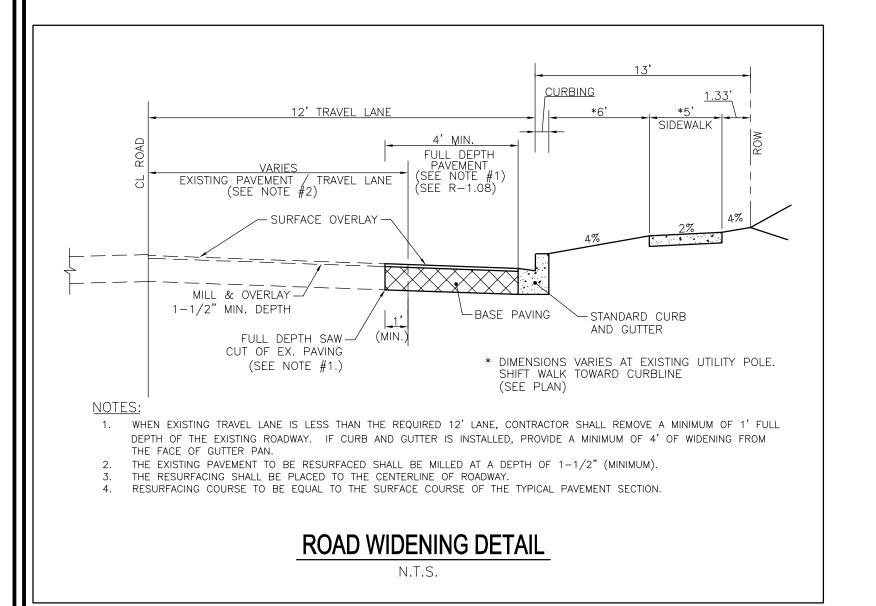
GENERAL NOTES FINAL SUPPLEMENTAL PLAN **BENCHMARKS** THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALTERNATIVE 31EF: N 571,267.917 E 1,376,907.417 ELEV. 469.471 COMPLIANCE HAVE BEEN APPROVED. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS ONLESS ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORLD ON THESE DAYMINGS. CONC. MON AT THE INTERSECTION OF ILCHESTER RD AND WHARFF LANE WHARFF LANE 31EM1 : ELEV. 471.694' 3/4" REBAR AT THE CORNER OF ILCHESTER RD AND LANDING RD. WORK ON THESE DRAWINGS: MISS UTIITY: VERIZON TELEPHONE COMPANY:....HOWARD COUNTY BUREAU OF UTILITIES:... AT&T CABLE LOCATION DIVISION:....BG&E CO., CONTRACTOR SERVICES:..... ..1-410-954-6281 ..1-410-313-2366 ..1-800-393-3553 0081 : N 572,335.338 E 1,377,504.092 ELEV. 477.919' ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH CONC. MON ILCHESTER RD SOUTH OF BEECHWOOD RD. 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS **LOTS 1-3**1-410-787-4620 BG&E CO., UNDERGROUND DAMAGE CONTROL: MARYLAND STATE HIGHWAY ADMINISTRATION:.... W-3.28 OUTSIDE METER SETTINGS. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. 4935 WHARFF LANE, ELLICOTT CITY, MD 21043 5. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313–1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK. 6. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE 6. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTORS EXPENSE. 7. THIS FINAL SUPPLEMENTAL PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES: ECP-21-027. 8. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD SURVEY BY VOGEL ENGINEERING + TIMMONS GROUP, DATED JANUARY 2019, AND SUPPLEMENTED BY HOWARD COUNTY GIS. 9. THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY PERFORMED BY VOGEL ENGINEERING + TIMMONS GROUP, DATED APRIL 2020. 10. THE COORDINATES AND ELEVATIONS SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY CONTROL STATION 31EF AND 0081 WERE USED FOR THIS PROJECT. 11. THE SUBJECT PROPERTY IS ZONED R-20 IN ACCORDANCE WITH THE ZONING REGULATIONS EFFECTIVE ON OCT. 06, 2013, AND IS SUBJECT TO SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE OCT. 07, 2007 PER COUNCIL BILL 47-2007 & 48-2007. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS. 12. EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. SHEET INDEX HOWARD COUNTY, MD 1 OF 6 VER SHEET, LAYOUT AND LANDSCAPING PLAN DETAILS AND LANDSCAPE & FOREST CONSERVATION NOTES & DETAILS RADING, SOIL EROSION AND SEDIMENT CONTROL PLAN EX. DWELLING **VICINITY MAP** 4 OF 6 RADING, SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS PUBLIC UTILITY EXTENSION PLAN, PROFILES, SCHEDULES AND ADO PROCEDURES SCALE: 1"=2000' SDV STORMWATER MANAGEMENT PLAN, NOTES DETAILS AND DRAINAGE AREA MAP ADC MAP 16 GRID B/3 LEGEND EX. DWELLING LOT 3 THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. 13. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. UTILITY EASEMENT, - WATER FOR THIS PROJECT SHALL BE FROM PUBLIC SERVICE CONNECTIONS FROM CONTRACT NO. #44-1031. - SEWER FOR THIS PROJECT SHALL BE FROM THE PROPOSED EXTENSION OF CONTRACT NO. #14-3503-D. PUBLIC LPSS SEWER SYSTEMS SHALL PROVIDE SEWER SERVICE FOR THE INDIVIDUAL LOTS. PROPOSED CURB AND GUTTER - HOUSES MAY NOT BE BUILT USING THIS PLAN. EXISTING UTILITY POLE EXISTING OVERHEAD UTILITY LINE - WATER AND SEWER SERVICE WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE. - PUBLIC WATER AND SEWERAGE ALLOCATION WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME. EXISTING LIGHT POLE EXISTING MAILBOX CONSTRUCTION OF PUBLIC WATER SERVICE CONNECTIONS AND THE PUBLIC SEWER EXTENSION AND LPSS SHALL BE BY THE HOWARD COUNTY A.D.O. PROCESS THE PROPOSED DWELLINGS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM. SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY, HOWARD COUNTY, MARYLAND. THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT. NO RARE, THREATENED OR ENDANGERED SPECIES OR THEIR HABITATS WERE OBSERVED ON THE PROPERTY. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS. EXISTING SIGN PARCEL 150 EXISTING SANITARY MANHOLE LCHESTER LANDING - PLAT 9018 EXISTING SANITARY LINE EXISTING CLEANOUT EXISTING FIRE HYDRANT EXISTING WATER LINE THERE ARE NO "FLOODPLAIN" AREAS LOCATED WITHIN THE DEVELOPMENT AREA. THERE ARE NO QUALIFYING AREAS OF STEEP SLOPES, 25% OR GREATER ON THIS SITE. THE PROJECT SITE WAS EVALUATED FOR THE PRESENCE OF ENVIRONMENTAL FEATURES AND A LETTER HAS BEEN PROPERTY LINE SHED RIGHT-OF-WAY LINE PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, DATED DECEMBER 1, 2020. -MR. CANOLES NOTED THAT THE THE PROPERTY IS CURRENTLY DOMINATED BY LAWN, PASTURE AND SCATTERED EXISTING TREELINE PAUL W. WOLFGANG & DW3B (M-5) - QR(A4) PROPOSED TREELINE -NO SPECIMEN SIZED TREES, FOREST OR ANY OTHER REGULATED ENVIRONMENTAL FEATURES WERE FOUND WITHIN THE LIMITS OF THE DEVELOPMENT AREA FOR THIS PROJECT. MARY J. WOLGANG DATED DEC. 1985 LIMIT OF DISTURBANCE IGINAL DESC. L326/F201 - DEC. 1958) -THERE ARE 0 S.F. (0.00 AC.) AREA OF WETLANDS PRESENT WITHIN THE DEVELOPMENT AREA PER SITE EVALUATION BY ECO-SCIENCE PROFESSIONALS, INC., IN NOVEMBER 2020. 1.5" WATER HOUSE CONNECTION DW3A (M-5) -N 54 54' 16.57" W 103.81 23. THE SUBJECT PROPERTY PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION. -DEVELOPMENT OF THE SITE WILL REQUIRE 0.2 ACRES OF AFFORESTATION TO MEET THE FCA OBLIGATION. -FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT SHALL BE MET BY THE PURCHASE OF THE 10'X7' ROOF DRAIN / UNDER DRAIN PUBLIC SEWER 19.728 SF EQUIVALENT OF 0.20 AC./8,712 S.F. OF AFFORESTATION CREDIT IN THE HIMEL PROPERTY SDP-05-132 FOREST CONSERVATION BANK. PUBLIC 1.5" LPSS 0.4529 AC JAE WOOK SHIN PRIVATE 4" SHC & GRINDER PUMP (AS NOW SURVEYED 63,467.51 SQ.FT. OR 1.4570 ACRES -----EX. WELL (TO SURETY IN THE AMOUNT OF \$4,356.00 SHALL BE SHALL BE COLLECTED AS PART OF THE DED COST ESTIMATE. FEBRUARY 1998 MICRO-BIORETENTION (M-6) *BE ABANDONED)* DW2A (M-5) 24. LANDSCAPING FOR LOTS 1-3 IS INCLUDED WITH THE SUPPLEMENTAL PLAN SET, AND PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. a. FINANCIAL SURETY FOR THE PERIMETER LANDSCAPING IN THE AMOUNT OF \$7,200.00 FOR THE REQUIRED 15 SHADE PARCEL 322 10'X7' BRITTEN BRADY II - PLAT 13074 DRYWELL (M-5) TREES AND 18 EVERGREEN TREES WILL BE BONDED PER THIS SUBMISSION AND PAID WITH THE BUILDER'S GRADING 19,854 SF b. PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124.