## SHEET INDEX

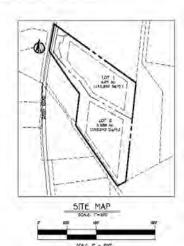
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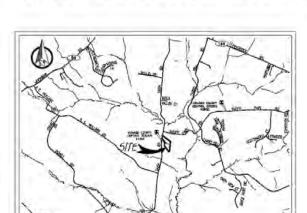
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SHM PRACTICES							
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(HD) Elevitor





SUPPLEMENTAL PLAN

JAMISON PROPERTY 2139 DAISY ROAD LOTS 1, 2 AND NON-BUILDABLE PARCEL 'A' ZONING: RC-DEO (RURAL CONSERVATION DISTRICT) TAX MAP No. 14 GRID No. 01 PARCEL No. 157 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VENTER TO MONARD CO. ACC HAP TO CHI

## VICINITY MAP 501E 1" - E.000

#### GENERAL NOTES

- THE GARLET PROPERTY IS TOTAL BEING (FIX JUSTIC) EXPERIENCE ENTRY FLAT

TILE SHEET

JAMISON PROPERTY
2139 DISS EDGE
LISTING F. 146
ZUNING SE-DED SE-DED
TAX HAP 14, GEN 51, PARCEL 187
FOURTH ELECTION DISTING HOWARD COUNTY, HADSVAND
SOLE AS SHOWN SEPTEMBER, 2023

