GENERAL NOTES THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF 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 WORK ON THESE MISS UTILITY: VERIZON TELEPHONE COMPANY: ____ 1-410-954-6281 HOWARD COUNTY BUREAU OF UTILITIES: 410-313-2366 AT&T CABLE LOCATION DIVISION: 1-800-393-3553 B.G.&E. CO. CONTRACTOR SERVICES: ____ 410-850-4620 B.G.&E. CO. UNDERGROUND DAMAGE CONTROL: 410-787-4620 STATE HIGHWAY ADMINISTRATION: ___ 410-531-5533 THIS FINAL PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES: GP-18-029, WP-21-074, ECP-23-009 THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY VOGEL ENGINEERING+TIMMONS GROUP, DATED THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH 2' CONTOUR INTERVALS PREPARED BY VOGEL ENGINEERING+TIMMONS GROUP DATED AUGUST 2022/APRIL 2023. INFORMATION IS SUPPLEMENTED WITH HOWARD COUNTY GIS DATA. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK 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. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE DEVELOPER'S EXPENSE. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THE SUBJECT PROPERTY. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF THE MICRO—SCALE PRACTICES — MICRO—BIORETENTION (M-6, DRYWWLLS (M-5) AND NON ROOFTOP DISCONECTION (N-2) IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. THE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED MAINTENANCE INCLUDES OUTLET STRUCTURE AND PIPES, MULCH, WEEDING, PLANTINGS, PERFORATED UNDERDRAINS, AND ROUTINE THIS PROPERTY IS NOT LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER FOR THIS PROJECT IS PRIVATE WELLS. SEWER FOR THIS PROJECT IS PRIVATE SEWAGE DISPOSAL SYSTEMS. A PERCOLATION CERTIFICATION PLAN WAS APPROVED BY THE HOWARD COUNTY HEALTH DEPARTMENT ON NOVEMBER 6, 2020. THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS

AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON

THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR

THE SUBJECT PROPERTY IS ZONED "RC-DEO" IN ACCORDANCE WITH THE 10/6/13 ZONING REGULATIONS, AND IS SUBJECT TO THE

-TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED

-THE EXISTING PRIVATE SEWAGE DISPOSAL AREAS AND THE EXISTING WATER WELLS LOCATIONS ARE BASED ON FIELD SURVEYS AND

-APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE 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 CONTRACTOR'S OPERATION SHALL BE REPAIRED

THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS 14CA AND 14FA WERE USED FOR THIS PROJECT. NO STEEP SLOPES OVER 20,000 SF CONTIGUOUS ARE LOCATED ONSITE.

FLOODPLAIN SHOWN AT SOUTHERN BOUNDARY IS PER HOWARD COUNTY, MARYLAND GIS DATA, HOWARD COUNTY DFIRM FEMA FLOODPLAIN, ZONE AE AND ALSO SHOWN ON FLOOD INSURANCE RATE MAP 24027C0065D - PANEL 65 OF 235

-THF ONSITE FLOODPLAIN. ALONG THE EASTERN BOUNDARY / CLOVERFIELD PROJECT WAS DELINEATED BASED ON A REPORT PREPARED

WETLANDS SHOWN ON-SITE ARE BASED ON A FIELD INVESTIGATION, DOCUMENTED IN THE REPORT TITLED "WETLAND AND SIMPLIFIED FOREST STAND DELINEATION REPORT" BY ECO-SCIENCE PROFESSIONALS, INC. REPORT IS DATED SEPTEMBER 29, 2022.

NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF

-REFER TO MDE TRACKING NUMBER 202460507, PERMIT NUMBER 24-NT-3052, AUTHORIZATION NUMBER 24-NT-3052/202460507

IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME 3, CHAPTER 4 - SECTION 4.7(B)(5), A TRAFFIC STUDY IS NOT

IN ACCORDANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THIS PROJECT (NON CLUSTER

A LANDSCAPE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE

-ACCESS TO LOT 2 WILL UTILIZE THE EXISTING DRIVEWAY LOCATION, IMPROVED TO 16' AS SHOWN. SEE NOTE 32.

SUBDIVISION WITH BUILDABLE LOTS LESS THAN 6 ACRES) IS EXEMPT FROM PROVIDING FOREST CONSERVATION. SECTION 16.1202(B)(1)(VII)

LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$ 2,100 (\$300 PER SHADE TREE) FOR THE REQUIRED 7 SHADE TREES

-PROPOSED CLASSIFICATION REMAINS LOCAL ROAD, STREET TYPE DESIGNATION IS RURAL DEVELOPMENT STREET (50' R/W).

IN ACCORDANCE WITH SECTION 16.124(E) STREET TREES ARE NOT REQUIRED ALONG OLD ROVER MILL ROAD AS NO ROAD IMPROVEMENTS

UTILIZE HOWARD COUNTY STANDARD DETAIL NO. R-6.06 FOR THE LOT 1 AND IMPROVED LOT 1/2 SHARED DRIVEWAY CONNECTION AT THE

DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE

) DRAINAGE ELEMENTS—CAPABLE OF SAFELY PASSING 100—YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY

THE EXISTING DWELLING ON LOT 2 IS TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE

- THE PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON APRIL 20, 2022 AT THE H.C.L.S, GLENWOOD BRANCH

CERTIFIED TEST PITS SHALL BE PROVIDED. OPEN TEST PITS WERE OBSERVED BY VOGEL ENGINEERING+TIMMONS GROUP, JUNE 14, 2023.

IN ACCORDANCE WITH SECTION 16.121(A) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, NON-CLUSTER SUBDIVISIONS IN THE RR OR RC DISTRICT ARE REQUIRED TO PAY A FEE IN LIEU OF PROVIDING OPEN SPACE. THIS RC-DEO PROJECT IS

-IN ACCORDANCE WITH SECTION 105.0.F OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS, THIS SUBDIVISION IS SUBJECT TO

MODERATE INCOME HOUSING UNITS. THE MIHU OBLIGATION FOR THIS DEVELOPMENT SHALL BE PROVIDED BY A PAYMENT OF

FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR EACH UNIT OR PORTION OF THE UNITS REQUIRED BY THE

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

SQUARE TUBE SLEEVE (12 GAUGE) 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF

THIS PROJECT IS SUBJECT TO WP-21-074. ON JANUARY 21, 2022, THE DIRECTOR OF PLANNING AND ZONING CONSIDERED AND DENIED THE REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTION 16.147 OF THE SUBDIVISION AND LAND

TRASH AND RECYCLING COLLECTION WILL BE AT OLD ROVER MILL ROAD WITHIN 5' OF THE EDGE OF THE COUNTY ROADWAY.

DEVELOPMENT REGULATIONS TO RECONFIGURE THE LOT LINES OF TWO PARCELS VIA ADJOINER DEED PROCESS, INSTEAD OF BY THE

THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER REQUEST DATED JUNE 12, 2024, REQUESTING A WAIVER FROM DESIGN MANUAL VOLUME III, SECTION 2.1.E.3, WHICH STIPULATES THAT THE 85TH PERCENTILE OPERATING SPEED SHALL BE UTILIZED FOR INTERSECTION

SIGHT DISTANCE. IN THE LETTER DATED JUNE 13, 2024, THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST,

HIGHWAYS AT THE DEVELOPER/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5751 FOR

STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED

UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT

SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED

- A SECOND PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON AUGUST 15, 2023 AT THE H.C.L.S, GLENWOOD BRANCH

B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING. (1-1 1/2" MIN.)

C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.

D) STRUCTURES (CULVERT/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).

-IN ACCORDANCE WITH SECTION 16.132(a)(1)(iii) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS,

WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.

A MINOR SUBDIVISION THAT CREATES ONE ADDITIONAL LOT AND HAS NO FURTHER SUBDIVISION POTENTIAL.

-OLD ROVER MILL ROAD IS A PUBLIC LOCAL ROAD L.658 F.55 (30' PRESCRIPTIVE RIGHT-OF-WAY)

ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS

- THE ENVIRONMENTAL CONCEPT PLAN (ECP-23-009) WAS APPROVED ON JANUARY 23, 2023.

A) WIDTH- 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE).

G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

-USE THE DESIGN SPEED PLUS 5 MPH FOR STOPPING SIGHT DISTANCE.

CONSTRUCTED A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS.

SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE PETITION, OR BUILDING AND GRADING PERMITS.

-THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT

IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.

FLOODPLAINS ARE LOCATED ON THE PROJECT.

-REFER TO GENERAL NOTE 45, WP-24-079.

SHALL BE POSTED WITH THE BUILDERS GRADING PERMIT.

ROVER MILL ROAD IS NOT A SCENIC ROAD.

NO IMPROVEMENTS ARE PROPOSED.

PAVED ROADWAY. NO CULVERT IS REQUIRED.

F) STRUCTURE CLEARANCES-MINIMUM 12 FEET.

2350 MD-97 COOKSVILLE MARYLAND, 21723.

2350 MD-97 COOKSVILLE MARYLAND, 21723.

STREET LIGHTS ARE NOT REQUIRED FOR THIS DEVELOPMENT.

MIHU'S ARE REQUIRED FOR THIS PROJECT.

A NOISE STUDY IS NOT REQUIRED.

REQUIRED FOR THIS PROJECT

VOGEL ENGINEERING+TIMMONS GROUP DATED MAY 2023 AND APPROVED

-3 SPECIMEN TREES (TO REMAIN) ARE LOCATED ON THE PROJECT SITE.

EFFECTIVE MAY 23, 2024 FOR THE DISTURBANCES SHOWN HEREON.

