

CLIFTON TOWN PLANNING COMMISSION
TUESDAY, JANUARY 4, 2022, 7:30 PM
WAYNE H. NICKUM TOWN HALL
12641 CHAPEL ROAD
CLIFTON, VA 20124

Present: Kathy Kalinowski, Chair; Town Council Representative Member Patrick Pline; Paula Sampson; Terri Winkowski.
Staff: Amanda Christman, Zoning Clerk.
Absent: Michelle Stein; Susan Yantis.

The Regular Meeting was called to order by Chair Kalinowski at 7:30 PM.

Order of Business:

1. Residential Preliminary Use Permit Applications for Construction:

a. 7022 Newman Road.

See attached application.

The Planning Commission reviewed an application for a Preliminary Use Permit for construction of a new home at 7022 Newman Road in the Town of Clifton on residentially zoned property owned by Mary and Michael Goguel.

- **Chair Kalinowski moved to recommend approval of a Preliminary Use Permit for construction subject to the following conditions: (1) that prior to the issuance of a final use permit, the applicants comply with all the requirements set forth in the letter of the Town Engineer, Scott Peterson, dated December 16, 2021, with respect to this property; (2) that there be only one dwelling on the property; (3) that the existing dwelling which is nonconforming as to setback be turned into a garage and not be expanded in any manner; (4) that a Certificate of Appropriateness be obtained for the project, (5) that the applicants complete construction and apply for a Final Use Permit from the Town no later than two years after issuance of the Preliminary Use Permit, and (6) that the applicants submit proof of compliance with the Town Engineer's letter and proof that all necessary inspections and permits have been obtained and the property was constructed in accordance with the approved Plan of Development, seconded by Member Pline. The motion was approved by poll, 4-0.**
- b. 12634 School Street – Request for Extension.
- **Chair Kalinowski moved to recommend that the Preliminary Use Permit for construction of a home and garage at 12634 Chapel Road Clifton be extended until January 1, 2023 due to delays resulting from the COVID-19 pandemic, seconded by Member Pline. The motion was approved by poll, 4-0.**

c. 12726 Clifton Heights Lane.

See attached application.

The Planning Commission reviewed an application for a preliminary use permit for construction of a pool at 12726 Clifton Heights Lane in the Town of Clifton on residentially zoned property owned by Matthew and Kristen Hill.

- **Chair Kalinowski moved to recommend approval of a Preliminary Use Permit for construction subject to the following conditions: (1) that prior to the issuance of a Final Use Permit, the applicants comply with all the requirements set forth in the letter of the Town Engineer, Scott Peterson, dated December 17, 2021 with respect to this property; (2) that the applicants obtain a Certificate of Appropriateness if any new fencing is to be added; (3) that the applicants complete construction and apply for a Final Use Permit from the Town no later than two years after issuance of the Preliminary Use Permit, and (4) that the applicants submit proof of compliance with the Town Engineer's letter and proof that all necessary inspections and permits have been obtained and that the pool was constructed in accordance with the approved Plan of Development.**

2. Joint Public Hearing on Proposed Subdivision Ordinance Change – On January 4, 2022.

See proposed ordinance amendment.

- **Chair Kalinowski moved to hold a Joint Public Hearing on January 4, 2022 with the Town Council to review the proposed change to Section 10-57(d) of the Town Code with respect to boundary line adjustments as duly advertised, seconded by Member Pline. The motion was approved by poll, 4-0.**

3. Unfinished Business:

a. Approve previous Minutes.

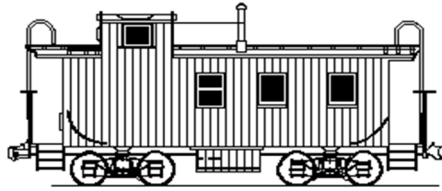
- **Chair Kalinowski moved to approve the October 26, 2021 regular meeting Minutes as presented, seconded by Member Sampson. The motion was approved by poll, 4-0.**

4. Proposed Subdivision Ordinance Change.

- **Having reconvened to vote at the conclusion of the Joint Public Hearing, and having received no public comments during the Hearing, Chair Kalinowski moved to recommend that the proposed ordinance amendment to Sec. 10-57 be enacted by the Town as advertised, seconded by Member Sampson. The motion was approved by poll, 4-0.**

5. Adjournment.

The meeting was adjourned by general acclamation.



TOWN OF CLIFTON, VIRGINIA

Use Permit Application

Property Address: 7022 Newman Rd Clifton, VA 20124		Date: [Month / Year] November, 2021		
1. Type of Permit:	<input checked="" type="checkbox"/> Construction <input type="checkbox"/> Preliminary Site Plans Attached	<input type="checkbox"/> Commercial <input type="checkbox"/> Office <input type="checkbox"/> Retail	<input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Home Business (Code 9-19.c1)
	<input type="checkbox"/> Special Use <input type="checkbox"/> Restaurant <input type="checkbox"/> Bed & Breakfast <input type="checkbox"/> Multi-Family	<input type="checkbox"/> Subdivision (Code Chapter 10)	<input type="checkbox"/> Boundary Line Adjustment/Lot Consolidation (Code 10-57 to Code 10-59)	<input type="checkbox"/> Public Use
2. Name of Applicant: Royce Jarrendt Mailing Address: 12639 Chapel Rd.				
Phone: 703 932-5762 Email Address: Royce.jarr@yahoo.com				
3. Name of Property Owner (if different): Michael & Mary Gogoel Mailing Address: P.O. Box 314 Clifton, VA 20124				
4. Name of Business / N/A Organization:				
5. Owner of Business / N/A Organization:				
6. Tax Map Number: 0754 02 0005				
7. Attach a plat or plan drawn to scale showing the proposed construction, certified by an engineer, surveyor, architect, authorized to practice as such by VA, together with a surveyed plat of the property indicating all building and structure setbacks and height.			<input checked="" type="checkbox"/> Plat Attached	

8. Attach Floor Plan to Scale (non-residential & home business):		<input checked="" type="checkbox"/> Floor Plan Attached		
9. Zoning District of Premises:	<input checked="" type="checkbox"/> Residential (Code 9-19) <input type="checkbox"/> Church, Park, Community Building	<input type="checkbox"/> Commercial (Code 9-21)	<input type="checkbox"/> Agricultural (Code 9-20)	<input type="checkbox"/> Industrial (Code 9-22)
	<input type="checkbox"/> Community Open Space & Recreation (COSR) (Code 9-23A)	<input type="checkbox"/> Low Impact Commercial (Code 9-23B)		
10. Describe Purpose of Application: New home Construction				
10. If Commercial, Home Business, Agricultural or Industrial:				
11. Describe Operation:				
11.a. If Non-Residential - Office Use: _____ SF or Retail/Restaurant Use: _____ SF				
11.b. Days & Hours of Operation (include special events):				
11.c. Number of Employees on Site at any One Time: _____				
11.d. Number of Seats (Restaurant/Church): Total: _____. If applicable, provide number of seats located Inside: _____ and; Outside: _____				
11.e. Gross Floor Area (GFA) of Building or /Premises: _____ SF (Code 9-13) Net Gross Floor Area if more than one use in building: _____ SF If applicable, GFA devoted to carry-out service within restaurant: _____ SF				
11.f. Number of Off-street Parking Spaces Required: _____ (Code 9-13)				
11.g. Number of Off-street Parking Spaces Provided* (attach parking plan to scale with dimensions identifying existing and proposed parking spaces): _____				
11.h. Gross Floor Area of Dwelling (Home Business Only): _____ SF				
12. Application Fee Enclosed:				
(Fee schedule in Filing Instructions)		\$ 500.00 _____		

*PLEASE INCLUDE A PARKING TABULATION FORM FOR BUILDINGS THAT HAVE MORE THAN ONE USER IN THE BUILDING.

Is the applicant or owner a member of a homeowners association (HOA)? Yes No If yes, please obtain the approval of the HOA prior to submission of the application.

HOA REPRESENTATIVE (NAME/SIGNATURE) _____ DATE OF HOA APPROVAL: _____

The undersigned hereby applies for a Use Permit pursuant to Article 2, Section 9-10 of the Zoning Ordinance of the Code of Town of Clifton, Virginia.

APPLICANT'S SIGNATURE: Royce Jarrendt

DATE: 11/03/2021

PROPERTY OWNER SIGNATURE: Michael J Gogoel

DATE: 10/29/2021

FOR TOWN USE ONLY

RECEIPT DATE: _____

DATE APPLICATION ACCEPTED: _____

APPLICATION FEE PAID: \$ _____

APPROVED DISAPPROVED

PLANNING COMMISSION: _____
SIGNATURE

PRINT

CONDITIONS: _____

APPROVED DISAPPROVED

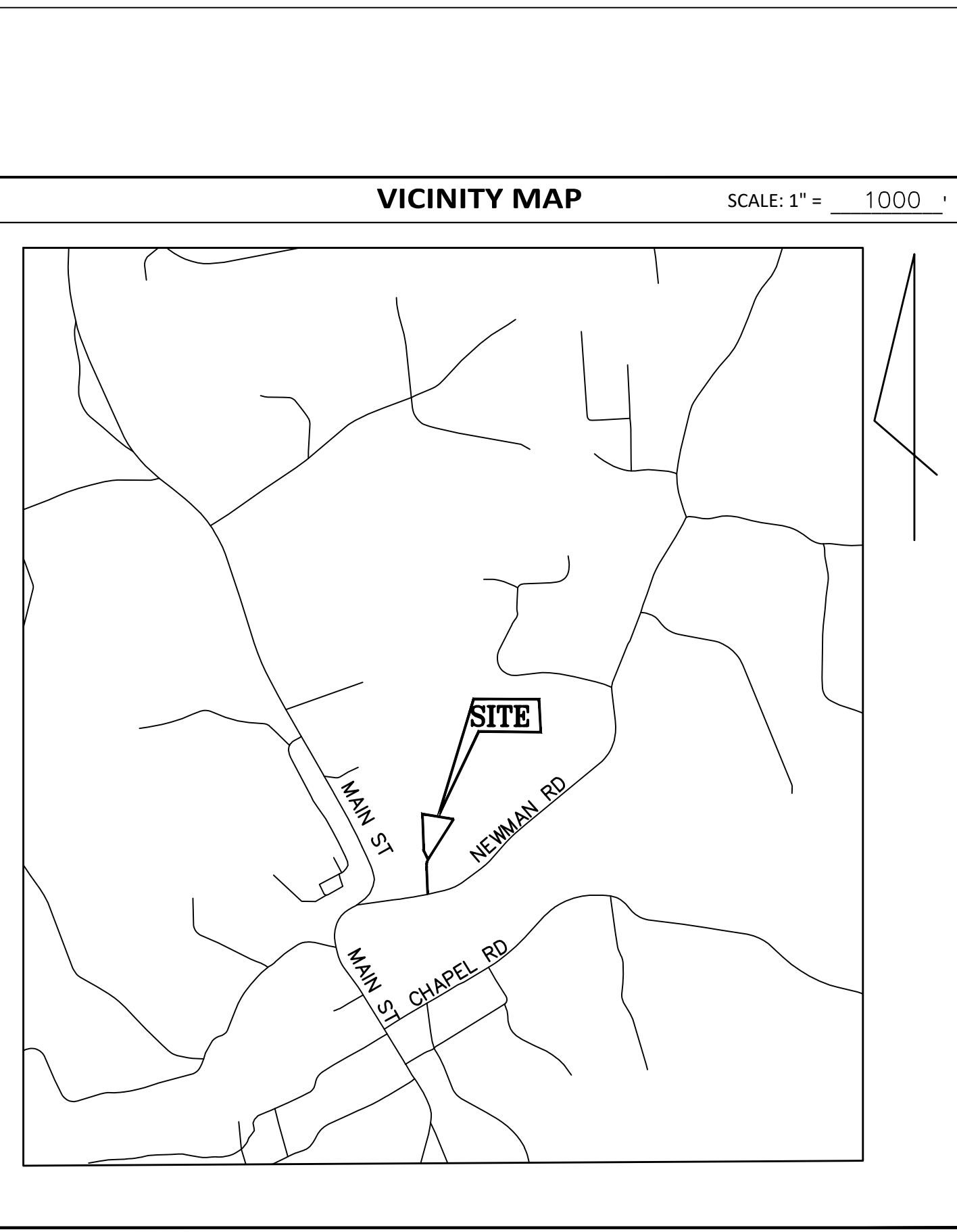
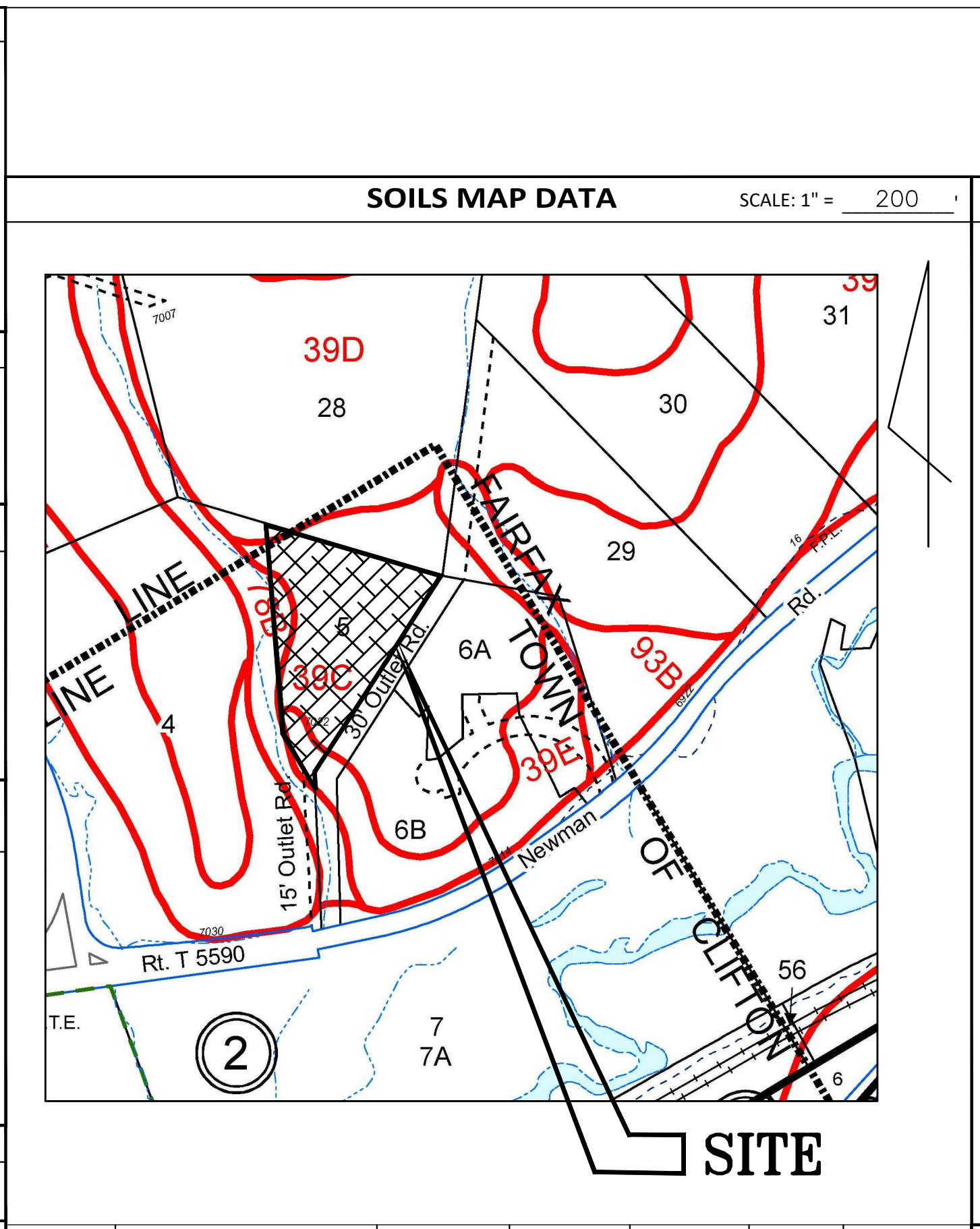
TOWN COUNCIL: _____
SIGNATURE

PRINT

CONDITIONS: _____

PLAN APPROVAL INFORMATION table with columns: RELATED INFORMATION, REQUIRED, NOT REQUIRED, COUNTY ID NUMBER, APPROVAL ON SHEET #, COMMENTS. Rows include RPA Boundary Location Certification, RPA Delineation Plan, CBPO RPA Exemption, WQIA, Flood Plain Study, Drainage Study, Geotechnical Report, etc.

LEGALITY OF LOT CERTIFICATION, NOTICE OF VIOLATION, WETLAND PERMITS CERTIFICATION, CERTIFICATE OF NO CHANGE. Includes signature of Yubaraaj Budhathoki and date 11/24/2021.



REQUIRED INFORMATION table with columns: ADDRESS, TYPE OF CONSTRUCTION, PARCEL IDENTIFICATION, ZONING DISTRICT, etc. Includes details for 7022 Newman Rd Clifton VA 20124.

HEALTH DEPARTMENT, DATED; URBAN FOREST MANAGEMENT, DATED; VDOT, DATED. Includes checkboxes for tree preservation and pro rata share assessment.

PRO RATA SHARE ASSESSMENT table with columns: SOIL ID NUMBER, SOIL SERIES NAME, FOUNDATION SUPPORT, SOIL DRAINAGE, EROSION POTENTIAL, PROBLEM CLASS, HYDROLOGIC SOIL GROUP. Includes rows for GLENELG SILT LOAM and MEADOWVILLE LOAM.

NOTES section with numbered points regarding site inspections, earth disturbance, and construction requirements.

OWNER INFORMATION section with checkboxes for owner, trustee, corporation, partnership, or individual. Includes name GOGOEL MICHAEL J AND GOGOLE MARY K.

STORMWATER INFORMATION table including STORMWATER REQUIREMENT DETERMINATION, SWMO DESIGN REQUIREMENTS, and WATER QUALITY OPTION USED. Includes line items for impervious area and disturbed area.

PROPOSED CONSTRUCTION IN THE RPA table with columns: REDEVELOPMENT (PRINCIPAL STRUCTURE), REDEVELOPMENT (ACCESSORY STRUCTURE), PUBLIC ROADS, PRIVATE ROADS, etc.

REQUIREMENTS FOR OPEN SWALES AND STREAMS table with checkboxes for open swales, floodplains, and stream improvements.

SHEET INDEX table listing various sheets: COVER SHEET, EXISTING CONDITIONS, GRADING PLAN, TREE CONSERVATION PLAN, etc.

SWM FACILITIES (PROPOSED ONLY) table with columns: FACILITY ID #, FACILITY NAME, DESIGN LEVEL, DEQ SPEC #, QUALITY, QUANTITY, AREA TREATED, etc.

STORMWATER PERMIT REQUIREMENTS table with columns: CONDITION, PERMIT/COVERAGE REQUIRED. Includes conditions for total disturbed area.

LOT LEGAL DESCRIPTION (PROJECT NAME): CLIFTON 7022 NEWMAN ROAD. Includes address and county information.

STORMWATER PERMIT REQUIREMENTS table with columns: CONDITION, PERMIT/COVERAGE REQUIRED. Includes conditions for total disturbed area.

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Professional seals for Engineer/Surveyor, Professional Seal, and Notary Public. Includes project name, address, and contact information for MT Everest Engineering, LLC.

EXISTING UTILITY NOTE

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND AND OVERHEAD UTILITIES. IF, DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR ENCOUNTERS UTILITIES OTHER THAN THOSE INDICATED BY MISS UTILITIES AND MEMBER UTILITY COMPANIES, HE (SHE) SHALL IMMEDIATELY NOTIFY THE OWNER AND TAKE NECESSARY AND APPROPRIATE STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE. THE CONTRACTOR IS REQUIRED BY LAW TO NOTIFY MISS UTILITY @ 1-800-552-7001 AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK ON THIS PROJECT.

2. THE SITE CONTRACTOR /DEVELOPER MUST VERIFY THE LOCATIONS AND ELEVATIONS OF ALL PUBLIC AND PRIVATE UTILITIES AND STRUCTURES AFFECTING THE SITE PRIOR TO THE START OF THE CONSTRUCTIONS. ANY CONFLICT WITH THE PLAN MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR RESOLUTION. FAILURE TO VERIFY EXISTING UTILITIES MAY RESULT IN COSTLY DELAYS IN REMEDIAL MEASURES.

- LEGENDS**
- EP EDGE OF PAVEMENT
 - EX. 2' CONTOUR LINE
 - EX. SPOT ELEVATION
 - FLOW ARROW
 - EX. TREE
 - REMOVE EX. TREE
 - EXISTING POWER POLE
 - SSF SUPER SILT FENCE
 - LCG LIMIT OF CLEARING AND GRADING
 - ROOT PRUNING

- DEMOLITION LEGENDS**
- EX. STRUCTURE TO BE REMOVED
 - TO BE REMOVED (TBR)
 - TO BE ABANDONED (TBA)

CONSTRUCTION ENTRANCE NOTE

DEPENDING ON ACTUAL SITE CONDITIONS AND LIMITATIONS IN THE FIELD, THE SITE INSPECTOR MAY ALLOW:

- AN EXISTING DRIVEWAY TO BE USED AS A CONSTRUCTION ENTRANCE, OR
- THE LENGTH OF THE STANDARD CONSTRUCTION ENTRANCE TO BE MODIFIED."

EROSION AND SEDIMENT CONTROL NARRATIVE :

- PROJECT DESCRIPTION**

THE PROJECT CONSISTS OF A NEW CONSTRUCTION A TWO STORY BUILDING, SWIMMING POOL, SCREENED PORCH, DRIVEWAY, WALKWAY ON LOT 5. THE EXISTING DRIVEWAY, ACCESSORY STRUCTURE AND SHED WITHH REMAIN. THE LOCATION AND SIZE OF THE EXISTING STRUCTURES ARE SHOWN ON THE PLAN.

THE LOT 5 CONSISTS OF ABOUT 55,957 SQ FT (1.2846 ACRE) OF TOTAL LAND AREA, AND IT IS LOCATED AT 7022 NEWMAN ROAD, TOWN OF CLIFTON IN VIRGINIA. THE SITE WILL HAVE TOTAL DISTURBED AREA OF 16,135 SQ FT (0.370 ACRE). THE LOT WILL HAVE TOTAL IMPERVIOUS AREA OF 9,764 SQ FT, OR 17.45% OF THE LOT AREA. OFFSITE NUTRIENT CREDIT HAS BEEN USED TO MEET THE TOWN CODE.
- EXISTING AND PROPOSED SITE CONDITIONS**

THE SITE IS A RESIDENTIAL LOT AND IS CURRENTLY ONE STORY ACCESSORY STRUCTURE. THE ENTIRE LOT SLOPES TO THE SOUTH AND WEST. THE SLOPE RANGES FROM 2-15%. ENTIRE SITE RUNOFF FLOWS TO THE SOUTH AND WEST TO THE OUTLET ROAD AND NEIGHBOR LOT AND THEN TO THE NEWMAN ROAD RIGHT OF WAY. NO CONCENTRATED FLOW IS GENERATED BY THE SITE WITHIN THE DISTURBED AREA.
- ADJACENT AREA**

THE LOT IS AN INTERIOR LOT AND IS SURROUNDED BY SINGLE FAMILY LOTS. IT IS SURROUNDED BY SINGLE FAMILY LOT 28 FROM THE NORTH, SINGLE FAMILY LOT 4 FROM THE WEST, AND OUTLET ROAD FROM SOUTH AND EAST.
- OFFSITE AREAS**

NO OFFSITE AREA WILL BE DISTURBED DURING CONSTRUCTION ACTIVITIES. OFFSITE STOCK PILE AREA WILL BE PROVIDED IF REQUIRED
- SOILS**

REFER TO SHEET 1 FOR SOILS MAP AND DATA.
- CRITICAL AREAS**

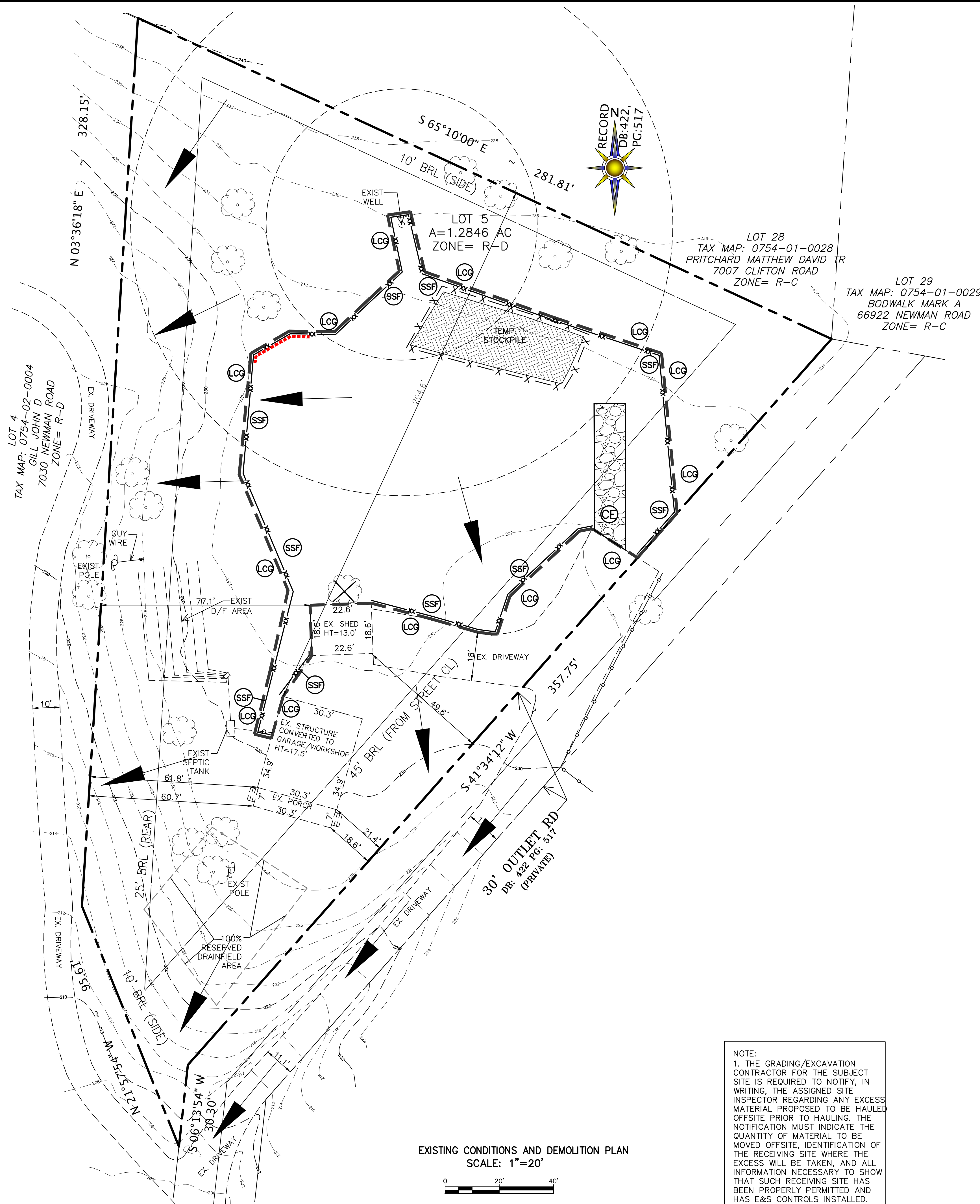
THE SITE DOES NOT APPEAR TO HAVE ANY SERIOUS EROSION PROBLEM. NO CRITICAL SLOPES EXISTS PROPOSED ON THE SITE.
- EROSION AND SEDIMENT CONTROL MEASURES**

ALL SILTATION CONTROL MEASURES WILL BE INSTALLED ALONG LOW LAND OF DISTURBED AREA AS SHOWN ON THE GRADING PLAN IN PHASE I STAGE OF THE PROJECT. OWNER WILL CALL THE COUNTY INSPECTOR 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION TO SCHEDULE AN INSPECTION, REFER TO SHEET 7 FOR EROSION AND SEDIMENT CONTROL SEQUENCES, PHASE I AND II. THE SPECIFICATION OF THE SILT FENCE SHALL BE AS STATED ON SHEET 7. THE CONSTRUCTION ENTRANCE WILL BE INSTALLED. STREET SWEEPING WILL BE DONE TO REMOVE ALL THE SEDIMENTS TRANSPORTED BY THE CONSTRUCTION VEHICLES TO THE PRIVATE STREET AS FREQUENTLY AS REQUIRED. ALL THE EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AND KEPT FUNCTIONAL AS DESCRIBED UNDER MAINTENANCE PROGRAM.
- PERMANENT STABILIZATION**

PERMANENT OR TEMPORARY SOIL STABILIZATION WILL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL NOT BE WORKED OUT FOR SEVEN OR MORE CALENDAR DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- STORMWATER RUNOFF CONSIDERATION**

THIS PROJECT WILL RESULT IN INCREASE IN SURFACE RUNOFF AS A RESULT OF THE INCREASED IMPERVIOUS AREA. THE POST-DEVELOPMENT RUNOFF WILL BE 3.48 CFS AND 2.28 CFS FROM THE 10-YEAR AND 2-YEAR STORM AS COMPARED TO THE PRE-DEVELOPMENT RUNOFF RATE OF 2.96 CFS AND 8.17 CFS, PLEASE REFER TO THE COMPUTATIONS ON SHEET 6. THERE IS AN INCREASE IN RUNOFF FROM THE 2-YEAR AND 10-YEAR STORMS. THE OUTFALL ANALYSIS HAS BEEN PERFORMED IN ITS EXISTING AND PROPOSED CONDITIONS AND SHOWS THAT AN ADEQUATE OUTFALL EXISTS FOR THE SITE. NO ADVERSE IMPACT WILL BE ANTICIPATED AS A RESULT OF REDEVELOPMENT OF THE LOT.
- CALCULATIONS**

THE PRE- AND POST- DEVELOPMENT RUNOFF FOR 2-YR AND 10-YR STORMS, IMPERVIOUS AREA ACREAGE CALCULATIONS, "C" FACTOR CALCULATIONS ARE PROVIDED ON SHEET 6. THE RATIONAL METHOD HAS BEEN USED TO ESTIMATE THE PEAK RUNOFF.



EXISTING CONDITIONS AND DEMOLITION PLAN
SCALE: 1"=20'

NOTE:
1. THE GRADING/EXCAVATION CONTRACTOR FOR THE SUBJECT SITE IS REQUIRED TO NOTIFY, IN WRITING, THE ASSIGNED SITE INSPECTOR REGARDING ANY EXCESS MATERIAL PROPOSED TO BE HAULED OFFSITE PRIOR TO HAULING. THE NOTIFICATION MUST INDICATE THE QUANTITY OF MATERIAL TO BE MOVED OFFSITE, IDENTIFICATION OF THE RECEIVING SITE WHERE THE EXCESS WILL BE TAKEN, AND ALL INFORMATION NECESSARY TO SHOW THAT SUCH RECEIVING SITE HAS BEEN PROPERLY PERMITTED AND HAS E&S CONTROLS INSTALLED.

