FINAL SITE PLAN

UPLAND PARK
PHASE 1

AREA TABULATIONS

NEIGHBORHOOD AREA =	9.82 AC OR 427,777 SF (INCLUDES EXISTING R.O.W. AND CITY-OWNED LAND)
EXISTING RESIDENTIAL PARCEL AREA =	7.85 AC OR 341,965 SF
EXISTING CITY-OWNED PARCEL AREA =	0.57 AC OR 24,784 SF
EXISTING R.O.W. AREA =	1.40 AC OR 61,008 SF
ULTIMATE PROP. R.O.W. AREA =	2.23 AC OR 97,340 SF (INCLUDES SOME EXISTING R.O.W. AREA)
ULTIMATE SITE AREA =	7.47 AC OR 325,338 SF (EXCLUDES R.O.W. DEDICATION)
PHASE 1 SITE AREA =	4.38 AC OR 190,937 SF (EXCLUDES R.O.W. & FUTURE DEVELOPMENT AREA)
TOTAL DISTURBED AREA =	8.95 AC OR 389,850 SF
TAX PARCEL IDENTIFICATION =	SEE SHEET C-0307
ADDRESSES:	SEE SHEET C-0307

PARKING TABULATION

PARKING REQUIRED (PRIOR TO DEDICATED TRANSIT)

TOWNHOUSE DWELLING
RATE: 2.0 SPACES/UNIT
92 UNITS @ 2.0 SP/UNIT= 184 SPACES

TOTAL REQUIRED = 184 SPACES

PARKING PROVIDED WITH THIS APPLICATION
TOWNHOME LOTS (2 SP/LOT) (TANDEM) = 184 SPACES
SURFACE PARKING = 16 SPACES

TOTAL PARKING PROVIDED 200 SPACES

TOTAL PROVIDED PARKING DOES NOT INCLUDE ON-STREET PARKING (51 SPACES) PROPOSED WITHIN THE RIGHT-OF-WAY.

LOADING
LOADING REQUIRED: 0 LOADING SPACES

TOTAL LOADING SPACES PROVIDED = 0 LOADING SPACES

NOTE: NO ADA PARKING SPACES ARE REQUIRED.

BIKE PARKING TABULATION

PARKING REQUIRED
RESIDENTIAL LONG TERM (CL 1 OR 2):
RATE: 3 SPACES/10 UNITS
92 UNITS @ 3.0 SP/ 10 UNITS= 28 SPACES

RESIDENTIAL SHORT TERM (CL 2 OR 3):
RATE: 1 SPACE/50 UNITS
92 UNITS @ 1.0 SP/ 50 UNITS= 2 SPACES

TOTAL REQUIRED = 30 SPACES

PARKING PROVIDED
CLASS 1: 92 SPACES (LOCATED WITHIN EACH UNIT GARAGE)
CLASS 3: 16 SPACES (SEE LANDSCAPE PLANS)

TRIP GENERATION ANALYSIS

PREPARED BY WELLS & ASSOCIATES (07/24/2020)

Trip Generation Analysis with Adjustments

Land Use	ITE Land Use Code	Size	Units	AM Peak Hour Vol			PM Peak Hour Vol			Weekday Vol
				In	Out	Total	In	Out	Total	
Land Use										
Single Family Detached Housing	210	11	DU	2	6	8	6	3	9	106
Proposed Use										
Multifamily Housing (Mid-Rise) - Equilibrium	221	92	DU	9	29	38	33	18	45	500
High Auto Adjustment		25%		-2	-8	-8	-10	-5	-13	-125
Total External Multifamily Housing Trips				7	21	28	23	13	32	375
Total Proposed Trips				9	27	36	29	16	41	481
Net New Trips				7	21	28	23	13	32	375

Notes:
1. Trip Generation obtained from ITE's Trip Generation Manual, 10th Edition.
2. Non-Auto mode adjustment is based on the U.S. Census data.

ARCHAEOLOGY NOTES

1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING, AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT 703-746-4399.
2. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
3. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY THE ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAY.

ENVIRONMENTAL SITE ASSESSMENT

1. THERE ARE NO TIDAL WETLANDS, RPA'S, TIDAL SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIBLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, OR WETLANDS LOCATED ON THIS SITE. THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. THERE IS AN INTERMITTENT STREAM AND ASSOCIATED BUFFER WITHIN THE SITE LIMITS, BUT NOT WITHIN THE LIMITS OF DISTURBANCE FOR THIS PHASE OF DEVELOPMENT.
2. THERE ARE KNOWN AREAS OF MARINE CLAY DEPOSITS ONSITE, ACCORDING TO THE CITY MARINE CLAYS MAP, SEE SHEET C-0201.
3. THIS SITE IS NOT WITHIN A COMBINED SEWER AREA.
4. CONTAMINATED SOILS, IF PRESENT, WILL BE DELINEATED AND REMEDIATED AS PART OF THIS PROJECT.
5. A PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENT WAS PREPARED BY RAMBOLL US CORPORATION AND PROVIDED TO CITY STAFF.

DEVELOPMENT TEAM INFORMATION

1. OWNER(S):
ALEXANDRIA DEVELOPMENT ASSOCIATES, INC.
505 MAIN STREET, SUITE 400
HACKENSACK, NJ 07601

2. APPLICANT:
ALEXANDRIA DEVELOPMENT ASSOCIATES INC.
505 MAIN STREET, SUITE 400
HACKENSACK, NJ 07601
ATTN: CHRIS BELL

3. CIVIL ENGINEER:
WALTER L. PHILLIPS, INC.
207 PARK AVENUE
FALLS CHURCH, VA 22046
ATTN: AARON VINSON

4. ARCHITECT/BUILDER:
NVR, INC.
11700 PLAZA AMERICA DRIVE, SUITE 500
RESTON, VA 20190
ATTN: CHILTON MACGREGOR

5. LAND USE ATTORNEY:
WIRE GILL, LLP
1750 TYSONS BOULEVARD, SUITE 1500
TYSONS, VA 22102
ATTN: KEN WIRE

6. LANDSCAPE ARCHITECT:
MAHAN RYKIEL ASSOCIATES, INC.
3300 CLIPPER MILL ROAD, SUITE 200
BALTIMORE, MD 21211
ATTN: MATT RENAULD

7. TRANSPORTATION:
GOROVE SLADE
1140 CONNECTICUT AVE NW, SUITE 600
WASHINGTON, DC 20036
ATTN: DAN VANPELT

BUILDING CODE ANALYSIS

PROVIDED BY NVR, INC.

JURISDICTION: ALEXANDRIA, VA
BUILDING CODES: 2015 VIRGINIA CONSTRUCTION CODE/ LOCAL JURISDICTION REQUIREMENTS.
CONSTRUCTION TYPE: V-B
FIRE SUPPRESSION: FULLY SPRINKLERED PER VCC 903.3.1.1 AND NFPA 13D
STORIES: 4 / UL ALLOWABLE PER IBC W/ 13D SPRINKLER SYSTEM
USE GROUP: R3
JOIST SIZE: 1 7/8" FLOOR JOIST
STAIRS DATA: MAX. 8 1/4" RISERS AND 10" MIN. TREADS PER VCC 2015

SQUARE FOOTAGES:

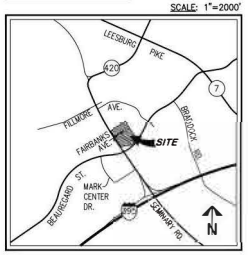
FLOOR	GROSS SQ. FT.	NET SQ. FT.
FIRST FLOOR =	3,420 GROSS SF	405 NET SF
SECOND FLOOR =	8,410 GROSS SF	8,021 NET SF
THIRD FLOOR =	8,410 GROSS SF	8,118 NET SF
FOURTH FLOOR =	8,410 GROSS SF	443 NET SF
TOTALS =	37,940 GROSS SF	17,027 NET SF

PLAN SHEET KEY

FOR SHEETS WITH MATCHLINES, SEE FIRST PLAN SHEET OF EACH SERIES, AS APPLICABLE, FOR AN OVERALL KEY OF SITE WITH SHEET DELINEATIONS.

VICINITY MAP

SCALE: 1"=2000'



PROJECT NARRATIVE

THE APPLICANT PROPOSES A PHASED MIXED-USE DEVELOPMENT CONSISTING OF 92 TOWNHOMES & PUBLIC PARK SPACE IN THE FIRST PHASE OF DEVELOPMENT (THIS APPLICATION) IN ACCORDANCE WITH APPROVED DSUP #2019-0017. ALSO PROPOSED IS ALL SUPPORTING INFRASTRUCTURE NECESSARY TO SUPPORT THIS PHASE OF DEVELOPMENT. THE PROPERTY CURRENTLY CONTAINS SINGLE FAMILY RESIDENTIAL HOMES AND VACANT LOTS. FUTURE PHASES OF DEVELOPMENT SHALL BE SUBMITTED UNDER SEPARATE COVER.

COMPLETE STREET TABLE

	NEW	UPGRADED
CROSSWALKS (#)	9	0
STANDARD	10	0
HIGH VISIBILITY	2	1
CURB RAMPS	28	2
SIDEWALKS (LF)	4098	0
BICYCLE PARKING (# SPACES)	94	0
PUBLIC/VISITOR	16	0
PRIVATE/GARAGE	92	0
BICYCLE PATHS (LF)	N/A	N/A
PEDESTRIAN SIGNALS	8	0

LAND USE APPROVALS

1. A MASTER PLAN AMENDMENT TO THE BEAUREGARD SMALL AREA PLAN TO MAKE SMALL AREA PLAN REQUIREMENTS CONSISTENT WITH THE PROPOSED DEVELOPMENT. [MPA#2020-00006]
2. AMENDMENTS TO THE CDD #21 CONDITIONS AND CDD CONCEPT PLAN CONSISTENT WITH THE PROPOSED DEVELOPMENT. [CDD#2020-00005]
3. A SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN AND THE OPTION TO PHASE DSUP APPLICATIONS. [DSUP#2019-00017]
4. A TRANSPORTATION MANAGEMENT PLAN SPECIAL USE PERMIT. [SUP#2020-00062]
5. A SPECIAL USE PERMIT FOR TOWNHOMES WITHOUT PUBLIC STREET FRONTAGE PER Z.O. SECTION 7-1007. [DSUP#2019-0007]
6. A SUBDIVISION OF LAND.
7. A SPECIAL USE PERMIT TO PERMIT SINGLE STRUCTURES EXCEEDING EIGHT (8) TOWNHOMES. [DSUP#2019-0017]

ZONING TABULATIONS

ZONING :	EXISTING ZONE: CDD #21
MASTER PLAN :	BEAUREGARD CORRIDOR SMALL AREA PLAN
NEIGHBORHOOD AREA :	±9.82 AC OR ±427,777 SF (INCLUDING R.O.W. AND CITY-OWNED LAND)
USE:	EXISTING: RESIDENTIAL & VACANT LOTS PROPOSED: TOWNHOMES & PARK AREA

	PERMITTED/REQUIRED	APPROVED W/ DSUP#2019-0017	PROVIDED
ZONE	CDD #21	CDD #21	CDD #21
UPLAND PARK LAND AREA	±9.25 AC	±9.82 AC	9.82 AC
DEVELOPMENT SUMMARY			
OFFICE AND HOTEL	±78,469 SF OR ±140 ROOMS	±0 SF OR ±0 ROOMS**	0 SF OR 0 ROOMS**
RESIDENTIAL	±535 UNITS	TOWNHOMES: ±92 UNITS*, MULTIFAMILY: ±0 UNITS**	TOWNHOMES: 92 UNITS*, MULTIFAMILY: 0 UNITS**
REQUIRED RETAIL	±8,000 SF	±0 SF**	0 SF**
OPTIONAL RETAIL	±8,000 SF	±0 SF	0 SF
OPEN SPACE	±0.85 AC DEDICATED; 15% OVERALL	±0.87 AC DEDICATED; ±15% MIN. OVERALL	1.60 AC; 0.82 AC DEDICATED; (36% PHASE 1 AREA)****
GROSS FLOOR AREA	590,000 SF***	±235,520 SF	235,520 SF
FLOOR AREA	590,000 SF***	±207,644 SF	207,644 SF
SETBACKS			
FRONT (TOWNHOME)	N/A	±4 FT MIN.	4 FT MIN.
REAR (TOWNHOME)	N/A	±5 FT MIN.	5 FT MIN.
SIDE (TOWNHOME)	N/A	±0 FT MIN.	0 FT MIN.
BUILDING HEIGHT (FT)			
HOTEL	MAX 110 FT***	N/A**	N/A**
MULTIFAMILY RESIDENTIAL	MAX 60 FT***	N/A**	N/A**
TOWNHOMES	MAX 45 FT***	±45 FT	45 FT MAX.
PARKING (# SPACES)	143	±200	200******
TRIP GENERATION	--	±375 VPD	375 VPD*******

NOTES:
SEE SHEET C-0113 FOR LOT SPECIFIC TABULATIONS

* CDD #21 CONCEPT PLAN AMENDMENT APPROVED.
** MULTIFAMILY RESIDENTIAL, HOTEL & RETAIL SPACES WITHIN LANDBAYS E & F TO BE PROVIDED WITH FUTURE DSUP APPLICATIONS.
*** PER BEAUREGARD CORRIDOR SMALL AREA PLAN.
**** OPEN SPACE CALCULATION SHOWN PER PHASE 1 SITE AREA AND EXCLUDES R.O.W. & FUTURE DEVELOPMENT AREA. ADDITIONAL DEDICATED OPEN SPACE TO BE PROVIDED WITH FUTURE DSUP APPLICATIONS.
***** 184 PARKING SPACES PROVIDED WITH TOWNHOME LOTS; 16 SURFACE SPACES OUTSIDE PROP. RIGHT-OF-WAY.
****** AVERAGE DAILY TRAFFIC PROVIDED BY WELLS & ASSOCIATES (SEE TRIP GENERATION ANALYSIS -THIS SHEET).

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ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1001 www.WLPINC.com

SCALE: AS NOTED | DATE: 04/21/2023 | DRAWN: JWP | CHECKED: AVBP

PLAN STATUS	DATE	DESCRIPTION
DATE	DESCRIPTION	
08/02/21	FSP SUB #1	
12/22/21	FSP SUB #2	
05/20/22	FSP SUB #3	
10/9/22	FSP SUB #4	

PROFESSIONAL ENGINEER — COMMONWEALTH OF VIRGINIA — AARON W. VINSON — LIC. NO. 041851 — 4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

COVER SHEET

APPROVED 2025-10016
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04. 11.03 Jurisdiction No. 09073 Cadd Dwg. File G:\vadata\projects\09073\dwg\Engineering\Site Plan\09073C-SHT.dwg

IX. STAFF RECOMMENDATIONS

COORDINATED DEVELOPMENT DISTRICT #21 CONDITIONS
CDD CONCEPT PLAN AMENDMENT #2020-00005

A. GENERAL

1. **CONDITION AMENDED BY STAFF**: The Applicant(s) shall comply with the following: the Coordinated Development District (CDD) Approvals: 1) the CDD Conceptual Design Plan, hereafter referred to as CDD Concept Plan, prepared by Walter L. Phillips, Inc. and dated June 21, 2013, and the revised CDD Concept Plan, prepared by Walter L. Phillips, Inc and dated December 4, 2020 as amended through DSUP #2019-00017; 2) the conditions contained herein; and, 3) the Beauregard Urban Design Standards and Guidelines prepared by Duany Plater-Zyberk and Company and Dover Kohl Partners, dated July 11, 2013. (P&Z)

2. All conditions, requirements, and standards herein shall have full and equal applicability and enforceability against the Applicant(s), except where the condition, requirement, or standard is expressly stated as applicable to a particular neighborhood or parcel, or by its context is clearly inapplicable. (P&Z)

3. Each block(s) and/or park(s) and/or building(s) shall obtain approval of a Development Special Use Permit (DSUP) and any other applicable approval(s). A DSUP may be submitted for a portion of a block when an Applicant(s) can provide sufficient information regarding the location, approximate size, type, uses, open space, parking, loading access and additional information as needed for the remainder of the block and adjoining blocks, streets and open space to the satisfaction of the Directors of P&Z and T&ES. (P&Z)(T&ES)

4. All rights-of-ways, easements, open spaces, developer contributions, and all other applicable requirements of these conditions specified to be provided by the Applicant(s) shall be provided at no cost to the City. (P&Z)(T&ES)

5. Neighborhoods, as referenced herein, shall be the boundaries depicted on the CDD Concept Plan. (P&Z)

6. The conditions, requirements, and standards herein are expressly enforceable against all persons or entities and their successors and assigns owning real property located within CDD #21.

   a) If any such person or entity comprising the Applicant(s) fails to perform its obligations as required herein for its particular neighborhood, the City shall be entitled in its sole discretion to withhold all applicable approval(s) for New Development including but not limited to preliminary DSUP(s), final site plan(s) and building permits for the person or entity directly responsible for such default. The determination of whether or not a particular action, dedication, or easement should affect the issuance of permits shall be made by the Director of P&Z.

   b) If any such person or entity comprising the Applicant(s) fails to perform its obligations as required herein for the Ellipse and/or the Transitway, regarding the provision of right-of-way and/or easements, including all applicable construction and access easements, the City shall be entitled in its sole discretion to withhold all applicable approval(s) for New Development including but not limited to preliminary DSUP(s), final site plan(s) and building permits for all Applicant(s) within CDD # 21 and CDD# 22. The determination of whether or not a particular action, dedication, or easement should affect the issuance of permits shall be made by the Directors of P&Z and T&ES.

   c) In the event that an Applicant(s) fails to dedicate right-of-way or easements for the Ellipse or Transitway as required herein, and it becomes necessary for the City to file a condemnation proceeding to acquire such an interest in real property, the value of the property being condemned shall be conclusively deemed to be ten dollars.

   d) Without limiting the generality of the foregoing statements, the City shall have available to it all rights and remedies set forth in the City of Alexandria Zoning Ordinances or other City laws and ordinances, or as available at law or in equity. Any express or implied obligations of the City as set forth herein are subject to the legislative discretion of the City Council. (CAO)(P&Z)(T&ES)

7. Notwithstanding any contrary provisions in the Zoning Ordinance, the Beauregard CDD Concept Plan (CDD #21), shall remain valid until April 13, 2038. (P&Z)

8. The Directors of T&ES, RP&CA and P&Z may require that infrastructure, open space, land uses and other matters adjacent to a subject neighborhood deemed necessary to review a preliminary DSUP application also be shown in the application. (P&Z) (T&ES) (RP&CA)

9. The Applicant(s) shall coordinate, to the extent necessary, with other property owners and Applicant(s) within CDD #21 on the design of streets, parks/open spaces, sewer systems and other related infrastructure and construction. (P&Z) (RP&CA) (T&ES)

10. If a dedication required herein results in a use, lot, or structure being no longer in conformity with applicable zoning requirements, such lot or structure shall be treated as noncomplying. After such dedication, the then-current use of the area(s) to be dedicated may continue until such time as the areas are needed by the City for construction of the Transitway, the Ellipse, the Fire Station and/or any other applicable improvements to be constructed by the City. Revisions to any site improvements necessitated by dedications and improvements for the interim Transitway, fire station and/or Ellipse may be approved administratively by the Directors of T&ES and P&Z.(T&ES)(P&Z)

B. DEFINITIONS

11. For purposes of the conditions herein, the following definitions shall apply:
    a) **Existing Development To Be Demolished:** The square footage of any building or structure in existence within CDD #21 as of the date of City Council's initial

approval of CDD #21 but which will be demolished in accordance with the provisions and requirements within CDD # 21.
    b) **New Development:** Any new square footage that is constructed in accordance with the provisions and requirements within CDD # 21.
    c) **Net New Development:** The square footage of any New Development (as defined herein) in excess of the Existing Development To Be Demolished in accordance with the provisions and requirements within CDD # 21 (New Development - Existing Development To Be Demolished = Net New Development).
    d) **Square Footage:** Shall be equivalent to floor area as defined by the Zoning Ordinance in effect as of the date of these conditions, except that the following shall not be counted for purposes of square footage:
        i. Above grade parking structures, constructed in accordance with the conditions herein and the Beauregard Urban Design Standards and Guidelines;
        ii. Loading areas required for retail uses; and
        iii. The fire station, the Hillwood and Lynbrook buildings to be dedicated to the City for affordable housing, child care facilities, and other public buildings.
    e) **CPI-U**, as used herein, shall be the Consumer Price Index for all urban consumers (CPI-U), 1982-1984=100 (not seasonally adjusted) as reported by the United States Department of Labor, Bureau of Labor Statistics. (P&Z)(CAO)

12. As part of each preliminary DSUP within a neighborhood, the Applicant(s) shall provide a table including the following information for development associated with the preliminary DSUP and for the cumulative approved development within that neighborhood as of the date of the preliminary DSUP application:
    a) The square footage of total Existing Development
    b) The square footage of Existing Development To Be Demolished as part of the preliminary DSUP and cumulative to date.
    c) The square footage of New Development and cumulative.
    d) The square footage of Net New Development and cumulative. (P&Z) (T&ES)

C. DEVELOPER CONTRIBUTIONS

13. The Applicant(s) shall make a monetary contribution to a dedicated Beauregard Implementation Fund to be established by the City to account for the developer contributions required pursuant to the conditions required herein (hereinafter "Developer Contributions"). Developer contributions shall be provided for all New Development within CDD #21 and CDD #22, and shall be paid prior to the release of the first Certificate of Occupancy for each building within CDD #21 and CDD #22. The Developer Contribution rates and Total Contribution rates are as of the date of approval of CDD #21 and CDD #22, and shall escalate annually hereafter on January 1 of each year hereafter starting on January 1, 2014 in accordance with increases in prior years in the CPI-U as defined herein. The resulting adjusted Developer Contribution per square foot of New Development shall be in effect for that calendar year. Interest earned on any funds deposited by any Applicant(s) will be invested by

the City as per Code of Virginia investment laws for short-term investments. Interest accrued shall remain in the fund to be utilized as provided herein. The Developer Contributions are comprised of the Base Contribution and Neighborhood contributions which together shall comprise the Total Contribution as required herein.

A. **BASE CONTRIBUTION**: A base contribution of Ten Dollars and Thirty Eight Cents ($10.38) in 2013 dollars per square footage of floor area of New Development shall be made for all New Development within CDD #21 and CDD #22. Included in this Base Contribution is an amount equal to $0.03 per square foot in 2011 dollars ($301,179 total in 2011 dollars) which the City may use for water quality and storm water management improvements or enhancements within or benefiting CDD#21 and CDD #22.

