Net A. B. C. D.	Tract Area Total (Gross) Area within 1 Other Deduc Net Tract Are	00-year Flood tions (Identify					_)	A = B = C = D =	1.05 0.00 0.00 1.05
	d Use Catego								
Inse	rt the number '	'1" under the	appropriate la	and use (limit	t to only one er	ntry)			
	Resid.	Resid.	Resid.	Inst./	Retail/Ind./		/		
	Rural LD	Rural MD	Suburban	Linear	Office	PUD			
	0	0	1	0	0	0			
E.	Afforestation	Threshold		(Net Tract A	Area x	15%)	E=	0.20
F.	Reforestation			(Net Tract A		20%	í	F = -	0.20
							,	-	
EXIS G.	sting Forest C Existing Fore		in the Net Tre	not Aron				G =	0.00
G. H.		st cover with st above Affor						G= [0.00
п. I.		st above Anoi						1=	0.00
			restation mi	Coriola					0.00
	ak Even Point								
J.	Break Even F			. Tr				J = -	0.00
K.	Forest Clean	ing Permitted	without wiitiga	ation				K = _	0.00
	posed Forest								
L.		Forest to be						L =	0.00
M.	Total Area of	Forest to be	Retained					M =	0.00
Plan	nting Requirer	nents Inside	Watershed						
N.	Reforestation	n for Clearing	above the Re	eforestation T	hreshold			N =	0.00
Р		n for Clearing						P =	0.00
Q.		tention above		ation Thresh	old			Q =	0.00
R.	Total Refores							R=	0.00
S.	Total Affores							S =	0.20
T		station and Af						T=	0.20
	75% of Total							U=	0.20
	Planting Req	uired Onsite t	o meet 75%	Obligation				V=	0.20
V	ntina Requirer	nents Outeid	le Watershor	1					
∨ Plan	nting Requirer							W=	0.00
W.	Total Planting	g within Devel	lopment Site					W= X=	0.00
∨ Plan	Total Planting Total Affores		lopment Site ' ed	Watershed	ion Credit			W= [X= Y=	0.00 0.20 0.00

F.	Reforestation Threshold	(Net Tract Area x	20%) F = 0.:	
		(riot riaotraoux	2070	, <u></u>	<u> </u>
	ting Forest Cover	Not Troot Area		G = 0.0	20
3.	Existing Forest Cover within the				
ł.	Area of Forest above Afforestati			H = 0.0	
	Area of Forest above Reforestat	tion Threshold		I = 0.0	00
Bre:	k Even Point				
,, ea	Break Even Point			J = 0.0	00
		ut Mitigation		K = 0.0	
ί.	Forest Clearing Permitted without	ut wiitigation		K - 0.0	<u> </u>
ror	osed Forest Clearing				
	Total Area of Forest to be Cleare	ed		L = 0.0	00
Λ.	Total Area of Forest to be Retain			M = 0.0	
1.	Total Area of Forest to be retail	ileu		IVI	
lan	ting Requirements Inside Wate	rshed			
I.	Reforestation for Clearing above	the Reforestation Threshold		N = 0.0	00
,	Reforestation for Clearing below			P = 0.0	
2.	Credit for Retention above the R			Q = 0.0	
ξ.	Total Reforestation Required	toror cotation i importora		R = 0.0	
	Total Afforestation Required			S = 0.1	
		ation Doguiroment		T= 0.:	
	Total Reforestation and Afforest				
J	75% of Total Obligation (Retenti			U= 0.:	
′	Planting Required Onsite to mee	et /5% Obligation		V= 0.2	20
					1
lan	ting Requirements Outside Wa	tershed			
٧.	Total Planting within Developme			W= 0.0	00
ί.	Total Afforestation Required			X= 0.:	
	Remaining Planting within Wate	rshed for Reforestation Credit		Y= 0.0	
	Reforestation for Clearing above			Z= 0.0	
Α.	Reforestation for Clearing below			AA= 0.0	
B.				BB= 0.0	
	Credit for Retention above the R	leioresidiion Threshold			
C.		office Description		CC= 0.0	
JU.	Total Afforestation and Reforest	ation Requirement		DD= 0.2	20
	TEMPORARY	TRAFFIC CONTROL TYPIC	CAL APPLICA	TION	
			CAL APPLICA	rion	
			CAL APPLICA	TION	
			CAL APPLICA	TION	
	IMPORTANT: THIS DRAWING SHALL BE USED I) COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.03 NO 104.01-81 NOTES ND 104.01-01	N DO-18 AND I -	CAL APPLICA	rion	
	IMPORTANT: THIS DRAWING SHALL BE USED I) COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.03 NO 104.01-81 NOTES ND 104.01-01		CAL APPLICA	TION	
	IMPORTANT: THIS DRAWING SHALL BE USED IT COMEINATION WITH THE CENERAL NOTES MO 104.00-01 - WO 104.4 SIMBOURD BETAILS WO 104.01-01 MOTELET SHALL SHOULD SHALL FLAGGER SHALL MYER BE FLAGGER SHALL MYER BE FLAGGER SHALL MYER BE FLAGGER SHALL BYER BE FLAGGER SHALL BYER BE FLAGGER SHALL BYER BE FLAGGER SHALL BYER BE FLAGGER SHALL BOYANCE FLAGGER SHALL	00-18 AND	CAL APPLICA	TION	
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	IMPORTANT: THIS DRAWING SHALL BE USED IT COMBINATION WITH THE GENERAL NOTES AND 101-00-01 — 00 HOLD ALL OF THE COMBINATION WITH THE COMBINATION OF THE ENGINEER SHOULD CONSIDER ADDITIONAL ADJACENT LANGE CLOSURES WHEN THE POSSIBLIT OCCUPANCIAN ADJACENT LANGE CLOSURES WHEN THE POSSIBLIT OCCUPANCIAN ADJACENT LANGE CLOSURES WHEN THE POSSIBLIT OF THE COMBINATION OF THE POSSIBLIT OF THE COMBINET OF THE COMB	SO-18 AND STATE OF THE STATE O	DOR S.	15 WH12 WIS.	
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EY:	IMPORTANT: THIS DRAWING SHALL BE USED IT COMBINATION WITH THE GENERAL NOTES AND 101-00-01 — 01 01-00 — 01 01 01 01 01 01 01 01 01 01 01 01 01	OD-18 AND STARBUM DI STARBUM	OR OLICE STATE OF THE STATE OF	15 WH12 WIS.	