MT. EVEREST ENGINEERING, LLC
7520 DIPLOMAT DR. SUITE # 201
MANASSAS, VA - 20109
TEL: 703-330-5700
INFO@EVERESTENGINEERINGLLC.COM

EXISTING CONDITIONS & E & S PLAN
PLAN OF DEVELOPMENT
CLIFTON
7022 NEWMAN ROAD
MAGISTRAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

NO.	DATE	DESCRIPTION	BY

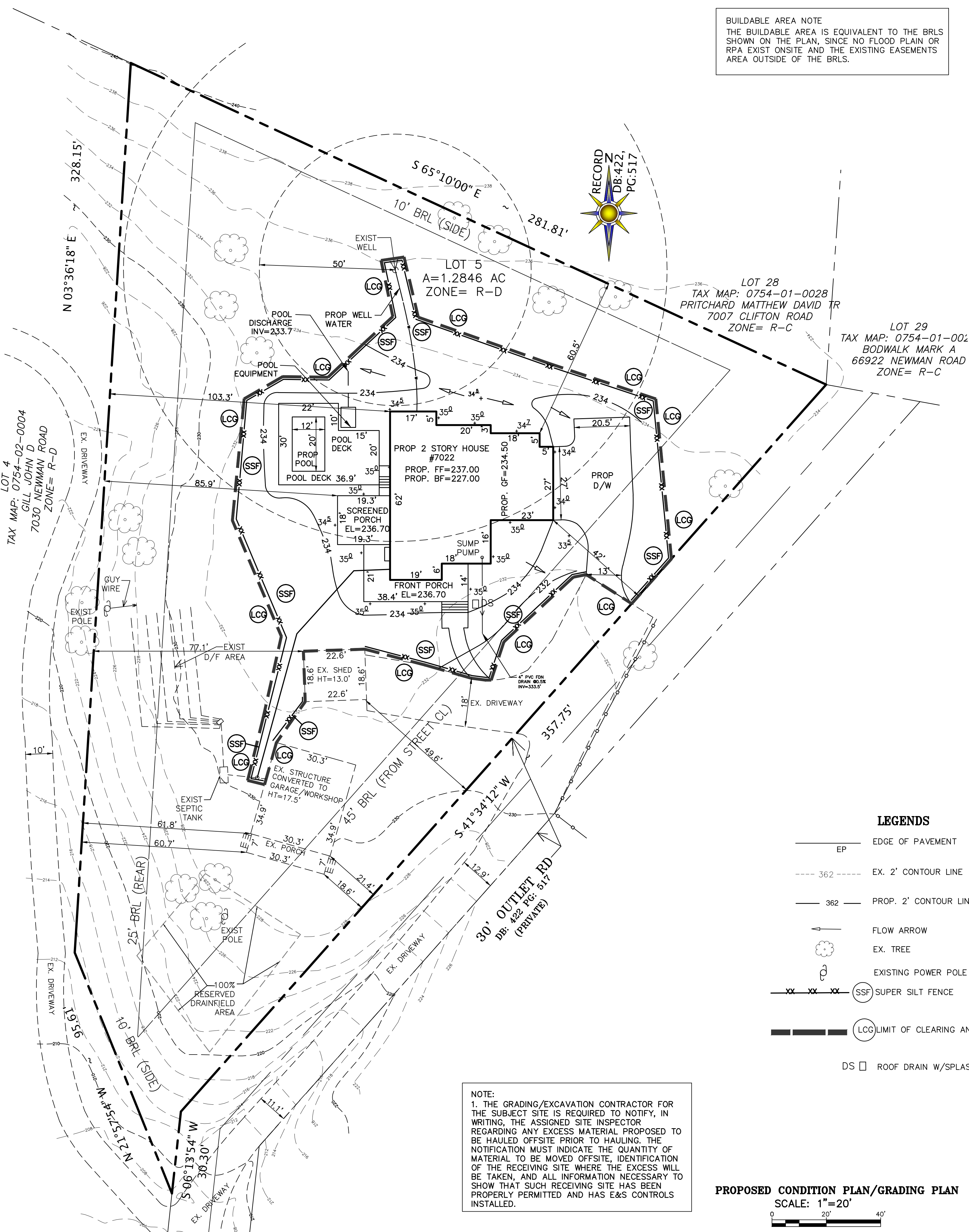


TAX MAP # 0754-02-0005
SCALE: 1"=20'
DESIGN BY: DATE: 11/24/2021
CHECKED BY: SHEET: 2 OF 7

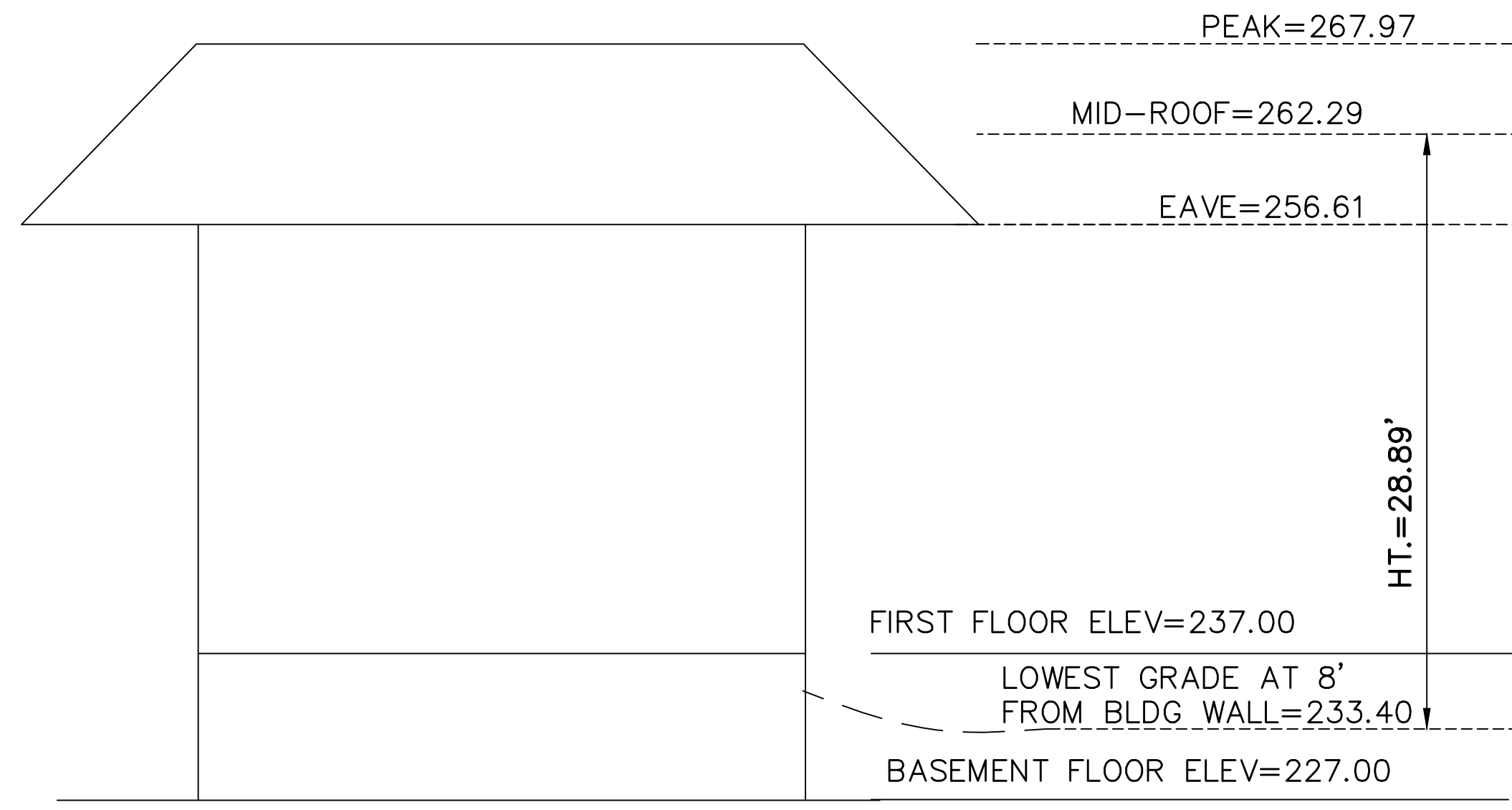
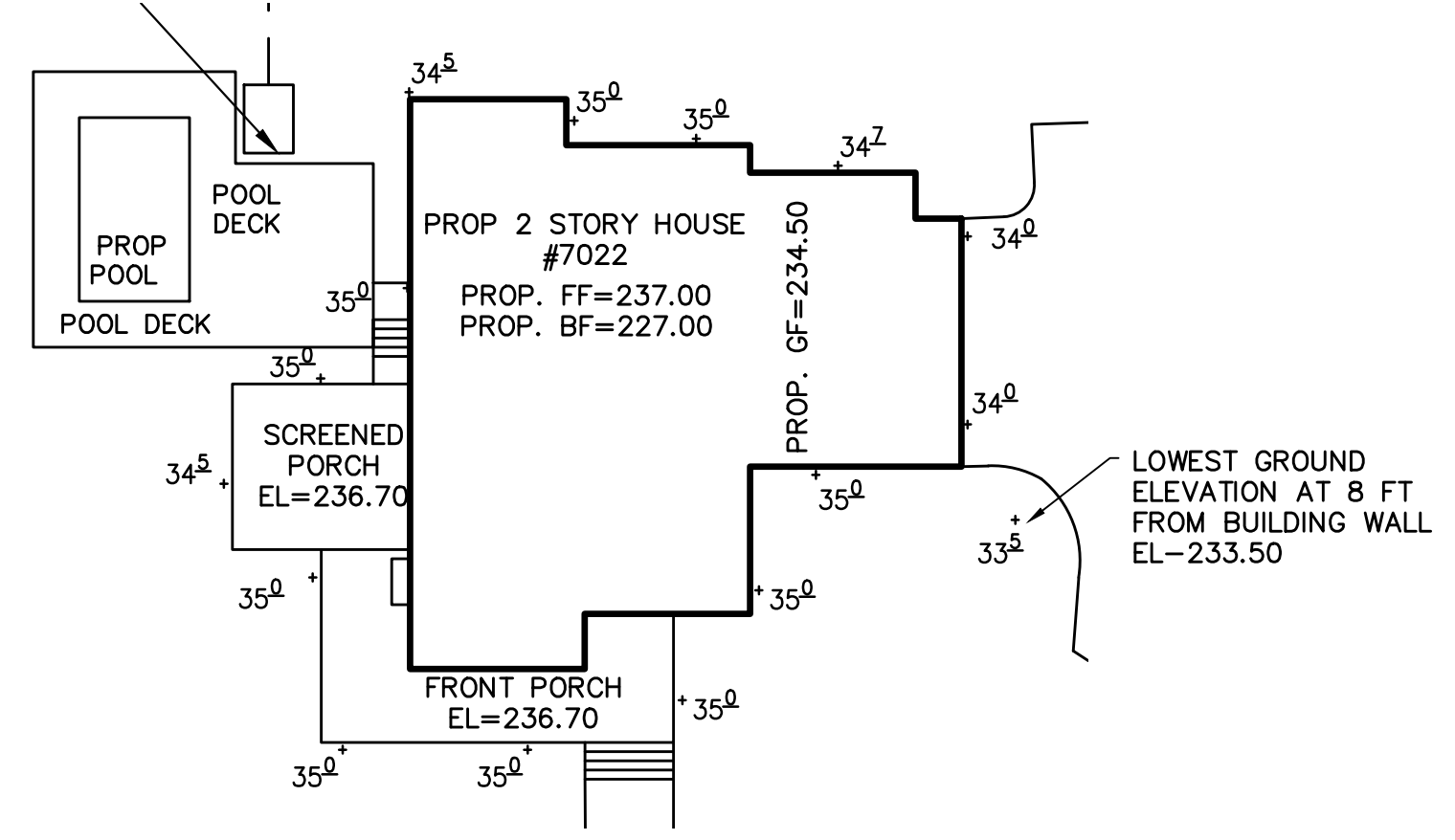
BUILDABLE AREA NOTE
 THE BUILDABLE AREA IS EQUIVALENT TO THE BRLS SHOWN ON THE PLAN, SINCE NO FLOOD PLAIN OR RPA EXIST ONSITE AND THE EXISTING EASEMENTS AREA OUTSIDE OF THE BRLS.

CBPO NOTES
 THIS PLAN COMPLIES FULLY WITH AMENDMENT CHAPTER 118 (CHESAPEAKE BAY PRESERVATION ORDINANCE) OF THE CODE OF THE COUNTY OF FAIRFAX, EFFECTIVE NOV. 18, 2003.

- SITE NOTES:**
- TOPOGRAPHY SHOWN HERE ON, HAS BEEN OBTAINED FROM FIELD SURVEY AND BASED ON NGVD 1929.
 - UTILITY INFORMATION SHOWN HEREON OBTAINED FROM PUBLIC RECORDS AND ARE APPROXIMATE EXACT LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED.
 - CONTRACTOR SHALL HAND DIG TEST PIT LOCATIONS AT ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
 - HORIZONTAL & VERTICAL LOCATIONS/INVERTS TAKEN FROM PUBLIC RECORDS.
 - FENCES, IF SHOWN, ARE APPROXIMATE ONLY AND DO NOT CERTIFY OWNERSHIP.
 - SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENTIONS AND LOCATIONS OF DOWNSPOTS.
 - CARE SHOULD BE TAKEN NOT TO DISTURB THE ADJACENT PROPERTIES. OFF-SITE GRADING SHALL REQUIRE A LETTER OF PERMISSION FROM ADJACENT PROPERTY OWNERS.
 - FOUNDATION DRAINS ARE DIRECTED TO DAYLIGHT VIA GRAVITY OR MECHANICAL MEANS.
 - RETAINING WALLS EXCEEDING TWO FEET IN HEIGHT MAY NOT BE ERECTED WITHOUT A PERMIT ISSUED BY THE TOWN COUNCIL REQUIRED BY TOWN CODE SECTION 9-1-b.6.
 - SEPARATE VDOT PERMIT IS REQUIRED TO DISTURB WITHIN VDOT RIGHT OF WAY.
 - THE PRINCIPAL BUILDING MEETS THE 200' SETBACK FROM INTERSTATE HIGHWAY, DULLES TOLL ROAD AND RAIL ROADS.



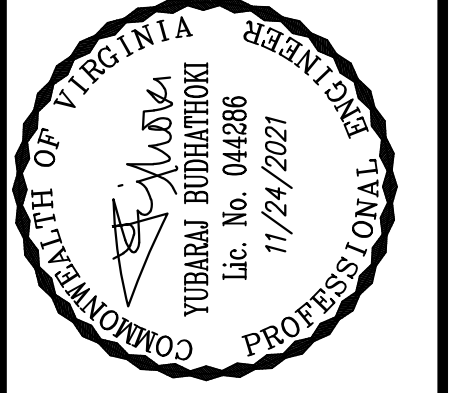
PROPOSED CONDITION PLAN/GRADING PLAN
 SCALE: 1"=20'



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GRADING PLAN & BLD HEIGHT COMPUTATIONS
PLAN OF DEVELOPMENT
CLIFTON
7022 NEWMAN ROAD
 MAGISTRAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

NO.	DATE	DESCRIPTION	REVISION BLOCK	BY



TAX MAP # 0754-02-0005

DESIGN BY: SCALE: AS NOTED

CHECKED BY: DATE: 11/24/2021

SHEET: 3 OF 7

PROPER POOL DISCHARGE

1. REMOVE THE CHLORINE OR BROMINE BY ALLOWING IT TO DISSIPATE OR BY ADDING A CHEMICAL AGENT. ALLOW POOLS TO SIT 7-10 DAYS FOR CHLORINE OR BROMINE TO DISSIPATE. SODIUM THIOSULFATE MAY BE USED TO REMOVE CHLORINE MORE QUICKLY. BEFORE DISCHARGE, TEST THE POOL WATER TO ENSURE THE TOTAL RESIDUAL CHLORINE OR TOTAL RESIDUAL BROMINE LEVEL IS LESS THAN 0.1 MG/L.
2. TEST THE WATER TO ENSURE THE PH LEVEL IS BETWEEN 6.0 AND 8.0. ADJUST THE PH, IF NECESSARY, TO ACHIEVE AN ACCEPTABLE LEVEL.
3. ENSURE THE WATER IS CLEAR AND FREE OF ALGAE, SEDIMENT, STICKS, LEAVES, OR OTHER POLLUTANTS.
4. RELEASE THE DECHLORINATED (OR DEBROMINATED) WATER BEFORE ADDING PRODUCTS TO WINTERIZE THE POOL.
5. DRAIN THE WATER OVER PERVIOUS, WELL-VEGETATED GROUND ON THE OWNER'S PROPERTY, IF POSSIBLE. AVOID DRAINING POOL WATER DIRECTLY INTO A STORM DRAIN OR A STREAM EXCEPT AS A LAST RESORT. AS A COURTESY, AVOID DRAINING POOL WATER ACROSS NEIGHBORING PROPERTIES AND CREATING PUDDLES, STANDING WATER, OR ICE.
6. LIKewise, ENSURE THAT FILTER BACKWASH IS FREE OF CHLORINE OR BROMINE, SEDIMENT, AND SCUM AND HAS AN ACCEPTABLE PH LEVEL BEFORE DISCHARGING IT TO STORM DRAINS OR STREAMS. IF YOU ARE UNABLE TO REMOVE CHLORINE OR BROMINE, SMALL AMOUNTS OF BACKWASH WATER MAY BE DISCHARGED TO THE PUBLIC SANITARY SEWER SYSTEM THROUGH A HOUSEHOLD DRAIN. CONTACT WASTEWATER MANAGEMENT AT 703-550-9740, EXT. 252, TTY 711 BEFORE DISCHARGING BACKWASH TO THE PUBLIC SANITARY SEWER SYSTEM.

BUILDABLE AREA NOTE
 THE BUILDABLE AREA IS EQUIVALENT TO THE BRLS SHOWN ON THE PLAN, SINCE NO FLOOD PLAIN OR RPA EXIST ONSITE AND THE EXISTING EASEMENTS AREA OUTSIDE OF THE BRLS.

LEGENDS

- EP----- EDGE OF PAVEMENT
- 362 --- EX. 2' CONTOUR LINE
- 362 — PROP. 2' CONTOUR LINE
- FLOW ARROW
- ☁ EX. TREE
- ⊕ EXISTING POWER POLE
- SSP SUPER SILT FENCE
- LCG LIMIT OF CLEARING AND GRADING

NOTE: PROBLEM SOIL CLASS I & II (EXCAVATION SAFETY)

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE BELOW GRADE EXCAVATIONS PER REQUIREMENTS OF "SLOPING AND BENCHING" SECTION OF OSHA STANDARD 1926 SUBPART P APP B AND ALL OTHER APPLICABLE LOCAL CODES. ALL EXCAVATIONS SHALL BE SLOPED MINIMUM 1 1/2 H: 1V PER OSHA STANDARD. IF THE RECOMMENDED SLOPE CANNOT BE ACHIEVED DUE TO SITE SPECIFIC RESTRICTIONS, THE CONTRACTOR SHALL UTILIZE SHEETING OR OTHER METHODS OF SHORT-TERM EXCAVATION. THE EXCAVATION SUPPORT SYSTEM SHALL BE DESIGNED BY THE STRUCTURAL ENGINEER USING AN EQUIVALENT FLUID WEIGHT OF 45 PCF. IN ADDITION, ANY OPEN-CUT EXCAVATIONS ADJACENT TO EXISTING STRUCTURES SHALL BE EVALUATED BY AN EXPERIENCED GEOTECHNICAL ENGINEER ON A CASE-BY-CASE BASIS. DURING FOUNDATION CONSTRUCTION, EXCAVATED MATERIALS SHALL NOT BE STOCKPILED AT THE TOP OF THE SLOPE WITHIN A HORIZONTAL DISTANCE EQUAL TO THE EXCAVATION DEPTH.

UPON COMPLETION OF THE PROJECT, ALL SUCH AREAS SHALL BE STABILIZED AND VEGETATED, SEEDDED OR SODDED

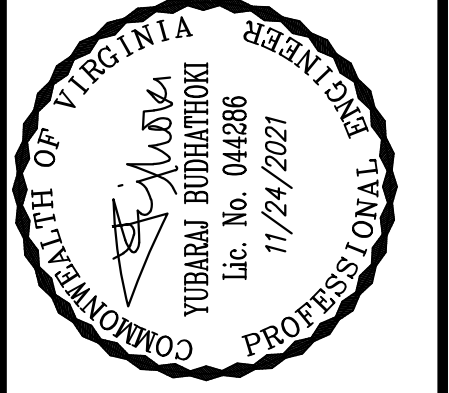


PROPOSED CONDITION PLAN/GRADING PLAN
 SCALE: 1"=30'

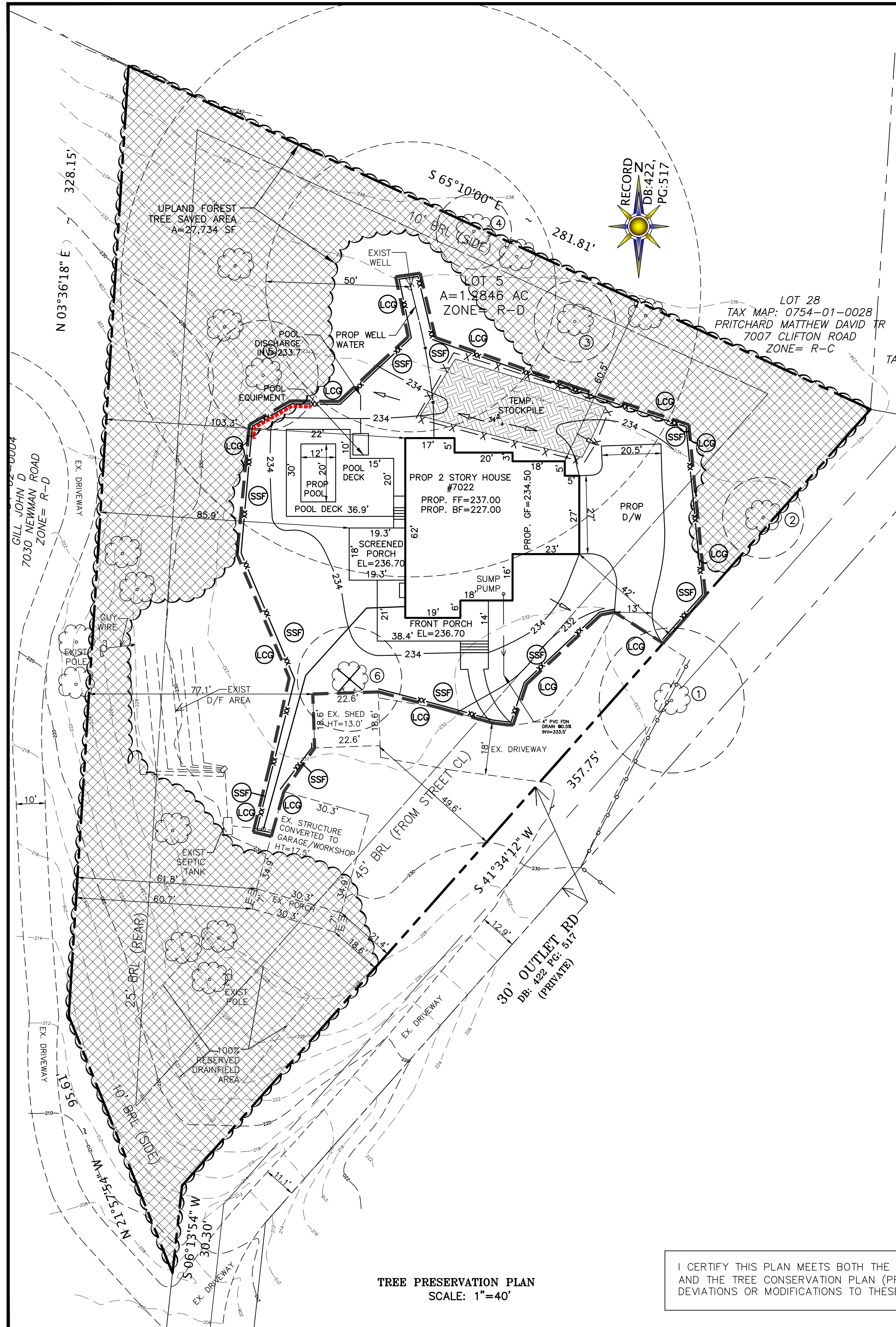
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 7520 DIPLOMAT DR. SUITE # 201
 MANASSAS, VA - 20109
 TEL: 703-330-5700
 INFO@EVERESTENGINEERINGLLC.COM

OVERALL GRADING PLAN
PLAN OF DEVELOPMENT
CLIFTON
7022 NEWMAN ROAD
 MAGISTRAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

NO.	DATE	DESCRIPTION	BY



TAX MAP # 0754-02-0005
 SCALE: AS NOTED
 DATE: 11/24/2021
 SHEET: 3A OF 7



TREE PRESERVATION NARRATIVE

THE SITE PLAN CONSISTS OF THE REDEVELOPMENT OF A SINGLE FAMILY DWELLING ON LOT 5 WHICH IS CURRENTLY OWNER OCCUPIED. THE LOTS ARE BUILDABLE LOT TO A SINGLE FAMILY HOUSE AND IT CONTAINS ABOUT AREA OF 1.2846 ACRES, AND ZONED R-D.

THE LOT IS COVERED WITH UPLAND FOREST, AND HARDSCAPE. THERE IS ONE (1) EXISTING TREE TO BE REMOVED FOR THE PROPOSED CONSTRUCTION. THE LOCATION AND THE LIMIT OF THE ONSITE CANOPY AREA IS SHOWN ON THE PLAN. THE SIZE OF TREES (DBH), AND THEIR CONDITIONS ARE SHOWN ON THE TABULAR FORM ON THIS SHEET. THE CRITICAL ROOT ZONE OF THE TREES WITHIN THE 35 FEET OF LIMIT OF CLEARING AND GRADING (25' OUTSIDE THE LCG AND 10' INSIDE THE LCG) IS ALSO PROVIDED ON THE EVM. THE OFFSITE TREES WILL REMAIN UNDISTURBED BY THIS DEVELOPMENT.

THE TREE COVER REQUIREMENTS FOR THE SITE IS MET BY PRESERVING OF AN EXISTING TREES, ABOUT 27,734 SQ FT OF TREE CANOPY COVER BY PRESERVING EXISTING TREES WHICH MEETS THE 10-YEAR TREE CANOPY COVER REQUIREMENTS OF 16,787 SQ. FT. FOR THE STUDY LOT, PLEASE REFER TO THE COMPUTATIONS ON THIS SHEET. THE LOT REQUIRES TO COVER AT LEAST 30% OF THE LOT AREA BY THE TOTAL TREE CANOPY AREA AS PER R-D ZONING REQUIREMENTS OF THE FAIRFAX COUNTY. TREE PROTECTION FENCE AND SUPER SILT FENCE WILL BE PROVIDED AS NECESSARY TO PROTECT THE PRESERVED TREES.

EXISTING VEGETATION INVENTORY

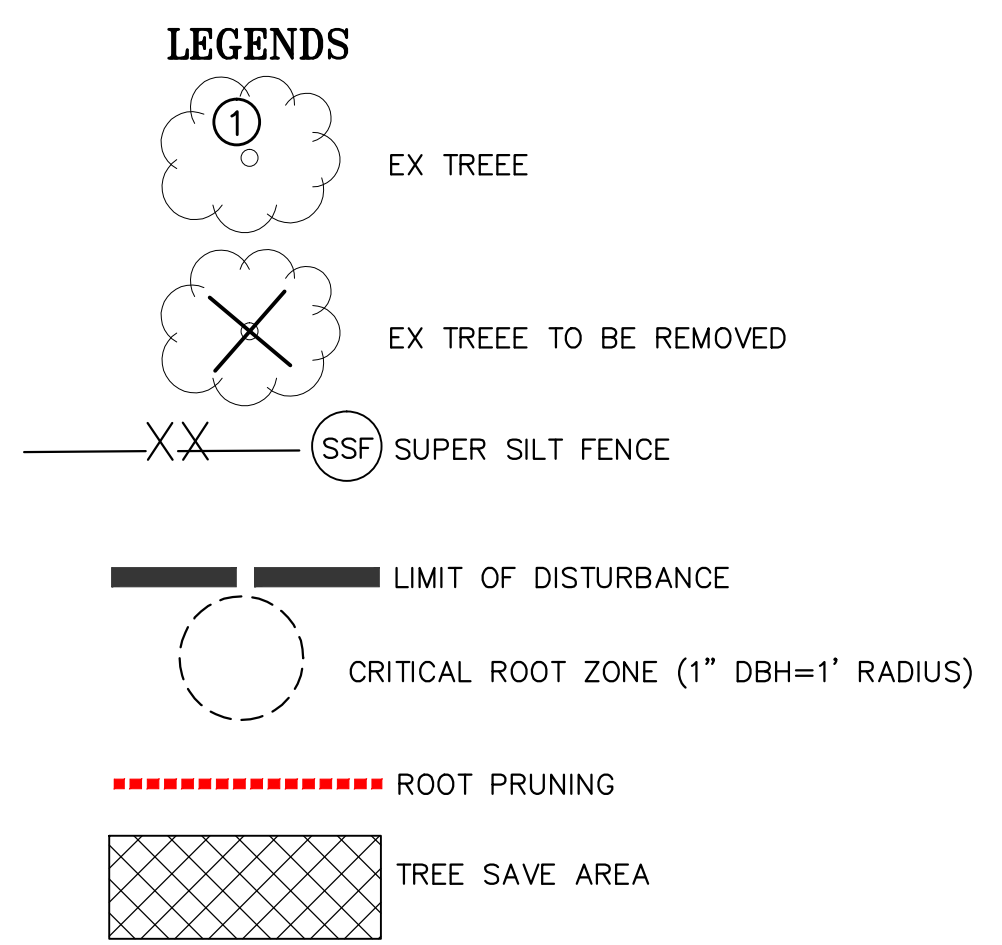
Tree #	DBH (Diameter at 4.5 feet above grade)	Common Name	Condition Rating %	Condition Rating	CRZ Critical Zone (Radius in Feet)	Preservation Measures					Remarks	
						Removal	Root Prune	Tree Protection Fence	Mulch	Year 1 Soil Care		Year 2 Soil Care
1	25	Tulip poplar	75	fair	25		X					Save, install tree protection fence
2	14	American beech	75	Fair	14		X					Save, install tree protection fence
3	14	Hickory	75	Fair	14			X				Save, install tree protection fence
4	13	White oak	70	Fair	13			X				Save, install tree protection fence
5	19	Hickory	75	Fair	19		X	X				Save, root pruning, install tree protection fence
6	18	Hickory	65	Fair	18	X						Remove, does not survive the construction