A TOTAL OF 1 NEW RESIDENTIAL UNIT IS PROPOSED UNDER THIS PLAN,

-NO SURETY REQUIRED FOR EXISTING TREE TO REMAIN FOR CREDIT

ROAD IMPROVEMENTS ARE NOT REQUIRED FOR MINOR SUBDIVISIONS.

-THE PROPOSED ACCESS TO LOT 1 IS AS SHOWN HEREON. SEE NOTE 32.

-ROVER MILL ROAD IS CLASSIFIED AS A PUBLIC MINOR COLLECTOR.

WITHIN THE DEVELOPMENT AREA.

SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.

SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH WEB SOIL SURVEY, HOWARD COUNTY MARYLAND.

SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED FOR THE DISTURBANCES SHOWN ON LOT 1

-THERE ARE NO PROPOSED DISTURBANCES TO THE WETLANDS OR ASSOCIATED BUFFERS.

CONSTRUCTION OF THIS LOT MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE

CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.

FINAL SUPPLEMENTAL PLAN KRUGER PROPERTY THIS PLAN MAY NOT BE USED TO OBTAIN PERMITS FOR HOUSE CONSTRUCTION.

LOTS 1 AND 2 A REVISION TO TAX MAP 15 - PARCELS 206 & 241

14132 & 14130 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794

46. THIS PLAN IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-24-079 LETTER DATED JULY 22, 2024; -ON 07/3/2024 AND PURSUANT TO SECTION 16.116(D), THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS AND ADMINISTRATOR OF THE OFFICE OF COMMUNITY SUSTAINABILITY CONSIDERED AND DENIED IHE REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTION 16.116(A)(2)(III) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO PAVE WITHIN A STREAM BANK BUFFER FOR CONSTRUCTION OF A DRIVEWAY. -ON 07/3/2024 AND PURSUANT TO SECTION 16.104, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING CONSIDERED AND APPROVED OUR REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTION 16.120(B)(4)(III)(B) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW ENVIRONMENTALLY SENSITIVE FEATURES ON RESIDENTIAL LOTS LESS THAN -ON 7/3/2024 AND PURSUANT TO SECTION 16.104, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING CONSIDERED AND PARTIALLY APPROVED DISTURBANCE WITHIN THE 100-YEAR FLOODPLAIN TO UPGRADE ONLY THE EXISTING DRIVEWAY TO COMPLY WITH THE DESIGN MANUAL STANDARDS FOR A SHARED DRIVEWAY AND DENIED DISTURBANCE WITHIN THE 100-YEAR FLOODPLAIN FOR THE NEW DRIVEWAY ACCESS POINT TO OLD ROVER MILL ROAD WITH RESPECT TO SECTION 16.115(C)(2).

APPROVAL OF THIS ALTERNATIVE COMPLIANCE TO SECTION 16.120(B)(4)(III)(B) AND PARTIAL APPROVAL TO SECTION 16.115(C)(2) IS SUBJECT TO THE FOLLOWING CONDITIONS: 1. A 35-FOOT ENVIRONMENTAL SETBACK SHALL BE ESTABLISHED FROM THE BOUNDARY OF THE FLOODPLAIN, WETLAND, STREAM, THEIR BUFFERS. NO PRINCIPAL STRUCTURES MAY BE PERMITTED WITHIN THE ENVIRONMENTAL SETBACK, EXCEPT THAT A DECK MAY PROJECT TEN FEET BEYOND THE BUILDING ENVELOPE. ANY FUTURE PLAN OR PERMIT MUST DELINEATE THE ENVIRONMENTAL FEATURES AND THE REQUIRED 35-FOOT ENVIRONMENTAL SETBACK.

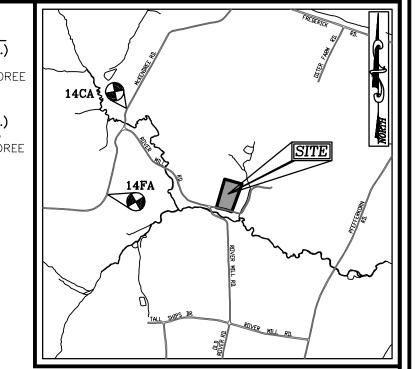
2. DISTURBANCE TO THE 100-YEAR FLOODPLAIN SHALL BE THE MINIMUM NECESSARY TO UPGRADE THE EXISTING DRIVEWAY TO COMPLY WITH DESIGN MANUAL STANDARDS. ANY NATURAL VEGETATION DISTURBED DURING THE CONSTRUCTION OF THE DRIVEWAY MUST BE RESTORED TO ITS NATURAL CONDITION TO THE GREATEST EXTENT POSSIBLE ONCE CONSTRUCTION IS COMPLETE. ANY DISTURBANCE TO REGULATED RESOURCES BEYOND THIS REQUEST WILL REQUIRE APPROVAL OF ALTERNATIVE COMPLIANCE. 3. THE APPLICANT SHALL OBTAIN ALL REQUIRED AUTHORIZATIONS AND PERMITS FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND THE U.S. ARMY CORP OF ENGINEERS FOR DISTURBANCE WITHIN THE 100-YEAR FLOODPLAIN, PRIOR TO APPROVAL OF THE FINAL PLAT. LEGEND:

PROPERTY LINE ADJACENT PROPERTY LIN ----- EXISTING EDGE OF PAVING ———— PROPOSED LOT LINE

BENCHMARKS

HOWARD COUNTY BENCHMARK 14CA (CONC. MON.) N 597624.976 E 1311015.534 ELEV. 513.995 LOCATED 17.2' WEST OF CENTERLINE OF MCKENDREE ROAD, 73' FROM G&E POLE 71072 C&P 17

HOWARD COUNTY BENCHMARK 14FA (CONC. MON.) N 595829.622 E 1310622.228 ELEV. 560.183 LOCATED 16.8' EAST OF CENTERLINE OF MCKENDREE ROAD, 72.2' FROM BGE POLE 359228



VICINITY MAP SCALE: 1"=2000' ADC MAP/GRID NO: 4813-A2

SHEET INDEX	
DESCRIPTION	SHEET NO.
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LAYOUT PLAN	2 OF 9
LAYOUT PLAN	3 OF 9
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GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN AND SOILS MAP	5 OF 9
GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN NOTES AND DETAILS	6 OF 9
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ESD — STORMWATER MANAGEMENT DRAINAGE AREA MAP, NOTES & DETAILS	9 OF 9

SUMMARY OF FINDINGS FOR APFO TRAFFIC ANALYSIS: IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME 3, CHAPTER 4 SECTION 4.7(B)(5), A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.

DATE OF REPORT: NOT APPLICABLE DATE OF COUNT(S): NOT APPLICABLE

NOT APPLICABLE

- REPORT SUBMITTED AS PART OF PLAN NUMBER: NOT APPLICABLE PROVIDE STATEMENT THAT SCHOOLS WERE IN SESSION ON THAT DATE(S).
- LIST INTERSECTIONS STUDIED, IDENTIFY INTERSECTION AS STATE OR COUNTY JURISDICTION, AND LABEL LOS FOR THE HORIZON YEAR OF EACH INTERSECTION:
- PROVIDE STATEMENT AS TO WHETHER MITIGATION IS REQUIRED AND EXPLAIN THE METHOD OF MITIGATION/IN LIEU FEE.

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING OTAL NUMBER OF LOTS/UNITS PROPOSED NUMBER OF MIHU REQUIRED 1 SFD (2 X 10%) NUMBER OF MIHU PROVIDED ONSITE NUMBER OF APEO ALLOCATIONS REQUIRED *1 UNIT

(INDICATE LOT/UNIT NUMBERS) *ONE CREDIT FOR EXISTING HOUSE TO REMAIN. (1) IF EXISTING HOUSE ON LOT 2 IS DEMOLISHED, A NEW HOUSE WILL BE SUBJECT TO MIHU FEE-IN-LI

MIHU AGREEMENT

PLEASE NOTE THAT ALL LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION ARE SUBJECT TO THE MIHU FEE—IN—LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY

THE PERMIT APPLICANT.

OWNER/DEVELOPER

KENNETH & DIANA KRUGER 14132 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794

DEED REFERENCE: PARCEL 206: L. 19771 / F. 374 PARCEL 241: L. 19771 / F. 367

AREA OF STEEP SLOPES (25% & GREATER): AREA OF WETLAND & WETLAND BUFFER AREA: AREA OF STREAM & STREAM BUFFER AREA: NET AREA (GROSS-STEEP SLOPES-FLOODPLAIN): NUMBER OF PROPOSED RESIDENTIAL LOTS: AREA OF PROPOSED RESIDENTIAL LOTS:

0.19 AC & 0.27 AC 8.95 ACRES± 2 LOTS (1 EXISTING HOUSE TO REMAIN) 0.00 AC SEE GENERAL NOTE 41

RESIDENTIAL SINGLE FAMILY DETACHED RESIDENTIAL SINGLE FAMILY DETACHED PRIVATE WELL PRIVATE SEWAGE DISPOSAL AREAS

REVISION FINAL SUPPLEMENTAL PLAN

KRUGER PROPERTY

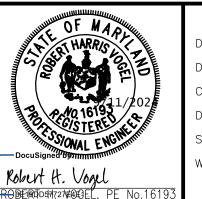
LOTS 1 AND 2 A REVISION TO TAX MAP 15 - PARCELS 206 & 241

COVER SHEET

TAX MAP: 15 GRID: 7
3RD ELECTION DISTRICT
L. 19771 / F. 374 (PARCEL: 206)
L. 19771 / F. 367 (PARCEL: 241)