B. **NEIGHBORHOOD CONTRIBUTION:** An additional contribution shall be provided for each Neighborhood within CDD #21 and CDD #22, which shall consist of the following:

Table #1: Neighborhood Contributions

Neighborhood	NEIGHBORHOOD Contribution Per Square Footage of New Development (2013 dollars)
Greenway	$2.96
Garden District	$3.14
Town Center	$2.82
Adams	$1.57
Upland Park	$3.42
Southern Towers	$1.57
Seminary Overlook	$3.33

C. **TOTAL CONTRIBUTION:** All New Development within CDD #21 and CDD #22 shall be subject to the total Developer Contributions as required herein. The total contribution shall be the sum of the base contribution and the neighborhood contribution set forth in the preceding sections (Base Contribution + Neighborhood Contribution = Total Contribution). No reference to CDD #22 in these Conditions shall obligate any Applicant(s) within CDD #21 for the performance of any condition, including any

Developer Contribution, required by conditions for CDD#22). The total Developer Contribution for each neighborhood shall consist of the following:

Table #2: Total Developer Contributions

Neighborhood	TOTAL Contribution Per Square Footage of New Development (2013 dollars)
Greenway	$13.34
Garden District	$13.52
Town Center	$13.20
Adams	$11.95
Upland Park	$13.80
Southern Towers	$11.95
Seminary Overlook	$13.71

Note: The amount of development has been reduced by 75,000 square feet due to the fact that TM1 parcel #8.10.04-03-19 is not participating in CDD #21. Any subsequent revisions to the existing zoning of parcel #8.10.04-03-19 will require approval of a subsequent rezoning(s) and Developer Contributions.(CAO)

14. Implementation of the Public Benefits as generally depicted within Table 2 of the staff report as of the date of approval by City Council of these conditions and comparable improvements consistent with the intent of the Beauregard Small Area Plan will be phased based on the funds available from time to time in the Beauregard Implementation Fund. Funds available after completion of the fire station or transportation category depicted in Table 2, unless Council directs otherwise, shall be reallocated to the Affordable Housing Trust Fund for housing. All other improvements, other than those listed within the staff report and required by the CDD zoning, CDD Concept Plan, these Conditions, the Beauregard Urban Design Standards and Guidelines, and as required as part of the DSUP process, shall be the sole responsibility of the Applicant(s). (CAO)(P&Z)(T&ES)(City Council)

15. While the City will proceed in good faith to design and construct the Ellipse, the Transitway, and other Transportation Improvements being funded through the Developer Contributions required herein, the City is not obligated to approve development applications, DSUPs and/or permits in excess of amounts allowed pursuant to various conditions herein due to delays in the implementation of the Ellipse or the Transitway and other transportation improvements to be constructed by the City. Alternatively, if agreed upon by the Applicant(s) and City Council, the Applicant(s)

may be permitted to construct the Ellipse, Transitway and any other Transportation Improvements. In such event the actual cost of the design and construction shall be credited against the Developer Contributions required to be made by the Applicant(s) constructing such Improvements. (CAO)(P&Z)(T&ES)

16. The City will provide an inception-to-date type update on the amount of Developer Contributions received, as part of the preliminary DSUP process. In addition, at the expense of the Beauregard Implementation Fund, the City will create and provide a publicly available annual report to City Council showing the sources and uses of all such funds. (CAO)(P&Z)

17. If New Development is transferred between Neighborhoods as permitted herein, the Developer Contribution for the New Development shall be the Developer Contribution required from the transferring neighborhood, such that the total Developer Contribution shall, in no event, be decreased. (CAO)(P&Z)

D. CDD CONCEPT PLAN

18. The Applicant(s) shall submit a revised CDD Concept Plan within ninety (90) days from final approval(s) by the City Council for administrative review and approval by the City. The CDD Concept Plan shall be reviewed and approved by the City prior to any demolition, construction, and/or preliminary DSUP submission. The CDD Concept Plan shall be revised to include the following:
    a) All the sheets for CDD #21 and CDD #22 Tile Blocks need to reference the CDD Special Use Permit/Rezoning. Include the correct application number;
    b) The CDD #21 Beauregard Corridor Concept Plan Set shall revise a portion of Mark Center Drive to reflect its current street name. The portion of Mark Center Drive from the intersection of Seminary Road heading west along the southern frontage of the Hilton Hotel to the point where the road changes direction to the north is named Mark Center Avenue. The portion of Mark Center Drive that runs along the western frontage of the Hilton Hotel and intersects with North Beauregard Street remains Mark Center Drive;
    c) Condition deleted.
    d) The CDD #21 Exhibit 1 shall be revised to delineate parcels only within CDD #21; and
    e) The CDD Concept Plan shall be revised to incorporate all exhibits referenced herein. (P&Z)(T&ES)(PC)

E. PRE-DEVELOPMENT DEDICATIONS – EASEMENTS

19. All applicable general, predevelopment, phasing and submission requirements herein shall be completed prior to the submission of a preliminary DSUP and/or associated applications, within CDD #21. (P&Z)

20. In addition to the pre-development dedications and easements identified within the Neighborhood conditions herein, the following shall be required:

    a) With the exception of the Transitway through the Southern Towers neighborhood, within ninety (90) days of written request by the City, based on plans provided by the City, the Applicant(s) shall submit all necessary plans and documentation to dedicate and/or provide easement(s) for the Transitway, including any associated temporary construction and maintenance easements for the interim dedication as set forth in the CDD Concept Plan. The City shall design and provide the temporary easements to the Applicants based upon plans provided by the City;
    b) Within 90 days of written request by the City, Southern Towers shall enter into a written agreement with the City for the interim route of the Transitway and a license agreement for on-site bus service;
    c) As part of the preliminary DSUP for development fronting the Transitway, the Applicant(s) shall submit all necessary plans and documents to dedicate and/or provide easements for the ultimate condition of that section of the Transitway as set forth in the Beauregard Urban Design Standards and Guidelines; and
    d) Upon approval by the City, the Applicant(s) shall promptly record any dedications and/or easements. (T&ES)(P&Z)(PC)

F. INFRASTRUCTURE PHASING

21. New Development Preceding the Construction of the Dedicated Transitway:
    a) The Transitway shall be operational prior to release of a final site plan for greater than 1,500,000 sq. ft. of New Development within CDD #21 and #22. An operational Transitway is defined as providing enhanced bus service within the Beauregard Small Area Plan area as determined by the Director of T&ES. The enhanced bus service includes greater passenger capacity, enhanced headways, more frequent service and greater reliability than currently exists in the Beauregard Corridor.
    b) Phasing within the Greenway neighborhood shall maintain transit operations on either existing Sanger or new Sanger at all times. (T&ES)

22. New Development Preceding the Ellipse at the intersection of Seminary Road and Beauregard Street:
    a) Each redevelopment site fronting onto the Ellipse (EXHIBIT 1) shall dedicate all necessary right-of-way for the Ellipse at the intersection of Seminary Road and North Beauregard Street. The amount, size, and location of the right-of-way shall be based on a 30% engineered plan (prepared by the first developer adjacent to the Ellipse to request a DSUP), including all necessary information required by the Director of T&ES. The 30% engineered plans shall be coordinated with all Applicant(s) fronting onto the Ellipse and be submitted to the City prior to the submission of the preliminary DSUP application and approved by the City prior to the approval of the preliminary DSUP application for any of the redevelopment sites fronting onto the Ellipse (EXHIBIT 1) . The final design of the Ellipse shall be determined by the Director of T&ES

23. Prior to the release of a final site plan for more than 2,400,000 square feet of Net New

Development within the CDD #21 and CDD #22, the Ellipse shall be constructed and operational. (T&ES) In the event that redevelopment sites within CDD #21 and CDD #22 other than properties fronting onto the Ellipse (EXHIBIT 1) exceed 2,400,000 sq. ft. of Net New Development, and thereby necessitate design, construction, and operation of the Ellipse, the following shall apply:
    a) Pursuant to the conditions herein, the redevelopment sites fronting onto the Ellipse (EXHIBIT 1) shall, within 90 days of written request by the City, submit all necessary plans and documentation to dedicate right-of-way for the Ellipse, including any associated temporary construction and maintenance easements. Construction and maintenance easements shall be mutually agreed upon by the City and the Applicants and shall minimize impact on existing surface parking spaces.
    b) If properties fronting onto the Ellipse have not yet redeveloped and existing improvements preclude the implementation of the ultimate streetscape section, an interim streetscape design shall by developed to provide safe passage for all modes during the interim period, to the satisfaction of the Director of T&ES. At such time as any property fronting on the Ellipse redevelops, that property shall be responsible for constructing the ultimate streetscape section along its frontage, including any transitions as part of the redevelopment.
    c) Prior to the release of a final site plan for more than 2,400,000 square feet of Net New Development within the CDD #21 and/or CDD #22, the Ellipse shall be constructed and operational. (T&ES)(PC)

24. **Transitions.** For roadways, sidewalks, or trails to be provided by the Applicant(s), pursuant to the conditions herein, the Applicant(s) shall coordinate with the adjacent property owner(s) to build any necessary transition(s) from the street cross section pursuant to the Beauregard Urban Design Standards and Guidelines to the existing street on the adjacent property owner(s)'s land. In the event the adjacent property owner does not cooperate through granting easements or otherwise, the Applicant(s) shall build the transition on the Applicant(s)'s land. If this occurs and the transition was built on the original Applicant(s)'s property, at the time the adjacent property redevelops, the final street cross-section as depicted in the Beauregard Urban Design Standards and Guidelines shall be completed by the new Applicant(s). (T&ES)

G. INFRASTRUCTURE PLAN AND REQUIRED DEDICATIONS AND EASEMENTS

25. The framework streets depicted on the CDD Concept Plan shall be constructed in the general locations depicted within the CDD Concept Plan. The cross-section for the framework streets shall comply with the Beauregard Urban Design Standards and Guidelines. The location of the non-framework streets shall be determined as part of the preliminary DSUP process, and shall be determined by the required block sizes and applicable provisions of the Beauregard Urban Design Standards and Guidelines and the conditions herein. The framework streets in the Adams neighborhood shall be determined as part of the preliminary DSUP process, and shall be determined by the required block sizes and applicable provisions of the Beauregard Urban Design

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | QA/QC:

DATE	PLAN STATUS	DATE	DESCRIPTION
		08/02/21	FSP SUB #1
		05/20/22	FSP SUB #3
		12/22/21	FSP SUB #2
		10/19/23	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
MARK W. VIRGIN
LIC. No.041851
4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0102.dwg

SHEET: C-0102

Standards and Guidelines and the conditions herein. (T&ES)(P&Z)

26. The Applicant(s) shall be responsible for dedicating all necessary rights-of-way and/or public access easement(s) as required herein and as required by the Beauregard Urban Design Standards and Guidelines. Where a public access easement is provided for streets and/or sidewalks, the easement(s) shall be a perpetual public access easement for vehicles and/or pedestrians. (T&ES)(CAO)(P&Z)(RP&CA)

27. All streets within CDD #21 and CDD #22 shall be public dedicated streets or public access easements as depicted in Diagram 7A of the Beauregard Urban Design Standards and Guidelines. As part of the preliminary DSUP process, the Director of T&ES may permit some of the public streets to be public access easements. However, no block shall be served solely by public access easements in neighborhoods other than Southern Towers. (T&ES)

28. The Applicant(s) shall submit a CDD Infrastructure Phasing Plan with the first preliminary DSUP for each neighborhood and shall update the Infrastructure Phasing Plan concurrently with each subsequent preliminary DSUP submission. The Plan shall include the following:
   a) A general outline and the up-to-date projection of the dates when construction of the different land uses (i.e., office, retail, hotel, residential, open space parks and community facilities) for each neighborhood and/or block shall commence; and
   b) The general location and layout of the major components of infrastructure, and the projected dates when construction of the infrastructure shall commence (provided, that the projected dates for the commencement of construction of these components shall be consistent with the conditions required herein) and required as part of the development review process. The information shall include:
      i. The street layouts;
      ii. Transitway corridors and stations;
      iii. Sidewalk/trail connections – circulation; and
      The conceptual locations of:
      iv. Bicycle connections – circulation;
      v. The sanitary sewer system and associated facilities;
      vi. The storm water management system and ponds;
      vii. The utility systems to be constructed within the CDD (e.g., electricity, water, gas, phone communications and cable); and
      viii. Park-open spaces. (T&ES)(P&Z)(RP&CA)

II. BEAUREGARD URBAN DESIGN STANDARDS AND GUIDELINES

29. Within thirty (30) days of final approval(s) of the CDD Concept Plan by the City Council, The Beauregard Urban Design Standards and Guidelines, dated March 18, 2013, shall be revised administratively to incorporate the following:

   a) Chapter 6 – Parking, standard (2) shall be revised to be revised to state: "Each building is required to provide a minimum of one level of parking below the

building. The underground parking need not be entirely under the building as long as it complies with the following:
   i. The configuration is a result of dimensional requirements of typical parking bays;
   ii. Does not decrease the amount of permitted development;
   iii. Increases the amount of open space – courtyards that do not have underground parking below the open space -courtyards; and
   iv. Increases the total amount of ground level open space. (P&Z)

30. All applications subject to the provisions and requirements of CDD #21 shall be reviewed by a Design Advisory Committee which shall be established by the City. The purpose of the Design Advisory Committee is to review applications required herein for compliance with the applicable Beauregard Urban Design Standards and Guidelines and to make recommendations on such applications to the Planning Commission and City Council through the Director of Planning and Zoning. All applications are expected to comply with the applicable standards. To the extent a modification from the standards is required, the Advisory Committee shall forward a recommendation on any modification from a standard and how the modification is consistent with the intent of the Beauregard Small Area Plan. Any modification from the standards shall also be approved by the Planning Commission and City Council as part of the preliminary DSUP. (P&Z)

I. PARKING

31. The maximum parking ratios for New Development within CDD # 21 shall comply with the applicable requirements herein:

Table #3: Maximum Parking Ratios

Land Use	Phase I: Prior to Operational Dedicated Transit	Phase II: Operational Dedicated Transit
Residential (Multi-Family)	1.75 sp/unit	1.3 sp/unit
Townhouse & Stacked Townhouses	2.0 sp/unit	1.5 sp/unit
Residential(Affordable Housing)	1.0 sp/unit	0.75 sp/unit
Office	2.8 sp/1,000 sq. ft.	2.5 sp/1,000 sq. ft.
Retail	4.0 sp/1,000 sq. ft.	3.5 sp/1,000 sq. ft.
Hotel	1.0 sp/room	0.75 sp/room

(P&Z)(T&ES)

32. In addition to the maximum parking ratios herein, parking within CDD #21 shall be subject to the following:
   a) Provision of parking below 20% of the parking maximums shall be justified through the provision of a parking study as part of the preliminary DSUP.
   b) Additional residential visitor parking may be required, up to 15 % of the provided

parking as part of the preliminary DSUP. On-street parking on new or reconfigured public streets (dedicated and/or public access easement) within each neighborhood may be considered when determining the amount of required on- site visitor parking.
   c) On-street parking adjacent to the Required Retail shall be metered.
   d) All uses, with the exception of residential, but including residential visitor parking, shall participate as part of the comprehensive shared parking strategy, for the Town Center and Adams neighborhoods. The details of the shared parking strategy shall be part of the parking management plan as set forth below.
   e) The amount of parking for accessory dwelling units shall be determined as part of the preliminary DSUP. (P&Z)(T&ES)

33. The Applicant(s) shall develop a parking management plan for each neighborhood which includes mechanisms for market-rate parking, on-street parking and unbundled residential parking (the cost to purchase or lease a parking space is separate from the cost to purchase or lease a residential unit)
   a) Market rate parking: Office and retail parking rates for all underground and structured parking shall be consistent with comparable office/retail buildings located in the vicinity.
   b) Unbundled Parking: All residential parking shall be unbundled (i.e., the cost to purchase or lease a parking space is separate from the cost to purchase or lease the residential unit). Unbundled parking for all other uses is encouraged and shall be explored as part of the Plan.
   c) Priority Parking: Priority spaces for carpool/vanpool use shall be provided within all structured parking in commercial structures. (P&Z)(T&ES)

34. All the parking for the blocks as depicted in BSAP Figure 32A (EXHIBIT 5) within CDD #21 shall be located below grade. The final location of parking of the two blocks within the Town Center neighborhood shall be determined as part of the preliminary DSUP process. (P&Z)

35. If mutually agreed upon by ACPS and the Applicant(s), the New Development within the Town Center and Adams neighborhoods should consider making parking available to the Alexandria City Public Schools (ACPS) at applicable market rates. (ACPS)

36. Adequately sized loading docks based upon use shall be provided and potential noise impacts associated with truck loading should be mitigated. (T&ES)

J. LAND USE

37. **CONDITION TABLE AMENDED BY STAFF:** The allowable land uses, open space, height, parking, amount of New Development and building types, shall be governed by the following, in addition to the conditions contained herein.

Table #4: Development Summary Table

Neighborhood	Greenway	Garden District	Town Center	Adams	Upland Park	Southern Towers	TOTAL (sq. ft. or units)
Principal Land Use(s)	Residential	Residential/ Retail	Residential/ Office/Retail/ Hotel	Office/Retail/ Hotel	Residential/ Office/Retail/ Hotel	Office/Retail/ Hotel	--
Land Area (±Acres)	±63.35	±25.5	±48.21	±19.16	±9.25	±8.28	±173.75
Public Open Space (Acres)	24.47	4.5	8.15	3.02	0.85	0.43	41.42
Open Space (%)	20%	15%	15%	15%	15%	15%	--
Maximum Building Height	45-60	45-60	60-130	45-110	45-110	45-110	--
Required Parking	See table #3	See table #3	See table #3	See table #3	See table #3	See table #3	--
Office (sq. ft.)	0	0	405,165	712,339	78,469*	195,000	1,699,399
Residential Units							
Multi-Family Units (maximum)	1,579	728	2,269	300	505*	0	5,181
Townhouses and Stacked (2/2) Townhouses (maximum)	250	200	50	0	30 *92	0	430
Total Residential Units	1,829	928	2,319	300	535*	0	5,611
Required Retail (sq. ft.)	0	0	200,000	0	8,000	25,000	233,000
Optional Retail (sq. ft.)	13,250	21,355	109,245	15,000	8,000	80,000	246,850
Hotel	0	0	237 rooms	187 rooms	140 rooms*	187 rooms	751 rooms

* *Uses and totals will be updated as part of Upland Park future phases.*

   a. Land area is approximate based on the CDD Concept Plan.
   b. Additional residential units may be permitted above the fire station, subject to approval of a DSUP.
   c. Public open space acreage identified as part of the CDD Concept Plan is the minimum required publicly accessible open space. The public open space shall be public through the provision of a public access easement or dedicated as required herein. Public open space in Upland Park includes a parcel owned by the City. The open space total excludes the 1.75 acres of City-owned open space that will be provided within the Ellipse.

   d. In addition to the public open space, the open space percentages (15-20%) required herein shall be provided within each neighborhood. A maximum of 50% of the open space percentage pursuant to Table #4 shall be permitted to be roof-top open space; the remainder shall be located at grade level. This percentage of open space shall exclude public rights-of-way, streets with public access easements, and required public open spaces reflected in the CDD Concept Plan. The ground level open space may be required to provide a public access easement if deemed appropriate as part of the preliminary DSUP.
   e. Community facilities, public buildings and associated accessory uses may be provided within any neighborhood in addition to the maximum permitted development; however, the uses shall be subject to the Beauregard Urban Design Standards and Guidelines, and other applicable requirements as part of the preliminary DSUP.
   f. The square feet and units defined for each block within CDD #21 is a maximum subject to compliance with the Beauregard Small Area Plan, the Beauregard Urban Design Standards and Guidelines, the CDD conditions required herein, and applicable requirements of the Zoning Ordinance, except as provided below.
   g. The number of dwelling units (Table #4) is the maximum number of dwelling units unless additional dwelling units are permitted pursuant to § 7-700 of the Zoning Ordinance.
   h. Accessory dwelling units are permitted as part of the preliminary DSUP, subject to all applicable requirements herein. Each accessory dwelling unit shall be deducted from the residential units within each neighborhood.
   i. Optional Retail may be provided if approved as part of the preliminary DSUP, subject to the locations depicted in the Beauregard Urban Design Standards and Guidelines. To the extent that Optional Retail is not utilized for retail, the square footage of the optional retail shall revert to the primary use of the building.
   j. The amount of New Development within each neighborhood within CDD #21 shall be permitted to be transferred to another neighborhood as part of the preliminary DSUP subject to the following:
      i. No transfer shall cause the square footage (Office, Hotel, Retail) or the number of dwelling units, in any neighborhood to increase or decrease by more than 15%;
      ii. Retail floor area (square feet) for the Required Retail areas shall not be permitted to be transferred;
      iii. The building(s) shall comply with all applicable minimum and maximum heights and applicable provisions of the Beauregard Urban Design Standards and Guidelines and conditions herein; and
      iv. A use shall not be permitted to transfer to another neighborhood unless the use is permitted within the receiving neighborhood. (P&Z)
   k. The maximum number of townhouses/stacked townhouses may be increased as part of a preliminary DSUP, within the Greenway and Garden District neighborhood(s), subject to the following:
      i. Any increase in the number of townhouses/stacked townhouses shall continue to result in a significant variety of building types (townhouses

[townhouses and stacked townhouses] and multi-family buildings) within each neighborhood;
      ii. The variety of building types shall generally be consistent with the intent and Figures within the BSAP for the Greenway and Garden District neighborhoods; and
      iii. In the event that the number of townhouses/stacked townhouses is increased within the Greenway or Garden District neighborhood(s), there shall be an equal reduction in the number of multi-family units, within each neighborhood(s).
   The intent of this recommendation is to allow a limited amount of flexibility, within the two neighborhoods, but not substantial changes in the building types (the number of townhouses and multi-family buildings) or reduction in density within the neighborhood(s).
   l. A limited conversion of uses within each neighborhood within CDD #21 shall be permitted, subject to the following:
      i. The Greenway and Garden District neighborhoods shall not be permitted to convert uses.
      ii. The conversion of uses within the Town Center, Adams, Upland Park neighborhoods may be permitted as part of the preliminary DSUP, subject to the following:
         (a) A balanced mix of uses shall continue to be provided within each neighborhood, consistent with the intent of the Beauregard Small Area Plan; and
         (b) The amount of Required Retail uses shall not be reduced within each neighborhood.
         (c) The intent of the conversion is that the conversion would not exceed 15% of the amount of square footage in the neighborhoods referenced herein but would allow flexibility for market conditions.
      iii. Within the Southern Towers neighborhood, conversion of uses may be permitted subject to the following:
         (a) The amount of required retail uses may not be reduced and;
         (b) In no event shall the conversion exceed 150,000 square feet of residential uses. In addition the remaining square footage shall be office, hotel and retail.
   The intent of the conversion is that conversion would not exceed 15% of the amount of square footage in the neighborhoods referenced herein but would allow flexibility for market conditions. (P&Z) (City Council) **(CDD#2020-00005)**

K. RETAIL – GENERAL

38. For purposes of CDD #21, "Retail" shall be defined to include retail, personal service uses, amusement enterprises, and restaurants, as defined by the Zoning Ordinance, with the exceptions identified below:
   a) Retail shopping establishments shall not include appliance stores and auto parts stores;

   b) Personal service uses shall not include appliance repair and rental, contractors' offices, laundromats, and pawnshops;
   c) Personal service uses on the ground floor, shall be minimized within the Required Retail areas. Banks shall occupy no more than 5% of the Required Retail square footage within each neighborhood;
   d) Other similar pedestrian-oriented uses as approved by the Director of P&Z to meet the intent of providing active pedestrian-oriented neighborhood-serving retail uses are allowed;
   e) The Required Retail areas as depicted in the Beauregard Urban Design Standards and Guidelines shall be limited to retail uses as defined herein; and
   f) Within mixed-use buildings, lobbies for the uses above the retail (residential, hotel, office) shall be permitted on the Required Retail frontages; however, the lobby shall be the minimum size necessary for the non-retail use. (P&Z)

39. Required Retail shall comply with the Beauregard Urban Design Standards and Guidelines. Additional retail and/or live-work units may be provided within the Optional Retail areas and where consistent with the intent of the Beauregard Small Area Plan and the conditions contained herein, and comply with the Beauregard Urban Design Standards and Guidelines, as part of the preliminary DSUP process. (P&Z)

40. Daycare/childcare facilities may be permitted through an administrative approval within existing buildings. (P&Z)

L. PARKS - OPEN SPACE

41. With the first preliminary DSUP within each neighborhood, the Applicant(s) shall submit a Comprehensive Open Space Programming Plan identifying the required parks-open spaces and character for each park-open space within that neighborhood. At the request of the Director of RP&CA, this plan shall be amended if necessary with subsequent preliminary DSUP applications. The following amenities shall be required within the Comprehensive Open Space Programming Plan:
   a) At least one fenced, 0.5 acre public dog park to accommodate large and small breeds shall be provided within the Greenway Park neighborhood, which shall be located outside the Resource Protection Area (RPA), and shall meet the requirements of the City of Alexandria's Dog Park Master Plan.
   b) A minimum of one tot-lot/children's play area shall be provided within each residential and mixed-use neighborhood.
   c) A minimum of one community garden shall be provided within the Greenway Park neighborhood with access to water and space for composting and storing equipment. Community gardens may extend no greater than 25 feet into the outer RPA boundary (shall not reduce the RPA below 75 feet) and shall be managed consistent with organic gardening principles. No pesticides, herbicides, or fertilizers shall be stored within the floodplain or RPA.
   d) Additional elements deemed necessary within each neighborhood as part of the preliminary DSUP. The remaining open space programming within each

neighborhood shall be required as part of the comprehensive open space plan for each neighborhood. (RP&CA)

42. With the exception of the multi-purpose field adjacent to Ramsey Elementary School, which shall be designed and constructed by the City using Developer Contributions, all public parks-open space shall be designed by the Applicant(s) as part of the preliminary DSUP process and shall be constructed by the Applicant(s) in accordance with the timing set forth herein or in the applicable DSUP. (RP&CA)

43. The public parks-open spaces required herein shall be dedicated, or provide a public access easement, to ensure public access as depicted in the CDD Concept Plan. The Greenway and Dora Kelley Nature Park Extension shall be dedicated to the City. The remainder of the designated public open space shall provide a perpetual public access easement and shall be privately maintained. Maintenance for all privately owned public parks//open space shall comply with the City of Alexandria Landscape Guidelines as amended. The parks-open space dedicated to the City shall be submitted and dedicated as individual parcels. Private maintenance of the proposed storm water management pond, while on land to be dedicated, shall be required by the Applicant(s). (RP&CA)

44. Roof-top open space shall be designed as high-quality open space with active and/or passive uses for residents and building tenants. Amenities such as swimming pools, exercise facilities, or comparable amenities are encouraged as part of each building or block. Roof-top open space on office buildings may be accessible to the public if compatible with the building use if mutually agreed upon by the Applicant(s) and the City as part of the preliminary DSUP. (RP&CA)(P&Z)

45. Where publicly accessible open spaces have underground parking below the public open space (Adams and Upland Park neighborhoods) the parking shall be designed in a manner to provide sufficient soil depth for plantings and trees in appropriate areas to minimize the use of raised planters. (RP&CA) (P&Z)

46. The neighborhoods within CDD #21 shall provide 40% tree canopy. In no case, shall tree canopy coverage be less than the applicable City requirements and provisions at the time of the approval for each redevelopment area. To the extent that the tree canopy cannot be accommodated on-site, tree canopy may be provided off-site within the Plan area, Dora Kelley Park, and/or other nearby areas as determined by staff and supported by the Planning Commission and City Council. (RP&CA)

47. At the time of future preliminary DSUP approval for each neighborhood, the Applicant(s) should consider pre-contracting with a licensed tree grower for dedicated stock so as to ensure the size and health of the stock to be planted. (RP&CA)

48. Private storm water management structures (at grade or below grade), other than the streetscape-storm water elements permitted by the Beauregard Urban Design Standards and Guidelines and required herein, shall be prohibited within (TYPO CORRECTED, 6/25/2013) the required public parks-open spaces that will be dedicated to the City, exclusive of the storm water pond permitted within the Greenway Park neighborhood.