TABLE 12.10 10-YEAR TREE CANOPY CALCULATION WORKSHEET

A. TREE PRESERVATION TARGET AND STATEMENT		
A1	PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY (FROM EXISTING VEGETATION MAP)=	28832 SF
A2	PERCENTAGE OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY=	51.5%
A3	PERCENTAGE OF 10-YEAR TREE CANOPY REQUIRED FOR SITE (SEE TABLE 12.4)=	30%
A4	PERCENTAGE OF THE 10-YEAR TREE CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION=	51.5%
A5	PROPOSED PERCENTAGE OF CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION=	165.2%
A6	HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET?	YES
A7	IF NO FOR A6, THEN SHEET NUMBER WHERE DEVIATION REQUEST IS LOCATED	N/A
A8	IF STEP G REQUIRES A NARRATIVE, IT SHALL BE PREPARED IN ACCORDANCE WITH § 12-0507.4	N/A
B. TREE CANOPY REQUIREMENT		
B1	GROSS SITE AREA=	55957 SF
B2	SUBTRACT TO PARKS, ROAD FRONTAGE AND OTHERS=	0 SF
B3	SUBTRACT AREA OF EXEMPTIONS=	0 SF
B4	ADJUSTED GROSS SITE AREA (B1-B2)=	55957 SF
B5	SITE ZONE/USE=	R-D
B6	PERCENT OF 10-YEAR TREE CANOPY REQUIREMENT=	30%
B7	AREA OF 10-YEAR TREE CANOPY REQUIRED (B4xB5)=	16787 SF
B8	MODIFICATION OF 10-YEAR TREE CANOPY REQUIREMENT REQUESTED?	NO
B9	IF B8 IS YES, THEN LIST PLAN SHEET WHERE MODIFICATION REQUEST IS LOCATED=	N/A
C. TREE PRESERVATION		
C1	TREE PRESERVATION TARGET AREA=	8650 SF
C2	TOTAL CANOPY AREA MEETING STANDARDS OF § 12-0200=	27734 SF
C3	C2x1.0=	27734 SF
C4	TOTAL CANOPY AREA PROVIDED BY UNIQUE OR VALUABLE FOREST OR WOODLAND COMMUNITIES=	0 SF
C5	C4x1.5=	0 SF
C6	TOTAL OF CANOPY AREA PROVIDED BY "HERITAGE", "MEMORIAL", "SPECIMEN" OR "STREET" TREES=	0 SF
C7	C6x1.25 OR 1.50=	0 SF
C8	CANOPY OF TREES WITHIN THE RESOURCE PROTECTION AREAS AND 100-YEAR FLOODPLAINS=	0 SF
C9	C8x1.0=	0 SF
C10	TOTAL OF C3, C5, C7 AND C9=	27734 SF
D. TREE PLANTING		
D1	AREA OF CANOPY TO BE MET THROUGH TREE PLANTING (B7-C10)=	0 SF
D2	AREA OF CANOPY PLANTED FOR AIR QUALITY BENEFITS=	0 SF
D3	(D2x1.5)=	0 SF
D4	AREA OF TREE PLANTED FOR ENERGY CONSERVATION=	0 SF
D5	(D4x1.5)=	0 SF
D6	AREA OF TREE PLANTED FOR WATER QUALITY BENEFITS=	0 SF
D7	(D6x1.25)=	0 SF
D8	AREA OF CANOPY PLANTED FOR WILDLIFE BENEFITS=	0 SF
D9	(D8x1.5)=	0 SF
D10	AREA OF CANOPY PROVIDED BY NATIVE TREES=	0 SF
D11	(D10x1.5)=	0 SF
D12	AREA OF CANOPY PROVIDED BY IMPROVED CULTIVARS AND VARIETIES=	0 SF
D13	(D12x1.25)=	0 SF
D14	AREA OF CANOPY PROVIDED THROUGH TREE SEEDLINGS=	0 SF
D15	(D14x1.0)=	0 SF
D16	PERCENTAGE OF D14 REPRESENTED BY D15= (MUST NOT EXCEED 33% OF D14)	0 SF
D17	TOTAL OF CANOPY AREA PROVIDED THROUGH TREE PLANTING=	0 SF
D18	IS AN OFFSITE PLANTING RELIEF REQUESTED?	NO
D19	TREE BANK OR TREE FUND? § 12-0511=	NO
D20	CANOPY AREA REQUESTED TO BE PROVIDED THROUGH OFFSITE BANKING OR TREE FUND=	0 SF
D21	AMOUNT TO BE DEPOSITED INTO THE TREE PRESERVATION AND PLANTING FUND=	0 SF
E. TOTAL OF 10-YEAR TREE CANOPY PROVIDED		
E1	TOTAL OF CANOPY AREA PROVIDED THROUGH TREE PRESERVATION=	27734 SF
E2	TOTAL OF CANOPY AREA PROVIDED THROUGH TREE PLANTING=	0 SF
E3	TOTAL OF CANOPY AREA PROVIDED THROUGH OFFSITE MECHANISM (D19)=	0 SF
E4	TOTAL OF 10-YEAR TREE CANOPY PROVIDED=	27734 SF

TOTAL TREE CANOPY AREA PROVIDED=27,734 SF>16,787 SF (REQUIRED), [OK]

THIS PLAN AND COMPUTATIONS HAVE BEEN PREPARED/REVIEWED BY ISA CERTIFIED ARBORIST.
 YUBARAJ BUDHATHOKI 10/28/2021 MA-5372A
 DATE CERTIFICATE NUMBER



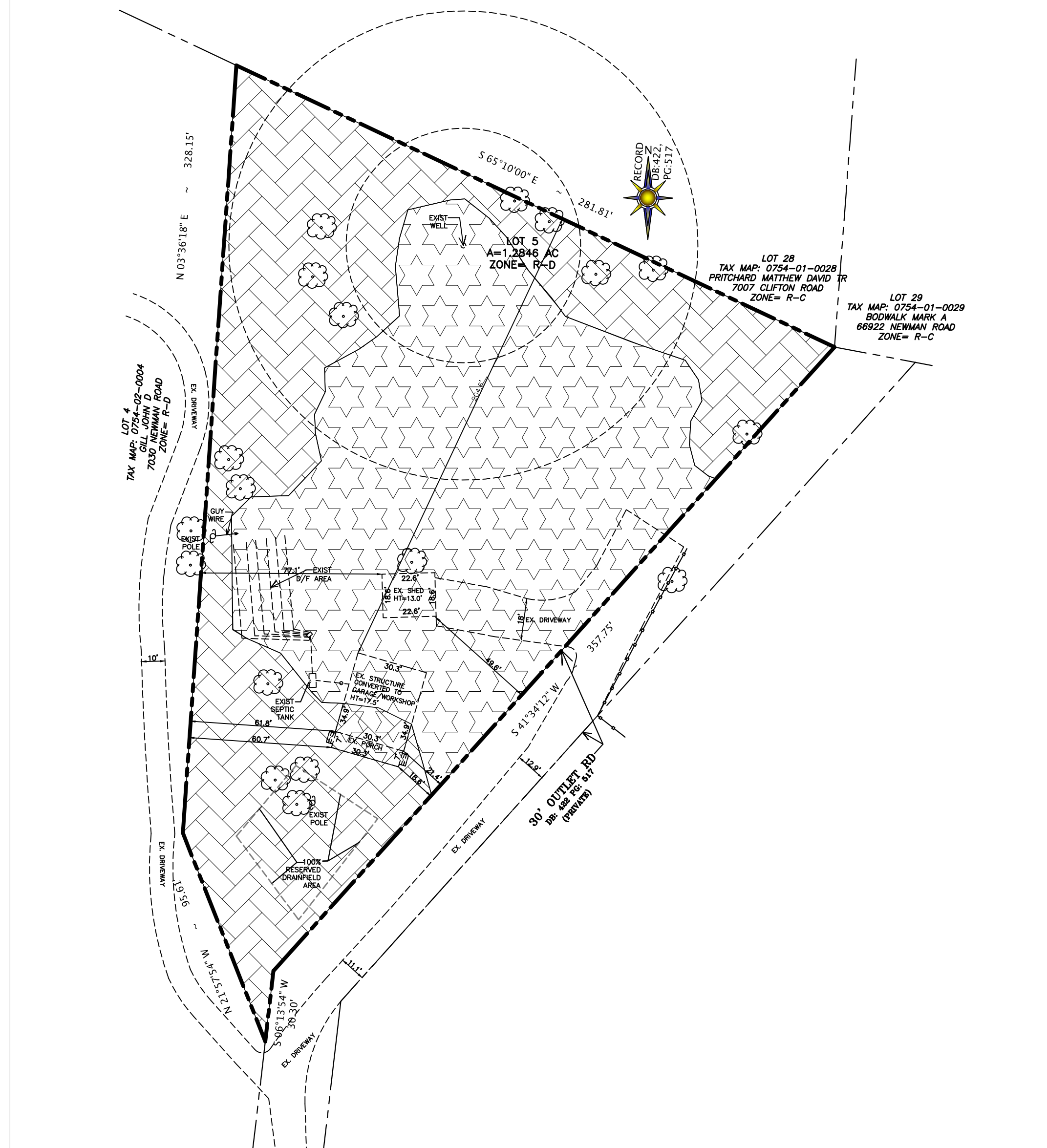
I CERTIFY THIS PLAN MEETS BOTH THE TREE PRESERVATION TARGET (PFM 12-0501) AND THE TREE CONSERVATION PLAN (PFM 12-0502) SUBMITTAL REQUIREMENTS; DEVIATIONS OR MODIFICATIONS TO THESE REQUIREMENTS ARE NOT BEING REQUESTED.

TREE PRESERVATION PLAN
SCALE: 1"=40'

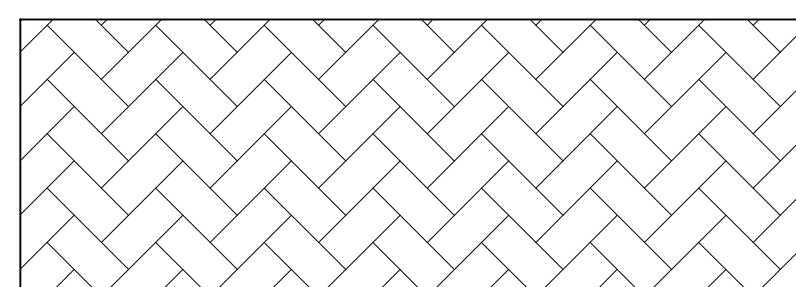
TREE PRESERVATION PLAN
 PLAN OF DEVELOPMENT
 CLIFTON
 7022 NEWMAN ROAD
 MAGISTRAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

TAX MAP # 0754-02-0005
 SCALE: 1"=40'
 DESIGN BY: YUBARAJ BUDHATHOKI
 DATE: 11/24/2021
 CHECKED BY: YUBARAJ BUDHATHOKI
 SHEET: 4 OF 7

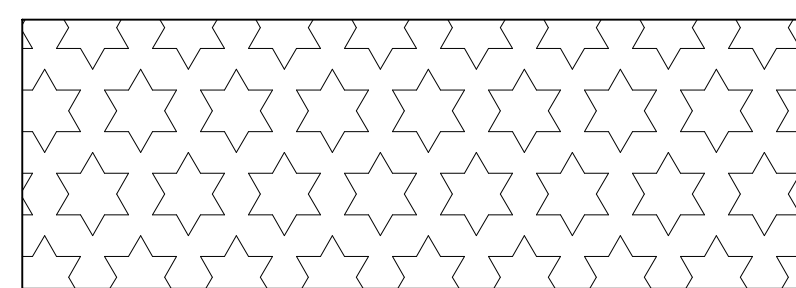
MT. EVEREST ENGINEERING, LLC
 7520 DIPLOMAT DR, SUITE # 201
 MANASSAS, VA - 20109
 TEL: 703-330-5700
 INFO@EVERESTENGINEERINGLLC.COM



EXISTING VEGETATION MAP
SCALE: 1"=40'



A



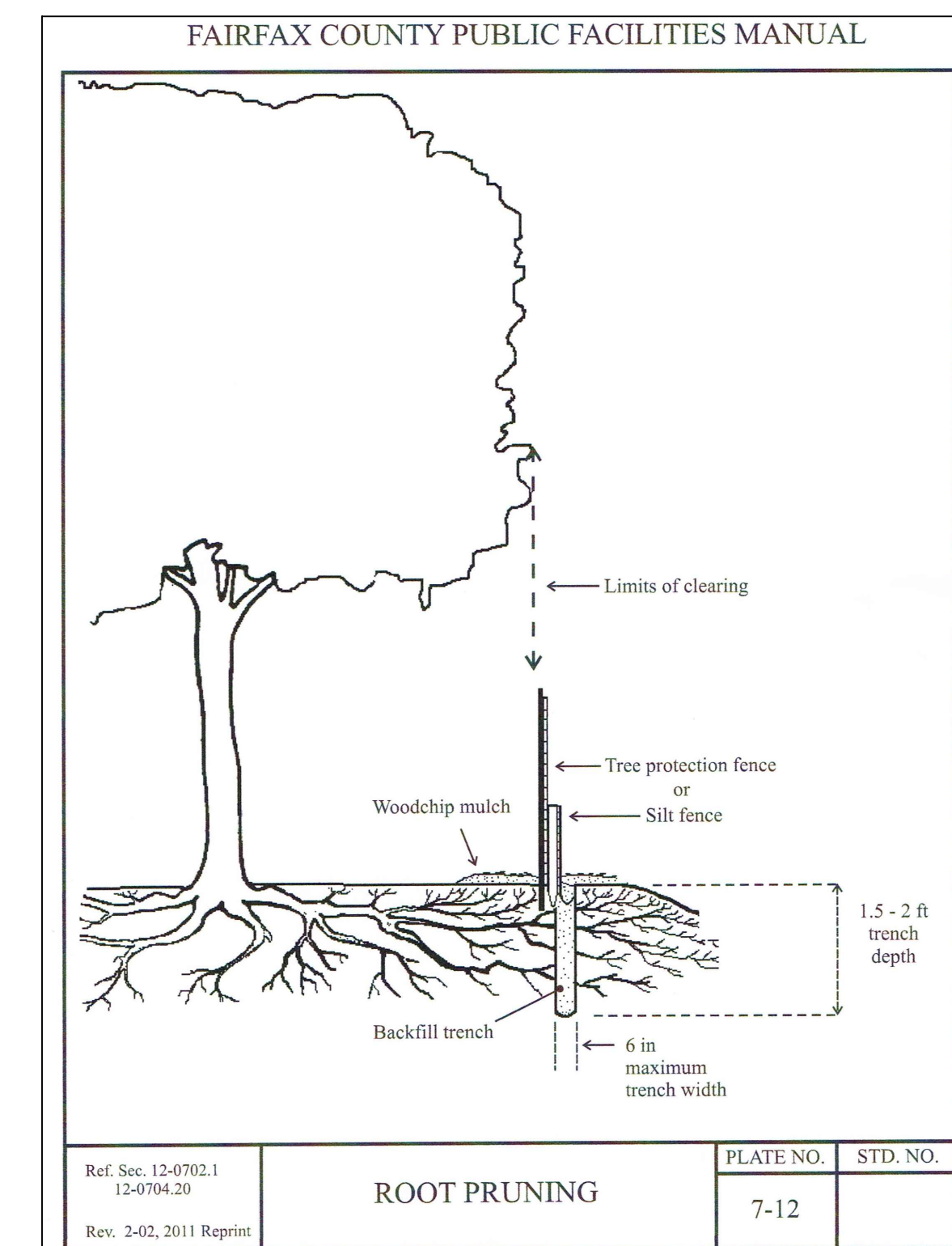
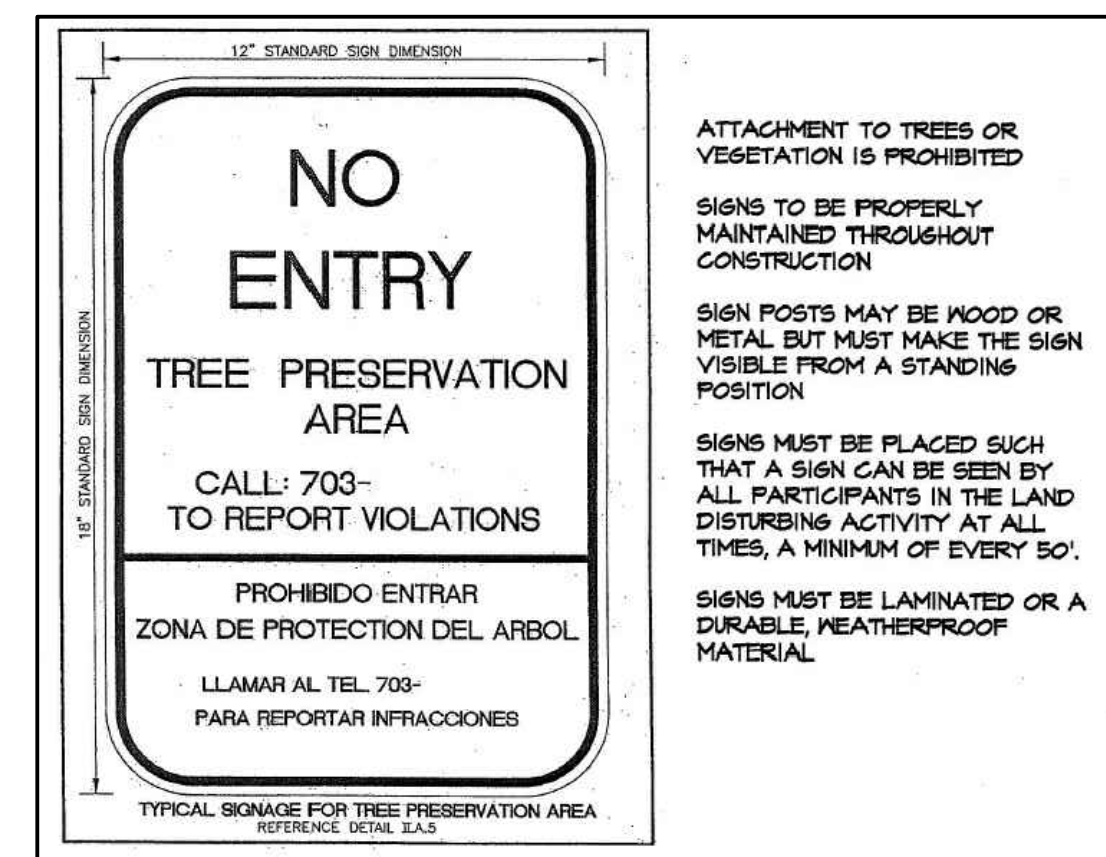
B

EXISTING VEGETATION MAP

Cover Type	Primary Species	Comments	Successional Stage	Condition	Area
A Upland Forest	<i>Liriodendron tulipifera</i> , <i>Quercus palustris</i> , <i>Carya glabra</i> , <i>Quercus alba</i> , <i>Fagus grandifolia</i> , <i>Quercus rubra</i> , <i>Acer rubrum</i>	suburban lawn and landscape	Sub-climax	POO TO FAIR	28,832 sf (0.6618 acre)
B Developed	N/A	lawn and landscape, house and hardscape	N/A	N/A	27,125 sf (0.6227 acre)

TREE PRESERVATION ACTIVITIES

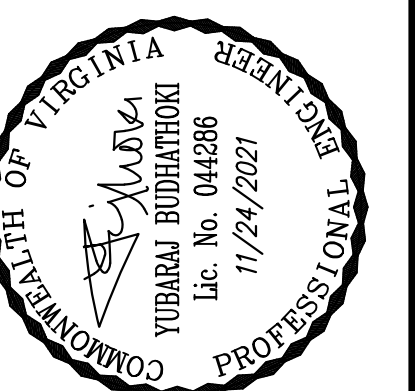
- PRIOR TO ANY CONSTRUCTION ACTIVITY, ALL INDIVIDUAL TREES AND GROUPS OF TREES SHOWN TO BE PRESERVED ON THE TREE PRESERVATION PLAN SHALL BE PROTECTED BY FENCING A MINIMUM OF FOUR FEET IN HEIGHT, PLACED AT THE LIMITS OF CLEARING AND GRADING, OR AS DETERMINED BY FAIRFAX COUNTY URBAN FORESTRY DIVISION REPRESENTATIVES DURING THE PRE-CONSTRUCTION MEETING. TREE PROTECTION FENCING SHALL BE THE FOLLOWING:
-14 GAGE STEEL WELDED WIRE "FARM FENCE", ON 6 FOOT STEEL POSTS DRIVEN INTO THE GROUND 18 INCHES AND PLACED NOT MORE THAN 10 FEET APART
- SILT FENCE OR SUPER SILT FENCE, IF REQUIRED, MAY BE INSTALLED IN THE ROOT-PRUNING TRENCH. IF SUPER SILT FENCE IS USED, IT MAY SERVE AS TREE PRESERVATION FENCING. OTHER TYPES OF TREE PRESERVATION FENCING SHALL BE PLACED BETWEEN THE AREA TO BE CLEARED AND THE ROOT-PRUNING TRENCH.
- THE TREE PROTECTION FENCING SHALL BE MADE CLEARLY VISIBLE TO ALL CONSTRUCTION PERSONNEL WITH SIGNS POSTED EVERY 25 FEET ON THE FENCE STATING IN ENGLISH AND SPANISH THAT IT IS A TREE PRESERVATION AREA AND NO ENTRY IS PERMITTED. THE FENCING SHALL BE INSTALLED PRIOR TO ANY WORK BEING CONDUCTED ON THE SITE, INCLUDING THE DEMOLITION OF ANY EXISTING STRUCTURES OR FENCES.
- ALL CONSTRUCTION MOBILIZATION/ACTIVITY, MATERIALS STORAGE, AND MOTORIZED EQUIPMENT SHALL BE PROHIBITED BEYOND THE LIMITS OF CLEARING AND GRADING SHOWN ON THE SITE PLAN AND THE TREE PRESERVATION PLAN UNLESS PREVIOUSLY APPROVED BY FAIRFAX COUNTY URBAN FORESTRY DIVISION.
- ROOT PRUNING: ROOT PRUNING SHALL BE PERFORMED ALONG THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE TREE CONSERVATION PLAN PRIOR TO ANY OTHER SITE DISTURBANCE. A TRENCHER, STUMP GRINDER, OR AIRTOOL-AND-HANDSAW SHALL BE USED TO A DEPTH OF 18 INCHES, CUTTING ALL ROOTS LARGER THAN TWO INCHES IN DIAMETER. IMMEDIATELY AFTER ROOT PRUNING, THE TRENCH SHALL BE BACKFILLED. ROOT-PRUNING TRENCHES SHOULD BE MULCHED WITH WOOD CHIPS OR MULCH FOUR INCHES DEEP. ROOT PRUNING SHALL BE DONE PRIOR TO ANY SITE WORK OR INSTALLATION OF SILTATION CONTROL MEASURES UNLESS AUTHORIZED BY FAIRFAX COUNTY URBAN FORESTRY DIVISION.
- CLEARING OPERATIONS: TREES TO BE REMOVED SHALL BE FELLED IN SUCH A MANNER AS TO PRESERVE THE TREES THAT ARE TO REMAIN. TREES DIRECTLY ADJACENT TO BUT WITHIN THE LIMITS OF CLEARING AND GRADING SHALL BE FELLED BY HAND, WITH A CHAIN SAW, AND THE STUMPS SHALL REMAIN IN PLACE OR SHALL BE GROUND OUT. IF, DUE TO SITE CONSTRAINTS, THE STUMPS MUST BE GRUBBED OUT, THIS SHALL BE DONE ONLY AFTER ROOT PRUNING ALONG THE LIMITS OF CLEARING AND GRADING HAS OCCURRED, AND SHALL BE DONE IN A MANNER THAT DOES NOT INJURE TREES TO BE PRESERVED.
- TREES WITHIN THE TREE PRESERVATION AREAS, WHICH ARE INDIVIDUALLY IDENTIFIED TO BE REMOVED SHALL BE FELLED BY HAND WITH A CHAIN SAW AND THE STUMPS SHALL REMAIN IN PLACE. SUCH TREES SHALL BE FELLED IN A MANNER THAT DOES NOT INJURE TREES TO BE PRESERVED. TREES TO BE REMOVED FROM THE TREE PRESERVATION AREA SHALL BE DROPPED INTO THE AREA TO BE CLEARED, OR PIECED DOWN. THESE TREES SHALL BE MOVED INTO THE AREA TO BE CLEARED WITHOUT INJURING REMAINING VEGETATION.
- OFF-SITE AND JOINTLY OWNED TREES SHOULD RECEIVE SPECIAL ATTENTION; IF POSSIBLE, DISCUSS THE PROJECT WITH OWNERS OF SUCH TREES BEFORE STARTING WORK IF THEIR TREES ARE AFFECTED BY CONSTRUCTION. MAKE ALL REASONABLE EFFORTS TO PRESERVE OFF SITE AND JOINTLY OWNED TREES.
- TREE CARE PROCEDURES SHALL MEET OR EXCEED AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD PRACTICES FOR TREES, SHRUBS, AND OTHER WOODY PLANT MAINTENANCE ANSI A300.
- ALL OF THE REQUIREMENTS OF THE PUBLIC FACILITIES MANUAL SHALL BE MET.
- INFORMATION IN THESE PLAN NOTES, TREE INVENTORY, AND ALL PLANS RELATED TO TREES REFER ONLY TO TREES THAT ARE WITHIN 25 FEET OUTSIDE THE LOC OR WITHIN 10 FEET INSIDE THE LOC; NO OTHER TREES WERE EXAMINED.



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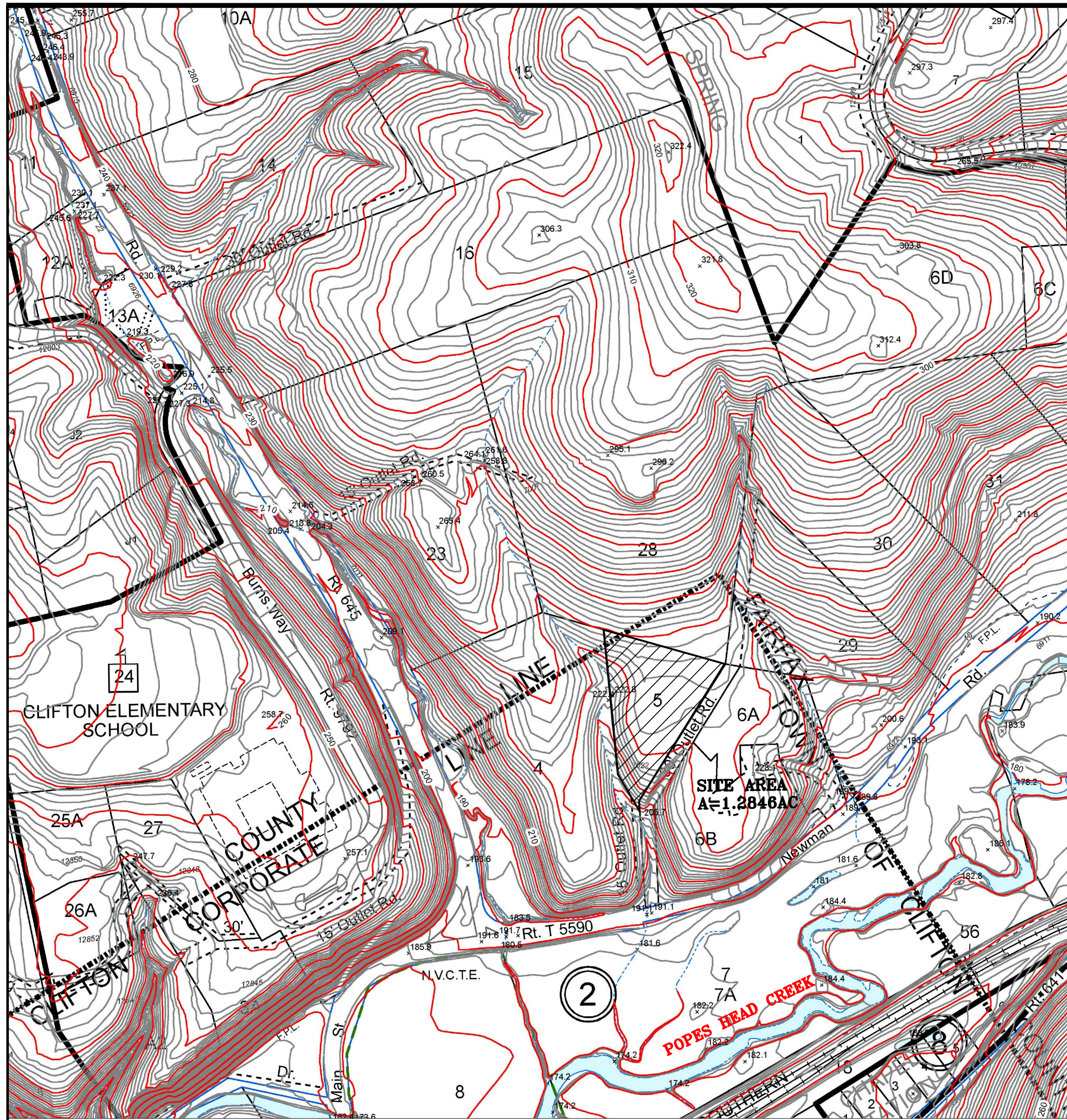
TREE CONSERVATION NOTES & DETAILS
PLAN OF DEVELOPMENT
CLIFTON
7022 NEWMAN ROAD
MAGISTRAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

NO.	DATE	DESCRIPTION	BY



TAX MAP # 0754-02-0005
SCALE: AS SHOWN
DESIGN BY: YUBARA BUDHATHOKI
DATE: 11/24/2021
CHECKED BY: [Signature]
SHEET: 5 OF 7

THIS PLAN AND COMPUTATIONS HAVE BEEN PREPARED/REVIEWED BY ISA CERTIFIED ARBORIST.
YUBARA BUDHATHOKI 10/28/2021 MA-5372A
DATE CERTIFICATE NUMBER)



OVERALL DRAINAGE MAP
SCALE: 1"=200'

IMPERVIOUS AREA COMPUTATION (SQ FT)

DESCRIPTION	PRE-DEV	POST-DEV
BUILDING	-	2,797
DRIVEWAY	1,898	3,235
AREAWAY, WALK, ETC	-	246
FRONT PORCH	-	490
SHED	420	420
SCREENED PORCH	-	348
POOL & POOL DECK	-	960
ACCESSORY STRUCTURE	1,268	1,268
TOTAL IMPERVIOUS AREA (SQ FT)	3,586	9,764
PERVIOUS AREA/GRASS-AREA (SQ FT)	52,371	46,193
TOTAL SITE AREA (SQ FT)	55,957	55,957
INCREASE IN IMPERVIOUSNESS = 6178 SQ FT OR 172.3% OF THE EXISTING IMP. AREA		
TOTAL % OF IMPERVIOUS AREA = $\frac{9764 \times 100\%}{55957} = 17.45\%$		

"C" FACTORS CALCULATION

A. PRE-DEVELOPMENT
 $\frac{1}{(3586 \times 0.9 + 52371 \times 0.3)} = 0.34$
 55957

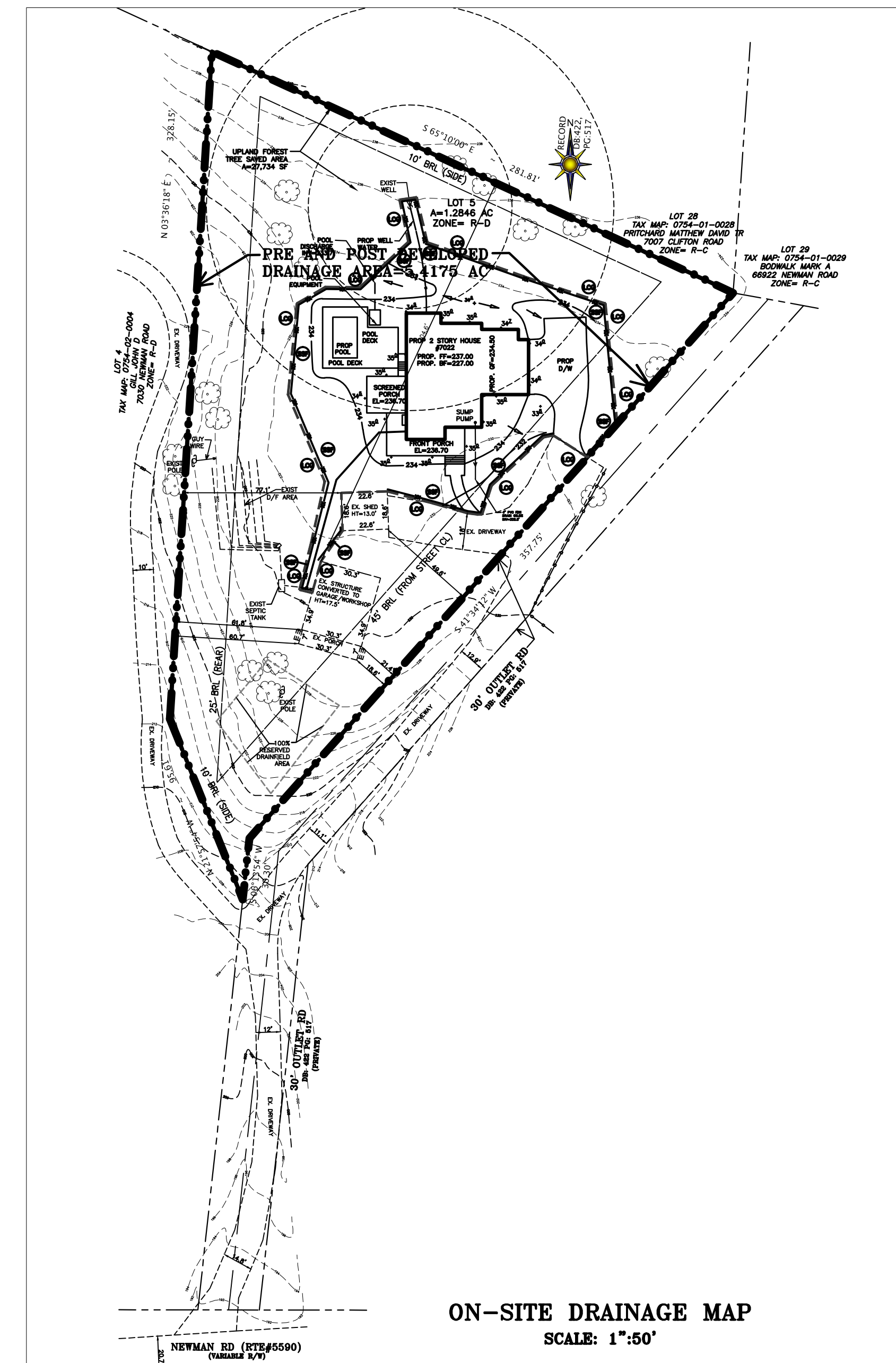
B. POST-DEVELOPMENT
 $\frac{1}{(9764 \times 0.9 + 46193 \times 0.3)} = 0.4$
 55957

RUNOFF COMPUTATION (Q=CIA)

A. PRE-DEVELOPMENT
 (5 MIN Tc) Q2 = (0.34 x 5.23 x 1.2846) = 2.28 CFS
 Q10 = (0.34 x 6.77 x 1.2846) = 2.96 CFS

B. POST-DEVELOPMENT
 (5 MIN Tc) Q2 = (0.4 x 5.23 x 1.2846) = 2.69 CFS
 Q10 = (0.4 x 6.77 x 1.2846) = 3.48 CFS

C. CHANGE IN RUNOFF
 Q10 = 3.48 - 2.96 = 0.52 CFS
 Q2 = 2.69 - 2.28 = 0.41 CFS



ON-SITE DRAINAGE MAP
SCALE: 1"=50'

STORMWATER MANAGEMENT NARRATIVE

1. EXISTING SITE CONDITIONS:

THE SITE IS A LOT WITH AN EXISTING ACCESSORY STRUCTURE. THE TOTAL AREA OF THE SITE IS 1.2846 ACRES AND HAS A HIGH POINT AT THE REAR PROPERTY LINE OF THE LOT. THE PROPERTY HAS MODERATE TO STEEP SLOPE WITH AVERAGE SLOPE OF APPROXIMATELY 2-15% SLOPING MOSTLY TO THE WEST AND SOUTH OF THE LOT. THE SOILS ARE PREDOMINANTLY HYDROLOGIC SOIL GROUP (HSG) B SOILS AS INDICATED BY THE FAIRFAX COUNTY SOILS MAP, WHICH INDICATES MARGINAL TO GOOD DRAINED AND MARGINAL TO GOOD INFILTRATING SOILS. SPECIFICALLY, THE DISTURBED AREA ON THE SITE CONTAINS GELNELG SILT LOAM (39) & MEADOWVILLE LOAM (78).

