SHEET INDEX EXISTING CONDITIONS, SOILS AND DEMOLITION PLAN SUPPLEMENTAL PLAN NOTES AND DETAILS 5 SWM NOTES AND DETAILS GRADING AND SEDIMENT AND EROSION CONTROL PLAN SEDIMENT AND EROSION CONTROL NOTES AND DETAILS SIGHT DISTANCE PROFILE RETAINING WALL ELEVATION RETAINING WALL ELEVATION NOTES AND DETAILS 12 BORING PLAN AND LOGS

	50IL5 LEGEND		
50IL	NAME	CLA55	'K'VALUE
GbB	Gladstone loam, 3 to 0 percent slopes	В	.32
GbC	Gladstone loam, 8 to 15 percent slopes	В	.32
	HOWARD COUNTY WEBSOILS	SURVEY 09	/15/20

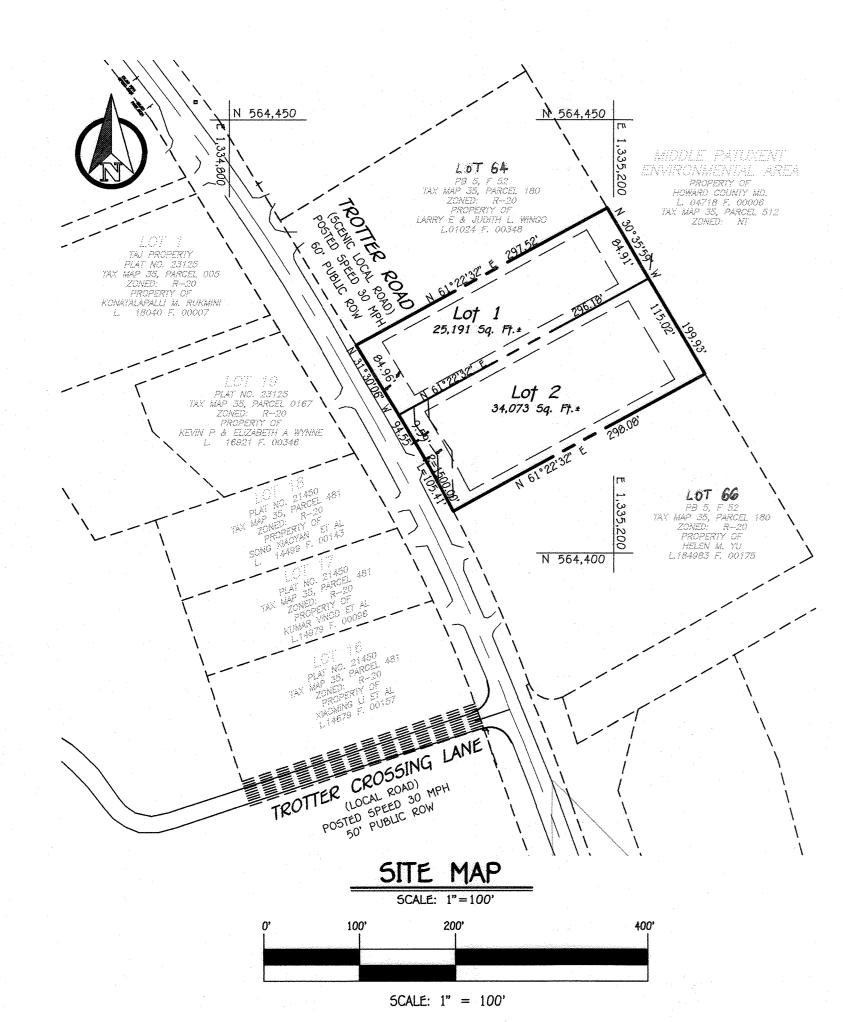
	STORMWA	ITER MAN	IAGEMENT PRACTICES BY LOT	
AREA ID.	MICRO-BIO (M-6) NUMBER	DRY WELL (M-5) NUMBER	REMARK5	
LOT 4	1		PARKING AREA AND PORTION OF UIC DRIVEWAY DRAINS TO BIO ON LOT	1
LOT 1		1A &1B	PROPOSED HOUSE TREATED BY ON LOT DRY WELLS (2)	4
107.0	2		PARKING AREA AND PORTION OF UIC DRIVEWAY DRAINS TO BIO ON LOT	2
LOT 2		2A,2B,&2C	PROPOSED HOUSE TREATED BY ON LOT DRY WELLS (3)	

 2A,2B,&2C			ON LOT DRY WELL				1. <i>8</i> " (1,86 = 2.3" (2,	9 CuFt.)
5	TORMWATE	e managi	EMENT PR	ACTICES	FROV	IDED FE	- 2.5 (2,	too Cur
			3 (51) 1 14		MICEO			

GROSS AREA = 1.36 ACRES

LOD = 0.78 ACRES

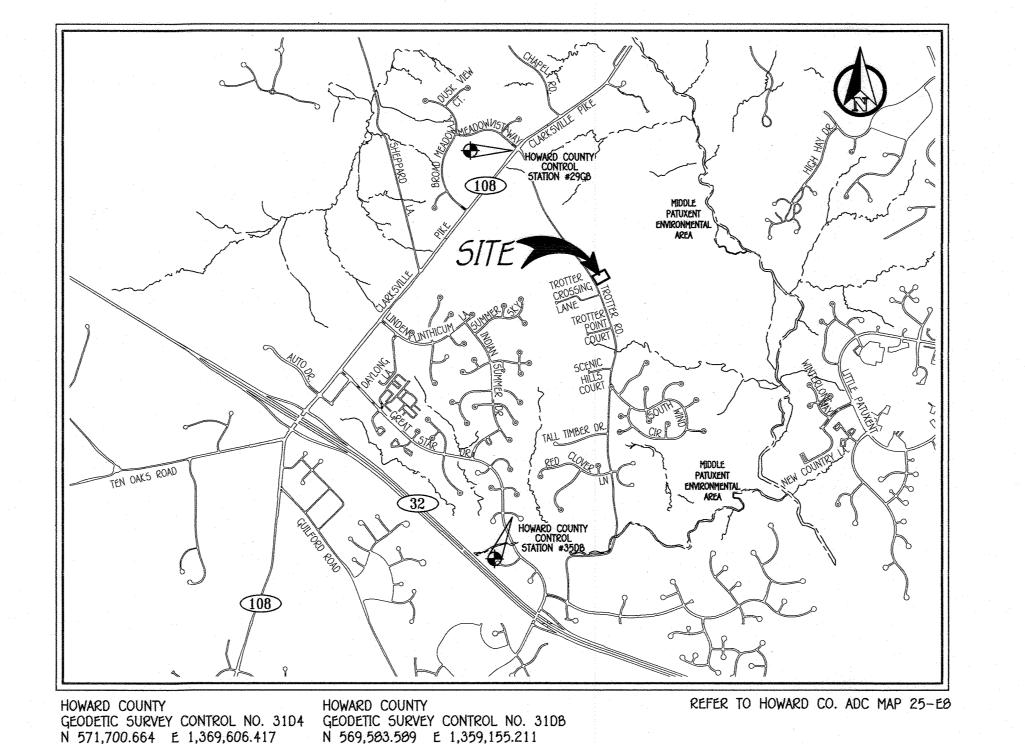
STORMWATER MANAGEMENT PRACTICES								
AREA ID	LOCATION	ADDRESS	DRAINAGE AREA SF.	% IMPERVIOUS	E50v REQUIRED CuF†.	E5DV PROVIDED CuF†.	MICRO BIO-RETENTION M-6 (Y/N)	DRY WELL M-5 (Y/N)
DW 1A	POT 1		980	100%	140	144		Υ
DW 18	LOT 1	5669 TROTTER RD	768	100%	110	144		Y
BIO 1	LOT 1		4,738	56%	392	565	Υ	
DW 2A			309	100%	44.	128		Y
DW 2B	LOT 2	5070 TOOTTEO OO	709	100%	101	128		Y
DW 2C		5673 TROTTER RD	881	100%	126	128		Y
BIO 2	LOT 2		8,462	49%	622	721	Y	



	REVISIONS		Approved: Department Of Planning And Zoning	
NO.	DESCRIPTION	DATE		
				11/2/22
			Chief, Division Of Land Development	Date
L			Charl Edundary	10.12.22
FISHE	R, COLLINS & CARTER, INC. INEERING CONSULTANTS & LAND SURVEYORS		Chief, Development Engineering Division	Dațe
	INEERING CONSULTANTS & LAND SURVEYORS		Approved: Howard County Department Of Public	Works
CENTENNIAL S	5QUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE			
	ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055		(Jame	10/04/20

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANGEMENT PLANS SAPARIYA PROPERTY

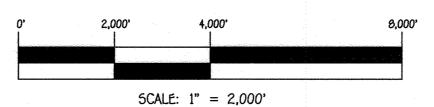
LOTS 1 AND 2 R-20 ZONING DISTRICT TAX MAP No. 35 GRID No. 02 PARCEL NO. 180 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND LEGEND



VICINITY MAP

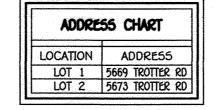
5CALE: 1" = 2.000"

ELEVATION: 429.348'



41. IN ACCORDANCE WITH HOWARD COUNTY SUBDIVISION REGULATIONS SECTION 16.125(C), THE PROJECT WAS APPROYED BY THE PLANNY BOARD ON JUNE 2, 2022.

ELEVATION: 494.445'



DESCRIPTION EXISTING CONTOUR 2' INTERVAL EXISTING CONTOUR 10' INTERVAL PROPOSED CONTOUR 10' INTERVAL PROPOSED CONTOUR 2' INTERVAL EXISTING FENCE SPOT ELEVATION X448.5 EXISTING STORM DRAIN 「并」 EXISTING WATER LINE 8"5 EXISTING SEWER LINE EXISTING OVERHEAD WIRE PROPOSED PAVING PRIVATE UIC EASEMENT PRIVATE DRAINAGE & UTILITY EASEMENT LIMIT OF DISTURBANCE - SSF/TP - SUPER SILT FENCE/TREE PROTECTION FENCE - DF/TP - DIVERSION FENCE/TREE PROTECTION FENCE EXISTING TREE LINE PROPOSED TREE LINE DRAINAGE DIVIDE PERMANENT SOIL STABILIZATION CONTROL MATTING SOIL LINES AND TYPES BIO RETENTION FACILITY AS NOTED PROPOSED ROOF LEADER DENOTES EXISTING TREES TO BE REMOVED DENOTES EXISTING TREES TO REMAIN ST 3 / SPECIMEN TREE CRITICAL ROOT ZONE DENOTES 15%-24.9% SLOPES

A.	TOTAL AREA OF THIS SUBMISSION = 1.36 AC.±.
B.	LIMIT OF DISTURBED AREA = 0.55 Ac.±
	(SWM BASED ON LOD)
C.	PRESENT ZONING DESIGNATION = R-20
	(PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
D.	PROPOSED USE: RESIDENTIAL SINGLE FAMILY DETACHED
E.	PREVIOUS HOWARD COUNTY FILES: ECP-20-051
F.	TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0 AC
G.	TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0 AC±
H.	TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0 AC.±
I	TOTAL APPA OF STREAM (INCLUDING BLIFFER) = 0 AC +

SITE ANALYSIS DATA CHART

TOTAL AREA OF EXISTING FOREST TOTAL AREA OF FOREST TO BE RETAINED $= 0.37 \text{ AC}_{\pm}$ TOTAL AREA OF LOTS / BUILDABLE PARCELS = 1.36 AC+ TOTAL GREEN OPEN AREA (PERVIOUS) $= 1.08 AC \pm$ N. TOTAL IMPERVIOUS AREA = 0.27 AC± (WITHIN LOD,

EXCLUDES EXISTING IMPERVIOUS) TOTAL AREA OF ERODIBLE SOILS $= 0 AC \pm$ P. TOTAL AREA OF STEEP SLOPES 15%-24.9% $= 0.04 \text{ AC} \pm$

MODERATE INCOME HOUSING UN ALLOCATION EXEMPTIONS TR TABULATION	
Total Number of Lots/Units Proposed	2
Number of MIHU Provided Onsite (exempt from APFO allocations)	0
Number of APFO Allocations Required (remaining lots/units)	1
MIHU Fee-in-Lieu (indicate lot/unit numbers)	2

OWNER/DEVELOPER

DIVYESH SAPARIYA SOHILRAJ SAPARIYA AND HITESH ANKOLA 5669 TROTTER ROAD CLARKSVILLE. MARYLAND 21029 PH# 301-275-0762

- THE SUBJECT PROPERTY IS ZONED R-20 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.)
- CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS
- AND CARTER, ON OR ABOUT APRIL, 2020. . COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD

COUNTY GEODETIC CONTROL STATIONS NO. 35DB AND NO. 29GB:

HOWARD COUNTY MONUMENT NO. 35DB N 557,696,143 E 1,333,974.615 ELEV. 400.941' N 566,826.147

E 1,333,265.923 ELEV. 455.964'

BE UTILIZED FOR THIS PROJECT UNDER WATER AND SEWER CONTRACT NO. 34-4805.

ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER PROVIDING INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED RESIDENTIAL

THE SITE DEVELOPMENT PLAN (LOT 1-\$1,500; LOT 2-\$2,100). PER SECTION 16.127.c.ii.a OF THE

APPROVED JULY 2021. THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.12.00 OF THE

FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:

A) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE) B) SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING

D) STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING) E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE

F) STRUCTURE CLEARANCES - MINIMUM 12 FEET

G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE H) ENTRANCE CONSTRUCTED PER HOWARD COUNTY STANDARD DETAIL R-6-01

13. STORM WATER MANAGEMENT DEVICES, WHICH CONSIST OF FIVE M-5 DRYWELLS AND TWO M-6 MICRO-BIORETENTION FACILITIES. WILL BE OWNED AND MAINTAINED BY PROPERTY OWNER OF EACH LOT. 14. EXISTING UTILITIES ARE BASED ON MISS UTILITY MARKINGS, FIELD LOCATIONS AND AVAILABLE

15. TO THE BEST OF OUR KNOWLEDGE NO CEMETERIES ARE LOCATED ON-SITE BASED ON THE HOWARD COUNTY CEMETERY INVENTORY MAP.

16. B.R.L. DENOTES BUILDING RESTRICTION LINE.

17. SITE IS ADJACENT TO A SCENIC ROAD (TROTTER ROAD) 18. ALL LOT/PARCEL AREAS ARE MORE OR LESS.

19. LETTER OF FINDINGS DATED SEPTEMBER 2020 PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DETERMINED THAT THERE ARE NO WETLANDS, WETLAND BUFFERS, STREAM AND STREAM BUFFER LOCATED WITHIN THE LIMITS OF THE FINAL PLAT.

20. THERE IS AN EXISTING DWELLING ON LOT 1 AND AN EXISTING SHED TO BE REMOVED 21. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF

SECTION 18.122B OF THE HOWARD COUNTY CODE. 22. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT

BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME. 23. THIS PLAN IS IN COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE

DEVELOPMENT REGULATIONS AND THE 10/06/13 COMPREHENSIVE ZONING PLAN. DEVELOPMENT APPLICATION, OR BUILDING/GRADING PERMIT

24. APPROVAL OF A SITE DEVELOPMENT PLAN IS REQUIRED FOR THE DEVELOPMENT OF ALL RESIDENTIAL LOTS WITHIN THIS SUBDIVISION PRIOR TO ISSUANCE OF ANY GRADING OR BUILDING PERMITS FOR NEW HOUSE CONSTRUCTION IN ACCORDANCE WITH SECTION 16 155 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS

26. NO HISTORIC STRUCTURES EXIST WITHIN THE LIMITS OF THIS PLAT SUBMISSION.

27. PROPERTY IS A SUBDIVISION, REFER TO APFO LETTER DATED FEBRUARY 13, 2021 FROM MARS GROUP AND WAS APPROVED WITH THIS SITE PLAN JULY 2021. 28. NOISE STUDY IS NOT REQUIRED BECAUSE THE PROJECT DOES NOT FALL WITHIN THE GUIDELINES OF DESIGN MANUAL, VOLUME iii, ROADS BRIDGES, SECTION 5.2.F.2.

29. SUBDIVISION IS SUBJECT TO SECTION 100.0.E. OF THE ZONING REGULATIONS. AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS (M.I.H.U.) OR AN ALTERNATIVE COMPLIANCE WILL BE PROVIDED. THE DEVELOPER SHALL EXECUTE A M.I.H.U. AGREEMENT WITH THE DEPARTMENT OF HOUSING TO INDICATE HOW THE M.I.H.U. REQUIREMENT WILL BE MET. THE M.I.H.U. AGREEMENT WILL BE RECORDED SIMULTANEOUSLY WITH THIS PLAT IN THE LAND RECORDS OFFICE OF HOWARD COUNTY, MARYLAND. THIS DEVELOPMENT WILL MEET M.I.H.U. ALTERNATIVE COMPLIANCE BY A PAYMENT OF A FEE-IN-LIEU TO THE DEPARTMENT OF

HOUSING FOR EACH REQUIRED UNIT. MODERATE INCOME HOUSING UNIT (M.I.H.U.) TABULATION: a. M.I.H.U. REQUIRED = (2 LOT5 X 10%) = 0.2 M.I.H.U.M.I.H.U. PROPOSED = DEVELOPER WILL PURSUE ALTERNATIVE COMPLIANCE BY PAYING A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR THE UNITS REQUIRED

BY THE DEVELOPMENT. 30. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE

ARE PROVIDED TO THE JUNCTION OF THE FLAG PIPESTEM AND THE ROAD RIGHT-OF-WAY ONLY AND NOT ONTO THE FLAG OR PIPESTEM LOT DRIVEWAY.

31. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. 32. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING,

CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK. 33. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 40 HOURS

PRIOR TO ANY EXCAVATION WORK BEING DONE.

34. IN ACCORDANCE WITH SECTION 16.132 (4), THE PROPERTY OWNER SHALL NOT BE REQUIRED TO CONSTRUCT OR PROVIDE FOR CONSTRUCTION OF IMPROVEMENTS TO COUNTY MAINTAINED SCENIC ROADS. THE SIGHT DISTANCE EVALUATION DOES NOT REQUIRE GRADING TO ACHIEVE SAFE STOPPING DISTANCE. IN ACCORDANCE WITH SECTION 16.134(b) NO SIDEWALKS ARE REQUIRED WHEN (2) ADJACENT DEVELOPMENT HAS BEEN SUBSTANTIALLY COMPLETED WITHOUT SIDEWALKS AND (3) SIDEWALKS WOULD BE DETRIMENTAL TO THE CHARACTER OF A SCENIC ROAD. 35. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST

EDITIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE.IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT. 36. STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTRY DESIGN MANUAL, VOLUME iii (1993) AND AS MODIFIED BY "GUIDELINES

FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE. 37. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST(14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) 3" LONG, A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

38. THERE IS NO FLOODPLAIN ON THIS SITE. 39. THE PROPERTY DOES NOT HAVE ANY QUALIFYING STEEP SLOPES GREATER THAN 25%. LIMITED

AREA OF STEEP SLOPES 15% TO 24.9% ARE INDICATED ON THE PLAN AND LEGEND. 40. THE PROPERTY IS SUBJECT TO AN ALTERNATIVE COMPLIANCE (WP 22-031) OF SECTION 16.1205(A)(3) FOREST RETENTION PRIORIES. THE ALTERNATIVE COMPLIANCE PROPOSED THE REMOVAL OF FIVE (5) SPECIMEN TREES. THE ALTERNATIVE COMPLIANCE HAS BEEN APPROVED BY THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, DIRECTOR OF THE RECREATION AND PARKS AND ADMINISTRATOR OF THE OFFICE OF COMMUNITY SUSTAINABILITY ON MARCH 10, 2022 SUBJECT TO THE FOLLOWING CONDITIONS:

1) THE ALTERNATIVE COMPLIANCE APPROVAL IS LIMITED TO THE REMOVAL OF SPECIMEN TREES #1, #2, AND #10 ONLY AS DEPICTED ON THE EXHIBIT. ANY PROPOSAL TO REMOVE ANY OTHER SPECIMEN TREE WILL REQUIRE A NEW ALTERNATIVE COMPLIANCE REQUEST OR AN AMENDMENT TO THIS ALTERNATIVE COMPLIANCE REQUEST.

2) SPECIMEN TREES #8 AND #9 WILL BE PRESERVED ONSITE. INDIVIDUAL TREE PROTECTION DEVICES (TREE FENCING) SHALL BE PLACED AROUND THE TREES PRIOR TO THE COMMENCEMENT OF ANY GRADING. ROOT

PRUNING, AS APPROVED IN EXHIBIT G-15 IN THE FOREST CONSERVATION MANUAL, SHALL BE ATTEMPED. 3) A MINIMUM OF SIX (6), NATIVE 3" CALIPER, SHADE TREES SHALL BE PROVIDED AS MITIGATION FOR THE REMOVAL OF THE THREE (3) SPECIMEN TREES FROM THE PROPERTY. LANDSCAPING SURETY IN THE AMOUNT

OF \$300.00 PER TREE SHALL BE PROVIDED WITH THE APPLICANT'S GRADING PERMIT AS PART OF THE SITE DEVELOPMENT PLAN. TITLE SHEET

SAPARIYA PROPERTY

5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65 PLAT BOOK 5, PAGE 52

TAX MAP NO.: 35 GRID NO.: 02 PARCEL NO.: 0180 ZONED R-20

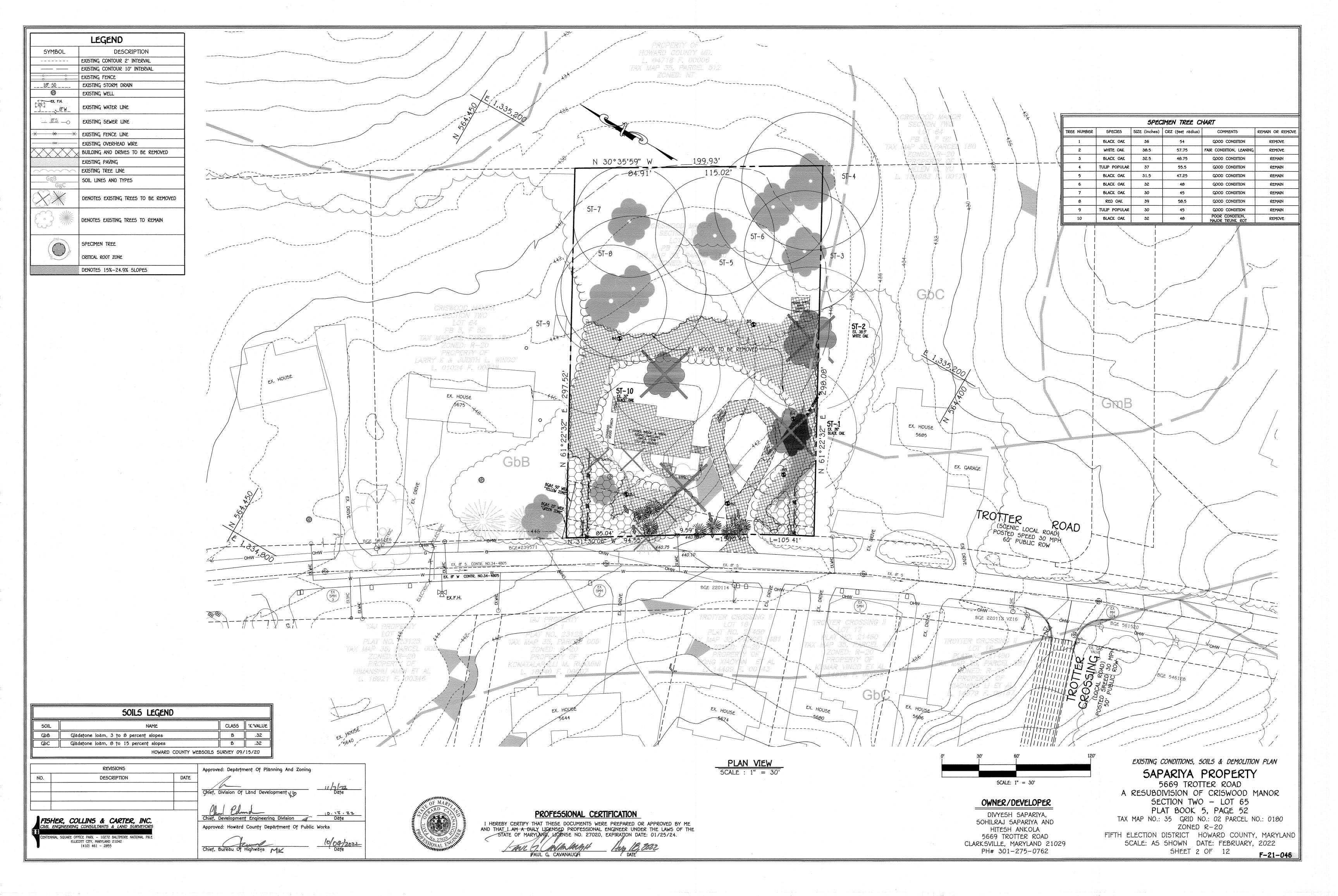
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: FEBRUARY, 2022

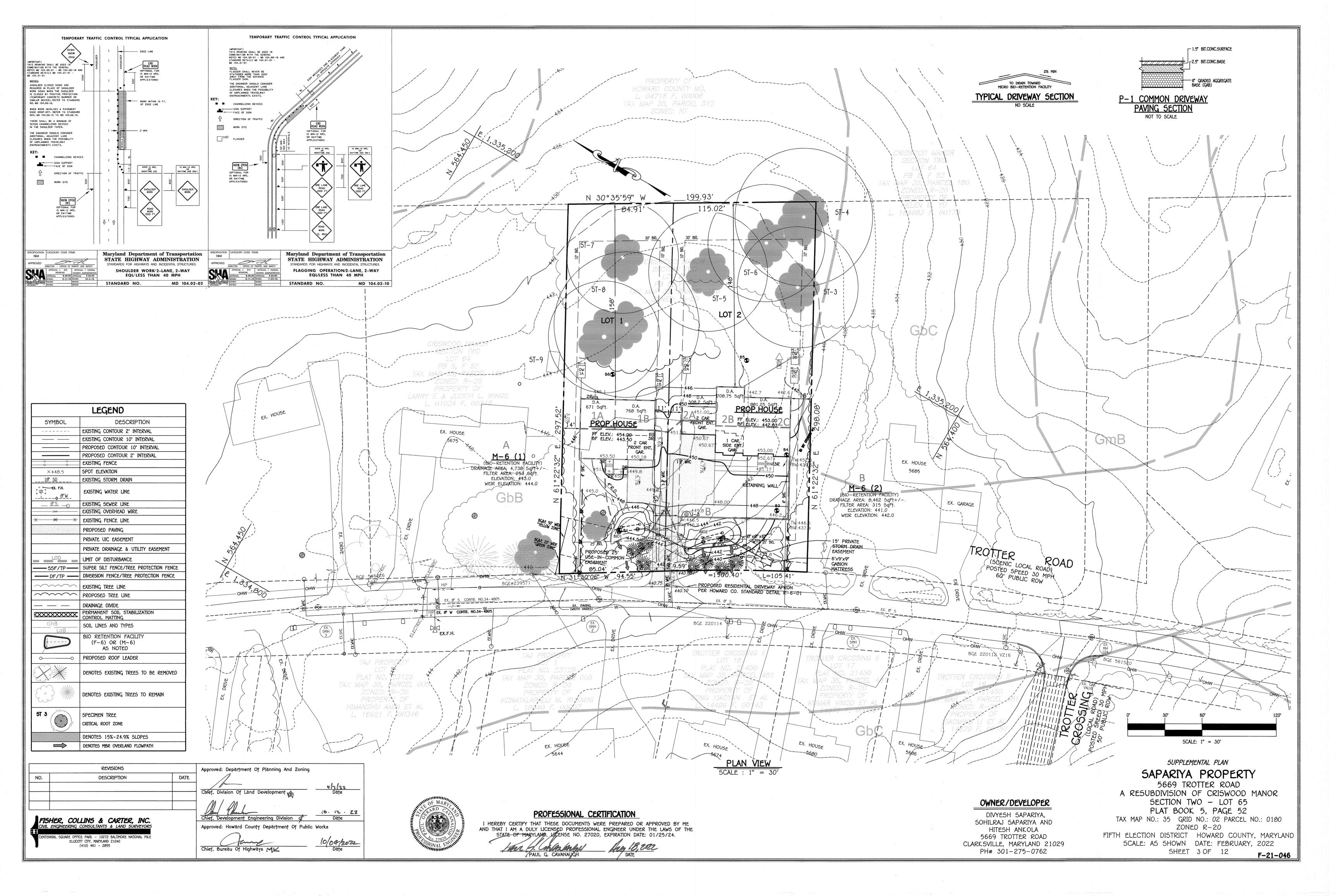
SHEET 1 OF 12 F-21-046

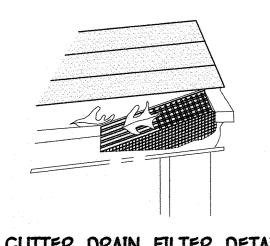


PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24.