(E)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY OF \$4,800.00 FOR THE REQUIRED 16 STREET TREES ALONG THE PUBLIC ROADWAY SHALL BE COLLECTED AS PART OF THE DED COST ESTIMATE. 25. -IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE OPEN SPACE REQUIREMENT FOR THIS R-20 ZONED MINOR SUBDIVISION (20,000SF LOT) IS 6% C.N.S. PROPOSED TREES 0.4558 AC FFE=443.00 BFE=434.00 #4935 BE442.24 MCE=434.38 3FE=454.Ø(APPROX. LOCATION OF C.N.S. SEWAGE DISPOSAL ARFA EX. DWELLING OF GROSS AREA (1.46X 6% = 0.88 ACRES) AND WILL BE MET BY A PAYMENT OF FEE-IN-LÌEU. CAHILL PROPER -*(TO BE ABANDONED)* SEMENT SEWER SERVICE #4959 IN ACCORDANCE WITH SECTION 16.121(A)(4) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THIS PROJECT IS EXEMPT FROM PROVIDING RECREATION OPEN SPACE. O BE PROVIDED BY PRIVATE ON SITE POMP GAR BASEMENT SEWER SERVICE 26. ANY NECESSARY DESIGN MANUAL WAIVERS OR ALTERNATIVE COMPLIANCE APPLICATIONS SHALL BE FILED AT SITE 26. ANY NECESSARY DESIGN MANUAL WAIVERS OR ALTERNATIVE COMPLIANCE AFFLICATIONS STACE DE LIED / III DEVELOPMENT PLAN STAGE. 27. WHARFF LANE IS CLASSIFIED AS A LOCAL ROAD. SITE ACCESS SHALL BE VIA PRIVATE DRIVEWAYS FROM WHARFF LANE. 28. A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT. 29. A NOISE STUDY IS NOT REQUIRED FOR THIS SUBDIVISION. 30. AN ADEQUATE ROADS FACILITIES TEST STUDY IS NOT REQUIRED FOR THIS PROJECT. 31. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, HISTORIC STRUCTURES OR 'QR(A4) MBR #3 (M-6)/ 192 S.F. CEMETERIES, LOCATED WITHIN THE DEVELOPMENT AREA. STORMWATER MANAGEMENT PRACTICES ARE REQUIRED IN ACCORDANCE WITH THE DESIGN MANUALS. STORMWATER GP GRINDER PUMP _______ 192 S.E. - Grinder Pump MODERATE INCOME HOUSING UNITS (MIHU MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF DRYWELLS (M-5) AND MICRO-BIORETENTION FACILITIES "GP∖EONE DH≠1\$1, MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF DRYWELLS (M-5) AND MICRO-BIORETENTION FACILITIES (M-6) PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. 5. SEDIMENT AND EROSION CONTROLS WILL BE PROVIDED BY PERIMETER CONTROLS FOR THIS SITE. 6. THERE ARE 1.46 AC. OF HIGHLY ERODIBLE SOILS ON THIS PROJECT SITE, 0.91 AC. OF WHICH IS WITHIN THE DEVELOPMENT AREA. 6. CERTIFIED TEST PITS OR OTHER GEOTECHNICAL INVESTIGATION SHALL BE PROVIDED AS APPROPRIATE TO VERIFY THAT GROUNDWATER AND ROCK ARE NOT PRESENT AT THE DRYWELL AND MICRO-BIORETENTION FACILITY LOCATIONS. TEST PITS AND INFORMATION REGARDING THE FINDINGS WILL BE PROVIDED AT SITE DEVELOPMENT PLAN STAGE. 6. ALL DRIVEWAY ENTRANCES SHALL UTILIZE HOWARD COUNTY STANDARD DETAIL NO. R-6.01 UNLESS OTHERWISE NOTED. 7. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: GÉ GRINDER PUMP \$54.54.48"E ALLOCATION EXEMPTIONS TRACKING ₹3. /EONE DH-151 5AG(\$)-\_ - PSHC SERVICE NUMBER OF MIHU REQUIRED VALVE S-4:03 NUMBER OF MIHU PROVIDED ONSITI (exempt from APFO allocations) OCATION OF MIHU UNITS PROVIDED ONSI (. MANHOL (indicate no. bedrooms /unit numbers NUMBER OF APFO ALLOCATIONS REQUIRE (remaining lots/units) A) WIDTH- 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE). ,8" GRAVITY SEWER (PUB) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING. (1-1 1/2" MIN.) (indicate lot/unit numbers) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS. PSHC SERVICE-STRUCTURES (CULVERT/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING) CONTR # 10-3696 EX. 8" WATER CONTR # 44-103 5+00 STD C&G, SUTTER E) DRAINAGE ELEMENTS—CAPABLE OF SAFELY PASSING 100—YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE. - PSHC SERVICE VALVE S-4.03 VALVE S×4.03 OWNER/DEVELOPER F) STRUCTURE CLEARANCES-MINIMUM 12 FEET. CONTR # 44-103 WHARFF LANE G) MAINTENANCE — SUFFICIENT TO INSURE ALL WEATHER USE. 38. THE PRE—SUBMISSION COMMUNITY MEETING WAS VIRTUALLY HELD FOR THIS PROJECT ON JANUARY 27, 2021. SMH E-2.05 TERMINAL MH JAE WOOK SHIN VARIABLE WIDTH RIGHT OF WAY PUBLIC LOCAL COUNTY ROAD DEDICATION 4935 WHARFF LANE ELLICOTT CITY, MD 21043 AN ENVIRONMENTAL CONCEPT PLAN (ECP-21-027) WAS APPROVED AUGUST 9, 2021 MIHU'S ARE REQUIRED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 108.0.E OF THE HOWARD COUNTY ZONING MANUAL. AT LEAST 10% OF DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS. THE DEVELOPER WILL PAY A FEE-IN-LIEU TO ADDRESS THIS REQUIREMENT. DECLARATION OF COVENANTS SHALL BE RECORDED WITH THE SITE DEVELOPMENT PLAN AND SIMULTANEOUSLY WITH THE PRIVATE STORMWATER DEVICES LOCATED ON THESE LOTS. ALL STORMWATER DEVICES SHALL BE PRIVATE. ALL STORMWATER DEVICES SHALL BE LOCATED WITHIN THE PRIVATE LOTS, AND OWNED AND MAINTAINED BY THE HOMEOWNER. ALL PRIVATE STORMWATER MANAGEMENT PRACTICES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY AND SHALL BE CONSTRUCTED UNDER THE SITE DEVELOPMENT PLAN. FURTHER REVIEW AND REVISION MAY OCCUR AT SITE DEVELOPMENT PLAN STAGE. APPROVAL OF THIS FINAL SUPPLEMENTAL PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SITE DEVELOPMENT PLAN AND/OR RED-LINE REVISION PLAN. ADDITIONAL REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE SITE DEVELOPMENT PLAN STAGES AND/OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT 39. AN ENVIRONMENTAL CONCEPT PLAN (ECP-21-027) WAS APPROVED AUGUST 9, 2021 SMH S-4.15 GRAVITY 4,199 SF (L.298 F.523) STD C&G, GUTTER (202) 415-7414INV 34.0 PERIMETER 1 - 297 LF - NO BUFFER REQUIRED THE SITE DEVELOPMENT PLAN STAGES AND/OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT LAYOUT AND LANDSCAPING PLAN SHOULD EXPECT ADDITIONAL AND MORE DÉTAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE EX. DWELLING EX. DWELLING OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE `PLAN REVIEW PROCESS. REVISION DATE #4920 SCALE: 1" = 30LAND DEDICATED TO HOWARD COUNTY, MARYLAND FOR PURPOSES OF A PUBLIC ROAD (4,199 SF.) #4936 43. LAND DEDICATED TO HOWARD COUNTY, MARYLAND FOR PURPOSES OF A PUBLIC ROAD (4,199 SF.) 44. THERE IS AN EXISTING DWELLING/STRUCTURE LOCATED ON LOT #1 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS. 45. THE 10 YEAR STORM FLOWS SHALL BE SAFELY AND ADEQUATELY CONVEYED TO A STABLE OUTFALL. 46. THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER DMW2-22-023. IN A LETTER DATED JUNE 8, 2022, THE CHIEF OF THE DEPARTMENT OF PUBLIC WORKS-UTILITY DESIGN DIVISION APPROVED THE USE OF A SCALE 1"=30' FINAL SUPPLEMENTAL PLAN COVER SHEET, LAYOUT AND LANDSCAPING PLAN SUMMARY OF FINDINGS FOR APFO TRAFFIC ANALYSIS: LOW-PRESSURE SEWER SYSTEM (LPSS) FOR THIS DEVELOPMENT IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME I IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME 3, CHAPTER 4 WHARFF LANE SECTION 4.7(B)(5), A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT. WATER AND SEWER (DMV2) SECTION 8.3.B.2.; SUBJECT TO THE FOLLOWING CONDITIONS: -THE REQUEST IS APPROVED, CONTINGENT UPON CONFORMANCE WITH LOT SIZE CHART A. DATE OF REPORT: NOT APPLICABLE B. DATE OF COUNT(S): NOT APPLICABLE SITE DATA THE CHANGES OUTLINED BELOW AND GRAPHICALLY MARKED ON THE OT MIN. LOT SIZE MAX REDUCTION* R/W DED. AREA LOT AREA. 4935 WHARFF LANE WAIVER EXHIBIT. 1. THE MAIN LINE 1.5" LPSS FORCE MAIN SHALL BE PUBLIC AND LOCATED 5 FEET SOUTH OF THE CURB & GUTTER LINE IN THE REPORT SUBMITTED AS PART OF PLAN NUMBER: NOT APPLICABLE L ZONED: R-20 PARCEL 40 HOWARD COUNTY, MARYLAND 1 | 20,000 SF | 2,000 SF | 1,974 SF | 19,854 SF SINGLE FAMILY RESIDENTIAL -TAX MAP 31, BLOCK 10, PARCEL 401 -1ST ELECTION DISTRICT -PRESENT ZONING: R-20 RESIDENTIAL -TOTAL AREA OF PROPERTY: 1.46 AC. -LAND DEDICATED TO HOWARD COUNTY, MARYLAND FOR PROVIDE STATEMENT THAT SCHOOLS WERE IN SESSION ON THAT DATE(S). TAX MAP 31 BLOCK 10 1ST ELECTION DISTRICT L. 17968 / F. 00281 2 | 20,000 SF | 2,000 SF | 1,090 SF | 19,728 SF PUBLIC RIGHT-OF-WAY/PAVED ROADWAY. 2. EACH HOUSE SHALL HAVE A PRIVATE GRINDER PUMP WITH A 3 | 20,000 SF | 2,000 SF | 1,135 SF | 19,866 SF NOT APPLICABLE PRESSURE SEWER HOUSE CONNECTION ASSEMBLY (DMV4, S-4.03) LOCATED AT THE PROPERTY LINE. 3. THE PUBLIC 1.5" LPSS FM SHALL HAVE A TERMINAL END AS *MAX 10% REDUCTION ALLOWED PER 16.120(B)(2)(ii) **VOGEL ENGINEERING** PURPOSES OF A PUBLIC ROAD (.0964 AC. / 4,199 SF.) -DPZ REFERENCES: ECP-21-027, DMW2-22-023 -DEED/PLAT REFERENCES: L.17968 / F.00281 LIST INTERSECTIONS STUDIED, IDENTIFY INTERSECTION AS STATE OR COUNTY JURISDICTION, AND LABEL LOS FOR THE HORIZON LPSS FM SHALL HAVE A TERMINAL END AS DETAILED IN DMV4, E-2.05. 4. THE PUBLIC 1.5 LPSS FM SHALL DISCHARGE INTO A TRANSITION MH AS DETAILED IN DMV4, S-4.15. 5. THE PUBLIC LPSS AND GRAVITY SEWER CONSTRUCTION SHALL BE DOCUMENTED UNDER THE PROCEDURES FOR PUBLIC YEAR OF EACH INTERSECTION: ADDRESS CHART -PLAT NO. N/A -AREA MANAGED BY ESDV: 39,820 S.F./0.91 AC. (THIS PLAN) **TIMMONS GROUP** *DEVELOPMENT AREA EXTENDS OUTSIDE LIMITS OF PARCEL PARKING TABULATION: STREET ADDRESS AND EXCLUDES EXISTING LOT #1. PROVIDE STATEMENT AS TO WHETHER MITIGATION IS REQUIRED AND WATER/SEWER EXTENSIONS OR ADVANCED DEPOSIT ORDER AS APPLICABLE -USE OF PROPOSED STRUCTURES (THIS PLAN): SINGLE FAMILY RESIDENTIAL *TOTAL BUILDING COVERAGE WITHIN THE DEVELOPMENT AREA: 4,675 SF (0.107 AC. OR 11.74%) 4935 WHARFF LANE 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 EXPLAIN THE METHOD OF MITIGATION/IN LIEU FEE. TOTAL NUMBER OF DWELLING UNITS PROPOSED: 3 (1 EXISTING) 4931 WHARFF LANE P: 410.461.7666 F: 410.461.8961 www.timmons.com 4939 WHARFF LANE OFF-STREET PARKING SPACES REQUIRED: *PAVED AREA WITHIN THE DEVELOPMENT AREA: 4,551 SF (0.105 AC. OR 11.43%) ROFESSIONAL CERTIFICATE 2 SPACES PER UNIT = $2 \times 3 = 6$ SPACES 4,551 SF (0.105 AC. OR 11.43%) -LIMIT OF DISTURBED AREA (INCLUDING ROW): 43,074 S.F. / 0.99 AC *WETLANDS ON SITE: 0.00 AC. *WETLAND BUFFERS ON SITE: 0.00 AC. *STREAMS AND THEIR BUFFERS ON SITE: 0.00 AC. *AREA OF 100 YEAR FLOODPLAIN: 0.00 AC. *AREA OF EXISTING FOREST ON SITE: 0.00 AC. *AREA OF QUALIFYING STEEP SLOPES (25% OR GREATER): 0.00 SF / 0.00 AC. (QUALIFYING STEEP SLOPES ARE THOSE > 20,000 SF IN AREA OR > 10' VERTICAL) OVERFLOW / GUEST PARKING SPACES REQUIRED: APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 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 SWM PRACTICE CHART - PRIVATE LOTS 0.5 SPACES PER SFD UNIT X 3 = 1.5 SPACE DESIGN BY: RHV/GAH/EDS TOTAL PARKING REQUIRED = 7.5 SPACES **ESD PRACTICES BY LOT** ___GAH/EDS DRAWN BY: 11/27/2023 (HD) Edmondson PARKING SPACES PROVIDED: CHECKED BY: LOT # ESD PRACTICE ADDRESS SFD = 2 GARAGE/2 DRIVEWAYCHIEF, DEVELOPMENT ENGINEERING DIVISION DATE = 6 SPACES (FOR 3 UNIT) 2 SPACE IN GARAGE DATE: NOVEMBER 2022 EXISTING LOT - N/A 4935 WHARFF LANE -AREA OF ERODIBLE SOILS: 1.457 AC. ON PROJECT SITE 2 SPACES ON DRIVEWAY = 6 SPACES (FOR 3 UNIT) 0.91 AC. WITHIN DEVELOPMENT AREA 11/15/2023 SCALE: 4931 WHARFF LANE *IMPERVIOUS AREA : 9,226 S.F. (0.2118 AC. OR 23.17%) TWO (2) DRYWELLS (M-5) & ONE (1) MICRO-BIORETENTION FACILITY (M-6) TOTAL PARKING SPACES PROVIDED: = 12 SPACES OFF-STREET 42431 *GREEN/OPEN AREA: 30,594 S.F. (0.702 AC. OR 76.83%) W.O. NO.: SHEET __ OF _ CHIEF, DIVISION OF LAND DEVELOPMENT 4939 WHARFF LANE NOTE *WITHIN LIMITS OF DEVELOPMENT AREA ONLY TWO (2) DRYWELLS (M-5) & ONE (1) MICRO-BIORETENTION FACILITY (M-6) ROBERTBAL 33 VOGEL, PE No. 1619





