SHEET INDEX							
SHEET NUMBER	DESCRIPTION						
1	TITLE SHEET						
2	SITE DEVELOPMENT PLAN						
3	SEDIMENT AND EROSION CONTROL PLAN						
4	SEDIMENT AND EROSION CONTROL DETAILS AND BORING LOGS						
5	SEDIMENT AND EROSION CONTROL NOTES						
6	LANDSCAPING PLAN, DETAILS AND NOTES						
7	STORMWATER MANAGEMENT DETAILS AND LANDSCAPING						
8	SITE RETAINING PLAN, DETAILS AND NOTES						
9	PROFILES						
10	TRAFFIC CONTROL PLAN						

SPECIMEN TREE LIST IMPACTED AREA CRZ (Ft Rad) Comment **Good Conditio** To be Removed N/A White Oak Fair Condition, leaning To be Removed 32.5" DIA **Good Condition** NO DISTURBANCI

Poor Condition, severe trunk rot

Poor Condition, major trunk rot

Good Condition

Good Condition

Good Condition

Good Condition

Good Condition

To Remain

To Remain

To Remain

To be Removed

NO DISTURBANCE

NO DISTURBANCE

NO DISTURBANCE

NO DISTURBANCE

2,361 SF (22%)

1,603 SF (25%)

SWM PRACTICE CHART									
LOT No. Address	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	HOA MAINTAINS	MISC.			
1 5669 Trotter Road DRIVEWAY	(M-6) 1	NON-ROOFTOP DISCONNECTION (1)	NO	YE5	NO				
ROOFTOP	(M-5) 1-2	DRYWELLS (2)	NO	YE5	NO				
2 5673 Trotter Road DRIVEWAY	(M-6) 1	NON-ROOFTOP DISCONNECTION (1)	NO	YE5	NO				
ROOFTOP	(M-5) 1-4	DRYWELLS (4)	NO	YES	NO				

37" DIA

31.5" DIA

Tulip Poplar

Black Oak

Red Oak

Tulip Poplar

Black Oak

STORMWATER MANAGEMENT INFORMATION									
PARCEL ID	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	HOA MAINTAINED	OWNER MAINTAINED			
LOT 1	E.S.D. NO. 1	M-6 (1)	N	Υ	N	Y			
LOT 2	E.5.D. NO. 2	M-6 (1)	N	Υ	N	Y			
LOT 1	DRYWELLS 1A AND 1B	M-5 (2)	Ν	Y	N	Y			
LOT 2	DRYWELLS 2A, 2B, 2C, 2D	M-5 (4)	N	Υ	N	Υ			

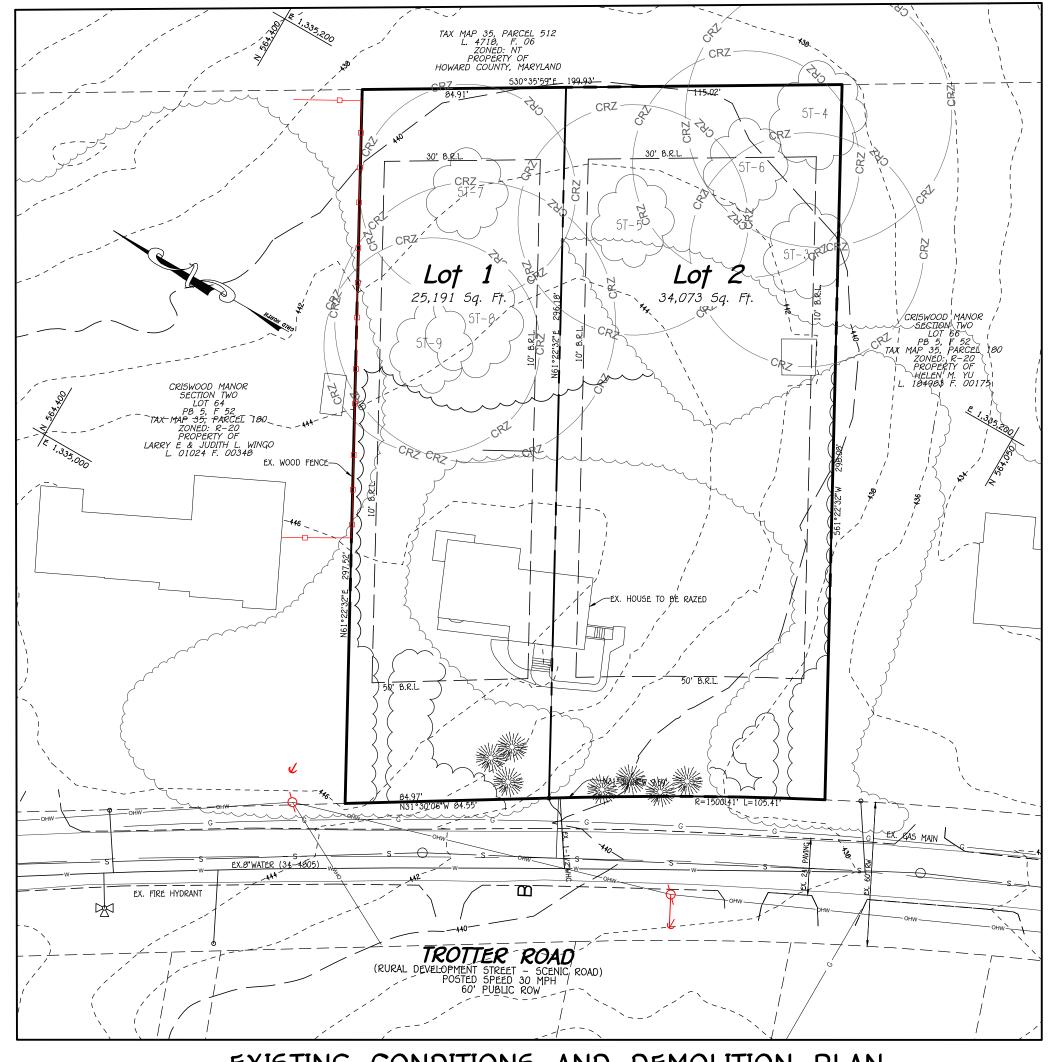
STORMWATER MANAGEMENT PRACTICES									
AREA ID PERMEABLE PAVING ROOFTOP RUNOFF NON-ROOFTOP RUNOFF NON-ROOFTO							DRYWELL M-5 (Y/N)		
LOT 1-5669 TROTTER	NO	NO	NO	NO	YE5 - 1	NO	NO	YE5 - 2	
LOT 2-5673 TROTTER	NO	NO	NO	NO	YES - 1	NO	NO	YE5 - 4	

	STORMWATER MANAGEMENT SUMMARY								
	AREA ID	DRAINAGE AREA AC.	% IMPERVIOUS	E5DV REQUIRED CuF†.	ESDV PROVIDED CuF†.	SURFACE AREA S.F.			
ı	LOT 1	0.40	35%	2 1 4 2	996	333			
ı	LOT 2	0.59	35%	2,142	1475	410			

ESDV REQUIRED = 2,142 Cu.Ft. ESDV PROVIDED = 2,471 Cu.Ft. WEIGHTED Pe REQUIRED = 1.8" Pe PROVIDED = 2.1"

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING 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					

SITE DEVELOPMENT PLAN SAPARIYA PROPERTY



EXISTING CONDITIONS AND DEMOLITION PLAN 40' 80'

36. IN ACCORDANCE WITH SECTION 16.132 (4), THE PROPERTY OWNER SHALL NOT BE REQUIRED TO CONSTRUCT OR PROVIDE FOR CONSTRUCT REQUIRE GRADING TO ACHIEVE 5AFE STOPPING DISTANCE. IN ACCORDANCE WITH SECTION 16.134(b) NO SIDEWALKS ARE REQUIRED WHEN (2) ADJACENT DEVELOPMENTS HAS BEEN SUBSTANTIALLY COMPLETED WITHOUT SIDEWALKS AND (3) SIDEWALKS WOULD BE DETRIMENTAL TO THE CHARACTER OF A SCENIC ROAD.

39. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE

40. 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 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. 41. THE PROPERTY IS SUBJECT TO AN ALTERNATIVE COMPLIANCE (WP-22-031) OF SECTION 16-1205(A)(3) FOREST RETENTION PRIORITIES. THE ALTERNATIVE COMPLIANCE PROPOSED THE REMOVAL OF FIVE 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 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 ATTEMPTED. 3. A MINIMUM OF 6 NATIVE 3" CALIPER, SHADE TREES SHALL BE PROVIDED AS MITIGATED FOR THE REMOVAL OF THE 3 SPECIMEN TREES FROM THE PROPERTY. LANDSCAPING SURETY IN THE AMOUNT OF \$300.00 PER TREE SHALL BE PROVIDED WITH THE APPLICANTS GRADING PERMIT AS PART OF THE SITE DEVELOPMENT PLAN.

42. FLAG AND PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY. 43. AS REQUIRED FOR A SCENIC ROAD, F-21-046 WAS PRESENTED TO THE HOWARD COUNTY PLANNING BOARD ON JUNE 2, 2023. THE PLAN WAS APPROVED IN ACCORDANCE WITH SECTION 16.125 (c)(5) IN THE LETTER DATED JUNE 2, 2023.

44. A TRAFFIC IMPACT STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP DATED FEB. 12, 2022 AND WAS APPROVED ON MARCH 2023. SUMMARY OF FINDINGS FOR MULTI-MODAL ANALYSIS: a. DATE OF REPORT: MARCH 2023

INTERSECTION OF MARYLAND 108 AND GREAT STAR DRIVE IS A FOUR WAY SIGNAL CONTROLLED INTERSECTION WITH PRIMARY MOVEMENT ALONG MARYLAND 108.

b. DATE OF COUNTS: SPEED STUDY: MAR. 12, 2022

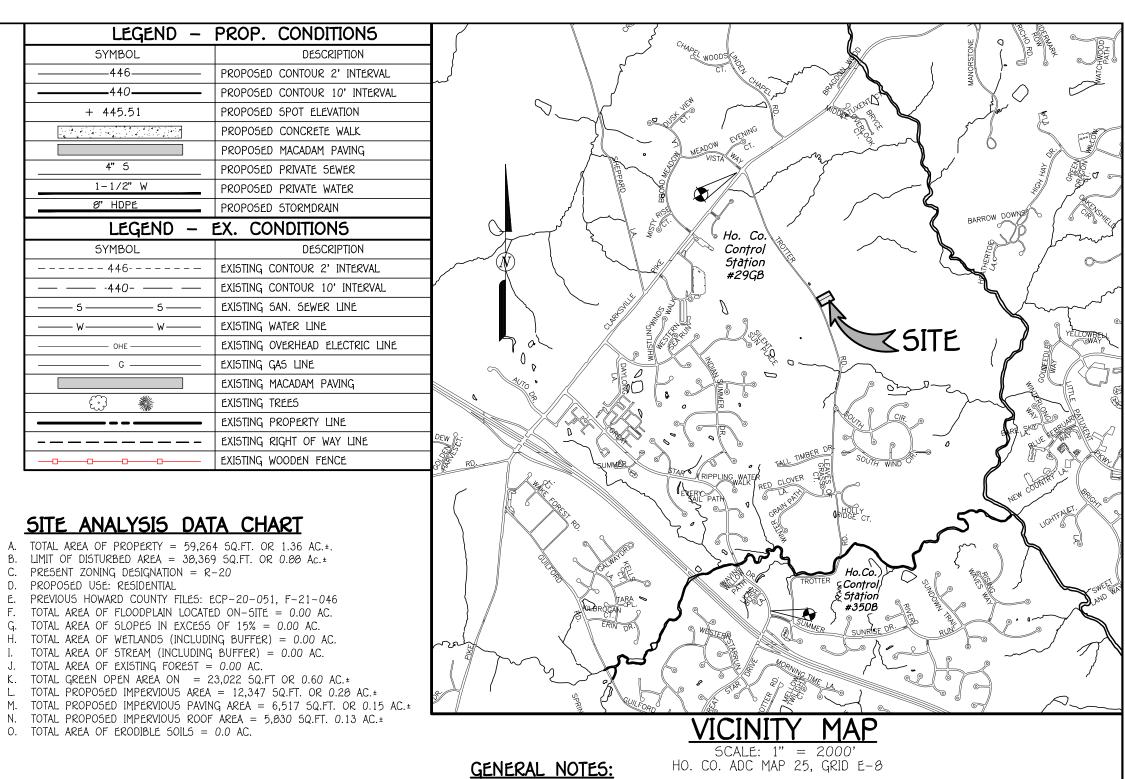
c. REPORT SUBMITTED AS PLAN NUMBER: F-21-046, SDP-23-023 d. SCHOOL STATEMENT: PER CURRENT SCHOOL CHART, ALLOCATION HAS BEEN PROVIDED FOR SUBDIVISION

PAUL GERARD CAVANAUGH

e. LISTS OF INTERSECTIONS STUDIED:

INTERSECTION OF GREAT STAR DRIVE AND WB MARYLAND 32 OFF RAMP IS A "T" TYPE STOP CONTROLLED INTERSECTION WITH PRIMARY MOVEMENT ALONG GREAT STAR DRIVE. INTERSECTION OF LANE ASSIGNMENT AT GREAT STAR DRIVE NB CONSISTS OF ONE LANE LEFT/THRU LANE AND THE LANE ASSIGNMENT OF GREAT STAR DRIVE (SB) CONSISTS OF ONE THRU/RIGHT TURN LANE. INTERSECTION OF WB MARYLAND 32 OFF RAMP IS A TWO LANE OPEN SECTION. LANE ASSIGNMENT AT THE EASTERN APPROACH CONSISTS OF ONE LEFT TURN AND ONE RIGHT TURN LANE.

f. MITIGATION STATEMENT: RECOMMENDATION FOR FUTURE BIKE LANE 45. SDP-23-023 WAS HEARD BY THE PLANNING BOARD ON OCTOBER 5, 2023 FOR THE APPROVAL OF THE LANDSCAPE BUFFER ALONG THE SCENIC ROAD.



ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE 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.

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. L. COORDINATES ARE BASED ON NAD 83 MARYLAND COORDINATES SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.

29GB N 566,826.147 E 1,333,265.923 ELEV. 455.964 35DB N 557,696.148 E 1,333,974.615 ELEV. 400.941

BACKGROUND INFORMATION: A. SUBDIVISION NAME: SAPARIYA PROPERTY LOTS 1 AND 2 B. PROPOSED SITE USE: SINGLE FAMILY DWELLINGS

C. TAX MAP NO.: 35 D. PARCEL NOS.: 0180

E. ZONING: R-20 PER 10/6/13 COMPREHENSIVE ZONING PLAN.

F. ELECTION DISTRICT: FIFTH G. TOTAL TRACT AREA: 59,264 SF (1.360 AC.±)

LOT 1 = 25,191 AC. (0.578 AC.)

LOT 2 = 34,073 AC. (0.782 AC.) H. AREA OF STEEP SLOPES 25% AND GREATER = 0 AC.±

I. NO. OF BUILDABLE LOTS: 2 J. AREA OF BUILDABLE PARCELS: 1.360 AC. ±

K. TOTAL AREA OF ROADWAY TO BE DEDICATED: O AC. ± L. AREA OF FLOODPLAIN: 0 AC. ±

THERE IS NO FLOODPLAIN LIMITS ON THIS PROPERTY. PREVIOUS FILE NOS.: ECP-20-051, F-21-046, WP-22-031

NO CEMETERIES EXISTS ON THIS SITE BASED ON A VISUAL SITE VISIT AND AN EXAMINATION OF THE HOWARD COUNTY CEMETERY INVENTORY MAP. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-180.

SOILS INFORMATION TAKEN FROM NRCS WEB SOIL SURVEY.

THERE ARE NO WETLAND AREAS ON THIS PROJECT. THERE ARE NO STEEP SLOPES OF 25% OR CREATER ON THIS

THE FOREST STAND DELINEATION AND WETLAND DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS DATED SEPTEMBER 2020 AND WAS APPROVED WITH THE FINAL PLAN APPROVED JULY 2021. THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.12.00 OF THE HOWARD COUNTY CODE FOR THIS SUBDIVISION SHALL BE MET BY USE OF THE HIMEL PROPERTY FOREST

RETENTION BANK (5DP-05-132) FOR LOTS 1 AND 2 PROVIDING 1.6 ACRES OF FOREST RETENTION. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE WETLANDS, STREAM(5) OR THEIR REQUIRED BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN OR THEIR EXTENDED GREEN NEIGHBORHOOD BUFFERS UNLESS THE ACTIVITIES ARE CONSIDERED NECESSARY BY THE DEPARTMENT OF PLANNING AND ZONING OR

AN ALTERNATIVE COMPLIANCE IS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS. THE EXISTING TOPOGRAPHY INFORMATION SHOWN IS FROM A FIELD RUN SURVEY BY FISHER COLLINS AND CARTER INC. DATED APRIL 2020 AND OFFSITE TOPOGRAPHY IS FROM HOWARD COUNTY GIS DATA.

BOUNDARY INFORMATION IS BASED ON A SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED APRIL, 2020. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. ON-SITE STORM WATER MANAGEMENT FOR WATER QUALITY VOLUME AND GROUNDWATER RECHARGE VOLUME ARE BEING PROVIDED IN 2 MICRO-BIORETENTION FACILITIES AND 6 DRYWELLS PER CRITERIA OF

20. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT. 21. ALL PROPOSED UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNTY STANDARDS AND SPECIFICATIONS.

ANY DAMAGE TO COUNTY AND OR STATE OWNED RIGHT-OF-WAY TO BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

23. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$6,300.00 FOR 13 SHADE TREES (\$300 ea.), 15 ORNAMENTAL OR EVERGREEN TREES (\$150 ea.), AND 5 SHRUBS (\$30 ea.) WILL BE PROVIDED AS PART OF THE GRADING PERMIT (\$3,150 FOR EACH LOT). 24. WATER IS PUBLIC (CONTRACT NO. 34-4805). SEWER IS PUBLIC (CONTRACT NO. 34-4805) BASED ON MISS UTILITY MARKINGS, FIELD LOCATIONS AND AVAILABLE COUNTY INFORMATION.

DRIVEWAY, CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.

26. DRIVEWAY(5) SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS: WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)

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

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

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

STRUCTURE CLEARANCES - MINIMUM 12 FEET MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE

27. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE

PLAT NOS.

26302

WATER CODE

GRID NO.

_ _ _ _

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. 28. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN

4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK. EXISTING UTILITIES ARE BASED ON FIELD LOCATION BY FISHER, COLLINS & CARTER, INC. ON OCTOBER 16, 2019 AND SUPPLEMENTED WITH COUNTY AVAILABLE INFORMATION.

30. A TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, DATED MARCH 12, 2022, AND WAS APPROVED ON MARCH 2023.

TROTTER ROAD IS A SCENIC ROAD AND THE SCENIC ROAD REGULATIONS WERE ADDRESSED UNDER F-21-046. FOR DRIVEWAY ENTRANCE DETAILS. REFER TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.06.

33. STORMWATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORMWATER DESIGN MANUAL. A MICRO-BIORETENTION FACILITY (M-6) IS PROVIDED FOR EACH FRONT LOT AND DRYWELLS (M-5) TO THE

REAR OF EACH LOT APPROVED UNDER F-21-046. 34. A COMMUNITY MEETING WAS CONDUCTED ON FEBRUARY 17, 2021 FOR THE PURPOSE OF PROVIDING INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED RESIDENTIAL DEVELOPMENT IN ACCORDANCE WITH SECTION 16.128(d) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.

35. PROPERTY IS A SUBDIVISION, REFER TO APFO LETTER DATED FEBRUARY 13, 2021 FROM MARS GROUP AND WAS APPROVED WITH THIS SITE PLAN JULY 2021. SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.

SUBDIVISION IS SUBJECT TO SECTION 108.0.E OF THE ZONING REGULATIONS AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS (M.I.H.U.) OR AN ALTERNATE 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

a. M.I.H.U. REQUIRED = (2 LOTS X 10%) = 0.2 M.I.H.U. b. M.I.H.U. PROPOSED = DEVELOPER WILL PURSUE ALTERNATIVE COMPLIANCE BY PAVING A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR THE UNITS REQUIRED BY THE DEVELOPMENT.

TAX MAP | ELEC. DIST. | CENSUS

FIFTH

605505

35

SEWER CODE



"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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." Paul G. Cavanaugh

11/6/2023 DATE DESCRIPTION REVISION BLOCK 12/3/2023 lynda Eisenberg Director - Departmentocostanted by ning and Zoning 11/29/2023 Lante Total Service Docusioned by: 12/3/2023 (HAD Edmondson Da†e

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

ADDRESS CHART							
PARCEL NO. LOT NO. STREET ADDRESS							
0180	1	5669	TROTTER ROAD				
0100	2	5673 TROTTER ROAD					
2 JOYS TROTTER ROAD							
PROJECT		SECTION/AREA	PARCEL				
SAPARIYA I	PROPERTY	5/2	0180				

ZONE

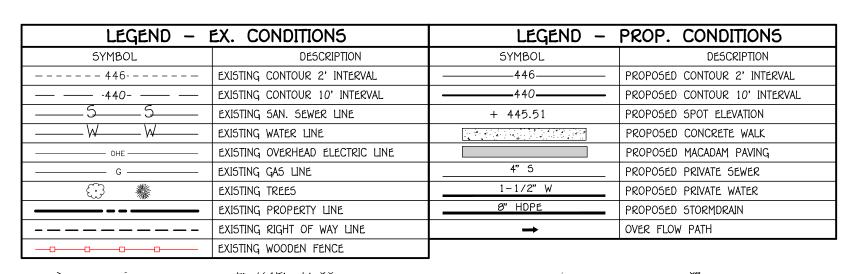
R-20

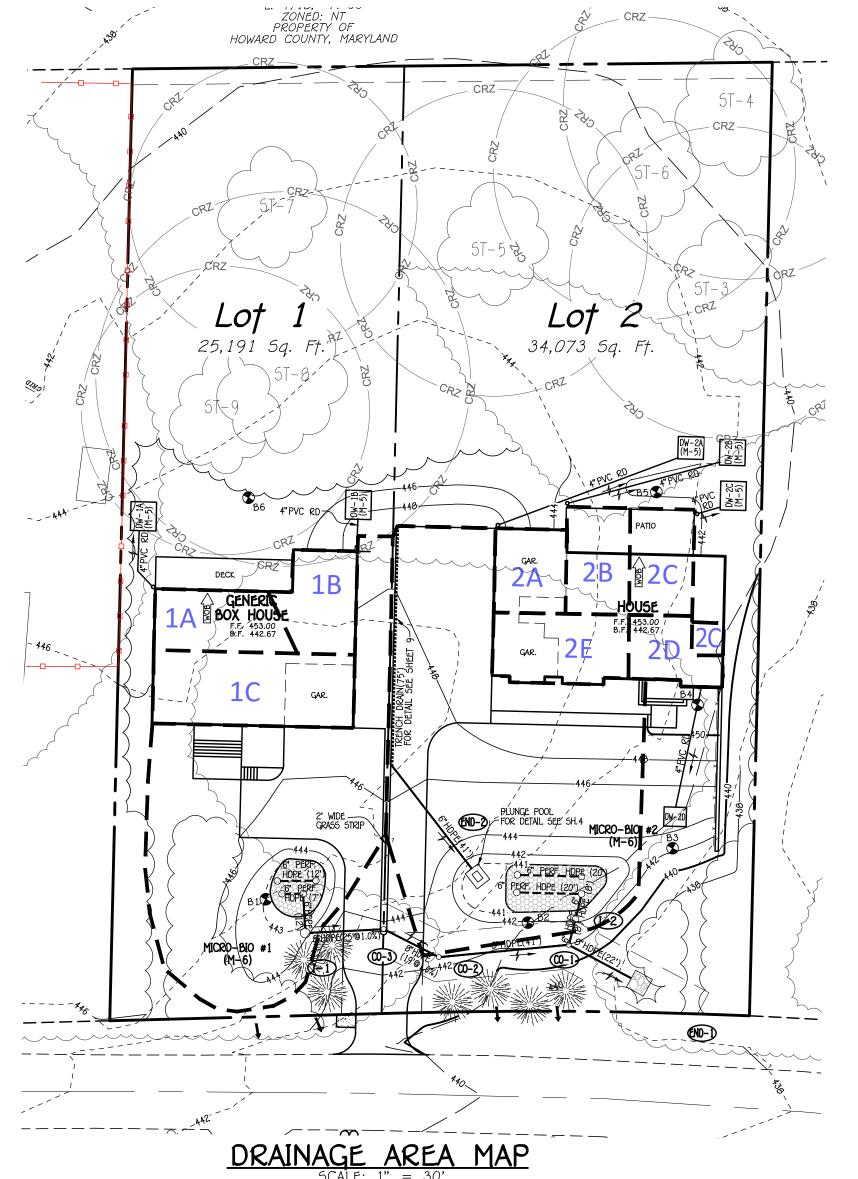
FEE-IN-LIEU TO THE DEPARTMENT OF HOUSING FOR EACH REQUIRED UNIT. MODERATE INCOME HOUSING UNIT (M.I.H.U.) TABULATION:

SAPARIYA PROPERTY 5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65 PLAT BOOK 5, PAGE 52 ZONED: R-20 TAX MAP: 35 GRID: 2 PARCEL: 0180 FIFTH ELECTION DISTRICT