THERE ARE NO KNOWN WETLAND OR STREAMS ON-SITE. NO FLOODPLAIN OR RPA EXISTS ON THE SITE. ENTIRE SITE RUNOFF SHEET FLOWS TO THE WEST AND SOUTH TOWARDS EXISTING SWALE IN THE NEIGHBOR LOT TO THE NEWMAN ROAD RIGHT OF WAY AND TO THE FLOOD PLAIN OF POPES HEAD CREEK. THERE IS NO SIGNS OF EROSION ON THE OUTFALL.

THE SITE IS LOCATED ON POPES HEAD CREEK WATERSHED AND THIS WATER ULTIMATELY GETS TO THE POPES HEAD CREEK. A TMDL HAS NOT BEEN ENFORCED FOR THE IMPAIRED WATERWAY.

2. PROPOSED CONDITIONS:

THE PROPOSED CONDITIONS INCLUDE A NEW CONSTRUCTION OF TWO STORY BUILDING, DRIVEWAY, WALKWAY. APPROXIMATELY 0.370 ACRES OF LAND WILL BE DISTURBED. THERE IS AN INCREASE IN 0.142 ACRE OF IMPERVIOUS AREA IN PROPOSED CONDITION. SINCE VERY LITTLE INCREASE IN IMPERVIOUS AREA, THE INCREASE IN RUNOFF AFTER CONSTRUCTION OF THE HOUSE WILL BE VERY INSIGNIFICANT AND OUTFALLS AS A SHEET FLOW FROM THE SITE. PART OF THE LOT 28 DRAINS THROUGH THIS SITE.

3. OUTFALL NARRATIVE AND ANALYSIS:

THE SITE HAS A TOTAL AREA OF 1.2846 ACRES AND THE SITE RUNOFF DRAINS TO THE SOUTH AND WEST OF THE LOT. THE DRAINAGE AREA INCLUDES THE DISTURBED AREA AND UNDISTURBED AREA WITHIN THE LOT. THE STUDY LOT HAS HIGH POINT AT THE REAR PROPERTY LINE OF THE LOT. ENTIRE SITE RUNOFF DRAINS TO THE SOUTH AND WEST TO THE EXISTING NATURAL SWALE IN NEIGHBOR LOT AND THEN TO THE NEWMAN RD RIGHT OF WAY AND THEN TO A THE POPES HEAD CREEK AND ULTIMATELY OUTFALLS INTO ADOPTED FLOODPLAIN OF POPES HEAD CREEK.

SITE CONSISTS OF 1.2746 ACRES OF THE DRAINAGE AREA WHICH CONSISTS OF DRAINAGE AREA A. THE TOTAL 10 YEAR AND 2 YEAR PEAK RUNOFF WOULD BE 3.48 CFS AND 2.69 CFS IN PROPOSED CONDITION COMPARED TO 2.96 CFS AND 2.28 CFS IN EXISTING CONDITION. SINCE THE INCREASE IN RUNOFF IS INSIGNIFICANT, NO DOWNSTREAM ADVERSE IMPACT IS EXPECTED. THE OUTFALL IS ADEQUATE PER 9VAC25-840-40.19 (MS-19).

DURING THE CONSTRUCTION PHASE, SUPER SILT FENCE WILL BE INSTALLED AS A SEDIMENT AND EROSION CONTROL MEASURES ALONG THE LOW AREA OF THE DISTURBANCE. THE TOTAL DISTURBED AREA WILL BE 0.370 AC. THE RUNOFF FROM THE DISTURBED AREA WILL BE (0.6 x 0.370 AC x 6.77) = 1.50 CFS FROM THE 10-YEAR STORM AND IT WILL DISPERSE AS A SHEET FLOW AND FILTER THROUGH THE SUPER SILT FENCE. NO GRUBBING OR TEMPORARY GRADING WILL BE CONDUCTED TO CREATE CONCENTRATED FLOW DURING THE CONSTRUCTION ACTIVITIES.

THEREFORE, IT IS A SUBMITTING ENGINEER'S OPINION THAT AN ADEQUATE OUTFALL EXISTS FOR THE PROPOSED CONSTRUCTION OF THE PROJECT AND NO ADVERSE IMPACT WILL OCCUR TO THE NEIGHBOR LOTS.

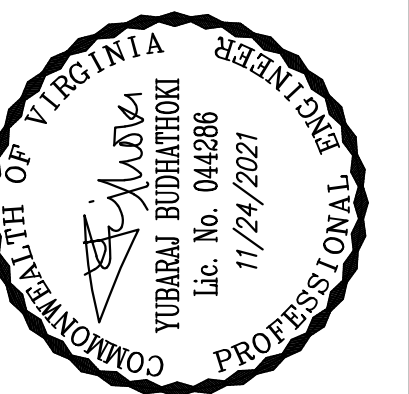
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OUTFALLS ANALYSIS
 PLAN OF DEVELOPMENT
 CLIFTON
 7022 NEWMAN ROAD

MAGESTRAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

NO.	DATE	DESCRIPTION	BY
		REVISION BLOCK	



TAX MAP # 0754-02-0005	SCALE: AS NOTED	DATE: 11/24/2021	SHEET: 6 OF 7
DESIGN BY:	CHECKED BY:		

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³) **1,735**

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft ³)	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
TP LOAD REMAINING (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	1.09
TP LOAD REDUCTION REQUIRED (lb/yr)	0.33
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.00
TP LOAD REMAINING (lb/yr)	1.09
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.33

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	7.80
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	7.80



P.O. Box 142 Penn Laird, VA 22846 · (540) 908-1679 · www.VirginiaNutrientBank.com

November 29, 2021

Yubaraj Budhathoki, P.E. LEED AP, Arborist
Mt Everest Engineering LLC
7520 Diplomat Dr,
Suite 201
Manassas VA 20109

Re: Nutrient Credit Availability – 7022 Newman Rd - Site Plan – Fairfax County

Mr. Budhathoki,

The Virginia Nutrient Bank (VNB) is pleased to confirm availability of 0.33± pounds per year of phosphorus offsets (nutrient credits) for the 7022 Newman Rd site plan in the Town of Clifton within Fairfax County. The site is located in HUC:02070010.

VNB has approval from the Virginia Department of Environmental Quality (VDEQ) for Nonpoint Source Offset Generation Certification. VNB is approved to transfer nutrient credits in accordance with the Chesapeake Bay Watershed Nutrient Credit Exchange Program (VA Code 62.1-44.19:14 et seq). These offsets are also transferable in accordance with the Virginia stormwater offset program (VA Code 62.1-44.15:35) and the Virginia Soil and Water Conservation Board's Guidance Document on Stormwater Nonpoint Nutrient Offsets approved on July 23, 2009, to those regulator entities qualifying for nutrient offsets.

VNB manages the Five L Farms-VNB Nutrient Bank located in Westmoreland County that we anticipate will generate 104.35 pounds of phosphorus reduction and 1,417.62 pounds of nitrogen reduction per year. VNB as of the date of this letter has capacity at the Five L Farms-VNB Nutrient Bank site. VNB may utilize another bank depending on availability options. VNB will retire 0.33± pounds of phosphorus credits in accordance with the Nutrient Offset Certification regulations.

Respectfully,

Amber Aboagye
Conservation Project Director
Virginia Nutrient Bank, LLC
amber@virginianutrientbank.com | 540-217-4079

VIRGINIA NUTRIENT BANK - SERVING FARMERS, DEVELOPERS, AND LOCALITIES
HELPING CLEAN THE CHESAPEAKE BAY ONE SITE AT A TIME

Project Name: **609 Tapawingo Rd SW**
Date: **11/25/2021**
Linear Development Project? **No**

CLEAR ALL
(Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Check:
BMP Design Specifications List: 2013 Draft Stds & Specs
Linear project? **No**
Land cover areas entered correctly? **✓**
Total disturbed area entered? **✓**

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) → **0.37**

Maximum reduction required: **10%**
The site's net increase in impervious cover (acres) is: **0.14183**
Post-Development TP Load Reduction for Site (lb/yr): **0.33**

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				1.20	1.20
Impervious Cover (acres)				0.08	0.08
					1.28

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				1.06	1.06
Impervious Cover (acres)				0.22	0.22
Area Check	OK.	OK.	OK.	OK.	1.28

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

LAND COVER SUMMARY – PRE-REDEVELOPMENT

Pre-ReDevelopment	Listed	Adjusted ¹
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(Forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	1.20	1.06
Weighted Rv(turf)	0.25	0.25
% Managed Turf	94%	93%
Impervious Cover (acres)	0.08	0.08
Rv(impervious)	0.95	0.95
% Impervious	6%	7%
Total Site Area (acres)	1.28	1.14
Site Rv	0.29	0.30

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0316	0.0286
Pre-ReDevelopment Treatment Volume (cubic feet)	1,375	1,246
Pre-ReDevelopment TP Load (lb/yr)	0.86	0.78
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.67	0.69
Baseline TP Load (lb/yr) (0.41 lb/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		0.47

LAND COVER SUMMARY – POST DEVELOPMENT

Post Re-Dev. & New Impervious	Post-ReDevelopment	Post-Development New Impervious
Forest/Open Space Cover (acres)	0.00	
Weighted Rv(Forest)	0.00	
% Forest	0%	
Managed Turf Cover (acres)	1.06	
Weighted Rv (turf)	0.25	
% Managed Turf	83%	
Impervious Cover (acres)	0.22	0.14
Rv(impervious)	0.95	0.95
% Impervious	17%	7%
Final Site Area (acres)	1.28	
Final Post Dev Site Rv	0.37	

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0398	Post-Development Treatment Volume (acre-ft)	0.0112
Final Post-Development Treatment Volume (cubic feet)	1,735	Post-Development Treatment Volume (cubic feet)	489
Final Post-Development TP Load (lb/yr)	1.09	Post-Development TP Load (lb/yr)*	0.31
Final Post-Development TP Load per acre (lb/acre/yr)	0.85	Post-Development TP Load per acre (lb/acre/yr)	0.69
Max. Reduction Required (Below Pre-Development Load)		10%	
TP Load Reduction Required for Redeveloped Area (lb/yr)		0.08	
TP Load Reduction Required for New Impervious Area (lb/yr)			0.25

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.33
------------------------------------	-------------

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	6.18	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	7.80
-----------------------------------	------	--	------

¹Adjusted Land Cover Summary: Pre-Development land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.
Adjusted total acreage is consistent with Post-Development acreage (minus acreage of new impervious cover).
Column 1 shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lb/acre/year).

MT. EVEREST ENGINEERING, LLC
 7520 DIPLOMAT DR, SUITE # 201
 MANASSAS, VA - 20109
 TEL: 703-350-5700
 INFO@EVERESTENGINEERINGLLC.COM

BMP COMPUTATIONS
PLAN OF DEVELOPMENT
CLIFTON
7022 NEWMAN ROAD
 MAGESTRIAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

NO.	DATE	DESCRIPTION	REVISION BLOCK

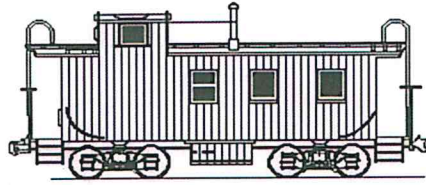
TAX MAP # 0754-02-0005

SCALE: **AS NOTED**

DATE: 11/24/2021

CHECKED BY: **6A** OF **7**

YUBARAJ BUDHATHOKI
Lic. No. 048286
11/24/2021
PROFESSIONAL ENGINEER



TOWN OF CLIFTON, VIRGINIA

Use Permit Application

Property Address: 12726 Clifton Heights Lane		Date: [Month / Year] 11/2021		
1. Type of Permit:	<input checked="" type="checkbox"/> Construction	<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Home Business (Code 9-19.c1)
	<input type="checkbox"/> Preliminary Site Plans Attached	<input type="checkbox"/> Office <input type="checkbox"/> Retail		
	<input type="checkbox"/> Special Use	<input type="checkbox"/> Subdivision (Code Chapter 10)	<input type="checkbox"/> Boundary Line Adjustment/Lot Consolidation (Code 10-57 to Code 10-59)	<input type="checkbox"/> Public Use
	<input type="checkbox"/> Restaurant			
	<input type="checkbox"/> Bed & Breakfast			
	<input type="checkbox"/> Multi-Family			
2. Name of Applicant: Matthew Hill				
Mailing Address: 12726 Clifton Heights Lane				
Phone: 703-472-5867				
Email Address: matt.hill.06@gmail.com				
3. Name of Property Owner (if different): Same as above				
Mailing Address:				
4. Name of Business / Organization: N/A				
5. Owner of Business / Organization: N/A				
6. Tax Map Number: 85-2-((12))-004				
7. Attach a plat or plan drawn to scale showing the proposed construction, certified by an engineer, surveyor, architect, authorized to practice as such by VA, together with a surveyed plat of the property indicating all building and structure setbacks and height.			<input checked="" type="checkbox"/> Plat Attached	

8. Attach Floor Plan to Scale (non-residential & home business):		<input type="checkbox"/> Floor Plan Attached N/A		
9. Zoning District of Premises:	<input checked="" type="checkbox"/> Residential (Code 9-19)	<input type="checkbox"/> Commercial (Code 9-21)	<input type="checkbox"/> Agricultural (Code 9-20)	<input type="checkbox"/> Industrial (Code 9-22)
	<input type="checkbox"/> Church, Park, Community Building			
	<input type="checkbox"/> Community Open Space & Recreation (COSR) (Code 9-23A)		<input type="checkbox"/> Low Impact Commercial (Code 9-23B)	
10. Describe Purpose of Application: Construction of in-ground gunite swimming pool				
10. If Commercial, Home Business, Agricultural or Industrial: N/A				
11. Describe Operation: N/A				
11.a. If Non-Residential - Office Use: <u> N/A </u> SF or Retail/Restaurant Use: <u> N/A </u> SF				
11.b. Days & Hours of Operation (include special events): N/A				
11.c. Number of Employees on Site at any One Time: <u> N/A </u>				
11.d. Number of Seats (Restaurant/Church): Total: <u> N/A </u> . If applicable, provide number of seats located Inside: <u> N/A </u> and; Outside: <u> N/A </u>				
11.e. Gross Floor Area (GFA) of Building or /Premises: <u> N/A </u> SF (Code 9-13) Net Gross Floor Area if more than one use in building: <u> N/A </u> SF If applicable, GFA devoted to carry-out service within restaurant: <u> N/A </u> SF				
11.f. Number of Off-street Parking Spaces Required: <u> N/A </u> (Code 9-13)				
11.g. Number of Off-street Parking Spaces Provided* (attach parking plan to scale with dimensions identifying existing and proposed parking spaces): <u> N/A </u>				
11.h. Gross Floor Area of Dwelling (Home Business Only): <u> N/A </u> SF				
12. Application Fee Enclosed: (Fee schedule in Filing Instructions) \$ <u> \$250.00 </u>				

*PLEASE INCLUDE A PARKING TABULATION FORM FOR BUILDINGS THAT HAVE MORE THAN ONE USER IN THE BUILDING.

Is the applicant or owner a member of a homeowners association (HOA)? Yes No If yes, please obtain the approval of the HOA prior to submission of the application.

HOA REPRESENTATIVE (NAME/SIGNATURE) Clifton Heights ARB Approved DATE OF HOA APPROVAL: July 19, 2021

The undersigned hereby applies for a Use Permit pursuant to Article 2, Section 9-10 of the Zoning Ordinance of the Code of Town of Clifton, Virginia.

APPLICANT'S SIGNATURE: Matthew Hill DATE: 11/12/2021

PROPERTY OWNER SIGNATURE: Matthew Hill DATE: 11/12/2021

FOR TOWN USE ONLY

RECEIPT DATE: _____ DATE APPLICATION ACCEPTED: _____

APPLICATION FEE PAID: \$ _____

APPROVED DISAPPROVED

PLANNING COMMISSION: _____
SIGNATURE PRINT

CONDITIONS: _____

APPROVED DISAPPROVED

TOWN COUNCIL: _____
SIGNATURE PRINT

CONDITIONS: _____

PLAN APPROVAL INFORMATION						
RELATED INFORMATION		REQUIRED	NOT REQUIRED	COUNTY ID NUMBER	APPROVAL ON SHEET #	COMMENTS
1 RPA BOUNDARY LOCATION CERTIFICATION		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
2 RPA DELINEATION PLAN ¹		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-RPA-		
3 CBPO RPA EXEMPTION OR EXCEPTION		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-WRPA-		
4 WQIA		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
5 ON PLAN (Tech Bulletin 06-07)		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
6 SEPARATE SUBMISSION		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-WQ-		
7 FLOOD PLAIN STUDY ¹		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-FP-		
8 DRAINAGE STUDY ¹		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-DS-		
9 GEOTECHNICAL REPORT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-SR-		
10 FULL		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
11 LIMITED		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
12 IVB SOILS CERTIFICATION		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
13 REZONING/SPECIAL EXCEPTION/SPECIAL PERMIT		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
14 VARIANCE		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-VC-		
15 ARB REVIEW (In Historical Overlay District)		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
16 WETLANDS/WATERS OF THE US PERMIT		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
17 FEMA LETTER OF MAP REVISION		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
18 LETTER OF PERMISSION FOR OFFSITE DISTURBANCE		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
19 TREE BANKING		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
20 TREE FUND		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
21 BATHYMETRIC SURVEY (Tech Bulletin 03-05)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	-BATH-		
22 MODIFICATIONS/WAIVERS (List/describe below)		<input type="checkbox"/>	<input checked="" type="checkbox"/>			
23 OTHER/MISCELLANEOUS		<input checked="" type="checkbox"/>	<input type="checkbox"/>			
24		<input type="checkbox"/>	<input type="checkbox"/>			

LEGALITY OF LOT CERTIFICATION

I HEREBY CERTIFY THAT ALL APPROPRIATE COUNTY APPROVALS WERE OBTAINED IN ACCORDANCE WITH THE PROCESS REQUIRED BY THE SUBDIVISION ORDINANCE IN EFFECT AT THE TIME OF THE CREATION OF LOT(S) 4. THE LOT(S) WERE CREATED AS PART OF THE CLIFTON HEIGHTS SUBDIVISION APPROVED BY FAIRFAX COUNTY ON 2/22/2000 AND RECORDED IN DEED BOOK 11266 AT PAGE 190 IN THE FAIRFAX COUNTY LAND RECORDS.

A LOT VALIDATION HAS BEEN APPROVED AND APPROVAL IS INCLUDED IN THIS PLAN COUNTY TRACKING # _____ -LV- _____

THIS LOT IS PART OF A SIMPLE SUBDIVISION (101-2-1(3))

NOTICE OF VIOLATION

THIS PLAN IS SUBMITTED AS A RESULT OF A VIOLATION YES NO

A COPY OF THE NOTICE OF VIOLATION IS PROVIDED ON SHEET _____

WETLAND PERMITS CERTIFICATION

I HEREBY CERTIFY THAT ALL WETLANDS PERMITS REQUIRED BY LAW WILL BE OBTAINED PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.

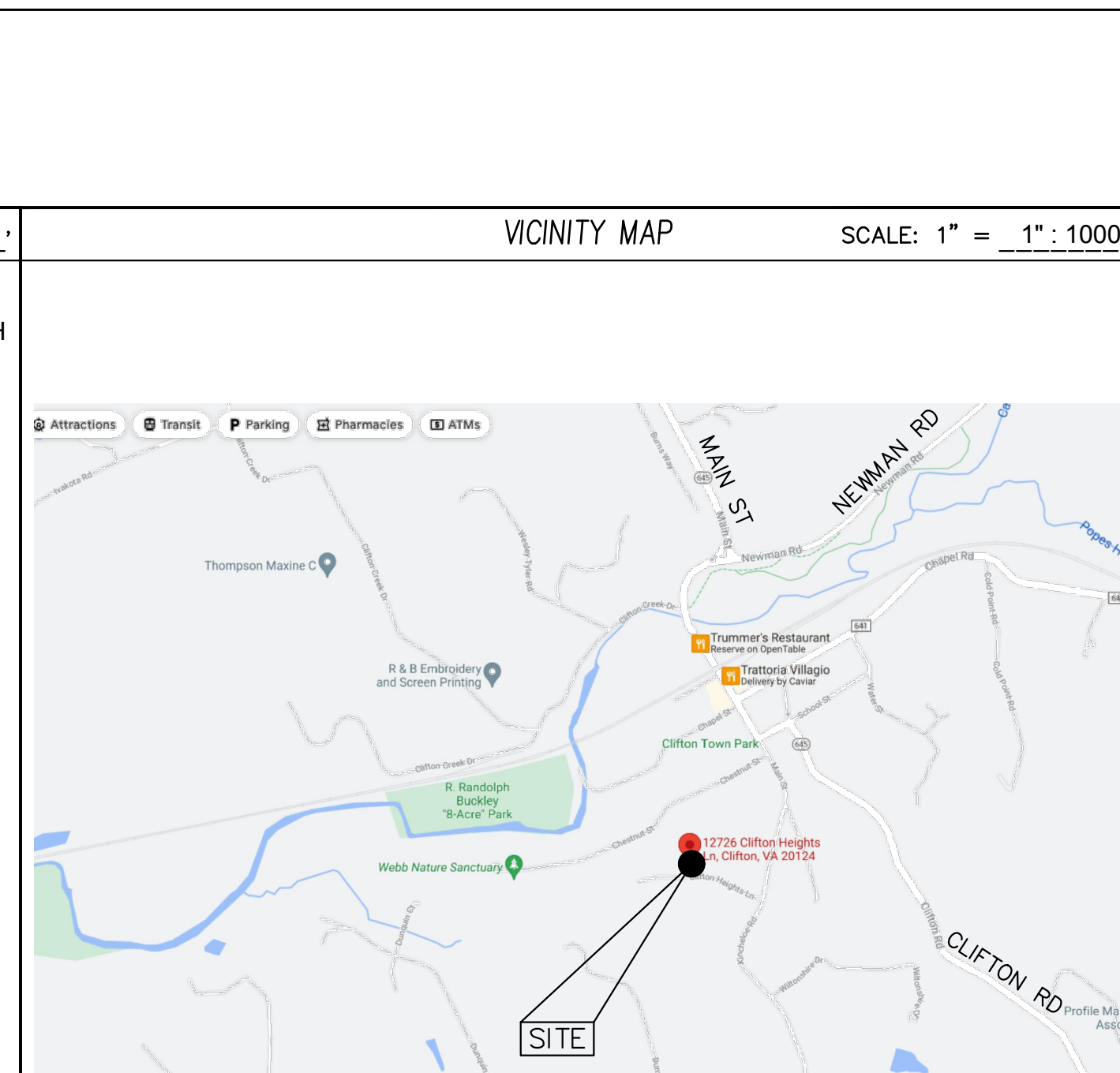
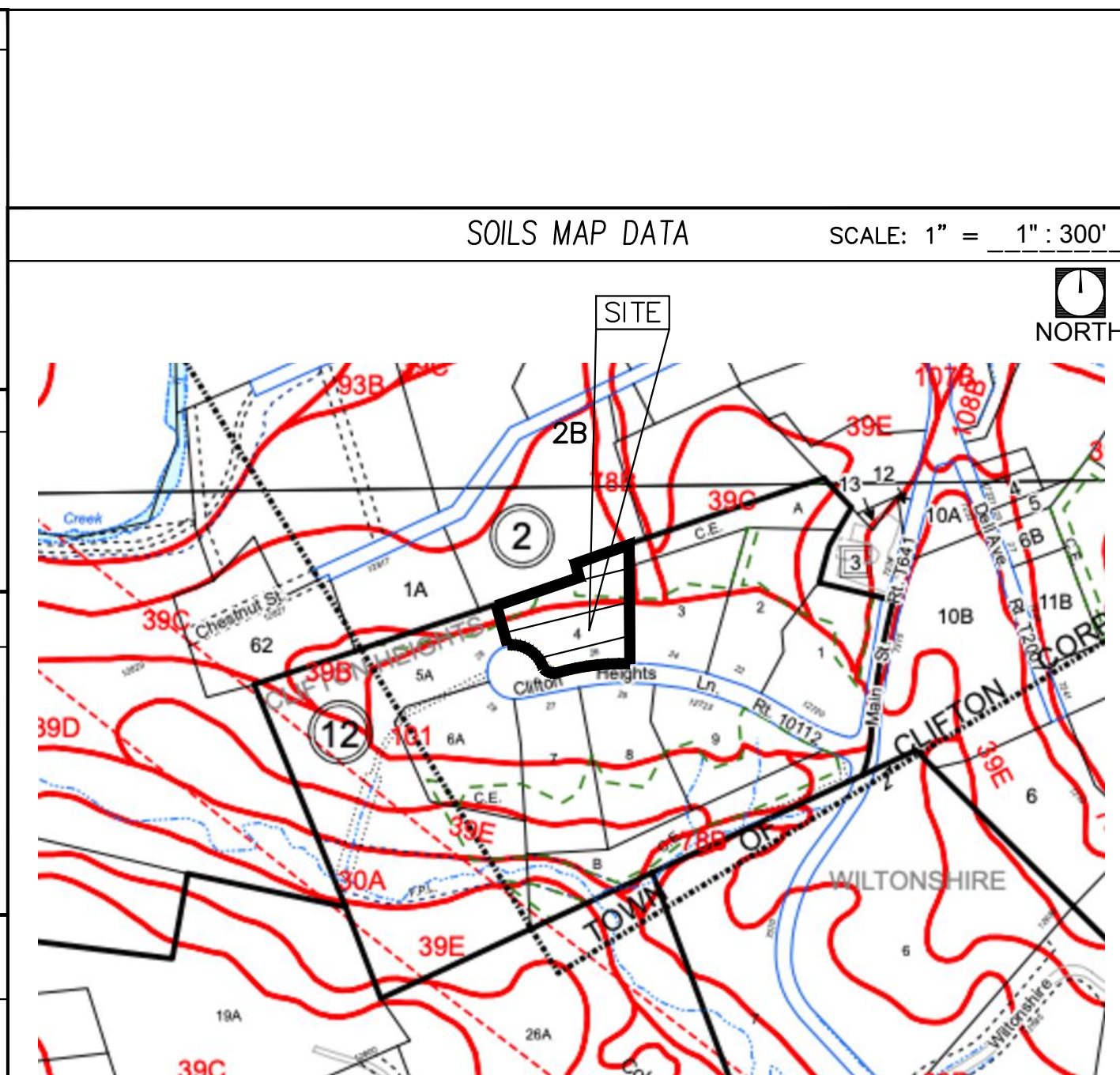
SIGNATURE _____

OWNER/DEVELOPER LLOYD A. NTUK (FOR OWNER)

NAME _____ TITLE _____

CERTIFICATE OF NO CHANGE
(Not applicable for 1st submission)

I HEREBY CERTIFY THAT NO CHANGES HAVE BEEN MADE THAT WOULD AFFECT PRIOR APPROVAL BY THE



Provide plan number if an RPA Delineation Plan/Flood Plain Study/Drainage Study has been approved previously.