11/27/2023

11/15/2023

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by:

CHIEF, DIVISIONER OF SALARYO DEVELOPMENT

(HAD Edmondson

CHIEF, DEVELOPMENT THOUSINEERING DIVISION

TYPICAL SECTIONS

Neighborhood Yield Street

R-1.08

1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQÚIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IŃ ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING, ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE 2. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED 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, DIES 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. 4. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
- LANDSCAPE SCHEDULE NOTE:
- 1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.

 2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

 3. 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 4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE,

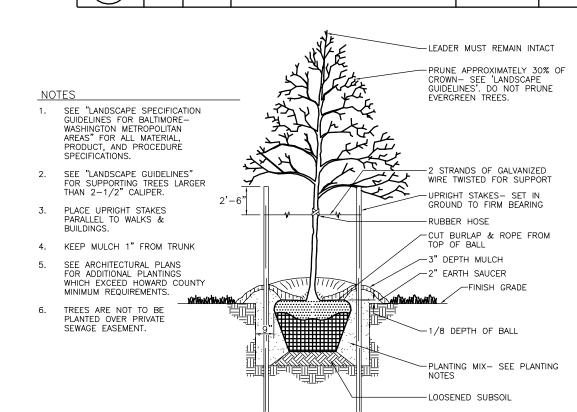
GENERAL NOTES:

THE PLAN SHALL GOVERN.

- 1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE PERIMETER LANDSCAPING IN THE AMOUNT OF \$7,200.00 FOR THE REQUIRED 15 SHADE TREES AND 18 EVERGREEN TREES WILL BE BONDED
- PER THIS SUBMISSION AND PAID WITH THE BUILDER'S GRADING PERMIT. 2. PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124.(E)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY OF \$4,800.00 FOR THE REQUIRED 16 STREET TREES ALONG THE PUBLIC ROADWAY SHALL BE COLLECTED AS
- PART OF THE DED COST ESTIMATE.
 3. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN,
- WAIVER PETITION, OR BUILDING AND GRADING PERMITS. THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
- NO LANDSCAPING TO BE INSTALLED WITHIN ANY PUBLIC EASEMENT FOR WATER, SEWER, OR STORM DRAIN. . ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR.

STREET TREE CALCULATIONS								
STREET NAME	NO. REQUIRED	NO. PROVIDED						
WHARFF LANE	0+00 TO 3+16±	316/40	8	*16				
*2:1 SUBSTITUTION	N FOR SMALL TREES	TOTAL	8	*16				

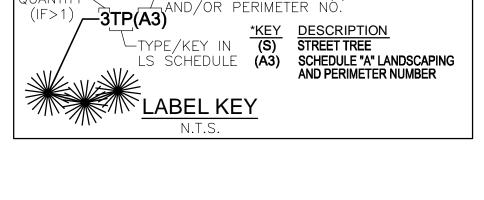
LANDSCAPE SCHEDULE								
SYMBOL	KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS			
60	QR	15	QUERCUS RUBRA NORTHERN RED OAK (PERIMETER LANDSCAPING)	3" CAL.	В & В			
**	LC	18	CUPPRESSOCYPARIS LEYLANDI LEYLAND CYPRESS	5-6' HT.	В & В			
(+)	AG	16	ACER GRISEUM PAPERBARK MAPLE (STREET TREES)	2.5"-3" CAL.	В & В			



TREE PLANTING AND STAKING

DECIDUOUS TREES UP TO 2-1/2" CALIPER

SCHEDULE 'A' PERIMETER LANDSCAPE EDGE							
CATEGORY	ADJACEN	NT TO PERIME	TER AND RO	ADWAYS	TOTAL		
PERIMETER/FRONTAGE DESIGNATION LANDSCAPE TYPE	1 NONE	2 B	3 B	4 B	-		
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	297 LF	175 LF	307 LF	234 LF	1013 LF		
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	-		
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	_		
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS *REPLACEMENT SHADE TREES	1 1 1	1:50 4 1:40 4 —	1:50 6 1:40 8 -	1:50 5 1:40 6 -	15 18 – –		
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES EX SHADE TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)		4 4 - -	6 8	5 6	15 18 - - -		



_REQUIRED SCHEDULE (*)

DPZ'S POLI	DPZ'S POLICIES GOVERNING THE PLACEMENT OF LANDSCAPING AND STREET									
TREES IN F	TREES IN PROXIMITY TO BGE'S POWER LINES OR TRANSMISSION RIGHT-									
OF-WAY AF	OF-WAY ARE BASED ON BGE'S PUBLISHED "PLANTING ZONE CONCEPT" WHICH									
	THE MAXIMUM ALLOWABLE SIZE OF PLANT									
	ONES. AS THE DISTANCE FROM BGE EQUIP									
I .	SIZE OF THE ALLOWABLE PLANT MATERIALS.	THESE THREE ZONES								
AREA DEFIN	NED AS FOLLOWS:									
	DISTANCE FROM THE BGE POWER LINE	MAXIMUM HEIGHT								
ZONE										
GREEN	UP TO 20 FEET	25 FEET								
YELLOW	BETWEEN 20 FEET AND 45 FEET	40 FEET								
RED	BEYOND 45 FEET	ABOVE 40 FEET								

- BG&E NOTES: 1. BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE
- DELIVERY OF ELECTRICITY. 2. THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE
- DETERMINES THE TREES ARE COMPROMISING THE SAFETY OR A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLE WITHHOLD PERMISSION.
- 3. CALL MISS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING STREET TREES ALONG WHARFF LANE & PLANT STREET TREES 10' AWAY FROM EXISTING GASLINE AS REQUIRED.

	ŀ	OKESI CON	ISERVATION	WORKSH	EET FOR			-	
Net '	Tract Area								
A.	Total (Gross)	Tract Area						A =	1.50
л. В.	Area within 1		dolain					B =	0.00
C.	Other Deduc	•	•)	C =	0.00
D.	Net Tract Are		<u>-</u>				-′	D =	1.50
land	d Use Catego	r\/						•	
	rt the number '	-	appropriate la	nd use (lim	it to only one e	entry)			
	Resid.	Resid.	Resid.	Inst./	Retail/Ind./	Mixed Use/			
	Rural LD	Rural MD	Suburban	Linear	Office	PUD			
	0	0	1	0	0	0			
_				.		4=0/	,	_	
Ε.	Afforestation			(Net Tract A		15%)	E = .	0.20
F.	Reforestation	inresnoia	((Net Tract A	rea x	20%)	F=	0.30
Exis	ting Forest C								
G.	-		in the Net Trac					G =	0.00
H.			restation Thres					H= .	0.00
I.	Area of Fore	st above Refo	restation Thre	shold				Ι= ,	0.00
Brea	ak Even Point								
J.	Break Even I	Point						J =	0.00
K.	Forest Cleari	ng Permitted	without Mitigat	tion				K = .	0.00
Prop	oosed Forest	Clearing							
L.	Total Area of	Forest to be	Cleared					L =	0.00
M.	Total Area of	Forest to be	Retained					M = .	0.00
	iting Requirer								
N.		_	above the Ref					N = .	0.00
Ρ		_	below the Ref					P = .	0.00
Q.			the Reforesta	ition Thresh	old			Q =	0.00
R.	Total Refores	•						R = .	0.00
S.	Total Affores	•						S = .	0.20
T			forestation Re	-				T= .	0.20
U			etention + Pla					U= .	0.20
V	Planting Req	uirea Onsite t	o meet 75% C	bligation				V= .	0.20
	ting Requirer								
W.	•	•	opment Site W	/atershed				W=	0.00
Χ.	Total Affores	•						X= .	0.20
Y.	•	•	Watershed fo					Υ=	0.00
Z.		•	above the Ref					Z= .	0.00
AA.		_	below the Ref					AA=	0.00
BB.			the Reforesta	ition Thresh	old			BB=	0.00
	Total Refores							CC=	0.00
	Total Affores							DD=	

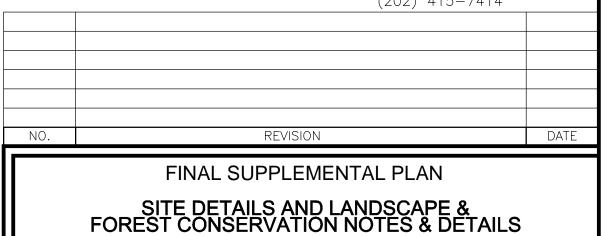
THE SUBJECT PROPERTY PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION. DEVELOPMENT OF THE SITE WILL REQUIRE 0.2 ACRES OF AFFORESTATION TO MEET THE FCA

FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT SHALL BE MET BY THE PURCHASE OF THE EQUIVALENT OF 0.20 AC./8,712 S.F. OF AFFORESTATION CREDIT IN THE OFFSITE HIMEL PROPERTY SDP-05-132 FOREST CONSERVATION BANK.