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | plotted: | AVBP

DATE	PLAN STATUS	DATE	DESCRIPTION
DATE	DESCRIPTION	05/20/22	FSP SUB #3
08/02/21	FSP SUB #1	10/19/22	FSP SUB #4
12/22/21	FSP SUB #2		

PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
AARON M. VIRGIN
Lic. No.041851
4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0102.dwg

SHEET: C-0103

Storm water structures may be permitted within the required public parks-open spaces that are privately owned with a public access easement, providing that any such structure does not limit the public use of that open space. (RPCA) (P&Z)(T&ES)

49. As part of each preliminary DSUP, the Applicant(s) for each neighborhood shall incorporate the on and off-street bicycle network as depicted in the Beauregard Urban Design Standards and Guidelines. All bicycle signage, consistent with the proposed bicycle system and required herein, shall be installed prior to the issuance of Certificate of Occupancy for each building and/or block. (RP&CA)(T&ES)(P&Z)

M. URBAN ECOLOGY AND SUSTAINABILITY

50. The Applicant(s) shall submit a comprehensive neighborhood Storm Water Master Plan prior to, or as part of the first preliminary DSUP for each neighborhood to address storm water quality and quantity to the satisfaction of the Director of T&ES. The neighborhood Storm Water Master Plan shall be updated with each preliminary DSUP within that neighborhood. (T&ES)

51. New Development, as defined herein at Condition 11(b), within each neighborhood, shall meet the requirements as set forth in the Environmental Management Ordinance (Chesapeake Bay Preservation Act) as adopted by the City of Alexandria at the time of the submittal of each preliminary DSUP within each neighborhood. For DSUP applications filed prior to July 1, 2014, the applicants agree to meet the Virginia Storm Water Regulations and/or provisions of the Environmental Management Ordinance (Chesapeake Bay Preservation Act), whichever is more stringent. (T&ES)(City Council)

52. Each individual parcel shall, at a minimum, be in compliance with the aforementioned water quality standards at the time of development unless the regulated nutrients are compensated for by another BMP within the neighborhood as evidenced by the stormwater master plan, subject to the approval of the Director of Transportation and Environmental Services. (T&ES)

53. The water quality volume from impervious surfaces within new public rights-of-way shall receive treatment from storm water Best Management Practice (BMP) facilities in accordance with Memo to Industry #01-2012 or applicable City policy at the time of approval. Under the conditions outlined, such facilities may be located within the right-of-way. (T&ES)

54. Sidewalk BMP planters may be placed in all rights-of-way that are composed of at least 14 feet of width for planting areas and sidewalks combined, or alternative roadway storm water treatment, consistent with City standards. Other measures that might be employed to reduce runoff and improve water quality could be (but are not limited to) permeable paving, disconnected pavement sections, green screen/green wall irrigated with street or building roof runoff, conveying street runoff to constructed wetlands

within floodplain and RPA areas, and other new techniques that evolve. (T&ES)(P&Z)

55. The Applicant(s) shall remove existing impervious surfaces within the resource protection areas at the time of redevelopment for a particular DSUP. (T&ES)

N. GREEN BUILDING

56. The Applicant(s) shall, for each neighborhood, submit a Sustainability Plan with the submission of the first preliminary DSUP within each neighborhood, which shall identify common environmental elements to be utilized throughout each neighborhood that can be used to help individual parcels satisfy the requirements of the City's most recent green building policy. Elements that should be addressed within the Sustainability Plan shall be in conformity with the Urban Ecology and Sustainability goals of the Beauregard Small Area Plan and include, but not be limited to, the key areas given below.

a) Overall neighborhood sustainability plans shall:
   i. Include a commitment to achieving LEED-ND certification where applicable, in addition to the City's Green Building Policy in effect at the time of preliminary DSUP;
   ii. Design new public streets to include emerging best practices for storm water management (quality and quantity) and green infrastructure;
   iii. Specify LED or comparably efficient lighting throughout the neighborhood including lighting for public streets; and,
   iv. The Sustainability Plan is encouraged to incorporate the aspirational goals of the Beauregard Small Area Plan such as energy utilization and conservation measures throughout the neighborhood including on-site energy generation and use of renewable energy sources such as geothermal or solar where feasible and cogeneration and district energy systems..

b) Non-neighborhood related sustainability items identified in the Beauregard Small Area Plan shall be addressed during the DSUP process. These items shall include the following:
   i. New Development shall be subject to the City's Green Building Policy at the time of approval of each Development Special Use Permit ;
   ii. Designing roof areas for use as multi-purpose spaces that could include open space, green roofs and/or power generation;
   iii. Utilizing building footprints and ceiling heights that encourage different uses over the lifespan of the building; and
   iv. Utilizing low or ultra-low flow plumbing.
   v. The Applicant(s) are encouraged to incorporate aspirational sustainability goals identified in the Beauregard Small Area Plan including:
      (a) Use of photovoltaics;
      (b) Rainwater capture;
      (c) Grey water use; and
      (d) Green building requirements consistent with Eco-City goals. (T&ES) (P&Z) (PC)

O. SEWER

57. Sanitary sewer collection system capital improvements shall be required and paid for by individual development projects as needed to provide adequate conveyance capacity and demonstrate adequate outfall for proposed development as per the standards applicable at the time of approval of each DSUP. (T&ES)

58. The Applicant(s) shall submit a letter to the Director of Transportation & Environmental Services prior to release of the final site plan acknowledging that this property will participate, if the City adopts a plan prior to release of the building permit, to require equal and proportionate participation in an improvement plan to provide additional capacity in the Holmes Run Trunk Sewer sanitary sewer shed. (T&ES)

59. King Street and Beauregard Intersection

a) To reimburse the City for the cost of constructing approximately 350 linear feet of a parallel sanitary sewer in the intersection of King Street and Beauregard Street, any Applicant filing a DSUP for New Development in the Upland and Southern Towers neighborhoods shall pay the City an amount equal to fifty one cents ($0.51) per gallon per day of increased sewer flow from such New Development, over and above the sewer flow from any existing development. The calculation of existing sewer flow, and the calculations of new sewer flow, shall be computed based on the City's standard methodology. The $0.51 per gallon per day contribution shall escalate annually hereafter on January 1 of each year in accordance with increases in prior years in the CPI-U as defined herein. Contributions will be required prior to release of the final site plan for such New Development. Until these sewer improvements are constructed and operational, sewer capacity in the sewer-shed and the Upland Park and Southern Towers neighborhoods shall be limited accordingly.

b) In addition to the above improvement, other segments of sanitary sewer may be inadequate to convey the increased flow associated with development projects in this Plan. Each development project will be required to perform an adequate sanitary sewer capacity analysis and provide any necessary capital improvements to the sanitary sewer system to convey the proposed flows. (T&ES)

P. AFFORDABLE HOUSING

60. Prior to the submission of the first preliminary DSUP within each neighborhood, the Applicant(s) shall submit an affordable housing plan for the entire neighborhood reflecting the proposed distribution of affordable and workforce units within the neighborhood. This plan shall reflect at least 10% of the total new units to be developed (and for the Southern Towers Neighborhood. 10% of the units to remain within the Berkley Building), as well as all of the Lynbrook and Hillwood units scheduled to be conveyed to the City with the Greenway and Town Center neighborhoods in order to achieve the goal of 800 units set forth in the BSAP within

CDD#21 and CDD#22. This plan shall be amended with subsequent DSUPs, as necessary, to reflect any revisions to the plan.(Housing)

61. Unless otherwise mutually agreed by the Applicant(s) and the City, the Applicant(s) shall:

a) Allow the City to buy down up to 15% of the units in any new building developed within the CDD.
b) Upon approval of the first DSUP within either CDD#21 or CDD#22, allow the City to buy down up to 10% of the existing units in the Southern Towers Berkley Building.
c) The buy-down methodology used to determine the cost of affordable and workforce housing units shall be consistent with the formula set out in the Beauregard Affordable Housing Buy-Down Formula, which may be amended from time to time, as mutually agreed by the City and the Applicant(s).
d) The City and the Applicant for the Southern Towers neighborhood may negotiate a mutually agreed upon alternative to the 10% buy down in the existing Berkley Building to maximize availability of affordable units during the first phases of redevelopment. Such an agreement may include, but is not limited to, providing additional units for a shorter time at a discounted buy down price or potentially no buy down price to the City. If an alternative plan that is mutually agreed upon by the City and the Applicants is not finalized within one year of the approved CDD zoning, the City shall have the ability to proceed with the buy down of 10% of the existing units subject to other conditions herein.
e) The developer shall return to Council within a year with an agreement to provide 100-135 affordable units priced between 55%-75% AMI. The agreement shall provide the City with the opportunity to buy down units at a lower AMI and shall provide the option for mutually agreed upon extensions of the initial 10 year term.
f) The number, unit mix, and levels of affordability for affordable and workforce units to be bought down within new buildings shall be determined as part of the DSUP approval, taking into consideration the timetable and phasing of development for such DSUP. If sufficient funds are not available prior to the issuance of the final certificate of occupancy for the building, the Applicant(s) shall permit the City to buy down the affordable and workforce housing units consistent with the approval and subject to the buy-down formula as of the date of the actual buy-down for a period of time extending for fifteen (15) years after the completion of the Ellipse and Transitway improvements identified in Beauregard Small Area Plan.
g) The buy-down shall be made using resources from the Beauregard Implementation Fund and/or other resources provided by or leveraged by the City and its partners for the purpose of creating dedicated affordable and workforce housing.
h) The dedicated affordable and workforce housing units shall be dispersed throughout each neighborhood within the CDD boundaries and shall include a variety of unit sizes consistent with the market rate mix, unless otherwise mutually agreed upon by the Applicant(s) and the City, as well as a mix of affordability levels (i.e., various ranges of incomes). Specifically, dedicated units

shall be priced to serve households with incomes ranging from 40% AMI to 75% AMI in accordance with the proportions established at the time of the rezoning, and as may be amended over time. No one project should include a disproportionate share of any income range or any bedroom size, with the understanding that the general income mix in existing units to be bought down or dedicated may differ from that in new units, and that the mix of affordable unit sizes may vary based on the unit sizes available in a particular project.

i) The Applicant(s) agree to coordinate with the City, if requested during the DSUP process, to make a good faith effort to include three bedroom dedicated affordable and workforce units within projects that would not typically include three-bedroom units. Provision of such three-bedroom units shall not require larger units than those contemplated in the market rate unit mix.
j) All dedicated affordable and workforce housing units within the CDD shall remain affordable for a minimum of 40 years. (Housing)(City Council)

62. Any Applicant(s) obtaining a DSUP for development which necessitates demolition of existing units shall abide by the provisions of the Beauregard Tenant Assistance and Relocation Plan in effect as of the date of this approval, which may be amended from time to time, as mutually agreed by the City and the Applicant(s). (Housing)

63. Residents of committed affordable and workforce units within the Plan area who receive Housing Choice Voucher assistance (or any future equivalent) shall not be denied admission on the basis of receiving this assistance. Minimum income requirements shall not be applied to Voucher holders who are otherwise qualified based on other selection criteria. (Housing)

64. Residents of affordable housing units shall not be precluded from obtaining parking in the same manner which is available to market rate households. (Housing)

65. If mutually agreed upon by the City and the Applicant(s), resources from the Beauregard Implementation Fund and/or other resources provided by or leveraged by the City and its partners may be used to acquire sites or parcels for affordable and/or mixed income development and/or to develop and construct units above public structures if/when feasible. (Housing)

66. If mutually agreed upon by the City and the Applicant(s), land for the purposes of construction of dedicated affordable and workforce housing may be donated in lieu of a monetary contribution. (Housing)

67. In the event of an acquisition of land through purchase or donation for an affordable housing project, the contract between the Applicant and the City or its designee shall include terms detailing the allocation of units to be developed that will count toward the percentage goal of affordable units for that neighborhood. (Housing)

68. The Applicant(s) shall convey 56 units located at 5741-5743 Leverett Court (Hillwood) to the City prior to the issuance of a certificate of occupancy for 1.5

million square feet of development in the Town Center. The Applicant(s) shall be responsible for consenting to the filing of a subdivision application by the City for subdivision of Hillwood to create a separate lot of record for these buildings. The lot shall include the two Hillwood buildings, all necessary easements for ingress/egress and utilities, as well as the adjacent open space and parking to serve the Hillwood buildings. The Applicant(s) shall coordinate with the City to determine the exact limits of the subdivision at the time of the subdivision application and shall prepare the subdivision plat and deed of conveyance, including all necessary easements in consultation with the City to permit the recordation of a subdivided plat by the City. Until the Hillwood units are transferred to the City, they shall be maintained in good repair, with all building systems operable, the common areas clean and functional, and unit interiors habitable, with appliances and fixtures in working order. (Housing)

69. The Applicant(s) shall convey 44 units located at 5561, 5563, 5581, and 5583 Trent Court (Lynbrook) to the City prior to the issuance of a certificate of occupancy for 4.3 million square feet of development in the Town Center, Greenway, and Garden District neighborhoods. The Applicant(s) shall be responsible for consenting to the filing of a subdivision application by the City for subdivision of Lynbrook to create a separate lot of record for these buildings. The lot shall include the two Lynbrook buildings, all necessary easements for ingress/egress and utilities, as well as the adjacent open space and parking to serve the Lynbrook buildings. The Applicant(s) shall coordinate with the City to determine the exact limits of the subdivision at the time of the subdivision application and shall prepare the subdivision plat and deed of conveyance, including all necessary easements in consultation with the City to permit the recordation of a subdivided plat by the City. Until the Lynbrook units are transferred to the City, they shall be maintained in good repair, with all building systems operable, the common areas clean and functional, and unit interiors habitable, with appliances and fixtures in working order. In addition, until such time as the 44 Lynbrook units are transferred to the City, upon approval of the first DSUP within either CDD #21 or CDD #22, as units become available the Applicant(s) will allow the City to use affordable housing funds to subsidize rents to be affordable at such rents/income levels to be determined by the City. The City shall make an annual payment to the owner of the buildings based on the difference between the market rent and desired level of affordability. Applicant will cap the growth of market rents at the rate of inflation as determined by the CPI-U as defined herein. When the parcels adjacent to the dedicated Lynbrook buildings redevelop, any necessary streetscape, infrastructure, and utility improvements associated with the dedicated units shall be completed at the Applicant(s)/s expense. (Housing)

70. Within ninety (90) days from final approval(s) by the City Council, the Applicant(s) shall provide a report detailing the current condition of Hillwood and Lynbrook parcels referenced herein. The condition of the building at the time of rezoning shall be considered the base condition at which the properties shall be conveyed to the City at the time designated herein. (Housing)

Q. TRANSPORTATION MANAGEMENT PLAN

71. All development within CDD #21 shall require a Transportation Management Plan Special Use Permit (TMP SUP) to implement strategies to encourage residents and employees to take public transportation or share a ride, as opposed to being a sole occupant of a vehicle. The details of each TMP shall be included in the general staff conditions of each TMP SUP associated with this CDD. (T&ES)

72. Two TMP Associations shall be established: a North TMP Association will include all properties north of Seminary Road within the CDD, and the South TMP Association shall include all properties south of Seminary Road within the CDD. All development shall integrate into one of these two neighborhood Transportation Management Plan Associations when the districts are organized. The objective of these Associations is to make optimum use of transportation resources for the benefit of residents and employees within these Associations through economies of scale. No increase or decrease in TMP contributions will be required as a result of participation in the TMP Associations. (T&ES)

73. An annual Beauregard TMP fund rate shall be established and included in each TMP SUP. The base Beauregard TMP fund rate for each development from July 1, 2012 to June 30, 2013 shall be $80.00 per residential unit, $0.20 per square foot of retail space, $0.25 per square foot of commercial, $40.00 per hotel room, and $0.10 per square foot of industrial or warehouse space. The rate for uses not listed will be determined during the preliminary site plan review process. Beginning on July 1, 2013, the Beauregard TMP rate shall escalate annually hereafter on July 1 of each subsequent fiscal year in accordance with increases in prior years in the CPI-U as defined herein. The rate for each TMP-SUP will be determined by the current Beauregard TMP fund rate at the date of request for the initial certificate of occupancy. (T&ES)

74. The TMP fund shall be used exclusively for the approved transportation activities as set forth in the TMP SUP. (T&ES)

75. Each TMP SUP shall participate in the revised Transportation Management Program when established. The revised program will include the elements outlined in the December 8, 2010 Docket Memorandum entitled "Consideration of Transportation Management Plan (TMP) Policy Review Changes" that was presented to, and approved by, the City Council. The revised TMP program will go before the City Council for approval. The revision to the Program includes a periodic review of the TMP to determine if goals are being met. Fund rates and adjustments shall be consistent with the revised TMP program when it is established. Participation in the Program will not initially increase the base contribution established in this SUP; however, the base contribution would be subject to adjustment up or down, up to a percentage cap, based on the final revised TMP program language. (T&ES)

76. The Applicant(s) shall coordinate with the existing Mark Center Transportation Management Plan (TMP) to promote transit connections between the existing office

buildings and the Required Retail areas. (P&Z)(T&ES)

R. UTILITIES

77. No transformers or switch gears shall be installed in the public right-of-way, streets, or streets with a public access easement. All electrical transformers and associated utilities shall be located within the central portion of the blocks and alley(s), and screened to the satisfaction of the Directors of P&Z and T&ES, or provided in underground vaults which shall comply with all applicable Dominion Virginia Power (DVP) standards. Ventilation grates shall not be located within dedicated open space, sidewalks or streets - public right-of-way. The final location of the transformers and/or vaults shall be approved as part of the preliminary DSUP for each building/block. (P&Z) (T&ES)

78. All existing and new utilities along the frontage of the property extending to the nearest power poles on each side beyond the frontage within each DSUP shall be located below grade at the cost of Applicant(s). All utilities, with the exception of those having a franchise agreement with the City, shall be located outside the public right-of-way unless for the conveyance of storm water, and approved by the Director of T&ES. (T&ES)

S. PUBLIC ART

79. All New Development subject to the provisions of CDD #21 shall be subject to the City's Public Art Policy and the Public Art Master Plan at the time of preliminary DSUP. (RP&CA)

T. ARCHAEOLOGY

80. The Applicant(s) shall hire a consultant to complete a Documentary Study and Archaeological Evaluations for projects within the each neighborhood, as part of the first preliminary DSUP for each neighborhood. If significant resources are discovered, the consultant shall complete a Resource Management Plan, as outlined in the City of Alexandria Archaeological Standards. Preservation measures presented in the Resource Management Plan, as approved by the City Archaeologist, will be implemented. (Archaeology)

81. The Applicant(s) shall explore incorporation and interpret elements of the historical character and archaeological findings into the design of the open space and other aspects of development. Themes that could be explored include: Native American use of the area; plantations, tenants and enslaved African Americans; smaller farms, agriculture, and tobacco, wheat, livestock; Civil War, regimental campsite nearby; 20th-century transportation history, Shirley Highway. Incorporation of these themes could be reflected in:

a) Use of streams as the focal point of interpretation of natural environment and Native Americans;
b) Creation of roads and trails following the historic roadways (and streams) that are evident on Civil War period maps;

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DATE	DESCRIPTION	DATE	DESCRIPTION
	PLAN STATUS	08/02/21	FSP SUB #1	05/20/22	FSP SUB #3
		12/22/21	FSP SUB #2	10/19/22	FSP SUB #4

PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
MARK W. VIRGIN
LIC. No.041851
4/25/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0102.dwg

SHEET: C-0104

c) Use of architectural and hardscape materials that reflect the historical character, for example, river cobbles used by Native Americans to make tools, earthenware showing surface treatments on Indian pottery, wood/logs to reflect architecture of small tenant houses; and,
d) Use of the names of enslaved African Americans, which are known from wills and other documents. (Archeology)

82. If this project is a Federal undertaking, requires Federal permits, or involves the use of any Federal funding, the applicant shall comply with Federal preservation laws, in particular Section 106 of the National Historic Preservation Act of 1966. The applicant will coordinate with the Virginia Department of Historic Resources and the Federal agency involved in the project, as well as with Alexandria Archaeology and other City staff. (Archeology)

U. NEIGHBORHOOD REQUIREMENTS

GREENWAY

83. **Beauregard Multi-Use Trail**. The Applicant(s) shall design and construct a minimum 10' wide (exact width to be determined during DSUP) multi-use trail and associated signage on the east side of Beauregard Street to connect from the south end of the redevelopment area to the Holmes Run Trail. The trail shall be complete and operational prior to the first certificate of occupancy permit associated with the neighborhood. (T&ES)

84. **Greenway Park – Natural Area and Public Open Space**. The minimum 22.75 acre park (inclusive of the potential storm water pond) shall be constructed and made operational concurrently with the development of the adjoining blocks, and dedicated to the City after completion of the entire 22.75 acre park (EXHIBIT 2). An interim public trail connection in the Greenway Park between North Beauregard Street and Winkler Botanical Preserve shall be provided and operational at all times from the first DSUP within the neighborhood until the completion of the entire Greenway Park. (P&Z)(T&ES)(RP&CA)

85. Storm water management may be incorporated into the Greenway park design to the satisfaction of the Directors of P&Z, T&ES and RP&CA. Any interim pond design shall be functional as a BMP. The storm water pond shall be:

a) Part of the Storm Water Master Plan for the Greenway Neighborhood;
b) A Level II storm water pond, outside the RPA;
c) Designed using advanced technology and to have high quality native landscaping as well as an aquatic shelf;
d) Reduced in size according to necessary volume;
e) No larger than generally depicted within the CDD Concept Plan;
f) Compliant with the applicable provisions of the Beauregard Urban Design Standards and Guidelines;

g) Integrated into the design of the Park; and
h) Consolidated in the southeastern portion of the Park near Holmes Run to enable consolidation of the ground-level open space. (P&Z)(T&ES)(RP&CA)

86. Turkey Run and the portions of Holmes Run within the Greenway neighborhood shall be restored/stabilized, to the satisfaction of the Director of T&ES, using natural channel design to reduce erosive capacity as well as functionally increase water quality. The RPA shall be stabilized with native species in a natural state to maximize water quality improvements. (T&ES)(RP&CA)

87. The Applicant(s) shall be responsible for the design and installation of two pedestrian bridges in Greenway Park in the general locations depicted in the Beauregard Small Area Plan. The design of the bridges shall be approved as part of the preliminary DSUP for the Park. The bridges shall be installed and made operational prior to the completion of the Park as required herein. (RP&CA)

88. The remaining required public open space within the neighborhood, required pursuant to the CDD#21 Concept Plan, shall be constructed concurrently with the New Development adjoining the required public open space. (RP&CA)