10/5/2013

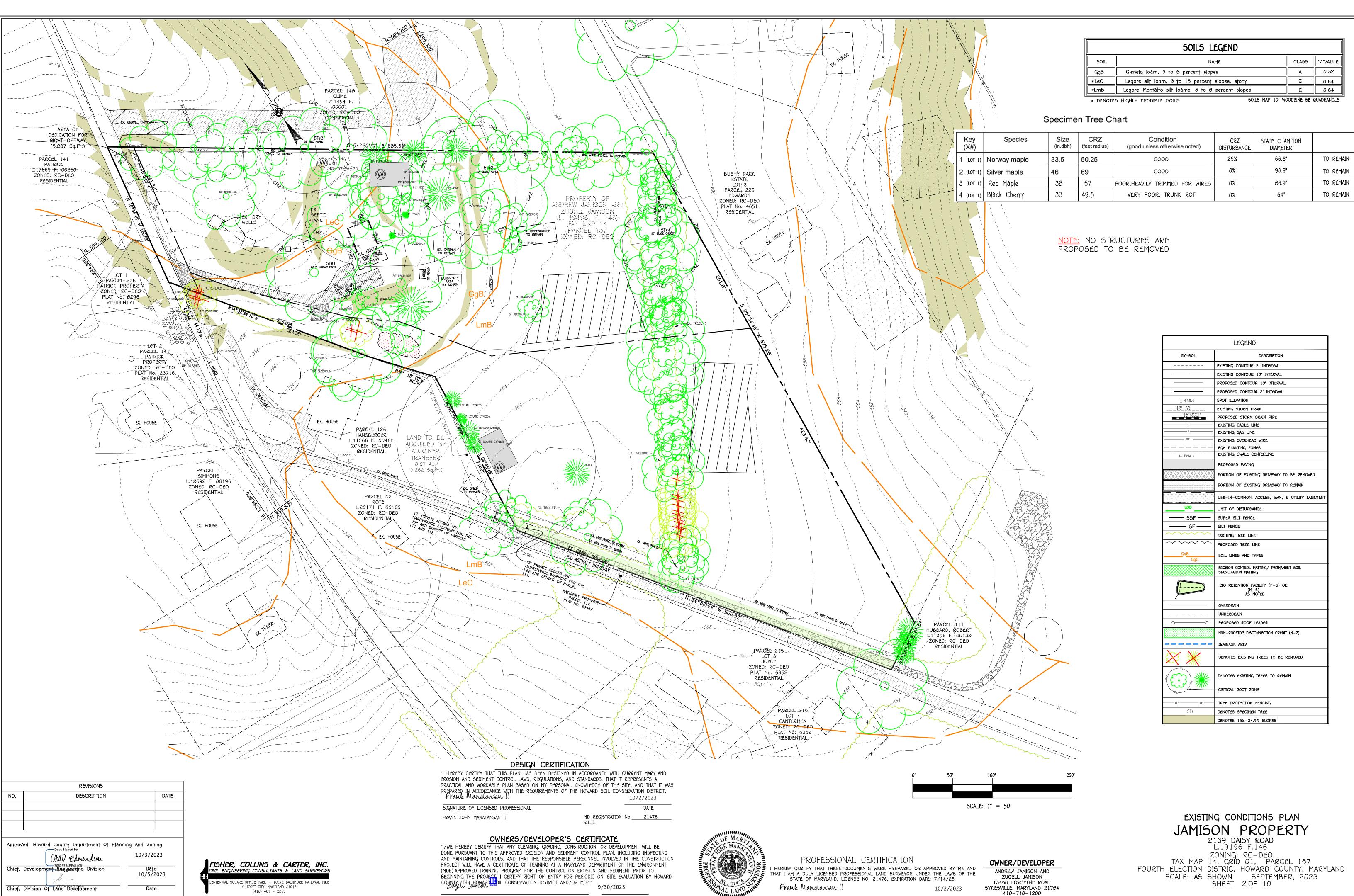




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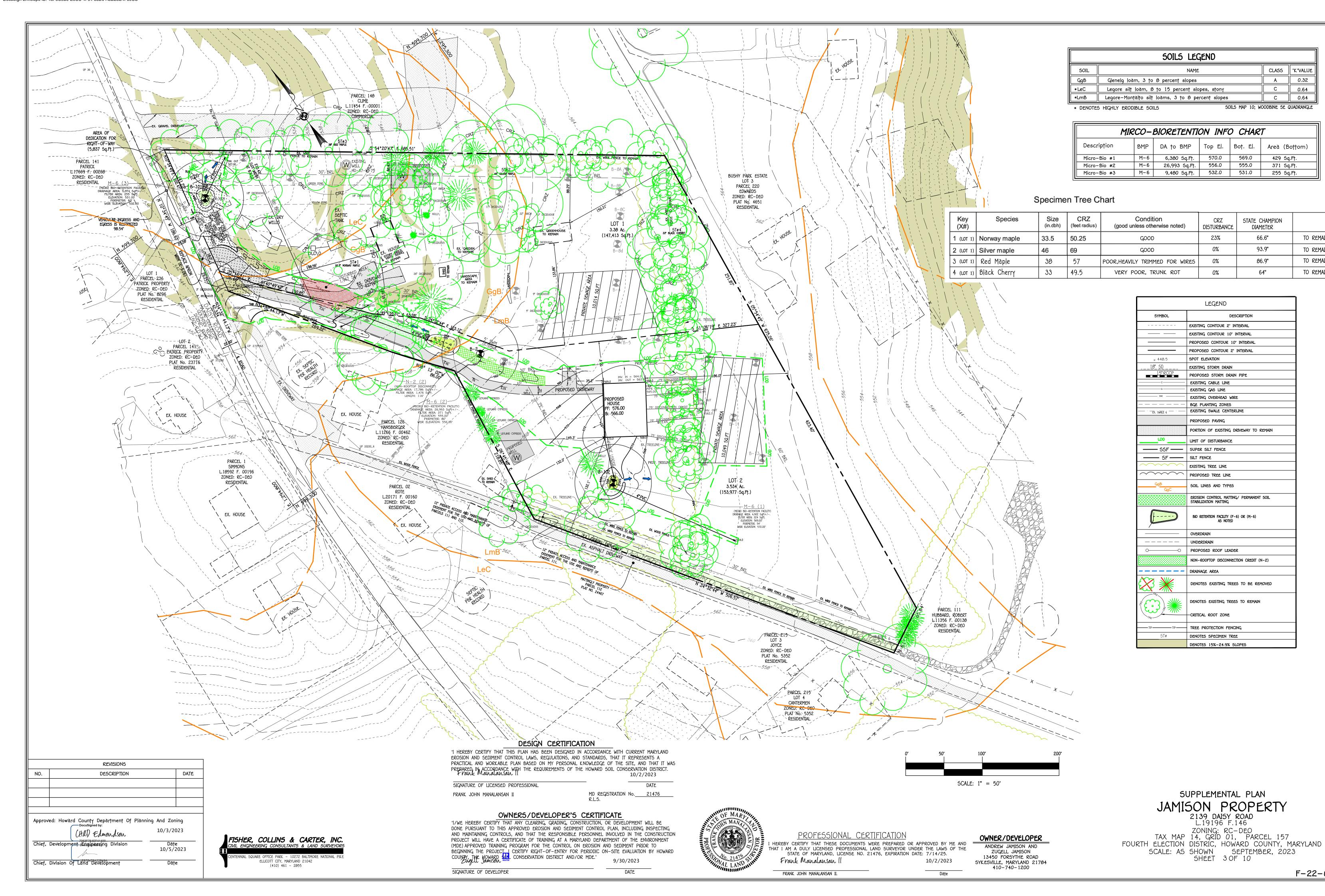
SITE ANALYSIS DATA CHART

TITAL AREA OF THE SUMMERSON - 7.00 ACA, COLLEGE Se M.I.



FRANK JOHN MANALANSAN II.

SIGNATURE OF DEVELOPER

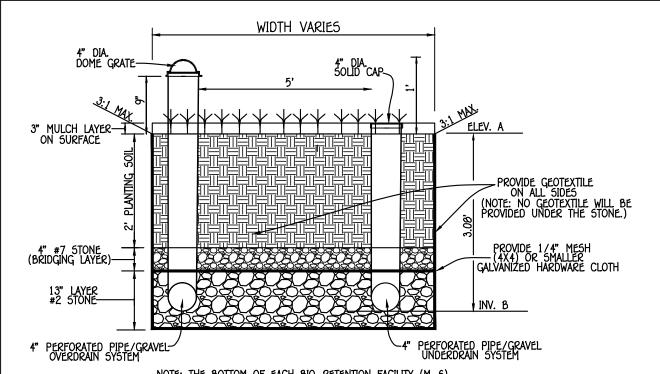


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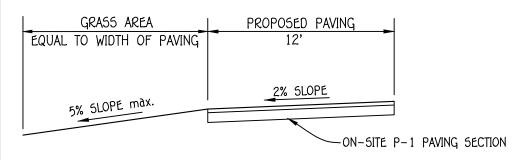
NOTE: THE BOTTOM OF EACH BIO-RETENTION FACILITY (M-6) SHALL BE ROTOTILLED PRIOR TO STONE INSTALLATION. TYPICAL SECTION MICRO-BIORETENTION FACILITY (M-6)

NO NOT SCALE

FACILITY NO.	A	В
M-6 (1)	568.0	564.92
M-6 (2)	556.0	552.92
M-6 (3)	532.0	528.92

## OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE
- FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2 B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



## TYPICAL DRIVEWAY SECTION FOR NON-ROOFTOP DISCONNECT CREDIT

OPERATION & MAINTENANCE SCHEDULE

## FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2) DISCONNECTION OF ROOFTOP RUNOFF (N-1

NOT TO SCALE

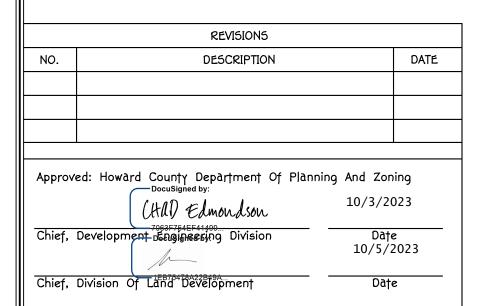
. MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

## OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED

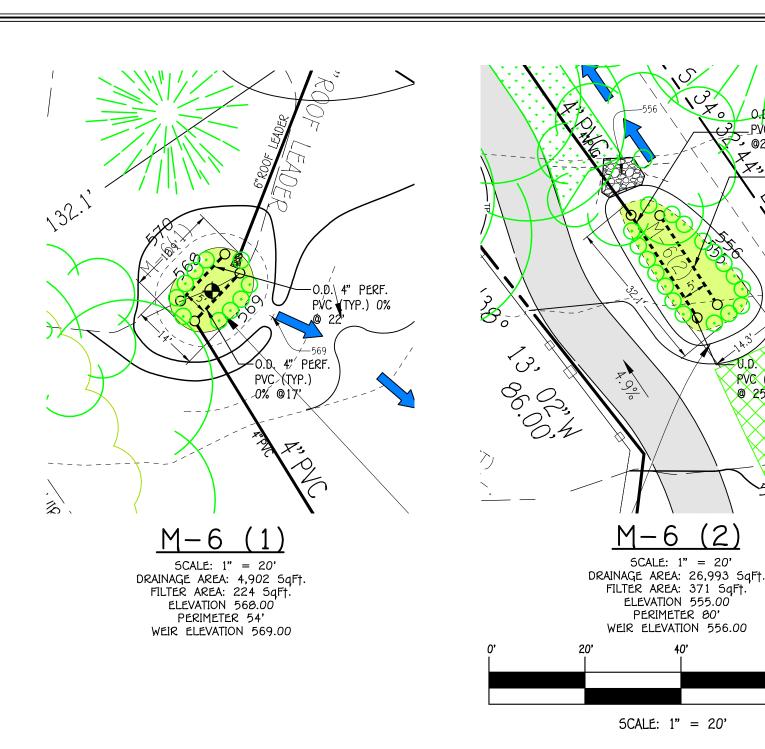
. MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA INCLUDING, BUT NOT LIMITED TO SWIMMING POOLS, PATIOS, OR OTHER STRUCTURES THAT WOULD CHANGE THE FLOW PATH OF THE SITE DRAINAGE. IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

Table B.4. Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration

Mațerial	Specification	Size	Notes
Plantings	see Appendix A; Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand 60-65% compost 35-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-440	No. 0 or No. 9 (1/0" †o 3/0")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Grāvel (underdrāins ānd infiltrātion berms)	AASHTO M-43	No. 57 or No. Aggregațe (3/8" †o 3/4")	
Underdrain piping	F 750, Type P5 20 or AASHTO M-270	4" †o 6" rigid schedule 40 PVC or 5DR35	Slotted or perforated pipe; 3/6" pert. © 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 20 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n.ā	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local 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 tH-10 or H-201; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
5 <b>a</b> nd	AASHTO-M-6 or ASTM-C-33	0.02" †o 0.04"	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.