SURETY IN THE AMOUNT OF \$4,356.00 SHALL BE SHALL BE COLLECTED AS PART OF THE DED COST ESTIMATE.

OWNER/DEVELOPER JAE WOOK SHIN

4935 WHARFF LANE ELLICOTT CITY, MD 21043 (202) 415-7414



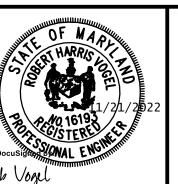
WHARFF LANE

LOTS 1-3 4935 WHARFF LANE SINGLE FAMILY RESIDENTIAL

ZONED: R-20 PARCEL 401 HOWARD COUNTY, MARYLAND L. 17968 / F. 00281 **VOGEL ENGINEERING**

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

P: 410.461.7666 F: 410.461.8961 www.timmons.com



TAX MAP 31 BLOCK 10 1ST ELECTION DISTRICT

ESIGN BY: R<u>HV/GAH/EDS</u> CHECKED BY: DATE: NOVEMBER 2022 SCALE: ____AS SHOWN 42431 W.O. NO.:

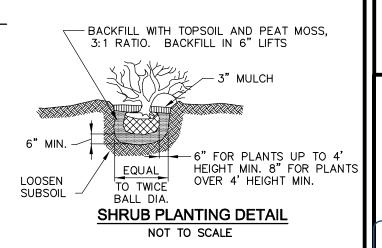
__ SHEET ____6_

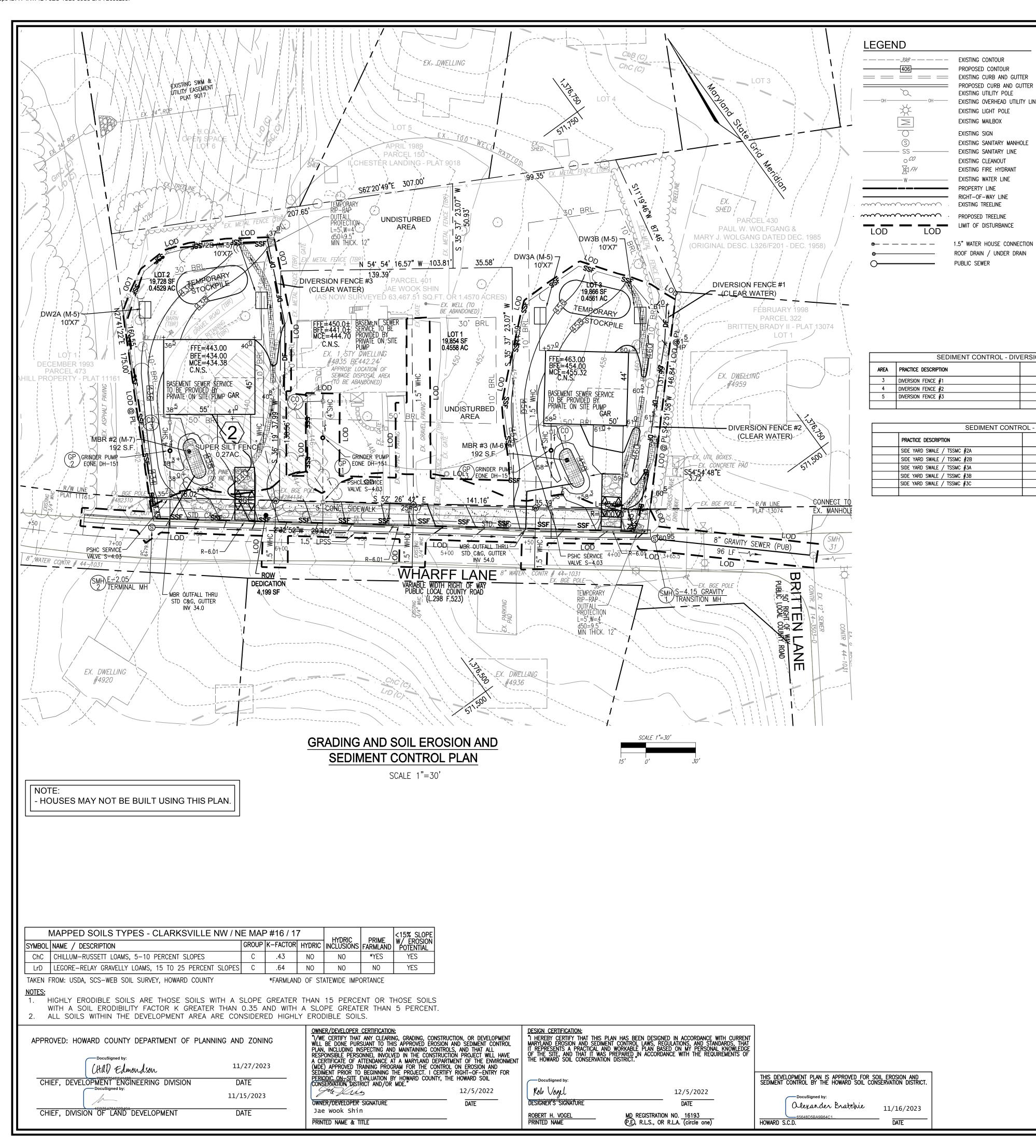
"MICRO-BIORETENTION (M-6)" PLANTING SCHEDULE NOTES:

NOT TO SCALE

ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS. 2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR

3. 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. 4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING, IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN. SEE THIS SHEET FOR TYPICAL PLANTING SPECIFICATIONS AND DETAILS. 6. RAIN GARDEN AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDV





PROPOSED CONTOUR AND GRINDER PUMP PROPOSED CURB AND GUTTER MICRO-BIORETENTION (M-6) EXISTING UTILITY POLE EXISTING OVERHEAD UTILITY LINE DRYWELL (M-5) EXISTING LIGHT POLE EXISTING SOILS EXISTING SANITARY MANHOLE —— SSF ——— SSF —— SUPER SILT FENCE EXISTING SANITARY LINE EXISTING CLEANOUT STABILIZED CONSTRUCTION ENTRANCE EXISTING FIRE HYDRANT EXISTING WATER LINE ESC DRAINAGE AREA LABEL RIGHT-OF-WAY LINE

ESC DRAINAGE DIVIDE

0.9%

5.8%

SEDIMENT CONTROL - DIVERSION FENCE - DRAINGE AREA CHART TYPE SIZE SLOPE 2.2%

SEDIMENT CONTROL - PSSMC - VELOCITY CHART AREA ACRES VEL SLOPE COMPUTED SHEAR STRESS

0.23 4.83 5.3% 0.53 LB/SF 1.5 LB/SF B-4-6-C 0.10 2.72 2.0% 0.18 LB/SF 1.5 LB/SF B-4-6-C 0.08 3.16 3.5% 0.26 LB/SF 1.5 LB/SF
 0.08
 2.82
 2.6%
 0.20 LB/SF
 1.5 LB/SF

 0.03
 2.00
 2.0%
 0.11 LB/SF
 1.5 LB/SF
 B-4-6-C B-4-6-C

C-9

C-9

0.11

0.28

GENERAL NOTES:

- SILT FENCE RUNNING DOWNHILL SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART. -ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY. - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

-SEDIMENT CONTROLS INTERUPTED BY INSTALLATION OF UTILITY LINES ARE TO BE REPAIRED

IMMEDIATELY. -STABILIZATION IS TO BE DONE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STDS. & SPECS., WHICHEVER IS MORE RESTRICTIVE. -FOR SOILS ONSITE THAT WOULD BE CONSIDERED HIGHLY ERODIBLE BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. MORE STRINGENT SEEDING AND STABILIZATION METHODS MAY BE EXPECTED AT SITE DEVELOPMENT STAGE.