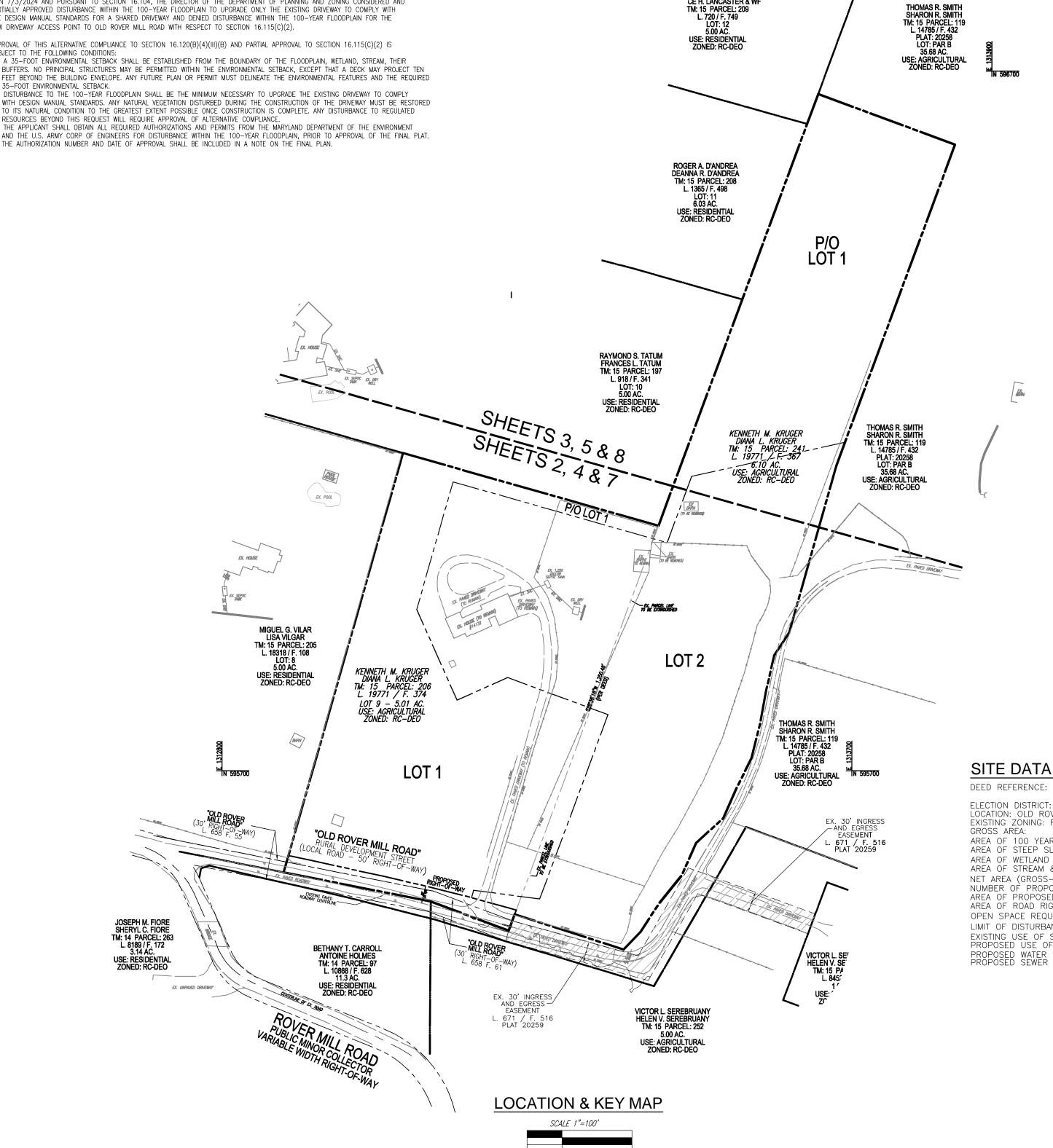
VOGEL ENGINEERING TIMMONS GROUP

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



DESIGN BY: DRAWN BY: ONB/EDS CHECKED BY: ____ RHV DATE: SEPTEMBER 2024 SCALE: 1"=50' W.O. NO.: 46261

SHEET __ OF _ F-24-005



LOCATION: OLD ROVER MILL ROAD / ROVER MILL ROAD EXISTING ZONING: RC-DEO GROSS AREA: AREA OF 100 YEAR FLOODPLAIN (P.241 & P.206): 1.90 AC+/-

AREA OF ROAD RIGHT OF WAY: OPEN SPACE REQUIRED: LIMIT OF DISTURBANCE: EXISTING USE OF SITE: PROPOSED USE OF SITE:

PROPOSED WATER SYSTEM: PROPOSED SEWER SYSTEM

SWM PRACTICE / ADDRESS CHART LOT # ADDRESS ESD PRACTICE BIOSWALE (M-8), NON ROOFTOP DISCONNECTION (N-2), DRYWELLS (M-5) <u>ROVER MILL ROAL</u> NOT APPLICABLE (EX HOUSE TO REMAIN)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