FISHER, COLLINS & CARTER, INC. IL ENGINEERING CONSULTANTS & LAND SURVEYORS ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055



PLANT MATER!	IAL-MICRO 1	BIO-RETENTION M-6 (1)	PL
QUANTITY	NAME	MAXIMUM SPACING (FT.)	
75 (224 sq.ff.)	GRA55E5	36" o.c.	12
10	5HRUB5	36" – 4 <i>0</i> " o.c.	

M-6 (1)

EXISTING GROUND 569.95'

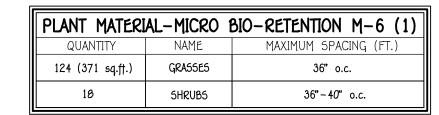
B-102

BOTTOM OF EXCAVATION 12'

EXCAVATION.

NOTE: NO ROCK OR WATER WAS

ENCOUNTERED DURING



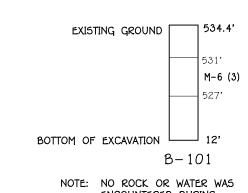
560.35

\_\_PYC (TYP.) 70%

€0.D. 🙌 PERF.

O.D. 4" PERF.

— PVC (TYP.) 0%



85 (255 sq.ff.)

15

PVC (TYP.)  $\phi^{\circ}$ 

#" PERF.

5CALE: 1" = 20'

DRAINAGE AREA: 9.073 SaFt.

FILTER AREA: 255 59Ft.

ELEVATION 531.00

PERIMETER 60'

WEIR ELEVATION 532.00

PLANT MATERIAL-MICRO BIO-RETENTION M-6 (1)

GRASSES

SHRUBS

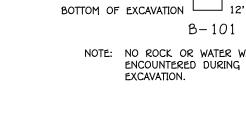
MAXIMUM SPACING (FT.

36" o.c.

36"-40" o.c.

## M-6 (2) **-** 551.92' NOTE: NO ROCK OR WATER WAS ENCOUNTERED DURING EXCAVATION.

EXISTING GROUND |



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

Base Course - The base course shall be AASHTO No. 3 or 4 course aggregate with an assumed open pore space of 30% (n = 0.30).

## 3. Reinforced Turf

Reinforced Grass Pavement (RGP) – Whether used with grass or gravel, the RGP thickness shall be at least 134" thick with a load capacity capable of supporting the traffic and vehicle types that

#### B.4.C Specifications for Micro-Bioretention. Rain Gardens, Landscape Infiltration & **Infiltration Berms**

## 1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

## 2. Filtering Media or Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the microbioretention 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 Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
- Clay Content Media shall have a clay content of less than 5%.
- pH Range Should be between 5.5 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

## 3. Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are

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

excavated using a 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

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

## 4. Plant Material

Recommended plant material for micro-bioretention practices can be found in Appendix A, Section A.2.3.

## 5. Plant Installation

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so  $1/8^{th}$  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.

## SEQUENCE OF CONSTRUCTION

WINTERBERRY

WITCH HAZEL BUTTONBRUSH BUCKEYE

BOTTLEBRUSH BUCKEYE

ANY OF THE GRASS LISTED MAY BE USED

INK BFRRY

OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS) NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-000-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, TREE PROTECTIVE FENCING AND TRAFFIC CONTROL IF REQUIRED (1 DAY) COMMENCE REMOVAL OF NECESSARY TREES AND REMOVE PORTIONS OF EXISTING DRIVE, AND ROUGH GRADE LOTS.

COMMENCE INSTALLATION OF TEMPORARY SEEDING. (1 DAY)
COMMENCE CONSTRUCTION OF HOUSE, DRIVEWAYS AND INSTALLATION OF SEWER AND WATER HOUSE CONNECTIONS. COMMENCE FINE GRADING AND INSTALLATION OF PERMANENT SEEDING. (3 DAYS)

ONCE SITE IS STABILIZED AND WITH THE PERMISSION OF SEDIMENT CONTROL INSPECTOR, COMMENCE INSTALLATION F BIO-RETENTION FACILITY. (1 MONTH) 9. ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY

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

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

## 6. Underdrains

Underdrains should meet the following criteria:

- Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTMF 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g.,
- 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 into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

## 7. Miscellaneous

PROFESSIONAL CERTIFICATION

Frank Manalansan

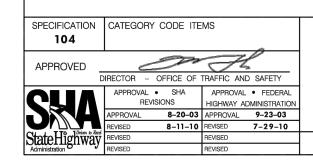
FRANK JOHN MANALANSAN II.

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

THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE

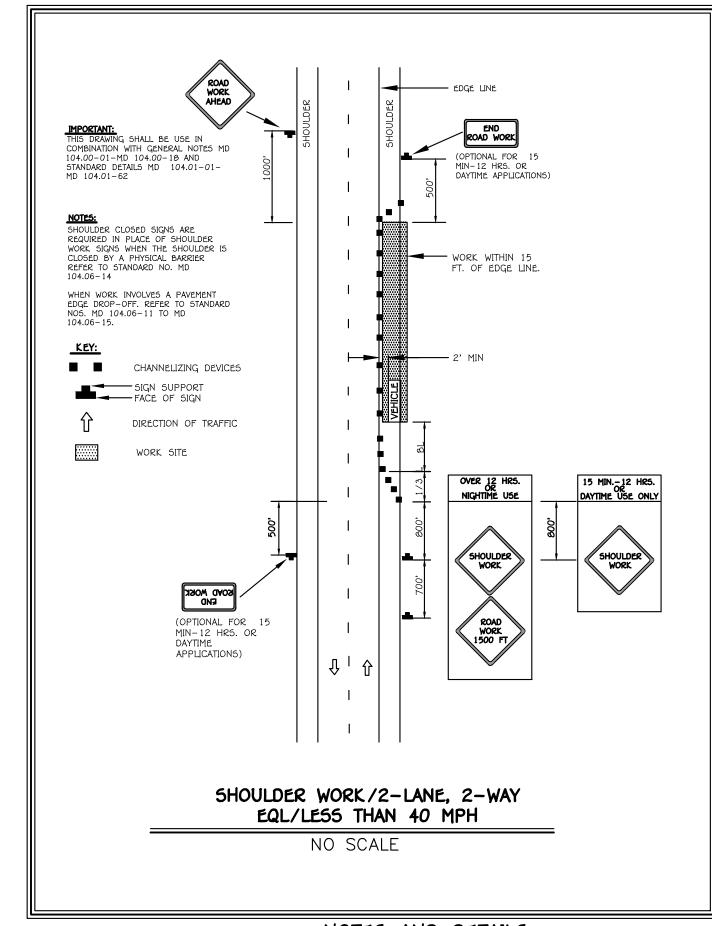
These practices may not be constructed until all contributing drainage area has been stabilized

## TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 -MD 104.01-81 FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN. THE ENGINEER SHOULD CONSIDER ADDITIONAL, ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCROACHMENTS EXISTS. CHANNELIZING DEVICES SIGN SUPPORT ----- SIGN SUPPORT DIRECTION OF TRAFFIC WORK SITE (OPTIONAL FOR 15 MIN-12 HRS. OR DAYTIME FLAGGER APPLICATIONS) OVER 12 HRS. OR NIGHTTIME USE 15 MIN.-12 HRS. OR DAYTIME USE ONLY - KOAD WORK (OPTIONAL FOR 15 MIN-12 HRS. OR DAYTIME APPLICATIONS: ROAD 1500 F WORK



Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES FLAGGING OPERATION/2-LANE, 2-WAY EQL/LESS THAN 40 MPH

STANDARD NO. MD 104.02-10



## NOTES AND DETAILS JAMISON PROPERTY 2139 DAISY ROAD

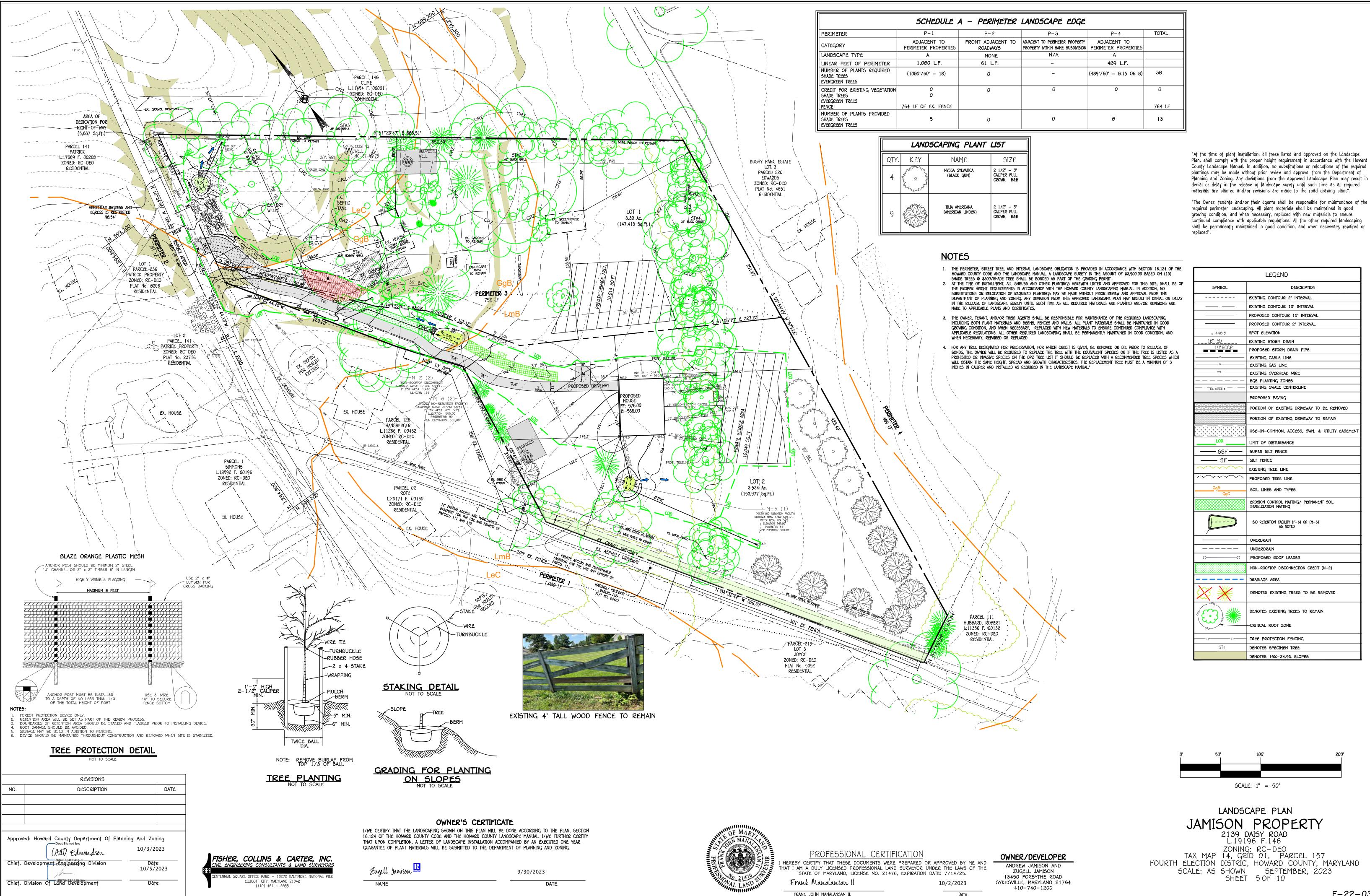
L.19196 F.146 ZONING: RC-DEO TAX MAP 14, GRID 01, PARCEL 157 FOURTH ELECTION DISTRIC, HOWARD COUNTY, MARYLAND SCALE: AS SHOWN SEPTEMBER, 2023 SHEET 4 OF 10