GARDEN DISTRICT

89. **East West Greenway.** The minimum 1.45 acre portion of the East West Greenway (EXHIBIT 2) shall be constructed concurrently with development of each block fronting onto such open space. The final phasing for construction of the East West Greenway shall be approved as part of the Comprehensive Open Space Programming Plan submitted as part of the first DSUP for the neighborhood. (RP&CA)

90. **Dora Kelley Nature Park.** The approximately 1.8 acre portion of the Dora Kelley park expansion adjacent to the Garden District neighborhood, as depicted in the CDD Concept Plan, shall be constructed and made operational concurrently with the development of the adjoining blocks, and dedicated to the City after completion of the entire 7.4 acre expansion. The addition to Dora Kelley Nature Park shall be designed and landscaped in a manner to be a visual extension of the existing Park and the edge of the Park shall be designed and landscaped, including the selection of appropriate tree species, to minimize disturbance to the existing Dora Kelley Nature Park. (RP&CA)

91. The 0.73 acre mid-block pedestrian connection (EXHIBIT 2) shall be constructed and completed concurrently with each adjoining block. (P&Z)(RP&CA)

92. The remaining required public open space within the neighborhood, required pursuant to the CDD#21 Concept Plan, shall be constructed concurrently with the New Development adjoining the required public open space. (RP&CA)

93. **Fire Station**. The Applicant(s) shall dedicate the land and associated conveyances to the City for a fire station and associated facilities above the fire station, as generally

depicted in the CDD Concept Plan. The final area to be dedicated shall be based on a conceptual site plan as part of the DSUP process. In addition, the Applicant(s) shall be responsible for the provision of any necessary temporary and/or permanent easements such as grading, construction, etc., deemed necessary by the City to construct the fire station and/or associated facilities. The land shall be dedicated by within 90 days of written request by the City at such time as the City is preparing for the development of the fire station. Access and use of the existing parking lot shall remain until such time as the City is preparing for the development of the fire station. (P&Z) (Fire)

TOWN CENTER

94. **Town Square Park – Open Space**. The minimum 0.60 (EXHIBIT 2) acre Park shall be constructed, operational and a public access easement provided concurrently with the New Development within any block fronting onto the park or prior to the issuance of the first Certificate of Occupancy permit for 2,000,000 square feet of New Development within the Town Center neighborhood, whichever occurs first. The Town Center Park shall be designed to accommodate large gatherings such as markets, art shows, festivals, and special events. The design of the park should consider space for outdoor (possibly indoor or covered) entertainment events. The design of the Town Square shall incorporate lighting, landscaping, furnishings and should consider other amenities such as water features. In addition, the Applicant shall permit the City, upon an advance written request from the City, to host up to 10 City-public events/festivals annually at no cost to the City. (RP&CA)(P&Z)

95. **Greenway.** The minimum 1.62 acre portion of the Greenway adjacent to North Beauregard Street (EXHIBIT 2) shall be constructed concurrently with New Development within each block fronting onto the Greenway. (RP&CA)

96. **Dora Kelley Nature Park.** The approximately 5.6 acre portion of the Dora Kelley park expansion adjacent to the Town Center neighborhood, as depicted in the CDD Concept Plan, shall be constructed, and made operational concurrently with the development of the adjoining blocks, and dedicated to the City after completion of the entire 7.4 acre expansion. The addition to Dora Kelley Nature Park shall be designed and landscaped in a manner to be a visual extension of the existing Park and the edge of the Park shall be designed and landscaped, including the selection of appropriate tree species, to minimize disturbance to the existing Dora Kelley Nature Park. (RP&CA)

97. The remaining required public open space within the neighborhood, required pursuant to the CDD#21 Concept Plan, shall be constructed concurrently with the New Development adjoining the required public open space. (RP&CA)

98. **Retail**.

a) To ensure a comprehensive and coordinated approach for the retail leasing for the Required Retail within the Town Center Neighborhood, as depicted in the Beauregard Urban Design Standards and Guidelines, the retail shall be operated

through a coordinated management agreement, entity or district. The final role and composition of the retail management entity and overall governance shall be approved as part of the first DSUP containing the first retail space within the Town Center neighborhood.
b) Prior to the release of the first Certificate of Occupancy permit for the first building within the Town Center neighborhood, the Applicant(s) shall establish the retail management entity as required, which shall be responsible for the following items to the satisfaction of the Directors of P&Z, T&ES, RP&CA and City Attorney:
i. Open Space. Repair and maintenance of Town Center Park;
ii. Open Space. The entity shall be responsible for appropriate programming within the Town Center Park-open space.
iii. Parking. Coordination and management of the shared parking management plan between the owner(s) and/or buildings within the Town Center.
iv. Signage. Maintenance, repair, and coordination of locations and messaging for all identification signs, way-finding signs, directional signs, and seasonal/event banners.
v. Retail Management and coordination of retail use and tenants as defined herein. (P&Z) (T&ES)

ADAMS

99. At a minimum, the Adams Neighborhood Parallel Road (EXHIBIT 3) shall have connectivity to Beauregard via an east-west road at both the northern terminus and the southern terminus during any interim phase to the extent possible with existing development. The roadway shall be designed to make a connection at the southern terminus at Rayburn Avenue to the future planned roadway expansion through the Town Center neighborhood as depicted in (EXHIBIT 3). The Adams Neighborhood Parallel Road shall be centrally located within the Adams Neighborhood to provide a greater distance to adjacent residential neighborhoods to the north and a multi-use trail or equivalent facility shall be installed along the northern border of the Adams Neighborhood_The Applicant(s) shall be responsible for all costs associated with reconfiguring the John Adams Elementary School site to construct the streets and drive aisles as generally depicted within EXHIBIT 3. (T&ES)

a) At such time that the western portion of the parallel road, which connects to the John Adams Elementary School is constructed, the applicant shall coordinate with Alexandria City Public School Staff and City Staff to identify the needed functionality of the road alignment proximate to the John Adams School to include, but not limited to, a pick-up and drop-off area and appropriately sized sidewalks and drive aisles. (P&Z) (T&ES)

100. **Adams Neighborhood Roads.** As part of the first DSUP process, any Applicant(s) within the Adam Neighborhood shall consider the following in order to lessen the impacts on the existing adjoining residential neighborhoods. The following shall be evaluated as part of the first development special use permit process in consultation with the adjoining residential neighborhoods:

a) Condition deleted.

b) Evaluate the existing and future level of service for roadways in the vicinity as part of the traffic analysis to determine the transportation needs.
c) Condition deleted.
d) If there is a road adjacent to the adjoining residential neighborhoods, the road shall be designed to minimize vehicular speed and volume and the surface of the road shall include a material to reduce noise.
e) The type of buffer – screening along the Adams neighborhood shall include, but not limited to the following: fencing where appropriate, landscaping, and lighting appropriate given the adjoining residential uses; and take into account aesthetics and environmental sustainability.
f) Routine access - loading will be located to lessen impacts on the adjoining residential uses.
g) Provide a minimum 45 ft. buffer – screening adjacent to the existing townhouses (EXHIBIT 6), while accommodating required entrances and circulation.
h) The Applicant(s) shall be responsible for holding a community meeting(s), including a good faith effort to individually notify abutting property owners, residents, and adjacent homeowner and condominium associations prior to the submission of a preliminary DSUP. The Applicant(s) shall also be responsible for holding a community meeting(s), including a good faith effort to individually notify abutting property owners, residents, and adjacent homeowner and condominium associations prior to the release of the final site plan.
i) All lighting, including traffic signals, shall be appropriate given the residential nature of the adjoining neighborhoods.
j) Retain a multi-use path or equivalent facilities in the Adams Neighborhood to provide the mobility, accessibility and connectivity for pedestrians and cyclists west of Beauregard Street. (P&Z)(T&ES)(PC)

101. **Pedestrian Access to Dowden Terrace Neighborhood**. The Applicant(s) shall design and construct a pedestrian trail/access between the 10' multi-use trail parallel to Beauregard Street and the Dowden Terrace neighborhood at the following locations as part of the first preliminary DSUP and shall be complete and operational prior to the first certificate of occupancy permit associated with the first DSUP within the neighborhood:
a) N. Stevens Street; and
b) **N. Shelley Street.** This pedestrian connection will connect between N. Shelley Street and the Parallel Road, and will be within John Adams Elementary School (ACPS property). The pedestrian connection shall be designed in consultation with ACPS to ensure security and safety of the school site and to minimize impacts to existing school recreation facilities. (T&ES)
i. The pedestrian trail/access at N. Shelley Street shall be completed in conjunction with the redevelopment of the first parcel in the Adams Neighborhood which is located west of N. Highview Lane.
c) Submit the plat for the perpetual public access easements to facilitate pedestrian connectivity through the Adams Neighborhood in conjunction with the First Final Site Plan for redevelopment and recorded prior to release of the Site Plan.

i. The public access easement for the pedestrian trail/access at N Stevens Street shall be recorded in conjunction with DSUP2017-00019 for the redevelopment of 2000 N. Beauregard Street, or another parcel east of Highview Lane which is redeveloped first.
ii. The public access easement for the pedestrian trail/access at N Shelley Street shall be recorded in conjunction with the redevelopment of the first parcel in the Adams Neighborhood which is located west of N. Highview Lane.
d) The plat shall be recorded, and a copy of the recorded plat, dedications and deeds shall be submitted upon approval of the easement by the City.** (P&Z)(T&ES)

102. If the final configuration of streets does not reflect the layout shown on Diagram 7A, the ultimate designation of public and private streets shall be determined by the Director of T&ES as a part of the DSUP process for the Adams neighborhood. (T&ES)

103. At the southwest corner of North Beauregard Street at Highview Lane, the existing property (TM parcel #019.02-01-03.S3) and associated buildings will require that an interim cross-section and right-of-way be established until such time that the property is redeveloped and the building is removed. (T&ES)

104. **Adams Neighborhood Park and Public Open Space.** The 2.0 acre open space (EXHIBIT 2) shall be constructed, operational and a public access easement provided prior to the issuance of a certificate occupancy permit for 1,000,000 sq. ft. of New Development within the Adams neighborhood or the block(s) fronting onto the park. The 2.0 acre open space with the Adams neighborhood shall be available for public use, including potential use by the adjoining school. (RP&CA)(P&Z)

105. The remaining required public open space within the neighborhood, required pursuant to the CDD#21 Concept Plan, shall be constructed concurrently with the development on each block. (RP&CA)

106. Truck loading and routing access within the Adams neighborhood shall be located in a matter to lessen impact on the adjoining residential uses. (T&ES)

UPLAND PARK

107. **Upland Neighborhood Park.** The minimum 0.85 acre park (EXHIBIT 2), including the 24,784 square foot lot currently owned by the City, shall be constructed, operational and a public access easement (exclusive of the existing City owned land) shall be provided prior to the following, whichever occurs first:

a) The first Certificate of Occupancy permit for the second building with block frontage on the park, or
b) The issuance of a certificate occupancy permit for more than 350,000 square feet of New Development within the Upland Park neighborhood.
c) Parking may be permitted under the City-owned portion of the open space subject to the following:
i. The City and the Applicant(s) shall develop all applicable agreements

related to the construction, ownership, and uses of the parking facility during the preliminary DSUP process for blocks adjoining the park;
ii. For any underground parking, the underground parking shall have sufficient soil depth to accommodate all trees, landscaping, and park programming, without the use of raised planters; and
iii. Maintenance of both privately and publically owned parcels shall be the responsibility of the Applicant. (RP&CA)(P&Z)

108. **CONDITION AMENDED BY STAFF Development Phasing Trigger: Seminary Road Improvements west of Beauregard**. For any DSUP required for Upland Park, the Applicant(s) shall widen Seminary Road west of Beauregard Street by adding a westbound left turn lane for traffic turning onto Heritage Lane. This roadway improvement shall be complete and operational prior to the first certificate of occupancy permit for the **townhomes** ~~multi family building~~ along Seminary Road. (T&ES)

109. **CONDITION AMENDED BY STAFF Development Phasing Trigger: Multi-Use Trail on Seminary Road**. For any DSUP required for Upland Park, the Applicant(s) shall provide a multi-use trail on the north side of Seminary Road adjoining the property frontage. The trail shall be completed and operational prior to the first certificate of occupancy permit for the **townhomes** ~~multi family building~~ along Seminary Road. (T&ES)

110. To the extent that New Development occurs in the Upland Park neighborhood prior to the construction of the Ellipse such that the westbound left turn lane on Seminary to Heritage Lane/ Fairbanks Avenue is necessitated, the Applicant(s) will design and construct those improvements to the satisfaction of the Director of T&ES and such improvements from back of curb to the centerline of Seminary Road will be offset from the Developer Contribution or reimbursed to the Applicant(s) as part of the Ellipse construction. (T&ES)

111. In the event the acquisition of right-of-way, construction of the Ellipse and/or any other implementation of the conditions herein impacts the parking or access to the adjoining parcel TM#0.10.04-03-19, the following shall be provided:

a) As part of any redevelopment of the Upland Park neighborhood, the Applicant(s) shall be responsible for providing access and replacement parking for TM parcel #0.10.04-03-19. The parking shall be constructed within Upland Park neighborhood and/or on the adjoining lot, to the satisfaction of the Director of T&ES. The Applicant(s) shall be responsible for submitting all necessary plans and approvals to construct the access and parking as required herein.
b) In the event that the parking and access, as required herein, needs to be constructed in advance of any redevelopment within the Upland Park neighborhood, the City shall be responsible for the construction of the access and replacement parking as

required herein. The Applicant(s) shall be responsible for the provision of all necessary land, easements, and/or agreements to construct the access and replacement parking. In this event, the City shall be reimbursed for all costs associated with the access and replacement parking, adjusted for CPI-U as defined herein, as part of the redevelopment of the Upland Park neighborhood. (P&Z)(T&ES)

112. Retail.

a) To ensure a comprehensive and coordinated approach for the retail leasing for the Required Retail within the Upland Park Neighborhood as depicted in the Beauregard Urban Design Standards and Guidelines, the retail shall be operated through a coordinated management agreement, entity or district. The final role and composition of the retail management entity and overall governance shall be approved as part of the first DSUP containing the first retail space within the Upland Park neighborhood.
b) Prior to the release of the of the first Certificate of Occupancy permit for the first building within the Upland Park neighborhood, the Applicant(s) shall establish the retail management entity as required, which shall be responsible for the following items to the satisfaction of the Directors of P&Z, T&ES and City Attorney:
i. Parking. Coordination and management of the shared parking management plan between the owner(s) and/or buildings within the Town Center.
ii. Signage. Maintenance, repair, and coordination of locations and messaging for all identification signs, way-finding signs, directional signs, and seasonal/event banners.
iii. Retail Management and coordination of retail use and tenants as defined herein. (P&Z)(T&ES)(CAO)

SOUTHERN TOWERS

113. Pre-Development Agreements and Access.

a) **Existing Bus Route Agreement.** By June 1, 2013, the Applicant shall provide a recorded license agreement to the City authorizing the use of local bus service within Southern Towers, as mutually agreed upon by both parties.
b) **Interim Bus Rapid Transit (BRT) Route Agreement.** By June 1, 2013, the Applicant shall submit an access, construction and maintenance agreement for the interim BRT Route and Station through the Southern Towers parking lot. (T&ES)

114. **BRT Transitway and Station.** The Applicant shall grant the City a public access street easement for the final BRT Transitway and Station through Southern Towers as generally depicted in the Beauregard Small Area Plan upon completion of the construction of the replacement parking structure and after the City finalize plans to begin construction of the entire BRT route. The City shall include the applicant in the planning and design for the BRT Transitway and Station. As part of the planning

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED
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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | SIC: | AVBP:

DATE	PLAN STATUS	DATE	DESCRIPTION
DATE	DESCRIPTION	08/02/21	FSP SUB #1
		05/20/22	FSP SUB #3
		12/22/21	FSP SUB #2
		10/19/23	FSP SUB #4

PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
MARK W. VIRGIN
LIC. No.041851
4/26/2023

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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process, the City and the Applicant shall enter into an agreement to coordinate the timing of construction, location of all necessary easements and other construction details to minimize the impact on existing parking and residents. Within 90 days of request by the City, the Applicant shall submit an easement, construction and maintenance agreement for the BRT Transitway and Station. The cost of the construction of the BRT Transitway, and station as generally shown on (EXHIBIT 4) and includes only lanes that are dedicated for transit or a shared transit/general purpose lane, shall be paid for by the City. In the event that the City is unable to construct the transitway, the City and Applicant may negotiate to have the Applicant construct the BRT Transitway and station with reimbursement by the City. In the event that the Applicant requires a temporary access road within the alignment of the proposed Transitway as part of any DSUP, the Applicant shall be responsible for constructing this road and ensuring that the road is aligned with the future Transitway and constructed to the specifications of the future Transitway. Condition 6(c) shall not apply to final Transitway easement within Southern Towers until such time as the provisions of Condition 114 have been met. (T&ES)(PC)(City Council)

115. The Applicant shall coordinate with the adjacent property owner to provide the right-of-way necessary to construct the Transitway as generally depicted on Exhibit 10. The current agreement between the property owners is for the Applicant to construct 18 spaces on its property for use by Hermitage Hill in return for Hermitage Hill's dedication of the necessary right-of-way for the Transitway and conveyance of the residual parcel to the Applicant. If the current agreement is not memorialized prior to the Applicant's completion of the replacement parking structure on its property, the Transitway will have access through the property in the interim route. (T&ES)

116. **Multi-Use Trail on Seminary Road.** Southern Towers shall construct the 10' minimum wide multi-use trail along the CDD zoned property as generally shown in the Beauregard Small Area Plan prior to the issuance of the certificate of occupancy for the first building fronting on Seminary Road. An interim condition (which may be less than 10' wide if necessary) is permitted along the frontages of future building locations during construction of those facilities (T&ES)(P&Z).

117. **Open Space.** The open space parks (EXHIBIT 2) shall be constructed and made operational prior to the issuance of a certificate occupancy permit for the first building to exceed 350,000 square feet of New Development within the Southern Towers neighborhood. (RP&CA)

118. **Development Infrastructure Phasing:** The Applicant shall submit an updated traffic study for each preliminary DSUP for the Southern Towers neighborhood. The Applicant shall construct any improvements necessary to serve its development while minimizing impacts to parking. The following improvements are currently anticipated as necessary to serve the Southern Towers neighborhood.

a) Seminary Road and Mark Center Drive Intersection Improvements. Widening of the southbound approach to Mark Center Drive at the intersection of Seminary

Road to provide dual left turn lanes, one (1) through lane, and one (1) right turn lane. This intersection improvement project shall be coordinated with the VDOT project to improve pedestrian access across the north side of Seminary Road.

b) East-West Access Connector Parallel to Seminary Road.
   i. The Applicant shall keep the existing drive aisle or re-configured drive aisle open for access from I-395 through the Applicant's property to Beauregard Street and Seminary Road.
   ii. Upon the issuance of any building permit within the CDD zone, the Applicant shall continue to keep the existing drive aisle open and adequate to serve local transit vehicles and for access from I-395 through the Applicant's property to Beauregard Street and Seminary Road. The Applicant shall retain the right to implement traffic calming measures, re-configure the drive aisle, and/or make other changes to the drive aisle. Any change made by the Applicant will maintain pedestrian, transit, and vehicular circulation in accordance with industry safety standards. The traffic analysis conducted as part of each Applicant's preliminary DSUP shall identify the specific improvements needed. (T&ES)(PC)

119. Retail

a) To ensure comprehensive and coordinated approach for the retail leasing for the required retail within the Southern Towers Neighborhood as depicted in the Beauregard Urban Design Standards and Guidelines, the retail shall be operated through a coordinated management agreement, entity or district. The final role and composition of the retail management entity and overall governance shall be approved as part of the first DSUP containing the first retail space within the Southern Towers neighborhood.

b) Prior to the relation of the first Certificate of Occupancy permit for the first building within the Southern Towers neighborhood , the Applicant(s) shall establish the retail management entity as required, which shall be responsible for the following items to the satisfaction of the Directors of P&Z, T&ES, RP&CA and City Attorney:
   i. Parking. Coordination and management of the shared parking management plan between the owner(s) and/or buildings.
   ii. Signage. Maintenance, repair, and coordination of locations and messaging for all identification signs, way-findings signs, directional signs and seasonal/event banners.
   iii. Retail Management and coordination of retail use and tenants as defined herein. (P&Z)(T&ES)(City Council)

V. CDD CONCEPT PLAN FINDINGS: TRANSPORTATION AND ENVIRONMENTAL SERVICES

F-1 Sheet P-0301: There is an intermittent stream north of Seminary and west of Beauregard that should be shown on this sheet. While the ellipse, which is a public improvement, will probably absorb this intermittent stream it should be shown as an

environmental feature because it exists at this time. (OEQ)

F-2 Sheet P-0401: There is an intermittent stream north of Seminary and west of Beauregard that should be shown on this sheet. While the ellipse, which is a public improvement, will probably absorb this intermittent stream it should be shown as an environmental feature because it exists at this time. (OEQ)

F-3 Sheet P-0501: RPA adjacent to Mark Center Road should be shown as "J" traffic improvements may be influenced by this environmental constraint. (OEQ)

F-4 Provide information on public and private utilities in the site plan along with the ownership of the utilities. For sanitary and storm sewers, show the pipe size, material, slope, and direction of flow in plan view. (Engineering)

F-5 Sheets P-0501 thru P-0504: Difficult to read where the future ROW line is for the transitway. More clearly show the area of ROW dedication for the interim transitway. It would be helpful to also provide the square footages by landowner for dedication of ROW for the interim transitway. The dedication for the interim ROW should go to the back of sidewalk on either side of Beauregard Street. (Transportation Planning)

F-6 Sheet P-0501: Transitway shading on Sanger Avenue should be continued further to the east. (Transportation Planning)

F-7 Sheet P-0505: Show where the transit station in each direction at Southern Towers will be located for the interim transitway configuration. (Transportation Planning)

F-8 Sheet P-0601: Add a note to say "The transportation improvements are based on the Small Area Plan densities and completed traffic analysis. The final design details are subject to additional traffic analysis to be conducted as part of future Development Special Use Permit applications." (Transportation Planning)

F-9 Sheet P-0601: Reference E in Chart, under Improvements, should say "Build 10' wide minimum multi use trail…"

F-10 Sheet P-0601: Reference H in Chart, under Improvements, should say "Build 10'wide minimum multi use trail…"

F-11 Sheet P-0601: Reference K in Chart, under Improvements, should say "Provide permissible left turn phasing for the Sanger Avenue left turns. Provide permissible right turn phasing for westbound Sanger Avenue."

F-12 Sheet P-0601: Reference Q in Chart, under Responsible Party, should say "Developers". It is not anticipated that the City would construct any portion of new Sanger Avenue, including the transitway.

STAFF RECOMMENDATIONS

DEVELOPMENT SPECIAL USE PERMIT #2019-00017 CONDITIONS

1. The Final Site Plan shall be in substantial conformance with the preliminary plan dated December 4, 2020 and as amended on December 16, 2020 and comply with the following conditions of approval.