SWM PRACTICES CHART

<u></u>		
LOT NO.	STREET ADDRESS	MICRO- BIORETENTION M-6 (NUMBER)
LOT 1	5668 TROTTER RD.(EX. HOUSE)	N/A
LOT 2	5664 TROTTER RD.	1

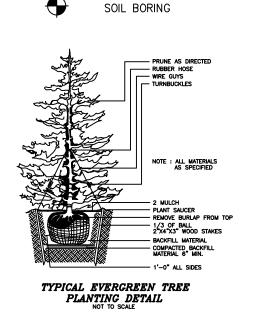
LEGEND

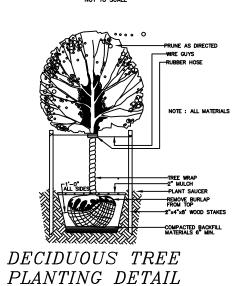
	AREA TREATED BY MICRO-BIO. (M-6)
SCE	STABILIZED CONSTRUCTION ENTRANCE
	SANITARY MH

SANITARY ME EX. TREELINE LANDSCAPE PERIMETER EDGE MICRO-BIORETENTION FACILITY

LIMIT OF DISTURBANCE ——— SILT FENCE TREE PROTECTION FENCE PROPOSED SUPER SILT FENCE

DRAINAGE AREA





SCHEDULE A: PERIMETER LANDSCAPED EDGE

STATE HIGHWAY ADMINISTRATION FLAGGING OPERATION/2-LANE, 2-WAY

CATEGORY	ADJA	CENT TO PERIMETER PRO	PERTIES	TOTAL
LANDSCAPE TYPE	B (PERIMETER 1)*	B (PERIMETER 2)**	B (PERIMETER 3)***	
LINEAR FEET OF PERIMETER	126.77' LF	160.55 LF	284.89 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, EX. TREES	YES, EX. TREES	YES, EX. TREES CREDIT TAKEN FOR 150 LF OF PRIVACY WALL	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	3 SHADE TREES 3 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 4 EVERGREEN TREES 0 SHRUBS	6 SHADE TREES 7 EVERGREEN TREES 0 SHRUBS	12 SHADE TREES 14 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION)	2 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	2 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	1 SHADE TREES 3 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	5 SHADE TREES 9 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS
*PERIMETERS 1— CREDIT TAKEN F	OR 6" DOGWOOD.			