10/9/2024 (HdD Edmondson CHIEF. DEVELOPMENT ENGINEERING DIVISION 10/9/2024 CHIEF, DIVISION OF LAND DEVELOPMENT

ZONED: RC-DEC HOWARD COUNTY, MARYLAND

PROFESSIONAL CERTIFICATE

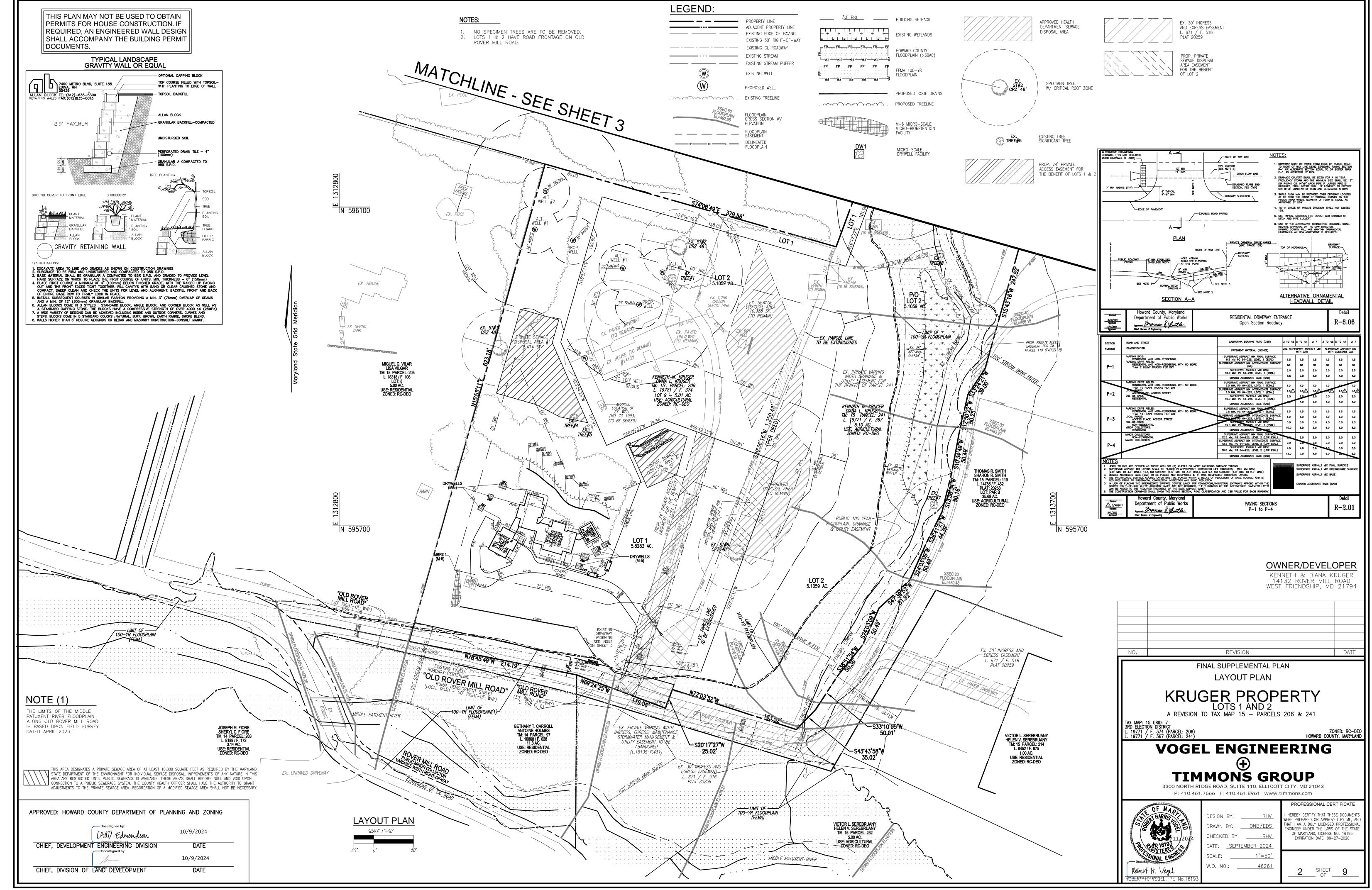
HEREBY CERTIFY THAT THESE DOCUMENT

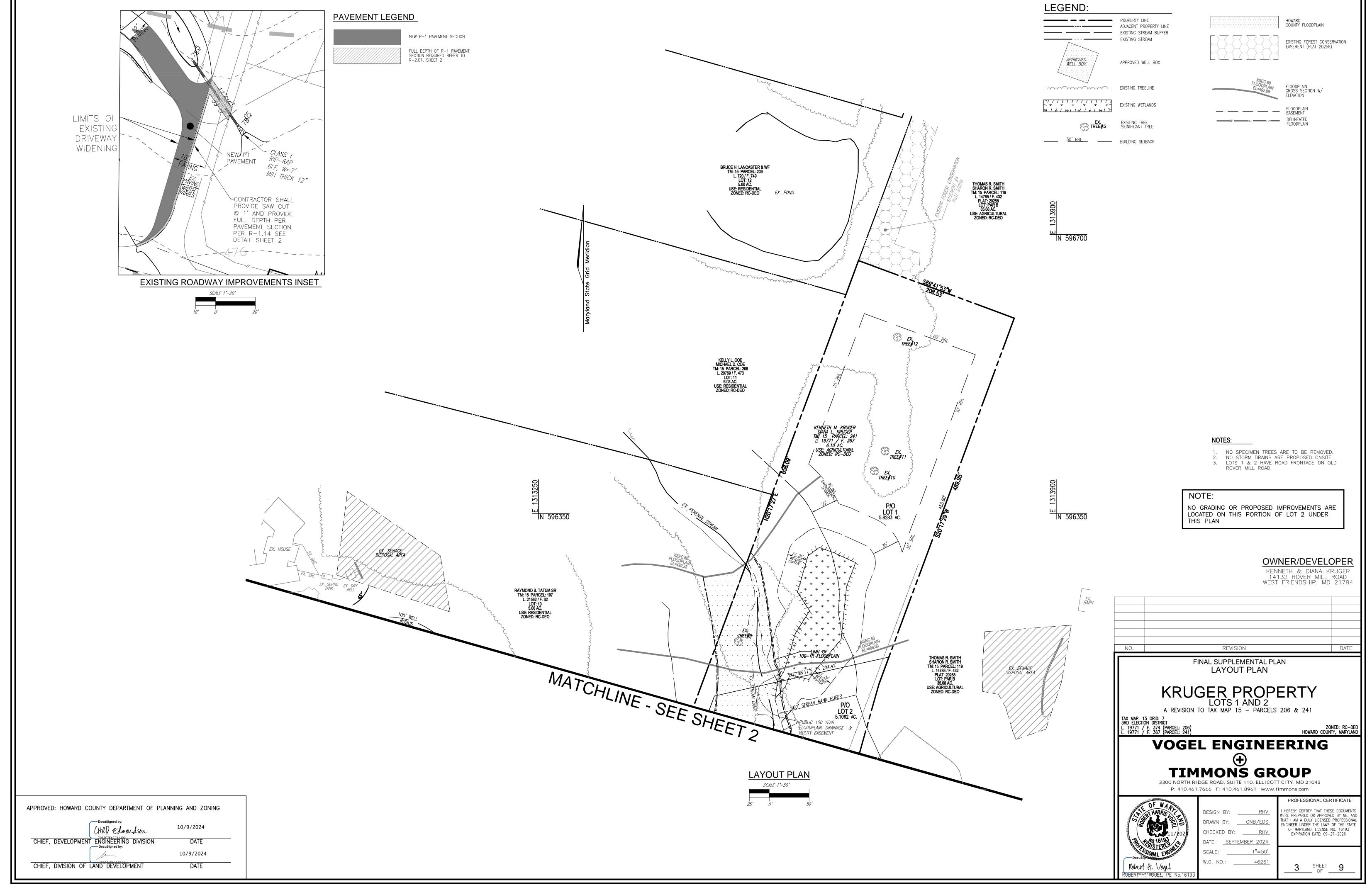
WERE PREPARED OR APPROVED BY ME, AND

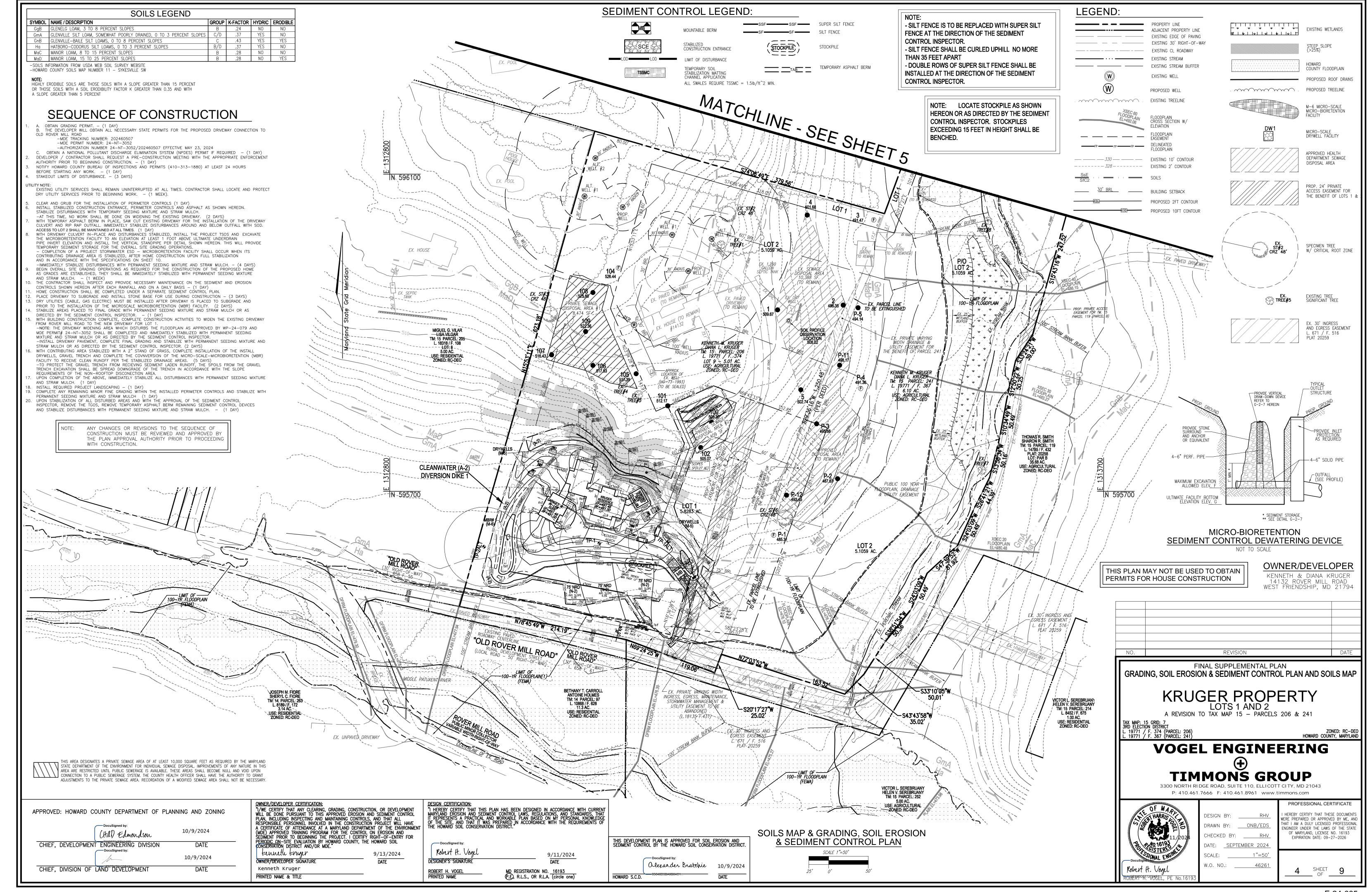
ENGINEER UNDER THE LAWS OF THE STATE

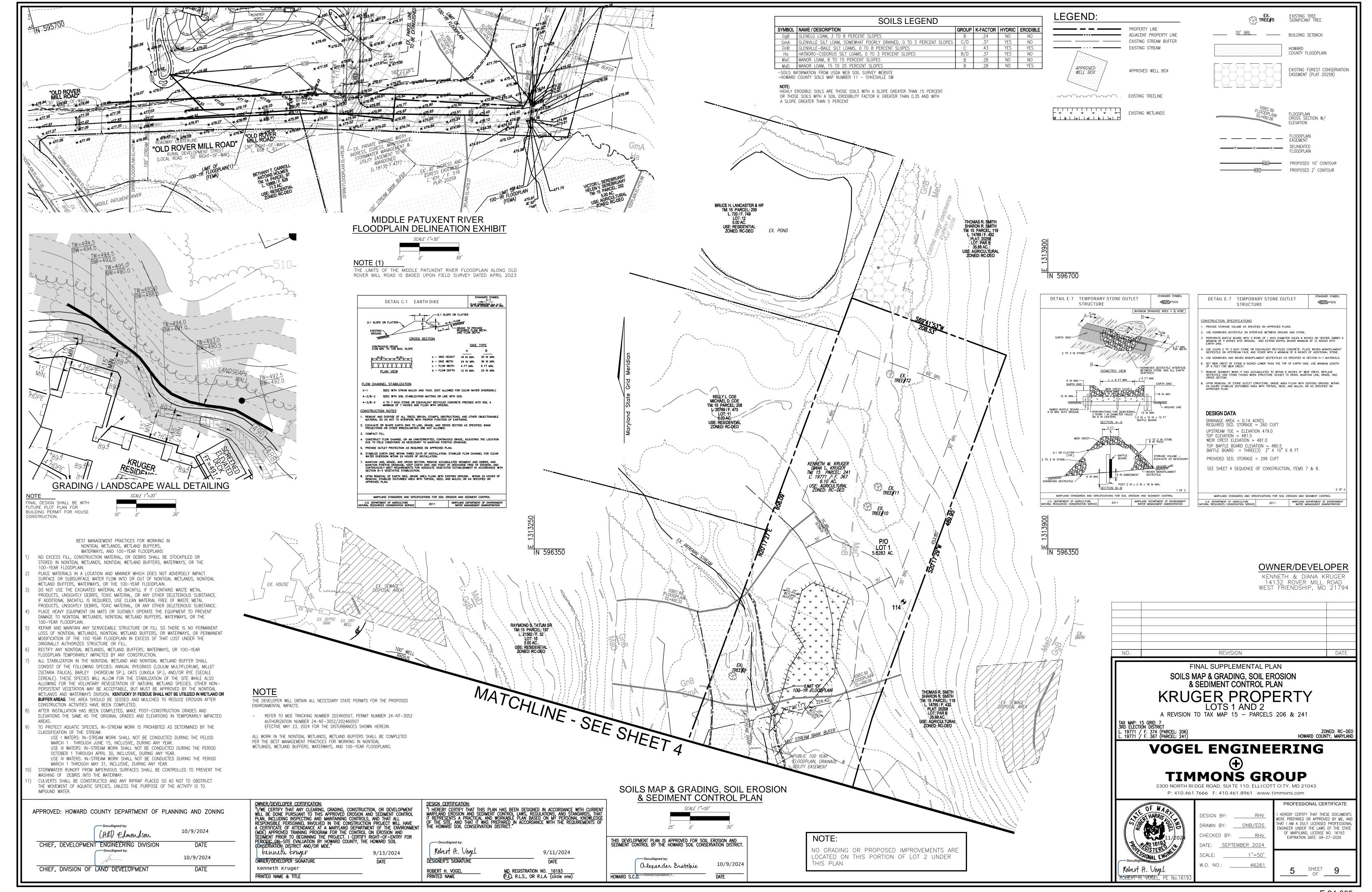
OF MARYLAND, LICENSE NO. 16193

EXPIRATION DATE: 09-27-2026









Docusign Envelope ID: 231BC53A-9414-44F1-9424-1A03A5352C4D HOWARD SOIL CONSERVATION DISTRIC STANDARD SEDIMENT CONTROL NOTES A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FIITURE 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: PRIOR TO THE START OF EARTH 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, PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN. 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 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. 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-4-3TEMPORARY 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 ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN TOTAL AREA OF SITE: AREA DISTURBED: AREA TO BE VEGETATIVELY STABILIZED: TOTAL FILL OFFSITE WASTE/BORROW AREA LOCATION: ___ONSITE__ (1) REFER TO ITEM 11 BELOW 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 DISCHARGE 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). 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 FIFLD 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 LÉAST 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 FOLLIPMENT VEHICLES WHEELS PAVEMENT SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO 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 15. 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 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. HOWARD S.C.D. 65648D5BA9B64C1 OWNER/DEVELOPER CERTIFICATION:

ITEM 11, REGARDING PROJECT DISTURBANCE IS NO LONGER A REQUIREMENT OF THE STATE OF MARYLAND, HOWEVER REMAINS A REQUIREMENT OF HOWARD COUNTY. THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT Olexander Bratchill 10/9/2024 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL I. INCLUDING INSPECTING AND MAINTAINING CONTROLS. AND THAT A ESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE

CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT IDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND DIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON—SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSUMPTION DISTRICT AND/OR MDE." 9/13/2024 kenneth kniger OWNER 7832872EOPER ... SIGNATURE Kenneth Kruger 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."

Robert H. Vone 9/11/2024 DESIGNER DO 5 STENEA FUR REGISTRATION NO. 16193 P.E), R.L.S., OR R.L.A. (circle one) APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 10/9/2024 (Hdl) Edmondson CHIEF. DEVELOPMENT FUGINEERING DIVISION 10/9/2024 CHIEF, DIVISION OF LAND DEVELOPMENT

B-4-5 STANDARDS AND SPECIFICATIONS PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION

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.

A. SEED MIXTURES

ACRES

CU. YDS. TOTAL

. 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. THI 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 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. . 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. II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ÉSTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/ CERTIFIED KENTUCKY BLUFGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 100 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 BLUFGRASS 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. HE 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: 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, 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 11/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SLICH CONDITION THAT FLITLIRE MOWING OF GRASSES WILL POSE NO DIFFICULTY 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.

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 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 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. . SOD MUST BE HARVESTÉD, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS) 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 SURSFOLIENT ROWS PLACED. PARALLEL TO IT AND TIGHTLY WEDGED AGAINST FACH OTHER STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS. . WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS, ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT

SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE 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

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

PERMANENT SEEDING SUMMARY

LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A

GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

HARDINESS ZONE (FROM FIGURE B.3): ZONE 6b SEED MIXTURE (FROM TABLE B.3):				FERTILIZER RATE (10–20–20)			LIME RATE	
10	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ 0 ₅	K ₂ 0	
9	& KENTUCKY BLUEGRASS K. PERENNIAL	T.F. 60 LB / AC	MAY 15	1/4-1/2 IN.	. (1 LB PER			2 TONS/AC
		K.B. 40 LB / AC						
		P.R. 20 LB / AC						
4	SEASON GRASS MIX DEERTOUNGE	DT 15 LB / AC	MAR 1 TO MAY 15 <><>					
G D CR FE C		CRF 20 LB / AC	MAY 16 TO					
		CWR. 5 LB / AC	JUNE 15*					

FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B.26 - B.32

R-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

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

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 FOUIPMENT 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 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 À MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE

PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD 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

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 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 HE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION, TRACK SLOPES 3:1 OR FLATTER WITH TRACKED FOUIPMENT LEAVING TH 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 . 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-

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

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND 5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING 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

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

BY THE APPROPRIATE APPROVAL AUTHORITY, TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT B VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER. B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS 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 B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPAC O 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)

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. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR CCURATE 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 OR TRADEMARK AND

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEFDING) 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 TEMPORARY STABILIZATION

<u>DEFINITION</u> 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.

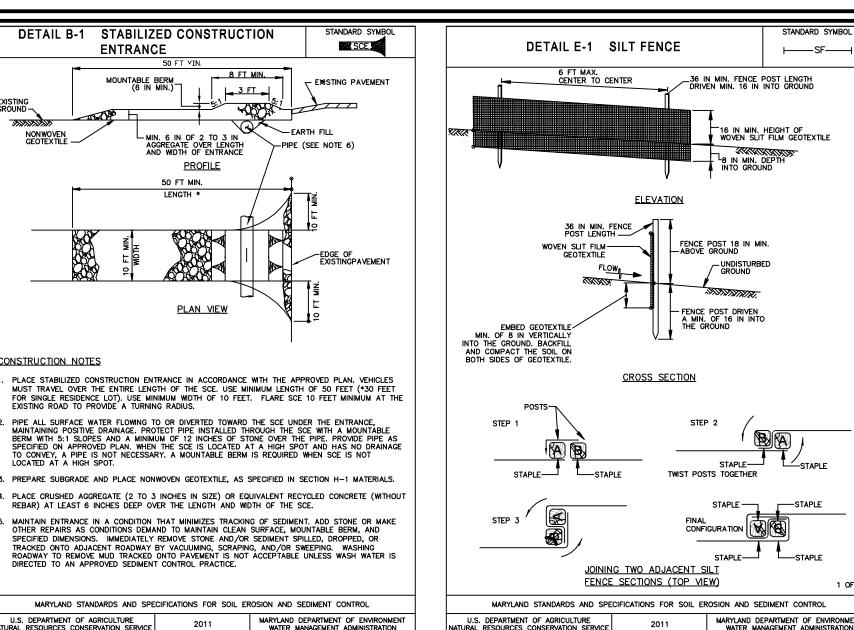
. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, 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 PATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY 5. 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

		ONE (FROM FIGURE E (FROM TABLE B.	FERTILIZER RATE	LIME RATE		
0	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	
l	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 PER 1000 SF)
2	WARM SEASON FOXTAIL MILLET OR EQUAL	30 LB / AC	MAY 16 TO JUL 31	1/2 IN.		
R /	ALTERNATES,	REFER TO THE	2011 MARYLA	AND STANDAF	RDS AND	

SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

PAGE B.20, TABLE B.1,



B-4-3 STANDARDS AND SPECIFICATIONS SEEDING AND MULCHING EROSION HAZARD: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

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

ENTRANCE

CONSTRUCTION NOTES

1.SPECIFICATIONS A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE 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 AN' 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 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 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. 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. 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.

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

IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC. /. 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. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEFDED 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.

rlev (Hordeum vulgare

Wheat (Triticum aestivum)

ereal Rye (Secale cereale)

Foxtail Millet (Setaria italica) 30 0.7

tested. Adjustments are usually not needed for the cool-season grasses.

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

Table B.1: Temporary Seeding for Site Stabilization

/ 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

3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone

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 secting fates instea above are for temporary sectings, when planted above. When planted as a nurse crop with permanent seed mires, use 173 of the secting fate instead 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. 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.