REQUIRED INFORMATION

1 ADDRESS	EXISTING	12726 CLIFTON HEIGHTS LANE, CLIFTON, VA 20124
	PROPOSED	(If different from existing):
2 TYPE OF CONSTRUCTION (Check all that apply)		<input type="checkbox"/> ACCESSORY STRUCTURE <input checked="" type="checkbox"/> ADDITION <input type="checkbox"/> DEMOLITION <input type="checkbox"/> NEW DWELLING <input type="checkbox"/> NEW DWELLING ON EXISTING FOUNDATION <input checked="" type="checkbox"/> POOL <input type="checkbox"/> RETAINING WALL <input type="checkbox"/> OTHER (Explain) _____
3 PARCEL IDENTIFICATION (TAX MAP) NUMBER		# 85-2-((12))-0004
4 ZONING DISTRICT		R-D
5 MINIMUM YARD (SETBACK) REQUIREMENTS (Fill out applicable fields only)	PER ZONING ORDINANCE: FRONT: 45 FT, SIDE: 10 FT, REAR: 25 FT; SIDE TOTAL: N/A FT (CLUSTER)	
	PER ZONING ACTION: FRONT: _____ FT, SIDE: _____ FT, REAR: _____ FT; SIDE TOTAL: _____ FT (CLUSTER)	
6 WATER SUPPLY	EXISTING	<input type="checkbox"/> PUBLIC WATER <input checked="" type="checkbox"/> INDIVIDUAL WELL <input type="checkbox"/> NONE
	PROPOSED	<input type="checkbox"/> PUBLIC WATER <input type="checkbox"/> INDIVIDUAL WELL <input type="checkbox"/> NONE
8 SEWAGE	EXISTING	<input type="checkbox"/> PUBLIC SEWER <input checked="" type="checkbox"/> INDIVIDUAL SYSTEM <input type="checkbox"/> NONE
	PROPOSED	<input type="checkbox"/> PUBLIC SEWER <input type="checkbox"/> INDIVIDUAL SYSTEM
10 E&S PRIORITY RATING FORM		PROVIDED ON SHEET 4
11 FREEBOARD OVER GROUNDWATER TO BASEMENT FLOOR (For lots requiring limited or full Geotechnical reports)		<input checked="" type="checkbox"/> FREEBOARD < 1', NO BASEMENT PROPOSED <input type="checkbox"/> 1' < FREEBOARD ≤ 2.5' <input type="checkbox"/> GRAVITY OUTFALL PROVIDED, OR <input type="checkbox"/> DUAL SUMP PUMP NOTE PROVIDED <input type="checkbox"/> FREEBOARD > 2.5'

HEALTH DEPARTMENT, DATED _____

URBAN FOREST MANAGEMENT, DATED _____

VDOT, DATED _____

TREE PRESERVATION

TREE PRESERVATION TARGET DEVIATION OR MODIFICATION IS REQUESTED YES NO

PRO RATA SHARE ASSESSMENT

TOTAL SITE AREA ¹	1.009 AC
TOTAL POST DEVELOPMENT IMPERVIOUS COVER ²	0.176 AC
NET INCREASE IN IMPERVIOUS AREA ³	0.046 AC

From Site Compliance Summary Table in "Summary" tab of VRRM spreadsheet, if applicable:

REMAINING POST DEVELOPMENT TOTAL PHOSPHORUS LOAD (TP)	N/A LB/YR
TOTAL RUNOFF VOLUME REDUCTION	N/A CU FT

IS THE SITE LOCATED IN NATURALLY OCCURRING ASBESTOS (NOA) SOIL? YES NO

Areas that may contain NOA soil are shown on the official County Soils Map on the Digital Map viewer on the county website. Asbestos is regulated by the Virginia Department of Labor and Industry. Safety precautions and links to regulations regarding these soils or fill originating from them can be found on the Northern Virginia Soil and Water Conservation District website: www.fairfaxcounty.gov/soil-water-conservation/

NOTES

1. NOTIFY SITE INSPECTIONS AT 703-324-1720 PRIOR TO BEGINNING ANY WORK ON THE PROJECT. FAILURE TO NOTIFY CAN RESULT IN THE ISSUANCE OF A VIOLATION AND A SUBSEQUENT FINE FOR COMPLIANCE INSPECTION.

2. NO EARTH DISTURBANCE OR CONSTRUCTION IS ALLOWED UNTIL THE BUILDING PERMIT FOR THIS PLAN IS ISSUED. EVIDENCE OF A BUILDING PERMIT MUST BE PROVIDED TO THE SITE INSPECTOR AT THE PRE-CONSTRUCTION MEETING.

3. NOTIFY VA811 (PREVIOUSLY "MISS UTILITY") NOTIFICATION CENTER AT 811 OR 1-800-552-7001 OR VA811.COM AT LEAST THREE BUSINESS DAYS PRIOR TO COMMENCEMENT OF EXCAVATION, DEMOLITION OR BLASTING IN ACCORDANCE WITH THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT.

4. A WRITTEN PERMISSION IS REQUIRED FROM OFFSITE PROPERTY OWNERS PRIOR TO ANY DISTURBANCE OUTSIDE OF EASEMENTS ON THEIR PROPERTIES. WHEN OFFSITE DISTURBANCE PERMITTED BY EASEMENTS IS PROPOSED, IMPACTED OFFSITE PROPERTY OWNERS SHOULD BE NOTIFIED.

5. THE CONSTRUCTION AREA SHALL BE KEPT LITTER FREE. ALL LITTER, TRASH, DEBRIS, CHEMICALS, ETC. SHALL BE PROPERLY STORED AND SECURED TO MINIMIZE THE DISCHARGE OF POLLUTANTS.

6. ROLL-OFF BOXES AND DUMPSTERS SHALL NOT BE STORED WITHIN THE RIGHT OF WAY.

7. A BUILDING PERMIT IS REQUIRED FOR RETAINING WALLS SUPPORTING 3' OR MORE OF UNBALANCED FILL OR ANY WALL SUPPORTING SURCHARGE OTHER THAN ORDINARY UNBALANCED FILL.

8. A SEPARATE DEMOLITION PERMIT IS REQUIRED WHERE DEMOLITION IS PROPOSED.

9. A SETBACK CERTIFICATION MAY BE REQUIRED AT THE DISCRETION OF THE SITE INSPECTOR.

10. THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE SANITARY SEWER.

11. THE LIMITS OF CLEARING AND GRADING SHOWN NEAR/OR WITHIN THE LIMITS OF THE RESOURCE PROTECTION AREA (RPA) MUST BE STRICTLY OBSERVED AND ENFORCED. ANY ENCROACHMENT INTO, AND/OR DISTURBANCE OF THE RPA NOT SHOWN ON THIS PLAN IS A VIOLATION OF THE CHESAPEAKE BAY PRESERVATION ORDINANCE (CBPO) AND IS SUBJECT TO THE PENALTIES OF CBPO ARTICLE 9 (VIOLATIONS AND PENALTIES).

12. A SEPARATE VDOT APPROVAL AND PERMIT IS REQUIRED FOR ANY WORK WITHIN VDOT RIGHT OF WAY (ROW), INCLUDING REPAIRS AND ACTIVITIES IMPEDING PEDESTRIAN OR VEHICULAR TRAFFIC IN THE ROW.

13. THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF CHAD E. JERNIGAN FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON 8/25/2021 (DATE); AND THAT THIS PLAN, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATI ON SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS	H.S.G.
39	GLENELG SILT LOAM	GOOD	GOOD	HIGH	I	B
78	MEADOWVILLE LOAM	FAIR	MARGINAL	MEDIUM	II	B
101	URBAN LAND - WHEATON COMPLEX	GOOD	FAIR	HIGH	IVB	D

OWNER INFORMATION

OWNER A CORPORATION
 TRUSTEE A PARTNERSHIP
 AN INDIVIDUAL

MATTHEW JAMES HILL & MARGARET KRISTIN HILL
 NAME DB 24986 PG 1235

SHEET INDEX

- COVER SHEET
- GRADING/EROSION AND SEDIMENT CONTROL PLAN
- NOTES AND DETAILS
- EROSION AND SEDIMENT CONTROL NOTES
- DRAINAGE AND OUTFALL
- GEOTECHNICAL REPORT
- GEOTECHNICAL DATA
- EXISTING VEGETATION MAP
- TREE CONSERVATION PLAN

STORMWATER INFORMATION

Line	DESCRIPTION	QUANTITY	SWMO DESIGN REQUIREMENTS
1	EXISTING IMPERVIOUS AREA	5,654 SF	<input type="checkbox"/> N/A (EXEMPT)
2	PROPOSED IMPERVIOUS AREA: NEW BUILDINGS	0 SF	<input type="checkbox"/> TECHNICAL CRITERIA 5 (OLD)
3	NEW DRIVEWAY ¹	0 SF	<input type="checkbox"/> DEQ MEMO 14-2014
4	NEW MISCELLANEOUS (shed, sidewalk, patio, pool, carport, etc.)	2,018 SF	<input checked="" type="checkbox"/> TECHNICAL CRITERIA 4 (NEW)
5	EXISTING IMPERVIOUS AREA TO REMAIN	5,654 SF	<input type="checkbox"/> NEW DEVELOPMENT
6	TOTAL PROPOSED IMPERVIOUS AREA (lines 2+3+4+5)	7,672 SF	<input type="checkbox"/> REDEVELOPMENT
7	INCREASE IN IMPERVIOUS AREA (line 6 minus line 1)	2,018 SF	<input checked="" type="checkbox"/> NEW + REDEVELOPMENT (Redevelopment with a net increase in impervious area)
8	PROPOSED IMPERVIOUSNESS (line 6/lot area)*100	17.5 %	
9	DISTURBED AREA: WATERSHED 1 LOWER POPES HEAD CREEK	0.184 AC	
10	WATERSHED 2	AC	
11	TOTAL DISTURBED AREA (lines 9+10)	0.184 AC	
12	PLAN IS PART OF A COMMON PLAN OF DEVELOPMENT (Tech Bulletin 14-11)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	WATER QUALITY OPTION USED

¹Gravel road and gravel surfaces are considered impervious areas.

STORMWATER MANAGEMENT ORDINANCE (SWMO) EXEMPTIONS

Line 6 < 2,500 SF AND Line 11 < 1 AC AND "No" to line 12 YES NO

Line 7 < 500 SF AND LOT AREA ≤ 0.5 AC AND Line 11 < 1 AC AND "No" to line 12 YES NO

Line 8 < 18% AND Line 11 < 1 AC AND "No" to line 12 YES NO

QUALITY CONTROLS PROVIDED W/ORIGINAL SUBDIVISION AND ARE IN PLACE YES NO

IF YES, JUSTIFICATION PROVIDED ON SHEET _____

QUALITY CONTROLS ARE PROVIDED BY AN EXISTING REGIONAL SWM FACILITY YES NO

IF YES, JUSTIFICATION PROVIDED ON SHEET _____

PROJECT IS EXEMPT FROM SWMO (CHAPTER 124) REQUIREMENTS (If "YES" to any of the above)

COMPLIANCE WITH SWMO (CHAPTER 124) IS REQUIRED (If "NO" to all of the above) OR YES TO LINE 12

PROPOSED CONSTRUCTION IN THE RPA

REDEVELOPMENT (PRINCIPAL STRUCTURE) (118-2-1(b)) YES NO

REDEVELOPMENT (ACCESSORY STRUCTURE) (118-2-1(b)) YES NO

PUBLIC ROADS (118-5-2(a)) NO

PRIVATE ROADS/DRIVEWAYS (118-2-1(d)) YES NO

OTHER (Indicate type)¹ _____ YES NO

PROPOSED STREAM IMPROVEMENTS (118-2-1(a), including outfall) YES NO

PROPOSED UTILITY IMPROVEMENTS (118-5-2) YES NO

¹Other construction in the RPA includes water dependent development per 118-2-1(a) and site amenities for passive recreation per 118-5-3(a).

REQUIREMENTS FOR OPEN SWALES AND STREAMS

AN OPEN SWALE OR STREAM IS PASSING THROUGH OR ADJACENT TO THIS SITE DRAINAGE AREA TO OPEN SWALE/STREAM: (DA) = _____ AC

IF (DA) ≥ 70 AC

A "FLOODPLAIN AND STORM DRAINAGE EASEMENT" EXIST

FLOODPLAIN LIMITS ARE SHOWN BASED ON AVAILABLE INFORMATION OR CALCULATIONS (Tech. Bulletin 12-03)

A FLOODPLAIN USE DETERMINATION (FPUD) HAS BEEN SUBMITTED IF WORK IS PROPOSED WITHIN THE FLOODPLAIN

IF (DA) < 70 AC

DRAINAGE CALCULATIONS ARE INCLUDED IN THE PLAN AND

100-YEAR DRAINAGEWAY LIMITS ARE SHOWN ON GRADING PLAN

SWM FACILITIES (PROPOSED ONLY)

FACILITY ID #	FACILITY NAME ²	DESIGN LEVEL ³	DEQ SPEC #	QUALITY	QUANTITY	AREA TREATED AC	LATITUDE DECIMAL DEGREES (XX.XXXX)	LONGITUDE DECIMAL DEGREES (XX.XXXX)	VA HUC6 WATERSHED	VA HUC6 No. (PL-##)	RECEIVING WATERS	MAINTENANCE AGREEMENT Y/N	LENGTH/AREA	UNIT FT/SF

STORMWATER PERMIT REQUIREMENTS

CONDITION	PERMIT/COVERAGE REQUIRED
IF TOTAL DISTURBED AREA (LINE 11) > 2,500 SF, COUNTY STORMWATER PERMIT REQUIRED UNLESS EXEMPT FROM SWMO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IF TOTAL DISTURBED AREA (LINE 11) > = 1 AC, STATE VPDES PERMIT REQUIREMENTS MUST BE MET (INCLUDING SWPPP), BUT REGISTRATION STATEMENT AND STATE PORTION OF FEE ARE NOT REQUIRED (Tech Bulletin 14-10)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

ENGINEER/SURVEYOR

FIRM NAME: LAND ENGINEERING, PLC
 ADDRESS: 11550 RANDOM HILLS ROAD, SUITE 800 - PMB #27
 FAIRFAX, VA 22030
 PROJECT MANAGER NAME: LLOYD A. NTUK, PE
 PHONE: 703-279-6424 E-MAIL: INFO@LANDENGINEERING.COM
 CONTACT NAME: _____ E-MAIL: _____ PHONE: _____

PROFESSIONAL SEAL

COMMONWEALTH OF VIRGINIA
 Lloyd A. Ntuk
 Lic. No. 044168
 11/30/2021
 PROFESSIONAL ENGINEER

LOT LEGAL DESCRIPTION (PROJECT NAME):
 COVER SHEET
 CLIFTON HEIGHTS
 LOT 4 POOL
 PLAN OF DEVELOPMENT

SPRINGFIELD TOWN OF CLIFTON DISTRICT
 FAIRFAX COUNTY, VIRGINIA

INFILL LOT GRADING PLAN

COUNTY PLAN # 24871-INF-004-1
 COUNTY USE ONLY

SHEET 1 OF 9
 REVISED 11/2020

¹Proposed stormwater facilities must meet PFM requirements. ²Name of facility type shall be exactly as listed in the PFM. ³Design level as listed in the BMP Clearinghouse. ⁴DEQ specification number is only required if the facility is used for quality.

DEMOLITION NARRATIVE

- UTILITY LINES AND POLES IN THE VICINITY OF THE WORK AREA SHALL BE COORDINATED WITH APPLICABLE UTILITY SERVICE PROVIDER OR RELOCATION.
- CONTRACTOR SHALL EXERCISE CARE WHEN WORKING NEAR GAS, WATER, TELECOM, AND O/H & U/G ELECTRIC LINES.
- ANY DEMOLITION OCCURRING OUTSIDE THE LIMITS OF DISTURBANCE WILL NEED TO BE HAND-REMOVED. NO MECHANIZED EQUIPMENT SHALL BE USED OUTSIDE THE LIMITS OF DISTURBANCE.

"TBR" = TO BE REMOVED
 "TBS" = TO BE SAVED

EROSION & SEDIMENT CONTROL LEGEND

	3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	
	3.07	INLET PROTECTION	
	3.32	PERMANENT SEEDING	
	3.38	TEMP. TREE PROTECTION	
	3.05	SILT FENCE	
		SUPER SILT FENCE	
		LIMITS OF DISTURBANCE	
		ROOT PRUNING	

NOTE: REFER TO VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR ADDITIONAL INFORMATION.

GRADING NOTES

- SITE WORK CONTRACTOR TO FIELD CHECK FINAL GRADING TO ENSURE THE DEVELOPMENT IS GRADED IN ACCORDANCE WITH THE APPROVED GRADING PLAN.
- CONTRACTOR TO ENSURE POSITIVE DRAINAGE ACROSS ALL SURFACES TO PRECLUDE THE PONDING OF WATER IN YARDS OR ON PAVED SURFACES. THIS DOES NOT APPLY TO PONDING ASSOCIATED WITH STORMWATER MANAGEMENT FACILITIES.
- A SMOOTH GRADE SHALL BE MAINTAINED ACROSS ALL PAVEMENT SURFACES TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY. FINISHED PAVING SURFACES SHALL BE FLUSH WITH ADJUTING SURFACES AT THE SAME ELEVATION (I.E. GUTTERS, SIDEWALKS, APRONS, ETC.).
- THE SUB-BASE OF ALL PARKING AREAS AND TRAVEL LANES ON-SITE SHALL BE PROOF ROLLED PRIOR TO THE PLACEMENT OF ANY PAVING MATERIALS TO IDENTIFY ANY AREAS OF INADEQUATE OR STRUCTURALLY UNSATISFACTORY MATERIALS THAT MUST BE UNDERCUT.
- ANY PROPOSED STRUCTURAL FILL MATERIALS MUST HAVE APPROVAL OF THE PROJECT GEOTECHNICAL CONSULTANT PRIOR TO PLACEMENT AND COMPACTION. FILL MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S SPECIFICATIONS AND UNDER HIS/HER GUIDANCE.
- THE GRADING/EXCAVATION CONTRACTOR FOR THE SUBJECT SITE IS REQUIRED TO NOTIFY, IN WRITING, THE ASSIGNED SITE INSPECTOR REGARDING ANY EXCESS MATERIAL PROPOSED TO BE HAULED OFFSITE PRIOR TO HAULING. THE NOTIFICATION MUST INDICATE THE QUANTITY OF MATERIAL TO BE MOVED OFFSITE, THE IDENTIFICATION OF THE RECEIVING SITE WHERE THE EXCESS WILL BE TAKEN, AND ALL INFORMATION NECESSARY TO SHOW THAT SUCH RECEIVING SITE HAS BEEN PROPERLY PERMITTED AND HAS E&S CONTROLS INSTALLED.

SITE NOTES

- CARE SHOULD BE TAKEN NOT TO DISTURB THE ADJACENT PROPERTIES. OFF-SITE GRADING SHALL REQUIRE A LETTER OF PERMISSION FROM ADJACENT PROPERTY OWNERS.
- SEE SHEET 4 FOR EROSION & SEDIMENT CONTROL NOTES & DETAILS.
- SEE SHEET 4 FOR POOL DISCHARGE PROCEDURES.
- F.E.M.A./F.I.R.M. FLOOD DATA COMMUNITY: 51059C0245E PANEL: 245E ZONES: AE EFFECTIVE: SEPTEMBER 17, 2010
- ALL CONSTRUCTION SHALL CONFORM TO THE VIRGINIA STATEWIDE BUILDING CODE.
- RETAINING WALLS EXCEEDING TWO (2) FEET IN HEIGHT MAY NOT BE ERRECTED WITHOUT A USE PERMIT ISSUED BY THE TOWN COUNCIL REQUIRED BY TOWN CODE SECTION 9-1-B.6.
- EXISTING ON-SITE TOPOGRAPHIC INFORMATION FROM FIELD SURVEY BY CAP LAND SURVEYING, P.L.C. (DATED 8/25/2021) CORRELATED TO NGVD 1929. BOUNDARY INFORMATION FROM RECORD TOPOGRAPHIC INFORMATION BEYOND THE LIMIT OF SURVEY (PARCEL BOUNDARY) INTERPOLATED FROM FAIRFAX COUNTY GIS DATA. WE HEREBY CERTIFY THAT THIS PROPERTY LIES (MORE) THAN 500' FROM A MAPPED FLOODPLAIN.
- WHEELS OF ALL CONSTRUCTION VEHICLES EXITING THE SITE SHALL BE COMPLETELY WASHED AND CLEANED PRIOR TO ENTERING THE HIGHWAY. NO DEBRIS, DUST SEDIMENTS, ETC., ARE ALLOWED ON THE ROAD SURFACE.

CHESAPEAKE BAY COMPLIANCE STATEMENT

This lot grading plan complies with all the provisions of the amended Chesapeake Bay Ordinance (Fairfax Code 118) effective 11-18-2003.

I CERTIFY THIS PLAN MEETS BOTH THE TREE PRESERVATION TARGET (PFM 12-0501) AND THE TREE CONSERVATION PLAN (PFM 12-0502) SUBMITTAL REQUIREMENTS; NO DEVIATION OR MODIFICATIONS TO THE TREE CONSERVATION PLAN REQUIREMENTS ARE BEING REQUESTED.

ENCLOSURE FENCE/ POOL COVER NOTE:

THIS PROJECT PROPOSES THE USE OF A FENCE/ENCLOSURE IN LIEU OF A AUTOMATIC POOL COVER. FENCE/ENCLOSURE TO MEET ISPSC 2012 SECTION 305. POWERED SAFETY COVERS FOR POOL MAY BE SUBSTITUTED FOR BARRIERS IF DESIGNED TO MEET ASTM 1346

I CERTIFY THIS PLAN MEETS BOTH THE TREE PRESERVATION TARGET (PFM 12-0501) AND THE TREE CONSERVATION PLAN (PFM 12-0502) SUBMITTAL REQUIREMENTS; NO DEVIATION OR MODIFICATIONS TO THE TREE CONSERVATION PLAN REQUIREMENTS ARE BEING REQUESTED.

ON-SITE SEWAGE DISPOSAL SYSTEM NOTE:

THE LOCATION OF THE EXISTING SEWAGE SYSTEM, DRAINFIELD, AND RESERVE AREAS ARE SHOWN PER FIELD SURVEY AND HEALTH DEPARTMENT AS-BUILT RECORDS. THESE SYSTEMS SHALL BE PUMPED OUT AND MAINTAINED IN ACCORDANCE WITH CURRENT COUNTY CODES, AND INSTALLATION SPECIFICATIONS AT THE TIME OF CONSTRUCTION.



P.O. Box 142 Penn Laird, VA 22846 · (540) 908-1679 · www.VirginiaNutrientBank.com

November 24, 2021

Lloyd A. Ntuk, PE, LEED AP
 LAND | Engineering, plc
 11350 Random Hills Road, Suite 800
 Fairfax, VA 22030

Re: Nutrient Credit Availability – 12726 Clifton Heights Lane - Site Plan – Town of Clifton

Mr. Ntuk,

The Virginia Nutrient Bank (VNB) is pleased to confirm availability of 0.08± pounds per year of phosphorus offsets (nutrient credits) for the site plan 12726 Clifton Heights Lane in the Town of Clifton in Fairfax County. The site is located in HUC:02070010.

VNB has approval from the Virginia Department of Environmental Quality (VDEQ) for Nonpoint Source Offset Generation Certification. VNB is approved to transfer nutrient credits in accordance with the Chesapeake Bay Watershed Nutrient Credit Exchange Program (VA Code 62.1-44.19:14 et seq). These offsets are also transferable in accordance with the Virginia stormwater offset program (VA Code 62.1-44.15:35) and the Virginia Soil and Water Conservation Board's Guidance Document on Stormwater Nonpoint Nutrient Offsets approved on July 23, 2009, to those regulator entities qualifying for nutrient offsets.

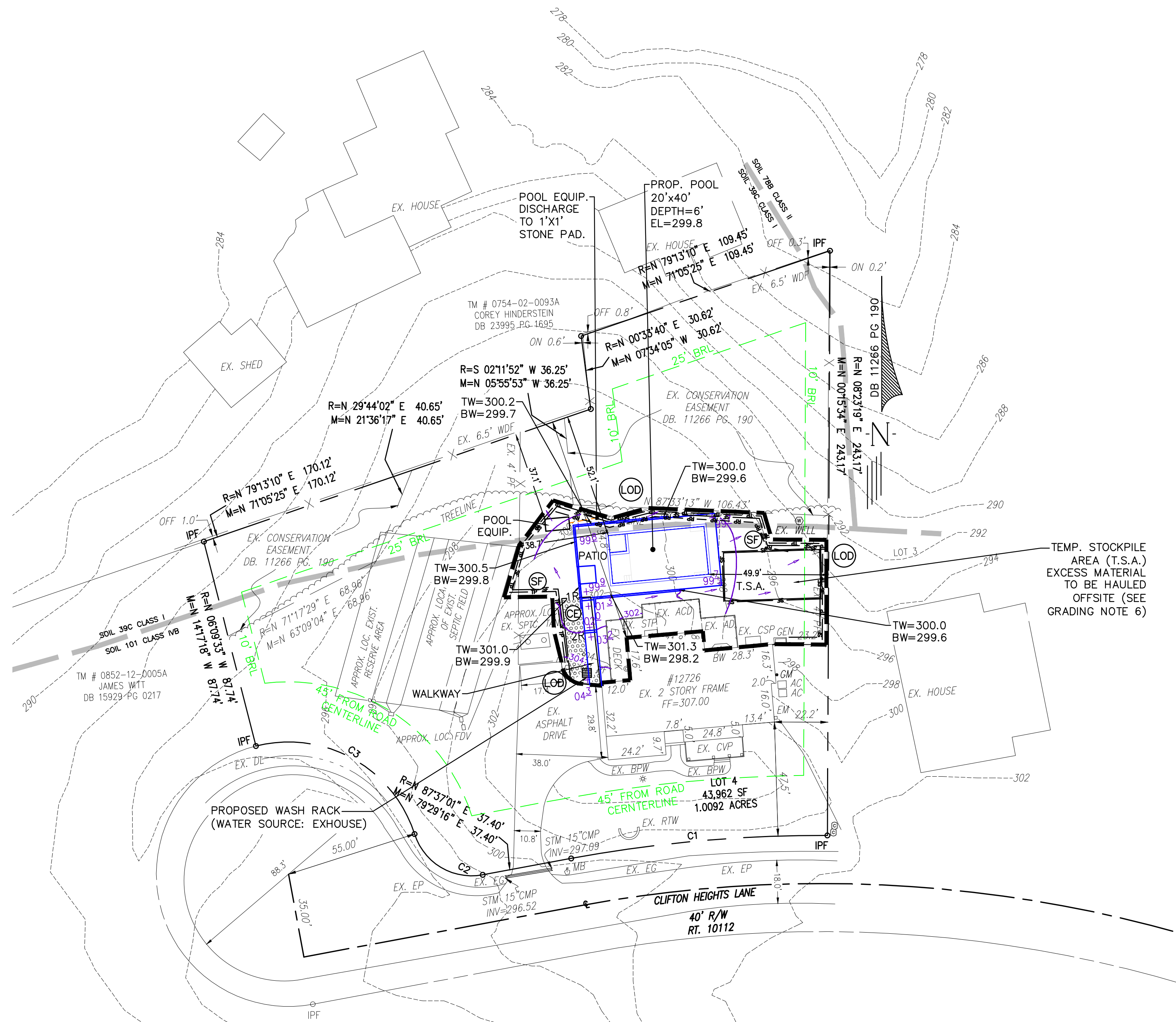
VNB manages the Five L Farms-VNB Nutrient Bank located in Westmoreland County that we anticipate will generate 104.35 pounds of phosphorus reduction and 1,417.62 pounds of nitrogen reduction per year. VNB as of the date of this letter has capacity at the Five L Farms-VNB Nutrient Bank site. VNB may utilize another bank depending on availability options. VNB will retire 0.08± pounds of phosphorus credits in accordance with the Nutrient Offset Certification regulations.

Respectfully,

Amber Aboagye

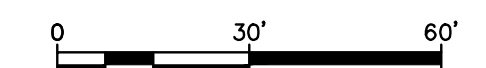
Amber Aboagye
 Conservation Project Director
 Virginia Nutrient Bank, LLC
 amber@virginianutrientbank.com | 540-217-4079

VIRGINIA NUTRIENT BANK - SERVING FARMERS, DEVELOPERS, AND LOCALITIES
 HELPING CLEAN THE CHESAPEAKE BAY ONE SITE AT A TIME