**PERIMETERS 2- CREDIT TAKEN FOR 24" PINE AND 30" MAPLE.

***PERIMETERS 3- CREDIT TAKEN FOR 18" CHERRY, 18" LOCUST AND 24" CHERRY. PERIMETERS 3- ONE SHADE TREE (3" CAL. OR LARGER) HAS BEEN PROVIDED AS PER CONDITIONS OF THE PLANING BOARD APPROVAL.

LANDSCAPE REQUIREMENT PLANTING SCHEDULE QUANTITY SYMBOL BOTANICAL NAME COMMON NAME

ACER RUBRUM 'RED SUNSET' RED SUNSET RED MAPLE 2 1/2" - 3" CAL. OR EQUIVALENT AS OUTLINED IN THE HOWARD COUNTY LANDSCAPE MANUAL. HOWARD COUNTY LANDSCAPE MANUAL THUJA PLICATA 6'-8' HEIGHT

OR EQUIVALENT AS OUTLINED IN THE HOWARD COUNTY LANDSCAPE MANUAL.

14 TREES (5 SHADE TREES, 9 EVERGREEN TREES)

SPECIMEN TREE CHART							
KEY	SPECIES	SIZE (IN.DBH)	CRZ (FEET RADIUS)	COMMENTS			
1	MAPLE	30	45	TO REMAIN			
2	BEECH TREE	31	46.5	TO BE REMOVED			

OWNER/DEVELOPER

KEVIN WYNNE 5668 TROTTER ROAD CLARKSVILLE, MD 21029 301-829-7820

APPROVED:	CHAD Edmondson	ZONING 12/13/2022
CHIEF, DEVE	LOPMENT ENGINEERING DIVISION DocuSigned by:	DATE
	1507547902220400	12/13/2022
CHIEF, DIVIS	SION OF LAND DEVELOPMENT	DATE



HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP DATE 08/08/23

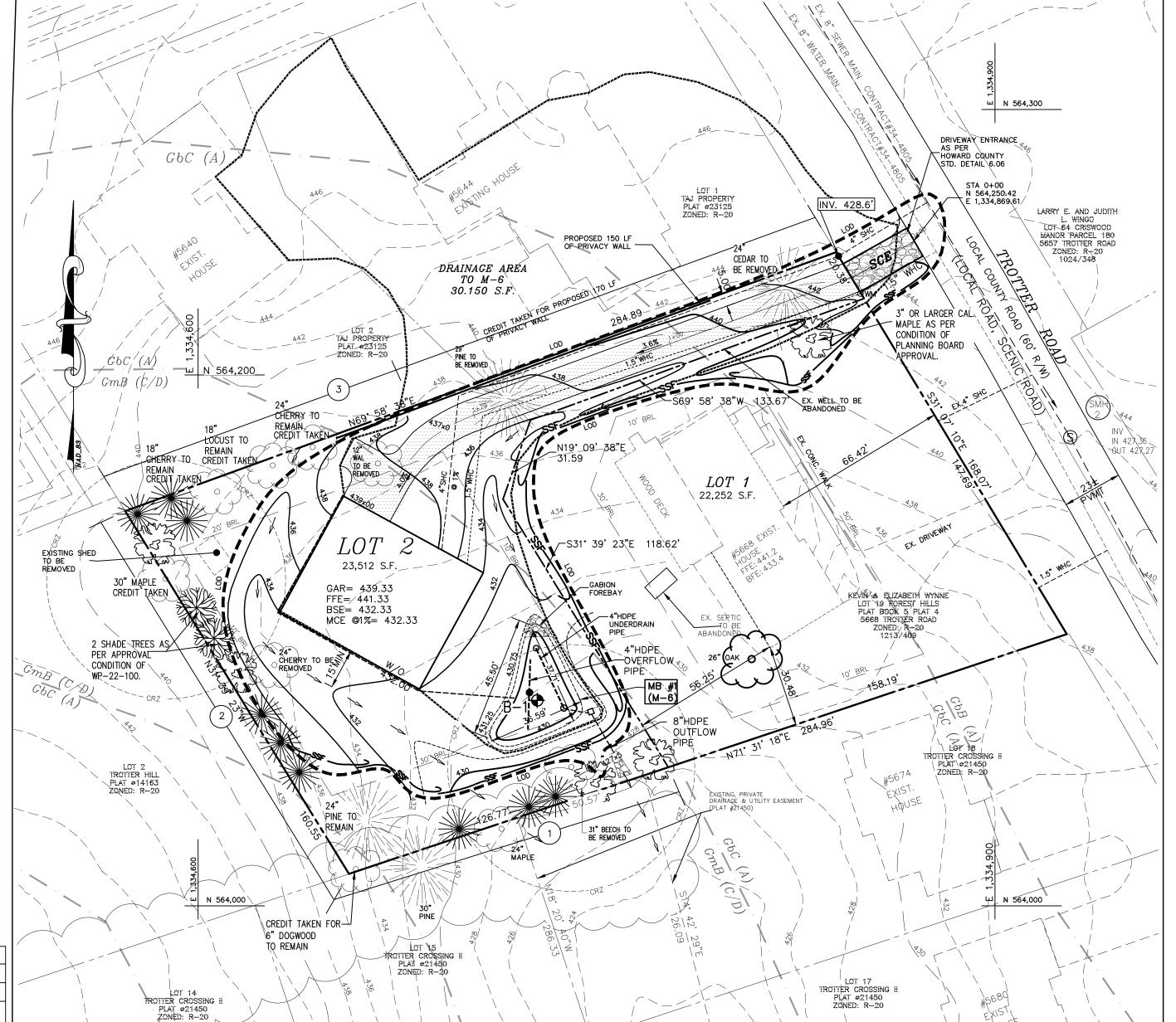
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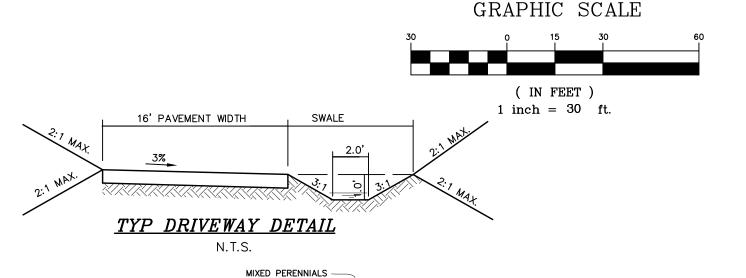
11.23.2022 DATE: SAMER A. ALOMER P.E.