-REFER TO PLAN SHEET 06 FOR SEQUENCE OF CONSTRUCTION. -REFER TO PLAN SHEET 07 FOR SEDIMENT TRAP STANDARD DETAILS.

-REFER TO PLAN SHEET 06 FOR STABILIZATION STANDARD DETAILS AND NOTES.

EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.

> NOTE: LOCATE STOCKPILE AS SHOWN HEREON OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR. STOCKPILES EXCEEDING 15 FEET IN HEIGHT SHALL BE BENCHED. SEE STABILIZATION SPEC'S SHEET 4.

OWNER/DEVELOPER JAE WOOK SHIN

4935 WHARFF LANE ELLICOTT CITY, MD 21043 (202) 415-7414

REVISION FINAL SUPPLEMENTAL PLAN

GRADING AND SOIL EROSION AND SEDIMENT CONTROL PLAN

WHARFF LANE LOTS 1-3

4935 WHARFF LANE SINGLE FAMILY RESIDENTIAL TAX MAP 31 BLOCK 10 1ST ELECTION DISTRICT L. 17968 / F. 00281

NL ZONED: R-20 PARCEL 40 HOWARD COUNTY, MARYLANI

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com



ROBERT H. VOGEL, PE No.1619

DESIGN BY: RHV/GAH/EDS
DRAWN BY:GAH/EDS
CHECKED BY: RHV
DATE: NOVEMBER 2022
SCALE: AS SHOWN

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 W.O. NO.: 42431 3 SHEET __

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT 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 EARTH DISTURBANCE,

 B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE
 PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,

 C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
- 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
- 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.
- I. 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-4-4) AND MULCHING (SEC. B-4-3). 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 . STOCKPÍLES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE LET. 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

6. SITE ANALYSIS:

* MONITORING/SAMPLING

AREA DISTURBED (DEVELOPMENT AREA)

AREA TO BE ROOFED OR PAVED

OTAL OUT

1.46 ACRES

0.90 ACRES

0.32 ACRES

ACRES

OTAL CUT OFFSITE WASTE/BORROW AREA LOCATION **

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE 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:
- AVAILABLE UPON REC* 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 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
- * MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 * OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF 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.
- 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.
- 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. 5. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE): * USE 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
- 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 B-4-4 STANDARDS AND SPECIFICATIONS

FOR TEMPORARY STABILIZATION DEFINITION TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

<u>PURPOSE</u>
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.

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. IE THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY, SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND

MAINTAIN UNTIL THE NEXT SEEDING SEASON. TEMPORARY SEEDING SUMMARY

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

PERMANENT SEEDING SUMMARY

		ONE (FROM FIGURE E (FROM TABLE B.3	FERTILIZER RATE (10-20-20)			LIME RATE		
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ 0 ₅	K ₂ 0	
1	COOL SEASON TALL FESCUE & KENTUCKY BLUEGRASS OR EQUAL	MAY 15 1/4-1/2 IN.		(1 LB PER	(2 LB PER	(2 LB PER	2 TONS/AC (90 LB PER 1000 SF)	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

11/27/2023

DATE

11/30/2023

DATE

11/15/2023

(Hd) Edmondson

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF BALAND DEVELOPMENT

DIRECTOR 4220B635863942E....

lynda Eisenberg

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

<u>PURPOSE</u>
TO USE LONG—LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES

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

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

B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA—NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 — CRITICAL AREA PLANTING.

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) 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME 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 BASED ON THE E CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED

I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT PERCENT OF THE TOTAL MIXTURE BY WEIGHT. II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/ CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE 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 TALL FESCUE/RENTOCK BLOEGRASS: FOLL SUN MIXTURE: FOR USE IN DROUGH 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. NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY.

THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

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

D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH $(1/2\ \text{TO}\ 1\ \text{INCH}\ \text{EVERY}\ 3\ \text{TO}\ 4\ \text{DAYS}\ \text{DEPENDING}\ \text{ON}\ \text{SOIL}\ \text{TEXTURE})\ \text{UNTIL THEY}$ ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES. B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

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 ¼ 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.). WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF HE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE HE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT

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.

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

<u>DEFINITION</u>
A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. <u>PURPOSE</u>

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE

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

- 1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
 THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED
 VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1.
 BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
- RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
 WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN
- APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION EQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD 8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAININATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.
- 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 PROVÍDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

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

<u>DEFINITION</u>
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

 $\begin{array}{c} \underline{\text{PURPOSE}} \\ \text{TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH} \end{array}$ CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

A. SOIL PREPARATION

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 DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

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 SLITTABLE MEANS.

OR OTHER SUITABLE MEANS.

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 CONDITIONS.

C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

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

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

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 INLINIS. 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.

OPSOIL 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 APPROPUED 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, TABSEL OR OTHER MATERIAL LABORET THAN 17 MICHES IN DIAMETER. TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER. B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA RASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIC.

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.

EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING . UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT B. UNIFORMITY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LATER 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 TOPSOILUNG 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.

SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

I. 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 FERTILIZERS MUST ALL BE DELIVERED TO 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. 5. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE JBSTITUTED 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 10 SUCH FINENESS HAT 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-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

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

<u>PURPUSE</u> TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION. CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE

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 TYPE OF SEED AND SEEDING RATE. B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE OPPOUND IS EPOCENT THE APPLIED BETWEEN THE SEEDING MIST BE APPLIED MUST THE OPPOUND. GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND 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 JSED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE 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.

- 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 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.
- 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 WOOD ELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE CRASS SEEDLINGS.

 IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
- A. 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 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 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 MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE

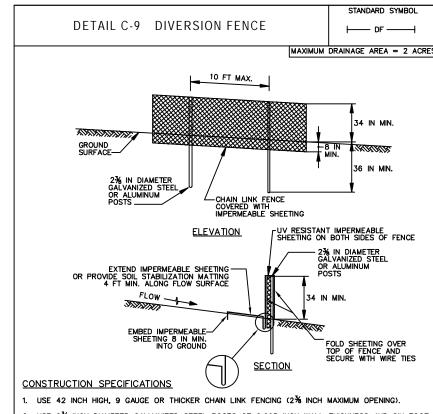
LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD: IT FRETERENCE, DEFENDING OFON THE SIZE OF THE AREA AND EROSION HAZARD:

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, THIS

PRACTICE SHOULD FOLLOW THE CONTOUR. II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET,
TERRA TAX II, TERRA TACK AR OR OTHER APPRÔVED 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 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



. USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOC LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.

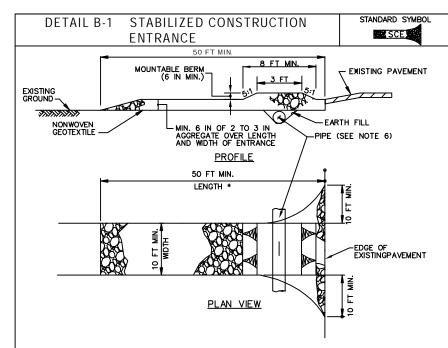
FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.

WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

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

2011

MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

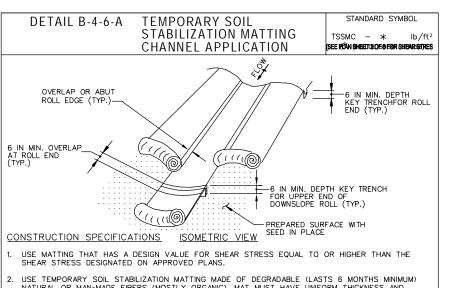


CONSTRUCTION NOTES PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE 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

4. 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 ATURAL RESOURCES CONSERVATION SERVICE



2011

STANDARD SYMBOL SEQUENCE OF CONSTRUCTION NOTE: HOUSES MAY NOT BE BUILT USING THIS PLAN. ORTAIN 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 LIMITS OF DISTURBANCE. (3 DAYS)

SITE WORK

⊢—SSF—

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

ELEVATION

CROSS SECTION

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SI FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE

45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCUPANTIES FENCING AND GEOLEXILE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

DETAIL E-1 SILT FENCE

2011

MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

STANDARD SYMBOL

-----SF-------

FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

INSTALL STABILIZED CONSTRUCTION ENTRANCE(S), AS SHOWN HEREON. (1 DAY) CLEAR AND GRUB ONSITE AREA FOR THE INSTALLATION OF PERIMETER CONTROLS

INSTALL PERIMETER FENCING AS SHOWN HEREON OR AS DIRECTED BY

SEDIMENT CONTROL INSPECTOR. (1 DAY) WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN CONSTRUCTION OF WATER & SEWER PUBLIC EXTENSION EX SMH 31 TO SMH 1 -IMMEDIATELY STABILIZE DISTURBED AREA. (5 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 (1 DAY)

CONSTRUCT ROAD FRONTAGE IMPROVEMENTS INCLUDING SAW CUT EDGE OF EXISTING PAVEMENT, REMOVAL OF PAVEMENT, INSTALLATION OF THE PUBLIC PORTION OF THE WATER HOUSE CONNECTIONS AND THE PUBLIC LPSS MAIN FROM SMH-1 TO SMH-2 & PUBLIC SERVICE CONNECTIONS, INSTALLATION OF CURB AND GUTTER, INSTALLATION OF DRIVEWAY APRONS, AND ALL REPAIRS FOR UTILITY TRENCHING IN THE WHARFF LANE RIGHT OF WAY WITH FULL DEPTH P-2 PAVING SECTIONS. (2 WEEKS)

-ONLY THAT PORTION OF WATER AND SEWER WORK THAT CAN BE COMPLETED. BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY MAY BE EXCAVATED.