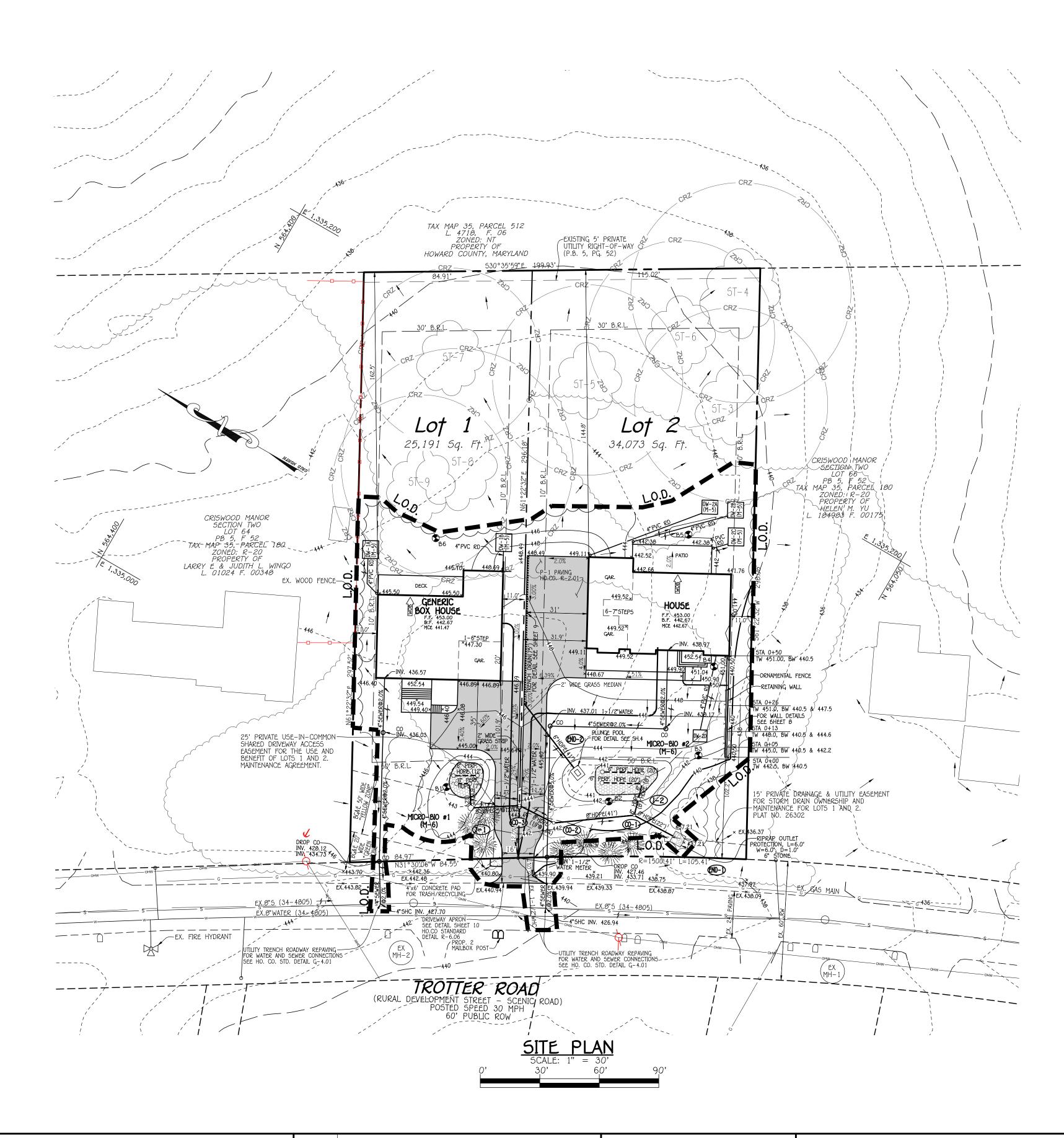
TITLE SHEET

HOWARD COUNTY, MARYLAND DATE: NOVEMBER, 2023 SHEET 1 OF 10 SCALE: AS SHOWN





	STORMWATER MANAGEMENT SUMMARY											
LOT NO5.	AREA ID.	E5DV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	Pe REQUIRED	Pe PROVIDED	Rev REQUIRED CU.FT.	Rev PROVIDED CU.FT.	REMARK5				
1	ROOF	266	996	1 (2"	1.8"	47	388	2 DRYWELLS (M-5)				
1	DRIVEWAY AND ROOF	677	790	1.8"	σ.1.	47	300	MICRO BIORETENTION (M-6)				
2	ROOF	359	1,475	1.8"	2.5"	58	632	4 DRYWELLS (M-5)				
2	DRIVEWAY AND ROOF	682	1,4/7	1.0	2.7	מכי	032	MICRO BIORETENTION (M-6)				
	TOTAL SITE	2,142	2,471	1.8"	2.1"	105	1,020					





"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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."

Paul G. Cavanaugh

PAUL GERARD CAVANAUGH

DATE

HE LAWS			
	DATE	DESCRIPTION	
	APPROVEC	DEPARTMENPOUSING AND ZONING Lynda Eiswhurg 12200635863942E Departmenpousignedamning and Zoning	12/3/2023
	Director -	Da†e 11/29/2023	
	Chief, Div	Dațe 12/3/2023	
	Chief, Dev	velopment Engineering Division	Da†e

OWNER/DEVELOPER

DIVYESH SAPARIYA,

SOHILRAJ SAPARIYA AND

HITESH ANKOLA

5669 TROTTER ROAD

CLARKSVILLE, MARYLAND 21029

PH# 301-275-0762



	ADDRESS CHART								
PARCEL NO.	LOT NO.	STREET ADDRESS							
0180	1	5669 TROTTER ROAD							
0100	2	5673 TROTTER ROAD							
PROJECT		SECTION/AREA PARCEL							

5/2

35

SEWER CODE

R-20

TAX MAP ELEC. DIST. CENSUS

FIFTH

605505

SAPARIYA PROPERTY

GRID NO.

PLAT NOS.

26302

WATER CODE

SAPARIYA PROPERTY LOTS 1 AND 2 5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65 PLAT BOOK 5, PAGE 52

SITE DEVELOPMENT PLAN

62.8

GARAGE

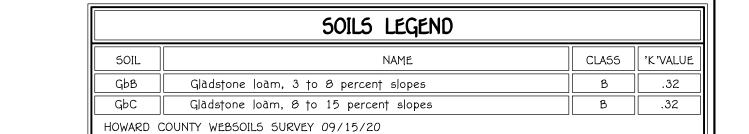
LOT 1 HOUSE BOX

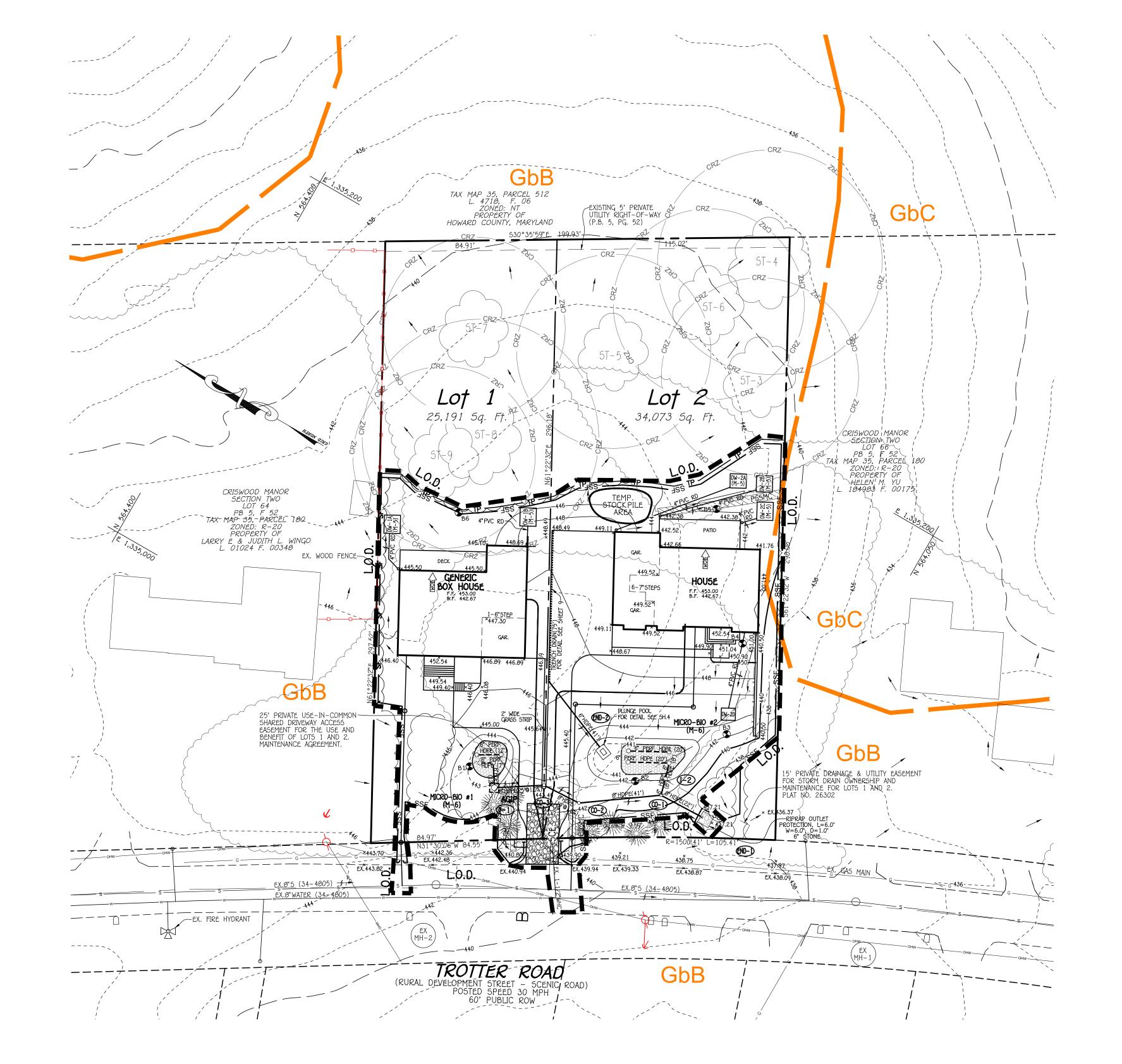
SCALE: 1" = 20'

TYPICAL ELEVATION

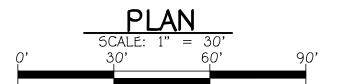
GARAGE

ZONED: R-20
TAX MAP: 35 GRID: 2 PARCEL: 0180
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: NOVEMBER, 2023
SHEET 2 OF 10
SCALE: AS SHOWN





LEGEND -	EX. CONDITIONS	LEGEND -	PROP. CONDITIONS
SYMBOL	DESCRIPTION	5YMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL	446	PROPOSED CONTOUR 2' INTERVAL
-440	EXISTING CONTOUR 10' INTERVAL	440	PROPOSED CONTOUR 10' INTERVAL
55	EXISTING SAN. SEWER LINE	+ 445.51	PROPOSED SPOT ELEVATION
W W	EXISTING WATER LINE		PROPOSED CONCRETE WALK
OHE	EXISTING OVERHEAD ELECTRIC LINE		PROPOSED MACADAM PAVING
G	EXISTING GAS LINE	4" 5	PROPOSED PRIVATE SEWER
	EXISTING TREES	1-1/2" W	PROPOSED PRIVATE WATER
	EXISTING PROPERTY LINE	8" HDPE	PROPOSED STORMDRAIN
	EXISTING RIGHT OF WAY LINE		
	EXISTING WOODEN FENCE	1	



ENGINEER'S CERTIFICATE PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 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." REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF HE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055 Paul G. Cavanaugh 11/6/2023 Paul G. Cavanaugh 11/6/2023 DATE PAUL GERARD CAVANAUGH DATE SIGNATURE OF ENGINEER DESCRIPTION DEVELOPER'S CERTIFICATE REVISION BLOCK "I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONTROL PLAN IN THE CO 12/3/2023 lynda Eisenberg THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL N THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND CONSERVATION DISTRICT. DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT OF ENTRY FOR PERIODIC ON—SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION Director - Department of the Director - Depar 11/29/2023 Olexander Bratchie 11/29/2023 DISTRICT AND/OR MDE." LanteBT5478Af2B49Aent 12/3/2023 HOWARD SOIL CONSERVATION DISTRICT

11/6/2023

Divyesh Sapariya

IGNATURE OF DEVELOPER

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



Dațe

CHAD Edmondson

ADDRESS CHART								
PARCEL NO.	LOT NO.	5T1	REET ADDR	E55				
0180	1	5669	TROTTER R	COAD				
0100	2	5673	TROTTER R	COAD				
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PROJECT			SECTION/A	REA	,	PARCEL		
SAPARIYA PROPERTY 5/2 0180								
PLAT NOS.	GRID NO.	ZONE	TAX MAP	ELEC	DIST.	CENSUS TR		
26302	2	R-20	35	FIF	TH	605505		

SEWER CODE

WATER CODE

SEDIMENT AND EROSION CONTROL PLAN SAPARIYA PROPERTY LOTS 1 AND 2 5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65 PLAT BOOK 5, PAGE 52 ZONED: R-20 TAX MAP: 35 GRID: 2 PARCEL: 0180 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: NOVEMBER, 2023

SHEET 3 OF 10

an JEB75478A22B49Aen DocuSigned by:

CHAD Edmondson

12/3/2023

____Da†e

Olexander Bratchie

HOWARD SOIL CONSERVATION DISTRICT

FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION

11/6/2023

DISTRICT AND/OR MDE."

Vivyesh Sapariya

IGNATURE OF DEVELOPER

11/29/2023

DATE

HOWARD COUNTY, MARYLAND

DATE: NOVEMBER, 2023

SHEET 4 OF 10

SCALE: AS SHOWN

LAT NO5.

26302

WATER CODE

TAX MAP | ELEC. DIST. | CENSUS

FIFTH

605505

35

SEWER CODE

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 2.ean&ermanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required

i. Soil pH between 6.0 and 7.0.

for permanent vegetative establishment are:

ii. Soluble salts less than 500 parts per million (ppm).

iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if loveorass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.

v. Soil contains 1.5 percent minimum organic matter by weight. v. Soil contains sufficient pore space to permit adequate root penetration

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

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 pyrpose is to provide à suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

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

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

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

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

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

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

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

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

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

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

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil. 6. Topsoil Application

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

b. Uniformly distribute topsoil in 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 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

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

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

TEMPORARY SEEDING NOTES (B-4-4)

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

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

Conditions Where Practice Applies

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

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime râtes must be put on the plan. 2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.4.1b and maintain until the next seeding sedson.

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

PERMANENT SEEDING NOTES (B-4-5)

A. Seed Mixtures

General Use

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

b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for

special purposes such as wildlife or aesthetic treatment may be found in USDA—NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

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

2. Turforass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will

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

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

ii. Kentucky Bluegrāss/Perenniāl Rye: Full Sun Mixture: For use in full sun āreās where rāpid 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

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

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

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

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

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future moving of grasses will pose no

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

Permanent Seeding Symmary

		e (from Figure B. from Table B.3):		Ferțiliz	Lime Rațe			
No.	Species	Application Rate (lb/ac)	Seeding Da†es	Seeding Depths	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 1-Oct. 15	1/4-1/2 in.	45 lbs. per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)

STANDARD STABILIZATION NOTE

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

a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES. SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND b.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED

AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. STANDARDS AND SPECIFICATIONS

STOCKPILE AREA (B-4-8)

<u>Definition</u>

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

<u>Purpose</u>

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

Conditions Where Practice Applies

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

<u>Criteria</u>

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper tha 2:1. Benching must be provided in accordance with

Section B-3 Land Grading.