Mar 15 to May 31; Aug 1 to Sep 30

Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug | Feb 15 to Apr 30; All 1 to Oct 15 | Feb 15 to Nov 30

Mar 15 to May 31; Aug 1 to Sep 30 Mar 1 to May 15; Aug 1 to Apr 30; Aug 1 to Oct 15 Feb 15 to Apr 30; Aug 15 to Nov 30

Mar 15 to May 31; Aug 1 to Oct 31 | Mar 1 to May 15; Aug | Feb 15 to Apr 30; Aug 1 to Nov 15 | 15 to Dec 15

May 16 to Jul 31

Mar 15 to May 31; Aug 1 to Sep 30 Mar 1 to May 15; Aug Feb 15 to Apr 30; Aug 1 to Oct 15 Feb 15 to Apr 30; Aug 15 to Nov 30

Mar 1 to May 15; Aug | Feb 15 to Apr 30; Aug

May 16 to Jul 31 May 1 to Aug 14

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 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 PERATE 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 NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER, APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

> B-4-8 STANDARDS AND SPECIFICATIONS STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

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

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 PRACTICE. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE

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

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

VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 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.

STANDARD SYMBO DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION 1.5lb/ft^2 MIN IN MIN. OVERLAP____ ISOMETRIC VIEW

DETAIL C-5 TEMPORARY ASPHALT BERM

<u>PLAN VIEW</u>

CROSS SECTION

. INSTALL BERM TO CONFORM TO CROSS SECTION DIMENSIONS OF A UNIFORM HEIGHT OF 8 INCHES MINIMUM AND APPROXIMATE WIDTH OF $3\mbox{$\frac{1}{2}$}$ FEET.

REPAIR DAMAGED ASPHALT. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE

UPON REMOVAL OF ASPHALT BERM, RETURN TO ORIGINAL CONDITIONS OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011

CONSTRUCTION SPECIFICATIONS

. CONSTRUCT BERM ON AN UNINTERRUPTED, CONTINUOUS GRADE.

PROVIDE OUTLET PROTECTION AS REQUIRED ON PLAN.

<u>CRITERIA</u>

OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR

APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.

STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF FROSION. IF THE VERTICAL

ONSTRUCTION SPECIFICATIONS USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) 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 GERMINATION AND NON-INJUITO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING 2X2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL . 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 UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END. 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 MA STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

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

STANDARD SYMBOL

TAB

PAVED SURFACE

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

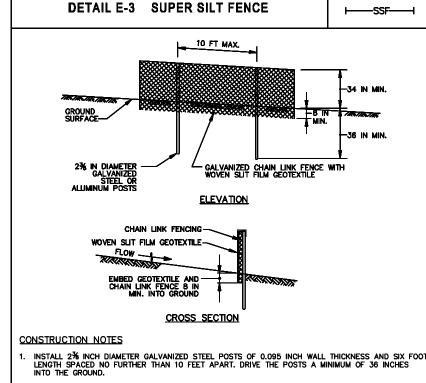
DETAIL E-1 SILT FENCE

CONSTRUCTION SPECIFICATIONS

USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.

PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.

EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.



EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011

DETAIL D-4-1-C ROCK OUTLET PROTECTION III ROPIII PLAN VIEW SECTION A-A SECTION B-B NONWOVEN GEOTEXTILE OR STONE FILTER CONSTRUCTION NOTES

USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.

RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.

PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (% TO 1½ INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.

. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A

CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

SEE SHEET 4 & 5 FOR ADDITIONAL DETAILS

OWNER/DEVELOPER KENNETH & DIANA KRUGER 14132 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794

REVISION FINAL SUPPLEMENTAL PLAN SOIL EROSION AND SEDIMENT CONTROL PLAN **NOTES AND DETAILS** KRUGER PROPERTY LOTS 1 AND 2 A REVISION TO TAX MAP 15 - PARCELS 206 & 241

. 19771 / F. 374 (PARCEL: 206) . 19771 / F. 367 (PARCEL: 241) **VOGEL ENGINEERING**

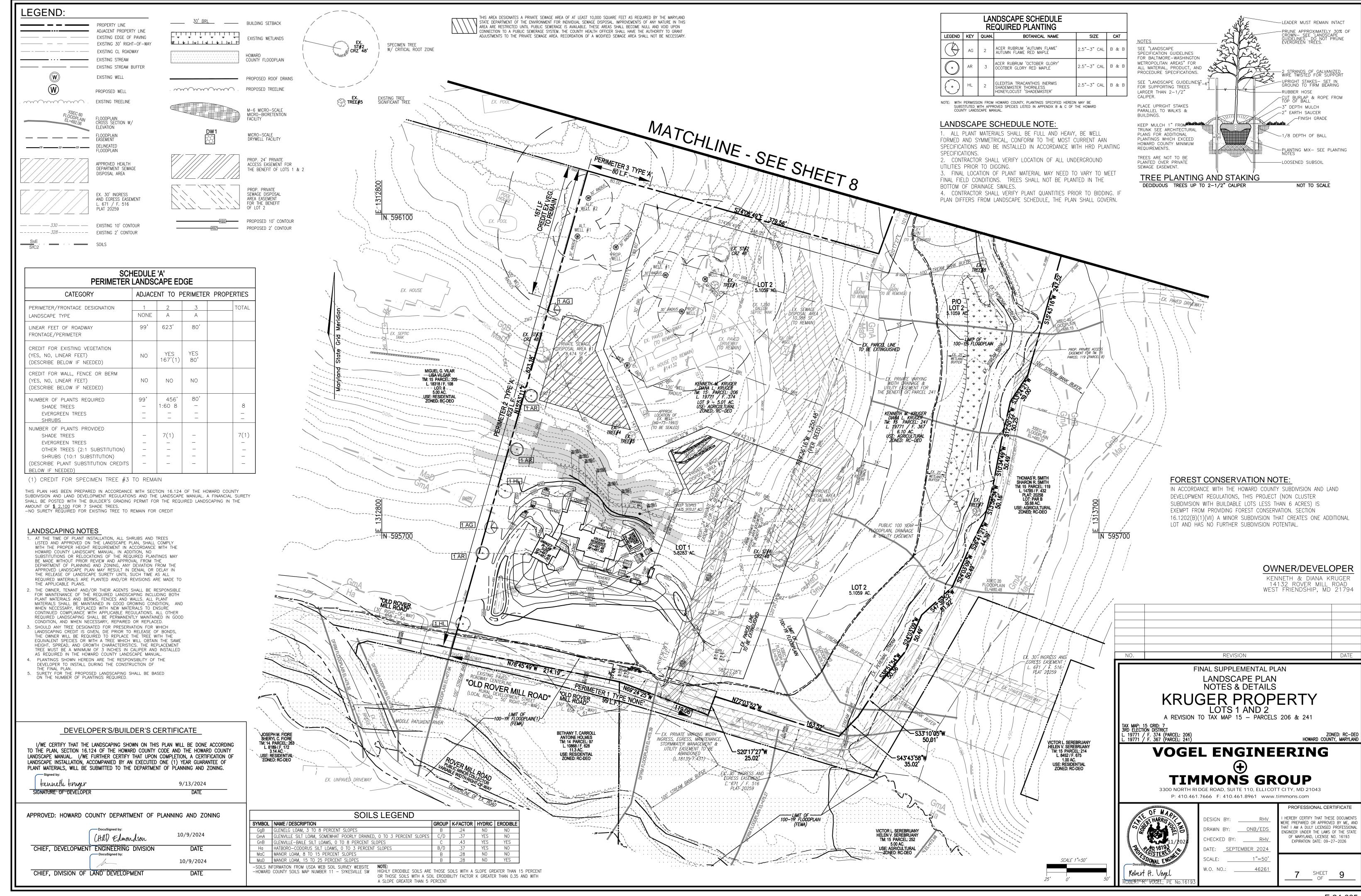
> **TIMMONS GROUP** 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com