GUTTER DRAIN FILTER DETAIL

NOT TO SCALE

DRY WELL CHART									
LOT NO.	DRYWELL NO.	NO. OF DOWNSPOUTS	AREA OF ROOF	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF STORAGE	AREA OF TREATMENT	NO. OF DRYWELLS	DIMENSIONS OF DRYWELLS
LOT 1	1A	1	671 SqF†	140 CuFt	144 CuF†	100%	100%	1	9' X 8' X 5'
LOT 1	18	1	768 SqFt	110 CuFt	144 CuFt	100%	100%	1	9' X 8' X 5'
LOT 2	2A	1	308 SqFt	44 CuFt	128 CuFt	100%	100%	1	8' X 8' X 5'
LOT 2	28	1	708 SqFt	101 CuFt	128 CuFt	100%	100%	1	8' X 8' X 5'
LOT 2	2C	1	881 SqFt	126 CuFt	128 CuFt	100%	100%	1	8' X 8' X 5'

MICRO-BIO 1 QUANTITY	MICRO-BIO 2 QUANTITY	0-bioreten	TIONS PLANT	MATERIAL NAME	MAXIMUM SPACING (FT.)
21	26			MIXED PERENNIALS	1.5 TO 3.0 FT.
9	11			5ILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION

PERFORATED PIPE WRAPPED WITH GEOTEXTILE

TYPICAL SECTION - OPTIONAL INTERIM BIO-RETENTION FACILIT

OWNER/DEVELOPER

DIVYESH SAPARIYA.

50HILRAJ SAPARIYA AND

HITESH ANKOLA

5669 TROTTER ROAD

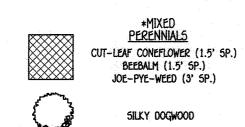
CLARKSVILLE, MARYLAND 21029

PH# 301-275-0762

FUTURE BIO-RETENTION FACILITY

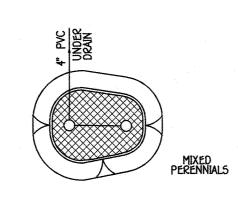
1) A MODIFICATION TO THE STORAGE REQUIREMENT (DRYWELL SIZE) MAY BE DETERMINED WHEN THE ACTUAL HOUSE TYPE IS SITED ON THE INDIVIDUAL LOT.

	PRACTICE TYPE (QUANTITY)								
LOT NO.	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	HOA MAINTAINS	MISC.			
LOT 1	M-5(1A)	144 Cu.Ft.	N	·Y	N				
LOT 1	M-5(1B)	144 Cu.F†.	N	Y	N				
LOT 1	M-6(1)	565 Cu.Ft.	N	Υ	N				
LOT 2	M-5(2A)	128 Cu.Ft.	N	Y	N				
LOT 2	M-5(2B)	120 Cu.Ft.	N	Y	N				
LOT 2	M-5(2C)	128 Cu.Ft.	N	Υ	N				
LOT 2	M-6(2)	721 Cu.Ft.	N	Υ	N				

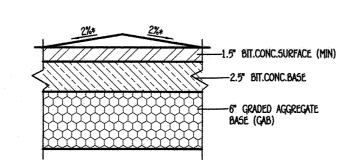


* SEE PLANT MATERIAL CHARTS
FOR QUANTITIES AND SPACING

PLANT MATERIAL MUST COVER
AT LEAST 50% OF THE SURFACE
AREA OF THE MICRO-BIORETENTION



MICRO-BIORETENTION PLANTING DETAIL NOT TO SCALE



Material

Plantings

Organic Content

Curtain drain

Gravel (underdrains and infiltration berms)

Poured in place concrete (if required)

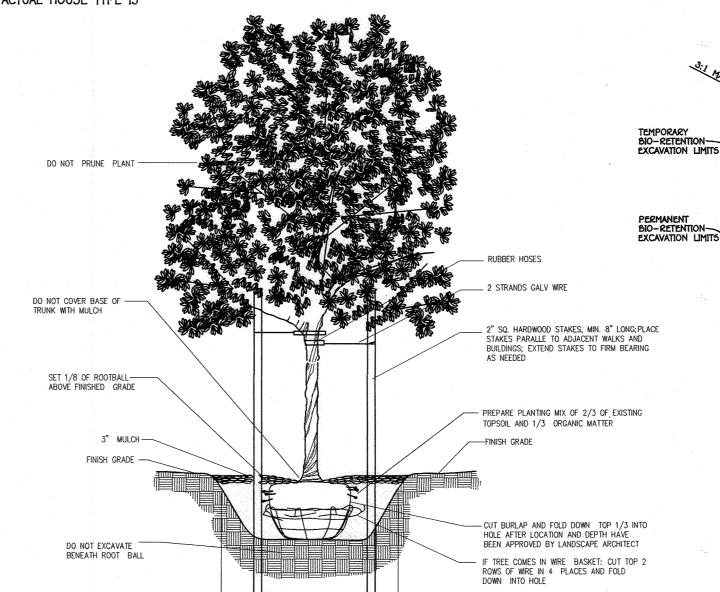
Underdrain piping

Geotextile

P-1 DRIVEWAY PAVING SECTION *DRIVEWAY SHALL BE CROWNED

TO DIRECT RUNOFF TO

MICRO-BIORETENTION FACILITIES



STAKING AND GUYING

STAKE ALL TREES UNDER 3" CALIPER W/ TWO HARDWOOD STAKES, GALVANIZED WIRE AND BLACK RUBBER HOSE

DECIDUOUS TREE - TYPICAL PLANTING DETAIL

Notes

aged 6 months, minimum

PE Type 1 nonwoven

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

No. 8 or No. 9 (1/8" to 3/8")

stone: 2" to 5"

No. 57 or No. Aggregate (3/8° to 3/4°)

4" to 6" rigid schedule 40 PVC or 5DR35

0.02" to 0.04"

n/a

n/a

Specification

loamy sand 60-65% compost 35-40%

sandy loam 30% coarse sand 30%

(A5TM D 2974)

shredded hardwood

compost 40%

see Appendix A; Table A.4

Min. 10% by dry weight

pea gravel: ASTM-D-448

ornamental stone: washed

F 750, Type P5 20 or AASHTO M-270

MSHA Mix No. 3; f = 3500 psi at 20 days, normal weight.

AASHTO-M-6 or ASTM-C-33

air-entrained; reinforcing to meet ASTM-615-60

2 X WIDTH OF ROOT BALL

plantings are site-specific

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

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

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

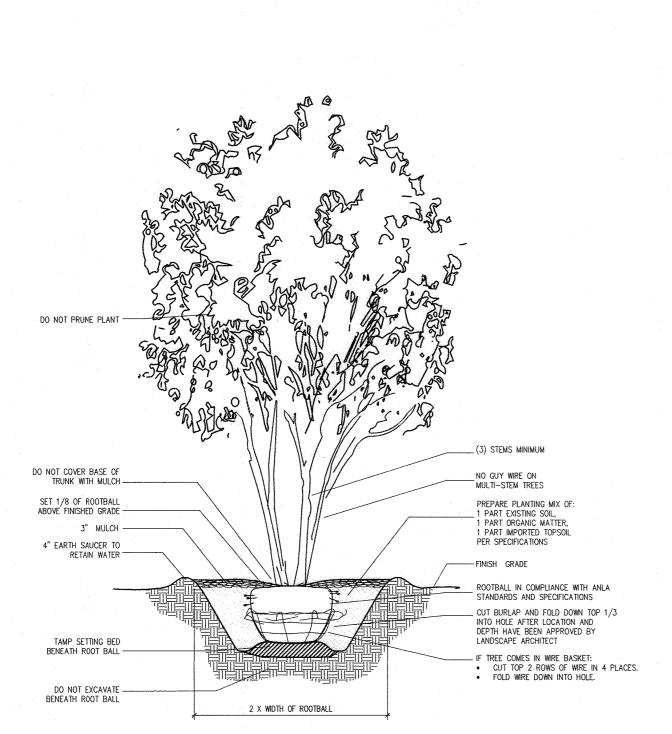
structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading EH-10 or

H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking

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.

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



MULTISTEM TREE - TYPICAL PLANTING DETAIL

	REVISIONS	<u> </u>	Approved: Department Of Planning And Zoning
NO.	DESCRIPTION	DATE	
		-	Chief, Division Of Land Development Date
I FISHE	R, COLLINS & CARTER, INC.		Chief, Development Engineering Division & Date
CIVIL ENG	INEERING CONSULTANTS & LAND SURVEYORS		Approved: Howard County Department Of Public Works
8 8 CENTENNIAL	SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 – 2855		Chief, Bureau Of Highways MK Date



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, ASCENSE NO. 27020, EXPIRATION DATE: 01/25/24.

		· 电	
	ESS (MACCAFFERI APPROVED EQUAL)	DRAINAGE EL	.= 437.85
= =		7 1 1 1	_\\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	9' = =		

6'X9'X9" GABION MATTRESS

NO SCALE

-	STRUCTURE	SCHEDUL	E.	
STRUCTURE	MATERIAL	TOP ELEVATION	INVERT IN	INVERT OUT
I-1	15" NYLOPLAST BASIN	442.0	438.5	438.4
I-2	15" NYLOPLAST BASIN	444.0	<i>8</i> " – 440.3	4402
I-3	12" NYLOPLAST BASIN	445.8	_	445.0

PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

BID SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED

WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

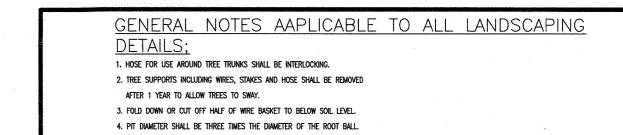
POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE).

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

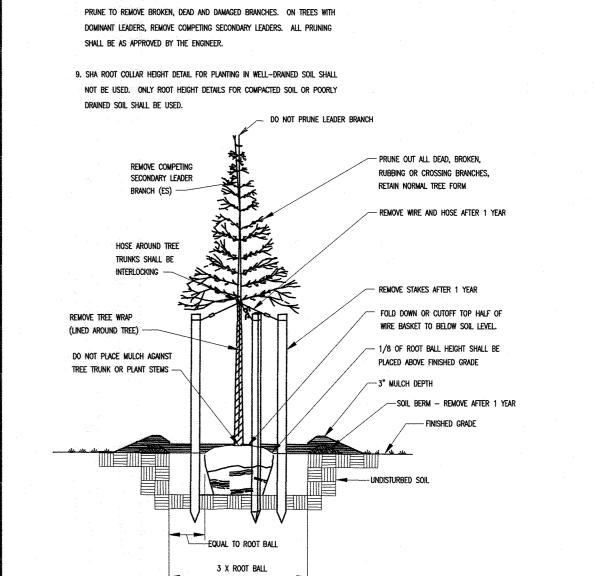
A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND TREE.