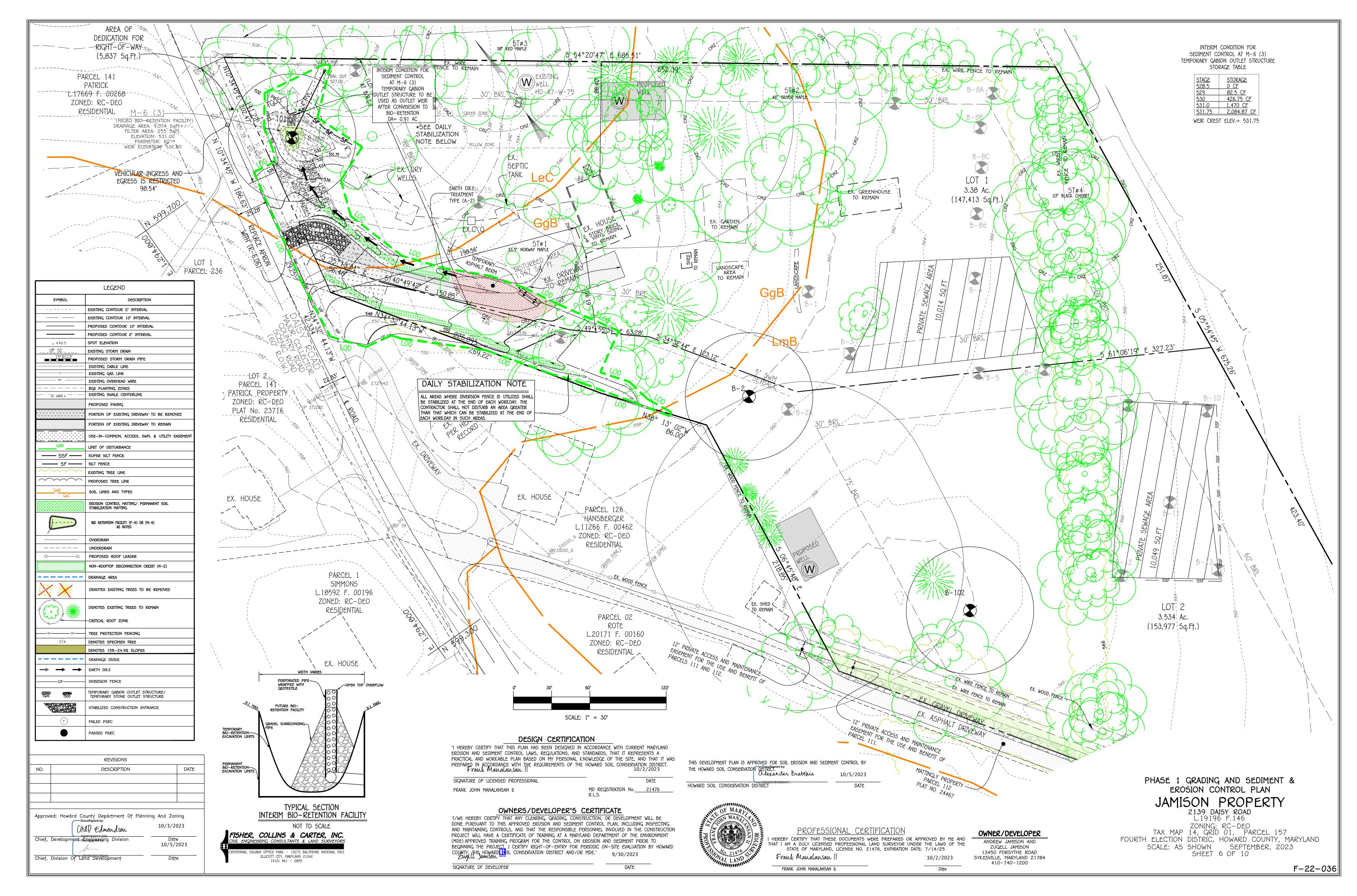
ZUGELL JAMISON STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/25. 13450 FORSYTHE ROAD SYKESVILLE, MARYLAND 21784 410-740-1200