A. SITE PLAN

2. Per Section 11-418 of the Zoning Ordinance, the development special use permit shall expire and become null and void, unless substantial construction of the project is commenced within 36 months after initial approval *(plus any extensions per the October 6, 2020 City Council Docket Item 19 due to the COVID-19 emergency, as may be extended)* and such construction is thereafter pursued with due diligence. The applicant shall provide a written status report to staff 18 months after initial approval to update the City Council on the project status if substantial construction has not commenced at such time. The period of validity may be extended upon petition by the applicant and after adequate notice and public hearing. (P&Z)

3. Submit the plat and all applicable easements prior to the Final Site Plan submission. The plat(s) shall be approved prior to or concurrently with the release of the townhouse Final Site Plan. (P&Z) (T&ES) *

4. The plat shall be recorded, and a copy of the recorded plat, dedications and deeds shall be submitted with the first request for a building permit. (P&Z) (T&ES) **

5. Coordinate location of site utilities with other site conditions to the satisfaction of the Directors of P&Z and T&ES. These items include:
   a. Location of site utilities including above grade service openings and required clearances for items such as transformers, telephone, HVAC units and cable boxes.
   b. Minimize conflicts with plantings, pedestrian areas, and major view sheds.
   c. Do not locate above grade utilities in dedicated open space areas and tree wells.
   d. If applicable, all utilities shall be screened from the public ROW to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES) *

6. Provide a lighting plan with the Final Site Plan to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of T&ES and/or P&Z in consultation with the Chief of Police and shall include the following:
   a. Clearly show location of all existing and proposed streetlights and site lights, shading back less relevant information. *

   b. Determine if existing lighting meets minimum standards within the City right-of-way adjacent to the site. If lighting does not meet minimum standards, additional lighting shall be provided to achieve City standards or to the satisfaction of the Director of T&ES. *
   c. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens. *
   d. All proposed light fixtures in the City right of way shall be approved Dominion LED light fixtures. *
   e. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s) and security lighting. *
   f. A photometric plan with lighting calculations that include all existing and proposed light fixtures, including any existing street lights on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way. Show existing and proposed street lights and site lights. *
   g. Photometric plan must either be separated into two plans or provide a clear distinction between the following: a plan with all street lights and other pertinent off-site lighting, and a plan without street lights and off-site lighting; to demonstrate the plan's compliance with lighting regulations re: light spill. *
   h. If site lights are included in the photometric plan to comply with City's lighting standards, then these lights shall be put on photovoltaic switches. *
   i. Provide location of conduit routing between site lighting fixtures to avoid conflicts with street trees. *
   j. Detail information indicating proposed light pole and any footing in relationship to adjacent grade or pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury. *
   k. The lighting for the areas not covered by the City of Alexandria's standards shall be designed to the satisfaction of Directors of T&ES and P&Z.
   l. Provide numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.*
   m. Upon installation of all exterior light fixtures for the site/building, provide photographs of the site demonstrating compliance with this condition. ****
   n. Full cut-off lighting shall be used as applicable at the development site to prevent light spill onto adjacent properties. (P&Z) (T&ES) (Police)(Code)

7. The Emergency Vehicle Easement (EVE) shall not be painted. When an EVE is shared with a pedestrian walkway or consists of grasscrete or a similar surface treatment, the EVE shall be defined in a manner that is compatible with the surrounding ground plane. (P&Z)

8. Provide a georeferenced CAD file in **AutoCAD 2018** dwg format, which follows the National CAD Standards, of the dimension plan of this project including existing conditions, proposed conditions and grading elements. This information will be used to compile a master CAD reference to ensure all proposed features are correctly located and will connect. (P&Z) (DPI) *

9. Develop a phasing and interim landscape plan for areas proposed for construction in Phase 2. Plan should include demolition of existing houses, site remediation and any securing of the site. (P&Z) (T&ES) (Code) *

B. BUILDING:

10. The building designs, including the appearance, color and quality of materials, final detailing, and three-dimensional expression, shall be consistent with the elevations dated December 4, 2020 and the elevations presented to and recommended for approval by the Beauregard Design Advisory Committee at its meeting of October 26, 2020 and the following conditions. (P&Z)

11. Provide the following information to the satisfaction of the Director of P&Z:
   a. Provide samples of actual glazing, frame and sash components that are proposed for each area of the building in the color and material that will be provided. *
   b. Building panels may not use a wrap-around trim for mounting to the substructure but can use a reveal detail at all flush panel joints.
   c. Paint, stain or otherwise finish the underside of all balconies including framing. (P&Z) *

12. Provide detailed drawings (enlarged and coordinated plan-section-elevation studies, typically at ¼"=1'-0" scale, with shadows cast at 45 degrees from both left and above to show true depth of recesses and projections) in realistic color to evaluate the building base, entrance canopy, stoops, window and material details including the final detailing, finish and color of these elements during the Final Site Plan review. Separate design drawings shall be submitted for each building typology, different wall or bay type. (P&Z) *

13. Building materials, finishes, and relationships shall be subject to review and approval by the Department of Planning and Zoning for substantial conformance to the Preliminary Plan and as set forth in the associated *Guidelines for Preparations of Mock-Up Panels* Memo to Industry, effective May 16, 2013. The following submissions shall be provided to review the materials, finishes and architectural details, prior to selection of final building materials:
   a. Provide a materials board that includes all proposed materials and finishes at first Final Site Plan. *

   b. The materials board shall remain with the Department of Planning and Zoning until the final certificate of occupancy, upon which all samples shall be returned to the applicant. ***
   c. Provide drawings of a mock-up panel that depict all proposed materials, finishes, and relationships as part of the first Final Site Plan. *
   d. Construct an on-site, mock-up panel of proposed materials, finishes, and relationships for review and approval prior to final selection of building materials. The mock-up panel requires a building permit and shall be constructed and approved prior to vertical (above-grade) construction and prior to ordering final building materials. **
   e. The mock-up panel shall be located such that it shall remain on-site in the same location through the duration of construction until the first certificate of occupancy. *** (P&Z) (Code)

14. The project shall comply with the requirements defined by the City of Alexandria 2019 Green Building Policy. Diligent pursuance and achievement of this certification shall be monitored through the following to the satisfaction of the Directors of P&Z and T&ES:
   a. The project shall comply with the requirements defined by the City of Alexandria 2019 Green Building Policy and the priority performance points in energy use reduction, water efficiency, and indoor environmental quality.
   b. The application shall provide a draft scorecard identifying the project's path to LEED, Green Globes or Earthcraft certification (or equivalent) with the submission of the Preliminary Review documents.
   c. Provide evidence of the project's registration with LEED, Green Globes or Earthcraft (or equivalent) with the submission of the first Final Site Plan and provide a draft checklist showing how the project plans to achieve the certification and clearly indicate that requirements for Energy Use Reduction, Water Efficiency and Indoor Environmental Quality are being met as defined by the City of Alexandrian 2019 Green Building Policy. *
   d. Provide an updated copy of the certification scorecard prior to the release of building permits for above-grade construction. **
   e. Provide updated energy reports prior to the release of building permits for above-grade construction. **
   f. Provide a draft commissioning plan that includes items "i" through "v" below, prior to the release of building permits for above-grade construction. **
      i. A narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
      ii. A listing of the specific equipment, appliances or systems to be tested and a description of the tests to be performed.
      iii. Functions to be tested including, but not limited to, calibrations and economizer controls.

      iv. Conditions under which the test will be performed. Testing shall affirm winter and summer design conditions and full outside air conditions.
      v. Measurable criteria for performance.
   g. Provide updated water efficiency documentation reflecting any changes from the Final Site Plan prior to the release of building permits for above-grade construction. **
   h. Provide updated daylight analysis documentation reflecting any changes from the Final Site Plan prior to the release of building permits for above-grade construction. Provide updated daylight analysis documentation reflecting any changes from the Final Site Plan prior to the release of building permits for above-grade construction. **
   i. Provide evidence that design phase credits have been submitted by the first certificate of occupancy. ***
   j. Provide a commission report including issues log, completed pre-function checklists and any completed functional performance tests by the final certificate of occupancy. ***
   k. Provide evidence of submission of materials clearly indicating that requirements for Energy Use Reduction, Water Efficiency and Indoor Environmental Quality are being met as defined by the City of Alexandria Green Building Policy for Design Phase credits to the U.S. Green Building Council (USGBC), Green Globes or Earthcraft (or equivalent) prior to issuance of a certificate of occupancy.***
   l. Provide documentation certification at the release of the maintenance bond clearly indicating that requirements for Energy Use Reduction, Water Efficiency and Indoor Environmental Quality have been achieved as defined by the City of Alexandria Green Building Policy. ****
   m. Failure to achieve the certification level, as required by the City of Alexandria 2019 Green Building Policy, will be evaluated by City staff, and if staff determines that a good faith, reasonable, and documented effort was not made to achieve the certification level, then any City-wide Green Building policies existing at the time of staffs' release of Final Site Plan will apply.

15. Install Energy Star labeled appliances where residential appliances are installed. (T&ES)

16. In order to provide a more sustainable use of natural resources, the applicant shall use EPA-labeled WaterSense or equivalent low flow fixtures. In addition, the applicant is encouraged to explore the possibilities of adopting water reduction strategies (i.e., use of gray water system on-site) and other measures that could reduce the consumption of potable water on this site. A list of applicable mechanisms can be found at: www.epa.gov/WaterSense. (T&ES)

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT: | AWP

DATE	DESCRIPTION	PLAN STATUS
08/02/21	FSP SUB #1	DATE DESCRIPTION
12/22/21	FSP SUB #2	05/20/22 FSP SUB #3
		10/19/22 FSP SUB #4

PROFESSIONAL ENGINEER — COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. No.041851 — 4/25/2023

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

C. *OPEN SPACE/LANDSCAPING:*

17. Develop, provide, install and maintain an integrated Landscape Plan in accordance with the City of Alexandria's Landscape Guidelines, available online at: www.alexandriava.gov/uploadedFiles/recreation/ParkPlanning/LandscapeGuidelinesFinalv2Final.pdf

18. Develop a palette of site furnishings in consultation with staff.
    a. Provide location, and specifications, and details for site furnishings that depict the installation, scale, massing and character of site furnishings to the satisfaction of the Directors of P&Z, RP&CA and T&ES.
    b. Site furnishings may include benches, bicycle racks, trash and recycling receptacles, and other associated features. (P&Z) (T&ES) *

19. Provide material, finishes, and architectural details for all retaining walls, seat walls, decorative walls, and screen walls. Indicate methods for grade transitions, handrails –– if required by code, directional changes, above and below grade conditions. Coordinate with adjacent conditions. Design and construction of all walls shall be to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES) (Code) *

D. *LANDBAY D PARK SPACE:*

20. Coordinate with staff on the following items for the open space proposed at the Landbay D City park parcel and interim private park parcel, to the satisfaction of the Directors of P&Z, T&ES and RP&CA.
    a. With first Final Site Plan, provide final designs for the Landbay D City park parcel and interim private park parcel, to include:
        i. All site furnishings within the Landbay D City park parcel should be per the Park Facilities Standard Manual and may include benches, bicycle racks, trash and recycling receptacles, and other associated features. *
        ii. All light fixtures proposed in the Landbay D City park parcel shall be approved LED light fixtures. *
    b. Develop an interim trail connection between the Landbay D City park parcel and the City open space at the northeast corner of Beauregard Street and Seminary Road. *
    c. Work with staff to develop interim improvements, such as a fence, to make the City open space at the northeast corner of Beauregard Street and Seminary Road more useable by the community. *
    d. Landbay D City park parcel and the trail connection will be operational at first Certificate of Occupancy of the Landbay C townhouse units fronting on the park. ***

    e. The townhouse block order of construction should be established as part of the Construction Management Plan. *
        i. In the event the Landbay C townhouse block is delayed, the applicant shall coordinate with staff to develop a timeline for completion.
    f. Provide a maintenance agreement for the Landbay D City park parcel to be approved and recorded prior to release of the Final Site Plan. The final maintenance obligation will be aligned with the Maintenance bond. * ****
    g. Prior to the release of the first Certificate of Occupancy for the townhouses in Landbay C fronting on the park in Phase I, provide a maintenance agreement for the Landbay D private park parcel. ***

21. The City of Alexandria Playspace Policy was approved in October 2013 to improve the health and well-being of all youth through design and provision of quality playspaces. Prior to the submission of Final Site Plan #1, the applicant shall work with RP&CA staff representatives of the Playspace Technical Advisory Team (P-TAT) and P&Z staff to develop a playspace design of structured and/or unstructured play.
    a. The playspace should provide a coordinated array of the play elements, to the satisfaction of the Director of RP&CA.
    b. Playspace plans shall depict location, scale, massing and character of the playspace, grade conditions, surfacing, site furnishings, vegetation, and other site features.
    c. Playspaces and site equipment shall comply with the most recent guidelines, specifications and recommendations of the Consumer Product Safety Commission (CPSC) Handbook for Public Playground Safety, ASTM Specification for Playground Equipment for Public Use (ASTM F1487) and ASTM Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment (ASTM F1292). Applicant shall provide certification that the play areas have been designed, reviewed and approved by a certified playground safety inspector (CPSI professional) with current certification. Play area and equipment shall comply with Americans with Disabilities Act 2010 ADA Standards for Accessible Design.
    d. Playspaces shall be regularly inspected and appropriately maintained according to CPSC, ASTM, and manufacturer recommendations. Natural play spaces and/or elements shall be maintained and cared for according to landscape standards provided by landscape architect, planner, and/or to relevant CPSC and ASTM standards.
    e. Play areas shall be open to the public and located in areas accessible to the public.
    f. Playspaces shall have appropriate signage posted with hours of operation and other operational information. (RP&CA) (P&Z)

22. For all plantings within the City parcel, provide a minimum of five percolation tests throughout the site to ensure sufficient subgrade drainage related to proposed planting locations. Test pits shall be a minimum of 2 feet in diameter and 2 feet deep from the bottom of the planting hole and be located in planting and lawn areas. Percolation test locations and rates shall be to the satisfaction of the Director of RP&CA, but the minimum acceptable rate shall be two inches per hour using potable water. Percolation tests shall be certified by a soil scientist / registered geotechnical engineer. (P&Z) (RP&CA) *

23. Final design and construction of the Landbay D interim private park parcel will be developed with the next phase of Upland Park approvals and coordinate with the design and attributes of the Landbay D City park parcel.

24. Construction staging is not permitted on Parcel 010.04-3-23, except for construction activities on that parcel, without an agreement in writing to the satisfaction of the Directors of P&Z and RP&CA. (P&Z) (RP&CA)

E. *TREE PROTECTION AND PRESERVATION:*

25. Provide, implement and follow a Tree and Vegetation Protection Plan per the City of Alexandria Landscape Guidelines (P&Z) (RP&CA) *

26. With first Final Site Plan, update tree canopy calculations to demonstrate compliance with the tree canopy requirements for this application. Per CDD Condition #46, the total neighborhood tree canopy will be required to be 40% for the entire neighborhood following construction of future phases. (P&Z) *

F. *ARCHAEOLOGY:*

27. Per Condition #80 of CDD #21, the applicant shall hire a consultant to complete a Documentary Study and Archaeological Evaluation as part of the first preliminary DSUP. (P&Z)

28. Hire a professional consultant to work with staff and the landscape designers to incorporate and interpret elements of the historical character and archaeological findings into the design of the open space and to prepare interpretive elements, which shall be erected as part of the development project. The site plan shall indicate themes and locations of interpretive elements. Prior to release of the Final Site Plan, the consultant shall provide text and graphics for the interpretive elements subject to approval by the Alexandria Archaeology and the Directors of P&Z. (P&Z) (Arch)*

29. Hire an archaeological consultant to complete a Documentary Study and an Archaeological Evaluation. If significant resources are discovered, the consultant

shall complete a Resource Management Plan, as outlined in the City of Alexandria Archaeological Standards. Preservation measures presented in the Resource Management Plan, as approved by the City Archaeologist, will be implemented. (Archaeology)

30. The Final Site Plan, Grading Plan, or any other permits involving ground disturbing activities (such as coring, grading, filling, vegetation removal, undergrounding utilities, pile driving, landscaping and other excavations as defined in Section 2-151 of the Zoning Ordinance) shall not be released until the City archaeologist confirms that all archaeological field work has been completed or that an approved Resource Management Plan is in place to recover significant resources before or in concert with construction activities. (Archaeology) *

31. Call Alexandria Archaeology (703-746-4399) two (2) weeks before the starting date of any ground disturbance so that an inspection or monitoring schedule for City archaeologists can be arranged. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology)

32. Call Alexandria Archaeology immediately (703-746-4399) if any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts are discovered during development. Work must cease in the area of the discovery until a City archaeologist comes to the site and records the finds. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology)

33. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, unless authorized by Alexandria Archaeology. Failure to comply shall result in project delays. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology)

34. The final certificates of occupancy shall not be issued for this property until interpretive elements have been constructed, interpretive markers have been erected, and the final archaeological report has been received and approved by the City Archaeologist. (Archaeology) ***

G. *PEDESTRIAN/STREETSCAPE:*

35. Provide the following pedestrian improvements to the satisfaction of the Directors of P&Z and T&ES:

    a. Complete all pedestrian improvements for each segment of street frontage prior to the issuance of the first certificate of occupancy permit for units fronting on each street frontage.
    b. Install ADA accessible pedestrian crossings serving the site.
    c. Construct all concrete sidewalks to City standards per the Site Plan.
    d. Sidewalks shall be flush across all driveway crossings.
    e. All newly constructed curb ramps in Alexandria shall be concrete with detectable warning and shall conform to current VDOT standards.
    f. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street to minimize crossing distances. Any changes must be approved by the Director of T&ES.
    g. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development, which must be designed to the satisfaction of the Director of T&ES.
    h. All crosswalks shall be standard, 6 inches wide, white thermoplastic parallel lines with reflective material, with 10 feet in width between interior lines. High-visibility crosswalks [white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)] may be required by staff at Final Site Plan. All other crosswalk treatments must be approved by the Director of T&ES.
    i. All below grade utilities placed within a City sidewalk shall be designed in such a manner as to integrate the overall design of the structure with the adjacent paving materials to minimize any potential visible impacts. *** (P&Z) (T&ES)

H. *PARKING:*

36. The design and allocation of parking shall be subject to the following to the satisfaction of the Directors of P&Z, T&ES, and Code Administration:
    a. The townhouse garages shall contain a minimum unobstructed interior dimension of 9 feet x 37 feet to enable two tandem parking spaces. The parking space dimensions shall not include columns, walls, or obstructions. Dimension lines for interior garages for each of the unit types shall be provided with first Final Site Plan. *
    b. All parked vehicles shall be prohibited from encroaching on the proposed streets, drive aisles, pedestrian walkways, or emergency vehicle easements, and all purchasers shall be notified of this prohibition.
    c. Each of the townhouse units shall provide a sufficient area within each unit, garage, or in an enclosed area for a standard City-issued trash and recycling container exclusive of the area required for parking. Show the proposed locations with the first Final Site Plan. *

    d. Individual townhouse garages shall be utilized only for parking and cannot be converted to living space; storage which interferes with the use of the garages for vehicle storage is prohibited. (P&Z) (T&ES) (Code)

37. Parking for the residential uses shall be consistent with the requirements of the Zoning Ordinance in effect at the time of approval by City Council and/or Planning Commission. (P&Z) (T&ES)

38. The applicant will explore providing each townhome at least one parking space with necessary infrastructure (240 volts, 40 amps conduit and plug) for a future level 2 electric vehicle charger, to the satisfaction of the Director of T&ES. (T&ES) *

39. For public and private streets, show all existing and proposed on-street parking controls and restrictions on the Final Site Plan. All on-street parking controls and restrictions within the project area shall be approved by the City staff during the Final Site Plan process. Any on-street parking changes desired after the Signature Set approval are required to be approved through the Traffic and Parking Board. (P&Z) (T&ES) *

40. Provide bicycle parking per Alexandria's current Bicycle Parking Standards. Bicycle parking standards, acceptable rack types for short- and long-term parking and details for allowable locations are available at: www.alexandriava.gov/bicycleparking. (T&ES)

41. Details on location and type of bicycle parking shall be provided on the Final Site Plan. Bicycle parking must be installed and operational prior to the issuance of the last Certificate of Occupancy permit within each landbay. (T&ES) * ***

I. *TRANSPORTATION*

STREETS/TRAFFIC:

42. With first Final Site Plan, update the plan sheets to show Fairbanks Avenue consisting of a one shared left-turn, thorough, and right-turn lane approaching the Seminary Road intersection designed to the satisfaction of the Director of T&ES. (T&ES) *

43. A minimum separation of 30 feet shall be maintained on residential streets between the beginning of the street corner radius and any driveway apron radius. * (T&ES)

44. The setback between the buildings and the drive aisles shall be a minimum of 2 feet to provide adequate turning movements. The setback shall have a maximum length of 6 feet or a minimum of 18 feet, if a driveway is provided. (T&ES) *

45. Integrate all service pedestals and transformers for the dry utilities and/or screen these utilities to the satisfaction of the Director of P&Z. * (P&Z)

46. If the City's existing public infrastructure is damaged during construction, or patch work required for utility installation then the applicant shall be responsible for construction/ installation or repair of the same as per the City of Alexandria standards and specifications and to the satisfaction of Director, Transportation and Environmental Services. (T&ES)

47. A pre-construction walk/survey of the site shall occur with Transportation and Environmental Services Construction & Inspection staff and Code Administration staff to document existing conditions prior to any land disturbing activities. (T&ES) (Code) **

48. Mark all private street signs that intersect a public street with a fluorescent green strip to notify the plowing crews, both City and contractor, that they are not to plow those streets. (T&ES) ***

49. Asphalt patches larger than 20% of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street, will require full curb to curb restoration. (T&ES)

50. Provide and install new operational traffic signal at the Seminary Road and Fairbanks Avenue intersection prior to the release of the first Certificate of Occupancy for townhouses located adjacent to the park in Phase I of the project. The new traffic signal and its associated equipment shall be shown on the Final Site Plan in a Signal Design Plan sheet to the satisfaction of the Director of T&ES. ****
    a. The applicant will make reasonable efforts to acquire land area across Seminary Road and permissions required from utility providers to install the necessary facilities and equipment associated with this traffic signal.
    b. Include Transit Signal Priority (TSP) equipment capable of Emergency Vehicle Preemption configuration on proposed traffic signal at the Seminary Road and Fairbanks Avenue intersection.
    c. Install audible pedestrian countdown signals and pedestrian activated pushbuttons at the intersection of Seminary Road and Fairbanks Avenue in accordance with City Standards. All pedestrian-activated push buttons shall be accessible per ADA Accessibility Guidelines (ADAAG).
    d. Furnish and install two 4-inch Schedule 40 PVC conduits with pull wires underneath the sidewalks fronting Seminary Road. These conduits shall

    terminate in an underground junction box (JB-S3) at the corner of the site and at the proposed location of the signal cabinet. The junction box cover shall have the word "TRAFFIC" engraved in it. *** (T&ES)

J. *TRANSPORTATION MANAGEMENT PLAN:*

SMALL PROJECTS (Tier 1)

51. According to Article XI, Section 11-700 of the City's Zoning Ordinance, a Transportation Management Plan is required to implement Transportation Demand Management (TDM) strategies to discourage single occupancy vehicle (SOV) travel and encourage residents and employees to take public transportation, walk, bike or share a ride. (T&ES)

52. A TMP Coordinator shall be designated for the entire project prior to release of the first certificate of occupancy. The name, location, email and telephone number of the coordinator will be provided to the City's Transportation Demand Management Coordinator at the time, as well as any changes occurring subsequently. This person will be responsible for assisting the City in implementing and facilitating the TMP on site. The coordinator must provide City staff access to the property and tenants/residents in order to implement TDM measures such as surveys, mailings and hosting events to inform residents and tenants about benefits and alternatives to SOV travel. (T&ES) ***

53. The TMP shall be required to make a monetary payment twice per year to the Citywide TDM Fund. TMP funds shall be deposited to the Citywide TDM Fund no later than January 15 and July 15 of each year. The annual base assessment rate for this development shall be determined as set forth in section 11-708 (TMP Assessments Schedule and Adjustments). The base assessment rate will be adjusted on an annual basis on July 1 of each year in accordance with the Consumers Price Index (CPI-U) as reported by the United States Department of Labor, Bureau of Labor Statistics. The base assessment rate in effect at the time of the project's first certificate of occupancy permit (CO) is the applicable rate when TMP reporting begins. (T&ES)

54. As set forth in section 11-711(B) in the Ordinance, civil penalties shall be assessed to the governing entity for lack of timely compliance with the conditions of this TMP SUP. If after assessment of three civil penalties, any use continues to fail to comply with a condition of its approved TMP, the property may be subject to increased review and reporting requirements, and may be subject to a staff recommendation for action by the City Council to revoke the TMP SUP pursuant to section 11-205 of the Ordinance. (T&ES)

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | permitsc | AVBP

DATE	DESCRIPTION	DATE	DESCRIPTION
08/02/21	FSP SUB #1	05/20/22	FSP SUB #3
12/22/21	FSP SUB #2	10/19/23	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
AARON M. VIRGIN
LIC. NO.041851
4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

55. Prior to any lease/purchase agreements, the applicant shall prepare appropriate language to inform tenants/owners of the transportation management plan special use permit and conditions therein, as part of its leasing/purchasing agreements; such language to be reviewed and approved by the City Attorney's office. (T&ES)

K. BUS STOPS AND BUS SHELTERS:

56. Show all existing bus stops, bus shelters and bus stop benches in the vicinity of the site on the Final Site Plan. (T&ES) *

57. The bus stop shall meet ADA requirements and City Standards per the following:
    a. Install an unobstructed 10-foot wide, parallel to the roadway, by 8-foot wide, perpendicular to the curb, illuminated bus stop passenger loading pad. The unobstructed loading area should be at the front of the boarding zone and accessible from a transit shelter (if present or if installed) and adjacent sidewalk. The loading pad's cross slope shall be less than 2 percent. The existing width of the sidewalk may be counted towards the 8-foot wide perpendicular to the curb area. Passenger loading pads shall never be placed on storm drain inlets, catch basins, and other obstacles that would make the bus stop and bus stop loading pad inaccessible. See attached standard details. (T&ES)

58. Street trees in proximity to bus stop approaches or directly adjacent to travel lanes shall be planted and maintained pursuant to the Landscape Guidelines:
    a. Located to avoid conflict with vehicles, specifically:
        i. Trees shall be excluded from a 40-foot zone which represents the length of the bus as it is serving the stop.
        ii. Trees within both the 10-foot departure zone and the 20-foot approach zone (on either side of the 40-foot zone) shall be selectively located to minimize conflict with vehicles and to allow direct line of sight for approaching buses. * (P&Z) (T&ES)

L. PUBLIC WORKS

WASTEWATER/SANITARY SEWERS:

59. The sewer connection fee must be paid prior to release of the site plan. (T&ES) *

60. There are two sanitary sewer segment (GIS Facility IDs 001345SEWP and 001346SEWP) that are inadequate to serve the proposed development as determined by the sanitary sewer adequate outfall analysis completed per the City's Memo to Industry 06-14. As indicated on the Preliminary site plan, cured-in-place pipe (CIPP) lining alleviates the capacity issue such that the flow will be contained

within the pipe as shown on the analysis. Therefore, the applicant shall be required to provide CIPP lining for the above sewer segments. Note that sewer segment 001346SEWP is proposed to be upgraded to a 15-inch polyvinyl chloride pipe as part of the capacity improvements under DSUP2020-10026 (Newport Village). The condition of CIPP lining of this segment may be removed as part of the final site plan if by then the final site plan under DSUP2020-10026 has already been released.