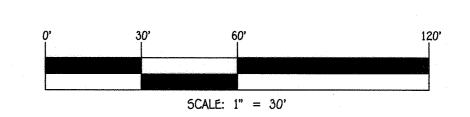
7. MULCH SHALL NOT BE DIRECTLY PLACED AGAINST TREE TRUNKS OR PLANT STEMS. 8. PRUNING PATTERNS SHALL BE AS FOLLOWS:

5. ROOT BALLS SHALL HAVE 1/8" OF HEIGHT ABOVE GRADE.

6. SOIL BERMS SHALL BE REMOVED AFTER 1 YEAR.



Detail Department of Public Works L-1.01Landscaping General Notes

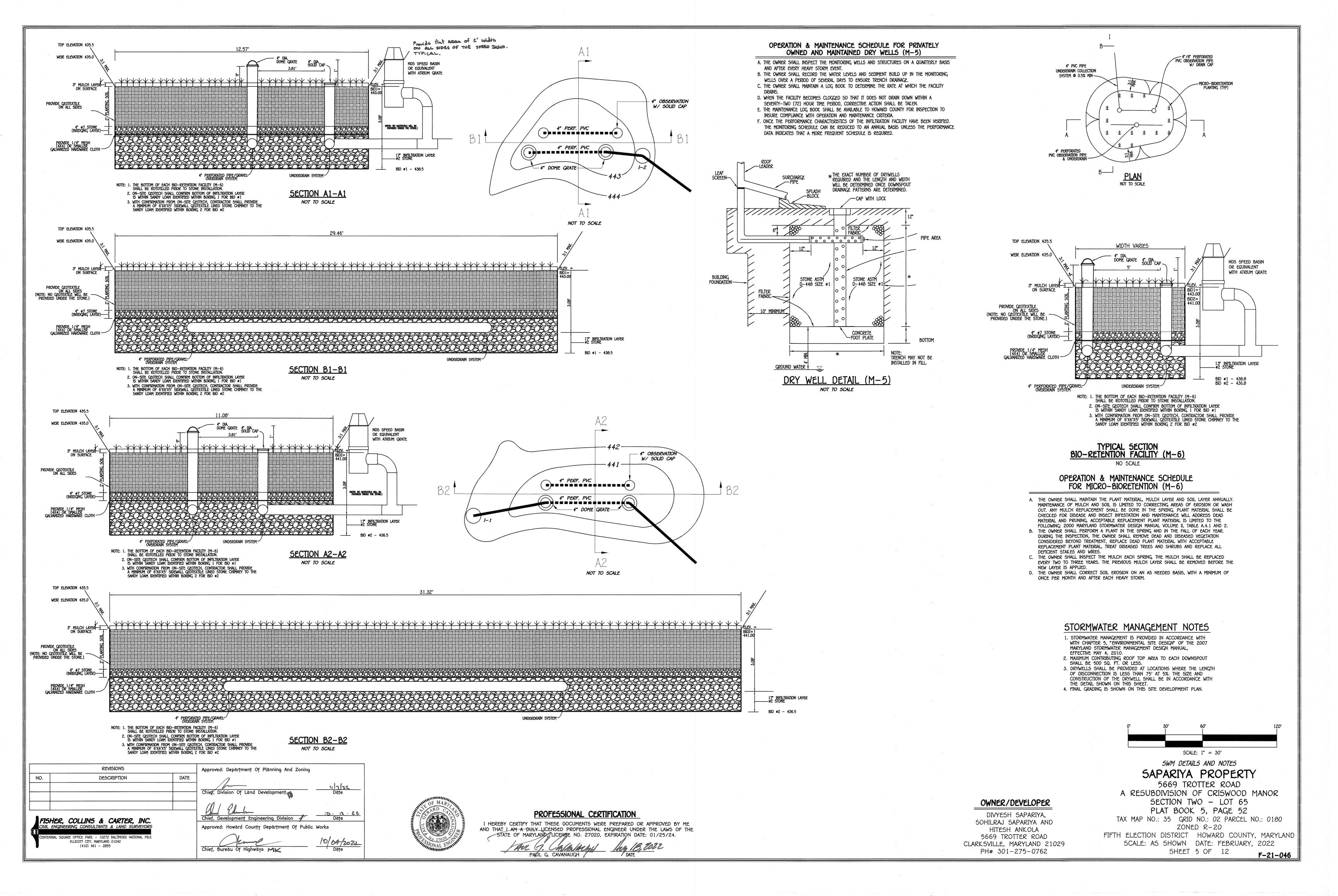


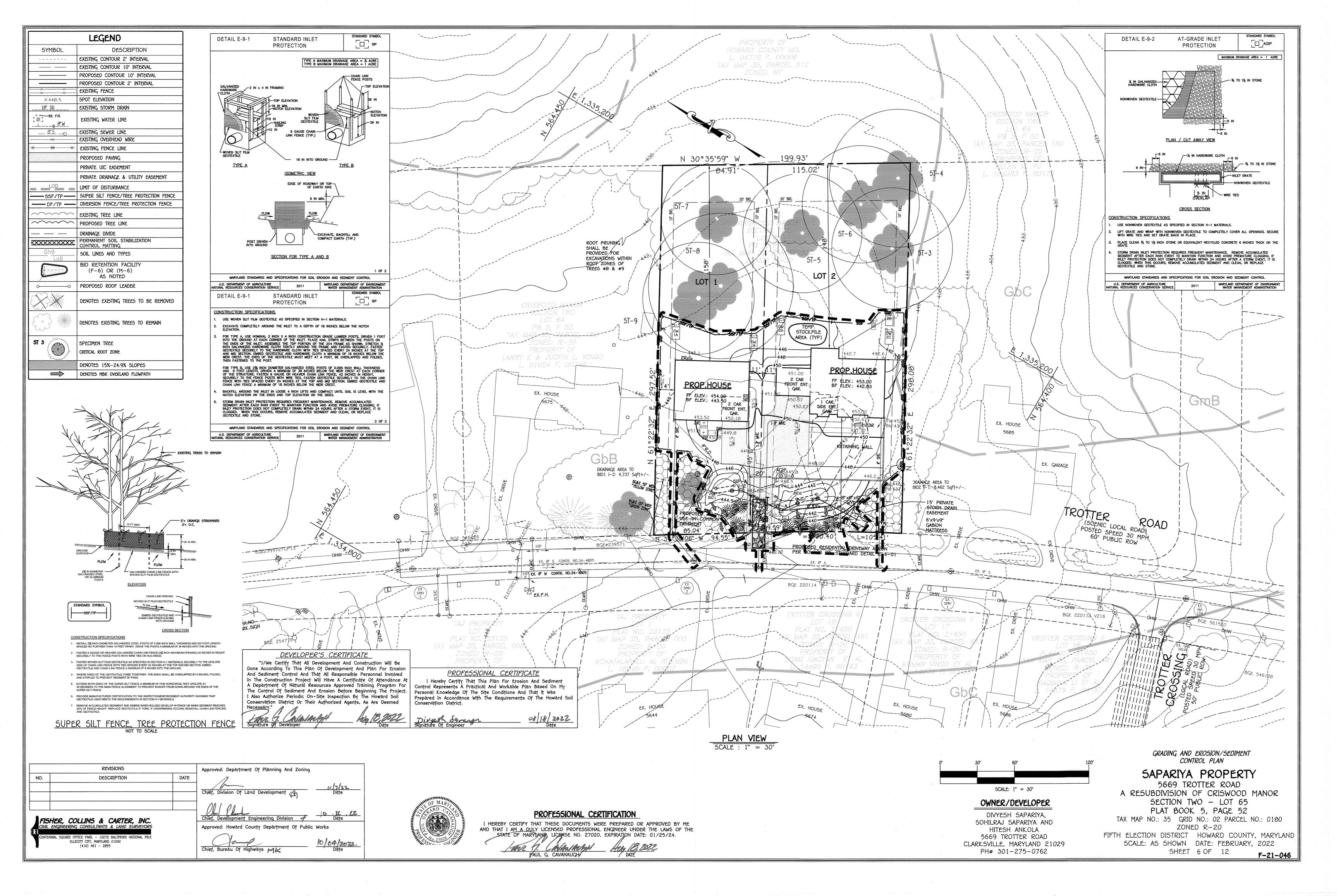
DETAILS AND NOTES SAPARIYA PROPERTY

5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65

PLAT BOOK 5, PAGE 52 TAX MAP NO.: 35 GRID NO.: 02 PARCEL NO.: 0180 ZONED R-20

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: FEBRUARY, 2022 SHEET 4 OF 12





SOIL PREPARATION. TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation

1. Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means 2. Permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

i. Soil pH between 6.0 and 7.0. 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 . 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.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH,

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

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 1/2 inches in diameter. b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut

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

sedge, poison ivy, thistle, or others as specified.

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

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

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

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be lelivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark

warranty of the producer. 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means. 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cov

Conditions Where Practice Applies To the surface of all perimeter controls, slopes, and any disturbed area not under active grading

NO.

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 to verify type of seed and seeding rate.

b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws. c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or

site—specific seeding summaries.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with ted roller to provide good seed to soil contact. b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.

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

i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P 0 (phosphorus), 200 pounds per acre; K 0 (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding. iii. Mix seed and fertilizer on site and seed immediately and without interruption.

DATE

Approved: Department Of Planning And Zoning

Chief, Bureau Of Highways MK

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

REVISIONS

DESCRIPTION

FISHER, COLLINS & CARTER, INC.

(410) 461 - 2855

IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

INNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIK ELLICOTT CITY, MARYLAND 21042

Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of

noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate

visual inspection of the uniformly spread slurry.

ii. WCFM, including dye, must contain no germination or growth inhibiting factors. iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a omogeneous slurry. The mulch material must form a blotter—like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the

growth of the grass seedlings.

iv. WCFM material must not contain elements or compounds at concentration levels that will by phyto-toxic.

v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of

 a. Apply mulch to all seeded areas immediately after seeding.
 b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.

c. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard: A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment

can operate safely. If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of

iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is

usually available in rolls 4-15 feet wide and 300 to 3,000 feet long. TEMPORARY SEEDING NOTES (B-4-4)

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

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.

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

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

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

		remporary Seedin	g Summary		
	ne (from Figure B. (from Table B.1):			Fertilizer Rate (10-20-20)	Lime Rate
Species	Application Rate (lb/ac)	Seeding Dațes	Seeding Depths		
BARLEY	96	3/1 - 5/15,	1"	436 lb/ac	2 tons/ac
OAT5	72	8/15 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112		1"		

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 8.3 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 placed on the plan. b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office

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

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

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

i. Kentucky Bluegräss: 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 Blüegräss/Perennial Rye: Full Sun Mixtüre: For use in full sun àreàs where ràpid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

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

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas

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, "Turforass 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

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 moving of grasses will pose no difficulty. e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch

every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when

seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary Hardiness Zone (from Figure B.3): __6b Fertilizer Rate (10-20-20) Lime Rate Seed Mixture (from Table 8.3): ______8_ Seeding P205 (lb/ac) Depths Dates Mar. 1-May 15 1/4-1/2 45 lbs. 90 lb/ac 90 lb/ac 2 tons/ac Aug. 15-Oct. 15 in. per acre (2 lb/ (2 lb/ (90 lb/ 8 TALL FESCUE 100 1.0 |b/ 1000 sf) | 1000 sf) | 1000 sf)

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter)

a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and

b. Sod must be machine cut at a uniform soil thickness to % inch, plus or minus ¼ inch, at the time of cutting.

Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when

suspended vertically with a firm grasp on the upper 10 percent of the section. d. Sod must not be harvested or transplanted when moisture content (excessively dry of wet) may adversely affect its survival. e, Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod. b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other.

Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or

otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the

sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours. a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain

moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting. After the first week, sod watering is required as necessary to maintain adequate moisture content. c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or

subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified. B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

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

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

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

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading. 3. Runoff from the stockpile area must drain to a suitable sediment control practice

5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner. 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing containing

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section 8-4 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

HOWARD SOIL CONSERVATION DISTRICT (HSCD)

STANDARD SEDIMENT CONTROL NOTES A pre-construction meeting must occur with the Howard County Depa Division (CID), 410-313-1955 after the future LOO and protected areas are marked clearly in the field. A minimum of 40 hour notice to CID must be given at the following stages:

a. Prior to the start of earth disturbance,
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
c. Prior to the start of another phase of construction or opening of another grading unit,
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.

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.

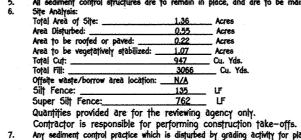
Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter rojowing initial soil disjurbance of re-disjurbance, permanent of temporary stabilization is required within time (3) calendar days as to the project site except for those areas under active grading.

All disjurbed areas must be stabilized within the time period specified above in accordance with the 2011 MARILANIO STANIDADIS AND SPECIFICATIONS FOR SOIL EXOSION AND SECURITIES.

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IN THE SECURITIES OF SOIL EXOSION AND SECURITIES AN

outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. 8-4-6). 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.



Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include: Inspection date Inspection type (routine, pre-storm event, during rain event)

Name and title of inspector
Weather information (current conditions as well as time and amount of last recorded precipitation)
Brief description of projects 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

Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.

Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.

Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no

more than 30 acres cumulatively may be disturbed at a given time.

Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum

intervals, with lower ends curted uphill by 2 in elevation.

15. Stream channels must not be disturbed during the following restricted time periods (inclusive

Use III and IIIP October 1 - April 30 Use IV March 1 - May 31
 16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION

ND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site

SEQUENCE OF CONSTRUCTION

. OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (5 DAYS)

4. COMMENCE BUILDING CONSTRUCTION ON SINGLE FAMILY DETACHED HOUSES AND DRIVEWAY. (6 MONTHS)

2. NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. (2 DAYS)

3. INSTALL PERIMETER CONTROLS INCLUDING STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND SUPER SILT FENCE. WITH AN APPROVED DEMOLITION PERMIT REMOVE THE EXISTING STRUCTURE. (5 DAYS)

. INSTALL RETAINING WALL; INCLUDING I-3, ROUGH GRADE MICRO-BIO FACLILITIES AND INSTALL I-1 AND I-2. INSTALL AT GRADE INLET PROTECTION (I-3), AND STANDARD INLET PROTECTION TYPE A (I-1 AND I-2). ROUGH GRADE AROUND HOUSE SITE AND INSTALL TEMPORARY

6. BASE PAVE DRIVEWAY, WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR INSTALL DRYWELLS. (3 WEEKS) 7. FINE GRADE REMAINDER OF SITE AND PERMANENTLY STABILIZE ALL AREAS. SURFCAE PAVE DRIVEWAY. (4 DAYS)

8. WITH A TWO INCH STAND OF GRASS AND THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR CONVERT THE MIRCO BIORETENTION FACILITIES (8 DAYS) 10. WITH THE PERMISSION OF SEDIMENT CONTROL INSPECTOR, REMOVE THE PERIMETER CONTROLS AND STABILIZE AREAS. (1 DAY)

1. THE CONTRACTOR SHALL INSPECT THE SITE AND ALL PERIMETER CONTROLS FOLLOWING EACH RAINFALL, MAINTENCE SHALL BE PERFORMED TO ESTABLISH FULLY FUNCTIONING CONTROLS.