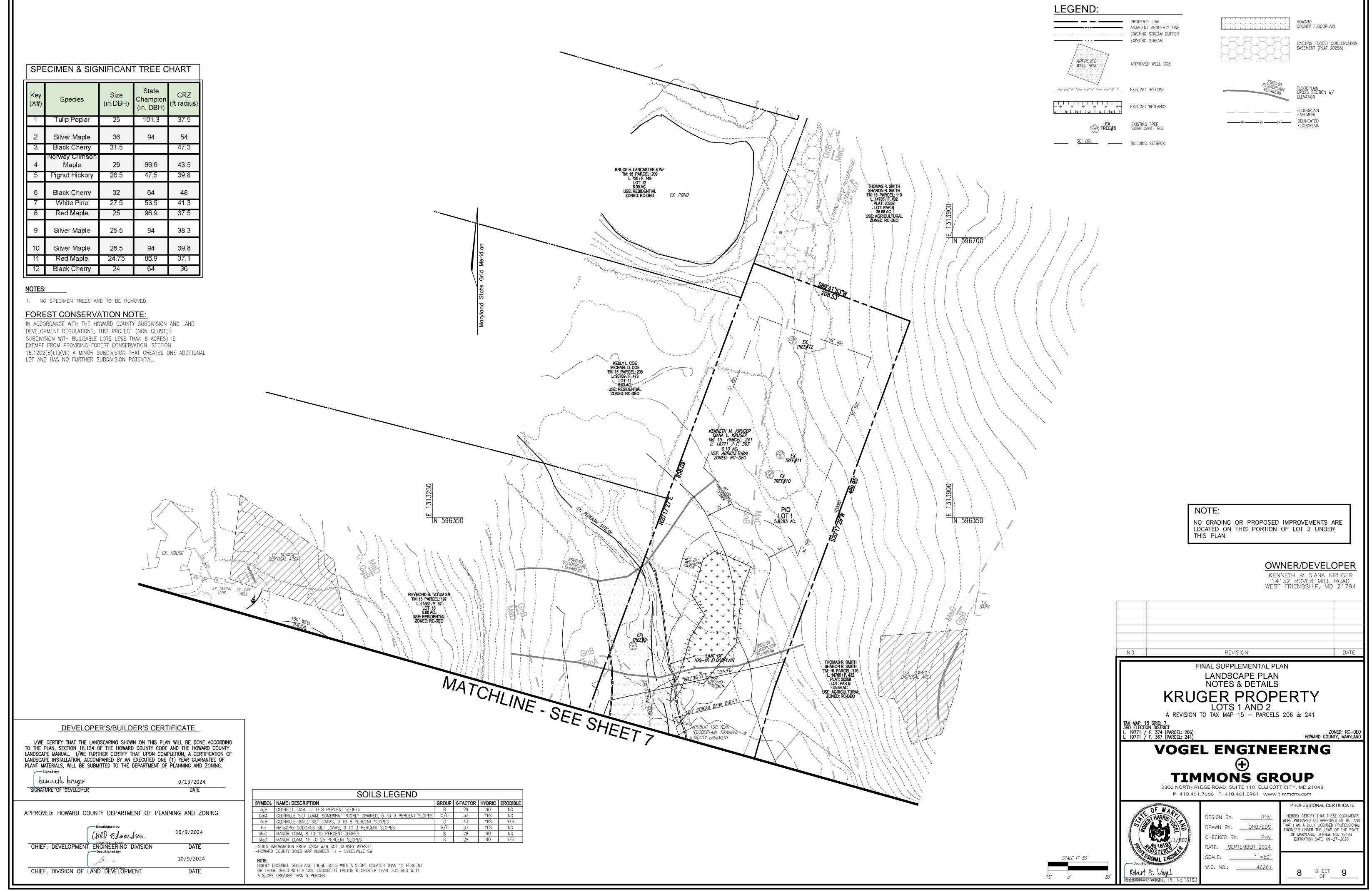


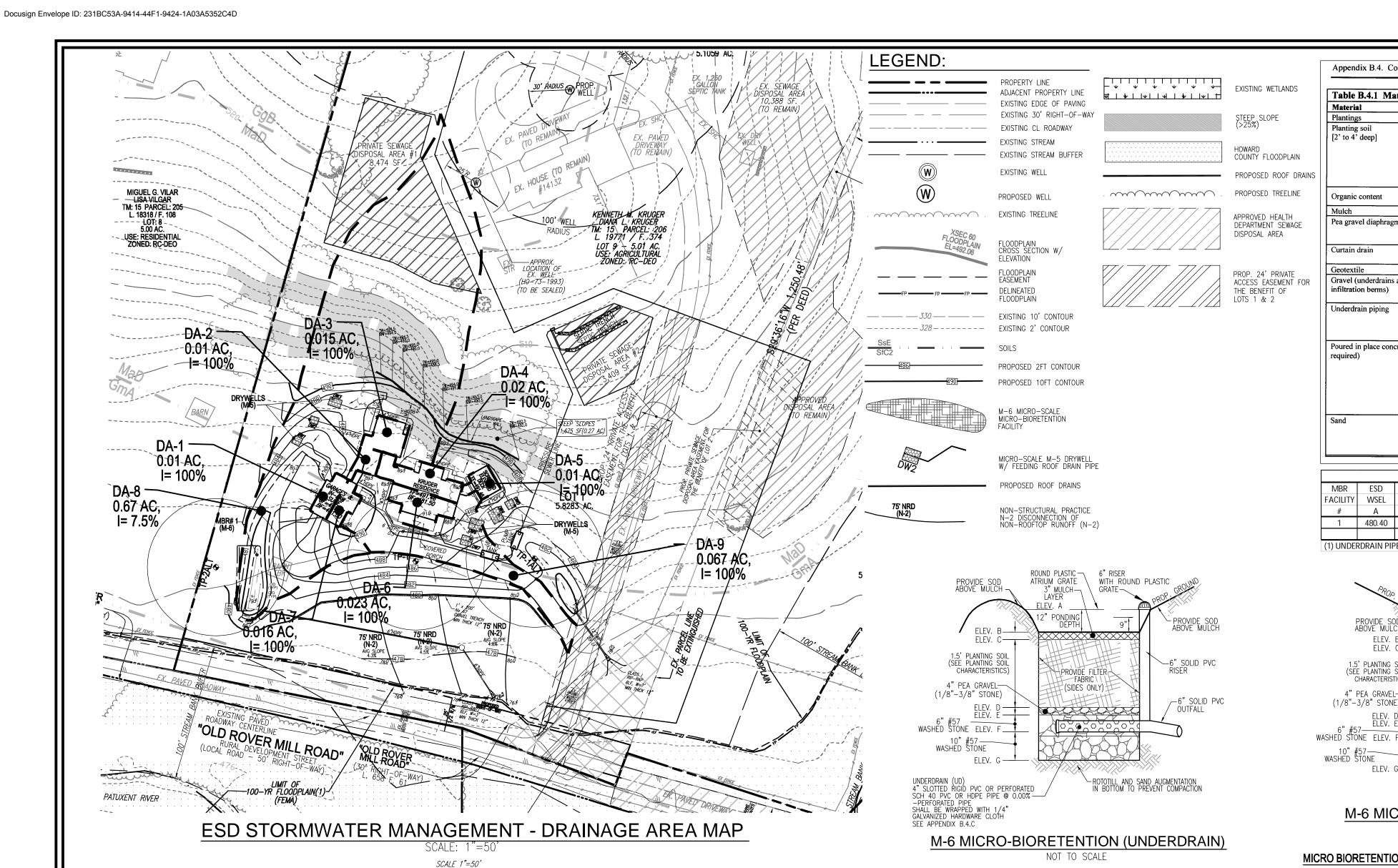
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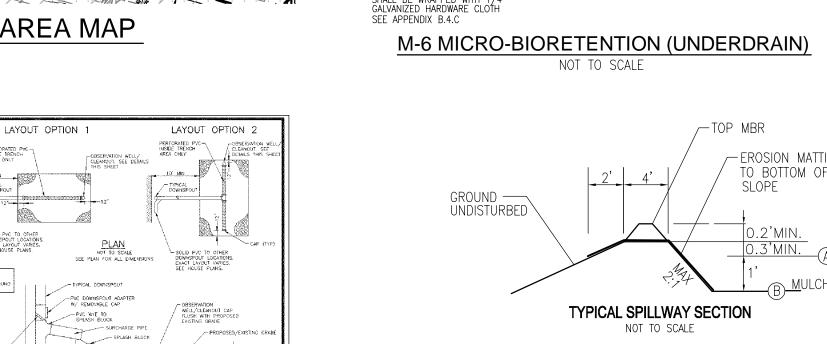
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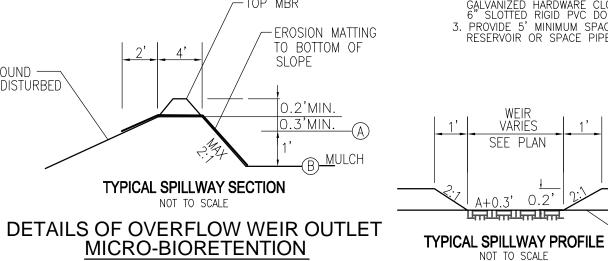
PROFESSIONAL CERTIFICATE FRE PREPARED OR APPROVED BY ME. AN AT LAM A DULY LICENSED PROFESSION NGINEER UNDER THE LAWS OF THE STATE EXPIRATION DATE: 09-27-2026 46261 SHEET OF _



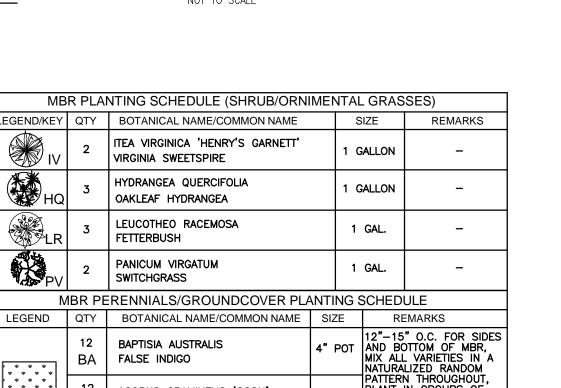








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NOTES:

INFORMATION.

VOLUME II - APPENDIX A.

OR HERBACEOUS SPECIES.

TOLERANT TO FLUCTUATING WATER LEVELS.

DURING THE CONSTRUCTION OF THE FACILITY

PLANT IN GROUPS OF NO LESS THAN 9 PLANTS PER CLUMP AG | GOLDEN VARIEGATED SWEET FLAG NOTE: WITH PERMISSION FROM HOWARD COUNTY, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN TABLE A-4 AS SHOWN HEREON.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 10/9/2024 (HdD Edmondson CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/9/2024 CHIEF, DIVISION OF LAND DEVELOPMENT

OPERATION AND MAINTENANCE SCHEDULE FOR

MICRO-BIORETENTION (M-6)

. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULTCH 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

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

THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE

4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH

PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN

ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND

SOILS LEGEND

N-2. DISCONNECTION OF NON-ROOFTOP RUNOFF

OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:

AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

SYMBOL | NAME / DESCRIPTION

OLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION

EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED

SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT

RUNOFF BECOME COMPACTED, SCARIFYING THE SURFACE OR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO INSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR

DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED

A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY

NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED

AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE

PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET

PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.

GLENVILLE SILT LOAM, SOMEWHAT POORLY DRAINED, 0 TO 3 PERCENT

GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPE Ha HATBORO-CODORUS SILT LOAMS, 0 TO 3 PERCENT SLOPES

Mac MANOR LOAM. 8 TO 15 PERCENT SLOPES

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

-SOILS INFORMATION FROM USDA WEB SOIL SURVEY WEBSITE

-HOWARD COUNTY SOILS MAP NUMBER 11 - SYKESVILLE SW

SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE

OPERATION AND MAINTENANCE SCHEDULE FOR

PRIVATELY OWNED AND MAINTAINED

STORMWATER DRY WELLS (M-5)

THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.