DESCRIPTION SUPPLEMENTAL, LANDSCAPE AND FOREST CONSERVATION P NOTES AND DETAILS

INDEX OF DRAWINGS

SWM PRACTICES SCHEDULE REQUIRED ESDv | PROVIDED ESDv | REQUIRED Pe PROPOSED PRACTICES PROVIDED Pe REQUIRED Rev PROVIDED Rev LOT 1 (EX. HOUSE) N/A N/A N/A N/A N/A N/A LOT 2 M-6, MICRO-BIORETENTION (MB-1) 725.0 CF 1.2" 89 CF 181 CF 696.0 CF





MIXED PERENNIALS

BEEBALM (1.5' SP.)

JOW-PYE-WEED (3' SP.) OR EQUIVALENT

NOTE: PLANT MATERIAL MUST COVER AT LEAST 50% OF THE

SURFACE AREA OF THE MICRO-BIORETENTION

TYP. MICRO-BIORETENTION

(M-6) PLANTING DETAIL

NOT TO SCALE

29. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-22-100 OF SECTIONS 16.1205(a)(3) AND 16.127(C)(4)(i) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. IT WAS APPROVED BY THE PLANNING DIRECTOR ON JUNE 22, 2022. APPROVAL

APPROVAL FOR ALTERNATIVE COMPLIANCE REQUEST TO SECTION 16.1205(a)(3) IS FOR ALLOWING THE REMOVAL OF A SPECIMEN TREE. APPROVAL OF THIS ALTERNATIVE COMPLIANCE IS SUBJECT TO THE FOLLOWING CONDITIONS: 1. THE REMOVAL OF SPECIMEN TREE#2 IS PERMITTED AND REQUIRES THE ONSITE PLANTING OF 2 NATIVE TREES WITH A DBH OF 3". THE TREES SHALL BE SHOWN ON THE FINAL SUBDIVISION LANDSCAPE PLAN SHEET AND MUST BE BONDED AS A

APPROVAL FOR ALTERNATIVE COMPLIANCE REQUEST TO SECTION 16.127(C)(4)(I) IS FOR ALLOWING TWO SEPARATE DRIVEWAYS FOR THE PROPOSED LOTS 1 AND 2. APPROVAL OF THIS ALTERNATIVE COMPLIANCE IS SUBJECT TO THE FOLLOWING

INCLUDE A NOTE ON ALL PLAN SUBMISSIONS WITH THE ALTERNATIVE COMPLIANCE FILE NUMBER, A SUMMARY OF REQUEST, DATE OF APPROVAL AND CONDITIONS OF APPROVAL COMPLIANCE WITH ALL SRC COMMENTS F-21-016, WYNNE PROPERTY.