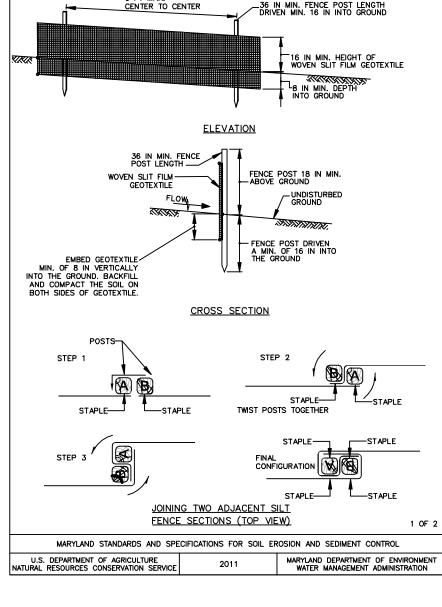
PERIMETER DEVICES, SUPER SILT FENCE, ETC SHALL BE INSPECTED AND REPAIRED AS REQUIRED ON A DAILY BASIS.

INSTALL SIDEWALK AND SURFACE PAVING. (3 DAYS) 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 DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH (1 WEEK)

INSTALL LANDSCAPING (1 DAYS) AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING PERIMETER E/S CONTROLS AND STABILIZE THESE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. (2 DAYS)

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

CONSTRUCTION. CONSTRUCTION OF PRIVATE HOUSES, DRIVEWAYS, UTILITIES AND STORMWATER MANAGEMENT FACILITIES SHALL BE PERFORMED UNDER THE SITE DEVELOPMENT PLAN. SEE SITE DEVELOPMENT PLAN SEQUENCE OF CONSTRUCTION.



DETAIL E-3 SUPER SILT FENCE

WOVEN SLIT FILM GEOTEXTILE

FLOW ___

CONSTRUCTION NOTES

U.S. DEPARTMENT OF AGRICULTURE ATURAL RESOURCES CONSERVATION SERVICE

OWNER/DEVELOPER JAE WOOK SHIN 4935 WHARFF LANE

ELLICOTT CITY, MD 21043 (202) 415-7414

FINAL SUPPLEMENTAL PLAN GRADING AND SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

REVISION

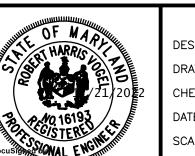
WHARFF LANE

LOTS 1-3

4935 WHARFF LANE SINGLE FAMILY RESIDENTIAL AX MAP 31 BLOCK 10 ST ELECTION DISTRICT L. 17968 / F. 00281

L ZONED: R-20 PARCEL 40 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING TIMMONS GROUP



ROBERT H. VÖGEL, PE No.161

DESIGN BY: RHV/GAH/EDS DRAWN BY: CHECKED BY: RHV

___GAH/EDS 42431

SHEET 6

OWNER/DEVELOPER CERTIFICATION: "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." Jul King 11/19/2022 OWNER/DEVELOPER SIGNATURE Jae Wook Shin PRINTED NAME & TITLE

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." DocuSigned by:

11/21/2022

MD REGISTRATION NO. 16193 (P.E), R.L.S., OR R.L.A. (circle one)

Rob Vogel

ROBERT H. VOGEL PRINTED NAME

DESIGNER'S SIGNATURE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT 11/16/2023 Olexander Bratchie HOWARD S.C.D. 5648

NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED CERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. 5. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END. 7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. 8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

D. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

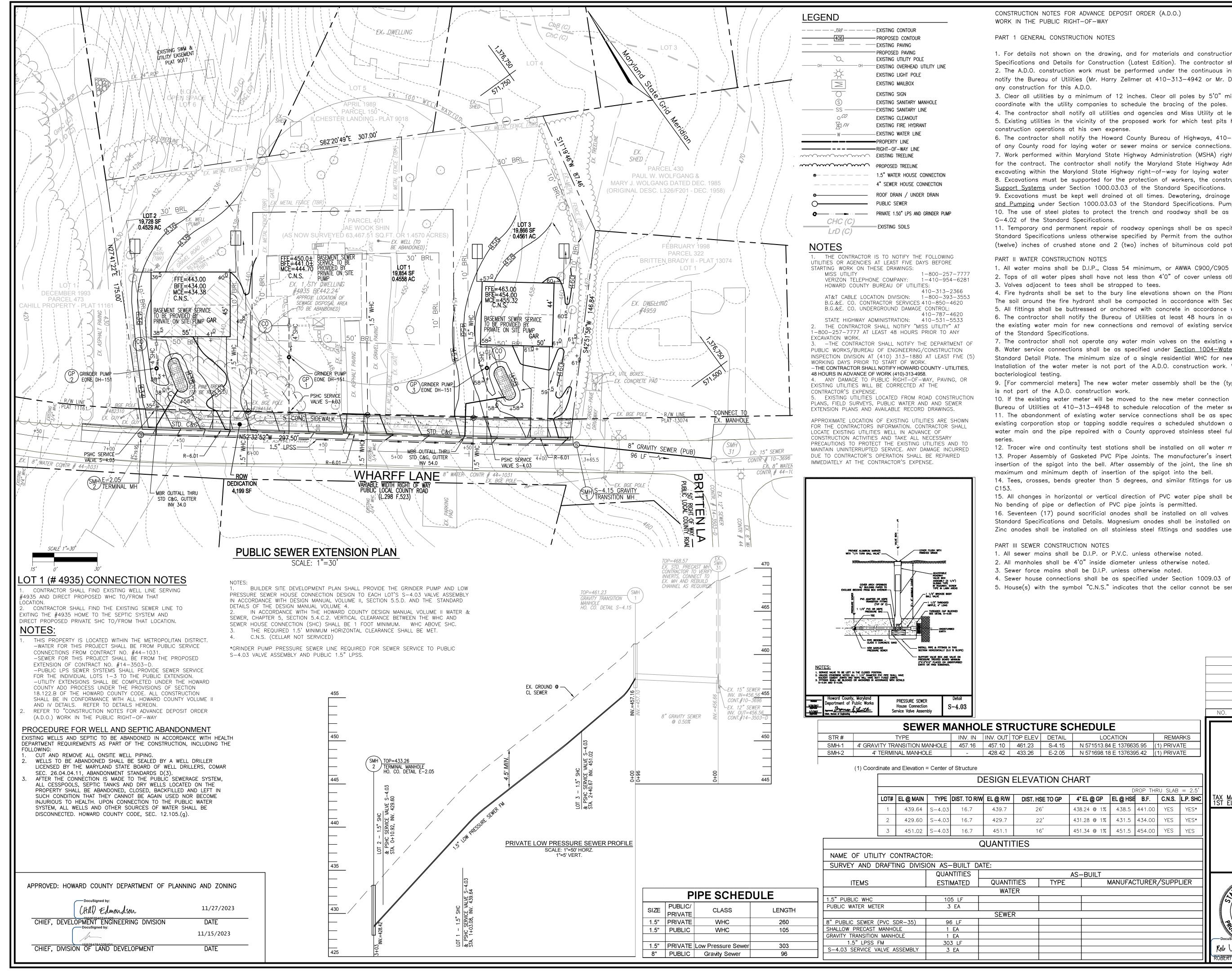
NO.