Runoff from the stockpile area must drain to a suitable sediment control practice. Access the stockpile area from the upgrade side. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an 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.

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Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B—4—1 Incremental Stabilization and Standard B—4—4 Temporary Stabilization. 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to

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

Maintenance

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

STANDARDS AND SPECIFICATIONS <u>SEEDING AND MULCHING</u> (B-4-3)

<u>Definition</u> The application of seed and mulch to establish vegetative cover

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

Conditions Where Practice Applies

<u>Purpose</u>

<u>Criteria</u>

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

Specifications

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 keetp

inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective. d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weedcontrol 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. 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. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). 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 O (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be apβlieð by hydroseeding). Normally, not morê 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.

B. Mulchina

 Mulch Materials (in order of preference) 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.

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

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state. WCFM is to be dyed green or contain a green dye in the package that will provide an

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

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

uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth

Apply mulch to all seeded areas immediately after seeding. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a

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

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

of wood cellulose fiber per 100 gallons of water. a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:

i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry

weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro—Tack), DCA—70, Petroset, Terra Tax II, Terra

Tack AR or other 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

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMITS. (2 WEEKS)

2. NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE ANY WORK AT 1-000-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION AT 410-313-1870 AT LEAST 24-HOURS BEFORE STARTING ANY WORK.

3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER SILT FENCE AS SHOWN ON THE PLANS. (3 DAYS) 4. GRADE SITE FOR THE PRIVATE DRIVEWAY AND BUILDING PADS. OBTAIN PERMISSION FROM THE SEDIMENT CONTROL NSPECTOR BEFORE PROCEEDING. (1 WEEK)

5. BEGIN HOUSE FOUNDATION AND HOUSE CONSTRUCTION. (7 MONTHS)

STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS.

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DATE

6. INSTALL WATER HOUSE CONNECTIONS AND SEWER HOUSE CONNECTIONS AS SHOWN ON THE PLANS (1 WEEK) 7. INSTALL MICRO-BIORETENTION FACILITY OUTFALL INCLUDING I-1 AND I-2. INSTALL INLET PROTECTION. 6. UPON PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, INSTALL BASE COURSE PAVING. (1 WEEK)

9. CONSTRUCT RETAINING WALL AND DRYWELLS. INSTALL FINAL PAVING COARSE. (6 MONTHS) 10. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, THE CONSTRUCTION OF THE BIO-RETENTION FACILITY CAN BE NSTALLED ALONG WITH THE REMAINING STORM DRAIN. (2 WEEKS)

11. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL

REMAINING DISTURBED AREAS ON-SITE WITH PERMANENT SEEDING OR OPTIONAL SODDING. (1 WEEK) THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1655 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE

FIELD. A MINIMUM OF 40 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: PRIOR TO THE START OF EARTH DISTURBANCE, BEFORE PROCEEDING. B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT ANY OTHER EARTH WITH

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

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

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

4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN, INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-0) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.

TOTAL AREA OF SITE: 1.36 ACRES ____0.8___ ACRES AREA TO BE ROOFED OR PAVED: ACRE5 AREA TO BE VEGETATIVELY STABILIZED: ____0.5__ ACRES SITE WITH ACTIVE GRADING PERMIT WASTE/BORROW AREA LOCATION:

INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)

MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED

CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE

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

NAME AND TITLE OF INSPECTOR WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION) BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES EVIDENCE OF SEDIMENT DISCHARGES IDENTIFICATION OF PLAN DEFICIENCIES

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

OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE). 9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE

BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER. 10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF

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

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

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

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

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE): USE I AND IP MARCH 1 - JUNE 15 USE III AND IIIP OCTOBER 1 - APRIL 30 USE IV MARCH 1 - MAY 31

16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

B.4.C SPECIFICATIONS FOR BIORETENTION, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.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 MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH. OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION) ORGANIC 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

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING 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

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 FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY

EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A

COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS. 4. PLANT MATERIAL RECOMMENDED PLANT MATERIAL FOR BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A. SECTION A.2.3.

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8 TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL, SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS, THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

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 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 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 PS 20, OR AASHTO-M-270) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4 RIGID PIPE (E.G., PVC OR HDPE).

PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A

1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.

GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" BELOW THE UNDERDRAIN. THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

TABLE A.3 PLANTING SOIL CHARACTERISTICS

A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR

A 4" LAYER OF PEA GRAVEL (1/4" 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).

MISCELLANEOUS THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED

INFILTRATION AND FILTER SYSTEM CONSTRUCTION SPECIFICATIONS

INFILTRATION AND FILTER SYSTEMS EITHER TAKE ADVANTAGE OF EXISTING PERMEABLE SOILS OR CREATE A PERMEABLE MEDIUM SUCH AS SAND FOR WC), AND RE V. IN SOME INSTANCES WHERE PERMEABILITY IS GREAT. THESE FACILITIES MAY BE USED FOR QP AS WELL. THE MOST COMMON SYSTEMS INCLUDE INFILTRATION

TRENCHES, INFILTRATION BASINS, SAND FILTERS, AND ORGANIC FILTERS.

WHEN PROPERLY PLANTED, VEGETATION WILL THRIVE AND ENHANCE THE FUNCTIONING OF THESE SYSTEMS. FOR EXAMPLE, PRE-TREATMENT BUFFERS WILL TRAP SEDIMENTS THAT OFTEN ARE BOUND WITH PHOSPHOROUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL AID IN NUTRIENT UPTAKE AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROVIDE ARTERIES FOR STORMWATER TO PERMEATE SOIL FOR GROUNDWATER RECHARGE. FINALLY, SUCCESSFUL PLANTINGS PROVIDE AESTHETIC VALUE AND WILDLIFE HABITAT MAKING THESE FACILITIES MORE DESIRABLE TO THE PUBLIC.

DESIGN CONSTRAINTS:

> PLANTING BUFFER STRIPS OF AT LEAST 20 FEET WILL CAUSE SEDIMENTS TO SETTLE OUT BEFORE REACHING THE FACILITY, THEREBY REDUCING THE POSSIBILITY OF CLOGGING. > DETERMINE AREAS THAT WILL BE SATURATED WITH WATER AND WATER TABLE DEPTH 50 THAT APPROPRIATE PLANTS MAY BE SELECTED (HYDROLOGY WILL BE SIMILAR TO BIORETENTION FACILITIES, SEE FIGURE A.5 AND TABLE A.4 FOR PLANTING MATERIAL GUIDANCE).

> PLANTS KNOWN TO SEND DOWN DEEP TAPROOTS SHOULD BE AVOIDED IN SYSTEMS WHERE FILTER FABRIC IS

USED AS PART OF FACILITY DESIGN. > TEST SOIL CONDITIONS TO DETERMINE IF SOIL AMENDMENTS ARE NECESSARY. > PLANTS SHALL BE LOCATED SO THAT ACCESS IS POSSIBLE FOR STRUCTURE MAINTENANCE. > STABILIZE HEAVY FLOW AREAS WITH EROSION CONTROL MATS OR SOD. > TEMPORARILY DIVERT FLOWS FROM SEEDED AREAS UNTIL VEGETATION IS ESTABLISHED.

> SEE TABLE A.5 FOR ADDITIONAL DESIGN CONSIDERATIONS

BIO-RETENTION SOIL BED CHARACTERISTICS

THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA. WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER CROP. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ABSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, SOILS MUST BALANCE THEIR CHEMICAL AND PHYSICAL PROPERTIES TO SUPPORT BIOTIC COMMUNITIES ABOVE AND BELOW GROUND.

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 25% BY VOLUME [ENVIRONMENTAL QUALITY RESOURCES (EQR), 1996; ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ETAB), 1993]. SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MUGWORT, NUTSEDGE, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 12 TO 18 LIFTS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET OR TRAVERSED BY DOZER TRACKS). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN

OWNER/DEVELOPER

DIVYESH SAPARIYA,

SOHILRAJ SAPARIYA AND

HITESH ANKOLA

5669 TROTTER ROAD

CLARKSVILLE, MARYLAND 21029

PH# 301-275-0762

PARAMETER VALUE PH RANGE 5.2 TO 7.00 ORGANIC MATTER 1.5 TO 4.0% (BY WEIGHT) MAGNESIUM 35 LBS. PER ACRE, MINIMUM PHOSPHORUS (PHOSPHATE - P205) 75 LBS. PER ACRE, MINIMUM 85 LBS. PER ACRE, MINIMUM POTASSIUM (POTASH -1(K2O) SOLUBLE SALTS 0 TO 5% 30 TO 55% 35 TO 60%

MULCH LAYER

THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND AVOIDS SURFACE SEALING, WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICROENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRETREATMENT LAYER, TRAPPING THE FINER SEDIMENTS, WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRETREATMENT.

THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.

PLANT MATERIAL SELECTION SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE

PLANTING GUIDANCE

STREET ADDRESS

5669 TROTTER ROAD

5673 TROTTER ROAD

SPECIES. BIORETENTION SIMULATES AN UPLAND-SPECIES ECOSYSTEM. THE COMMUNITY SHOULD BE DOMINATED BY TREES, BUT HAVE A DISTINCT COMMUNITY OF UNDERSTORY TREES, SHRUBS AND HERBACEOUS MATERIALS. BY CREATING A DIVERSE, DENSE PLANT COVER, A BIORETENTION FACILITY WILL BE ABLE TO TREAT STORMWATER RUNOFF AND WITHSTAND URBAN STRESSES FROM INSECTS, DISEASE, DROUGHT, TEMPERATURE, WIND, AND EXPOSURE. THE PROPER SELECTION AND INSTALLATION OF PLANT MATERIALS IS KEY TO A SUCCESSFUL SYSTEM. THERE ARE ESSENTIALLY THREE ZONES WITHIN A BIORETENTION FACILITY (FIGURE A.5). THE LOWEST ELEVATION SUPPORTS PLANT SPECIES ADAPTED TO STANDING AND FLUCTUATING WATER LEVELS. THE MIDDLE ELEVATION SUPPORTS PLANTS THAT LIKE DRIER SOIL CONDITIONS, BUT CAN STILL TOLERATE OCCASIONAL INUNDATION BY WATER. THE OUTER EDGE IS THE HIGHEST ELEVATION AND GENERALLY SUPPORTS PLANTS ADAPTED TO DRYER CONDITIONS. A SAMPLE OF APPROPRIATE PLANT MATERIALS FOR BIORETENTION FACILITIES ARE INCLUDED IN TABLE A.4. THE LAYOUT OF PLANT MATERIAL SHOULD BE FLEXIBLE, BUT SHOULD FOLLOW THE GENERAL PRINCIPALS DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM, WHICH RESEMBLES A RANDOM, AND NATURAL PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. FOR A MORE EXTENSIVE BIORETENTION PLAN, CONSULT ETAB, 1993 OR CLAYTOR AND SCHUELER, 1997.

IL ENGINEERING CONSULTANTS & LAND SURVEYORS ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

FISHER. COLLINS & CARTER. INC.

Paul G. Cavanaugh DATE SIGNATURE OF ENGINEER <u>DEVELOPER'S CERTIFICATE</u> I/WF HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WIL E DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING NSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED I THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND

ENGINEER'S CERTIFICATE

CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS

HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE

HOWARD SOIL CONSERVATION DISTRICT."

Vivyesh Sapanya

GIGNATURE OF DEVELOPER

DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

EPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE Paul G. Cavanaugh 11/6/2023 PAUL GERARD CAVANAUGH

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. Olexander Bratchie 11/29/2023 DATE HOWARD SOIL CONSERVATION DISTRICT

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR

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

APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS

DESCRIPTION REVISION BLOCK 12/3/2023 ynda Eisenberg Director - Department of cusionary and Zoning 11/29/2023 Chief, Division of _a nd=115875478A22849/ Docusigned by: 12/3/2023 (HD) Edmondson Date :hief. Developmen BOOLD 868 F1840 F41/18651

OJECT SECTION/AREA PARCEL SAPARIYA PROPERTY 5/2 0180 LAT NOS. TAX MAP | ELEC. DIST. CENSUS GRID NO. ZONE 26302 FIFTH 35 605505 WATER CODE SEWER CODE

ADDRESS CHART

PARCEL NO. LOT NO.