2. THE CONTRACTOR SHALL PROVIDE ROOT PRUNING FOR TREES TO REMAIN.

B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS

The allowable materials to be used in these practices are detailed in Table 8.4.1. 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.

he 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 of. there shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated It is very important to minimize compaction of both the base of bioretention practices and the

required backfill. When possible, use excavation hoes to remove original soil. If practices are Appendix B.4. Construction Specifications for Environmental Site Design Practices B.4.5 Supp. 1 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 nfiltration 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. Rotofillers 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 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.

Appendix B.4. Construction Specifications for Environmental Site Design Practices Supp. 1 B.4.6 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

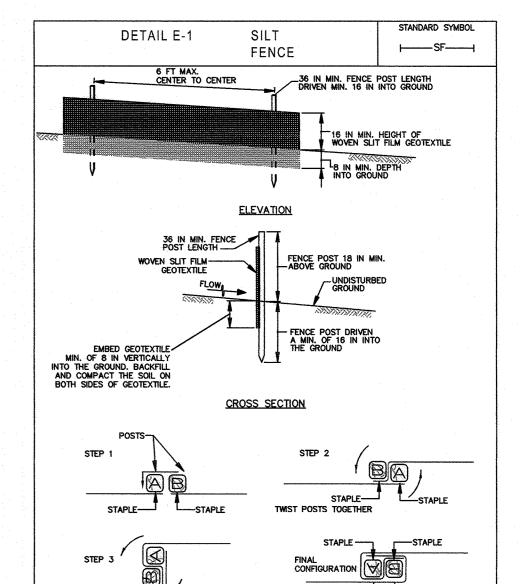
used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet. Underdrains should meet the following criteria:
• Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTMF 750, Type P5 28. or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4 rigid pipe (e.g.,

·Perforations - If perforated pipe is used, perforations should be %" 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 (4" to 3" 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 d when bed thickness exceeds 24". The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%.

of surface area). These practices may not be constructed until all contributing drainage area has been stabilized

Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet



CONSTRUCTION SPECIFICATIONS

USE WOOD POSTS $1\frac{\pi}{4}$ X $1\frac{\pi}{4}$ \pm $\frac{\pi}{6}$ Inch (minimum) square cut of sound quality hardwood. As an alternative to wooden post use standard "t" or "u" section steel posts weighing not less than 1 pound per linear foot.

STAPLE-

USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET

JOINING TWO ADJACENT SILT

FENCE SECTIONS (TOP VIEW)

USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.

PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.

WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.

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

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

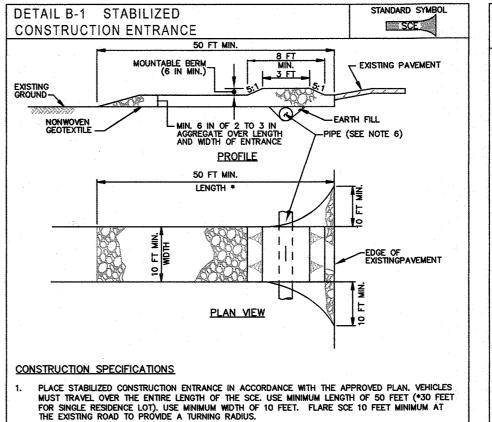
SUPER SILT

FENCE

10 FT MAX.

H-SSF-----

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL



GALVANIZED CHAIN LINK FENCE WITH MOVEN SLIT FILM GEOTEXTILE **ELEVATION** CHAIN LINK FENCING-WOVEN SLIT FILM GEOTEXTILE-FLOW 1 CROSS SECTION CONSTRUCTION SPECIFICATIONS

DETAIL E-3

TINTIN THE TIESTO

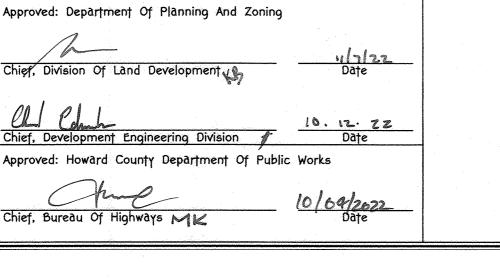
GROUND SURFACE-

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND S FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 3 INCHES INTO THE GROUND. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65 PLAT BOOK 5, PAGE 52

TAX MAP NO.: 35 GRID NO.: 02 PARCEL NO.: 0180 ZONED R-20

SHEET 7 OF 12



PROFESSIONAL CERTIFICATION

PAUL G. CAVANAUGH

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LIGENSE NO. 27020, EXPIRATION DATE: 01/25/24. Markely

5CALE: 1" = 30'

50HILRAJ SAPARIYA AND HITESH ANKOLA 5669 TROTTER ROAD CLARKSVILLE, MARYLAND 21029 PH# 301-275-0762

OWNER/DEVELOPER DIVYESH SAPARIYA

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 WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION SEC DETAILS AND NOTES GRADING PLAN SAPARIYA PROPERTY

> FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: FEBRUARY, 2022

·	50IL5 LEGEND		
50IL	NAME	CLA55	'K'VALUE
GbB	Gladstone loam, 3 to 8 percent slopes	В	.32
GbC	Gladstone loam, 8 to 15 percent slopes	В	.32
<u> </u>	HOWARD COUNTY WEBSOILS	SURVEY 09	/15/20

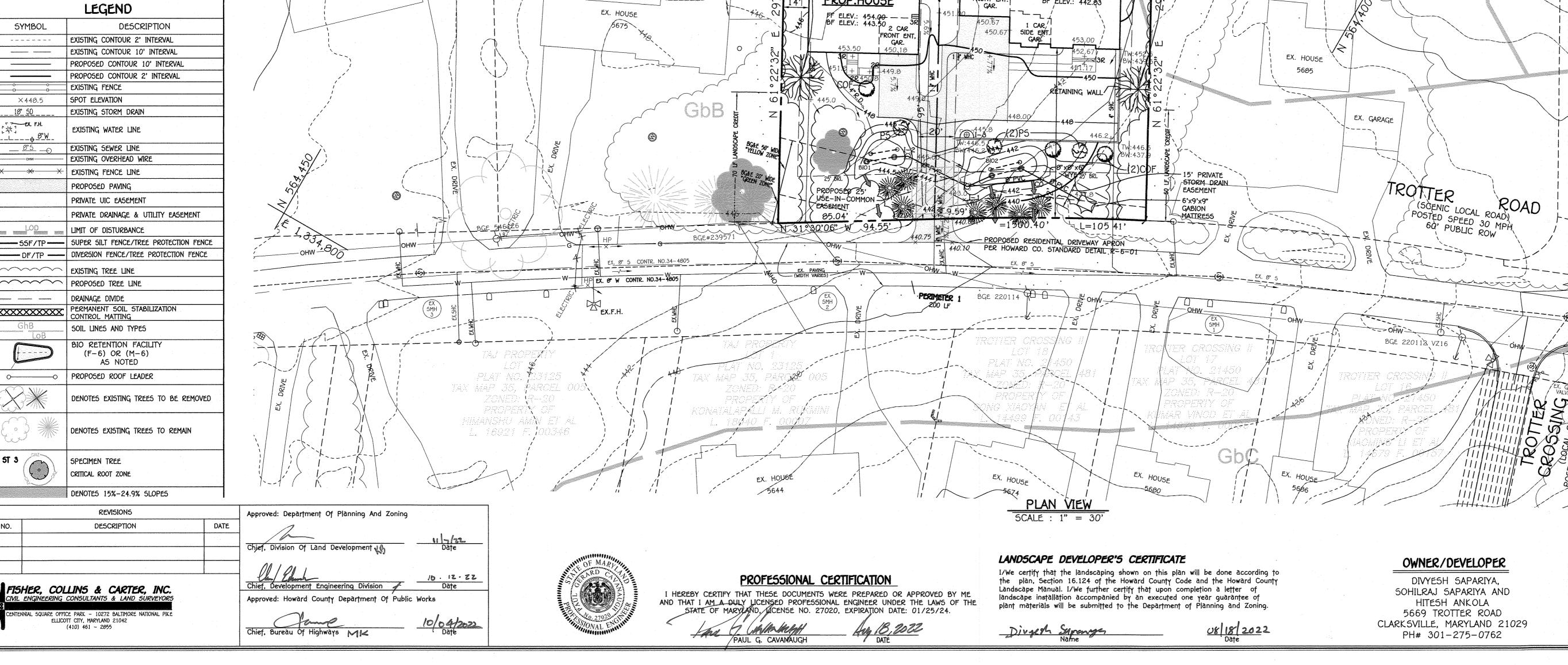
	SCHEDULE	A PERIN	1ETER LANDS	CAPE EDGE		
PERIMETER	P1	P2	Р3	P4	MITIGATION	TOTALS
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTY	ADJACENT TO PERIMETER PROPERTY	ADJACENT TO PERIMETER PROPERTY	2:1 REPLACEMENT FOR REMOVAL OF THREE SPECIMEN TREES	
LANDSCAPE TYPE	NONE	Α	A	Α		
INEAR FEET OF PERIMETER	200 LF	298 LF	200 LF	298 LF		
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES, 159 LF	YE5-200 LF	YE5- 149 LF		
CREDIT FOR WALL, FENCE OR BERM YES, NO, LINEAR FEET) DESCRIBE IF NEEDED)	NO	NO	NO	NO		
NUMBER OF PLANTS <u>REQUIRED</u> SHADE TREES EVERGREEN TREES SHRUBS	0 0 0	3 0 0	0 0 0	3 0 0	6 0 0	12 0 0
NUMBER OF PLANTS <u>PROVIDED</u> SHADE TREES SMALL DECIDUOUS EVERGREEN TREES SHRUBS	0 0 0 0	3 0 0 0	0 0 0	3 0 0	3 6 0	9 6 0

' EX. HOUSE

LANDSCAPE NOTES

- 1. PERIMETER LANDSCAPING SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REQULATIONS AND LANDSCAPE MANUAL FINANCIAL SURETY IN THE AMOUNT OF \$3,600.00 FOR 9 SHADE TREES (\$300 ea.) AND 6 SMALL DECIDIOUS TREES (\$150 ea.) AND WILL BE PROVIDED AS PART OF THE SITE DEVELOPMENT PLAN (LOT 1 - \$1,500; LOT 2 - \$2,100). PER SECTION 16.127.c.ii.a OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS FOR INFILL DEVELOPMENT A TYPE 'A' LANDSCAPE BUFFER HAS BEEN PROVIDED.
- 2. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- 3. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- 4. FOR ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, BE REMOVED OR DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR IF THE TREE IS LISTED AS A PROHIBITED OR INVASIVE SPECIES ON THE DPZ TREE LIST IT SHOULD BE REPLACED WITH A RECOMMENDED TREE SPECIES WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL."