61. The applicant shall also meet the City's CIPP specifications and submittal requirements and shall coordinate the CIPP lining with the City in order for the City to be able to provide for third party inspection of the lining.

UTILITIES:

62. Locate all private utilities without a franchise agreement outside of the public right-of-way and public utility easements. (T&ES)

63. No transformer and switch gears shall be located in the public right of way. (T&ES)

SOLID WASTE:

64. As a required user, the development must meet all the minimum street standards for the City to provide solid waste collection service. See Alexandria Virginia Code of Ordinances Title 5 Chapter 1 Solid Waste Control. Collection vehicles must be able to pick up solid waste from private streets without backing up. The containers must be stored inside the units or within an enclosure that completely screens them from view. (T&ES)

65. If private collection is desired, the HOA shall request approval from the Director of Transportation and Environmental Services to opt-out of the City approved trash and recycling collection to allow for privately contracted collection. The point of collection shall be as agreed upon between the owner and the private collector duly licensed, provided that such point shall not be in a public right-of-way and shall not hinder or interfere with parking, traffic or pedestrians. All trash collectors for the project site are required to take their collected trash to the Alexandria/Arlington waste-to-energy facility (T&ES)

66. Where the City of Alexandria provides the solid waste collection services; all trash and recycling shall be placed at the official set-out location as approved by the Director of T&ES. (T&ES)

67. Provide $1402 per receptacle to the Director of T&ES for purchase and installation of three (3) Victor Stanley Ironsites Series model SD-42 black receptacle with Dome Lid dedicated to trash collection. The receptacle(s) shall be placed in the

public right of way to serve open space and park sites. Receptacles shall be generally located along the property frontage and at strategic locations in the vicinity of the site as approved by the Director of T&ES. Payment required prior to release of Final Site Plan. To the extent that the cans cannot be located where accessible for public collection, the applicant may provide a contribution for receptacles to be located in the vicinity or may agree to private hauling. * (T&ES)

68. Provide $1626 per receptacle to the Director of T&ES for the purchase and installation of three (3) Victor Stanley Ironsites Series Model SD-42 blue receptacle with Dome Lid, approved dome decals, and approved band dedicated to recycling collection. The receptacle(s) shall be placed in the public right of way to serve open space and park sites. Receptacles shall be generally located along the property frontage and at strategic locations in the vicinity of the site as approved by the Director of T&ES. Payment required prior to release of Final Site Plan. To the extent that the cans cannot be located where accessible for public collection, the applicant may provide a contribution for receptacles to be located in the vicinity or may agree to private hauling. * (T&ES)

M. ENVIRONMENTAL

STORMWATER MANAGEMENT:

69. The City of Alexandria's stormwater management regulations regarding water quality are two-fold: 1) state phosphorus removal requirement and 2) Alexandria Water Quality Volume Default. Compliance with the state phosphorus reduction requirement does not relieve the applicant from the Alexandria Water Quality Default requirement. The Alexandria Water Quality Volume Default, as determined by the site's post-development impervious area shall be treated in a Best Management Practice (BMP) facility. * (T&ES)

70. Provide BMP narrative and complete pre and post development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. * (T&ES)

71. All stormwater Best Management Practices (BMPs) must be designed to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs.

This includes site specific plan views, cross sections, planting plans, and complete design calculations for each BMP. * (T&ES)

72. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees * (T&ES)

73. Construction inspection checklists and associated photographic documentation must be completed for each stormwater best management practice (BMP) and detention facility during construction. Prior to the release of the performance bond, the applicant must submit all documents required by The City of Alexandria As-Built Stormwater Requirements to the City including as built plans, CAD data, BMP certifications and completed construction inspection checklists. **** (T&ES)

74. The stormwater Best Management Practices (BMPs) required for this project shall be constructed and installed under the direct supervision of the design professional or his designated representative. Prior to release of the performance bond, the design professional shall submit a written certification to the Director of T&ES that the BMPs are:
    a. Constructed and installed as designed and in accordance with the released Final Site Plan.
    b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized. (T&ES) ****

75. Surface-installed stormwater Best Management Practice (BMP) measures, i.e. Bio-Retention Filters, Vegetated Swales, etc. that are employed for this site, require installation of descriptive signage to the satisfaction of the Director of T&ES. **** (T&ES)

76. Submit two (2) originals of the stormwater quality BMP and Stormwater Detention Facilities Maintenance Agreement to include the BMP Schedule and Guidelines Addendum with the City to be reviewed as part of the Final #2 Plan. The agreement must be executed and recorded with the Land Records Division of Alexandria Circuit Court prior to approval of the Final Site Plan. (T&ES) *

77. With the exception of BMP tree wells installed on Fairbanks Avenue and Foster Avenue, the Applicant shall be responsible for maintaining stormwater Best Management Practices (BMPs) until activation of the homeowner's association (HOA), and/or master association, if applicable, or until sale to a private owner. Prior to transferring maintenance responsibility for the BMPs to the HOA, master association, and/ or owner, the Applicant shall execute a maintenance service contract with a qualified private contractor for a minimum of three (3) years, and

transfer the contract to the HOA, master association, and/ or owner. A copy of the contract shall also be placed in the BMP Operation and Maintenance Manual. Prior to release of the performance bond, a copy of the maintenance contract shall be submitted to the City. (T&ES) ****

78. The Applicant shall be responsible for the maintaining the BMP tree wells on Fairbanks Avenue and Foster Avenue until acceptance by the City for maintenance. The City shall accept the structural elements of the BMP tree wells constructed and installed in the right of way for maintenance upon passing inspection and termination of the maintenance bond for public improvements. The City shall accept the plantings installed in BMP tree wells located in the right of way upon passing inspection and termination of the maintenance bond for landscaping. (T&ES) ****

79. If units will be sold as individual units and a homeowner's association (HOA) established the following two conditions shall apply:
    a. The Applicant shall furnish the Homeowner's Association with an Owner's Operation and Maintenance Manual for all Best Management Practices (BMPs) used on site. The manual shall include at a minimum: an explanation of the functions and operations of the BMP(s); drawings and diagrams of the BMP(s) and any supporting utilities; catalog cuts on maintenance requirements including any mechanical or electrical equipment; manufacturer contact names and phone numbers; a copy of the executed maintenance service contract; and a copy of the maintenance agreement with the City.
    b. The Developer shall furnish each home purchaser with a brochure describing the stormwater BMP(s) installed on the site, outlining the responsibilities of the homeowners and the Homeowners Association (HOA) with respect to maintenance requirements. Upon activation of the HOA, the Developer shall furnish five copies of the brochure per unit to the HOA for distribution to subsequent homeowners. (T&ES) *

80. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division on digital media prior to release of the performance bond. (T&ES) ****

81. Prior to release of the performance bond, the Applicant is required to submit a certification by a qualified professional to the satisfaction of the Director of T&ES that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not adversely affected by construction operations. If maintenance of the facility or systems were required in order to make this certification, provide a description of the maintenance measures performed. (T&ES) ****

WATERSHED, WETLANDS, & RPAs:

82. The project site lies within Four Mile Run Watershed thus stormwater quantity controls shall be designed to demonstrate that post development stormwater runoff does not exceed the existing runoff quantities for the 2-year, 10-year, and 100-year storm events. (T&ES)

83. The stormwater collection system is located within the Four Mile Run watershed. All on-site stormwater curb inlets and public curb inlets within 50 feet of the property line shall be duly marked using standard City markers, or to the satisfaction of the Director of T&ES. (T&ES)

84. Project lies entirely within an area described on historical maps as containing marine clays. Construction methodology and erosion and sediment control measures must account for the presence of marine clay or highly erodible soils. (T&ES)

85. Provide Environmental Site Assessment Notes that clearly delineate, map, describe and/or explain the following environmental features if located on site: individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams and associated buffers; highly erodible and highly permeable soils; steep slopes greater than 15 percent in grade; known areas of contamination; springs, seeps or related features; and a listing of all wetlands permits required by law. (T&ES)

86. The project parcel is located within an existing intermittent stream buffer; however, the limits of disturbance are outside of the buffer on the parcel. Therefore, the applicant is not required to prepare a Water Quality Impact Assessment in accordance with the provisions of Article XIII of the City of Alexandria Zoning Ordinance to the satisfaction of the Director of Transportation and Environmental Services. The Stormwater Pollution Prevention Plan (SWPPP) must address enhanced protective measures from site sources due to the proximity of the RPA to the project. (T&ES)

CONTAMINATED LAND:

87. Indicate whether there is any known soil and groundwater contamination present on the plan. The applicant must submit supporting reports for associated environmental investigations or assessments performed to substantiate this determination. (T&ES) *

88. If environmental site assessments or investigations discover the presence of contamination on site, the final site plan shall not be released, and no construction

activity shall take place until the following has been submitted and approved by the Director of T&ES:
    a. Submit a Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
    b. Submit a Risk Assessment indicating any risks associated with the contamination.
    c. Submit a Remediation Plan detailing how any contaminated soils and/or groundwater will be dealt with, including plans to remediate utility corridors. Utility corridors in contaminated soil shall be over excavated by 2 feet and backfilled with "clean" soil. Include description of environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).
    d. Submit a Health and Safety Plan indicating measures to be taken during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment. Initial Air Monitoring may be required during site activities to demonstrate acceptable levels of volatiles and/or airborne particles. The determination whether air monitoring is needed must be adequately addressed in the Health and Safety Plan submitted for review.
    e. The applicant shall screen for PCBs as part of the site characterization if any of the past uses are within the identified high risk category sites for potential sources of residual PCBs, which includes the following SICs: 26&27 (Paper and Allied Products), 30 (Rubber and Misc. Plastics), 33 (Primary Metal Industries), 34 (Fabricated Metal Products), 37 (Transportation Equipment), 49 (Electrical, Gas, and Sanitary Services), 5093 (Scrap Metal Recycling), and 1221&1222 (Bituminous Coal).
    f. Applicant shall submit three (3) electronic and two (2) hard copies of the above. The remediation plan must be included in the Final Site Plan. (T&ES) *

89. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the Applicant must immediately notify the City of Alexandria Department of Transportation and Environmental Services, Office of Environmental Quality. Should unanticipated conditions warrant, construction within the impacted area shall be stopped until the appropriate environmental reports identified in a. through f. above are submitted and approved at the discretion of the Director of Transportation and Environmental Services. This shall be included as a note on the Final Site Plan. (T&ES) (Code) *

90. If warranted by a Site Characterization report, design and install a vapor barrier and ventilation system for buildings and parking areas in order to prevent the migration or accumulation of methane or other gases, or conduct a study and provide a report signed by a professional engineer showing that such measures are not required to the satisfaction of Directors of T&ES and Code Administration. The installed vapor barrier and ventilation system must include a passive ventilation system that can be converted to an active ventilation system if warranted. (T&ES)

SOILS:

91. Provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments. (T&ES) *

NOISE:

92. Prepare a noise study identifying the levels of noise residents of the project will be exposed to at the present time, and 10 years into the future in a manner consistent with the Noise Guidance Book used by the Department of Housing and Urban Development (HUD). Once the final building design has been established, conduct a building shell analysis if needed, to identify options to minimize noise exposure to future residents at the site, particularly in those units closest to the interstate highway, railroad tracks and airport traffic, including triple-glazing for windows, additional wall/roofing insulation, installation of resilient channels between interior gypsum board and wall studs, installation of a berm or sound wall and any other special construction methods to reduce sound transmission. If needed, the applicant shall install some combination of the above to the satisfaction of the Directors of P&Z and T&ES to satisfy the exterior and interior noise goals specified in the HUD Noise Guidance Book. (T&ES) *

93. The noise study and noise commitment letter shall be submitted and approved prior to Final Site Plan release. (T&ES) *

94. All uses within the development shall adhere to the City noise ordinance and no amplified sound shall be audible at the property line after 11 pm. (T&ES)

AIR POLLUTION:

95. If fireplaces are utilized in the development, the Applicant is required to install gas fireplaces to reduce air pollution and odors. Animal screens must be installed on chimneys. (T&ES)

96. Control odors and any other air pollution sources resulting from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Director of Transportation and Environmental Services. (T&ES)

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT#: | AVBP:

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
AARON M. VIRGIN
LIC. No.041851
4/28/2023

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0102.dwg

SHEET: C-0108

N. CONSTRUCTION MANAGEMENT

97. Submit a separate construction management plan to the Directors of P&Z, T&ES and Code Administration prior to Final Site Plan release. The plan shall:
    a. No streetlights shall be removed without authorization from the City of Alexandria;
    b. If streetlights are to be removed from the public right of way, then temporary lights shall be provided until the installation and commissioning of new lights; *
    c. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed; *
    d. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction; *
    e. Include an overall proposed schedule for construction; *
    f. Include a plan for temporary pedestrian circulation; *
    g. Include the location and size of proposed construction trailers, if any; *
    h. Include a preliminary Maintenance of Traffic Plan (MOT) as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials; *
    i. Copies of the plan shall be posted in the construction trailer and given to each subcontractor before they commence work. (P&Z) (T&ES) ***

98. Provide off-street parking for all construction workers without charge to the construction workers. The applicant shall be responsible for ensuring that all contractors use the off-street parking provided. For the construction workers who use Metro, DASH, or another form of mass transit to the site, the applicant shall subsidize a minimum of 50% of the fees for mass transit. Compliance with this condition shall be a component of the construction management plan, which shall be submitted to the Department of P&Z and T&ES prior to Final Site Plan release. This plan shall:
    a. Establish the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit; *
    b. Provide for the location on the construction site at which information will be posted regarding Metro schedules and routes, bus schedules and routes; *
    c. If the off-street construction workers parking plan is found to be violated during construction, a correction notice will be issued to the developer. If the violation is not corrected within five (5) days, a "stop work order" will

be issued, with construction halted until the violation has been corrected. (P&Z) (T&ES) *

99. Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry #04-18 throughout the construction of the project. The plan for maintenance of pedestrian access shall be included in the Construction Management Plan for approval by T&ES. (T&ES) **

100. Bicycle facilities adjacent to the site shall remain open during construction. If a bicycle facility must be closed, bicycle access shall be maintained adjacent to the site per Memo to Industry #04-18 throughout the construction of the project. The plan for maintenance of bicycle access shall be included in the Construction Management Plan for approval by T&ES. (T&ES)

101. No major construction staging shall be allowed within the public right-of-way. The applicant shall meet with T&ES to discuss construction staging activities prior to release of any permits for ground disturbing activities. (T&ES) **

102. Transit stops adjacent to the site shall remain open if feasible for the duration of construction. If construction forces the closure of the stop at Seminary Road and Fairbanks Avenue, a temporary ADA accessible transit stop shall be installed. The exact temporary location shall be coordinated with the T&ES Transportation Planning Division at 703.746.4088 as well as with the transit agency which provides service to the bus stop. Signs noting the bus stop closure and location of the temporary bus stop must be installed at all bus stops taken out of service due to construction. (T&ES)

103. Any structural elements that extend into the public right of way, including but not limited to footings, foundations, tie-backs etc., must be approved by the Director of T&ES as a part of the Sheeting and Shoring Permit. (T&ES)

104. A "Certified Land Disturber" (CLD) shall be named in a letter to the Division Chief of Infrastructure Right of Way prior to any land disturbing activities. If the CLD changes during the project, that change must be noted in a letter to the Division Chief. A note to this effect shall be placed on the Phase I Erosion and Sediment Control sheets on the site plan. (T&ES)

105. Prior to commencing clearing and grading of the site, the applicant shall hold a meeting with notice to all adjoining property owners and civic associations to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction. The Departments of P&Z and T&ES shall be notified a minimum of 14 calendar days

prior to the meeting date, and the meeting must be held before any permits are issued. (P&Z) (T&ES)

106. Prior to commencement of landscape installation/planting operations, a pre-installation/construction meeting will be scheduled with the project planner in the Department of P&Z to review the scope of installation procedures and processes. This is in addition to the pre-construction meeting required above. (P&Z)

107. Identify a person who will serve as a liaison to the community throughout the duration of construction. The name and telephone number, including an emergency contact number, of this individual shall be provided in writing to residents, property managers and business owners whose property abuts the site and shall be placed on the project sign, to the satisfaction of the Directors of P&Z, and/or and T&ES. (P&Z) (T&ES) *

108. Install a temporary informational sign on the site prior to approval of the Final Site Plan for the project. The sign shall notify the public of the nature of the project and shall include the name and telephone number of the community liaison, including an emergency contact number for public questions regarding the project. The sign shall be displayed until construction is complete. (P&Z) (T&ES) *

109. Implement a waste control program during the construction phase of this development. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. All wastes shall be properly disposed offsite in accordance with all applicable federal, state and local laws. Provide information on the program in construction management plan. If program is implemented in coordination with green building certification, include documentation as appropriate per the City's Green Building Policy and conditions herein. (T&ES)

110. Temporary construction and/or on-site sales trailer(s) shall be permitted and be subject to the approval of the Director of P&Z. The trailer(s) shall be removed prior to the issuance of a final certificate of occupancy permit. (P&Z) (Code) ***

111. Submit a wall check prior to the commencement of construction of the first floor above grade framing for each townhouse building. The wall check shall include the building footprint, as depicted in the released Final Site Plan, the top-of-slab elevation and the first-floor elevation. The wall check shall be prepared and sealed by a registered engineer or surveyor and submitted to Planning & Zoning. Approval

of the wall check by Planning & Zoning is required prior to commencement of framing. (P&Z) **

112. Submit an as-built development site plan survey, pursuant to the requirements outlined in the initial as-built submission for occupancy portion of the as-built development site plan survey checklist to the Department of Transportation and Environmental Services Site Plan Coordinator prior to requesting a certificate of occupancy permit. The as-built development site plan survey shall be prepared and sealed by a registered architect, engineer, or surveyor. Include a note which states that the height was calculated based on all applicable provisions of the Zoning Ordinance. (P&Z) (T&ES) ***

113. Contractors shall not cause or permit vehicles to idle for more than 10 minutes when parked. (T&ES)

114. If there are outstanding performance, completion or other bonds for the benefit of the City in effect for the property at such time as it may be conveyed or sold to a party other than the applicant, a substitute bond and associated documents must be provided by that party or, in the alternative, an assignment or other documentation from the bonding company indicating that the existing bond remains in effect despite the change in ownership may be provided. The bond(s) shall be maintained until such time that all requirements are met, and the bond(s) released by the City. (T&ES)

O. CONTRIBUTIONS

115. The Applicant shall contribute $3,210,176 ("Total Contribution") towards the Beauregard Implementation Fund. The Total Contribution will be met by a combination of constructing public and private park improvements, installing a vehicular and pedestrian traffic signal, and making a monetary payment to the City, as follows:
    a. The Applicant shall construct the private and public open park improvements as shown on the preliminary plan to the satisfaction of the Directors of P&Z and RPCA. The cost of improvements to the City owned portion of the park, the interim open space areas with that will be accessible to the public, installation of and elements associated with the woonerf street except base paving, and the connection to and improvement of the City property located at the corner of Seminary Road and Beauregard Street will count towards the Total Contribution. The cost of base paving for the woonerf street and cost of completing adjacent sidewalks will not count towards the Total Contribution. These improvements shall be completed prior to the issuance of the first Certificate of Occupancy for the town homes on Landbay C. ***

    b. The Applicant shall construct and install the traffic signal, interconnecting traffic signal infrastructure and pedestrian crosswalks at the intersection of Fairbanks Avenue and Seminary Road to the satisfaction of the Director of T&ES. The cost of installing the necessary infrastructure and relocation of adjacent utilities will count towards the Total Contribution. The cost of installing adjacent sidewalks and street repairs associated with the development of the town homes will not count towards the Total Contribution. The traffic signal shall also be installed prior to the issuance of the first Certificate of Occupancy for the town homes on Landbay C. ***
    c. The Applicant shall submit preliminary estimates for the above improvements to the City prior to the release of the grading permits. The Applicant shall submit preliminary estimates for the above improvements to the City prior to the release of the grading permits. The Applicant shall submit preliminary estimates for the above improvements to the City prior to the release of the grading permits. The Applicant shall submit final receipts for the cost of the above work no later than 14 days prior to seeking City release of the first Certificate of Occupancy for a town home on Landbay C. The Applicant shall make a monetary payment to the City for any amount of the Total Contribution not met by the above improvements prior to the release of the first Certificate of Occupancy for Landbay C or whichever is the last block of town homes to be delivered. All checks shall be made payable to the City of Alexandria and submitted to the Department of P&Z with a cover letter citing the project name, contribution amount, and referencing this DSUP condition. *** (P&Z) (T&ES) (RP&CA)

116. Contribute $15,000 to the City prior to Final Site Plan release as part of a coordinated bike share program for Capital Bikeshare station and bicycles or operations of the system. In the event a bike share station cannot be located along the site frontage due to space constraints or impacts to operational efficiency, an alternate off-site location. (T&ES) *

P. HOUSING:

117. The applicant shall meet the provisions presented in the Affordable Housing Plan dated January 29, 2021. (Housing)

118. The applicant shall meet the provisions presented in the Tenant Assistance and Relocation Plan dated February 1, 2021. (Housing)

119. Amendments to the approved Affordable Housing Plan, dated January 29, 2021, must be submitted to the Alexandria Housing Affordability Advisory Committee for consideration and require final approval from the City Manager. (Housing)

120. Amendments to the approved Relocation Assistance Plan, dated February 1, 2021, must be submitted for consideration and require final approval from the Director of the Office of Housing, or designee. (Housing)

Q. PUBLIC ART:

121. Per the City's Public Art Policy, adopted December 13, 2014, work with City staff to determine ways to incorporate public art elements on-site, or provide an equivalent monetary contribution to be used toward public art within the Small Area Plan planning area, to the satisfaction of the Directors of RP&CA and P&Z. The in-lieu contribution shall be $.30 per gross square foot, with a maximum contribution of $75,000 per building. In the event public art is provided on-site, the public art shall be of an equivalent value. (RP&CA) (P&Z) ***
    a. Public art contribution, either on-site or in-lieu may be deferred to Phase 2 in the amount of the total contribution for Phase 1 and Phase 2. The applicant shall indicate their intention prior Final Site Plan release for Phase 1 to the satisfaction of the Directors of RP&CA and P&Z. (P&Z) (RP&CA) *

R. DISCLOSURE REQUIREMENTS

122. The Condominium / Homeowners Association (HOA) documents shall incorporate language that requires the following elements and other restrictions deemed necessary by the City Attorney to ensure that the trees proposed to be saved are retained including:
    a. Require property owners to sign a disclosure statement acknowledging the presence and required protection of the trees.
    b. The trees to be protected as depicted on the released site plan shall be required to be retained unless otherwise permitted to be removed by the City Arborist due to the health and safety of the tree.
    c. Any proposal to remove a tree that is designated to be retained on the released site plan for reasons other than health or safety shall require unanimous approval by the Homeowners Association and a site plan amendment. (P&Z)

123. All condominium association covenants shall be reviewed by the Director of P&Z and the City Attorney to ensure inclusion of all the conditions of this DSUP/DSP prior to applying for the first certificate of occupancy permit for the project. The association covenants shall include the conditions listed below, which shall be clearly expressed in a separate section of the covenants. The language shall establish and clearly explain that these conditions cannot be changed except by an amendment to this development special use permit approved by City Council.

    a. The principal use of the underground garage and parking spaces shall be for passenger vehicle parking only; storage which interferes with the use of a parking space for a motor vehicle is not permitted.
    b. All landscaping and open space areas within the development shall be maintained by the Homeowners' and/or Condominium Owners' Association.
    c. Exterior building improvements or changes by future residents shall require the approval of the City Council, as determined by the Director of P&Z.
    d. Develop a noise control by-law aimed at controlling noise levels in the proposed development and resolving noise issues between neighboring occupants and disclose this by-law to all involved at the time of sale or lease agreement.
    e. The specific language of the disclosure statement to be utilized shall be provided to the City for approval prior to release of any certificate of occupancy permit.
    f. Stormwater facility BMPs must be inspected and adequately maintained as designed to ensure proper functioning.
    g. The specific language of the disclosure statement to be utilized shall be provided to the City for approval prior to release of any certificate of occupancy permit. (P&Z) (T&ES) (City Attorney) ***

124. If environmental site assessments or investigations discover the presence of onsite contamination, the applicant or its agent shall furnish each prospective buyer with a statement disclosing the prior history of the Upland Park site, including previous environmental conditions and on-going remediation measures. Disclosures shall be made to the satisfaction of the Director of Transportation and Environmental Services. (T&ES)

125. Notify prospective buyers, in their homeowner documents, that private streets and private alleys or courts yet to be named are private streets and that storm sewers located within the site are privately owned and maintained. (T&ES)

126. Notify prospective buyers, in their homeowner documents, that the private streets and private alleys or courts yet to be named are private streets with public access easement and shall not be maintained by the City of Alexandria; and that the sanitary and storm sewers located within the site are private and shall be maintained privately. (T&ES)

127. Present a disclosure statement to potential buyers disclosing the following to the satisfaction of the Directors of P&Z and T&ES, and the City Attorney:
    a. That this property is along the planned route for the future Transit Corridor C (West End Transitway), which would run along Beauregard Street and Van Dorn Street in an approximately east/west direction.

    b. That the implementation of each Transitway corridor may require the widening of City ROW to accommodate Transitway infrastructure.
    c. That the planning and approvals required for development parcels will require compliance with Small Area Plans, including but not limited to dedication of ROW for roadway expansion to accommodate Transitway infrastructure, construction of streetscape enhancements, and any other planned frontage improvements. (P&Z) (T&ES) (City Attorney)

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT SET: AVBP

DATE	PLAN STATUS
DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
AARON M. VIRGIN
LIC. No.041851
4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

S. CITY DEPARTMENT CODE COMMENTS

Legend: C - Code Requirement R - Recommendation S - Suggestion F – Finding

PLANNING & ZONING (P&Z)

F - 1. Prior to receiving the first Certificate of Occupancy, all associated street naming case(s) must be approved by City Council for the new public and private streets.