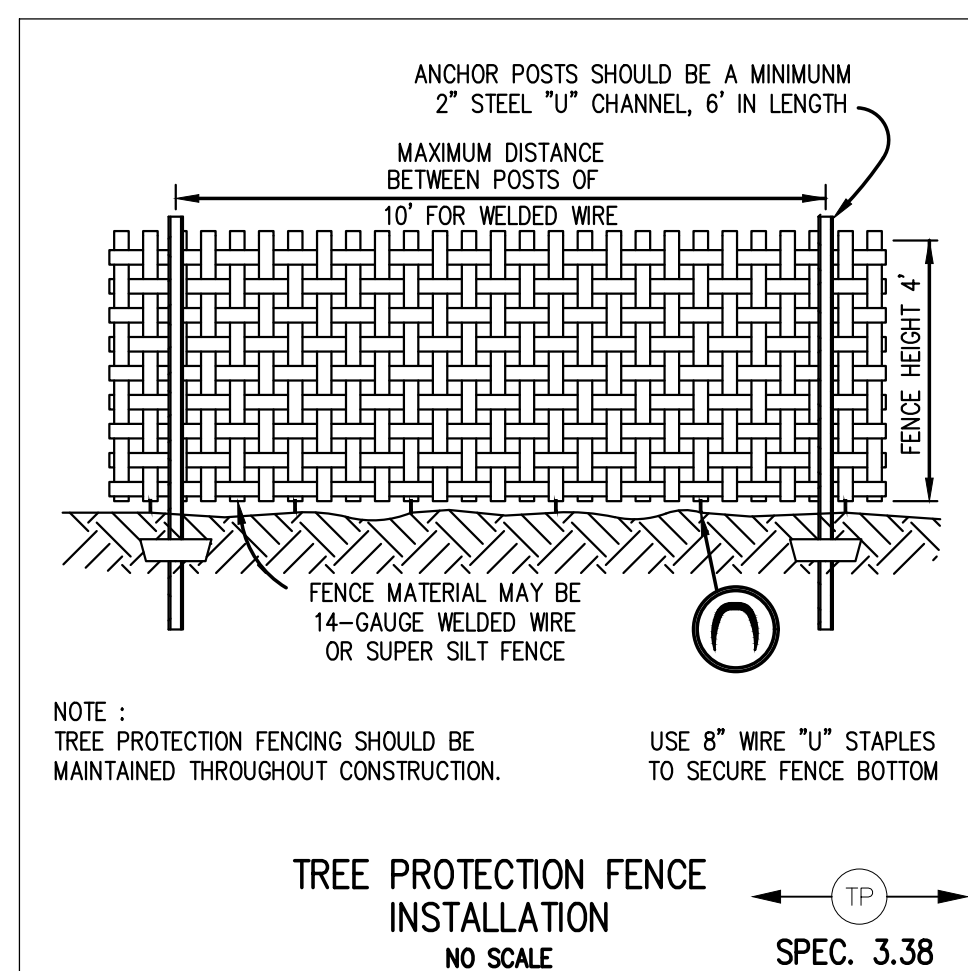
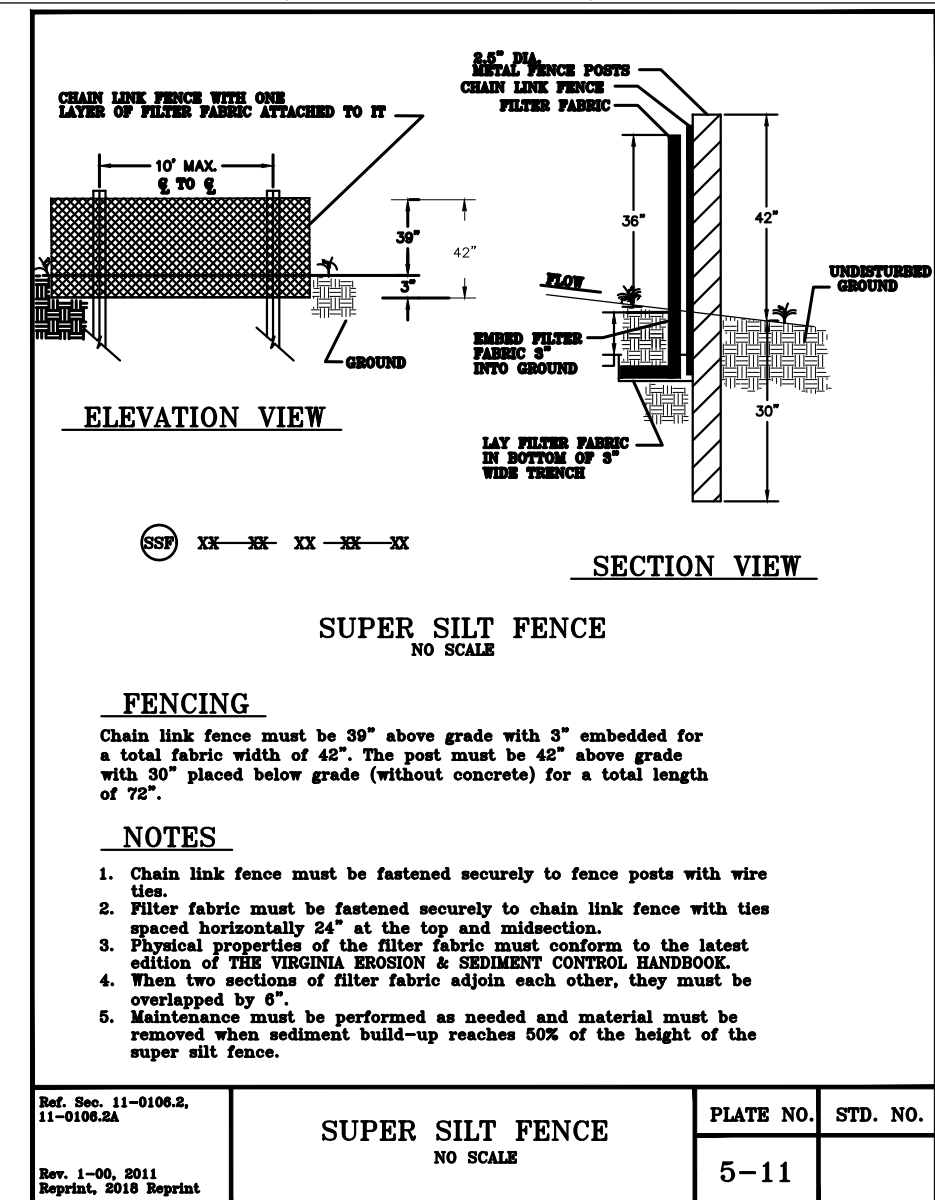
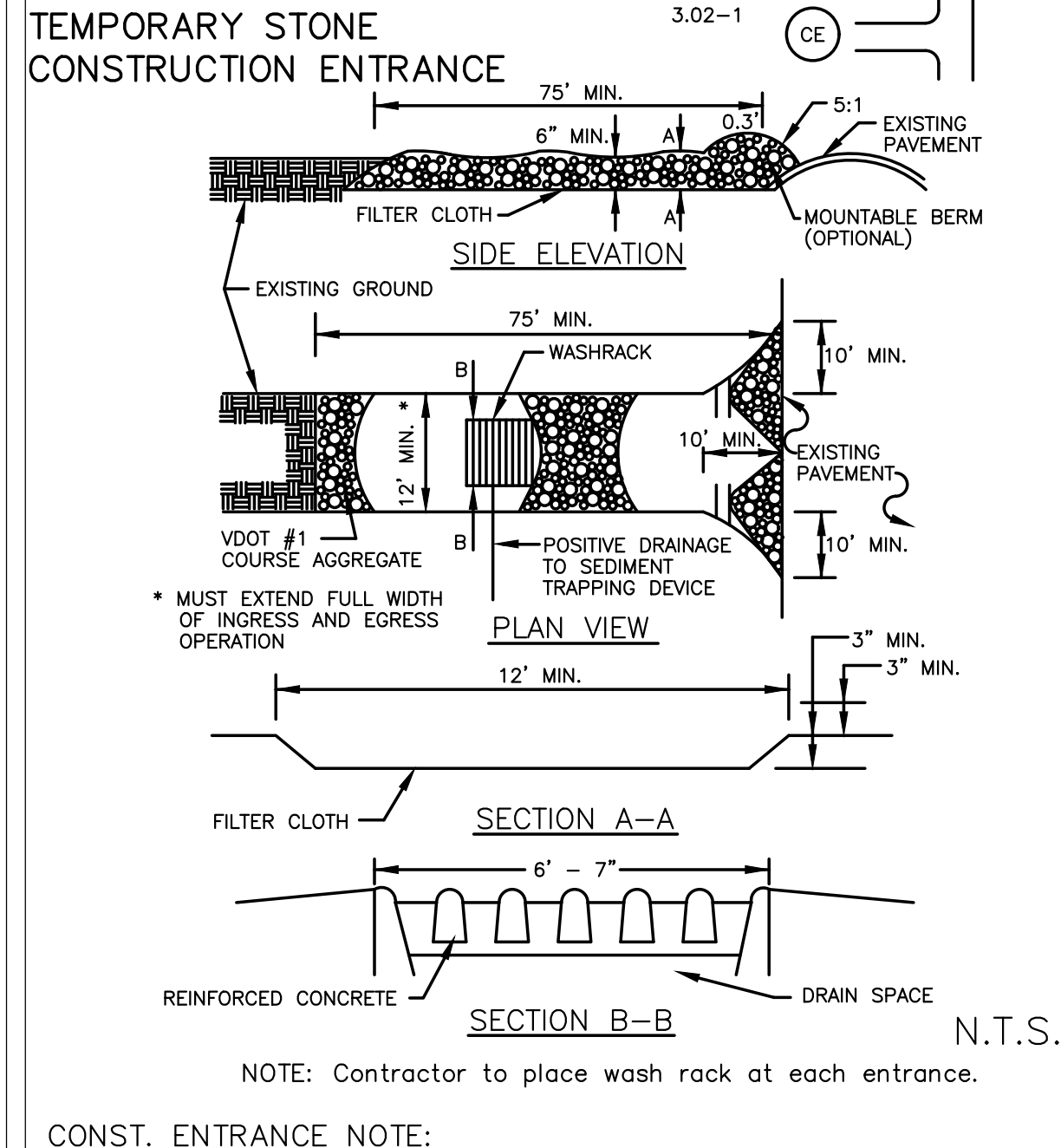
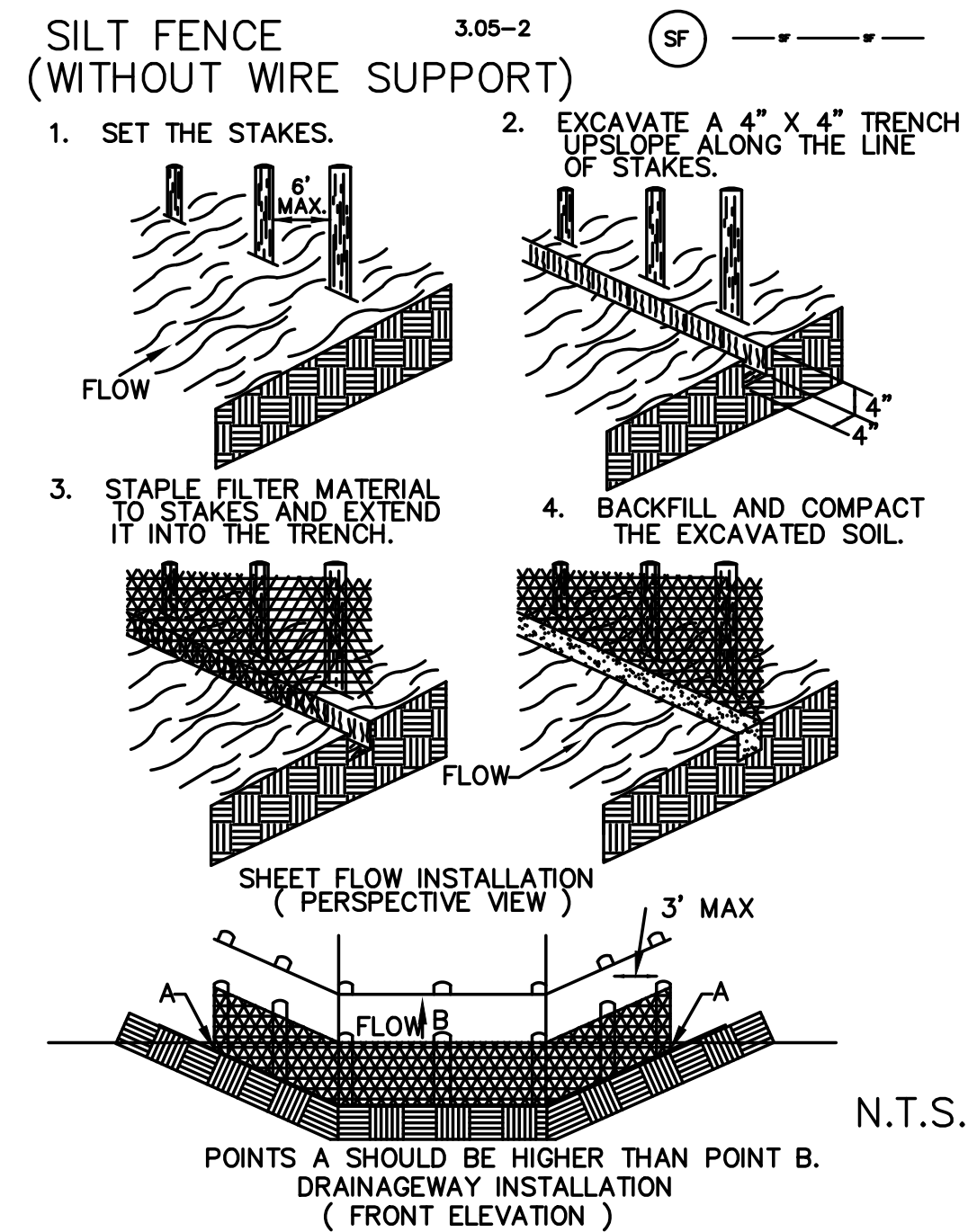


SITE PLAN (1"=30')

General Notes		
1.	CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 811 48 HOURS PRIOR TO THE START OF ANY EXCAVATION OR CONSTRUCTION FOR THE MARKING OF UNDERGROUND UTILITIES.	
2.	NO TITLE REPORT HAS BEEN FURNISHED TO THIS FIRM, THEREFORE THIS DOES NOT PURPORT TO SHOW ALL POSSIBLE EASEMENTS OR ENCUMBRANCES.	
3.	ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE COUNTY OF FAIRFAX, AND V.D.O.T.	
4.	THE LOCATIONS & DEPTHS OF ALL EXISTING UNDERGROUND UTILITIES ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. OBSTRUCTION OR DISRUPTION OF THE SAME WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.	
5.	TO THE BEST OF THIS FIRM'S KNOWLEDGE, NO GRAVE SITES EXIST ON THE PROPERTY WITHIN THE PROPOSED LIMITS OF DISTURBANCE.	
6.	CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE IN ACCORDANCE WITH BUILDING CODE.	
7.	ALL DAMAGES TO THE EXISTING ROADWAY WITHIN THE RIGHT-OF-WAY AS A RESULT OF THIS PLAN'S GRADING ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR AND SHALL BE RESTORED TO THE SATISFACTION OF THE VIRGINIA DEPT. OF TRANSPORTATION.	
8.	CONTRACTOR SHALL VERIFY ALL GRADES WITHIN PROJECT SITE PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY LAND ENGINEERING OF ANY DISCREPANCIES BETWEEN FIELD ELEVATIONS AND ELEVATIONS SHOWN ON THIS PLAN.	
No.	Revision/Issue	Date
Firm Name and Address		
LAND Engineering, plc 11350 Random Hills Road Suite 800 - PMB #27 Fairfax, Virginia 22030 T (703) 279 6424 F (703) 591 3049 www.landengineeringplc.com		
Project Name and Address		
CLIFTON HEIGHTS LOT 4 POOL PLAN OF DEVELOPMENT 12726 CLIFTON HEIGHTS LANE CLIFTON, VA 20124 FAIRFAX COUNTY, VIRGINIA SPRINGFIELD DISTRICT		
Plan	Sheet	
GRADING/ESC PLAN	2 OF 9	
Date	NOVEMBER 2021	
Scale	1"=30'	



ABBREVIATIONS	
AC.	ACRE
APPROX.	APPROXIMATE
BLDG.	BUILDING
CBAY	CHESAPEAKE BAY
CO	CLEAN OUT
CONC.	CONCRETE
CONST.	CONSTRUCTION
D.B.	DEED BOOK
DIP	DUCTILE IRON PIPE
DWG.	DRAWING
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EP	EDGE OF PAVEMENT
ESMT.	EASEMENT
EX., EXIST.	EXISTING
F.D.	FOUNDATION DRAIN
FH	FIRE HYDRANT
G	GAS
GM, G/M	GAS METER
HDPE	HIGH-DENSITY POLYETHYLENE
HOR.	HORIZONTAL
HP	HIGH POINT
INV.	INVERT
IPF	IRON PIPE FOUND
IPS	IRON PIPE SET
JB	JUNCTION BOX
LP	LOW POINT, LIGHT POLE
MH	MANHOLE
NO.	NUMBER
O/H	OVERHEAD
P/P	POWER POLE
PG.	PAGE
PKNF	PK NAIL FOUND
PKSP	PARKING SPACE
PVC	POLYVINYL CHLORIDE
PVMT.	PAVEMENT
R/W, R.O.W.	RIGHT-OF-WAY
RCP	REINFORCED CONCRETE PIPE
RPA	RESOURCE PROTECTION AREA
RT.	ROUTE
S/W	SIDEWALK
SAN. SEW.	SANITARY SEWER
SF, SQ. FT.	SQUARE FEET
STD.	STANDARD
STM, DRN., STM. SEW.	STORM DRAIN, STORM SEWER
SWM	STORMWATER MANAGEMENT
TRANS	TRANSITION
U/G	UNDERGROUND
USGS	UNITED STATES GEOLOGICAL SURVEY
VDOT	VIRGINIA DEPT. OF TRANSPORTATION
VEPCO	VIRGINIA ELECTRIC POWER COMPANY
VER.	VERTICAL
W/L, W/M	WATER LINE, WATER MAIN



PFM SOIL NOTES (CLASS I)

4-0202.2

- The building footprint is more than 25 feet from any Class III or IV problem soil. The 25-foot margin allows for errors in soil mapping. If the building footprint is within 25 feet, a report is required unless waived by the Director.
- All proposed construction is in Class I and Class II soils and there is no grading activity in problem soils. If the proposed construction is partially located in a problem soil, especially Class III or IV soils, submission of a geotechnical report is required unless waived by the Director.
- There are no buildings with more than three stories, mat foundations, deep foundations, deep excavations, sheeting and shoring, or retaining walls over 6 feet high. On a case by case basis, any report that is prepared may be submitted with the building plans after site or grading plan approval.

PFM SOIL NOTES (CLASS II)

4-0202.3

There are no proposed below-grade walls requiring a foundation drain. Overlot drainage will be directed away from structures as shown on the grading plan.

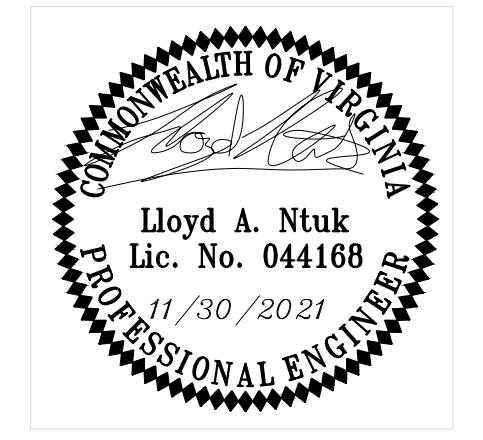
4-0501.2 Engineered fill and backfill around structures shall be placed with approved select materials and uniform compaction throughout must be provided in 6-inch to 8-inch layers. Each layer of engineered fill shall be compacted at optimum moisture, plus or minus 2 percent, to a density of not less than 95 percent in accordance with AASHTO T-99 or ASTM D-698.

4-0503.1 The minimum frequency of field density testing shall be as listed in PFM Table 4.2, unless otherwise approved by the Director. The testing frequencies are the minimums considered necessary to provide effective quality control of soil and aggregate material compactive effort under normal conditions. Additional testing other than that specified should be performed if deemed necessary by the Inspection and Testing Agency, the Geotechnical Engineer of Record, or the Fairfax County Site Inspector. All testing shall be in conformance with approved VDOT test methods. In the event that the testing frequencies are specified to be greater in other applicable standards or specifications, those frequencies shall supersede the frequencies listed in Table 4.2.

Excavation shall be performed in accordance with state and federal safety regulations.

There is no anticipated impact to any adjacent properties.

General Notes		
1.	CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 811 48 HOURS PRIOR TO THE START OF ANY EXCAVATION OR CONSTRUCTION FOR THE MARKING OF UNDERGROUND UTILITIES.	
2.	NO TITLE REPORT HAS BEEN FURNISHED TO THIS FIRM, THEREFORE THIS DOES NOT PURPORT TO SHOW ALL POSSIBLE EASEMENTS OR ENCUMBRANCES.	
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6.	CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE IN ACCORDANCE WITH BUILDING CODE.	
7.	ALL DAMAGES TO THE EXISTING ROADWAY WITHIN THE RIGHT-OF-WAY AS A RESULT OF THIS PLAN'S GRADING ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR AND SHALL BE RESTORED TO THE SATISFACTION OF THE VIRGINIA DEPT. OF TRANSPORTATION.	
8.	CONTRACTOR SHALL VERIFY ALL GRADES WITHIN PROJECT SITE PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY LAND ENGINEERING OF ANY DISCREPANCIES BETWEEN FIELD ELEVATIONS AND ELEVATIONS SHOWN ON THIS PLAN.	

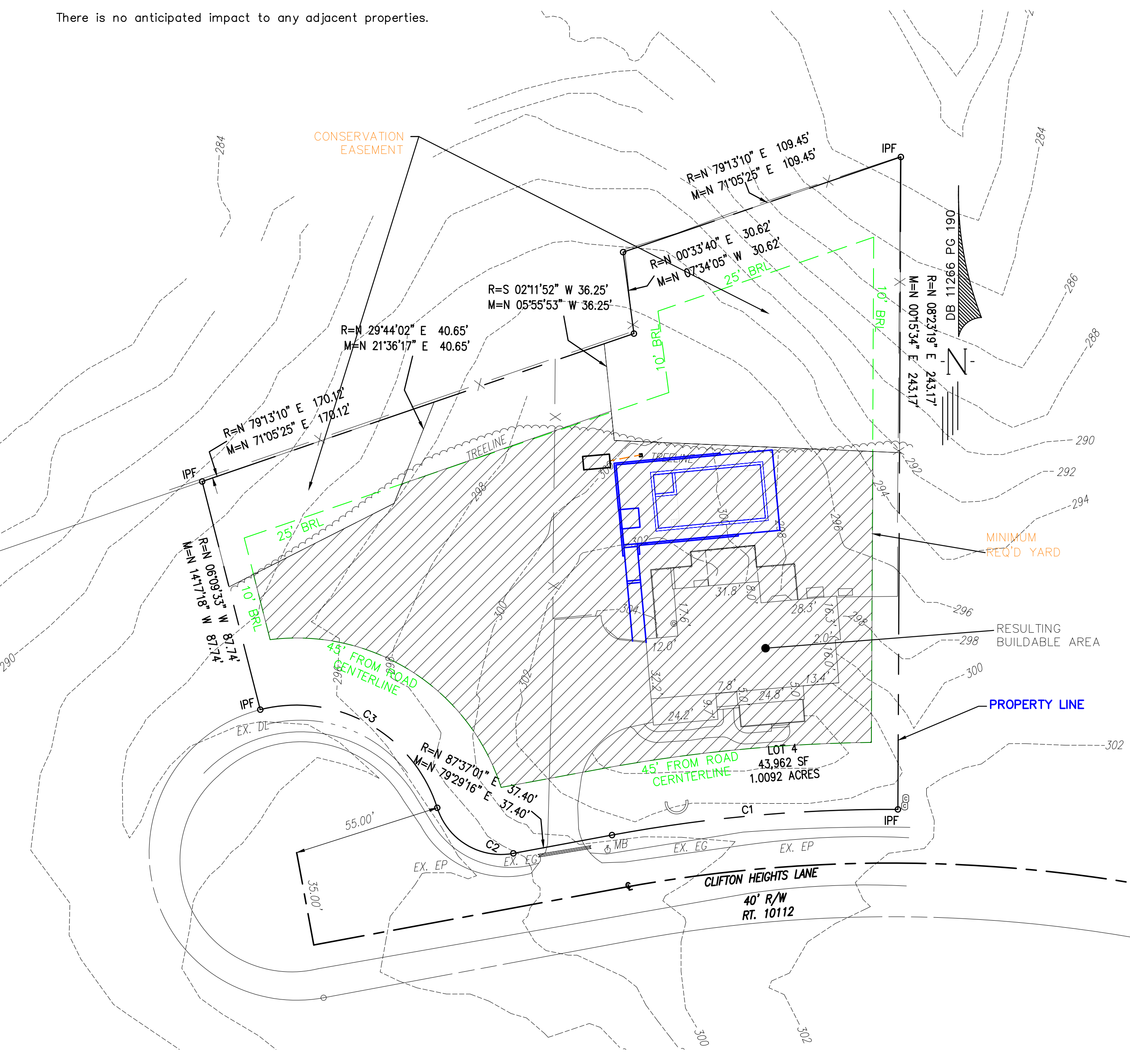
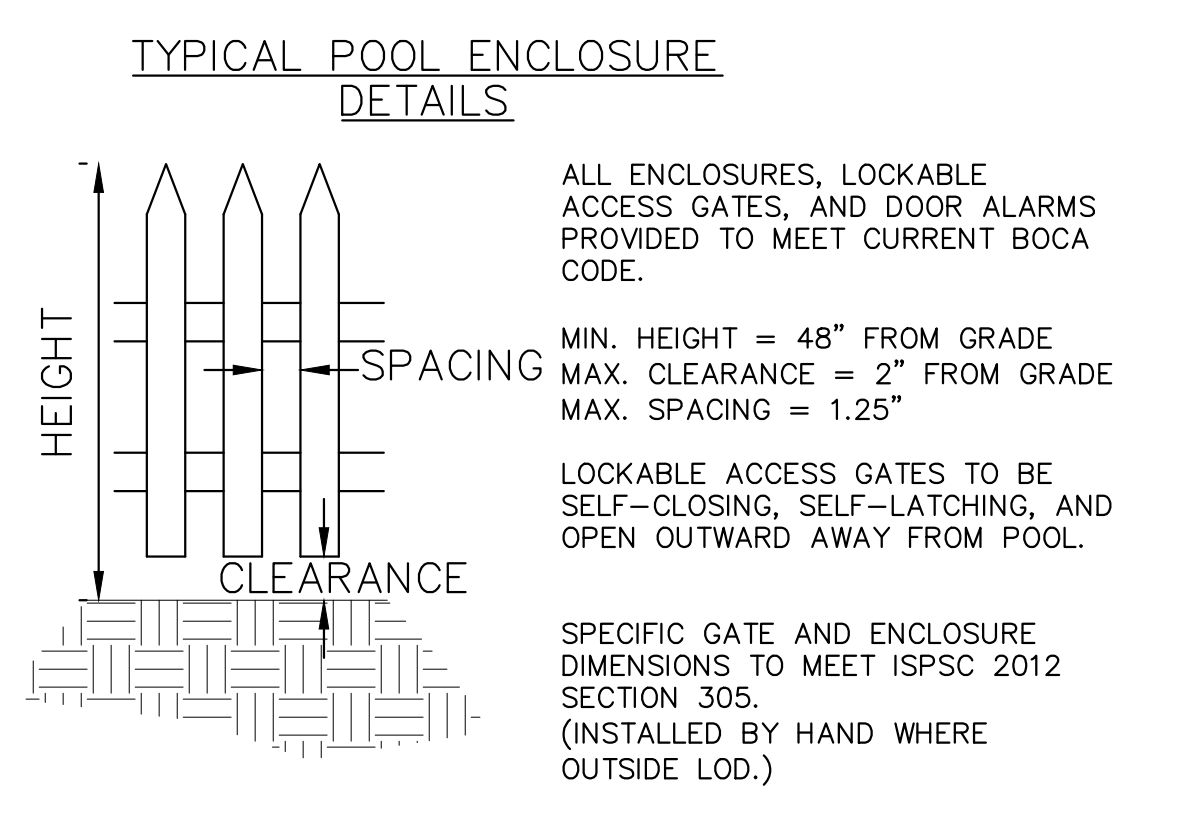


LEGEND

EXISTING	DESCRIPTION	PROPOSED
---	PROPERTY LINE	---
---	STREET CENTERLINE	---
---	CONTOURS	---
---	CURB & GUTTER	---
---	EDGE OF PVMT.	---
---	STORM SEWER	---
---	SANITARY SEWER	---
---	WATER MAIN	---
---	GAS LINE	---
---	O/H ELECTRIC	---
---	U/G ELECTRIC	---
---	O/H TELEPHONE	---
---	U/G TELEPHONE	---
---	FENCE LINE	---
---	WATER METER	---
---	WATER VALVE	---
---	FIRE HYDRANT	---
---	UTILITY POLE	---
---	TRAFFIC SIGNAL POLE	---
---	STREET LIGHT	---
---	SPOT SHOT	---
---	STM. STRUCTURE LABEL	---
---	SAN. STRUCTURE LABEL	---
---	SIGN	---
---	TREE	---
---	TREE LINE	---
---	LIMITS OF DISTURBANCE	---
---	TEST HOLE	---
---	BENCHMARK	---
---	BUILDING WALL	---
---	DOOR LOCATION	---
---	PLASTIC PIPE/RAIN	---

PROBLEM SOIL NOTES

- PRESSURE RELEASE VALVE TO BE PROVIDED FOR THE RELEASE OF HYDROSTATIC PRESSURE WHEN POOL IS EMPTIED.
- SWIMMING POOL BOTTOM SLAB AND WALLS MUST BE UNDERLAIN AND BACKFILLED WITH NON-EXPANSIVE MATERIALS.
- THIRD-PARTY INSPECTIONS ARE REQUIRED FOR SOIL DISTURBANCE ACTIVITIES.



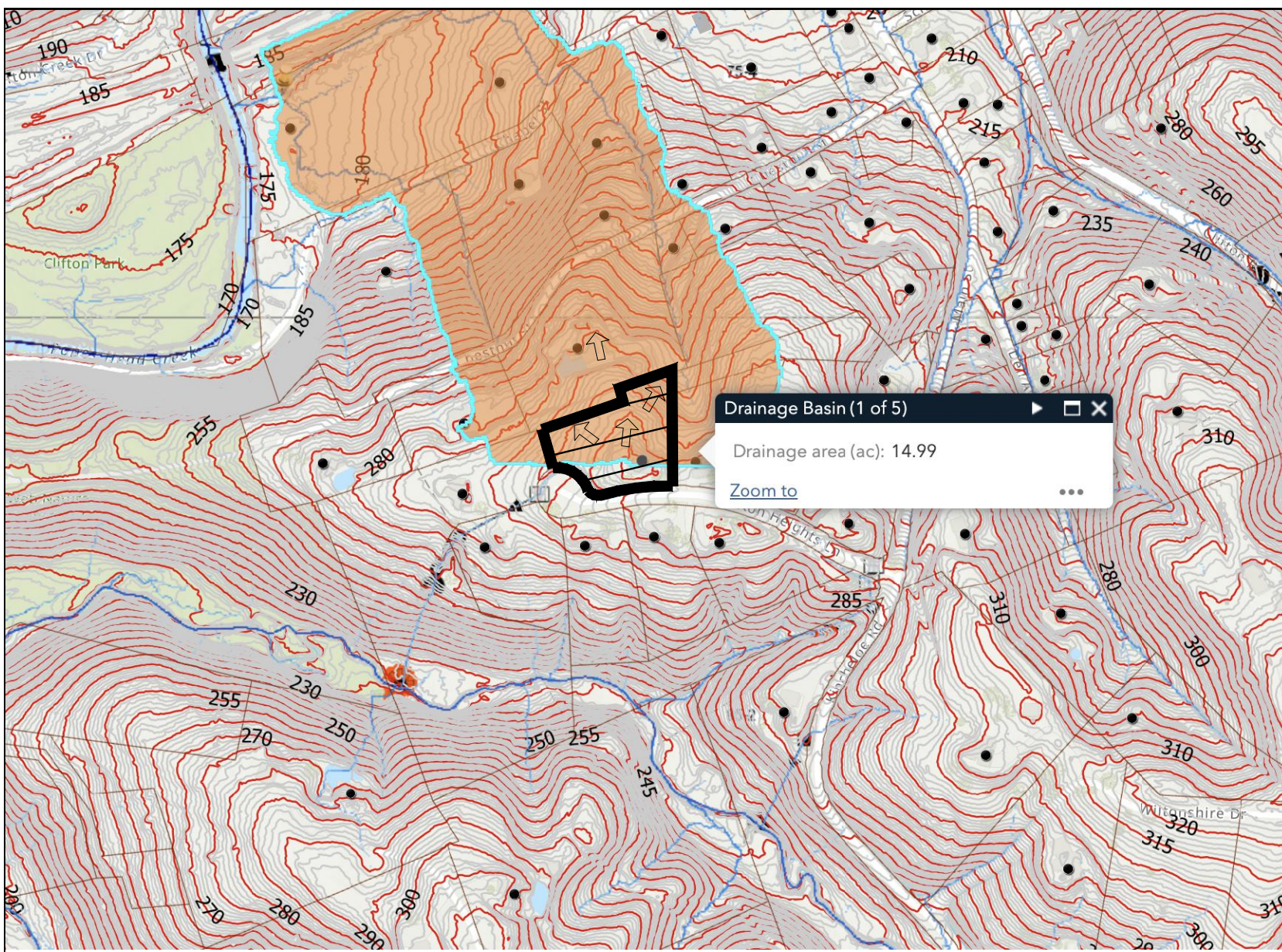
Firm Name and Address

LAND | Engineering, plc
11350 Random Hills Road
Suite 800 - PMB #27
Fairfax, Virginia 22030
T (703) 279 6424
F (703) 591 3049
www.landengineeringplc.com

Project Name and Address

CLIFTON HEIGHTS LOT 4 POOL
PLAN OF DEVELOPMENT
12726 CLIFTON HEIGHTS LANE
CLIFTON, VA 20124
FAIRFAX COUNTY, VIRGINIA
SPRINGFIELD DISTRICT

Plan	Sheet
NOTES AND DETAILS	
Date	NOVEMBER 2021
Scale	AS NOTED



OVERALL DRAINAGE MAP
1"=300'



12726 CLIFTON HEIGHTS LANE – POOL			
TOTAL LOT AREA:	43962		1.009
"A" S.F.			AC.
IMPERVIOUS COVER SUMMARY			
	PRE-DEV	POST-DEV	
BUILDINGS:	2796	2796	
PORCH:	437	437	
DRIVEWAY:	1925	1925	
PATIOS/WALKWAYS:	496	1714	
POOL/SPA:	0	800	
TOTAL:	5,654	7,672	
(ACRES)	0.1298	0.1761	0.0463
% IMPERVIOUS RUNOFF CURVE NUM.	12.9	17.5	
Forest/Open Space (Composted Soil)	CN = 55	55	
	A = 0	0	Ac.
Man. Turf	CN = 61	61	
	A = 0.879	0.833	Ac.
	CN = 98	98	
	A = 0.130	0.176	Ac.
SITE CN	= 65.8	67.5	

ADEQUATE OUTFALL

(SEE OVERALL DRAINAGE MAP, THIS SHEET)

RUNOFF FROM THE SITE DRAINS NORTHEAST-WARD AND NORTHWEST-WARD AND CONTINUES TOWARD A STREAM WHICH DRAINS DIRECTLY INTO THE POPES HEAD CREEK STREAM SYSTEM. NATURAL DRAINAGE DIVIDES ARE HONORED FOR ALL RUNOFF LEAVING THE SITE. (PFM 6-0202.2).