30. THIS PROJECT WAS PRESENTED BEFORE THE PLANNING BOARD ON AUGUST 18, 2022. AFTER EVALUATING THE PROPOSED INITIAL PLAN SUBMITTAL USING THE CRITERIA SPECIFIED IN SECTION 16.125(C)(5) OF THE HOWARD COUNTY CODE AND AFTER CONSIDERING A VISUAL ASSESSMENT OF THE AFFECTED SCENIC ROAD, THE PLANNING BOARD APPROVED THE PLAN, IN ACCORDANCE WITH SECTION 16.125(C) WITH ONE CONDITION.

1. APPLICANT WILL REPLACE THE 24"DBH SHADE TREE BEING REMOVED ALONG THE PERIMETER OF THE SCENIC ROAD OF

<u> MITIGATION TREE PLANTING SCHEDULE (WP-22-100)</u>

<u>QUANTITY</u>	<u>SYMBOL</u>	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>			
2		PRUNUS SARGENTII OR EQUIVALENT	SARGENT CHERRY OR EQUIVALENT	3" CAL. MIN			
<u>TOTAL</u>	2 SHADE	TREES AS PER WP-22-100 REQU	IREMENT				
NOTE- AN AD	DTE- AN ADDITIONAL 2 SHADE TREES HAVE BEEN PROVIDED IN LIEU OF 1 SPECIMEN TREE REMOVED.						

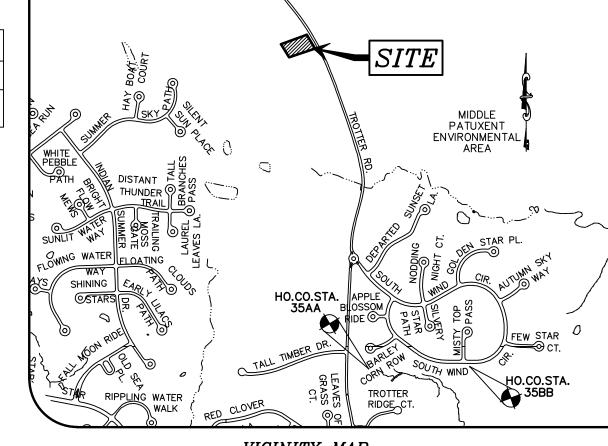
MICRO-BIORETENTION SCHEDULE

FACILITY	TOP EL. (SURFACE)	WEIR EL. (PONDING)	BERM EL.	INV. IN	INV. OUT	SURFACE AREA	PONDING AREA	PONDING DEPTH	GRAVEL DEPTH BELOW UNDERDRAIN
MB-1	430.00	430.75	431.25	427.60	427.50	603 S.F.	875 S.F.	9"	9"

SEE SHEET 2 OF 2 FOR PLAN VIEW AND CROSS-SECTION OF MICRO-BIORETENTION FACILITY

MIHU TRACKING CHART

TOTAL NUMBER OF LOTS/UNITS	2
NUMBER OF MIHU REQUIRED	2
NUMBER OF MIHU PROVIDED ONSITE (EXEMPT FROM APFO ALLOCATIONS)	0
NUMBER OF APFO ALLOCATION REQUIRED (REMAINING LOTS/UNITS)	1*
MIHU FEE-IN-LIEU (INDICATED LOT/UNIT NUMBERS	1-2
ONE APFO ALLOCATION CREDIT WILL BE GRANTED F THE EXISTING HOUSE TO REMAIN ON LOT 1.	FOR



VICINITY MAP SCALE: 1"= 1.000' ADC MAP 14, GRID H-6

GENERAL NOTES:

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- PROJECT BACKGROUND: LOCATION: TAX MAP: 35 PARCEL: 167 GRID: 2 LOT: 19 ELECTION DISTRICT: FIFTH ZONING: R-20 PROPOSED USE FOR SITE: RESIDENTIAL. TYPE OF PROPOSED UNIT: SFD
- <u>SITE ANALYSIS DATA:</u>
 A. TOTAL TRACT AREA: 1.05 AC.± NUMBER OF PROPOSED BUILDABLE LOTS: NUMBER OF OPEN SPACE LOTS: (AREA OF PUBLIC RIGHT-OF-WAY: 0 S.F.±