0180

SAPARIYA PROPERTY LOTS 1 AND 2

SEDIMENT AND EROSION CONTROL NOTES

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

ZONED: R-20 TAX MAP: 35 GRID: 2 PARCEL: 0180 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND DATE: NOVEMBER, 2023 SHEET 5 OF 10 SCALE: AS SHOWN

5DP-23-023

SCHEDULE A PERIMETER LANDSCAPE EDGE											
PERIMETER	P1	P2	Р3	P4	MITIGATION	TOTAL5					
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 PER THE CONDITIONS OF WP-22-031						
LANDSCAPE TYPE	NONE	A	A	A							
LINEAR FEET OF PERIMETER	200 LF	298 LF	200 LF	298 LF							
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YE5, 99 L.F.	YE5, 200 L.F.	YE5, 79 L.F.		378 L.F.					
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	4 0 0	0 0 0	4 0 0	6 0 0	14 0 0					
NUMBER OF PLANTS <u>PROVIDED</u> SHADE TREES SMALL ORNAMENTAL EVERGREEN TREES SHRUBS	0 0 0 0	4 0 0 0	0 0 0 0	3 2 0 0	6 0 0 0	13 2 0 0					

* 2:1 SUBSTITUTION DUE TO THE PRESENCE OF OVERHEAD WIRES

TRASH/RECYCLE PAD LANDSCAPING							
LINEAR FEET OF PERIMETER	LOT5 1-2 PAD: 14 l.f.						
NUMBER OF SHRUBS PROVIDED:	5						

- NOTES: 1. THE TRASH/RECYCLE PAD LANDSCAPING WILL BE MAINTAINED BY THE USERS OF THE PRIVATE USE-IN-COMMON MAINTENANCE AGREEMENT.
- 2. THE LANDSCAPING SHALL BE INSTALLED AROUND THE PERIMETER OF THE PAD EXCLUDING THE SIDE ADJACENT TO THE PUBLIC ROAD RIGHT-OF-WAY.

OV	OVERALL LANDSCAPING PLANT LIST										
QTY.	KEY	SIZE									
7		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE) AR	2 1/2" – 3" CALIPER FULL CROWN, B&B								
6		QUERCUS RUBRA (NORTHERN RED OAK) QR * SPECIMEN TREE REPLACEMENTS	2 1/2" — 3" CALIPER FULL CROWN, B&B								
2	S	CORNUS FLORIDA FLOWERING DOGWOOD	8'−10' HGT.								
5		PRUNUS LAUROCERASUS 'SCHIPKAENSIS'/SKIP CHERRYLAUREL QR	18" – 24" SPREAD								
7		ILEX OPACA AMERICAN HOLLY	5'-6' HGT.								
3	E CONTRACTOR OF THE PROPERTY O	CORNUS FLORIDA 'RUBRA' (RED FLOWERING DOGWOOD)	8'−10' HGT.								
3		PRUNUS SERRULATA 'KWANZAN' (KWANZAN CHERRY)	1 1/2" – 2" CALIPER FULL CROWN, B&B								

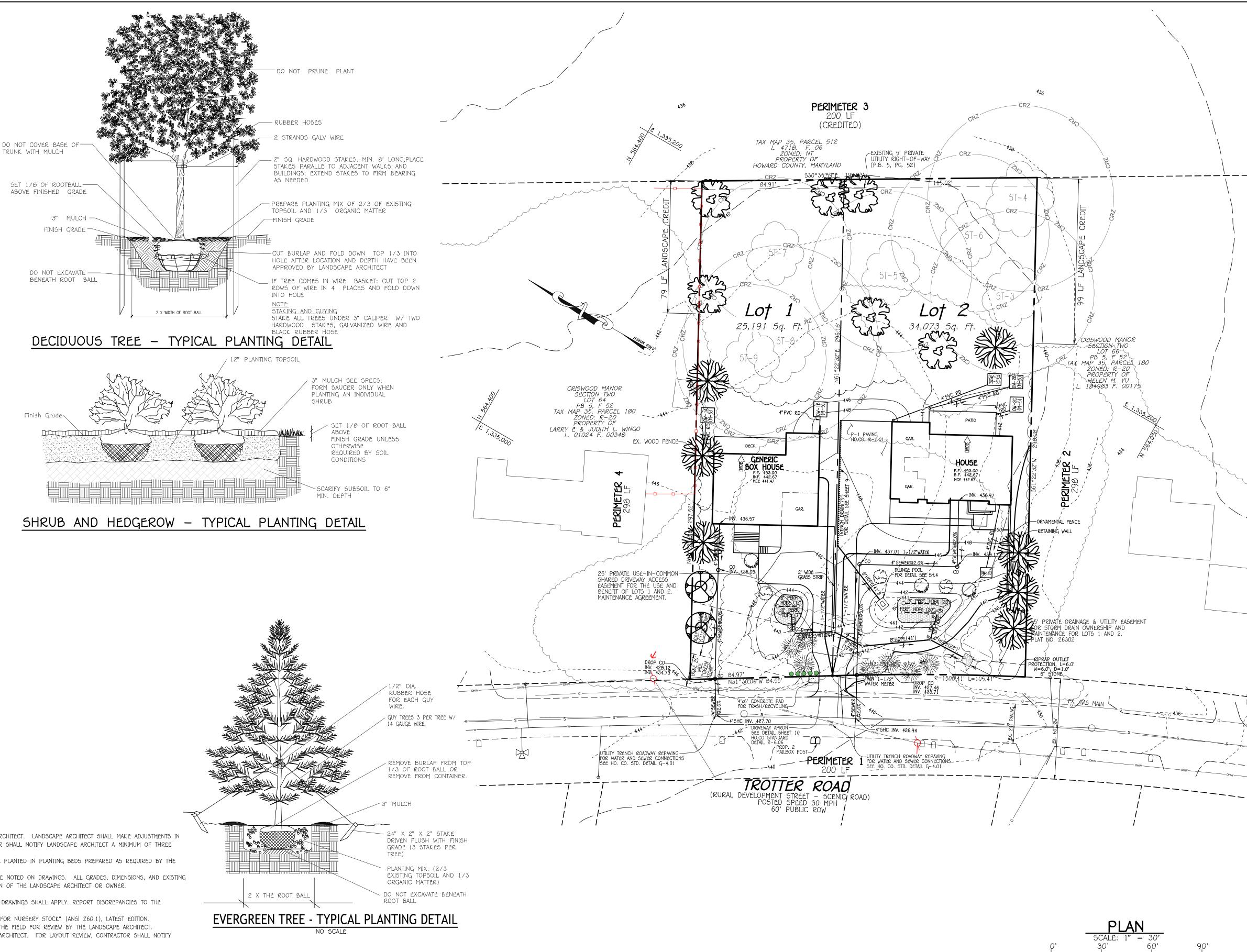
LEGEND -	PROP. CONDITIONS			
5YMBOL	DESCRIPTION			
	EXISTING CONTOUR 2' INTERVAL			
	EXISTING CONTOUR 10' INTERVAL			
_5_5_5_5_5_	EXISTING SAN. SEWER LINE			
OOOO	EXISTING STORM DRAIN LINE			
WWWW	EXISTING WATER LINE			
UGE —	EXISTING UNDERGROUND ELECTRIC LINE			
C/TV	EXISTING CABLE/TV LINE			
OHE	EXISTING OVERHEAR ELECTRIC LINE			
G	EXISTING GAS LINE			
	EXISTING FENCE			
	EXISTING RIGHT OF WAY LINE			
446	PROPOSED CONTOUR 2' INTERVAL			
440	PROPOSED CONTOUR 10' INTERVAL			
	EXISTING PROPERTY LINE			
	PROPOSED CONCRETE WALK			
4" 5	PROPOSED PRIVATE SEWER			
1-1/2" W	PROPOSED PRIVATE WATER			
8" HDPE	PROPOSED STORMDRAIN			
	EXISTING TREES			

DAYS IN ADVANCE.

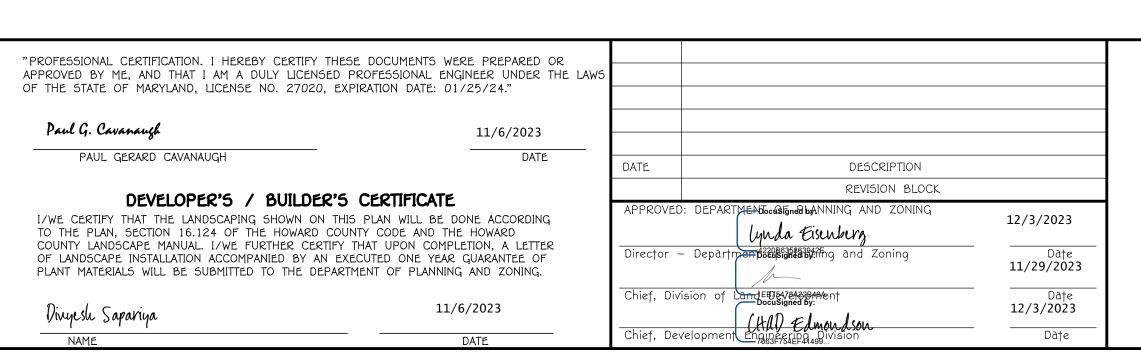
- THE PERIMETER, STREET TREE, AND INTERNAL LANDSCAPE OBLIGATION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, A LANDSCAPE SURETY IN THE AMOUNT OF \$6,300.00 (\$3,150.00 FOR EACH LOT) BASED ON (13) SHADE TREES @ \$300/SHADE TREE, (15) ORNAMENTAL AND EVERGREEN TREES @ \$150/ORNAMENTAL OR EVERGREEN TREE, AND (5) SHRUBS @ \$30/SHRUB SHALL BE BONDED AS PART OF THE GRADING PERMIT.
- 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 FOUNTALENT 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."

PLANTING SPECIFICATIONS

- 1. CLEAR & GRUB ALL PLANTING AREAS AS INDICATED ON THE DRAWINGS.
- 2. PROVIDE PROTECTION FOR TREES, SHRUBS, AND PERENNIALS/GROUND COVERS THAT ARE TO BE PRESERVED. 3. CONTRACTOR SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.
- 4. ALL PLANTING SHALL BE DONE AS PER PLANTING DETAILS AND SPECIFICATIONS.
- 5. NO CHANGES SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR LANDSCAPE ARCHITECT. 6. PRIOR TO CONSTRUCTION OF PLANTING BEDS, THE CONTRACTOR SHALL STAKE OUT PLANTING BED LINES IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANTING BED LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE
- 7. INSTALL ALL REQUIRED PLANTING AND LAWN SOILS AS PER DETAILS AND SPECIFICATIONS, AND ALL SHRUBS, GROUND COVERS, AND PERENNIALS SHALL BE PLANTED IN PLANTING BEDS PREPARED AS REQUIRED BY THE
- DETAILS AND SPECIFICATIONS. 6. MAINTAIN POSITIVE DRAINAGE OUT OF PLANTING BEDS AT A MINIMUM 2% SLOPE AND MAINTAIN POSITIVE DRAINAGE OF ALL LAWN AREAS, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL GRADES, DIMENSIONS, AND EXISTING
- CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER. 9. ALL PLANT BEDS SHALL BE CONTAINED WITH A SPADED EDGE UNLESS OTHERWISE NOTED ON DRAWINGS.
- 10. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE DRAWINGS AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE DRAWINGS SHALL APPLY. REPORT DISCREPANCIES TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING.
- 11. ALL PLANTS SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION. 12. PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. PRIOR TO PLANTING, THE CONTRACTOR SHALL STAKE OUT THE LOCATIONS OF ALL PLANTS IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANT LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
- 13. ALL DISTURBED AREAS SHALL BE FINE GRADED AND SEEDED OR SODDED; SEE PLAN FOR LOCATIONS.
- 14. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND MAINTAINING ALL PLANTS DURING THE WARRANTY PERIOD; REFER TO SPECIFICATIONS.



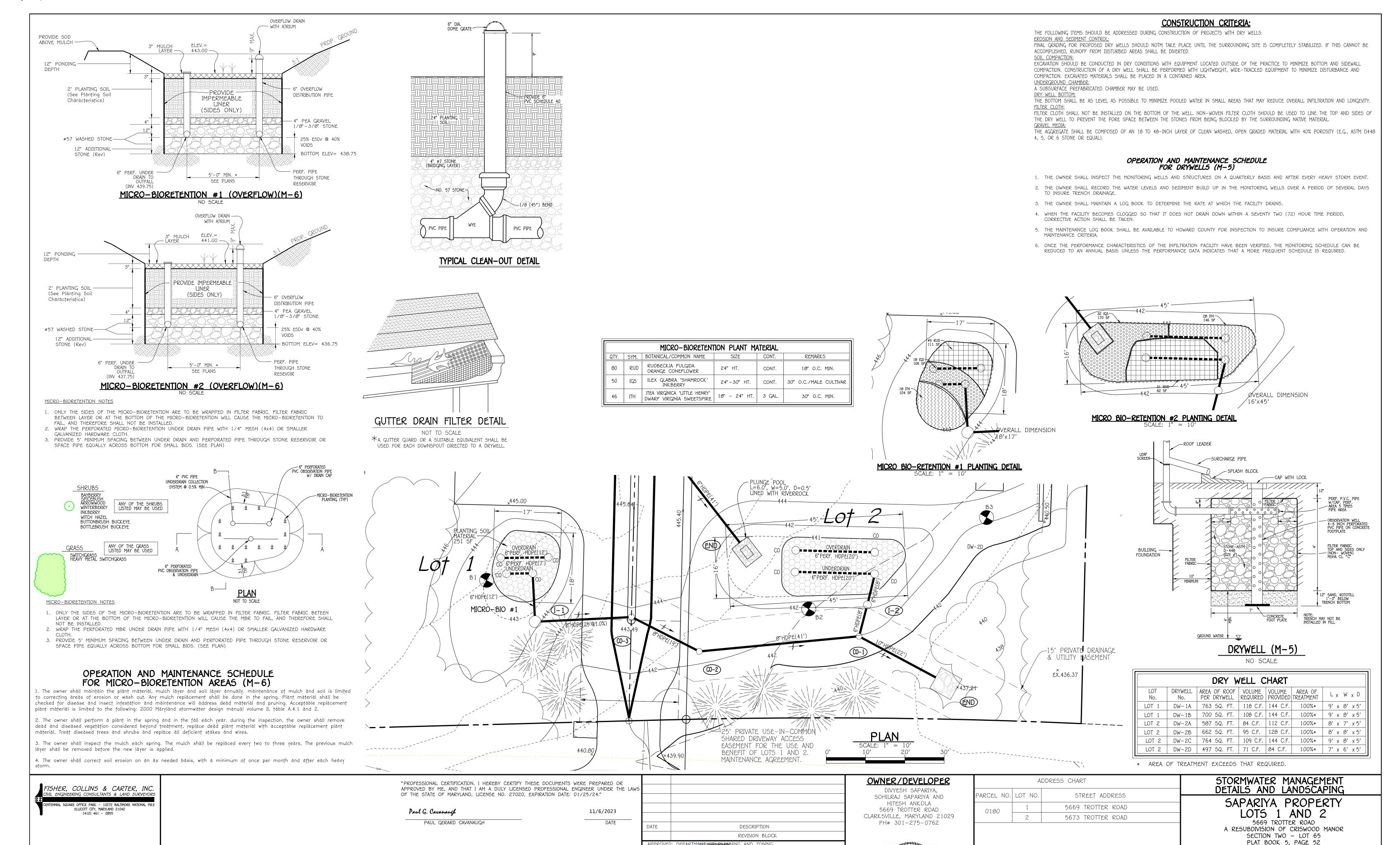




OWNER/DEVELOPER DIVYESH SAPARIYA, SOHILRAJ SAPARIYA AND HITESH ANKOLA 5669 TROTTER ROAD CLARKSVILLE, MARYLAND 21029 PH# 301-275-0762