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com SCALE:

DATE: NOVEMBER 2022 ____AS SHOWN W.O. NO.:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND

PROFESSIONAL CERTIFICATE



CONSTRUCTION NOTES FOR ADVANCE DEPOSIT ORDER (A.D.O.)

1. For details not shown on the drawing, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard

Specifications and Details for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.

2. The A.D.O. construction work must be performed under the continuous inspection of the Howard County Bureau of Utilities. The contractor shall notify the Bureau of Utilities (Mr. Harry Zellmer at 410-313-4942 or Mr. Don Campbell at 410-313-1438) at least five (5) days prior to the start o any construction for this A.D.O.

3. Clear all utilities by a minimum of 12 inches. Clear all poles by 5'0" minimum or tunnel as required unless otherwise noted. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.

4. The contractor shall notify all utilities and agencies and Miss Utility at least two (2) working days before starting work shown on the plans. 5. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor in advance of

6. The contractor shall notify the Howard County Bureau of Highways, 410-313-7450, at least five working days before open cutting or boring/jacking

7. Work performed within Maryland State Highway Administration (MSHA) right—of—way shall be performed in accordance with the MSHA permit issued

for the contract. The contractor shall notify the Maryland State Highway Administration, 410-313-5533, at least five (5) working days before excavating within the Maryland State Highway right—of—way for laying water or sewer mains or service connections.

8. Excavations must be supported for the protection of workers, the construction work area and adjacent property. Refer to Temporary Excavation Support Systems under Section 1000.03.03 of the Standard Specifications.

9. Excavations must be kept well drained at all times. Dewatering, drainage and pumping is required during construction. Refer to <u>Dewatering</u>, <u>Drainage</u> and Pumping under Section 1000.03.03 of the Standard Specifications. Pumps must be the proper type and capacity to maintain a dry work area.

10. The use of steel plates to protect the trench and roadway shall be as specified under Section 1000.03.05, Section 104 and Standard Detail Plate G-4.02 of the Standard Specifications.

11. Temporary and permanent repair of roadway openings shall be as specified under Section 1000.03.08 and Standard Detail Plate G-4.01 of the Standard Specifications unless otherwise specified by Permit from the authority having jurisdiction. Temporary paving shall consist of not less than 12 (twelve) inches of crushed stone and 2 (two) inches of bituminous cold patch material.

PART II WATER CONSTRUCTION NOTES

1. All water mains shall be D.I.P., Class 54 minimum, or AWWA C900/C905 P.V.C. pipe, Class DR18 minimum.

2. Tops of all water pipes shall have not less than 4'0" of cover unless otherwise noted.

3. Valves adjacent to tees shall be strapped to tees.

4. Fire hydrants shall be set to the bury line elevations shown on the Plans. All fire hydrants shall be installed in accordance with Standard Details. The soil around the fire hydrant shall be compacted in accordance with Sections 1000 and 1005 of the Standard Specifications.

5. All fittings shall be buttressed or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings. 6. The contractor shall notify the Bureau of Utilities at least 48 hours in advance of scheduled shutdowns of the existing water main. Shutdowns of the existing water main for new connections and removal of existing service connections shall be as specified under Section 1002.06 — Connections

7. The contractor shall not operate any water main valves on the existing water system.

8. Water service connections shall be as specified under Section 1004—Water House Service and Appurtenances of the Standard Specifications and Standard Detail Plate. The minimum size of a single residential WHC for new residential construction is 1-1/2 inch diameter with 1-inch meter. Installation of the water meter is not part of the A.D.O. construction work. Water service connections include pressure and leak testing, disinfection and bacteriological testing.

9. [For commercial meters] The new water meter assembly shall be the (type) per Howard County Detail Plate W—3.24. Installation of the water meter is not part of the A.D.O. construction work.

10. If the existing water meter will be moved to the new meter connection inside the building, the contractor shall contact the Meter Division of the Bureau of Utilities at 410-313-4948 to schedule relocation of the meter setting.

11. The abandonment of existing water service connections shall be as specified under Section 1015.03 of the Standard Specifications. Removal of the existing corporation stop or tapping saddle requires a scheduled shutdown of the water main. The existing corporation stop shall be removed from the water main and the pipe repaired with a County approved stainless steel full circle repair clamp such as Ford Meter FS2, Mueller 550 or Romac SS2

12. Tracer wire and continuity test stations shall be installed on all water mains in accordance with Detail Plate G-8.21 of the Standard Specifications 13. Proper Assembly of Gasketed PVC Pipe Joints. The manufacturer's insertion line of gasketed PVC pipe joints indicates the maximum depth of insertion of the spigot into the bell. After assembly of the joint, the line shall remain visible. Dual insertion lines on gasketed PVC pipe indicate the maximum and minimum depth of insertion of the spigot into the bell.

14. Tees, crosses, bends greater than 5 degrees, and similar fittings for use with C-900 PVC water pipe shall be ductile iron conforming to AWWA

15. All changes in horizontal or vertical direction of PVC water pipe shall be made with high—deflection couplings, 5 degree sweeps or standard bends. No bending of pipe or deflection of PVC pipe joints is permitted.

16. Seventeen (17) pound sacrificial anodes shall be installed on all valves and metallic fittings used with PVC water mains in accordance with the Standard Specifications and Details. Magnesium anodes shall be installed on all iron valves and ductile iron fittings including restraints and harnesses. Zinc anodes shall be installed on all stainless steel fittings and saddles used with PVC water mains.

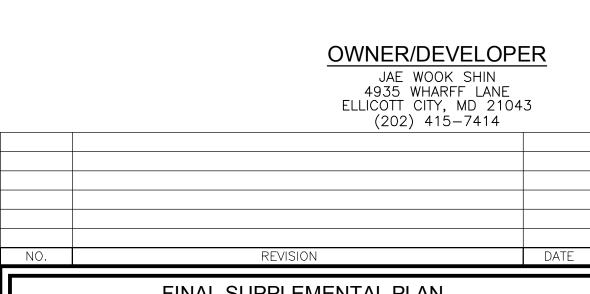
PART III SEWER CONSTRUCTION NOTES

1. All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.

2. All manholes shall be 4'0" inside diameter unless otherwise noted.

4. Sewer house connections shall be as specified under Section 1009.03 of the Standard Specifications and the Standard Details.

5. House(s) with the symbol "C.N.S." indicates that the cellar cannot be served by a gravity sewer service connection.



SEWER MANHOLE STRUCTURE SCHEDULE INV. IN INV. OUT TOP ELEV DETAIL SMH-1 4' GRAVITY TRANSITION MANHOLE 457.16 457.10 461.23 S-4.15 N 571513.84 E 1376635.95 (1) PRIVATE SMH-2 4' TERMINAL MANHOLE - 428.42 433.26 E-2.05 N 571698.18 E 1376395.42 (1) PRIVATE

DROP THRU SLAB = 2TYPE | DIST. TO RW | EL @ R/W | DIST. HSE TO GP | 4" EL @ GP | EL @ HSE | B.F. | C.N.S. | L.P. SHC | 438.5 441.00 YES 431.5 | 434.00 | YES YES* 451.34 @ 1% 451.5 454.00

QUANTITIES									
NAME OF UTILITY CONTRACTOR:									
SURVEY AND DRAFTING DIVIS	ION AS-BUILT D	ATE:							
QUANTITIES AS-BUILT									
ITEMS	ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER					
	WATER								
1.5" PUBLIC WHC	105 LF								
PUBLIC WATER METER	3 EA								
		SEWER							
8" PUBLIC SEWER (PVC SDR-35)	96 LF								
SHALLOW PRECAST MANHOLE 1 EA									
GRAVITY TRANSITION MANHOLE	1 EA								
1.5" LPSS FM	1.5" LPSS FM 303 LF								

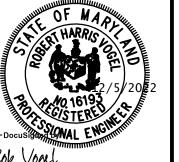
FINAL SUPPLEMENTAL PLAN PUBLIC UTILITY EXTENSION PLAN, PROFILES SCHEDULES AND ADO PROCEDURES WHARFF LANE

4935 WHARFF LANE SINGLE FAMILY RESIDENTIAL L. 17968 / F. 00281

VOGEL ENGINEERING

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

P: 410.461.7666 F: 410.461.8961 www.timmons.com



ROBERT HÁ. WOGEL, PE No. 1619

DESIGN BY: R<u>HV/GAH/EDS</u> DRAWN BY: CHECKED BY: DATE: NOVEMBER 2022 SCALE: W.O. NO.: 42431

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 ___GAH/EDS AS SHOWN

5___SHEET_