THE 2-YEAR STORM PEAK RUNOFF INCREASES BY 0.11 CFS AND THE 10-YEAR STORM PEAK RUNOFF INCREASES BY 0.20 CFS. THE FLOWS AND VELOCITIES REMAIN WITHIN ACCEPTABLE CHANNEL LIMITS. THE FLOW CHANGE RESULTS IN NO DISCERNIBLE CHANGE TO THE WATER SURFACE ELEVATION OR CHANNEL VELOCITY.

THE POST-DEVELOPMENT VOLUMES OF SHEET FLOW DRAINS TO THE EXISTING CONVEYANCE SYSTEMS AND CAUSES NO HARM TO ADJACENT PROPERTIES, IN ACCORD WITH CHAPTER 124 SECTION 4-4-E.

WATER QUALITY REQUIREMENTS OF TOWN CODE SECTION 11-12 ARE MET BY THE PURCHASE OF NON-POINT NUTRIENT CREDITS. THE CREDIT AVAILABILITY LETTER CAN BE FOUND ON PLAN SHEET 2, AND THE COMPUTATIONS ARE PRESENTED ON THIS SHEET.

THE SITE DISCHARGE HAS BEEN EVALUATED AT EACH OUTFALL, AND WILL CAUSE NO ADVERSE IMPACTS TO DOWN-GRADIENT PROPERTIES. THE SHEET FLOW WILL NOT CAUSE OR CONTRIBUTE TO EROSION, SEDIMENTATION, OR FLOODING OF DOWN-GRADIENT PROPERTIES OR RESOURCES. (PFM 6-0202.2A(1))

IT IS THE OPINION OF THE ENGINEER THAT REQUIREMENTS FOR THE ADEQUACY OF THE DOWNSTREAM DRAINAGE SYSTEM HAVE BEEN MET; AND IT IS OUR PROFESSIONAL OPINION THAT NO ADJACENT OR DOWNSTREAM PROPERTIES WILL SUFFER ADVERSE IMPACTS DUE TO THIS PROPOSED DEVELOPMENT ACTIVITY.

PEAK FLOW CALCULATIONS	
Pre-Development Site Conditions	Post-Development Site Conditions
DA(square feet)= 43,962 S.F.	DA(acres)= 1.009 Ac.
DA(mi²)= 0.00158 Sq. Mi.	DA(mi²)= 0.00158 Sq. Mi.
CN = (all storms) 65.8	CN = (Adjusted, 1 Year) 67.5
Tc= 0.0833 hrs	CN = (Adjusted, 2 Year) 67.5
S=1000/CN-10= 5.198	CN = (Adjusted, 10 Year) 67.5
la=0.2S	Tc= 0.0833 hrs
S=1000/CN-10= 4.815	S=1000/CN-10= 4.815
S=1000/CN-10= 4.815	S=1000/CN-10= 4.815
1 Year = 3.17 in.	la (1 Year)=0.2S 0.9630
2 Year = 4.87 in.	la (2 Year)=0.2S 0.9630
10 Year = 4.87 in.	la (10 Year)=0.2S 0.9630
Q = ((P-0.2S)²)/((P+0.8S))	1 Year = 0.37 in.
1 Year = 0.62 in.	2 Year = 0.62 in.
2 Year = 1.63 in.	10 Year = 1.63 in.
Pre-Development Peak Discharge, cfs	q=qu*Am*Q*Fp
1 Year = 0.58 cfs	Fp = Pond / Swamp factor = 1.0
2 Year = 0.98 cfs	qu = 1000 per TR-55, Exhibit 4-11
10 Year = 2.56 cfs	1 Year = 0.67 cfs
	2 Year = 1.09 cfs
	10 Year = 2.76 cfs

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

BMP Design Specifications List: 2013 Draft Stds & Specs

Site Summary

Project Title: Hill Pool - 12726 Clifton Heights Lane (DISTURBED AREA ONLY)

Date: 44491	Total Rainfall (in):	43
	Total Disturbed Acreage:	0.18

Site Land Cover Summary

Pre-Development Land Cover (acres)	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)					0.00	0
Managed Turf (acres)		0.18			0.18	100
Impervious Cover (acres)		0.00			0.00	0
					0.18	100

Post-ReDevelopment Land Cover (acres)

Post-ReDevelopment Land Cover (acres)	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)					0.00	0
Managed Turf (acres)		0.14			0.14	78
Impervious Cover (acres)		0.04			0.04	22
					0.18	100

Site Tv and Land Cover Nutrient Loads

	Final Post-Development (Post-ReDevelopment & New Impervious)	Post-ReDevelopment	Post-Development (New Impervious)	Adjusted Pre-ReDevelopment
Site Rv	0.37	0.20	0.95	0.20
Treatment Volume (ft³)	240	102	138	102
TP Load (lb/yr)	0.15	0.06	0.09	0.06

Pre-ReDevelopment TP Load per acre (lb/acre/yr)	Final Post-Development TP Load per acre (lb/acre/yr)	Post-ReDevelopment TP Load per acre (lb/acre/yr)
0.46	0.84	0.46

Total TP Load Reduction Required (lb/yr)	0.08	0.01	0.07
--	------	------	------

	Final Post-Development Load (Post-ReDevelopment & New Impervious)	Pre-ReDevelopment
TN Load (lb/yr)	1.08	0.59

Site Compliance Summary

Maximum % Reduction Required Below Pre-ReDevelopment Load	10%
---	-----

Total Runoff Volume Reduction (ft³)	0
Total TP Load Reduction Achieved (lb/yr)	0.00
Total TN Load Reduction Achieved (lb/yr)	0.00
Remaining Post Development TP Load (lb/yr)	0.15
Remaining TP Load Reduction Required	0.08

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres)	0.14	0.00	0.00	0.00	0.00	0.14
Impervious Cover (acres)	0.04	0.00	0.00	0.00	0.00	0.04
Total Area (acres)	0.18	0.00	0.00	0.00	0.00	0.18

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
TN Load Reduced (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

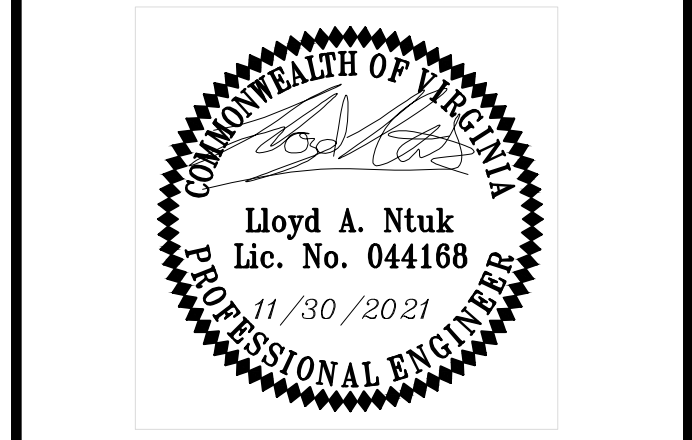
Runoff Volume and CN Calculations

Target Rainfall Event (in)	1-year storm	2-year storm	10-year storm
	2.62	3.17	4.87

Drainage Areas	RV & CN	Drainage Area A	Drainage Area B	Drainage Area C	Drainage Area D	Drainage Area E
CN		69	0	0	0	0
RR (R3)		0	0	0	0	0
1-year return period	RV w/ RR (ws-in)	0.48	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	0.48	0.00	0.00	0.00	0.00
	CN adjusted	69	0	0	0	0
2-year return period	RV w/ RR (ws-in)	0.76	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	0.76	0.00	0.00	0.00	0.00
	CN adjusted	69	0	0	0	0
10-year return period	RV w/ RR (ws-in)	1.86	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	1.86	0.00	0.00	0.00	0.00
	CN adjusted	69	0	0	0	0

General Notes

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- TO THE BEST OF THIS FIRM'S KNOWLEDGE, NO GRAVE SITES EXIST ON THE PROPERTY WITHIN THE PROPOSED LIMITS OF DISTURBANCE.
- CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE IN ACCORDANCE WITH BUILDING CODE.
- ALL DAMAGES TO THE EXISTING ROADWAY WITHIN THE RIGHT-OF-WAY AS A RESULT OF THIS PLAN'S GRADING ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR AND SHALL BE RESTORED TO THE SATISFACTION OF THE VIRGINIA DEPT. OF TRANSPORTATION.
- CONTRACTOR SHALL VERIFY ALL GRADES WITHIN PROJECT SITE PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY LAND ENGINEERING OF ANY DISCREPANCIES BETWEEN FIELD ELEVATIONS AND ELEVATIONS SHOWN ON THIS PLAN.



No.	Revision/Issue	Date

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 11350 Random Hills Road
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 Fairfax, Virginia 22030
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 www.landengineeringplc.com

Project Name and Address
CLIFTON HEIGHTS LOT 4 POOL PLAN OF DEVELOPMENT
 12726 CLIFTON HEIGHTS LANE
 CLIFTON, VA 20124
 FAIRFAX COUNTY, VIRGINIA
 SPRINGFIELD DISTRICT

Plan	Sheet
DRAINAGE & OUTFALL	
Date	NOVEMBER 2021
Scale	AS NOTED

September 29, 2021

LAND | Engineering, plc
 11350 Random Hills Road, Suite 800
 Fairfax, VA 22030

Attn: Lloyd A. Ntuk, PE, LEED AP, Principal

Subject: Class I/II/IVB Limited Geotechnical Investigation & Report
 (Swimming Pool)

Project: Residence Improvements
 Swimming Pool Addition
12726 Clifton Heights Lane, Clifton, VA 20124
AFS Geo Project No. VA21045

Gentlemen,

AFS Geo Consultants, LLC ("AFS Geo") is pleased to have the opportunity to submit this limited geotechnical engineering report for the above referenced project.

Scope

This limited geotechnical report provides an evaluation of the subsurface and groundwater conditions within the rear yard, where a swimming pool, with a maximum depth of 6 feet, is planned. Further, this limited geotechnical report also provides general earthwork recommendations and construction considerations for construction of the swimming pool, its deck, and other associated site improvements.

It is our understanding that the maximum depth of the swimming pool will be about 6 feet. The pool deck is planned at about El 298.20, which results in a lowest pool bottom elevation at about El 292.20.

Field Investigation

This geotechnical study is based on the results of two recent hand-auger test borings (designated **P-1** and **P-2**) drilled within the footprint of the proposed swimming pool. The field investigation/testing was conducted on September 14, 2021. Dynamic Cone Penetration (DCP) testing was performed, per ASTM STP 399, at the locations and depths indicated on the boring logs. Small disturbed/bag samples were obtained from the hand-auger borings and were transported to our offices/laboratory for further examination and testing. Visual classifications were made using the methods described in ASTM D-2488, and may not match classifications determined by laboratory testing per ASTM D-2487.

The test borings were drilled within accessible areas (i.e., away from concrete/asphalt surfaces and heavily wooded areas) outside the footprint of the existing building. The field boring locations were established by AFS Geo's representative using the site plan provided by the Client and using the existing building as a reference. A formal location and elevation survey for the hand-auger test borings was not performed for this study.

Groundwater monitoring pipes were installed in Boring Nos. **P-1**, and **P-2**, as indicated on the attached boring logs. Groundwater level observations were made in the monitoring pipes up to 24 hours following the completion of the test boring drilling. The hand-auger test borings were backfilled upon completion, or after the removal of the groundwater observation pipes, as applicable.

The locations of the hand-auger test borings are shown on the attached Boring Location Plan. The hand-auger test boring logs are also attached at the end of this report.

Site Geology

The site is mapped as Glenelg Silt Loam (39), Meadowville Loam (78), and Urban Land – Wheaton Complex (101) on the Fairfax County Soils Map. Soil type (39) is characterized with good soil drainage, high erosion potential, and good foundation support. Soil type (78) is characterized with marginal soil drainage, medium erosion potential, and fair foundation support. Soils Map. Soil type (101) is characterized with fair soil drainage, high erosion potential, and good foundation support

Geologically, the site is located within the Piedmont Physiographic Province and is generally underlain by deep residual soils, derived from in-place chemical and physical weathering of the underlying ~~granular~~ existing fill, which is believed to be related to the previous developments at the site, was not encountered in any of our test borings but may be present in some areas.

Subsurface and Groundwater Conditions

Hand-auger test boring Nos. **P-1** & **P-2** generally encountered fine-grained natural residual soils classified primarily as SILT (ML), and sandy SILT (ML). Hand-auger test boring Nos. P-1 and P-2 were terminated at the planned depth of **10.00** feet each.

Highly plastic/expansive clay, or silt, soils (classified as CH and MH per ASTM D-2487 with a Liquid Limit greater than 50) were not encountered in any of our test borings.

Groundwater was not encountered during, upon completion of, and up to 24 hours following the completion of, the hand-auger drilling. However, the bottom of both borings was detected to be wet 24 hours following the completion of, the hand-auger drilling.

The groundwater observations presented in this report are considered to be an indication of the ground water levels at the dates and times indicated on the boring logs. Fluctuations in ground water levels should be expected with seasons of the year, construction activity, changes to surface grades, precipitation, or other similar factors.

Recommendations & Construction Considerations

The project involves the construction of a 6-ft deep swimming pool addition within the rear yard. The pool's deck planned at about El 298.20. The lowest pool bottom elevation of the pool is planned at about El 292.20.

Based on the results of the field investigation and laboratory testing programs, performed within the footprint of the proposed swimming pool, it is our professional opinion that the natural residual soils encountered in our field investigation are suitable for the construction and support of the proposed swimming pool.

We recommend that the pool's earth-supported bottom slab be designed based on a subgrade reaction modulus of, K01, of 100 tons per cubic feet (tcf) on the natural residual soils. Note that this value is based on a 1-foot diameter plate and should be corrected, as appropriate, based on the actual size of the slab's bearing/reaction area. If the design of the pool's earth-supported bottom slab is to be based on a classical bearing capacity approach, then a maximum allowable bearing capacity of 2,000 psf may be used in the design of the pool's earth-supported bottom slab on the natural residual soils.

The swimming pool' subgrade should be observed and approved prior to placement of the drainage aggregate and/or the concrete for the bottom slab, to ascertain that the pool's slab is placed on suitable bearing soils as recommended herein.

We recommend the installation of a subdrainage system consisting of a 6-inch gravel layer (e.g., AASHTO No. 57 or equivalent) beneath the swimming pool's bottom slab and deck, accompanied by sub drainage lines around the pool's perimeter/side walls. The objective of the subdrainage system is to maintain a moisture barrier below the bottom slab and to handle water around the perimeter/side walls. It is also recommended that an impervious membrane be installed below the drainage layer and on top of the excavated subgrade.

The piping for the sub drainage lines should consist of a minimum 4-inch diameter corrugated polyethylene tubing according to ASTM F-405 with maximum slot width of 1/8 inch. A minimum of 6 inches of free-draining crushed stone material (VDOT NO. 57 stone), or washed gravel, should be placed around the pipe. The free-draining material should be wrapped in a nonwoven filter fabric with an equivalent opening size (EOS) not larger than the No. 70 U.S. standard sieve size.

The side walls of the swimming pool should be designed to resist lateral earth pressures developed from the surrounding soils/backfill. Based on the fined-grained nature of the majority of the soils encountered in the test borings, we recommend that all below grade walls be designed based on an equivalent fluid pressure of 60H PCF, where H is the wall height in feet. This recommended lateral earth pressure should be suitable for building walls backfilled with soils classified as ML, or more granular ASTM D-2487. The liquid limit of the backfill should not exceed 40, and the plasticity index should not exceed 15.

A lower equivalent fluid pressure of 45H PCF should, however, be used for walls backfilled with select granular soils classified as SM, SC, SP, or more granular. The liquid limit of the select granular backfill should not exceed 40, and the plasticity index should not exceed 15.

The above recommended equivalent pressure/lateral pressure values are based on the assumptions that drainage will be provided behind the side walls below the pool's bottom slab. Therefore, we did not include hydrostatic pressures due to groundwater, or perched water conditions, in our recommended lateral earth pressure values.

Drainage behind the pool's side walls may be provided by means of vertical prefabricated drainage panels, or a 12-inch wide drainage layer, placed directly behind the wall. The prefabricated drainage panel, if used, shall have a permeable geotextile fabric affixed to the earth side of the panel. Acceptable drainage panel products include MIRADRAIN 6000, or equivalent. The geotextile fabric shall have an equivalent opening size (EOS) not larger than the No. 70 U.S. standard sieve size. The drainage layer may consist of open-graded crushed stone (i.e., VDOT No. 57 crushed aggregate), washed gravel, or other acceptable free-draining material, as approved by the geotechnical engineer. The drainage material may be eliminated if the walls are backfilled with a free-draining backfill (e.g., VDOT No. 57 crushed aggregate).

Materials classified as CH or MH are considered unacceptable for use as backfill behind below-grade walls. Materials classified as CL may be used as backfill behind below-grade walls, as long as it contains at least 30% sand and gravel and the walls are designed for an equivalent fluid pressure of 60H PCF.

The backfill should be compacted in 8-inch thick lifts to at least 95% of the maximum dry density per ASTM D-698. A reduced lift thickness of 4 inches should be utilized if light-weight/hand-held equipment is used in the compaction (i.e., near the wall face).

General and Limitations

The recommendations given in this report are based on the relatively limited number of hand-auger test borings performed at the locations indicated on the attached boring location plan. This report does not reflect any variations between test boring locations which may not become evident until during construction. Therefore, it is essential that on-site observations be performed, by a registered geotechnical engineer, during the construction phase to verify that the soil conditions are as anticipated by this report and that the swimming pool's bottom slab has been installed in accordance with the recommendations included in this report.

An allowance should be established for additional costs that may be required for foundation and earthwork construction as recommended in this report. Additional costs may be incurred for various reasons including difficult excavation, construction dewatering, unsuitable soil/fill, wet soil/fill materials, soft subgrade conditions, obstructions, debris, old foundations, existing utilities, etc.

Changes in proposed construction and/or grading plans should be brought to our attention so that we may determine any effect on the recommendations presented herein.

Should the data contained in this report not be adequate for the contractor's purposes, the contractor may make their own investigations, tests and analyses prior to bidding.

We recommend the project specifications contain the following statement:

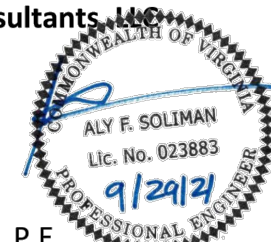
"A geotechnical engineering report has been prepared for this project by **AFS Geo Consultants, LLC**. This report is for informational purposes only and should not be considered part of the contract documents. The opinions expressed in this report are those of the geotechnical engineer and represent their interpretation of the subsoil conditions, tests and results of analyses that they performed. Should the data contained in this report not be adequate for the contractor's purposes, the contractor may make their own investigations, tests and analyses prior to bidding."

We have prepared this limited geotechnical report in accordance with generally accepted geotechnical engineering practices. No warranties, expressed or implied, are made as to the professional services provided herein.

We appreciate the opportunity to submit this report to you. Please contact the undersigned should you have any questions regarding this report.

Yours Sincerely,

AFS Geo Consultants, LLC



Aly F Soliman, P.E.
 Chief Geotechnical Engineer

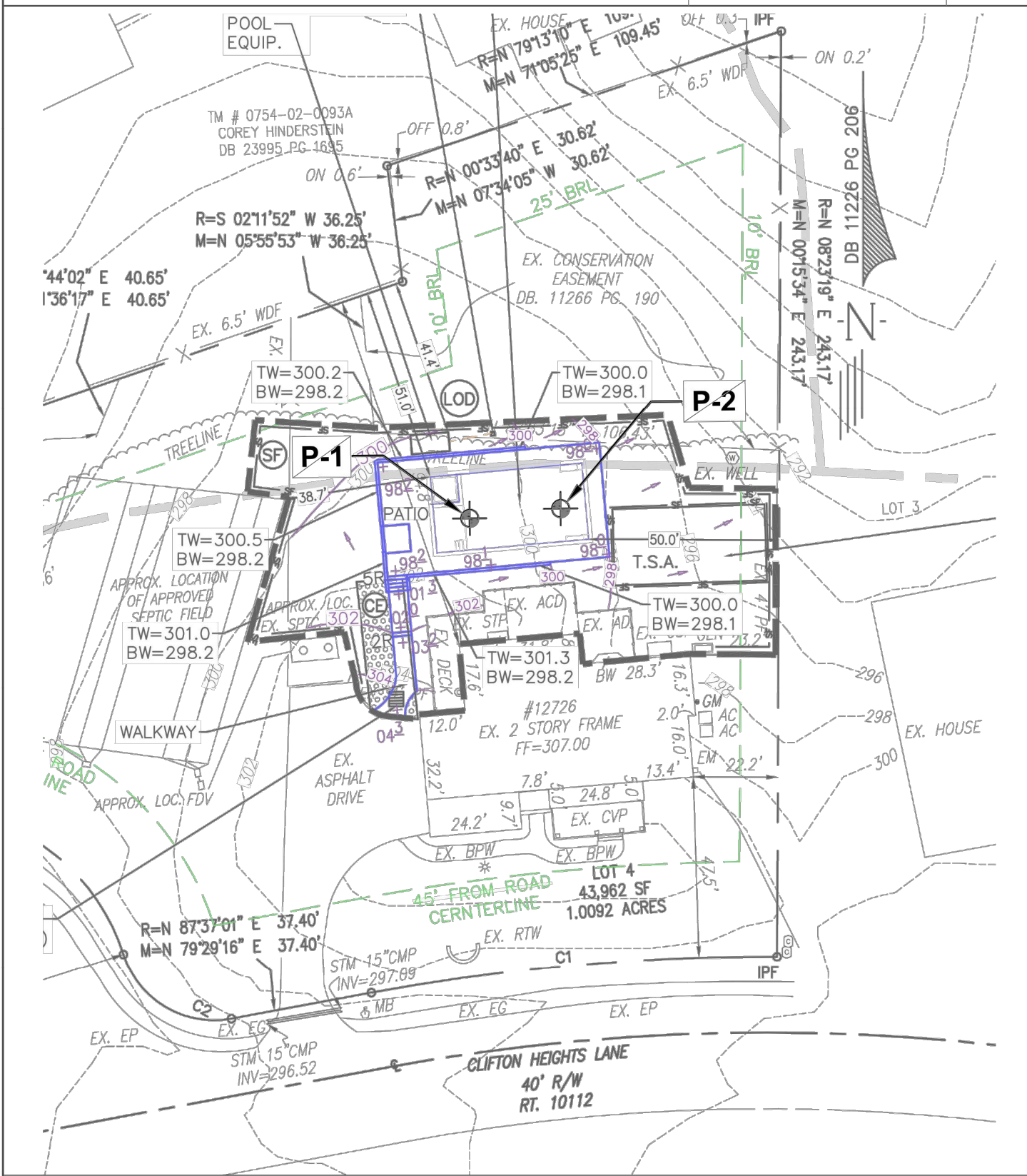
General Notes		
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6.	CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE IN ACCORDANCE WITH BUILDING CODE.	
7.	ALL DAMAGES TO THE EXISTING ROADWAY WITHIN THE RIGHT-OF-WAY AS A RESULT OF THIS PLAN'S GRADING ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR AND SHALL BE RESTORED TO THE SATISFACTION OF THE VIRGINIA DEPT. OF TRANSPORTATION.	
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No.	Revision/Issue	Date

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 12726 CLIFTON HEIGHTS LANE
 CLIFTON, VA 20124
 FAIRFAX COUNTY, VIRGINIA
 SPRINGFIELD DISTRICT

Plan GEOTECHNICAL REPORT	Sheet 6 OF 9
Date NOVEMBER 2021	
Scale N/A	

Subject: Boring Location Plan (N.T.S) Date: 09/16/2021 By: AAA Page
 Project: VA21045 12726 Clifton Heights Lane, Clifton, VA 20124 Rev.: By:



AFS Geo Consultants, LLC Hand Auger Log

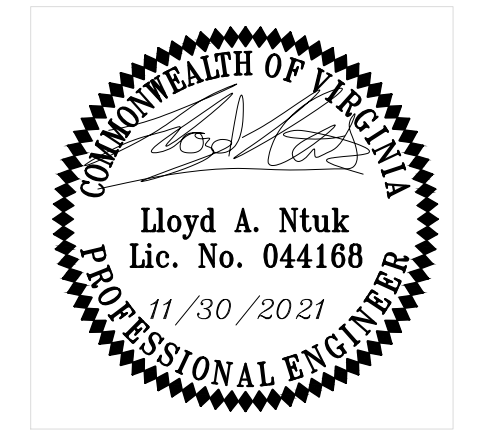
Project: 12726 Clifton Heights Lane		Project Number: VA21045	Client: LAND Engineering, plc	Test Hole No. (Rear): P-2
5543 Oakwood Drive		Groundwater Level Readings:		
12726 Clifton Heights Lane, Clifton, VA 20124		During Hand Augering: DRY		
Logged By: AAA		Started: 9/14/2021	After Completion: 9/14/2021	DRY
Reviewed By: AFS		Completed: 9/14/2021	After Completion: 9/15/2021	DRY WET BOTTOM 30 Minutes 1 Day
Bakfilled:		Ground Surface Elevation: 300.00 ±		

Depth (feet)	Sample Type	Sample Number	DCP Blow Counts (blows/1.75 inches)	Graphic Log	Material Description	Moisture Content (%)	% Passing the #200 Sieve	Liquid Limit
1	S-1				2" Topsoil			
1	S-2				Dark brown sandy SILT (ML), moist, contains roots.			
2	S-3				Reddish brown SILT (ML), moist, contains rock fragments.			
3	S-4				Brownish yellow below 6 feet.	23.4		
4	S-5	16, 19, 20						
5	S-6							
6	S-7							
7	S-8				Gravel = 5.2%	9	61.6	42
8	S-9	16, 26, 24						
9	S-10				Hand auger hole terminated at 10.00 ft. Installed a solid 3" PVC pipe for groundwater monitoring.	EL 290		

Standard Penetration Split Spoon Sampler (SPT) DCP Dynamic Cone Penetration Test
 Disturbed Soil Sample Ground water at Completion
 Shelby Tube Groundwater At time of Drilling

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AFS Geo Consultants, LLC Hand Auger Log

Project: 12726 Clifton Heights Lane		Project Number: VA21045	Client: LAND Engineering, plc	Test Hole No. (Rear): P-1
5543 Oakwood Drive		Groundwater Level Readings:		
12726 Clifton Heights Lane, Clifton, VA 20124		During Hand Augering: DRY		
Logged By: AAA		Started: 9/14/2021	After Completion: 9/14/2021	DRY
Reviewed By: AFS		Completed: 9/14/2021	After Completion: 9/15/2021	DRY WET BOTTOM 30 Minutes 1 Day
Bakfilled:		Ground Surface Elevation: 300.00 ±		

Depth (feet)	Sample Type	Sample Number	DCP Blow Counts (blows/1.75 inches)	Graphic Log	Material Description	Moisture Content (%)	% Passing the #200 Sieve	Liquid Limit
1	S-1				2" Topsoil			
1	S-2				Reddish brown sandy SILT (ML), moist, contains roots.			
2	S-3				Brownish yellow sandy SILT (ML), moist, contains rock fragments.	26	68.5	
3	S-4	14, 19, 21						
4	S-5	10, 13, 20						
5	S-6							
6	S-7				Gravel = 0.4%	15	71.3	34
7	S-8	15, 17, 17						
8	S-9				Hand auger hole terminated at 10.00 ft. Installed a solid 3" PVC pipe for groundwater monitoring.	EL 290		
9	S-10							

Standard Penetration Split Spoon Sampler (SPT) DCP Dynamic Cone Penetration Test
 Disturbed Soil Sample Ground water at Completion
 Shelby Tube Groundwater At time of Drilling



Summary of Soil Laboratory Test Results
 12726 Clifton Heights Lane, Clifton, VA 20124
 AFS Geo Project No. VA21045

Boring No.	Sample No.	Sample Depth (ft)	Soil Classification USCS	Amount Passing No. 200 Sieve %	Amount Retained on No. 4 Sieve %	Natural Moisture Content %	Liquid Limit, LL	Plastic Limit, PL	Plasticity Index, PI	Comments
P-1	S-6	5-6		68.5	0	26				
P-1	S-9	8-9	ML	71.3	0.4	15	34	32	2	
P-2	S-6	5-6				23.4				
P-2	S-9	8-9	ML	61.6	5.2	9	42	38	4	

Laboratory Testing Performed by Dulles Engineering, Inc.

No.	Revision/Issue	Date
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Project Name and Address
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 PLAN OF DEVELOPMENT
 12726 CLIFTON HEIGHTS LANE
 CLIFTON, VA 20124
 FAIRFAX COUNTY, VIRGINIA
 SPRINGFIELD DISTRICT

Plan: GEOTECHNICAL DATA
 Date: NOVEMBER 2021
 Scale: N/A
 Sheet: 7 OF 9



EXISTING VEGETATION MAP LEGEND:

- COVER TYPE 2 - UPLAND FOREST
- COVER TYPE 5 - DEVELOPED LAND
- COVER TYPE 6 - MAINTAINED GRASSLANDS
- COVER TYPE 9 - LANDSCAPED TREE CANOPY

TREE PRESERVATION NOTE - Tree Preservation Target Calculations and Statement and 10-Year Tree Canopy Calculations

This grading plan is associated with addition of a pool and associated improvements to existing residential structure that present a minor threat to existing tree resources.

Tree Preservation Target Calculations and Statement and 10-Year Tree Canopy Calculations have not been included in this plan.

Existing vegetation map and Tree Conservation Plan and Narrative have been provided to ensure existing tree resources on site are protected to the greatest extent possible.