				Τ	RESS CHAR	ADC			
	NO. LOT NO. STREET ADDRESS								
5			CAOS	TROTTER R	5669	1	0180		
			CAOS	TROTTER R	5673	2	0100		
A									
	PARCEL	P	REA	SECTION/A			PROJECT		
TAX	0180			5/2	SAPARIYA PROPERTY				
	CENSUS TR.	DIST.	ELEC	TAX MAP	ZONE	GRID NO.	PLAT NO5.		
	605505	TH	FIF	35	R-20	2	26302		
			DE	SEWER CO			WATER CODE		

LANDSCAPE PLAN, DETAILS AND NOTES 5669 TROTTER ROAD RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65 PLAT BOOK 5, PAGE 52 ZONED: R-20 AX MAP: 35 GRID: 2 PARCEL: 0180 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND DATE: NOVEMBER, 2023 SHEET 6 OF 10 SCALE: AS SHOWN



12/3/2023

11/29/2023

12/3/2023

Date

Date

ROJECT

LAT NOS.

26302

WATER CODE

SAPARIYA PROPERTY

GRID NO.

ZONE

SECTION/AREA

5/2

35

SEWER CODE

TAX MAP | ELEC. DIST. CENSUS

FIFTH

PARCEL

0180

605505

lynda Eisenberg

(HD) Edmondson

Director - Department of cultiment of and Zonina

Chief, Division of Lapa DERVERSER

Chief, Development EngimoorismgF4Dinaision

ZONED: R-20

TAX MAP: 35 GRID: 2 PARCEL: 0180

FIFTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND DATE: NOVEMBER, 2023

SHEET 7 OF 10

GENERAL NOTES

BUILDING CODE:

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2018. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THIS CODE, ITS LATEST ADOPTED AMENDMENTS AND LOCAL REQUIREMENTS.

SUBMITTALS

- A. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS, FOR REVIEW AND APPROVAL:
- a. REINFORCING STEEL FOR CAST-IN-PLACE CONCRETE B. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS AND STRUCTURAL CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THIS PROJECT FOR REVIEW AND APPROVAL:
- a. EXCAVATION SUPPORT, SHEETING, OR BENCHING WHERE SOILS REQUIRE SUCH BY VIRTUE OF OSHA REQUIREMENTS (ALL **EXCAVATIONS GREATER THAN 5' REQUIRE SPECIFIC TRENCHING** CONSIDERATIONS) OR SOIL CONDITIONS
- b. CONCRETE MIX DESIGNS C. SUBMITTALS ISSUED TO THE DESIGN TEAM FOR REVIEW SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL, CERTIFYING THAT ALL FIELD MEASUREMENTS, CONSTRUCTION CRITERIA, MATERIALS, ETC. HAVE BEEN VERIFIED AND EACH SHEET HAS BEEN REVIEWED FOR COMPLETENESS, COORDINATION BETWEEN TRADES, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. FURTHER, STRUCTURAL SHOP DRAWINGS WILL ONLY BE REVIEWED ONCE ANY REQUIRED CALCULATION PACKAGES FOR THAT WORK HAS BEEN ISSUED ALONG WITH A SIGNED AND SEALED LETTER BY THE CONTRACTOR'S ENGINEER CERTIFYING THAT THE SHOP DRAWINGS HAVE PROPERLY INCORPORATED THEIR DESIGN, IN ACCORDANCE WITH THE 2010 AISC CODE OF STANDARD PRACTICE-SECTION 3.1.2 (OPTION 3), OTHERWISE THE SUBMITTAL PACKAGE WILL
- SPECIAL INSPECTIONS: AS PER IBC CHAPTER 17. THE FOLLOWING ITEMS ARE SUBJECT TO SPECIAL INSPECTION BY AN INDEPENDENT INSPECTION AND/OR TESTING AGENCY HIRED BY THE OWNER AND APPROVED BY THE ARCHITECT AND BUILDING OFFICIAL. OWNER/SPECIAL INSPECTOR SHALL PROVIDE SPECIAL INSPECTION REPORTS WITHIN 5 DAYS OF PERFORMING THE INSPECTION AND IMMEDIATELY NOTIFY THE ENGINEER. A. CONCRETE CONSTRUCTION (1705.3)B. SOILS (1705.6)

DESIGN LOADS:

BE REJECTED.

A. GRAVITY SURCHARGE LOAD: YARD

- 5. THE CONTRACTOR SHALL CHECK THE BUILDING LOCATION WITH REGARD TO PROPERTY LINE, AND VERIFY ALL EXISTING CONDITIONS BEFORE EXCAVATION AND SHOP DRAWING PREPARATION. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- 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 OF THE ARCHITECT.
- THE STABILITY OF STRUCTURE, ADJACENT STRUCTURES IMPACTED BY THE WORK, AND SITE SAFETY ARE THE CONTRACTOR'S RESPONSIBILITY UNTIL CONSTRUCTION IS COMPLETE AND THE STRUCTURE HAS REACHED ITS FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY BRACING, ERECTION PIECES, CONSTRUCTION SUPPORTS, FALL PROTECTION, DEBRIS CATCHES, TEMPORARY SHORING, ETC. AS REQUIRED TO SAFEGUARD THE SITE THROUGHOUT THE COURSE OF CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY THAT ANY CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN CAPACITY OF THE STRUCTURE.

FOUNDATION NOTES

- A. FOUNDATIONS HAVE BEEN DESIGNED TO AN ALLOWABLE SOIL BEARING PRESSURE 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 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

DRY ATMOSPHERE

- A. ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 2'-6" BELOW FINAL GRADE WHEN BEARING ON SOIL
- B. WHERE NECESSARY, FOOTING STEPS SHALL BE CONSTRUCTED AT MAXIMUM
- SLOPE OF 1 VERTICAL TO 2 HORIZONTAL. 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 MINIMUM OF THREE DAYS. CANTILEVERED RETAINING WALLS MAY BE BACKFILLED AFTER 14 DAYS FROM CONCRETE PLACEMENT, BUT IN NO CASE SHALL DIFFERENTIAL OF BACKFILL, ON OPPOSITE SIDES OF THE WALL, EXCEED THE FINAL DESIGN DIFFERENTIAL.
- E. ALL BOTTOM OF FOOTING ELEVATIONS ARE SUBJECT TO CHANGE UPON INSPECTION OF SOIL CONDITION. ELEVATION OF ADJACENT FOOTING BOTTOMS SHALL NOT EXCEED A MAXIMUM SLOPE OF:
- 1.1.1. 1H:1V FOR COHESIVE SOILS WITH AN UNCONFINED COMPRESSIVE STRENGTH GREATER THAN 0.5 TSF
- 1 1/2H:1V FOR COHESIVE SOILS WITH AN UNCONFINED COMPRESSIVE
- STRENGTH OF 0.5TSF OR LESS. 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.

CAST-IN-PLACE CONCRETE

GENERAL

- A. ALL CONCRETE WORK SHALL CONFORM TO REQUIREMENTS OF THE A.C.I. BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE (318-14 ULTIMATE STRENGTH
- B. 28 DAY MINIMUM COMPRESSIVE STRENGTH AND RELATED PROPERTIES FOR CONCRETE SHALL BE AS FOLLOWS:
- F'c MAX W/C RATIO MAX DENSITY FOOTINGS 4,500PSI 0.40 NWC (145 PCF)
- C. CONCRETE COVERING OF REINFORCING STEEL (INCLUDING TIES AND STIRRUPS) SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS: FOUNDATION WALL, FOOTING & GRADE BEAM FACES NOT CAST AGAINST EARTH
 - CONCRETE CAST AGAINST EARTH
- D. ALL CONCRETE, INCLUDING FOUNDATIONS, EXPOSED TO WEATHER AND/OR OUTSIDE THE BUILDING ENVELOPE SHALL BE AIR ENTRAINED, 6%±1.5% BY VOLUME FOR 3/4" COARSE AGGREGATE. AIR ENTRAINING ADMIXTURE TO COMPLY WITH
- E. ALL PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE I.
- F. ALL NORMAL WEIGHT CONCRETE AGGREGATE SHALL CONFORM TO ASTM C33. G. MAXIMUM CONCRETE SLUMP SHALL BE 4" FOR CONCRETE NOT RECEIVING
- HIGH-RANGE WATER REDUCING ADMIXTURES. H. ALL BARS MARKED CONTINUOUS SHALL BE LAPPED AT SPLICES AND CORNERS IN
- ACCORDANCE WITH THE SCHEDULE SHOWN ON THESE DRAWINGS, EXCEPT AS OTHERWISE SHOWN OR REQUIRED.
- WELDING OF REINFORCEMENT IS PROHIBITED U.O.N.
- A615, GRADE 60 (F'y = 60,000 PSI) K. VERTICAL CONSTRUCTION JOINTS USING APPROVED BULKHEADS MAY BE MADE WITHIN THE MIDDLE THIRD OF BEAM, WALL, OR SLAB SPANS WHERE STOP IN CONCRETE WORK IS NECESSARY. A PLAN SHOWING PROPOSED JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. HORIZONTAL CONSTRUCTION

J. ALL REINFORCING BARS SHALL BE OF NEW BILLET STEEL CONFORMING TO ASTM

- JOINTS ARE PERMITTED ONLY AS SHOWN ON DRAWINGS. CONSTRUCTION JOINTS SHALL CONFORM TO ACI 318, SECTION 6.4. ALL REINFORCING STEEL SHALL BE CONTINUOUS THROUGH JOINTS U.O.N. FOR ALL CONSTRUCTION JOINTS BELOW WATER TABLE, PROVIDE WATERSTOPS.
- L. ALL HORIZONTAL JOINTS IN CONCRETE POURS (WHERE SHOWN ON STRUCTURAL DRAWINGS OR EXPLICITLY APPROVED BY THE ENGINEER IN WRITING) SHALL BE RAKED TO 1/4" AMPLITUDE WHILE CONCRETE IS FRESH.
- M. ALL CONCRETE SHALL BE MIXED, TRANSPORTED AND PLACED IN ACCORDANCE WITH ACI STANDARDS 318 AND 304.
- N. ALL REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE TO ACI 315.
- O. TEST CYLINDERS SHALL BE TAKEN FROM THE MIXER IN ACCORDANCE WITH ASTM C172 AND THE PROJECT SPECIFICATIONS.
- P. STONE AGGREGATE USED IN CONCRETE MIX SHALL BE FREE OF MATERIALS WITH HARMFUL REACTIVITY TO ALKALI IN CEMENT.
- 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 C1218.