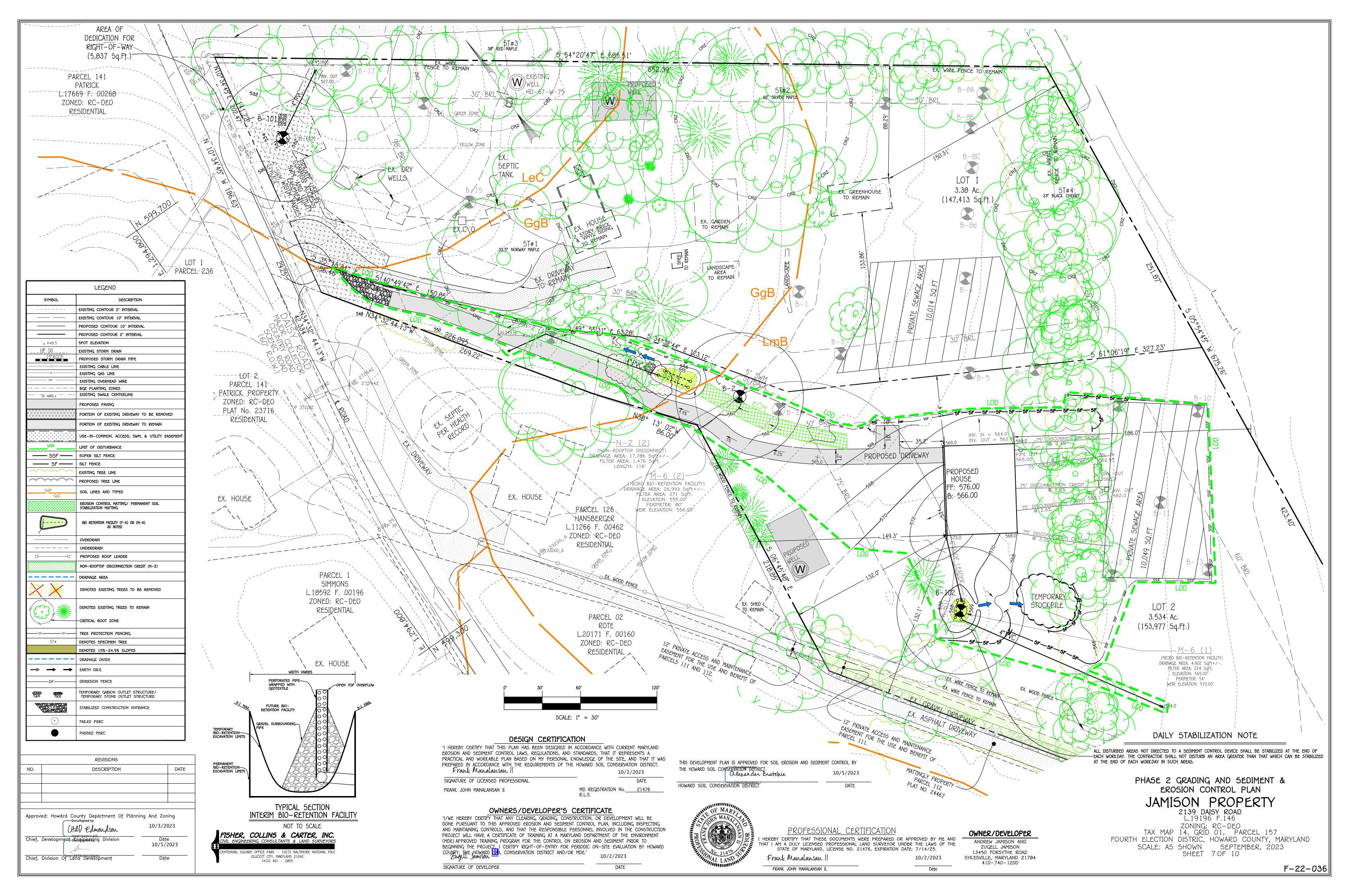
OWNER/DEVELOPER

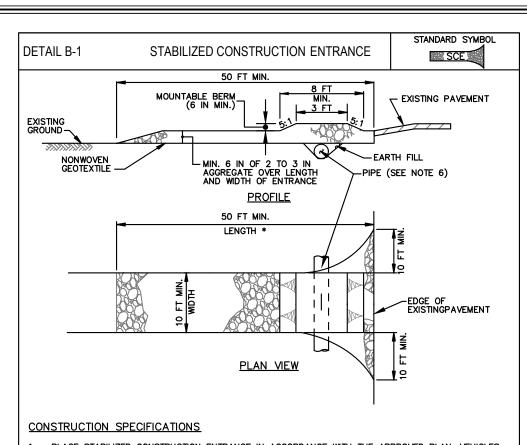
ANDREW JAMISON AND

10/2/2023

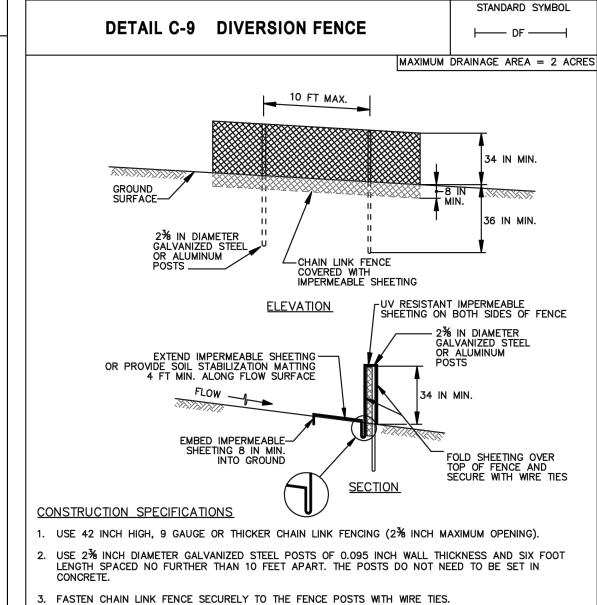








- MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (\*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR FOULVALENT 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. WASHIN 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
  NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



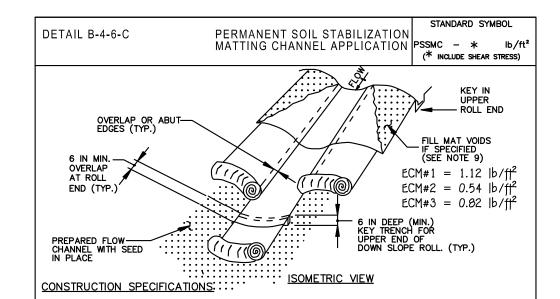
8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT 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

EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF

SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES

U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT

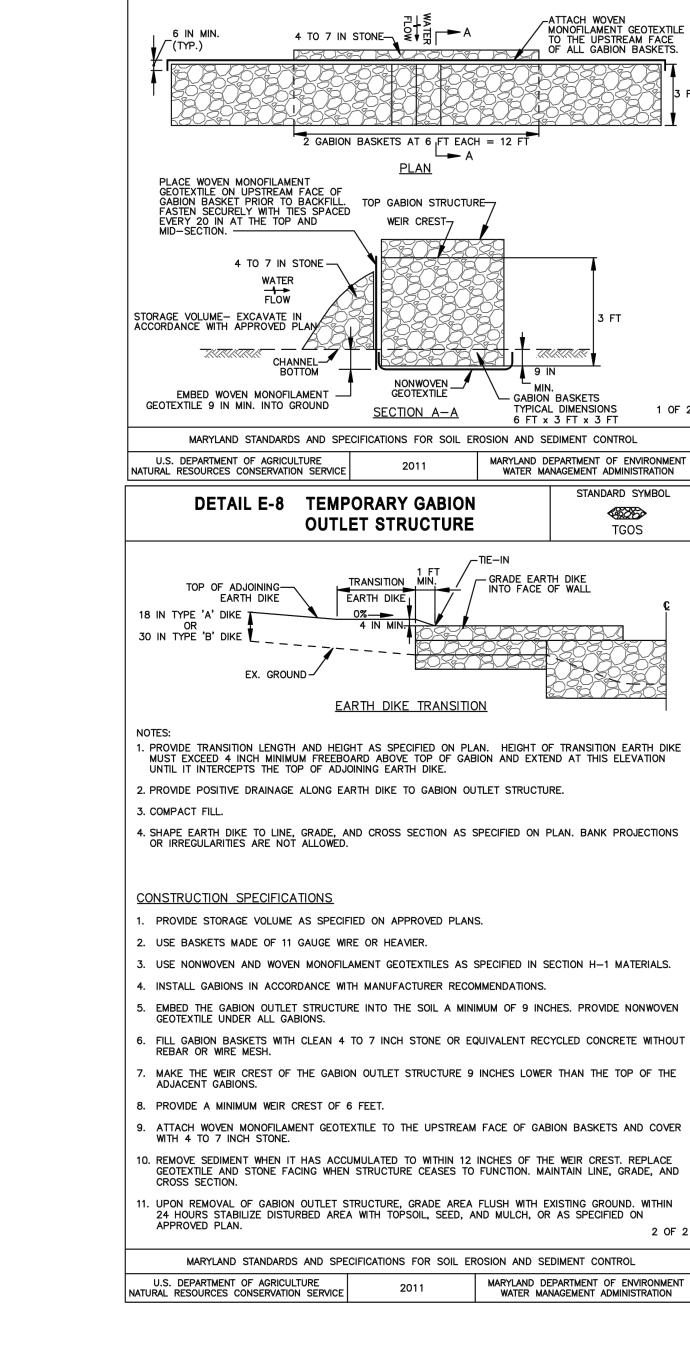
SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.



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

- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION 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.
- SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. 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 1 ½ 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 MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE 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 CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
- 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 U.S. DEPARTMENT OF AGRICULTURE
  TURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMEN'
  WATER MANAGEMENT ADMINISTRATION