	LEGENU				
SYMBOL	DESCRIPTION				
	EXISTING CONTOUR 2' INTERVAL				
	EXISTING CONTOUR 10' INTERVAL				
	PROPOSED CONTOUR 10' INTERVAL				
	PROPOSED CONTOUR 2' INTERVAL				
	EXISTING FENCE				
X 448.5	SPOT ELEVATION				
<u> 18" 50 </u>	EXISTING STORM DRAIN				
「	EXISTING WATER LINE				
<u>8"5</u>	EXISTING SEWER LINE				
OHW-	EXISTING OVERHEAD WIRE				
	EXISTING FENCE LINE				
	PROPOSED PAVING				
	PRIVATE UIC EASEMENT				
	PRIVATE DRAINAGE & UTILITY EASEMENT				
LOD	LIMIT OF DISTURBANCE				
55F/TP	SUPER SILT FENCE/TREE PROTECTION FENCE				
DF/TP	DIVERSION FENCE/TREE PROTECTION FENCE				
	EXISTING TREE LINE				
~~~~	PROPOSED TREE LINE				
neurophysiologia acceptationings surrectations	DRAINAGE DIVIDE				
**************************************	PERMANENT SOIL STABILIZATION CONTROL MATTING				
GhB LoB	SOIL LINES AND TYPES				
	BIO RETENTION FACILITY  (F-6) OR (M-6)  AS NOTED				
0	PROPOSED ROOF LEADER				
	DENOTES EXISTING TREES TO BE REMOVED				
	DENOTES EXISTING TREES TO REMAIN				
5T 3	SPECIMEN TREE CRITICAL ROOT ZONE				





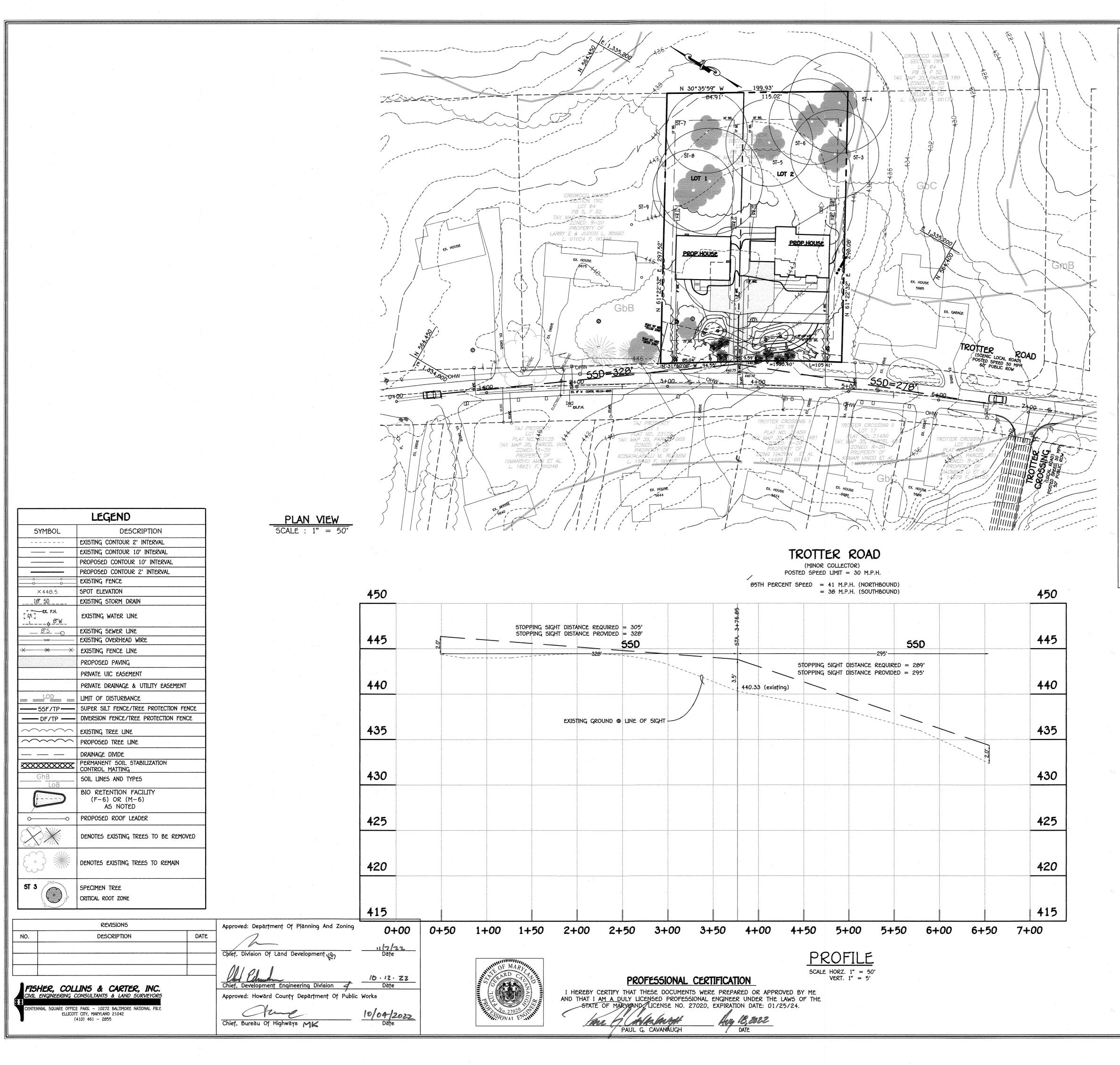
TAX MAP NO.: 35 GRID NO.: 02 PARCEL NO.: 0180

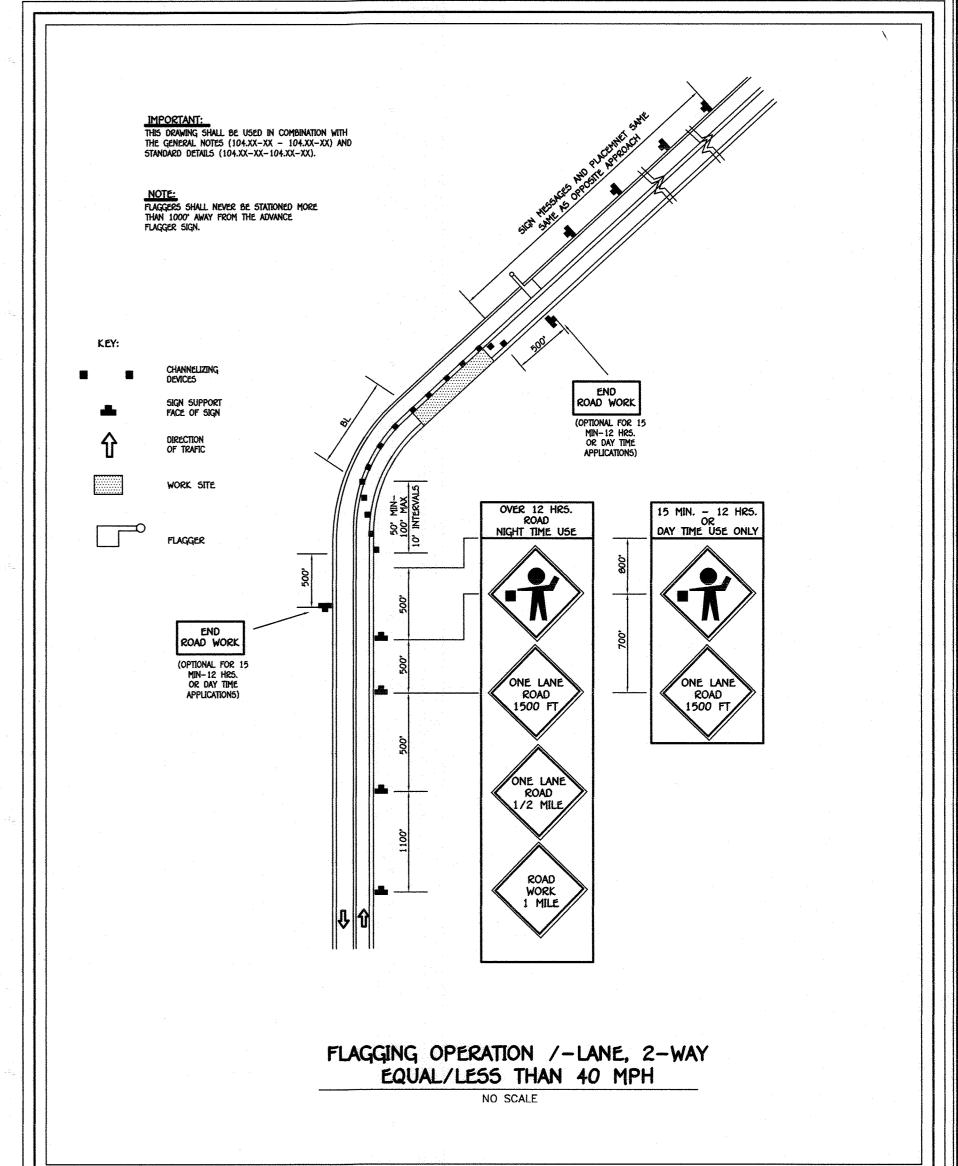
ZONED R-20

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: FEBRUARY, 2022

SHEET 8 OF 12





	ST	торри	TABL	E 2.01	ISTAN	CE	
Design			wngrade	Ur			
Speed	Level	3%	6%	9%	3%	6%	9%
(mph)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
15	80	80	82	85	75	74	73
20	115	116	120	126	109	107	104
25	155	158	165	173	147	143	140
30	200	205	215	227	200	184	179
35	250	257	271	287	237	229	222
40	305	315	333	354	289	278	269
45	360	378	400	427	344	331	320
50	425	446	474	507	405	388	375
55	495	520	553	593	469	450	433
60	570	598	638	686	538	515	495
65	645	682	728	785	612	584	561
70	730	771	825	891	690	658	631

OWNER/DEVELOPER

DIVYESH SAPARIYA,

SOHILRAJ SAPARIYA AND

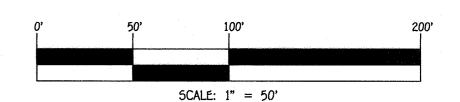
HITESH ANKOLA

5669 TROTTER ROAD

CLARKSVILLE, MARYLAND 21029

PH# 301-275-0762

=5001HB00ND =NORTHBOUND



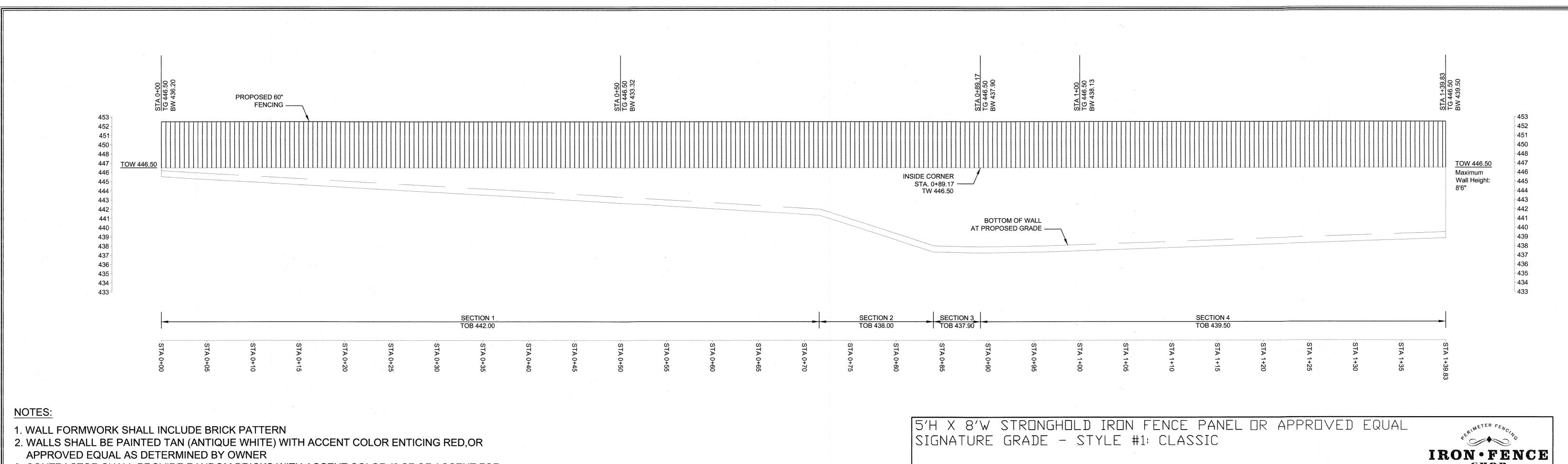
SITE DISTANCE PROFILE

### SAPARIYA PROPERTY

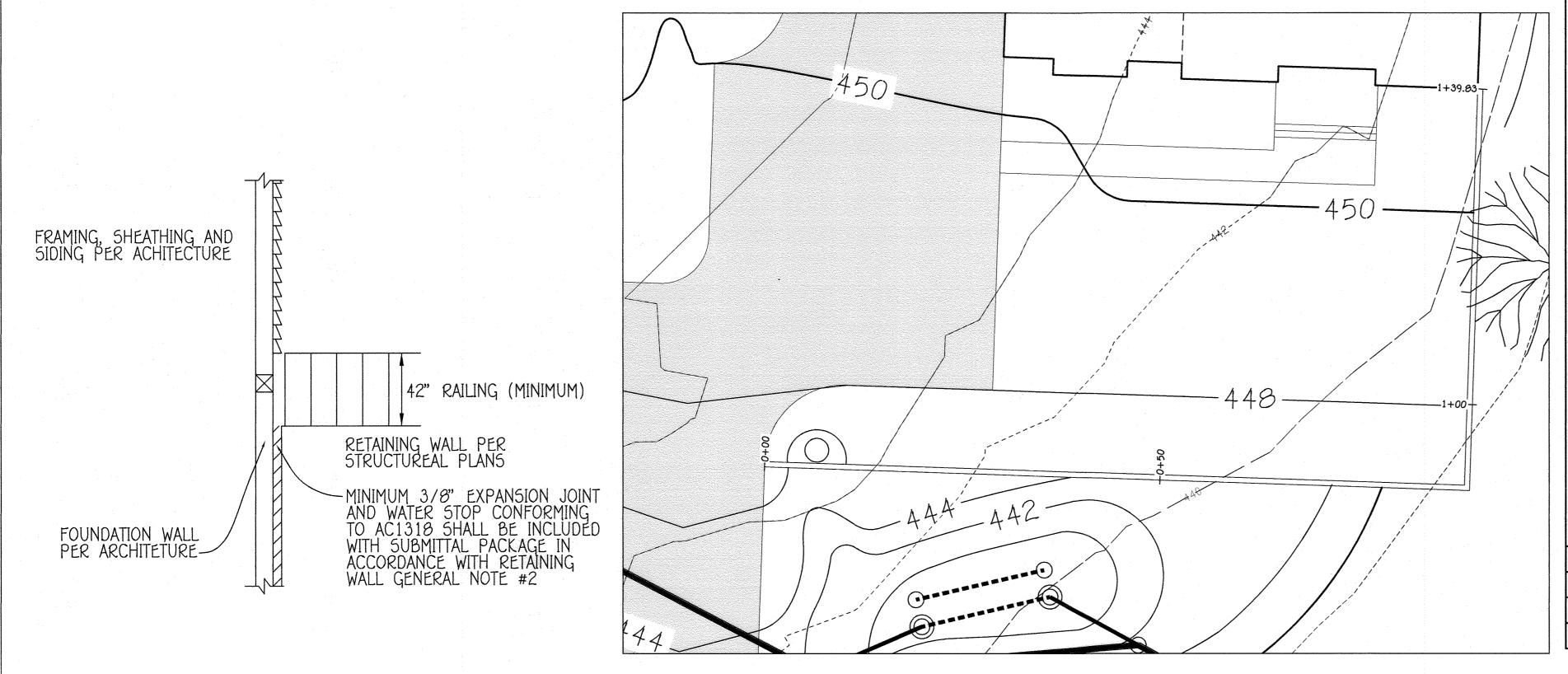
5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65

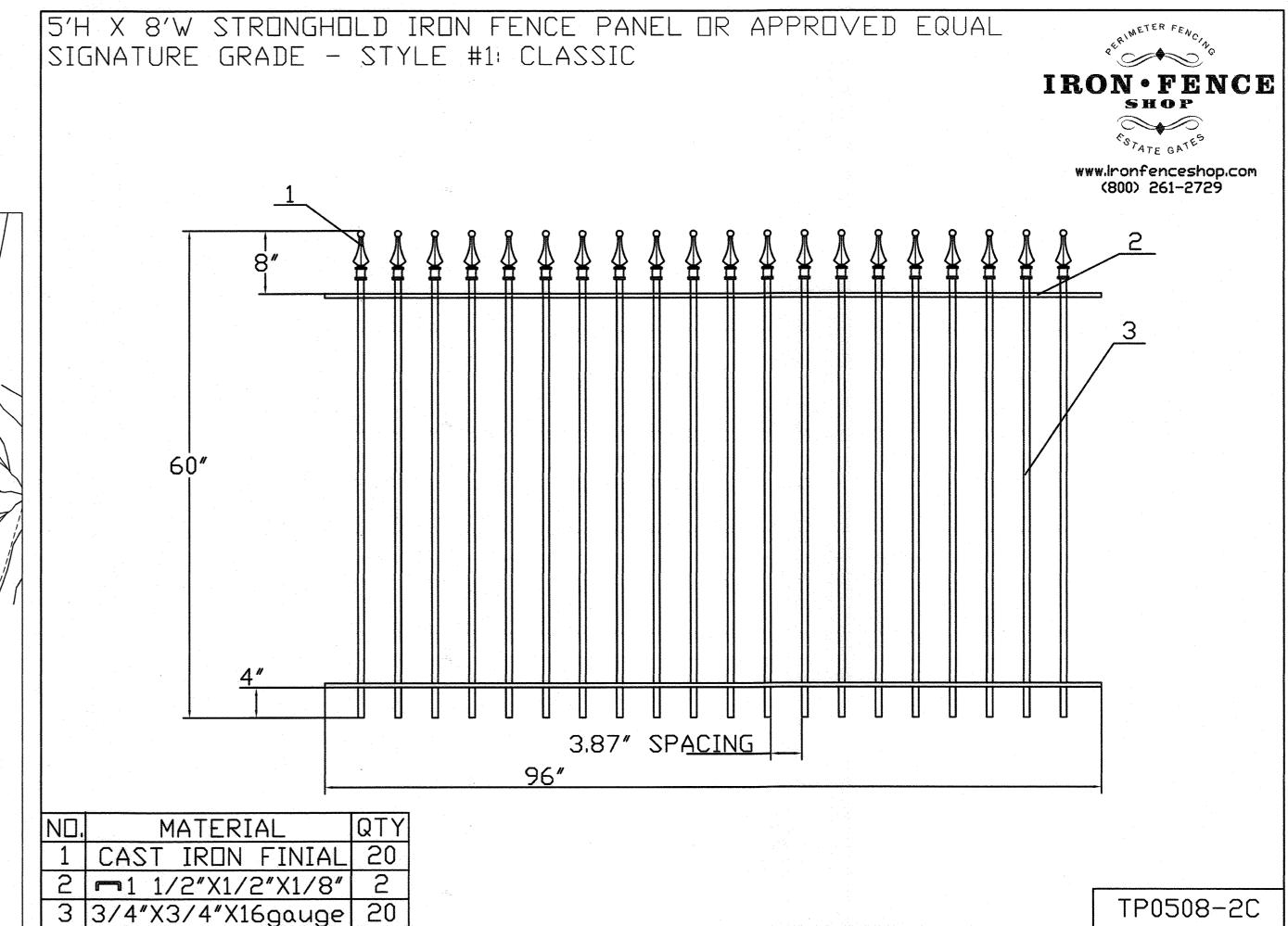
PLAT BOOK 5, PAGE 52 TAX MAP NO.: 35 GRID NO.: 02 PARCEL NO.: 0180 ZONED R-20

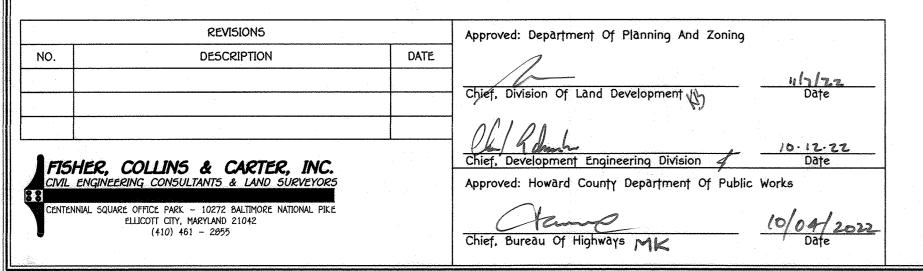
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: FEBRUARY, 2022 SHEET 9 OF 12



- 3. CONTRACTOR SHALL PROVIDE RANDOM BRICKS WITH ACCENT COLOR (6 SF OF ACCENT FOR EVERY 60 SF OF WALL)
- 4. PAINT SHALL BE SUITABLE FOR THE APPLICATION.
- 5. CONSTRUCTION OF WALL SHALL NOT IMPEDE ADJACENT PROPERTY.







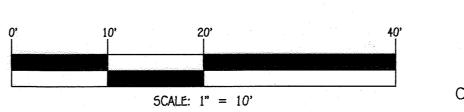


PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME PLAN VIEW

AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE SCALE: 1" = 10'

STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24.



### OWNER/DEVELOPER

DIVYESH SAPARIYA,
SOHILRAJ SAPARIYA AND
HITESH ANKOLA
5669 TROTTER ROAD
CLARKSVILLE, MARYLAND 21029
PH# 301-275-0762

RETAINING WALL ELEVATIONS

### SAPARIYA PROPERTY

5669 TROTTER ROAD
A RESUBDIVISION OF CRISWOOD MANOR
SECTION TWO - LOT 65
PLAT BOOK 5, PAGE 52

TAX MAP NO.: 35 GRID NO.: 02 PARCEL NO.: 0180

ZONED R-20

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: FEBRUARY, 2022
SHEET 10 OF 12
F-21-046

#### **REVISIONS** DESCRIPTION **GENERAL NOTES** CAST-IN-PLACE CONCRETE BUILDING CODE: THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE INTERNATIONAL A. ALL CONCRETE WORK SHALL CONFORM TO REQUIREMENTS OF THE A.C.I. BUILDING BUILDING CODE 2018. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THIS CODE REQUIREMENT FOR STRUCTURAL CONCRETE (318-14 ULTIMATE STRENGTH CODE, ITS LATEST ADOPTED AMENDMENTS AND LOCAL REQUIREMENTS. B. 28 DAY MINIMUM COMPRESSIVE STRENGTH AND RELATED PROPERTIES FOR SUBMITTALS CONCRETE SHALL BE AS FOLLOWS: A. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS, F'c MAX W/C RATIO MAX DENSITY 4,500PSI 0,40 NWC (145 PCF) a. REINFORCING STEEL FOR CAST-IN-PLACE CONCRETE C. CONCRETE COVERING OF REINFORCING STEEL (INCLUDING TIES AND STIRRUPS) B. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS: AND STRUCTURAL CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL FOUNDATION WALL, FOOTING & GRADE BEAM FACES NOT CAST ENGINEER REGISTERED IN THE STATE OF THIS PROJECT FOR REVIEW AND AGAINST EARTH APPROVAL: CONCRETE CAST AGAINST EARTH a. EXCAVATION SUPPORT, SHEETING, OR BENCHING WHERE SOILS D. ALL CONCRETE, INCLUDING FOUNDATIONS, EXPOSED TO WEATHER AND/OR REQUIRE SUCH BY VIRTUE OF OSHA REQUIREMENTS (ALL OUTSIDE THE BUILDING ENVELOPE SHALL BE AIR ENTRAINED, 6%±1.5% BY VOLUME EXCAVATIONS GREATER THAN 5' REQUIRE SPECIFIC TRENCHING FOR 3/4" COARSE AGGREGATE. AIR ENTRAINING ADMIXTURE TO COMPLY WITH ASTM C260. CONSIDERATIONS) OR SOIL CONDITIONS b. CONCRETE MIX DESIGNS E. ALL PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE I. C. SUBMITTALS ISSUED TO THE DESIGN TEAM FOR REVIEW SHALL BEAR THE F. ALL NORMAL WEIGHT CONCRETE AGGREGATE SHALL CONFORM TO ASTM C33. CONTRACTOR'S