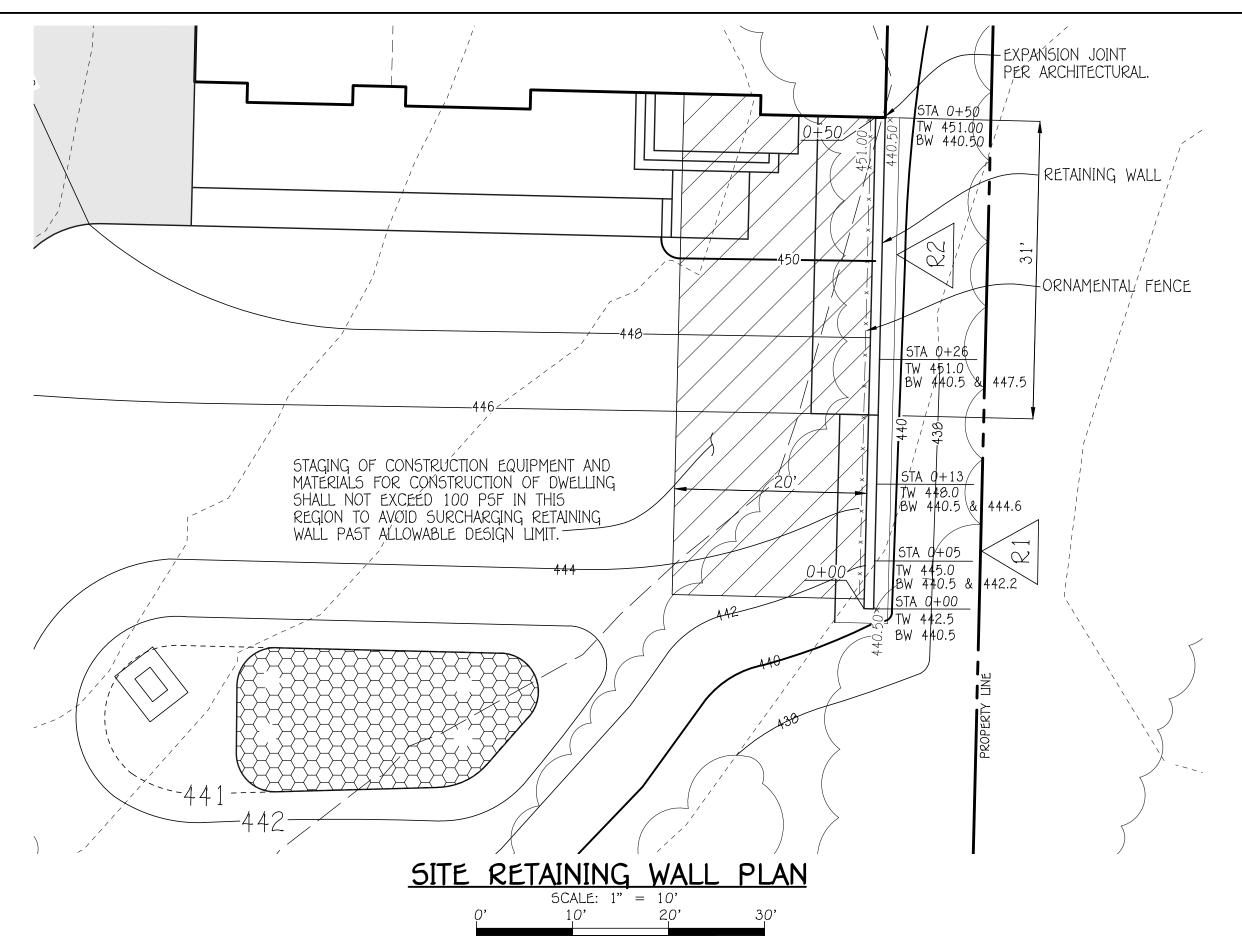
CONCRETE FOR FOUNDATIONS

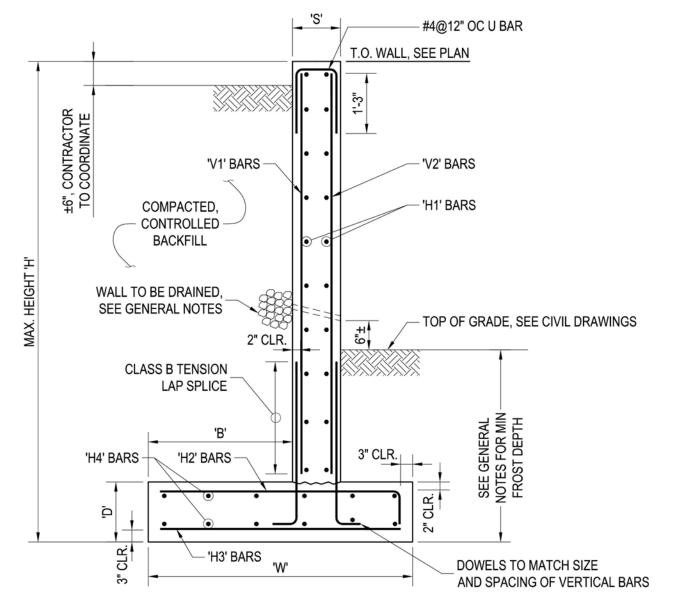
B. CLEAR COVER < d.

D. LIGHTWEIGHT CONCRETE...

- A. ALL VERTICAL SURFACES OF CONCRETE SHALL BE FORMED FOR WALLS, FOOTINGS, AND GRADE BEAMS.
- B. CONTRACTOR SHALL PROVIDE A MINIMUM AREA OF STEEL REINFORCEMENT EQUAL TO .0018 TIMES THE GROSS CONCRETE AREA IN CONCRETE SLABS AND FOOTINGS, EXCEPT WHERE CONCRETE IS PRESTRESSED. PROVIDE MINIMUM BONDED REINFORCEMENT FOR PRESTRESSED CONCRETE IN ACCORDANCE WITH ACI 318 -SECTION 18.9. FOR WALLS, PROVIDE MINIMUM REINFORCING IN ACCORDANCE WITH ACI 318 - SECTION 14.3.

CONCRETE REBAR LAP SPLICE & HOOK LENGTHS (INCHES) COMPRESSION CONCRETE STRENGTH (f'c), PSI (in) | 3,000 | 4,000 | 5,000 | 6,000 | 7,000 | 8,000 | 9,000 | 10,000 | #5 | 0.625 | 33 | 31 | 28 | 26 | 24 | 22 | 21 19 #7 | 0.875 | 63 | 54 | 49 | 44 | 41 | 39 | 36 #8 | 1.00 | 72 | 62 | 53 | 51 | 47 | 44 | 42 #9 | 1.125 | 81 | 70 | 63 | 57 | 53 | 50 | 47 | 44 #11 | 1.56 | 101 | 87 | 78 | 71 | 66 | 62 | 58 | 55 NOTE: SPLICE LENGTHS INDICATED ABOVE SHALL BE MULTIPLIED BY THE FOLLOW FACTORS: A. BAR WITH MORE THAN 12" OF FRESH CONCRETE BELOW LAP..... 1.3





RETAINING WALL SCHEDULE											
SECTION	WIDTH		FTG.	STEM	'V1'	'V2'	'H1'	'H2'	'H3'	'H4'	MAX. HEIGHT
NUMBER	'W'	'B'	'D'	'S'	BARS	BARS	BARS	BARS	BARS	BARS	'H'
<u> </u>	5'-6"	3'-0"	12"	12"	#4 @ 14"	#4 @ 14"	#4 @ 16"	#6 @ 14"	#4 @ 14"	#4 @ 16"	8'-0"
Æ	8'-6"	6'-0"	18"	12"	#6 @ 12"	#4 @ 12"	#4 @ 12"	#6 @ 12"	#4 @ 12"	#4 @ 12"	12'-0"
Æ3	12'-0"	9'-0"	24"	12"	#8 @ 8"	#4 @ 8"	#4 @ 12"	#6 @ 8"	#4 @ 12"	#6 @ 16"	16'-6"

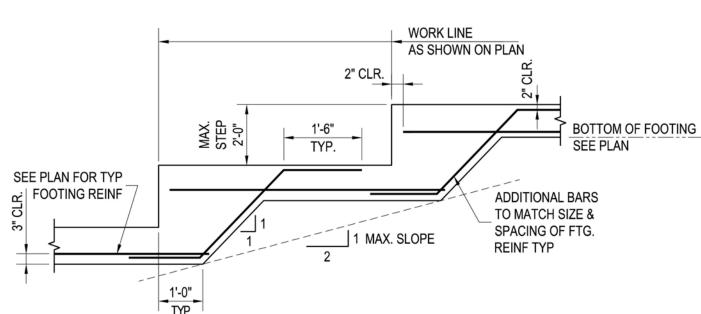
TYP. RETAINING WALL DETAIL & SCHEDULE

hief, Development Engin7263F756EFD1A99sion

PROPOSED GRADE -TOP SIDE OF WALL ELEV. 442.5 PROPOSED GRADE -BOTTOM SIDE OF WALL ELEV. 440.5 -EXISTING GROUND SECTION R2

NOTES:

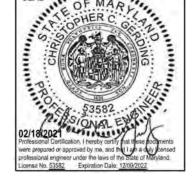
- 1. ELEVATION OF BOTTOM OF WALL FOOTINGS ARE INDICATED ON PLAN THUS: (000.00).
- 2. REINFORCED CONCRETE RETAINING WALLS ARE INDICATED ON PLAN THUS: 🛝 REFER TO RETAINING WALL SCHEDULE SHOWN IN DETAIL A.
- 3. TOP OF WALL ELEVATION TO BE WITHIN 6" ABOVE OR BELOW FINISHED GRADE ELEVATION, REFER TO CIVIL DRAWINGS. CONTRACTOR TO STEP TOP OF WALL, AS
- 4. EQUIPMENT AND MATERIALS ARE NOT TO BE STAGED IN A MANNER THAT THE LOADING WOULD EXCEED 100 PSF IN REGION SHOWN ON PLAN THUS:



TYP. STEPPED FOOTING DETAIL

FISHER, COLLINS & CARTER, INC. VIL ENGINEERING CONSULTANTS & LAND SURVEYOR ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855





C. CLEAR COVER < d FOR BARS ENCLOSED BY STIRRUPS OR

CLEAR COVER < 2 x d FOR ALL OTHER BARS....

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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."

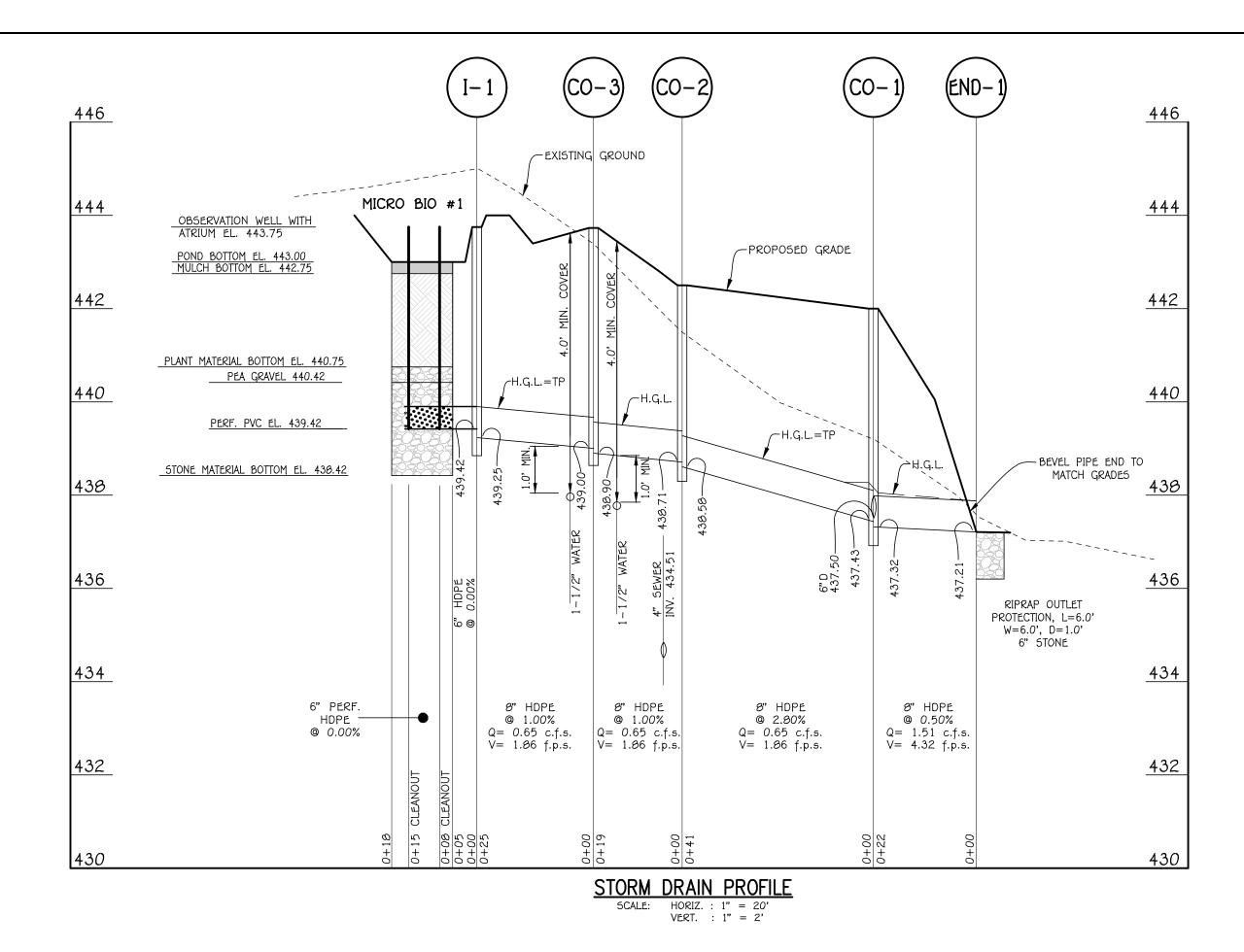
Paul G. Cavanaugh 11/6/2023 PAUL GERARD CAVANAUGH DESCRIPTION REVISION BLOCK 12/3/2023 lynda Eisenbera Director - Department of 2015 1976 and Zoning 11/29/2023 7 05 B 7 3 1 7 8 6 2 1 B 4 9 7 Chief, Division of Lar 12/3/2023 (HD) Edmondson

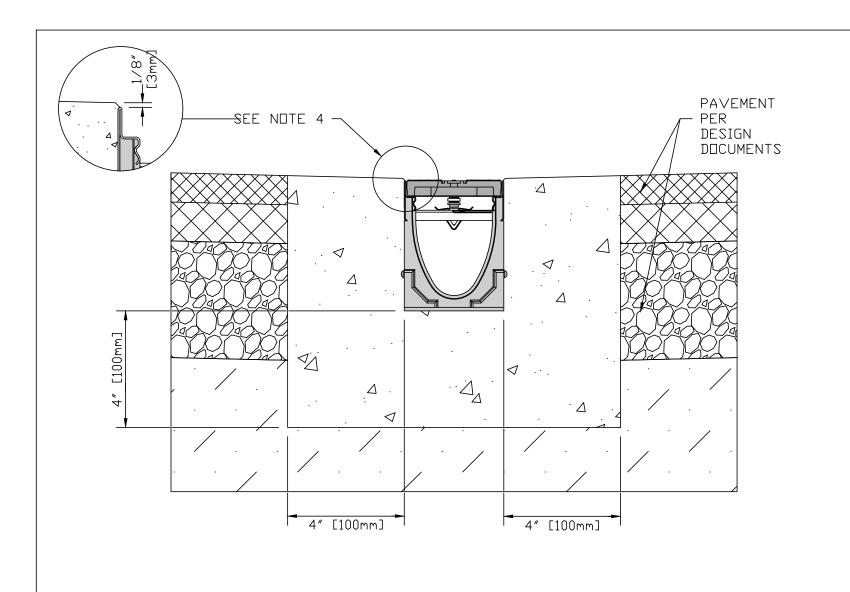
OWNER/DEVELOPER DIVYESH SAPARIYA, SOHILRAJ SAPARIYA AND HITESH ANKOLA 5669 TROTTER ROAD CLARKSVILLE, MARYLAND 21029 PH# 301-275-0762

Date

	ADI	DRESS CHA	ART			SITE RETAINING WALL, DETAILS AND NOTES		
PARCEL NO.	LOT NO.	5	TREET ADDR	.E55		·		
0180	1	5669) TROTTER R	ROAD		SAPARIYA PROPERTY		
	2	5673	B TROTTER R	CAO		LOTS 1 AND 2 5669 TROTTER ROAD		
						A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO – LOT 65 PLAT BOOK 5, PAGE 52		
PROJECT			SECTION/A	REA	PARCEL	ZONED: R-20		
SAPARIYA	PROPERTY		5/2		0180	TAX MAP: 35 GRID: 2 PARCEL: 0180 FIFTH ELECTION DISTRICT		
PLAT NO5.	GRID NO.	ZONE	TAX MAP	ELEC. DIS	T. CENSUS TR.	110 97 110 60 01111, 17 1110		
26302	2	R-20	35	FIFTH	605505	DATE: NOVEMBER, 2023 SHEET 8 OF 10		
WATER CODE		_	SEWER CO	DE		SCALE: AS SHOWN		

ADDRESS CHART





1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.