F - 2. Notify ownership of adjacent parcel #0.10.04-03-19 of impending right-of-way work prior to submission of future Phase 2 Concept Plan in accordance with condition #11 of CDD#2020-0005.

C - 1. As-built documents for all landscape and irrigation installations are required to be submitted with the Site as-built and request for Performance Bond release. Refer to City of Alexandria Landscape Guidelines. (P&Z) (T&ES) ****

C - 2. Tree conservation and protection plans shall identify all trees to be removed, and all trees to be protected / preserved. Construction methods to reduce disturbance within driplines shall also be identified. An on-site inspection of existing conditions shall be held with the City Arborist and Natural Resources Division Staff prior to the preparation of the Tree Conservation and Protection Plan.

C - 3. The landscape elements of this development shall be subject to the Performance and Maintenance bonds, based on criteria established by the City and available through T&ES. Release of Performance and Maintenance Bonds are subject to inspections by City staff per City Code requirements. A final inspection for landscaping is also required three (3) years after completion. (P&Z) (T&ES) ****

CODE ADMINISTRATION (BUILDING CODE)

F - 1. The review by Code Administration is a preliminary review only. Once the applicant has filed for a building permit, code requirements will be based upon the building permit plans. A preconstruction conference is recommended for large projects. If there are any questions, the applicant may contact the Code Administration Office, Plan Review Supervisor at 703-746-4200.

C - 1 New construction or alterations to existing structures must comply with the current edition of the Uniform Statewide Building Code (USBC).

C - 2 The developer shall provide a building code analysis with the following building code data on the plan: a) use group; b) number of stories; c) type of construction; d) total floor area

per floor; e) height of structure f) non-separated or separated mixed use g) fire protection system requirements.

C - 3 A soils report must be submitted with the building permit application for all new and existing building structures.

C - 4 The most restrictive type of construction shall apply to the structure for height and area limitations for non-separated uses.

C - 5 Where required per the current edition Virginia Uniform Statewide Building Code exits, parking, and facilities shall be accessible for persons with disabilities.

C - 6 All proposed buildings where an occupied floor exceeds 75 feet above the lowest level of fire department vehicle access shall meet the Virginia Uniform Statewide Building Code for HIGH-RISE buildings.

C - 7 Prior to the issuance of a demolition permit or land disturbance permit, a rodent abatement plan shall be submitted to the Department of Code Administration that will outline the steps that will be taken to prevent the spread of rodents from the construction site to the surrounding community and sewers.

C - 8 Sheeting and shoring shall not extend beyond the property line; except when the developer has obtained a written release from adjacent property owners which has been recorded in the land records; or through an approved encroachment process.

C - 9 A wall location plat prepared by a land surveyor is required to be submitted to the Department of Code Administration prior to any building framing inspection.

ARCHAEOLOGY

F - 1. If this project is a federal undertaking or involves the use of any federal funding, the applicant shall comply with federal preservation laws, in particular Section 106 of the National Historic Preservation Act of 1966. The applicant will coordinate with the Virginia Department of Historic Resources and the federal agency involved in the project, as well as with Alexandria Archaeology.

C -1. All required archaeological preservation measures shall be completed in compliance with Section 11-411 of the Zoning Ordinance.

TRANSPORTATION & ENVIRONMENTAL SERVICES (T&ES)

F - 1. Since the record drawings, maps, and other documents of the City of Alexandria, State, and Federal agencies show the true north pointing upwards, therefore, the Site Plan shall show the true north arrow pointing upward as is customary; however, for the sake of putting

the plan together and/or ease of understanding, the project north arrow pointing upward, preferably east, or west may be shown provided it is consistently shown in the same direction on all the sheets with no exception at all. The north arrow shall show the source of meridian. The project north arrow pointing downward will not be acceptable even if, it is shown consistently on all the sheets. (T&ES)

F - 2. The Final Site Plan must be prepared per the requirements of Memorandum to Industry 02-09 dated December 3, 2009, Design Guidelines for Site Plan Preparation, which is available at the City's website:
http://alexandriava.gov/uploadedFiles/tes/info/Memo%20to%20Industry%20No.%2002-09%20December%203,%202009.pdf

F - 3. The plan shall show sanitary and storm sewer, and water line in plan and profile in the first final submission and cross reference the sheets on which the plan and profile is shown, if plan and profile is not shown on the same sheet. Clearly label the sanitary and storm sewer, or water line plans and profiles. Provide existing and proposed grade elevations along with the rim and invert elevations of all the existing and proposed sanitary and storm sewer at manholes, and water line piping at gate wells on the respective profiles. Use distinctive stationing for various sanitary and storm sewers (if applicable or required by the plan), and water line in plan and use the corresponding stationing in respective profiles. (T&ES)

F - 4. The Plan shall include a dimension plan with all proposed features fully dimensioned and the property line clearly shown. (T&ES)

F - 5. Include all symbols, abbreviations, and line types in the legend. (T&ES)

F - 6. All storm sewers shall be constructed to the City of Alexandria standards and specifications. Minimum diameter for storm sewers shall be 18" in the public Right of Way (ROW) and the minimum size storm sewer catch basin lead is 15". The acceptable pipe materials will be Reinforced Concrete Pipe (RCP) ASTM C-76 Class IV. Alternatively, AWWA C-151 (ANSI A21.51) Class 52 may be used if approved by the Director of T&ES. For roof drainage system, Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26 and ASTM 1785-76 Schedule 40 pipes will be acceptable. The acceptable minimum and maximum velocities will be 2.0 fps and 15 fps, respectively. The storm sewers immediately upstream of the first manhole in the public Right of Way shall be owned and maintained privately (i.e., all storm drains not shown within an easement or in a public Right of Way shall be owned and maintained privately). (T&ES)

F - 7. All sanitary sewers shall be constructed to the City of Alexandria standards and specifications. Minimum diameter of sanitary sewers shall be 10 inches in the public Right of Way and sanitary lateral 6 inches for all commercial and institutional developments; however, a 4-inch sanitary lateral will be acceptable for single family residences. The acceptable pipe materials will be Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26, ASTM 1785-76 Schedule 40, Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class

52, or reinforced concrete pipe ASTM C-76 Class IV (For 12 inch or larger diameters); Class III may be acceptable on private properties. The acceptable minimum and maximum velocities will be 2.5 fps and 10 fps, respectively. Laterals shall be connected to the sanitary sewer through a manufactured "Y" or "T" or approved sewer saddle. Where the laterals are being connected to existing Terracotta pipes, replace the section of main and provide manufactured "Y" or "T", or else install a manhole. (T&ES)

F - 8. Lateral Separation of Sewers and Water Mains: A horizontal separation of 10 feet (edge to edge) shall be provided between a storm or sanitary sewer and a water line; however, if this horizontal separation cannot be achieved then the sewer and water main shall be installed in separate trenches and the bottom of the water main shall be at least 18 inches above of the top of the sewer. If both the horizontal and vertical separations cannot be achieved, then the sewer pipe material shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 and pressure tested in place without leakage prior to installation. (T&ES)

F - 9. Crossing Water Main Over and Under a Sanitary or Storm Sewer: When a water main over crosses or under crosses a sanitary / storm sewer then the vertical separation between the bottom of one (i.e., sanitary / storm sewer or water main) to the top of the other (water main or sanitary / storm sewer) shall be at least 18 inches for sanitary sewer and 12 inches for storm sewer; however, if this cannot be achieved then both the water main and the sanitary / storm sewer shall be constructed of Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing and the pipes shall be pressure tested in place without leakage prior to installation. Sewers crossing over the water main shall have adequate structural support (concrete pier support and/or concrete encasement) to prevent damage to the water main. Sanitary sewers under creeks and storm sewer pipe crossings with less than 6-inch clearance shall be encased in concrete. (T&ES)

F - 10. No water main pipe shall pass through or come in contact with any part of sanitary / storm sewer manhole. Manholes shall be placed at least 10 feet horizontally from the water main whenever possible. When local conditions prohibit this horizontal separation, the manhole shall be of watertight construction and tested in place. (T&ES)

F - 11. Crossing Existing or Proposed Utilities: Underground telephone, cable T.V., gas, and electrical duct banks shall be crossed maintaining a minimum of 12 inches of separation or clearance with water main, sanitary, or storm sewers. If this separation cannot be achieved, then the sewer pipe material shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 for a distance of 10 feet on each side of the point of crossing and pressure tested in place without leakage prior to installation. Sanitary / storm sewers and water main crossing over the utilities shall have adequate structural support (pier support and/or concrete encasement) to prevent damage to the utilities. (T&ES)

F - 12. Any rip rap shall be designed as per the requirements of Virginia Erosion and Sediment Control Handbook, Latest Edition. (T&ES)

F - 13. Dimensions of parking spaces, aisle widths, etc. within the parking garage shall be provided on the plan. Note that dimensions shall not include column widths. (T&ES)

F - 14. Show the drainage divide areas on the grading plan or on a sheet showing reasonable information on topography along with the structures where each sub-area drains. (T&ES)

F - 15. Provide proposed elevations (contours and spot shots) in sufficient details on grading plan to clearly show the drainage patterns. (T&ES)

F - 16. All the existing and proposed public and private utilities and easements shall be shown on the plan and a descriptive narration of various utilities shall be provided. (T&ES)

F - 17. A Maintenance of Traffic Plan shall be provided within the Construction Management Plan and shall replicate the existing vehicular and pedestrian routes as nearly as practical. Pedestrian and bike access shall be maintained adjacent to the site per Memo to Industry #04-18. These sheets are to be provided as "Information Only." (T&ES)

F - 18. The following notes shall be included on all Maintenance of Traffic Plan Sheets: (T&ES)
a. The prepared drawings shall include a statement "FOR INFORMATION ONLY" on all MOT Sheets.
b. Sidewalk closures will not be permitted for the duration of the project. Temporary sidewalk closures are subject to separate approval from Transportation and Environmental Services (T&ES) at the time of permit application.
c. Contractor shall apply for all necessary permits for uses of the City Right of Way and shall submit MOT Plans with the T&ES Application for final approval at that time. *

F - 19. Add complete streets tabulation to the cover sheet with the Final 1 submission. (T&ES)

C - 1 Per the requirements of the City of Alexandria Zoning Ordinance Article XI, the applicant shall complete a drainage study and adequate outfall analysis for the total drainage area to the receiving sewer that serves the site. If the existing storm system is determined to be inadequate, then the applicant shall design and build on-site or off-site improvements to discharge to an adequate outfall, even if the post development stormwater flow from the site is reduced from the pre-development flow. The Plan shall demonstrate to the satisfaction of the Director of T&ES that a non-erosive stormwater outfall is present. (T&ES)

C - 2 Per the requirements of the City of Alexandria Zoning Ordinance (AZO) Article XIII, Environmental Management Ordinance, the applicant shall comply with the stormwater quality and quantity requirements and provide channel protection and flood protection in accordance with these requirements. If combined uncontrolled and controlled stormwater

outfall is proposed, the peak flow requirements of the Zoning Ordinance shall be met. If the project site lies within the Braddock-West watershed or known flooding area, then the applicant shall provide an additional 10 percent storage of the pre-development flows in this watershed to meet detention requirements. (T&ES)

C - 3 Per the requirements of Article 13-114 (f) of the AZO, all stormwater designs that require analysis of pressure hydraulic systems, including but not limited to the design of flow control structures and stormwater flow conveyance systems shall be signed and sealed by a professional engineer, registered in the Commonwealth of Virginia. The design of storm sewer shall include the adequate outfall, inlet, and hydraulic grade line (HGL) analyses that shall be completed to the satisfaction of the Director of T&ES. Provide appropriate reference and/or source used to complete these analyses. (T&ES)

C - 4 The proposed development shall conform to all requirements and restrictions set forth in Section 6-300 (Flood plain District) of Article VI (Special and Overlay Zones) of the City of Alexandria Zoning Ordinance. (T&ES)

C - 5 If it is determined that the site is not in compliance with Section 13-1-3 of the City Code, then the applicant shall make additional improvements to adjust lighting levels to the satisfaction of the Director of T&ES to comply with the Code. (T&ES)

C - 6 Location of customer utility services and installation of transmission, distribution and main lines in the public rights of way by any public service company shall be governed by franchise agreement with the City in accordance with Title 5, Chapter 3, Section 5-3-2 and Section 5-3-3, respectively. The transformers, switch gears, and boxes shall be located outside of the public right of way. (T&ES)

C - 7 (a) Per the requirements of Section 5-3-2, Article A, Chapter 3 of the City of Alexandria Code, all new customer utility services, extensions of existing customer utility services and existing overhead customer utility services supplied by any existing overhead facilities which are relocated underground shall, after October 15, 1971 be installed below the surface of the ground except otherwise exempted by the City Code and to the satisfaction of the Director, Department of Transportation and Environmental Services. (b) Per the requirements of Section 5-3-3, Article A, Chapter 3 of the City of Alexandria Code, all new installation or relocation of poles, towers, wires, lines, cables, conduits, pipes, mains, and appurtenances used or intended to be used to transmit or distribute any service such as electric current, telephone, telegraph, cable television, traffic control, fire alarm, police communication, gas, water, steam or petroleum, whether or not on the streets, alleys, or other public places of the City shall, after October 15, 1971, be installed below the surface of the ground or below the surface in the case of bridges and elevated highways except otherwise exempted by the City Code and to the satisfaction of Director, Department of Transportation and Environmental Services. (T&ES)

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207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT SUBMISSION | AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PROFESSIONAL ENGINEER
MARION W. VIRGIN
LIC. No.041851
4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0102.dwg

SHEET: C-0110

C - 8 Flow from downspouts, foundation drains, and sump pumps shall be discharged to the storm sewer per the requirements of Memorandum to Industry 05-14 that is available on the City of Alexandria's web site. The downspouts and sump pump discharges shall be piped to the storm sewer outfall, where applicable after treating for water quality as per the requirements of Article XIII of Alexandria Zoning Ordinance (AZO). (T&ES)

C - 9 In compliance with Title 5: Transportation and Environmental Services, Section 5-1-2(12b) of the City Charter and Code, the City of Alexandria shall provide solid waste collection services to the condominium townhomes portion of the development. All refuse / recycling receptacles shall be placed at the City Right-of-Way. (T&ES)

C - 10 Per the requirements of Title 4, Chapter 2, Article B, Section 4-2-21, Appendix A, Section A 106(6), Figure A 106.1 Minimum Standards for Emergency Vehicle Access: provide a total turning radius of 25 feet to the satisfaction of Directors of T&ES and Office of Building and Fire Code Administration and show turning movements of standard vehicles in the parking lot as per the latest AASHTO vehicular guidelines. (T&ES)

C - 11 The applicant shall provide required storage space for both trash and recycling materials containers as outlined in the City's "Solid Waste and Recyclable Materials Storage Space Guidelines", or to the satisfaction of the Director of Transportation & Environmental Services. The plan shall show the turning movements of the collection trucks and for safety reasons, the trucks shall minimize the need to reverse in order to perform trash or recycling collection. The City's storage space guidelines are available online at: https://www.alexandriava.gov/ResourceRecovery or by contacting the City's Resource Recovery Division at 703.746.4410, or via email at commercialrecycling@alexandriava.gov. (T&ES)

C - 12 The applicant shall be responsible to deliver all solid waste, as defined by the City Charter and Code of the City of Alexandria, to the Covanta Energy Waste Facility located at 5301 Eisenhower Avenue. A note to that effect shall be included on the plan. The developer further agrees to stipulate in any future lease or property sales agreement that all tenants and/or property owners shall also comply with this requirement. (T&ES)

C - 13 The applicants shall submit a Recycling Implementation Plan (RIP) form to the Solid Waste Division, as outlined in Article H of Title 5 (Ordinance Number 4438), which requires all commercial properties to recycle. Instructions for how to obtain a RIP form can be found at: https://www.alexandriava.gov/ResourceRecovery or by calling the Resource Recovery Division at 703.746.4410 or by e-mailing CommercialRecycling@alexandriava.gov. (T&ES)

C - 14 All private streets and alleys shall comply with the City's Minimum Standards for Private Streets and Alleys. (T&ES)

C - 15 Bond for the public improvements must be posted prior to release of the site plan. (T&ES)*

C - 16 Plans and profiles of utilities and roads in public easements and/or public Right of Way must be approved prior to release of the plan. (T&ES) *

C - 17 Provide a phased erosion and sediment control plan consistent with grading and construction plan. (T&ES)

C - 18 Per the Memorandum to Industry, dated July 20, 2005, the applicant is advised regarding a requirement that applicants provide as-built sewer data as part of the final as-built process. Upon consultation with engineering firms, it has been determined that initial site survey work and plans will need to be prepared using Virginia State Plane (North Zone) coordinates based on NAD 83 and NAVD 88. Control points/Benchmarks which were used to establish these coordinates should be referenced on the plans. To ensure that this requirement is achieved, the applicant is requested to prepare plans in this format including initial site survey work if necessary. (T&ES)

C - 19 The thickness of sub-base, base, and wearing course shall be designed using "California Method" as set forth on page 3-76 of the second edition of a book entitled, "Data Book for Civil Engineers, Volume One, Design" written by Elwyn E. Seelye. Values of California Bearing Ratios used in the design shall be determined by field and/or laboratory tests. An alternate pavement section for Emergency Vehicle Easements (EVE) to support H-20 loading designed using California Bearing Ratio (CBR) determined through geotechnical investigation and using Virginia Department of Transportation (VDOT) method (Vaswani Method) and standard material specifications designed to the satisfaction of the Director of Transportation and Environmental Services (T&ES) will be acceptable. (T&ES)

C - 20 All pedestrian, traffic, and way finding signage shall be provided in accordance with the Manual of Uniform Traffic Control Devices (MUTCD), latest edition to the satisfaction of the Director of T&ES. (T&ES)

C - 21 No overhangs (decks, bays, columns, post or other obstructions) shall protrude into public Right of Ways, public easements, and pedestrian or vehicular travel ways unless otherwise permitted by the City Code. (T&ES)

C - 22 All driveway entrances, curbing, etc. in the public ROW or abutting public ROW shall meet City design standards. (T&ES)

C - 23 All sanitary laterals and/or sewers not shown in the easements shall be owned and maintained privately. (T&ES)

C - 24 The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)

C - 25 All construction activities must comply with the Alexandria Noise Control Code Title 11, Chapter 5, Section 11-5-4(b)(15), which permits construction activities to occur between the following hours:
a. Monday Through Friday from 7 AM To 6 PM and
b. Saturdays from 9 AM to 6 PM.
c. No construction activities are permitted on Sundays and holidays.
Section 11-5-4(b)(19) further restricts the Pile Driving to the following hours:
d. Monday Through Friday from 9 AM To 6 PM and
e. Saturdays from 10 AM To 4 PM
f. No pile driving is permitted on Sundays and holidays.
Section 11-5-109 restricts work in the right of way for excavation to the following:
g. Monday through Saturday 7 AM to 5 pm
h. No excavation in the right of way is permitted on Sundays. (T&ES)

C - 26 The applicant shall comply with the Article XIII of the City of Alexandria Zoning Ordinance, which includes requirements for stormwater pollutant load reduction, treatment of the Alexandria Water Quality Volume Default and stormwater quantity management. (T&ES)

C - 27 The applicant shall comply with the City of Alexandria, Erosion and Sediment Control Code, Section 5, Chapter 4. (T&ES)

C - 28 All required permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, and/or Virginia Marine Resources shall be in place for all project construction and mitigation work prior to release of the Final Site Plan. This includes the state requirement for a state General VPDES Permit for Discharges of Stormwater from Construction Activities (general permit) and associated Stormwater Pollution Prevention Plan (SWPPP), for land disturbing activities equal to or greater than one acre. See memo to industry 08-14 which can be found on-line here: http://alexandriava.gov/tes/info/default.aspx?id=3522. (T&ES) *

C - 29 The applicant must provide a Stormwater Pollution Prevention Plan (SWPPP) Book with the Final 1 submission. The project's stormwater management (SWM) plan and the erosion and sediment control (E&SC) plan must be approved prior to the SWPPP being deemed approved and processed to receive coverage under the VPDES Construction General Permit. Upon approval, an electronic copy of the approved SWPPP Book must be provided with the Mylar submission and the coverage letter must copied onto the plan sheet containing the stormwater management calculations. An electronic copy and a hardcopy of the SWPPP Binder Book must be included in the released site plans, and the approved hardcopy SWPPP Binder Book must accompany the construction drawings onsite. Separate parcel owners will be required to seek separate VPDES Construction General Permit Coverage unless a blanket entity incorporated in Virginia has control of the entire project. (T&ES-Storm)

ALEXRENEW COMMENTS

1. Update phone number in "AlexRenew Notes" on sheet P-0201:
"Dewatering and other construction related discharge limits to the sewer system are regulated by AlexRenew Pretreatment. Engineer/Owner is required to contact AlexRenew's Pretreatment Coordinator at 703-721-3500 x2020."

2. Include HGL calculations and profile.

3. Applicant shall coordinate with the City of Alexandria T&ES to ensure that the planned flow does not exceed the City of Alexandria's allotted capacity in the Arlington County Wastewater Treatment Plant during wet and average flow conditions.