STAMP OF APPROVAL, CERTIFYING THAT ALL FIELD G. MAXIMUM CONCRETE SLUMP SHALL BE 4" FOR CONCRETE NOT RECEIVING MEASUREMENTS, CONSTRUCTION CRITERIA, MATERIALS, ETC. HAVE BEEN HIGH-RANGE WATER REDUCING ADMIXTURES. VERIFIED AND EACH SHEET HAS BEEN REVIEWED FOR COMPLETENESS, H. ALL BARS MARKED CONTINUOUS SHALL BE LAPPED AT SPLICES AND CORNERS IN COORDINATION BETWEEN TRADES, AND COMPLIANCE WITH THE CONTRACT ACCORDANCE WITH THE SCHEDULE SHOWN ON THESE DRAWINGS, EXCEPT AS DOCUMENTS. FURTHER, STRUCTURAL SHOP DRAWINGS WILL ONLY BE REVIEWED OTHERWISE SHOWN OR REQUIRED. ONCE ANY REQUIRED CALCULATION PACKAGES FOR THAT WORK HAS BEEN ISSUED WELDING OF REINFORCEMENT IS PROHIBITED U.O.N. ALONG WITH A SIGNED AND SEALED LETTER BY THE CONTRACTOR'S ENGINEER J. ALL REINFORCING BARS SHALL BE OF NEW BILLET STEEL CONFORMING TO ASTM CERTIFYING THAT THE SHOP DRAWINGS HAVE PROPERLY INCORPORATED THEIR A615, GRADE 60 (F'y = 60,000 PSI) DESIGN, IN ACCORDANCE WITH THE 2010 AISC CODE OF STANDARD K. VERTICAL CONSTRUCTION JOINTS USING APPROVED BULKHEADS MAY BE MADE WITHIN THE MIDDLE THIRD OF BEAM, WALL, OR SLAB SPANS WHERE STOP IN PRACTICE-SECTION 3.1.2 (OPTION 3), OTHERWISE THE SUBMITTAL PACKAGE WILL BE REJECTED. CONCRETE WORK IS NECESSARY. A PLAN SHOWING PROPOSED JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. HORIZONTAL CONSTRUCTION SPECIAL INSPECTIONS: AS PER IBC CHAPTER 17, THE FOLLOWING ITEMS ARE SUBJECT JOINTS ARE PERMITTED ONLY AS SHOWN ON DRAWINGS. CONSTRUCTION JOINTS TO SPECIAL INSPECTION BY AN INDEPENDENT INSPECTION AND/OR TESTING AGENCY SHALL CONFORM TO ACI 318, SECTION 6.4. ALL REINFORCING STEEL SHALL BE HIRED BY THE OWNER AND APPROVED BY THE ARCHITECT AND BUILDING OFFICIAL. CONTINUOUS THROUGH JOINTS U.O.N. FOR ALL CONSTRUCTION JOINTS BELOW OWNER/SPECIAL INSPECTOR SHALL PROVIDE SPECIAL INSPECTION REPORTS WITHIN 5 WATER TABLE, PROVIDE WATERSTOPS. DAYS OF PERFORMING THE INSPECTION AND IMMEDIATELY NOTIFY THE ENGINEER. L. ALL HORIZONTAL JOINTS IN CONCRETE POURS (WHERE SHOWN ON STRUCTURAL A. CONCRETE CONSTRUCTION DRAWINGS OR EXPLICITLY APPROVED BY THE ENGINEER IN WRITING) SHALL BE (1705.6)B. SOILS RAKED TO 1/4" AMPLITUDE WHILE CONCRETE IS FRESH. M. ALL CONCRETE SHALL BE MIXED, TRANSPORTED AND PLACED IN ACCORDANCE DESIGN LOADS: WITH ACI STANDARDS 318 AND 304. A. GRAVITY SURCHARGE LOAD: YARD N. ALL REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE TO ACI 315. TEST CYLINDERS SHALL BE TAKEN FROM THE MIXER IN ACCORDANCE WITH ASTM 5. THE CONTRACTOR SHALL CHECK THE BUILDING LOCATION WITH REGARD TO C172 AND THE PROJECT SPECIFICATIONS. P. STONE AGGREGATE USED IN CONCRETE MIX SHALL BE FREE OF MATERIALS WITH PROPERTY LINE, AND VERIFY ALL EXISTING CONDITIONS BEFORE EXCAVATION AND SHOP DRAWING PREPARATION, NOTIFY THE ARCHITECT/ENGINEER OF ANY HARMFUL REACTIVITY TO ALKALI IN CEMENT. DISCREPANCIES. Q. THE MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) CONTENT IN CONCRETE FROM ALL INGREDIENTS SHALL BE LESS THAN 0.06% OF WEIGHT OF CEMENT, PER ASTM 6. IN CASE OF CONTRADICTION BETWEEN THE DRAWINGS, THE SPECIFICATIONS, AND THE CODES, OR IF ANY CHANGE IS REQUIRED, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY, NO CHANGE SHALL BE MADE WITHOUT WRITTEN APPROVAL CONCRETE FOR FOUNDATIONS OF THE ARCHITECT. A. ALL VERTICAL SURFACES OF CONCRETE SHALL BE FORMED FOR WALLS, FOOTINGS, AND GRADE BEAMS. THE STABILITY OF STRUCTURE, ADJACENT STRUCTURES IMPACTED BY THE WORK, B. CONTRACTOR SHALL PROVIDE A MINIMUM AREA OF STEEL REINFORCEMENT EQUAL AND SITE SAFETY ARE THE CONTRACTOR'S RESPONSIBILITY UNTIL CONSTRUCTION IS TO .0018 TIMES THE GROSS CONCRETE AREA IN CONCRETE SLABS AND FOOTINGS, COMPLETE AND THE STRUCTURE HAS REACHED ITS FINAL CONDITION. THE EXCEPT WHERE CONCRETE IS PRESTRESSED. PROVIDE MINIMUM BONDED CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY BRACING, ERECTION PIECES, REINFORCEMENT FOR PRESTRESSED CONCRETE IN ACCORDANCE WITH ACI 318 CONSTRUCTION SUPPORTS, FALL PROTECTION, DEBRIS CATCHES, TEMPORARY SECTION 18.9. FOR WALLS, PROVIDE MINIMUM REINFORCING IN ACCORDANCE SHORING, ETC. AS REQUIRED TO SAFEGUARD THE SITE THROUGHOUT THE COURSE OF WITH ACI 318 - SECTION 14.3. CONSTRUCTION. 8. THE CONTRACTOR SHALL VERIFY THAT ANY CONSTRUCTION LOADS DO NOT EXCEED A) RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL THE DESIGN CAPACITY OF THE STRUCTURE ENGINEER AND A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY **FOUNDATION NOTES** INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399 GENERAL C) THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ONSITE SOILS TECHNICIAN. EACH EIGHT (8) INCH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTER DENSITY AND THE TESTING A. FOUNDATIONS HAVE BEEN DESIGNED TO AN ALLOWABLE SOIL BEARING PRESSURE REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF THE OF 3,500 PSF, BASED ON A SOILS REPORT ISSUED BY HARDIN-KIGHT ASSOCIATES, INC. DATED FEBRUARY 18, 2021. THIS CAPACITY SHALL BE VERIFIED BY A D) COPIES OF ALL BORING REPORTS SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE REGISTERED SOILS ENGINEER. SHOULD CONDITIONS