AREA OF BUILDABLE LOTS: 1.05 AC. ±

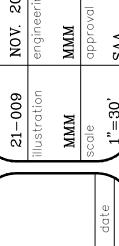
DPZ FILE NOS: ECP-21-045, WP-22-100

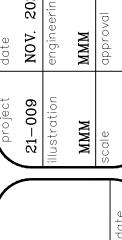
STA. No. 35BB

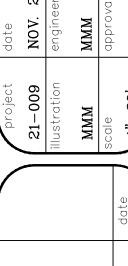
- 4. ON-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY CONDUCTED BY MILDENBERG, BOENDER & ASSOCIATES ON OR ABOUT MARCH 2021.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND NAD 83 (HORZ) AND NGVD29 (VERT) AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS 35AA & 35BB. STA. No. 35AA N 560,767.733, E1,335,483.839, EL. 431.609
- 6. PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY MILDENBERG, BOENDER & ASSOC., INC. ON OR ABOUT MARCH 2021.

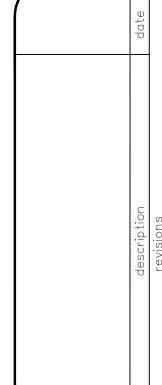
N 560,790.416, E 1,336,537.267, EL. 394.975

- 7. THE PROPOSED SUBDIVISION WILL CONSIST OF SINGLE FAMILY DETACHED DWELLINGS.
- 8. STEEP SLOPES OVER 20,000 SQ. FT. IN AREA DO NOT EXIST ON SITE.
- 9. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
- A) WIDTH 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE). SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP
- B) GEOMETRY MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45-FOOT
- C) STRUCTURES (CULVERT/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING). D) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
- E) STRUCTURE CLEARANCES MINIMUM 12 FEET F) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- 10. THE FOREST CONSERVATION OBLIGATIONS FOR THIS RESUBDIVISION IS PROVIDED BY A PAYMENT OF A FEE-IN-LIEU IN THE AMOUNT OF \$10,890.00 FOR 0.2 ACRES (8,712 SQ FT.) OF
- 11. THIS SUBDIVISION IS IN COMPLIANCE WITH SECTION 16.124 OF HOWARD COUNTY CODE AND THE
- 12. LANDSCAPING FOR THIS SUBDIVISION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. SURETY FOR THE REQUIRED 5 SHADE, 9 EVERGREEN TREES AND 150 LF OF PRIVACY FENCE AND AN ADDITIONAL 2 SHADE TREES, AS PER PLANNING BOARD REQUEST, IN THE AMOUNT OF \$4,950.00 WILL BE PROVIDED WITH THE GRADING PERMIT.
- 13. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM LOT AND ROAD RIGHT-OF-WAY LINE AND NOT TO THE PIPESTEM LOT DRIVEWAY.
- 14. STORMWATER MANAGEMENT IS PROVIDED VIA MICROBIORETENTION (M-6) FACILITIES, IT WILL BE PRIVATELY OWNED AND MAINTAINED.
- 15. A SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED PRIOR TO BUILDING PERMITS BEING ISSUED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLINGS ON LOT 2.
- 16. THE OPEN SPACE REQUIREMENT FOR THIS RESUBDIVISION IS MET BY A PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$1,500.00.
- 17. THERE IS AN EXISTING STRUCTURE ON LOT 1. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS. ALL OTHER STRUCTURES WILL BE REMOVED, UNLESS OTHERWISE
- 18. NO FOREST STAND OR WETLAND EXISTS ON SITE AS CERTIFIED BY MILDENBERG, BOENDER & ASSOC., INC. IN MARCH, 2021.
- 19. 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 THE START OF WORK. 20. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR
- TO ANY EXCAVATION WORK BEING DONE. 21. PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE
- UTILIZED UNDER CONTRACT # 34-4805.
- 22. EXISTING UTILITIES ARE BASED ON ACTUAL FIELD LOCATIONS, IN COMBINATION WITH EXISTING WATER AND SEWER CONTRACTS.
- 23. THERE IS NO FLOODPLAIN ON THIS SITE.
- 24. THIS PROJECT IS EXEMPT FROM THE APFO TRAFFIC STUDY SINCE THERE ARE NO MAJOR WITH MAJOR OR HIGHER CLASSIFICATION ROAD INTERSECTIONS WITHIN 1.5 MILES IN EACH DIRECTION OF THIS PROPERTY. THIS PROJECT IS IN THE PLANNED SERVICE AREA AND THE CLOSEST MAJOR-MAJOR INTERSECTION IS MORE THAN 1.5 MILES (108 AND HOMEWOOD/HARPERS
- 25. A COMMUNITY MEETING FOR THIS PROJECT WAS VIRTUAL, HELD ON MAY 24, 2021 AT 6:00 PM.
- 26. PER SECTION 16.134(B)(3) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SIDEWALKS ALONG TROTTER ROAD ARE NOT REQUIRED SINCE IT IS CLASSIFIED AS A SCENIC ROAD.
- 27. 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
- 28. RESIDENTIAL DRIVEWAY ENTRANCE, HOWARD COUNTY STANDARDS R-6.06 IS TO BE USED.