2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE

A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.

WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.

THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.

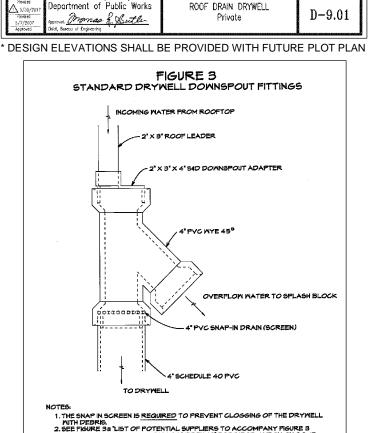
6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

GROUP | K-FACTOR | HYDRIC | ERODIBLE

CONSTRUCTION CRITERIA:

TIGHT, CLAYEY SOILS.

INSPECTION:



BUILDING FOUNDATION

KYMELUS. EL PIPTS SHOULD BE SCH 40 PVC 4° MIN PYWELLS MUST BE A MINIMUM OF -10° FROM BUILDING FOUNDATION -30° FROM SEPTIC PELD

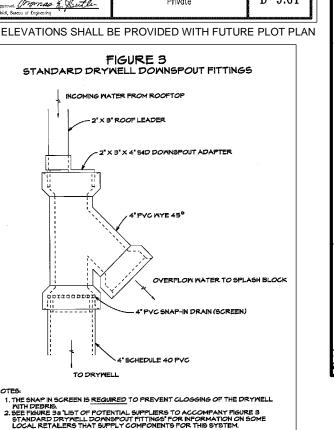
196" FROM WELL LOCATION ID SHOULD BE LOCATED TO NINIMIZE ANY

SEMENT SEEPAGE. NCH MAY NOT BE INSTALLED IN FILL.

SOLID 1 PERFORATED.
PVC PIPE PVC PIPE

~- PERFORATED PVC_PIPE

WRAPPED W/ K" HARDWARE MESH



TYPICAL SECTION

Y-12 BA & 12 ÅG MBR #1 CONSTRUCTION AND PLANTING DETAIL SCALE: 1"=30'

` - - - - - - - -

MICRO-BIORETENTION

PLANTING SCHEDULE NOTES 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. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD

12 ACORUS GRAMINEUS 'OGON'

CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN. MICROBIORETENTION 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 SUMMARY. 6. FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS . 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 CRITERIA * soil component — loamy sand or sandy loam (usda soil textural classification).

* ORGANIC CONTEN - 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 RANCE — SHOULD BE BETWEEN 5.5 — 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE

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.

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, RIPPE 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 EQUIPMENT. ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED

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.

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 MULC 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 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.

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

WATER BEFORE PREPARING (ROTOTILLING) BASE.

- * 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 24". 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).
- THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

MICRO BIORETENTION NOTES:

FLFV B ELEV. C—

.5' PLANTING SO' SEE PLANTING SC

CHARACTERISTICS

ELEV. G-

UNDFR DRAIN -

4" PEA GRAVEL-

(1/8"-3/8" STONE)

M-6 MICRO-BIORETENTION (OVERFLOW)

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

Plantings

Organic content

Curtain drain

Geotextile

FACILITY

Pea gravel diaphragm

Gravel (underdrains and

Poured in place concrete (if

infiltration berms)

Inderdrain piping

see Appendix A, Table A.4

loamy sand (60 - 65%) &

compost (35 - 40%)

coarse sand (30%) &

Min. 10% by dry weight

pea gravel: ASTM-D-448

ornamental stone: washed

F 758, Type PS 28 or AASHTO

MSHA Mix No. 3: $f'_{c} = 3500$

psi @ 28 days, normal weight,

AASHTO-M-6 or ASTM-C-33

TOP | BOTTOM | BOTTOM |

WSEL | MULCH | PLANT SOIL | PLANT SOIL | PEA GRAVEL | PIPE (1)

WITH ROUND PLAST

PROVIDE FILT

→(SIDES ONLY)

(1) UNDERDRAIN PIPE AND OVERFLOW DISTRIBUTION PIPE

air-entrained; reinforcing to

meet ASTM-615-60

sandy loam (30%),

compost (40%)

ASTM D 2974) shredded hardwood

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration

NO. 57 OR NO. 6

4" to 6" rigid schedule 40

AGGREGATE

3/8" to 3/4")

PVC or SDR35

MICRO-BIORETENTION FACILITY - DESIGN FLEVATION CHART

1 | 480.40 | 479.40 | 479.15 | 477.65 | 477.32 | 476.82 | 475.99 | 360 | SEE PLAN | PRIVATE | PRIVATE

STONE

ARFA

plantings are site-specific

PE Type 1 nonwoven

galvanized hardware cloth

USDA soil types loamy sand or sandy loam; clay content < 5%

Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per

underneath pipes. Perforated pipe shall be wrapped with 1/4-inch

28 day strength and slump test; all concrete design (cast-in-place

standards requires design drawings sealed and approved by a

professional 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

Sand substitutions such as Diabase and Graystone (AASHTO)

#10 are not acceptable. No calcium carbonated or dolomitic sand

substitutions are acceptable. No "rock dust" can be used for sand

OWNER MAINTENANCI

or pre-cast) not using previously approved State or local

row; minimum of 3" of gravel over pipes; not necessary

on-site testing of poured-in-place concrete required:

pressures); and analysis of potential cracking

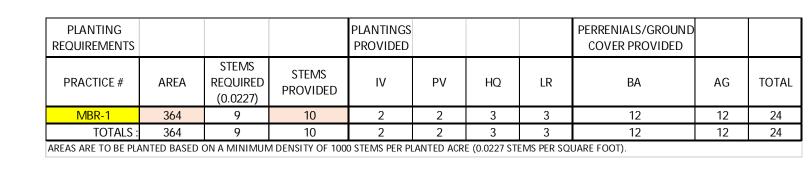
aged 6 months, minimum; no pine or wood chips

1. ONLY THE SIDES OF MICRO BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO BIORETENTION WILL CAUSE THE MBR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.

2. WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER

TOP MBR/BR

GALVANIZED HARDWARE CLOTH. SEE APPENDIX B.4.C.6. 6" SLOTTED RIGID PVC DOES NOT REQUIRE GALVANIZED HARDWARE CLOTH WRAP 3. PROVIDE 5' MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)



OWNER/DEVELOPER KENNETH & DIANA KRUGER 14132 ROVER MILL ROAD WEST FRIENDSHIP, MD 21794

Appendix A. Landscaping Guidance for Stormwater BMPsSpecific Landscaping Criteria Herbaccous Species Aesculus pariviflora Andropogon virginicus Bottlebrush Buckeye Broomsedge Cephalanthus occidentalis Eupatorium perpurea Joe Pve Weed Hamemelis virginiana Scirpus pungens Witch Hazel Three Square Bulrush Vaccinium corymbosur Iris versicolor Highbush Blueberry Blue Flag Tlex glabra Lobelia cardinalis Cardinal Flower Ilex verticillata Panicum virgatum Winterberry Switchgrass Viburnum dentatum Dichanthelium scoparium **Broom Panic Grass** Lindera benzoin Rudbeckia laciniata Tall Coneflowe Myrica pennsylvanica Scirpus cyperinus Woolgrass Vernonia noveboracensi New York Ironweed Note 1: For more options on plant selection for bioretention, consult Bioretention Manual

(ETAB, 1993) or the Design of Stormwater Filtering Systems (Claytor and Schueler, 1997)

1. TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER DESIGN MANUAL

3. NO TREES SHALL BE PLANTED WITHIN A MBR FACILITY. USE ONLY SHRUB

2. CONTRACTOR SHALL BE FAMILIAR WITH APPENDIX B.4.C. CONSTRUCTION SPECIFICATIONS

4. ABOVE TABLE A.4. IS FOR INFORMATIONAL PURPOSES ONLY. LANDSCAPE CONTRACTOR

5. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL

SHALL INSTALL PLANTINGS SPECIFIED OR USE APPROVED EQUAL SPECIES WHICH ARE

STORMWATER DESIGN MANUAL - VOLUME II - APPENDIX A OFFERS ADDITIONAL HELPFUL

AND TABLE B.4.1 MATERIAL SPECFICAITIONS. IN ADDITION THE "2000 MARYLAND

TAX MAP: 15 GRID: 7 3RD ELECTION DISTRICT L. 19771 / F. 374 (PARCEL: 206) L. 19771 / F. 367 (PARCEL: 241) HOWARD COUNTY, MARYLAND **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

REVISION

FINAL SUPPLEMENTAL PLAN

ESD - STORM WATER MANAGEMENT DRAINAGE AREA MAP

LOTS 1 AND 2

A REVISION TO TAX MAP 15 - PARCELS 206 & 241

NOTES AND DETAILS

Robert H. Vogel

OBERTO PRINCIPLE PE No.16

NO

DESIGN BY: ____ DRAWN BY: <u>ONB/EDS</u> CHECKED BY: DATE: <u>SEPTEMBER 2024</u> SCALE: W.O. NO.: 46261

PROFESSIONAL CERTIFICATE WERE PREPARED OR APPROVED BY ME, AND T I AM A DULY LICENSED PROFESSION ENGINEER UNDER THE LAWS OF THE STAT OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2026 SHEET

F-24-005

I DATE