- 2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
- 3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED. 4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
- 5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS. 6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

K100 KLASSIKDRAIN 'QUICKLOK' LOAD CLASS A

THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

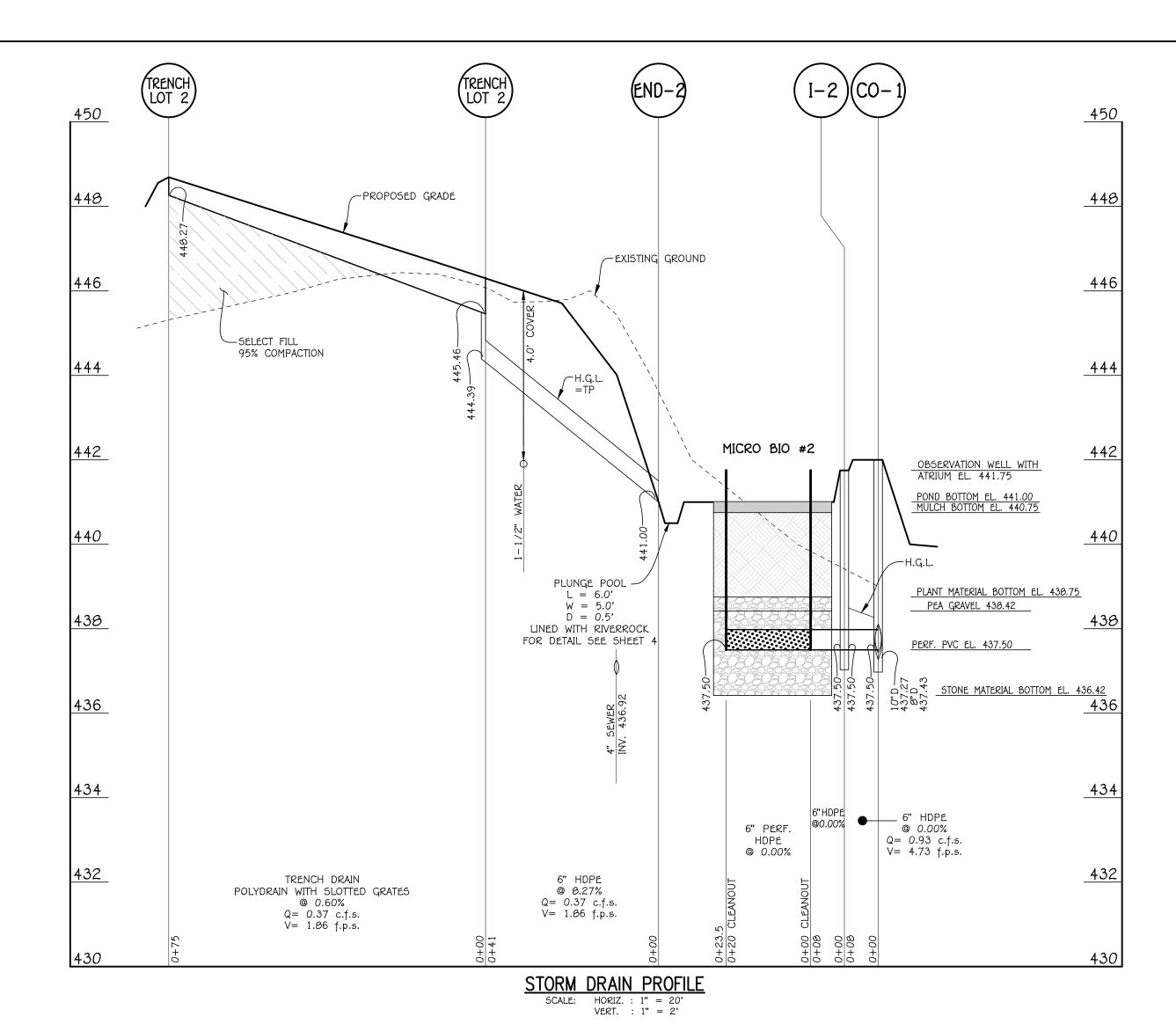
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS: COMPRESSIVE STRENGTH: 14,000 PSI FLEXURAL STRENGTH: 4,000 PSI TENSILE STRENGTH: 1,500 PSI WATER ABSORPTION: 0.07% FROST PROOF YES DILUTE ACID AND ALKALI RESISTANT YES YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

B117 SALT SPRAY TEST COMPLIANT

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.



PIPE SCHEDULE								
SIZE	CLA55	LENGTH						
6"	HOPE	63 L.F.						
6"	PERF. PVC	59 L.F.						
8"	HDPE	107 L.F.						

	STRUCTURE SCHEDULE											
STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV.IN	INV.OUT	COORD	INATES	INTERIOR WIDTH	TYPE	REMARKS			
I – 1	PRIVATE	443.75 *	439.42 (6")	439.25 (8")	N 564,175.60	E 1,334,983.80	24"	NYLOPLAST DRAIN BASIN	PERFORATED GRATE			
I-2	PRIVATE	443.75 *	439.75 (6")	440.25 (8")	N 564,104.61	E 1,335,029.77	24"	NYLOPLAST DRAIN BASIN	PERFORATED GRATE			
CO-3	PRIVATE	443.73	439.00 (8")	438.90 (8")	N 564,155.00	E 1,334,997.11	8"	NYLOPLAST DRAIN BASIN	REMOVABLE CAP			
CO-2	PRIVATE	442.50	438.71 (8")	438.58 (8")	N 564,135.68	E 1,334,998.14	8"	NYLOPLAST DRAIN BASIN	REMOVABLE CAP			
CO-1	PRIVATE	442.00	437.43 (8"), 437.50 (6")	437.32 (8")	N 564,102.43	E 1,335,021.77	8"	NYLOPLAST DRAIN BASIN	REMOVABLE CAP			
END-2	PRIVATE	_	-	441.00 (6")	N 564,140.57	E 1,335,027.23	6"	BEVEL PIPE END TO MATCH GRADES	_			
END-1	PRIVATE	_	-	437.21 (10")	N 564,080.30	E 1,335,022.48	10"	BEVEL PIPE END TO MATCH GRADES	-			
TRENCH DRAIN - 1	PRIVATE	SEE PLAN	_	445.46 (6")	N 564,178.13 N 564,214.05	E 1,335,042.61 E 1,335,108.44	6"	POLYDRAIN TRENCH DRAIN	LOAD CLASS LIGHT TRAFFI			

* - DENOTES GRATE ELEVATION



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

Paul G. Cavanaugh PAUL GERARD CAVANAUGH 11/6/2023

AW5			
-	DATE	DESCRIPTION	
		REVISION BLOCK	
	APPROVEC	: DEPARTMENT OF BUILDING AND ZONING Lynda Eisenberg	12/3/2023
	·	Department = 1838 1838 25 25 25 25 25 25 25 25 25 25 25 25 25	Dațe 11/29/2023
	Chief, Div	sion of Land Deve的和ABA9A Docusigned by:	Date 12/3/2023
	Chief, Dev	(HI) Elmondson relopment Engineering Division	Da†e



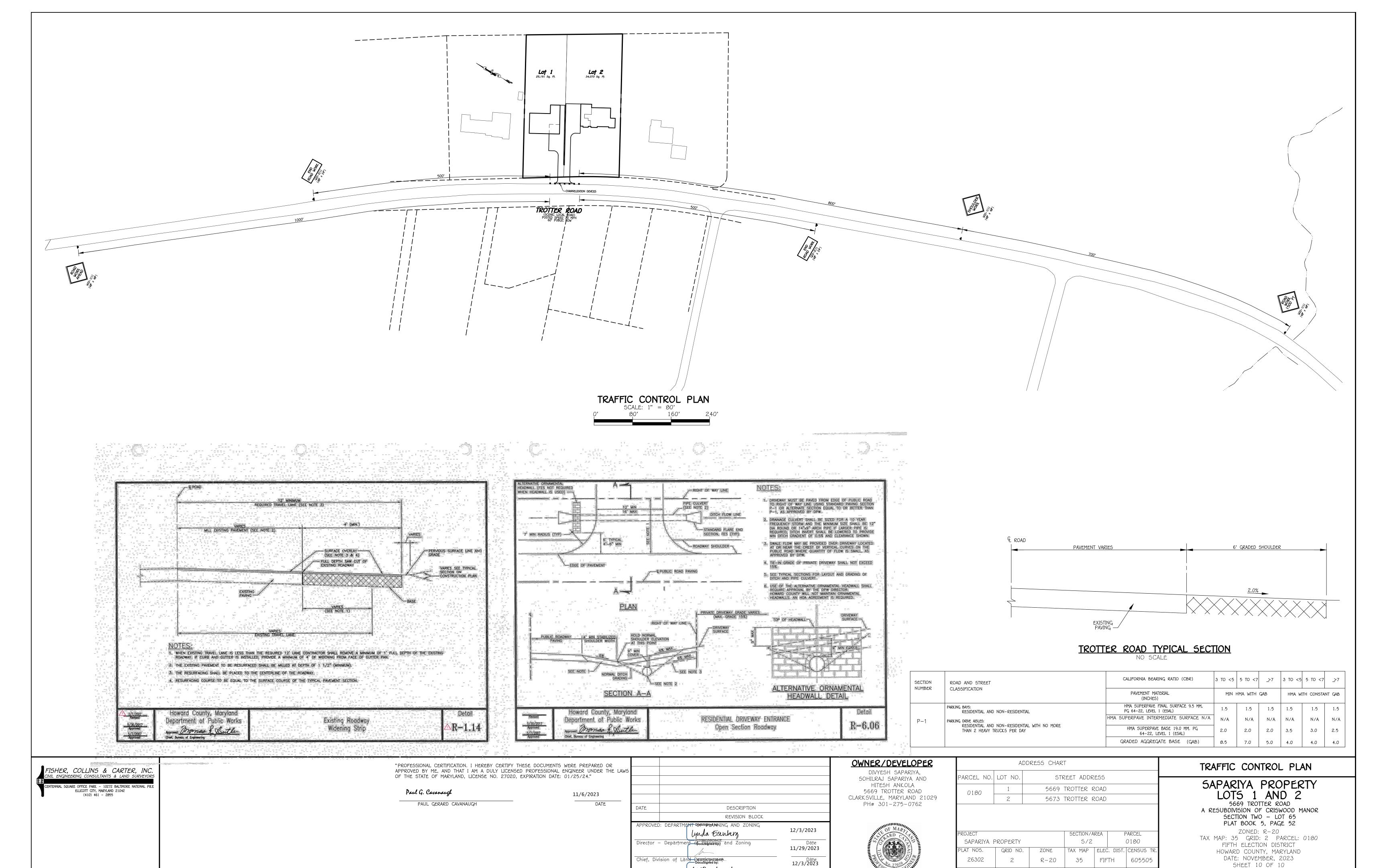


ADDRESS CHART							
PARCEL NO.	LOT NO.	STREET ADDRESS					
0180	1	5669 TROTTER ROAD					
0 100	2	5673 TROTTER ROAD					

PROJECT		SECTION/A	REA	PARCEL				
SAPARIYA PROPERTY				5/2		0180		
PLAT NO5.	GRID NO.	ZONE		TAX MAP	ELEC	DIST.	CEN5U5	TR.
26302	2	R-20		35	FIFTH		60550)5
WATER CODE				SEWER CODE				

PROFILES SAPARIYA PROPERTY LOTS 1 AND 2 5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65

PLAT BOOK 5, PAGE 52 ZONED: R-20 TAX MAP: 35 GRID: 2 PARCEL: 0180 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND DATE: NOVEMBER, 2023 SHEET 9 OF 10



CHAD ELmondson

Chief, Development

Dațe

WATER CODE

SEWER CODE