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DETAIL E-8 TEMPORARY GABION

- 9 IN GABION

MATTRESS

**OUTLET STRUCTURE** 

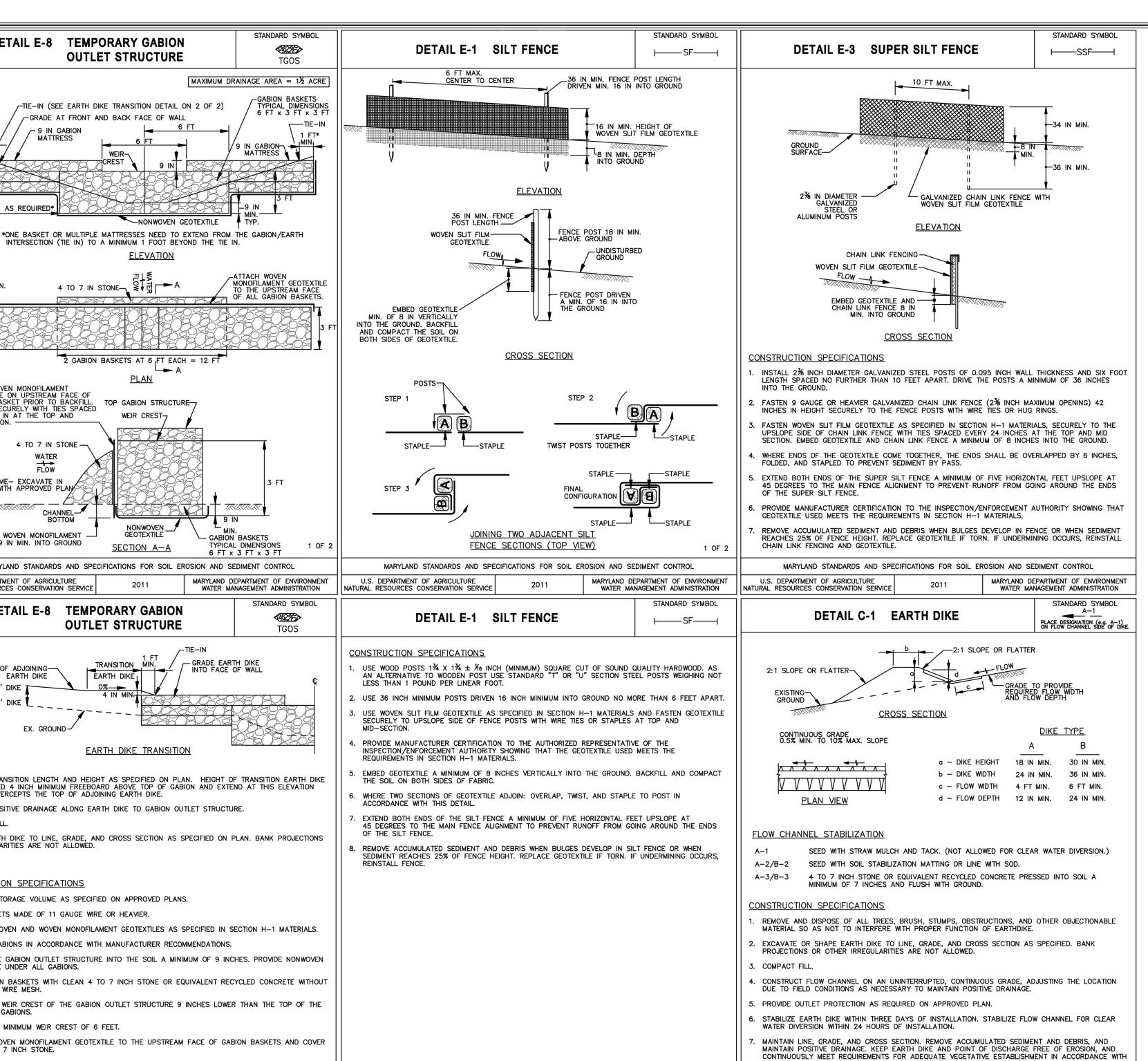
-TIE-IN (SEE EARTH DIKE TRANSITION DETAIL ON 2 OF 2)

INTERSECTION (TIE IN) TO A MINIMUM 1 FOOT BEYOND THE TIE IN.

**ELEVATION** 

GABION BASKETS

-GRADE AT FRONT AND BACK FACE OF WALL



2 OF 2

MARYLAND DEPARTMENT OF ENVIRONMENT

SECTION B-4 VEGETATIVE STABILIZATION.

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

SYKESVILLE, MARYLAND 21784

410-740-1200

UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

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. Frank Manalansan 10/2/2023 DATE

SIGNATURE OF LICENSED PROFESSIONAL FRANK JOHN MANALANSAN II

OWNERS/DEVELOPER'S CERTIFICATE "I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE

MD REGISTRATION No. 21476

DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING 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 SOLL CONSERVATION DISTRICT AND/OR MDE." 9/30/2023

2 OF 2

U.S. DEPARTMENT OF AGRICULTURE

Frank Manalansan II

FRANK JOHN MANALANSAN II.

NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. 10/5/2023 HOWARD SOIL CONSERVATION DISTRICT DATE

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

PROFESSIONAL CERTIFICATION OWNER/DEVELOPER HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND ANDREW JAMISON AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE ZUGELL JAMISON STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/25. 13450 FORSYTHE ROAD

10/2/2023

SEDIMENT & EROSION CONTROL DETAILS JAMISON PROPERTY 2139 DAISY ROAD L.19196 F.146 ZONING: RC-DEO TAX MAP 14, GRID 01, PARCEL 157

MARYLAND DEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

FOURTH ELECTION DISTRIC, HOWARD COUNTY, MARYLAND SCALE: AS SHOWN SEPTEMBER, 2023 SHEET 8 OF 10

Approved: Howard County Department Of Planning And Zoning 10/3/2023 (Hdl) Edmondson Chief, Development Langine ering Division 10/5/2023

Chief, Division Of Land Development

REVISIONS

DESCRIPTION

DATE

Date

FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

SIGNATURE OF DEVELOPER

## SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

### 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 suitable "P.ean 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 5 inches.

3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

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

### B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1

b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application

a. Erosion and sediment control practices must be maintained when applying topsoil.

b. Uniformly distribute topsoil in à 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.

c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer

on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.

3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 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.

## TEMPORARY SEEDING NOTES (B-4-4)

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime

rates must be put on the plan. 2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding

Temporary	Seeding	Summ

Hardiness Zo Seed Mixture	ne (from Figure B. (from Table B.1):	Fertilizer Rate (10-20-20)	Lime Rațe		
5pecies	Application Rate (lb/ac)	Seeding Dațes	Seeding Depths		
BARLEY	96	3/1 - 5/15, 8/15 - 10/15	1"	436  b/ac	2 †ons/àc
OAT5	72	3/1 - 5/15, 8/15 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112	3/1 - 5/15, 8/15 - 10/15	1"		

NO.	DESCRIPTION	DATE					
Approv	Approved: Howard County Department Of Planning And Zoning						
	CHAD Edmondson	10/3/20	)23				
Chief,	Development Bangineering Division	Dațe 10/5/2					
Chief,	Division Of Land Development	Date	3				

REVISIONS

## PERMANENT SEEDING NOTES (B-4-5)

### A. Seed Mixtures

1. General Use

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s). application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be

b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 — Critical Area Planting.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

#### 2. Turforass Mixtures

à. Areàs where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrāss/Perenniāl Rye: Full Sun Mixture: For use in full sun āreās where rāpid estāblishment is necessāry and when turf will receive medium to intensive mānāgement. Certified Perenniāl Ryegrāss Cultivārs/Certified Kentucky Bluegrāss Seeding Rāte: 2 pounds mixture per 1000 squāre feet. Choose ā minimum of three Kentucky bluegrāss cultivārs with eāch rānging from 10 to 35 percent of the totāl mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness 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 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth ( 1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse

#### Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.3): 9					Fertilizer Rate (10-20-20)			Lime Rațe		
No.	Species	Application Rate (lb/ac)		Seeding Dates		Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> 0	
8	TALL FESCUE	100	Mar. Aug.	1-May 1 1-Oct.	15 15	1/4-1/2 in.	45 lbs. per acre	(= 10)	90 lb/ac (2 lb/	(90 lb/
							(1.0 lb/ 1000 sf)	1000 sf)	1000 sf)	1000 sf)

## STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

b.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED

## STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

## (B-4-8) Definition

The mound or pile of soil protected by appropriately designed erosion and sediment control measures.

AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

## Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

## <u>Criteri</u>

 The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

erosion and sediment control plan.

2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper tha 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 of a diversion device such as an

sheetina.

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earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.

6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.

facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable

practice must be used to intercept the discharge.

7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.

8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to

## Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3

## 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.

10/2/2023

STANDARDS AND SPECIFICATIONS

SEEDING AND MULCHING

(B-4-3)

The application of seed and mulch to establish vegetative cover.

To protect disturbed soils from erosion during and at the end of construction.

to verify type of seed and seeding rate.

phyto-toxic materials.

each direction.