VARY FROM THOSE ASSUMED, THE ARCHITECT SHALL BE NOTIFIED BEFORE CONTINUATION OF WORK. B. ALL FOOTINGS SHALL BE PLACED DIRECTLY ON COMPETENT NATURAL, GRANULAR SOILS OR ENGINEERED CERTIFIED COMPACTED FILL OVER COMPETENT NATURAL C. ALL FILL SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS (MAXIMUM) COMPACTED WITH VIBRATORY ROLLERS. FILL MATERIAL SHALL BE TESTED BY MODIFIED PROCTOR DENSITY METHOD (ASTM D1557) AND MUST QUALIFY AS SELECT, WITH LESS THAN 10% PASSING THROUGH THE NO. 200 SIEVE. SOIL SHALL BE PLACED WITH MOISTURE CONTENT AND ENERGY TO PROVIDE 92% OF MAXIMUM DRY DENSITY BELOW SLABS ON GRADE AND 95% BELOW FOOTINGS. IN PLACE DENSITY TESTS SHALL BE TAKEN FOR EACH 10,000 s.f. IN EACH LIFT. FOR ACCEPTANCE OF SOIL, AVERAGE OF DENSITY TESTS MUST EXCEED THE SPECIFIED COMPACTION. NO TESTS SHALL BE PERMITTED TO FALL BELOW 88% COMPACTION BELOW SLABS ON GRADE OR 90% COMPACTION BELOW FOOTINGS. D. ALL FOUNDATION WALLS AND RETAINING WALLS SHALL BE DRAINED, SEE SOILS REPORT MENTIONED IN NOTE 'A' ABOVE FOR REQUIREMENTS. SHALLOW FOUNDATIONS A. ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 2'-6" BELOW FINAL GRADE WHEN BEARING ON SOIL.

					TEN	SION				COMPRESSION	l e
SIZE	db	CONCRETE STRENGTH (fc), PSI									STANDARD
BAR	(in)	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	≥ 3,000	STA
#3	0.375	22	19	17	16	14	14	13	12	12	
#4	0.25	29	25	22	21	19	18	17	16	15	
#5	0.625	33	31	28	26	24	22	21	20	19	T -
#6	0.75	43	37	33	31	28	27	25	24	23	
#7	0.875	63	54	49	44	41	39	36	35	27	
#8	1.00	72	62	53	51	47	44	42	39	30	Ι-
#9	1.125	81	70	63	57	53	50	47	44	34	
#10	1.27	91	79	71	64	60	56	53	50	39	
#11	1.56	101	87	78	71	66	62	58	55	43	1
A. B. C.	BAR V CLEAR CLEAR CLEAR	VITH MOR R COVER R COVER R COVER	RE THAN < d < d. FOR < 2 x d. F	12" OF FR BARS EN OR ALL O	ESH CON CLOSED E THER BAI	CRETE BE BY STIRRE	LOW LAP JPS OR	1.3 1.5	OLLOW FA	CTORS:	၅

### KETAINING WALL ELEVATIONS AND DETAILS

# SAPARIYA PROPERTY

5669 TROTTER ROAD

A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65

PLAT BOOK 5, PAGE 52

TAX MAP NO.: 35 GRID NO.: 02 PARCEL NO.: 0180

ZONED R-20

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: NOVEMBER, 2020

SHEET 11 OF 12

F. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHERE BOTTOM OF FOOTING ELEVATION IS CHANGED AND OBTAIN REVISED DESIGN OF THE FOUNDATION AND RETAINING WALLS AS REQUIRED.

1.1.1. 1H:1V FOR COHESIVE SOILS WITH AN UNCONFINED COMPRESSIVE

B. WHERE NECESSARY, FOOTING STEPS SHALL BE CONSTRUCTED AT MAXIMUM

C. EXCAVATIONS SHALL BE DEWATERED TO ALLOW INSTALLATION OF FOOTINGS IN

D. DIFFERENTIAL BACKFILL AGAINST FOUNDATION WALLS SHALL NOT EXCEED FOUR FEET UNTIL TOP BRACING SLAB OR FRAMEWORK HAS BEEN IN PLACE FOR A

AFTER 14 DAYS FROM CONCRETE PLACEMENT, BUT IN NO CASE SHALL

ALL BOTTOM OF FOOTING ELEVATIONS ARE SUBJECT TO CHANGE UPON

MINIMUM OF THREE DAYS. CANTILEVERED RETAINING WALLS MAY BE BACKFILLED

DIFFERENTIAL OF BACKFILL, ON OPPOSITE SIDES OF THE WALL, EXCEED THE FINAL

INSPECTION OF SOIL CONDITION. ELEVATION OF ADJACENT FOOTING BOTTOMS

1 1/2H:1V FOR COHESIVE SOILS WITH AN UNCONFINED COMPRESSIVE

SLOPE OF 1 VERTICAL TO 2 HORIZONTAL.

SHALL NOT EXCEED A MAXIMUM SLOPE OF

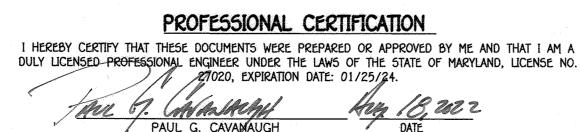
STRENGTH GREATER THAN 0.5 TSF

STRENGTH OF 0.5TSF OR LESS.

DRY ATMOSPHERE.

DESIGN DIFFERENTIAL.

FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYOR . SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055



#### RETAINING WALL SCHEDULE SECTION WIDTH HEEL FTG. STEM 'V2' 'H1' MAX. HEIGHT 'S' BARS BARS BARS BARS BARS 5'-6" | 3'-0" | 12" | 12" | #4 @ 14" | #4 @ 14" | #4 @ 16" | #6 @ 14" | #4 @ 14" | #4 @ 16" 8'-0" 8'-6" | 6'-0" | 18" | 12" | #6 @ 12" | #4 @ 12" | #4 @ 12" | #6 @ 12" | #4 @ 12" | #4 @ 12" 12'-0" 12'-0" 9'-0" 24" 12" #8 @ 8" #4 @ 8" #4 @ 12" #6 @ 8" #4 @ 12" #6 @ 16"

'V1' BARS

2" CLR.

COMPACTED,

CONTROLLED

BACKFILL

WALL TO BE DRAINED,

SEE GENERAL NOTES

CLASS B TENSION

LAP SPLICE

Approved: Department Of Planning And Zoning

Approved: Howard County Department Of Public Works

APPROXIMATE LOCATION OF DRIVEWAY,

TOP OF WALL = 446.50

NOTES:

REQUIRED.

BY OTHERS

12" SLEEVE PENETRATION THROUGH

SITE RETAINING WALL PLAN

2. REINFORCED CONCRETE RETAINING WALLS ARE INDICATED ON PLAN THUS: / R込

TOP OF WALL ELEVATION TO BE WITHIN 6" ABOVE OR BELOW FINISHED GRADE

TOP OF GRADE, SEE CIVIL DRAWINGS

DOWELS TO MATCH SIZE

AND SPACING OF VERTICAL BARS

REFER TO RETAINING WALL SCHEDULE SHOWN IN DETAIL A.

WOULD EXCEED 100 PSF IN REGION SHOWN ON PLAN THUS:

#4@12" OC U BAR

'V2' BARS

T.O. WALL, SEE PLAN

WALL, SEE CIVIL DRAWING

Chief, Bureau Of Highways

APPROXIMATE LOCATION OF DWELLING

BY OTHERS

STAGING OF CONSTRUCTION EQUIPMENT AND MATERIALS

**RETAINING WALL** 

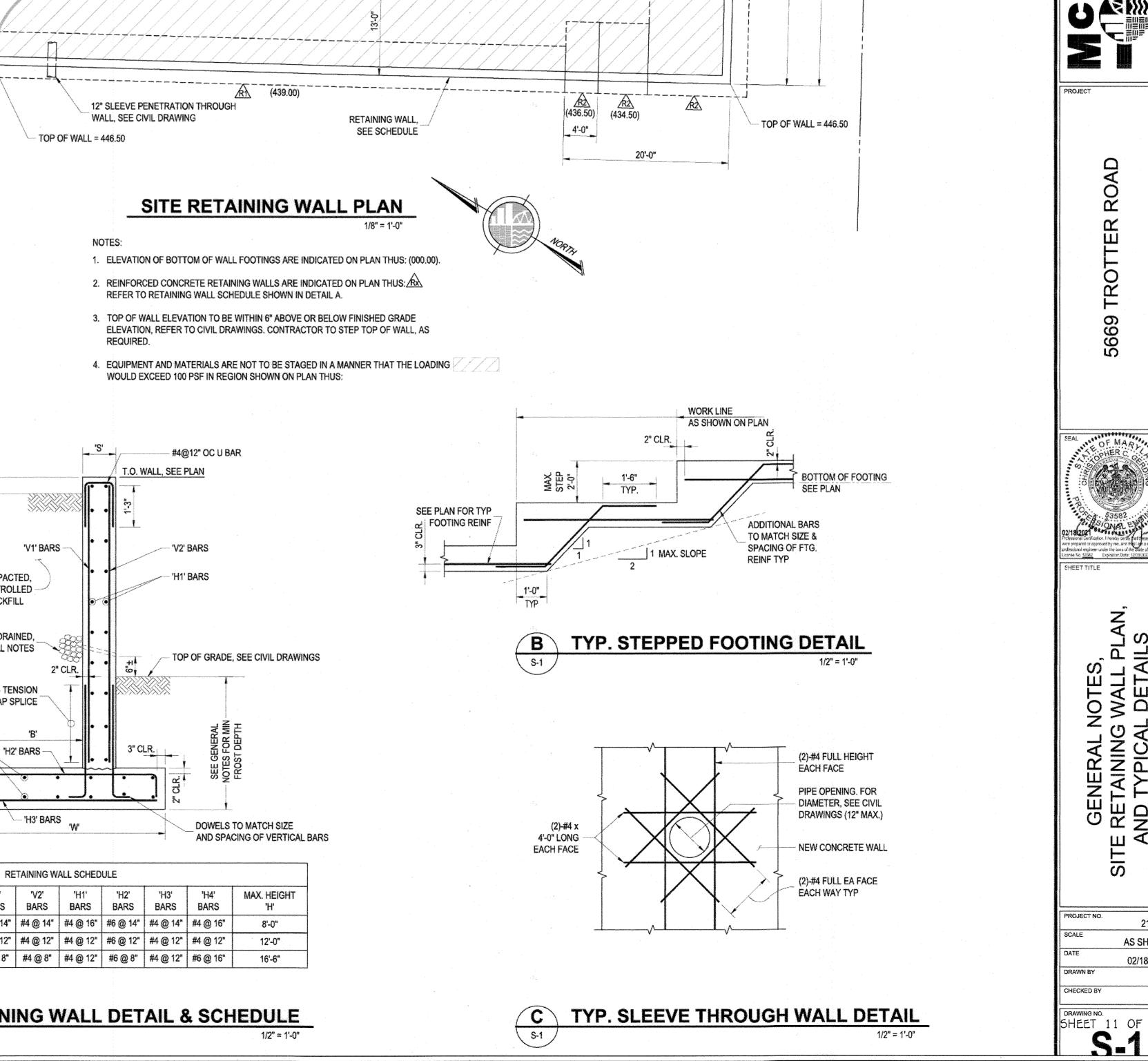
SEE SCHEDULE

FOR CONSTRUCTION OF DWELLING SHALL NOT EXCEED

100 PSF IN THIS REGION TO AVOID SURCHARGING

RETAINING WALL PAST ALLOWABLE DESIGN LIMIT

TYP. RETAINING WALL DETAIL & SCHEDULE S-1



- TOP OF WALL = 452.50

APPROXIMATE LOCATION

OF PROPERTY LINE

210124

AS SHOWN

02/18/2021

CCG