Existing Vegetation Map Summary Table - 12726 Clifton Heights Lane						
Cover Type	Primary Species	Successional Stage	Condition	ft ²	Acreage	Comments
2	eastern black cherry, eastern red cedar, tulip tree, tree of heaven	sub climax	good	17166	0.39	COVER TYPE 2 - Upland Forest. Mature trees within this cover type are in the sub-climax successional stage and range in size from pole to 25" dbh. Dominant overstory species Dominant species include black cherry, eastern red cedar, tulip tree, tree of heaven. Desirable hardwood regeneration (seedling) is present in low quantities. Overall condition and health of the stand is rated good. Should vegetation within this cover type be preserved it may be used toward meeting 10-YR canopy requirements.
5	N/A	N/A	N/A	5814	0.13	Areas of constructed features including buildings, parking and roadways.
6	N/A	N/A	N/A	14697	0.34	Grassed and landscaped areas, athletic fields or other green areas devoid of natural vegetation.
9	common crapemyrtle, kousa dogwood, n. red oak, river birch, red maple	young forest/sub climax	good	6285	0.14	COVERTYPE 9 - Landscaped tree canopy. Tree canopy established through the planting of nursery stock that is not part of the natural landscape. Trees within the cover type are in the young forest and sub climax successional stage. Dominant species include common crapemyrtle, kousa dogwood, n. red oak, river birch, red maple. Overall condition and health of the stand is rated good. Should vegetation within this cover type be preserved it may be used toward meeting 10-YR canopy requirements.
Total Acreage				43962	1.01	

TREE CONSERVATION NARRATIVE/NOTES

- All work performed shall meet or exceed industry standards as most recently published by the International Society of Arboriculture (ISA), American National Standards Institute (ANSI), or the Tree Care Industry Association (TCIA). In the event treatments prescribed are not covered by an existing standard, work shall meet or exceed standards approved by Fairfax Urban Forest Management Division (UFMD).
- A professional ISA certified arborist should be obtained to ensure proper implementation of the tree preservation plan. The certified professional should be an independent consultant and referred to as the "Project Arborist". See "Arborist monitoring schedule" for requirements.
- All construction activity beyond the limits of clearing and grading shown on the tree conservation plan shall be prohibited unless previously approved by UFMD. The storage of equipment, materials, chemicals, and debris as well as vehicular traffic or the parking of vehicles shall not be permitted within tree preservation areas.
- All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees, shall be erected at the limits of clearing and grading adjacent to the tree preservation areas as shown on the phase I & II E&S sheets.
- Signs stating, "tree preservation area - keep out" shall be affixed to the tree preservation fence at least every 50 feet. Signs shall alternate between English and Spanish.
- Root pruning shall be performed as needed to meet the requirements of the approved tree conservation plan. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the respective public improvement/site plan submission. The details for these treatments shall be reviewed and approved by UFMD, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:
 - Root pruning shall be done with a trencher, vibratory plow or air excavation to a depth of 18-24 inches.
 - Root pruning shall take place prior to any clearing and grading.
 - Root pruning should be completed under the direct supervision of Project Arborist. See "Arborist monitoring schedule" for requirements.
- Mulching - Trees indicated for mulching in the approved tree conservation plan shall be mulched. Hardwood chips from clearing operation or shredded mulch shall be applied at a depth of 3-4 inches and only within 2-3 feet of the limits of disturbance. Chips shall not touch base of trees to be preserved within tree save areas. Loader or similar equipment is permitted to dump chips over tree protection fencing under direction of Project Arborist. Mulch distribution locations should be determined by Project Arborist and shall be located as to minimize damage to soil, herbaceous plants, understory vegetation, low hanging limbs, and significant vegetation in the tree preservation area. Mulch placed into tree save areas shall be spread by hand and no machinery may enter tree save area to assist with distribution of mulch.
- All tree preservation related work occurring in or adjacent to tree preservation areas such as root pruning, installation of tree protection fencing and silt control devices; removal of trash and debris; or extraction of trees designated to be removed to eliminate hazardous conditions shall be performed in a manner that minimizes damage to trees, understory shrubs, herbaceous plants, leaf litter, root systems and soil conditions. Removal of any vegetation or soil disturbance in tree preservation areas, including the removal of plant species that may be perceived as noxious or invasive, such as poison ivy, greenbrier, multi-floral rose, etc. shall be prohibited subject to the review and approval by UFMD. The use of equipment in tree preservation areas will be limited to hand-operated equipment such as chainsaw, wheel barrows, rake and shovels. Any work that requires the use of equipment, such as skid loaders, tractors, trucks, stump-grinders, etc., or any accessory or attachment connected to this type of equipment shall be prohibited subject to review and approval by UFMD.
- Trees designated in the approved tree conservation plan for "hand removal" are trees located on or just outside the limits of clearing and grading or within tree save areas. Tree designated as such shall be removed using a chainsaw to avoid damage to surrounding trees and understory vegetation to be preserved within the tree save area. Motorized equipment may not enter tree save areas to assist with removal. If a stump must be removed, this shall be done using a stump-grinding machine in a manner that causes as little disturbance as possible to adjacent trees, vegetation and soil conditions. Project Arborist should be on-site to monitor all stump grinding operations. See "Arborist monitoring schedule" for requirements.
- Trees located outside the limits of clearing and within areas designated to be preserved that have been pre-identified on approved tree preservation plans as "dead", "poor condition" or "potential hazard" shall be evaluated by the Project Arborist, UFMD (or alternative staff as determined by the director) during the pre-construction walk-through for removal during the development site's initial land clearing operations.
- If trees become hazardous or a maintenance nuisance due to the introduction of a target such as a structure, open space frequented by people, or other improvement, removal of these trees shall be required at discretion of UFMD or Project Arborist.

TREE CONSERVATION PLAN - PHASING NARRATIVE

- Pre-construction**
- Prior to the pre-construction meeting the limits of clearing shall be flagged on site.
 - Areas shown on the approved plans to be preserved that do not contain significant vegetation shall be reviewed on site. If warranted, approval from the director for an exemption from preservation and protection requirements shall be determined at this time.
 - Trees located outside of the limits of clearing and within areas designated to be preserved that have been pre-identified on approved tree preservation plans as "dead", "poor condition" or "potential hazard" shall be evaluated by the Project Arborist, UFMD (or alternative staff as determined by the director) during the pre-construction walk-through for removal during the development site's initial land clearing operations.
 - If during the preconstruction walk-through, or during any other inspection of the site, UFMD identifies additional trees that have become hazardous or a maintenance nuisance due to the introduction of a target such as a structure, open space frequented by people, or other improvement, removal of these trees shall be required. Trees shall be removed by hand with a chain saw and the stump shall be left in place unless it too is deemed a hazard or a maintenance nuisance. Removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. The removal of the trunk or branches of the felled tree(s) is not required within wooded areas, unless specifically required by the director.
 - If demolition of existing site features is to occur next to trees to be preserved, tree protection measures shall be installed before a demolition permit can be issued.

Initial land clearing operations

- Tree protection devices. The above and below-ground portions of all vegetation shown on approved plan to be preserved within and contiguous to the site shall be protected. Protection devices shall be installed prior to any clearing and grading with heavy equipment as specified in the approved tree conservation plan.
- Root pruning. Prior to land disturbing activities, root pruning with a vibratory plow, trencher, air excavation or other device approved by the director shall be conducted along the limits of clearing adjacent to tree preservation areas where called for in the approved tree conservation plan. (see tree preservation narrative and root pruning detail provided)
- Trees on the edge of the limits of clearing "hand removals" shall be cut down by hand with a chain saw. Remaining stumps shall either be left in place or ground down with a stump grinder.
- Trees approved to be removed by UFMD staff during pre-construction walk-through shall be removed in conjunction with the development site's initial land clearing operation.
- Once clearing is completed and protective devices installed according to the approved phase I erosion and sediment control plan, an inspection shall be requested by the permittee. The phase I clearing and erosion and sediment control devices shall be approved by the director before additional clearing begins.

Construction phase

- Trees and forested areas shall be protected and managed during all phases of construction in accordance with the provisions and site-specific guidance provided within the approved tree conservation plan narrative.
- In addition to protecting trees, the permittee shall protect all understory plants, leaf litter and soil conditions found in the forested areas designated for preservation except as allowed by the approved tree conservation plan and narrative.
- Monitoring: the permittee shall actively monitor the construction site to ensure that inappropriate activities such as storage of construction materials, dumping of debris, and traffic by construction equipment and personnel do not occur within areas shown preserved outside the limits of clearing. See "Arborist monitoring schedule" for requirements.
- Tree protection devices shall be maintained until all work in the vicinity has been completed and shall not be removed or relocated without the consent of the director. If the director deems that the protective devices are insufficient, installation of additional protective devices may be required.
- Any damage inflicted to the above or below-ground portions of the trees shown to be preserved shall be repaired immediately.
- Any portion of the tree preservation area that is disturbed without prior approval of the director shall be mulched immediately with a minimum of 4-inches of wood chips or other suitable material as approved by the director or tree conservation plan narrative.

TREE INVENTORY CERTIFICATION

Per Fairfax County PFM 12-0307.1. All trees with trunks 12 inches or greater in diameter located within 25 feet of the proposed limits of clearing, within the undisturbed area and within 10 feet of the limits of clearing in the disturbed area have been shown and addressed in the Tree Preservation Plan.

Per Fairfax County PFM 12-0307.1B. Dead trees measuring 12 inches or greater in diameter that are located on the proposed development site at a distance of 100 feet or less outside the proposed limits of clearing within the proposed undisturbed area have been identified and addressed in the Tree Preservation Plan.

Limitations of Tree Inventory - Information in these plan notes, inventory and all plans related to trees refer only to trees that are within 25' outside the limits of disturbance or within 10 feet inside the limits of disturbance. The inspection of these trees consists solely of a visual inspection from the ground. No level 3 or advance assessments were performed.

Tree Risk Assessments - No formal tree risk assessments were performed on trees included within this tree inventory or any other trees located on or adjacent to the subject property.

Tree Inventory conducted by Tree Preservation Consultants, LLC. Brian Howard - ISA Certified Arborist MA-4677A

ARBORIST MONITORING SCHEDULE

PROJECT ARBORIST - Independent consultant (ISA Certified Arborist) tasked with oversight, consulting, monitoring, reporting and verification of proper implementation of tree conservation plan.

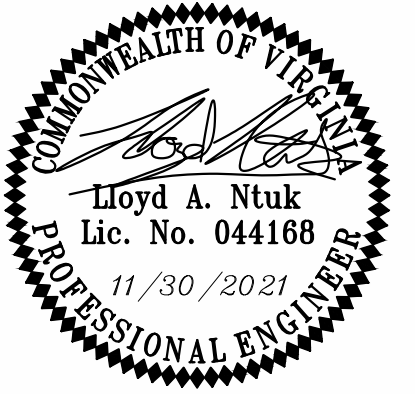
PRE-CONSTRUCTION MEETING - Applicant SHALL retain services of Project Arborist to attend pre-construction meeting.

- SHORT TERM (CRITICAL) MONITORING - Project Arborist SHALL be present on site to monitor "critical" tree preservation activities. Daily monitoring visits are required during:
- root pruning
 - tree removal along LCG
 - tree pruning
 - tree mulching
 - tree protection fencing installation
 - as prescribed by tree conservation plan
 - demolition of existing features within tree save area

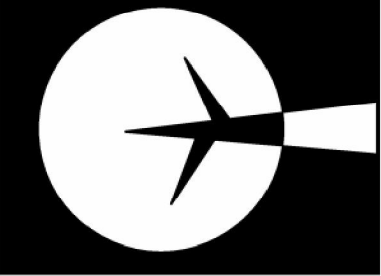
WEEKLY MONITORING - No weekly monitoring required.

LONG TERM ARBORIST MONITORING - No long term monitoring required..

REPORTING REQUIREMENTS - Upon completion of all site visits, Project Arborist SHALL submit written reports to the Fairfax County Environmental and Facilities Inspections Division and Urban Forest Management Division (UFMD).



TREE PRESERVATION CONSULTANTS, LLC
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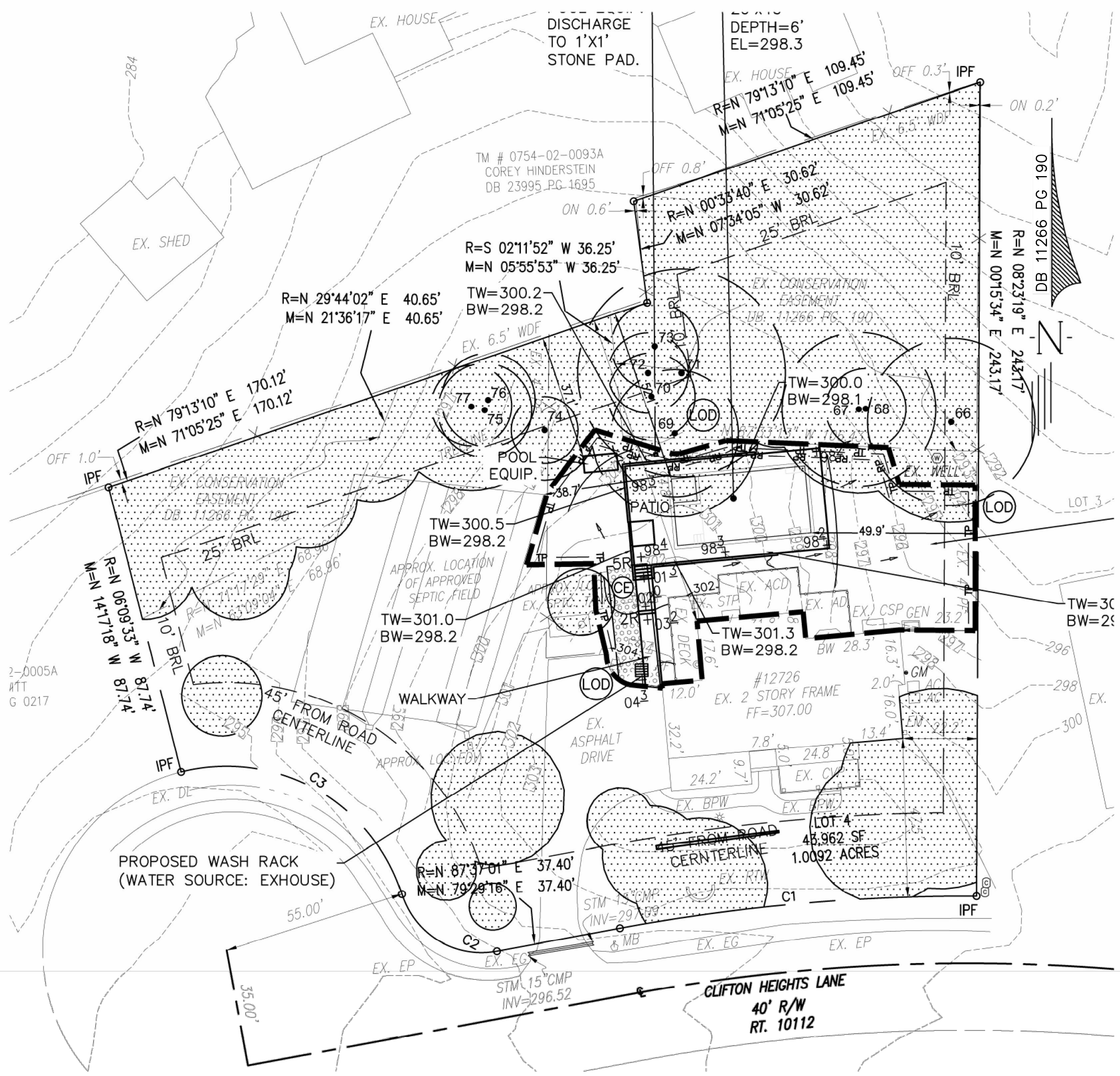


Clifton Heights Lot 4
 Hill Pool Grading Plan
 12726 Clifton Heights Lane
 Clifton, VA 20124
 Springfield District Fairfax County, VA

Existing Vegetation Map
 Tree Conservation Narrative/Notes

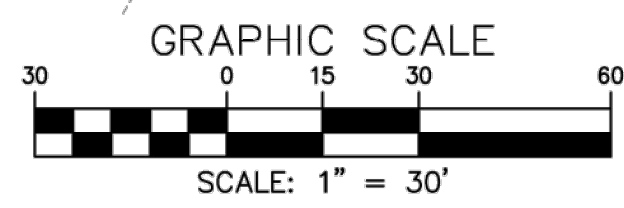


SHEET: 8 OF 9
 SCALE: 1" = 30'
 DATE: Oct. 2021
 DRAWN BY: TPC LLC
 BASELAYER INFO BY: LAND Engineering



TREE CONSERVATION PLAN LEGEND:

- EX. TREE / TREE TO BE REMOVED
- TP TREE PROTECTION FENCE
- RP ROOT PRUNING
- EX. TREE CRITICAL ROOT ZONE
- LIMITS OF DISTURBANCE
- AREA COUNTED TOWARD TREE CANOPY COVERAGE



TREE INVENTORY - 12726 Clifton Heights Lane																							
Tree #	Species	Size	CRZ	SRZ	Condition	Canopy Position	Crown Radius	Crown Density	Dead Tree	Poor Condition	Assessment Obscured	Off Site/Co-Owned	Status	Activities	Root Problems	Trunk Problems	Scaffold Branch Problems	CRZ impacts (critical root zone)	Notes				
		dbh	Critical Root Zone (radius ft)	Structural Rooting Zone (radius ft)	%		Avg. Radius (ft)	%						Tree Protection Fence	Root Prune	Tree Mulching	Vine removal	Monitor/Risk Assess					
66	tulip tree	25	25	8.25	80	Codominant	30	70					PRESERVE	X					girdling	asymmetric crown, deadwood	8%	No significant grade change proposed. Root pruning not recommended.	
67	tulip tree	23	23	7.59	80	Intermediate	25	80					PRESERVE	X	X	X				heavy vines	deadwood	18%	*Tree located within conservation easement.
68	tulip tree	12	12	3.96	75	Suppressed	15	50					PRESERVE	X		X				heavy vines		No impact	*Tree located within conservation easement.
69	tulip tree	19	19	6.27	85	Codominant	25	70					PRESERVE	X	X	X	X				deadwood	37%	High CRZ impact, no impact within SRZ. Attempt to preserve tree. Tree should be evaluated by certified Arborist post construction and inspected long term on a bi-annual basis. *Tree located within conservation easement.
70	eastern red cedar	13	13	4.29	60	Intermediate	15	50					PRESERVE	X		X	X			decay, cavities, unsound wood, heavy vines	asymmetric crown, heavy vines	No impact	Significant trunk decay cavity. Tree should be evaluated by certified Arborist post construction and inspected long term on a bi-annual basis. *Tree located within conservation easement.
71	tulip tree	22,22	31	10.23	75	Codominant	30	70					PRESERVE	X	X	X				multiple leaders, weak crotch, included bark		10%	*Tree located within conservation easement.
72	eastern red cedar	12	12	3.96	60	Codominant	10	30					PRESERVE	X		X				decay, cavities, unsound wood, heavy vines	asymmetric crown, heavy vines	No impact	*Tree located within conservation easement.
73	eastern red cedar	13	13	4.29	75	Intermediate	15	70					PRESERVE	X								No impact	*Tree located within conservation easement.
74	black cherry	10	10	3.3	70	Intermediate	15	60					PRESERVE	X						poor form	asymmetric crown, deadwood	No impact	
75	black cherry	14	14	4.62	75	Codominant	20	70					PRESERVE	X							asymmetric crown	No impact	
76	black cherry	14	14	4.62	65	Codominant	10	50					PRESERVE	X		X				heavy vines	asymmetric crown, heavy vines	No impact	
77	black cherry	12	12	3.96	75	Codominant	25	70					PRESERVE	X		X				heavy vines	asymmetric crown	No impact	

dbh = Diameter at Breast Height (measured 4.5 feet above ground).
 CRZ = Critical Root Zone = 1.0 foot radius per inch of tree diameter. Estimated radius of area containing majority of tree roots. TRZ values for trees with multiple stems were calculated using the diameter of a tree with the basal area equivalent to the sum of the basal areas for all stems.
 SRZ (Structural Rooting Zone). Calculation - dbh x 0.33 = radius feet. Estimated radius of area containing tree roots that must be protected to ensure tree health and structural stability. Impact/root loss within SRZ may result in compromised structure, whole tree failure or decline in health.
 * CONDITION RATING - provided as percentages based on methods outlined in the 10th edition of the Guide for Plant Appraisal, published by the International Society of Arboriculture.
 * DEAD TREE - tree is dead or near dead and will likely not survive long term. No tree canopy credit taken.
 * POOR CONDITION TREE - Tree has been assessed with condition of < 40 or Arborist has determined that tree will likely not survive long term due to poor health, structure or other contributing factors.
 * ASSESSMENT OBSCURED - Proper assessment of root flare, trunk, scaffold branches and leaf/twigs obscured by presence of heavy vines, limited access, or similar obstacle. Condition of these trees is estimated and if preserved may require additional assessment or arboricultural treatments.
 * OFF SITE/CO-OWNED TREE - Tree is either off site or co-owned or definitive ownership could not be determined during initial tree inventory. Ownership shall be determined during pre-construction phase of development. Removal or arboricultural treatment of off site trees is prohibited without written permission from landowner. Location and diameter measurements are "estimated" and the trees condition "assessed visually" from proposed development site. Tree Preservation Consultants uses tree locations provided by other and is not responsible for final ownership determination of any tree.

TREE PRESERVATION ACTIVITIES

* TREE PROTECTION FENCING - Tree protection fencing shall be installed where indicated on plan sheets. See tree preservation notes and tree protection fencing detail.
 * ROOT PRUNING - Trees shall be root pruned where indicated on plan sheets. See tree preservation notes and root pruning detail.
 * TREE MULCHING - Mulch shall be applied where indicated on plan sheets. Mulch to be spread on grade within tree save areas where root pruning has occurred. Mulch shall be applied to a depth of 4 inches extending 5 feet into the tree save area. Chips or shredded hardwood mulch from clearing operation may be used. See tree preservation notes and mulching detail.
 * VINE REMOVAL - Removal of vines that impact roots, trunk, or canopy. Vines impacting roots/trunk shall be cut at base of tree and 4' section removed from trunk. Vines impacting tree canopy shall be cut free of canopy. Care shall be taken not to damage tree trunk, bark or crown branches. Vines remaining on trunk or tangled in crown should be left in place to die naturally.
 * MONITOR/RISK ASSESSMENT - Tree to be impacted by construction and may present elevated risk of decline or failure in the future. Tree should be evaluated by certified Arborist post construction and inspected long term on a bi-annual basis.
 * RISK ASSESSMENTS - No formal risk assessment were performed on trees included within this tree inventory or any other trees located on or adjacent to the subject property.

Tree Survey Information Completed by Tree Preservation Consultants, LLC - Arborist Brian Howard - ISA #MA-4677A

TREE PROTECTION FENCE DETAIL

- 14 GAUGE WELDED WIRE OR SUPER SILT FENCE SHALL BE USED AS TREE PROTECTION.
- THE LOCATION AND TYPE OF TREE PROTECTION SHALL BE COORDINATED WITH PROJECT ARBORIST.
- TREE PROTECTION SHALL BE INSTALLED WITHIN THE DISTURBED AREA AT THE LIMITS OF CLEARING AND GRADING.
- TREE PROTECTION SHALL BE A MINIMUM OF 4' HIGH FOR WELDED WIRE AND 3.5' HIGH FOR SUPER SILT FENCING.
- SUPER SILT FENCING SHALL BE MOUNTED ON 6" TALL STEEL POSTS DRIVEN INTO THE GROUND AT A MINIMUM DEPTH OF 1.5'. POSTS SHALL BE SPACED AT A MAXIMUM OF 10' APART FOR SSF.
- WELDED WIRE SHALL BE MOUNTED ON 6" STEEL T-POSTS DRIVEN INTO THE GROUND AT A MINIMUM OF 1.5'. POSTS SHALL BE SPACED AT A MAXIMUM OF 10' FEET APART.
- TREE PROTECTION SHALL REMAIN INTACT THROUGH PROJECT COMPLETION.

EXHIBITS NOT TO SCALE

TREE PRESERVATION SIGNAGE DETAIL

- PERMITEE SHALL POST AND MAINTAIN BILINGUAL SIGNS AT THE LIMITS OF CLEARING AT A MINIMUM OF 50'-FOOT INTERVALS PER PFM 12-0503.3.
- MINIMUM DIMENSIONS 12 INCHES (WIDTH) X 18 INCHES (HEIGHT). COLORS - YELLOW, RED or WHITE WITH CONTRASTING TEXT.
- SIGNS SHALL BE MADE OF WEATHERPROOF MATERIAL.
- SIGNS SHALL BE POSTED ALTERNATELY/COMBINED IN ENGLISH AND SPANISH.
- SIGNS SHALL BE ATTACHED TO TREE PROTECTION FENCING; AND SHALL NOT BE NAILED OR ATTACHED TO TREES OR VEGETATION.

NO ENTRY

TREE PROTECTION ZONE - KEEP OUT

OFF LIMITS TO CONSTRUCTION EQUIPMENT, MATERIALS AND WORKERS

CALL 703-349-6600 TO REPORT VIOLATIONS

PENALTY FOR VIOLATIONS STRICTLY ENFORCED

PROHIBIDO ENTRAR ZONA DE PROTECCION DEL ARBOL

LLAMAR AL TEL. 703-349-6600 PARA REPORTAR INFRACCIONES

ROOT PRUNING DETAIL:

- ROOT PRUNING SHALL BE COMPLETED PRIOR TO: TREE PROTECTION FENCING INSTALLATION, E&S CONTROL INSTALLATION OR GRUBBING OF STUMPS ALONG THE LIMITS OF CLEARING & GRADING. IF VEGETATION MUST BE REMOVED TO GAIN ACCESS TO TRENCHING LOCATIONS ALL CLEARING SHALL BE DONE BY HAND UNDER SUPERVISION OF PROJECT ARBORIST.
- FINAL TRENCH LOCATION SHALL BE FIELD LOCATED BY PROJECT ARBORIST. MINOR ADJUSTMENTS MAY BE MADE AT THIS TIME TO INCREASE SURVIVABILITY OF TREES TO BE PRESERVED.
- METHOD OF EXCAVATION SHALL BE DETERMINED ON SITE BY PROJECT ARBORIST.
- TRENCH MAY BE EXCAVATED USING A SINGLE OR COMBINATION OF THE FOLLOWING METHODS: AIR EXCAVATION, HAND DIGGING, WALK BEHIND TRENCHER (see note 5) OR RUBBER TRACK BOBCAT WITH TRENCHER ATTACHMENT (see note 5).
- WALK BEHIND TRENCHER OR BOBCAT SHALL OPERATE WITHIN THE APPROVED LIMITS OF CLEARING AND GRADING AT ALL TIMES (see overhead diagram).
- TRENCH SHALL BE 4 - 6 INCHES WIDE AND 18-24 INCHES DEEP.
- EXPOSED ROOTS 1" DIAMETER AND GREATER WILL BE CUT CLEAN AT THE SOIL LINE WITH A SHARP HAND PRUNER ALONG ENTIRE TRENCH.
- TRENCH SHALL BE BACKFILLED WITH NATIVE SOIL IMMEDIATELY. IF REQUIRED, SILT FENCING OR SUPER SILT FENCING MAY BE INSTALLED DIRECTLY IN TRENCH OR OUTSIDE THE TRENCH WITHIN THE DISTURBED AREA.

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Clifton Heights Lot 4
 Hill Pool Grading Plan
 12726 Clifton Heights Lane
 Clifton, VA 20124
 Springfield District Fairfax County, VA

Tree Conservation Plan



SHEET: 9 OF 9
 SCALE: 1" = 30'
 DATE: Oct. 2021
 DRAWN BY: TPC LLC
 BASELAYER INFO BY:
 LAND Engineering



AN AMENDMENT TO CHAPTER 10, SUBDIVISION ORDINANCE, ADOPTED DECEMBER __, 2018, AMENDING AND RESTATING ARTICLE 16 THEREOF, AS FOLLOWS:

ARTICLE 16 BOUNDARY LINE ADJUSTMENTS AND CONSOLIDATION OF LOTS

Sec. 10-57. GENERAL PROVISIONS – BOUNDARY LINE ADJUSTMENTS

- a. Boundary line adjustments are considered subdivisions and applications for such are subject to the provisions of this Ordinance. However, where the Planning Commission finds that there may be no need for public improvements, and the boundary line adjustment proposes a realignment as set forth in subsection d of this section, an expedited review process may be permitted.
- b. When the Planning Commission deems that the advice of a consultant is necessary for application review, the cost to the applicant shall be as is set forth in section 10-26 and section 10-58.b of this Ordinance.
- c. In the event that a boundary line adjustment, or lot consolidation, involves parcels of land owned by more than one owner of record, a combined application shall be made and signed by each property owner of record, who are jointly and severally responsible for paying any required fees or costs pursuant to this Chapter.
- d. Where a boundary line adjustment proposes to realign any private wells, septic systems, driveways, accessory structures, dwelling additions, retaining walls, underground or above ground utility tanks located on adjacent lots, which are existing on or before the date of this ordinance amendment on such lot, or when a boundary line adjustment proposes to add square footage to a public park or to a Community Open Space District; or when a boundary line adjustment proposes to change the boundary between two lots while not changing the square footage of each lot, the Planning Commission may provide an expedited review process provided that the applicant satisfies the following requirements:
 - i. No conforming lot or parcel is made nonconforming as a result of the boundary line adjustment.
 - ii. Any existing non-conforming lot pursuant to Section 9-16(f) shall remain non-conforming notwithstanding any boundary line adjustment pursuant to this Section.
 - iii. Only two parcels or lots may adjust their boundaries by this process.
 - iv. The boundary line adjustment shall not result in any additional buildable lots or parcels.
 - v. The boundary line adjustment shall be designed to ensure that any private wells, septic systems, driveways, accessory structures, additions to the dwelling or to buildings on the parcel, retaining walls, and/or above ground or underground utility tanks, which are existing on such lot on or before the date of this ordinance amendment, are located on the same lot as the existing primary structure so served, and such boundary line adjustment shall involve the minimum change in lot size necessary to achieve such purpose.
 - vi. The boundary line adjustment shall not relocate or alter any existing easements or utility right-of-ways without the written express consent of all persons holding interest(s) therein, as

evidenced by the signatures on a boundary line adjustment deed recorded in the land records of Fairfax County, with a plat showing the realigned parcels. The owner(s) shall provide copies of the recorded document to the Town of Clifton.

vii. If the application for the boundary line adjustment is approved, a deed and plat showing the boundary line adjustment shall be duly recorded in the land records of Fairfax County, and the owner(s) shall provide copies of the recorded documents to the Town of Clifton.

Section. 10-58. GENERAL PROVISIONS – CONSOLIDATION OF LOTS

- a. Consolidation of lots requires review and approval by the Planning Commission.
- b. The consolidation of lots shall not be allowed in the event that the lots to be consolidated are of different zoning classifications.
- c. If an application for consolidation of lots is approved, a deed and plat showing the newly consolidated lot shall be duly recorded in the land records of Fairfax County, and the owner(s) shall provide copies of the recorded documents to the Town of Clifton.

Section. 10-59. PROCEDURE FOR BOUNDARY LINE ADJUSTMENTS AND CONSOLIDATION OF LOTS

a. Application

An application for a boundary line adjustment or a consolidation of lots shall be submitted as an application to the Secretary of the Planning Commission at least twenty one (21) days prior to the next scheduled Planning Commission meeting date. The application form and the number of such copies shall be as set forth in the Planning Commission's administrative procedures. The request will state the reason for the boundary line adjustment or the consolidation of lots and will state that the provisions of section 10-57 or 10-58, as applicable of the Subdivision Ordinance have been met. A plat prepared and certified by a Virginia licensed land surveyor drawn no smaller than at a scale of fifty (50) feet to the inch and showing the location of all existing structures, easements, and existing and proposed boundary lines together with setbacks to existing buildings shall be submitted as part of the application. Notice shall be provided to property owners in the area as required by section 10-27 of this Ordinance.

b. Deposit

The initial review and inspection fee deposit for an application to adjust an existing boundary line, or to consolidate lots shall be \$150.00. The applicant shall also be responsible for those costs and fees incurred by the Planning Commission or its consulting engineer in the examination of the application.

c. County Health Department

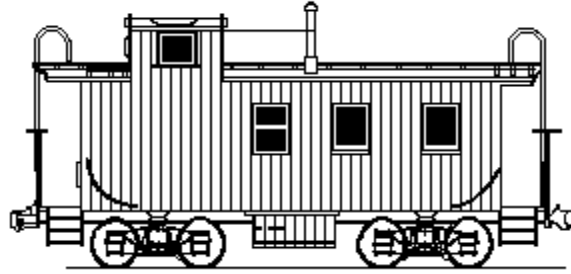
If existing or proposed building sites are involved in the case of a boundary line adjustment, or a lot consolidation, approval of the plat by the County Health Department will be required prior to approval by the Planning Commission.

d. Restrictions and Requirements

The Planning Commission may require construction of street widening, dedication of right of way, easements and construction for storm drainage, walks, trails, and other public uses, and may impose other appropriate restrictions or requirements on the plat.

e. Determination

A determination will be made by the Planning Commission within sixty (60) days that the proposed boundary line adjustment or consolidation of lots meets the requirements set forth in Sections 10-57, 10-58 and/or 10-59, and the application may be approved or denied. If the application is denied in the case of a boundary line adjustment, an application for subdivision of the parcels in question may be filed.



**CLIFTON TOWN PLANNING COMMISSION
TUESDAY, JANUARY 4, 2022, 7:00 PM
WAYNE H. NICKUM TOWN HALL
12641 CHAPEL ROAD
CLIFTON, VA 20124**

Order of Business:

1. Residential Preliminary Use Permit for Construction:
 - a. 7022 Newman Road
 - b. 12726 Clifton Heights Lane
2. Joint Public Hearing on Proposed Subdivision Ordinance Change – On January 4, 2022.
3. Approve October 26, 2021 Regular Meeting Minutes.
4. Adjournment.