1. Mulch Materials (in order of preference)

where one species of grass is desired.

application rate to 2.5 tons per acre.

the size of the area and erosion hazard:

strictly prohibited

feet long.

of wood cellulose fiber per 100 gallons of water.

uniform fibrous physical state.

weaken bacteria and make the inoculant less effective.

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

Permanent Seeding Table B.3, or site-specific seeding summaries.

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

least 1/4 inch of soil covering. Seedbed must be firm after planting.

200 pounds per acre; K 0 (potassium), 200 pounds per acre.

time. Do not use burnt or hydrated lime when hydroseeding.

iv. When hydroseeding do not incorporate seed into the soil.

without inhibiting the growth of the grass seedlings.

Apply mulch to all seeded areas immediately after seeding.

sloping land, this practice should follow the contour.

50 pounds of wood cellulose fiber per 100 gallons of water.

Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).

Mix seed and fertilizer on site and seed immediately and without interruption.

a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color.

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into

appropriate colot to facilitate visual inspection of the uniformly spread slurry.

1.6 percent maximum and water holding capacity of 90 percent minimum.

WCFM, including dye, must contain no germination or growth inhibiting factors.

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

WCFM is to be dyed green or contain a green dye in the package that will provide an

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

WCFM material must not contain elements or compounds at concentration levels that will by

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

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

acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds

water. This may be done by one of the following methods (listed by preference), depending upon

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

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

manufacturer. Application of liquid binders needs to be heavier at the edges where wind

Tack AR or other approved equal may be used. Follow application rates as specified by the

Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra

catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is

recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer

areas, but is limited to flatter slopes where equipment can operate safely. If used on

so that the soil surface is not exposed. When using a mulch anchoring tool, increase the

Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or

<u>Definition</u>

Purpose

Conditions Where Practice Applies

<u>Criteria</u>

a. All seed must meet the requirement 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

Mulch alone may be applied between the fall and spring seeding dates only if the ground is

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

Use four times the recommended rate when hydroseeding. Note: It is very important to keetp

later than the date indicated on the container. Add fresh inoculants as directed on the package.

inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can

Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals

used for weedcontrol until sufficient time has elapsed (14 days min.) to permit dissipation of

Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1,

Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

each direction. Roll the seeded area with weighted roller to provide good seed to soil

Cultipacking seeders are required to bury the seed in such a fashion as to provide at

Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

i. If fertilizer is being applied at the time of seeding, the application rates should not exceed

hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one

ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by

the following: nitrogen, 100 pounds per acre total of soluble nitrogen;  $P_2O_5$  (phosphorus),

frozen. The appropriate seeding mixture must be applied when the ground thaws.

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

SIGNATURE OF LICENSED PROFESSIONAL

PRANK JOHN MANALANSAN II

MD REGISTRATION No. 21476

## OWNERS/DEVELOPER'S CERTIFICATE

"I/WE HEREBY 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 THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING 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 LIL CONSERVATION DISTRICT AND/OR MDE."

9/30/2023

SIGNATURE OF DEVELOPER

DATE

## HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE

INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

A. PRIOR TO THE START OF EARTH DISTURBANCE, <u>BEFORE PROCEEDING.</u>

B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT ANY OTHER EARTH WITH DISTURBANCE OR GRADING,
C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT, D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.

4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-0) 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 OBTAINED FROM THE CID.

# 6. SITE ANALYSIS: TOTAL AREA OF SITE: AREA DISTURBED: AREA TO BE ROOFED OR PAVED: AREA TO BE VEGETATIVELY STABILIZED: TOTAL CUT: TOTAL FILL: WASTE/BORROW AREA LOCATION: SITE WITH ACTIVE GRADING PERMIT

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND A11 CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE: INSPECTION DATE

INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
NAME AND TITLE OF INSPECTOR
WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
EVIDENCE OF SEDIMENT DISCHARGES
IDENTIFICATION OF PLAN DEFICIENCIES
IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE

IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
PHOTOGRAPHS
MONITORING/SAMPLING

MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION
ACTIVITIES (NPDES, MDE).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE HSCD. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
USE I AND IIP 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.

## SEQUENCE OF CONSTRUCTION

## PHASE ONE

1<u>ASE ONE</u>

1. OBTAIN GRADING PERMITS. (2 WEEKS)

2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE ANY WORK AT 1-800-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION AT 410-313-1870 AT LEAST 24-HOURS BEFORE STARTING ANY WORK.

3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS AS SHOWN ON SHEET 6. (3 DAYS)

4. COMMENCE GRADING SITE FOR THE PRIVATE DRIVEWAY TO EXISTING HOME. AND OFF-SITE GRADING. OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING. (1 WEEK)

5. UPON PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, COMMENCE INSTALLATION OF BASE COURSE

6. INSTALL FINAL PAVING COARSE COMMENCE INSTALLATION OF THE BIO-RETENTION FACILITY (1 WEEK)

7. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMAINING DISTURBED AREAS ON-SITE WITH PERMANENT SEEDING OR OPTIONAL SODDING. (1 WEEK)

## PHASE TWO

1. OBTAIN GRADING PERMITS. (2 WEEKS)

NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE ANY WORK AT 1-800-257-7777. NOTIFY HOWARD COUNTY OFFICE

OF CONSTRUCTION/INSPECTION DIVISION AT 410-313-1070 AT LEAST 24-HOURS BEFORE STARTING ANY WORK.

3. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS AS SHOWN ON SHEET 7. (3 DAYS)

4. WITH PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN ROUGH GRADE DRIVEWAY, ROUGH

GRADE AROUND HOUSE SITE AND INSTALL TEMPORARY SEEDING, IF REQUIRED.

5. BEGIN CONSTRUCTION ON BUILDING, DRIVEWAY, AND UTILITIES ON LOT 2. (Ø MONTHS)

5. BEGIN CONSTRUCTION ON BUILDING, DRIVEWAY, AND UTILITIES

6. FINE COADE SITE AND INSTALL PROMANENT SERVING (3 DAVS)

6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING. (3 DAYS)

7. WITH PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN CONVERSION OF BIO RETENTION FACILITY. (1 WEEK)

8. ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED.

NOTES: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS.

PHASE 2 WILL BE COMPLETED UNDER A SEPARATE GRADING PERMIT.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION CONSERVATION Bratchie 10/5/2023

HOWARD SOIL CONSERVATION DISTRICT

DATE

10/5/2023

DATE

PROFESSIONAL CERTIFICATION

FRANK JOHN MANALANSAN II.

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/25.

Frank Manalansan | 10/2/2023

OWNER/DEVELOPER

ANDREW JAMISON AND
ZUGELL JAMISON
13450 FORSYTHE ROAD
SYKESVILLE, MARYLAND 21784
410-740-1200

SEDIMENT & EROSION CONTROL NOTES

JAMISON PROPERTY

2139 DAISY ROAD
L.19196 F.146

ZONING: RC-DEO
TAX MAP 14, GRID 01, PARCEL 157
FOURTH ELECTION DISTRIC, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN SEPTEMBER, 2023
SHEET 9 OF 10