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MILDENBEH BOENDER



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3. Reinforced Turf

will be carried.

Reinforced Grass Pavement (RGP) - Whether used with grass or gravel, the RGP thickness shall be at least 1¾" 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

3. Compaction

Sam Alomer, P.E.

7350B Grace Drive

Columbia, MD 21044

Dear Mr. Alomer:

Mildenberg, Boender & Assoc., Inc.

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

October 25, 2021

Re: Subsurface Exploration

Wynne Property

5668 Trotter Road

Project No. 121-173

Clarksville, Howard County, MD 21029

performed for each location where the topsoil was excavated.

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,

5. Plant Installation

4" NON-PERFORATED

4" PERFORATED HDPE-

TYP. SECTION

NON-WOVEN

(ON SIDES ONLY)

3"#8 STONE

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

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

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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
- Gravel The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the
- 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

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

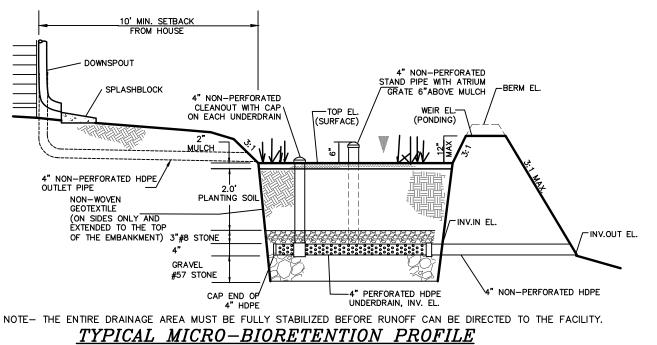
Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	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%)	n/a	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; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f' _c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of 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 [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 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

OPERATION AND 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 INSPECTION 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 NEW LAYER IS APPLIED.
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

STAND PIPE WITH ATRIUM CAP 6"ABOVE MULCH (SURFACE) / (PONDING) MICRO-BIORETENTION (M-6)



The test boring location was determined and staked by Mildenberg, Boender & Assoc., Inc. as shown on the attached Boring Location Plan. The boring was checked for water during drilling and after 24-hours. The results of our study are as follows Groundwater Requested Boring Depth to Auger Depth (feet) Refusal (feet)* Test depth after 24depth during drilling (feet) Depth (feet) Boring No. hours day (feet) B-1 10.0 6.0 No water No water

Geotechnical Laboratories, Inc. (Geolab) has completed the requested exploration

related to the above referenced project. As requested by Mildenberg, Boender & Assoc. Inc. (project Civil Engineer), a soil boring has been drilled on the above referenced

property for a proposed stormwater management (SWM) facility. The purpose of this soil

For this study, one soil test boring (designated as B-1) was drilled using hand-augers.

boring was to determine the depth to groundwater and rock.

Should you have any questions, please do not hesitate to contact our office at your convenience.

I hereby certify that this report was prepared or approved by me, and that I am a duly licensed, professional engineer under the laws of the State of Maryland, License No. 42003, expiration date 12/9/2022.

geolab@verizon.net 410-772-2220 fax: 410-772-2221

12/13/2022

12/13/2022

DATE



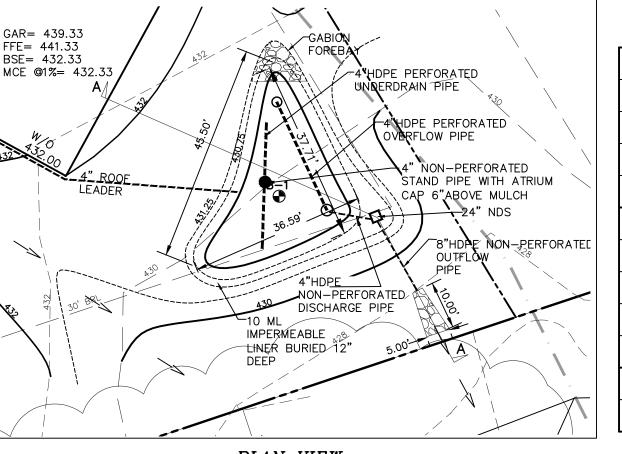
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-DocuSigned by:

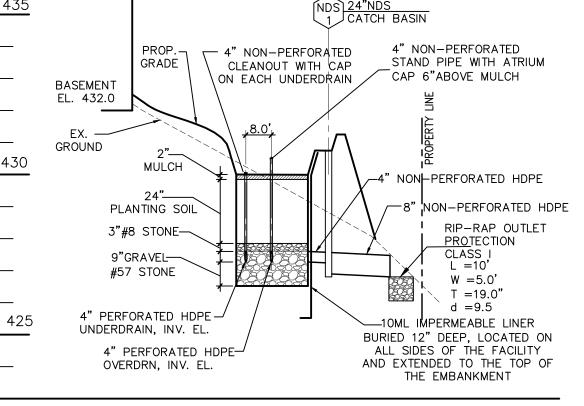
*The test boring was attempted six times.

Geotechnical Laboratories, Inc. David A. Rockwood, P.E.

Staff Engineer \\GMNPC\Server2\MyFiles\GEOTECH\121-173 Wynne Property\Wynne Property Report.docx <u>Geotechnical Laboratories, Inc.</u> 8980 State Route 108, Suite D, Columbia, Maryland 21045



<u>PLAN V</u>IEW SCALE: 1"=20'

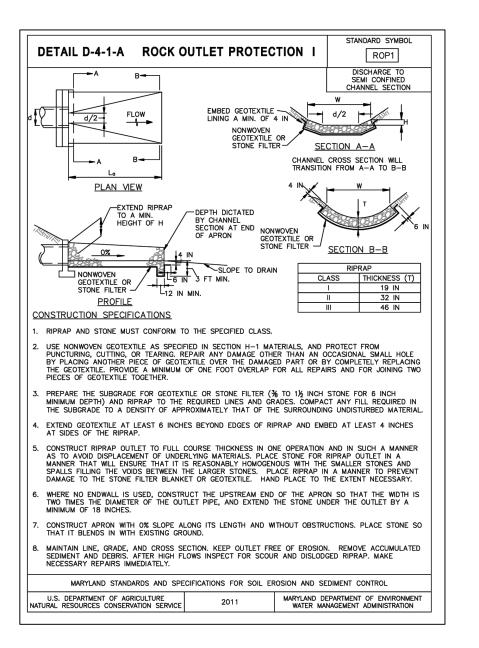


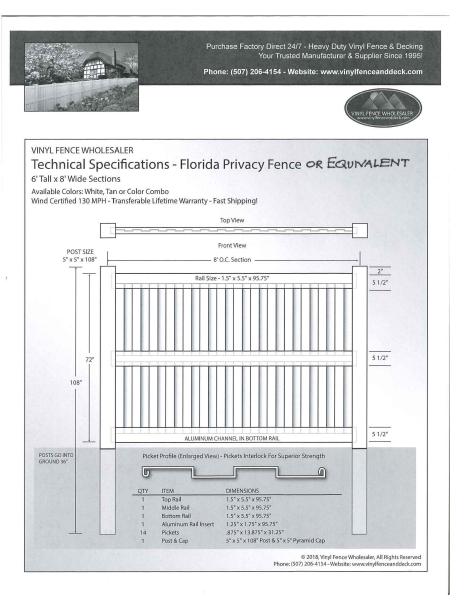
<u>CROSS-SECTION A-A</u> <u>MICRO-BIORETENTION (M-6)</u> SCALE: HOR. 1"=30" VER. 1"=3"

 $\underline{MICRO-BIORETENTION}$ (M-6)

OWNER/DEVELOPER

KEVIN WYNNE 5668 TROTTER ROAD CLARKSVILLE, MD 21029 301-829-7820





PRIVACY FENCE DETAIL

APPROVED: DEPARIMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION CHIEF, DIVISION OF LAND DEVELOPMENT

DATE

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP DATE 08/08/23

Samer Digitally signed by Samer Alomer, c=US, 11.23.2022 Alomer Reason: I am approving this documer Date: 2022.11.23 11:02:28 -05'00' SAMER A. ALOMER P.E.

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