VAWC COMMENTS

1. No conditions received from VAWC.

FIRE DEPARTMENT

F - 1. All new fire hydrants on private streetsshall be owned and the responsibility of the community to inspect, test, service, and maintain. All hydrants on public streets shall be the responsibility of the City.

R - 1. In the event an existing building will be razed, the Alexandria Fire Department would like the opportunity to explore utilizing the structure before demolition for training exercises. If such an agreement can be reached, conditions of use between the parties and a hold harmless agreement will be provided to the owner or their representative.

Police Department

Parking Garage Recommendations

R - 1. It is recommended that the section of the underground garage dedicated to the residents is gated off from the retail section and is controlled by electronic means. This should help alleviate unwanted persons tampering with resident's vehicles and other crimes.

R - 2. It is recommended that the doors in the garage (garage level only) leading into the stairwell have controlled electronic access.

R - 3. Only residents with proper electronic access cards should be able to enter the stairwells from the underground parking garage. This makes the stairwells safer for residents.

R - 4. The controlled electronic access should not interfere with the emergency push-bar release located on the inside of the stairwell door that allows for emergency exit of the building.

Landscape Recommendations

R - 5. The proposed shrubbery should have a natural growth height of no more than 2 ½ to 3 feet with a maximum height of 36 inches when it matures and should not hinder the unobstructed view of patrolling law enforcement vehicles.

Parks

R - 6. It is recommended that the applicant choose a style bench that has an armrest in the middle of the bench to deter unwanted sleeping and skateboarding on the benches.

Miscellaneous

R - 7. It is recommended that the buildings have an address number which is contrasting in color to the background, at least 3 inches high, reflective, and visible from the street placed on the front and back of each home. It is strongly suggested that no brass or gold colored numbers are used. This aids in a timely response from emergency personnel should they be needed.

R - 8. It is recommended that all the ground floor level windows be equipped with a device or hardware that allows windows to be secured in a partially open position. This is to negate a "breaking and entering" when the windows are open for air.

R - 9. It is recommended that a "door-viewer" (commonly known as a peep-hole) be installed on all doors on the ground level that lead directly into an apartment. This is for the security of the occupant.

Asterisks denote the following:

* Condition must be fulfilled prior to release of the Final Site Plan
** Condition must be fulfilled prior to release of the building permit
*** Condition must be fulfilled prior to release of the certificate of occupancy
**** Condition must be fulfilled prior to release of the bond

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | [PITTSC] | AVBP

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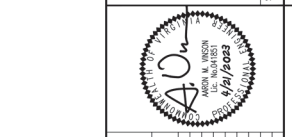

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0102.dwg

SHEET: C-0111

DSUP 2019-0017 CITY COUNCIL ACTION

Master Plan Amendment #2020-00006
CDD Concept Plan Amendment #2020 -00005
Development Special Use Permit #2019 -00017
TMP Special Use Permit #2021 -00005
Upland Park – 5165 Seminary Road

Application	General Data	
Project Name: Upland Park	PC Hearing:	March 2, 2021
	CC Hearing:	March 13, 2021
	If approved, DSUP Expiration:	March 13, 2024[1]
	Plan Acreage:	9.82 acres (427,777 SF)
Location: 5165 Seminary Road, multiple addresses	Zone:	CDD #21/Coordinated Development District #21
	Proposed Use:	Residential, Park
	Dwelling Units:	92
	Gross Floor Area:	235,520 SF
Applicant: Alexandria Development Associates, LLC., represented by Ken Wire, attorney	Small Area Plan:	Beauregard Small Area Plan
	Green Building:	Compliance with City's 2019 Green Building Policy

Purpose of Application

Consideration of requests to construct 92 townhomes, public and private streets, streetscape improvements, and a .85 ac (2,500 SF) park.

Special Use Permits and Modifications Requested:

1. Master Plan Amendment to the Beauregard Small Area Plan Chapter to amend the framework streets map;
2. An amendment to previously approved Coordinated Development District #21 Conceptual Design Plan to amend the Upland Park Neighborhood Development Summary to decrease the number of multifamily units from 505 to 443 and increase the number of townhouse units from 30 to 92 (amending CDD#2012-00003);
3. Development Special Use Permit and site plan, with subdivision to construct 92 townhomes and park space, including Special Use Permits to construct a building on a parcel without frontage on a public street and to allow more than eight dwelling units in a single townhouse structure; and
4. A Special Use Permit for a transportation management plan for Tier 2.

[1] The validity period may be extended consistent with City Council guidance for land-use approvals due to the COVID-19 pandemic.

Staff Recommendation: APPROVAL WITH CONDITIONS

Staff Reviewers:
Robert M. Kerns, AICP, Division Chief, Robert.Kerns@alexandriava.gov
Maya Contreras, Principal Planner, Maya.Contreras@alexandriava.gov
William Cook, AICP, Urban Planner, William.Cook@alexandriava.gov

CITY COUNCIL ACTION, MARCH 13, 2021: City Council approved the Planning Commission recommendation

PLANNING COMMISSION ACTION, MARCH 2, 2021:
Master Plan Amendment #2020-0006:
On a motion by Commissioner Lyle, seconded by Commissioner McMahon, the Planning Commission voted to initiate Master Plan Amendment #2020-0006. The motion carried on a vote of 7-0. On a motion by Commissioner Lyle, seconded by Commissioner McMahon, the Planning Commission voted to approve the Master Plan Amendment #2020-0006. The motion carried on a vote of 7-0.

CDD Concept Plan Amendment #2020-0005:
On a motion by Commissioner Lyle, seconded by Commissioner McMahon, the Planning Commission voted recommend approval of CDD Concept Plan Amendment #2020-0005. The motion carried on a vote of 7-0.

Development Special Use Permit #2019-0017 and TMP Special Use Permit #2021-0005:
On a motion by Commissioner Lyle, seconded by Commissioner McMahon, the Planning Commission voted to recommend approval of DSUP #2019-0017, and TMP Special Use Permit #2021-0005, subject to compliance with all applicable codes, ordinances and staff recommendations. The motion carried on a vote of 7-0.

Reason: The Planning Commission agreed with staff analysis and supported staff's recommendations.

Commissioner Brown stated that he had thoughts about the project that he would provide as written comments under separate cover, as none of them would change his support of the project. He expressed concern about the loss of the existing mature tree canopy.

Chair Macek commended the applicant for their diligence in pursing the project from the initial Beauregard SAP and expressed his support of the project. He noted that he is not convinced that the Ellipse is still needed, in terms of traffic control.

Speakers:
Mr. Ken Wire, WireGill, project attorney, spoke in support of the development.

Mr. Pete Benavage, resident, spoke on his own behalf in support of the project and its conformance to the Beauregard Small Area Plan. He noted that he is a resident of Upland Park, that his project is under contract to the developer and that he has been working with the team for a long time to bring it to fruition.

DSUP 2019-0017 CERTIFICATE

City of Alexandria, Virginia
Department of Planning & Zoning

DEVELOPMENT SPECIAL USE PERMIT CERTIFICATE

Development Special Use Permit# 2019-00017

Approved by City Council on: March 13, 2021

Permission is hereby granted to: Hekemian and Co. Inc.

to use the premises located at: 5143, 5165, 5173, and 5183 Seminary Road; 5066, 5105, 5106, 5115, 5118, 5121, and 5129 Fairbanks Avenue; 2618, 2623, 2627, 2638, 2641 2648 and 2658 Foster Avenue

for the following purpose: see attached report

This certificate shall be integrated into the development site plan with the conditions of approval. It is the responsibility of the special use permit holder to adhere to the conditions approved by City Council. The Department of Planning and Zoning will periodically inspect the property to identify compliance with the approved conditions. If any condition is in violation, the permit holder will be cited and issued a ticket. The first violation carries a monetary fine. Continued violations will cause staff to docket the special use permit for review by City Council for possible revocation.

4/7/2021
Date

Karl Moritz, Director
Department of Planning and Zoning

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT#: | AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PROFESSIONAL ENGINEER — AARON M. VIRGIN — LIC. No.041851 — 4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

APPROVED DEVELOPMENT CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0102.dwg

SHEET: C-0112

LOT TABULATIONS - AS APPROVED WITH DSUP2019-0017

Lot	LOT AREA (SF)	GFA (SF)	NFA (SF)	AFG	ROOF ELEV	BLDG HT (FT)	FF	YARD SETBACKS (FT)			
								FRONT	REAR	SIDE (LEFT)	SIDE (RIGHT)
A1	1050	2,560	2,257	249.21	291.67	42.46	251.50	4	6	4.3	0
A2	800	2,560	2,257	249.27	291.67	42.40	251.50	5	5	0	0
A3	800	2,560	2,257	249.33	291.17	41.84	251.00	4	6	0	0
A4	800	2,560	2,257	249.28	291.17	41.89	251.00	5	5	0	0
A5	1050	2,560	2,257	248.81	291.17	42.36	251.00	4	6	0	4.9
A6	1050	2,560	2,257	248.85	291.17	42.32	251.00	4	6	4.9	0
A7	800	2,560	2,257	248.67	291.17	42.50	251.00	5	5	0	0
A8	800	2,560	2,257	248.52	290.67	42.15	250.50	5	5	0	0
A9	800	2,560	2,257	248.37	290.67	42.30	250.50	4	6	0	0
A10	800	2,560	2,257	248.22	290.17	41.95	250.00	5	5	0	0
A11	1000	2,560	2,257	248.07	290.17	42.10	250.00	4	6	0	3.3
A12	1050	2,560	2,257	248.93	291.00	42.07	250.83	4	6	4.3	0
A13	800	2,560	2,257	249.20	291.00	41.80	250.83	5	5	0	0
A14	800	2,560	2,257	249.47	291.50	42.03	251.33	5	5	0	0
A15	800	2,560	2,257	249.59	291.50	41.91	251.33	4	6	0	0
A16	800	2,560	2,257	249.39	291.50	42.11	251.33	5	5	0	0
A17	1050	2,560	2,257	249.11	291.50	42.39	251.33	4	6	0	4.3
A18	1050	2,560	2,257	249.61	291.67	42.06	251.50	4	6	0	4.3
A19	800	2,560	2,257	249.87	291.67	41.80	251.50	5	5	0	0
A20	800	2,560	2,257	250.13	292.17	42.04	252.00	5	5	0	0
A21	800	2,560	2,257	250.39	292.17	41.78	252.00	4	6	0	0
A22	800	2,560	2,257	250.35	292.17	41.82	252.00	5	5	0	0
A23	1050	2,560	2,257	250.15	292.17	42.02	252.00	4	6	4.3	0
A24	1050	2,560	2,257	249.49	291.34	41.85	251.17	4	6	0	4.3
A25	800	2,560	2,257	249.63	291.34	41.71	251.17	5	5	0	0
A26	800	2,560	2,257	249.55	291.34	41.79	251.17	5	5	0	0
A27	800	2,560	2,257	249.34	290.84	41.50	250.67	4	6	0	0
A28	800	2,560	2,257	249.09	290.84	41.75	250.67	5	5	0	0
A29	800	2,560	2,257	248.85	290.34	41.49	250.17	4	6	0	0
A30	800	2,560	2,257	248.61	290.34	41.73	250.17	5	5	0	0
A31	800	2,560	2,257	248.37	289.84	41.47	249.67	4	6	0	0
A32	800	2,560	2,257	248.17	289.84	41.67	249.67	5	5	0	0
A33	1100	2,560	2,257	248.00	289.84	41.84	249.67	4	6	5.3	0
B1	1050	2,560	2,257	249.47	291.34	41.87	251.17	4	6	4.3	0
B2	800	2,560	2,257	249.61	291.34	41.73	251.17	5	5	0	0
B3	800	2,560	2,257	249.56	291.34	41.78	251.17	5	5	0	0
B4	800	2,560	2,257	249.35	290.84	41.49	250.67	4	6	0	0
B5	800	2,560	2,257	249.11	290.84	41.73	250.67	5	5	0	0
B6	800	2,560	2,257	248.87	290.34	41.47	250.17	4	6	0	0
B7	800	2,560	2,257	248.64	290.34	41.70	250.17	5	5	0	0
B8	800	2,560	2,257	248.40	289.84	41.44	249.67	4	6	0	0
B9	800	2,560	2,257	248.21	289.84	41.63	249.67	5	5	0	0
B10	1150	2,560	2,257	248.04	289.84	41.80	249.67	4	6	0	6.3
B11	900	2,560	2,257	248.82	291.42	42.60	251.25	4	6	1.3	0
B12	800	2,560	2,257	249.01	291.42	42.41	251.25	5	5	0	0
B13	800	2,560	2,257	249.23	291.92	42.69	251.75	4	6	0	0
B14	800	2,560	2,257	249.49	291.92	42.43	251.75	5	5	0	0
B15	800	2,560	2,257	249.70	292.42	42.72	252.25	5	5	0	0
B16	900	2,560	2,257	249.92	292.42	42.50	252.25	4	6	0	1.3
B17	900	2,560	2,257	250.12	291.92	41.80	251.75	4	6	0	1.3
B18	800	2,560	2,257	250.26	292.42	42.16	252.25	5	5	0	0
B19	800	2,560	2,257	250.46	292.92	42.46	252.75	4	6	0	0
B20	800	2,560	2,257	250.69	292.92	42.23	252.75	5	5	0	0
B21	800	2,560	2,257	250.94	293.42	42.48	253.25	5	5	0	0
B22	900	2,560	2,257	251.36	293.92	42.56	253.75	4	6	1.3	0
B23	1050	2,560	2,257	251.86	294.17	42.31	254.00	4	6	0	4.3
B24	800	2,560	2,257	251.93	294.17	42.24	254.00	5	5	0	0
B25	800	2,560	2,257	251.92	294.17	42.25	254.00	4	6	0	0
B26	800	2,560	2,257	251.80	293.67	41.87	253.50	5	5	0	0
B27	1050	2,560	2,257	251.58	293.67	42.09	253.50	4	6	4.9	0
B28	1050	2,560	2,257	251.29	293.67	42.38	253.50	4	6	0	4.9
B29	800	2,560	2,257	251.08	293.17	42.09	253.00	5	5	0	0
B30	800	2,560	2,257	250.88	292.67	41.79	252.50	5	5	0	0
B31	800	2,560	2,257	250.67	292.67	42.00	252.50	4	6	0	0
B32	800	2,560	2,257	250.47	292.17	41.70	252.00	5	5	0	0
B33	1000	2,560	2,257	250.27	292.17	41.90	252.00	4	6	3.3	0
C1	1050	2,560	2,257	246.39	288.17	41.78	248.00	4	6	4.3	0
C2	800	2,560	2,257	246.82	288.67	41.85	248.50	5	5	0	0
C3	800	2,560	2,257	247.17	288.67	41.50	248.50	4	6	0	0
C4	800	2,560	2,257	247.39	289.17	41.78	249.00	5	5	0	0
C5	800	2,560	2,257	247.63	289.17	41.54	249.00	4	6	0	0
C6	800	2,560	2,257	247.87	289.67	41.80	249.50	5	5	0	0
C7	1000	2,560	2,257	248.41	290.17	41.76	250.00	4	6	0	3.3
C8	1050	2,560	2,257	244.87	286.92	42.05	246.75	4	6	0	4.3
C9	800	2,560	2,257	245.12	286.92	41.80	246.75	5	5	0	0
C10	800	2,560	2,257	245.48	287.42	41.94	247.25	4	6	0	0
C11	800	2,560	2,257	245.71	287.67	41.96	247.50	5	5	0	0
C12	800	2,560	2,257	245.96	288.17	42.21	248.00	4	6	0	0
C13	800	2,560	2,257	246.21	288.17	41.96	248.00	5	5	0	0
C14	1000	2,560	2,257	246.46	288.67	42.21	248.50	4	6	3.3	0
C15	1050	2,560	2,257	248.06	290.17	42.11	250.00	4	6	4.3	0
C16	800	2,560	2,257	248.04	289.67	41.63	249.50	5	5	0	0
C17	800	2,560	2,257	248.07	289.67	41.60	249.50	4	6	0	0
C18	800	2,560	2,257	248.11	289.67	41.56	249.50	5	5	0	0
C19	800	2,560	2,257	248.16	289.67	41.51	249.50	5	5	0	0
C20	1050	2,560	2,257	248.32	289.67	41.35	249.50	4	6	0	4.3
C21	1050	2,560	2,257	247.16	290.17	43.01	250.00	4	6	0	4.3
C22	800	2,560	2,257	247.42	289.67	42.25	249.50	5	5	0	0
C23	800	2,560	2,257	247.66	289.67	42.01	249.50	4	6	0	0
C24	800	2,560	2,257	247.91	289.67	41.76	249.50	5	5	0	0
C25	800	2,560	2,257	248.17	289.67	41.50	249.50	5	5	0	0
C26	1050	2,560	2,257	248.42	289.67	41.25	249.50	4	6	4.3	0

NOTE:
PROVIDED FOR INFORMATION ONLY.

PROPOSED LOT TABULATION

Lot	LOT AREA (SF)	GFA (SF)	NFA (SF)	AFG	ROOF ELEV	BLDG HT (FT)	FF	YARD SETBACKS (FT)			
								FRONT	REAR	SIDE (LEFT)	SIDE (RIGHT)
A1	1050	2,560	2,257	249.60	291.67	42.07	251.50	4	6	4.3	0
A2	800	2,560	2,257	249.74	291.67	41.93	251.50	5	5	0	0
A3	800	2,560	2,257	249.82	291.17	41.35	251.00	4	6	0	0
A4	800	2,560	2,257	249.86	291.17	41.31	251.00	5	5	0	0
A5	1050	2,560	2,257	249.70	291.17	41.48	251.00	4	6	0	4.9
A6	1050	2,560	2,257	249.45	291.17	41.72	251.00	4	6	4.9	0
A7	800	2,560	2,257	249.42	291.17	41.75	251.00	5	5	0	0
A8	800	2,560	2,257	249.15	290.67	41.52	250.50	5	5	0	0
A9	800	2,560	2,257	248.95	290.67	41.72	250.50	4	6	0	0
A10	800	2,560	2,257	248.57	290.17	41.60	250.00	5	5	0	0
A11	1000	2,560	2,257	248.46	290.17	41.71	250.00	4	6	0	3.3
A12	1050	2,560	2,257	249.58	291.00	41.42	250.83	4	6	4.3	0
A13	800	2,560	2,257	249.42	291.00	41.59	250.83	5	5	0	0
A14	800	2,560	2,257	249.64	291.50	41.86	251.33	5	5	0	0
A15	800	2,560	2,257	249.82	291.50	41.69	251.33	4	6	0	0
A16	800	2,560	2,257	249.78	291.50	41.73	251.33	5	5	0	0
A17	1050	2,560	2,257	249.78	291.50	41.72	251.33	4	6	0	4.3
A18	1050	2,560	2,257	250.31	291.67	41.36	251.50	4	6	0	4.3
A19	800	2,560	2,257	249.96	291.67	41.71	251.50	5	5	0	0
A20	800	2,560	2,257	250.06	291.67	41.61	251.50	5	5	0	0
A21	800	2,560	2,257	250.33	292.17	41.84	252.00	4	6	0	0
A22	800	2,560	2,257	250.30	292.17	41.88	252.00	5	5	0	0
A23	1050	2,560	2,257	250.36	292.17	41.81	252.00	4	6	4.3	0
A24	1050	2,560	2,257	249.49	291.34	41.86	251.17	4	6	0	4.3
A25	800	2,560	2,257	249.64	291.34	41.70	251.17	5	5	0	0
A26	800	2,560	2,257	249.60	291.34	41.74	251.17	5	5	0	0
A27	800	2,560	2,257	249.28	290.84	41.57	250.67	4	6	0	0
A28	800	2,560	2,257	249.08	290.84	41.77	250.67	5	5	0	0
A29	800	2,560	2,257	248.75	290.34	41.59	250.17	4	6	0	0
A30	800	2,560	2,257	248.55	290.34	41.79	250.17	5	5	0	0
A31	800	2,560	2,257	248.22	289.84	41.62	249.67	4	6	0	0
A32	800	2,560	2,257	248.17	289.84	41.67	249.67	5	5	0	0
A33	1100	2,560	2,257	248.32	289.84	41.52	249.67	4	6	5.3	0
B1	1050	2,560	2,257	249.56	291.34	41.78	251.17	4	6	4.3	0
B2	800	2,560	2,257	249.70	291.34	41.64	251.17	5	5	0	0
B3	800	2,560	2,257	249.54	291.34	41.80	251.17	5	5	0	0
B4	800	2,560	2,257	249.22	290.84	41.62	250.67	4	6	0	0
B5	800	2,560	2,257	249.02	290.84	41.82	250.67	5	5	0	0
B6	800	2,560	2,257	248.68	290.34	41.66	250.17	4	6	0	0
B7	800	2,560	2,257	248.49	290.34	41.85	250.17	5	5	0	0
B8	800	2,560	2,257	248.38	290.34	41.96	250.17	4	6	0	0
B9	800	2,560	2,257	248.13	289.84	41.71	249.67	5	5	0	0
B10	1150	2,560	2,257	248.44	289.84	41.40	249.67	4	6	0	6.3
B11	900	2,560	2,257	249.11	290.67	41.56	250.50	4	6	1.3	0
B12	800	2,560	2,257	249.42	290.67	41.25	250.50	5	5	0	0
B13	800	2,560	2,257	249.65	291.17	41.52	251.00	4	6	0	0
B14	800	2,560	2,257	249.62	291.17	41.55	251.00	5	5	0	0
B15	800	2,560	2,257	250.11	291.67	41.56	251.50	5	5	0	0
B16	900	2,560	2,257	250.72	292.17	41.46	252.00	4	6	0	1.3
B17	900	2,560	2,257	250.50	291.67	41.17	251.50	4	6	0	1.3
B18	800	2,560	2,257	250.61	292.17	41.56	252.00	5	5	0	0
B19	800	2,560	2,257	250.72	292.17	41.45	252.00	4	6	0	0
B20	800	2,560	2,257	251.07	292.67	41.60	252.50	5	5	0	0
B21	800	2,560	2,257	251.31	293.17	41.86	253.00	5	5	0	0
B22	900	2,560	2,257	252.09	293.67	41.58	253.50	4	6	1.3	0
B23	1050	2,560	2,257	252.25	294.17	41.92	254.00	4	6	0	4.3
B24	800	2,560	2,257	252.28	294.17	41.90	254.00	5	5	0	0
B25	800	2,560	2,257	252.33	294.17	41.84	254.00	4	6	0	0
B26	800	2,560	2,257	252.15	293.67	41.52	253.50	5	5	0	0
B27	1050	2,560	2,257	252.09	293.67	41.59	253.50	4	6	4.9	0
B28	1050	2,560	2,257	251.85	293.67	41.82	253.50	4	6	0	4.9
B29	800	2,560	2,257	251.45	293.17	41.73	253.00	5	5	0	0
B30	800	2,560	2,257	251.16	292.67	41.52	252.50	5	5	0	0
B31	800	2,560	2,257	250.97	292.67	41.70	252.50	4	6	0	0
B32	800	2,560	2,257	250.65	292.17	41.52	252.00	5	5	0	0
B33	1000	2,560	2,257	250.46	292.17	41.71	252.00	4	6	3.3	0
C1	1050	2,560	2,257	246.36	288.17	41.81	248.00	4	6	4.3	0
C2	800	2,560	2,257	246.87	288.67	41.80	248.50	5	5	0	0
C3	800	2,560	2,257	247.03	288.67	41.64	248.50	4	6	0	0
C4	800	2,560	2,257	247.34	289.17	41.83	249.00	5	5	0	0
C5	800	2,560	2,257	247.52	289.17	41.66	249.00	4	6	0	0
C6	800	2,560	2,257	247.76	289.67	41.92	249.50	5	5	0	0
C7	1000	2,560	2,257	248.08	290.17	42.10	250.00	4	6	0	3.3
C8	1050	2,560	2,257	245.27	286.67	41.41	246.50	4	6	0	4.3
C9	800	2,560	2,257	245.41	286.67	41.26	246.50	5	5	0	0
C10	800	2,560	2,257	245.71	287.17	41.46	247.00	4	6	0	0
C11	800	2,560	2,257	245.89	287.17	41.28	247.00	5	5	0	0
C12	800	2,560	2,257	246.18	287.67	41.49	247.50	4	6	0	0
C13	800	2,560	2,257	246.37	287.67	41.30	247.50	5	5	0	0
C14	1000	2,560	2,257	246.77	288.17	41.40	248.00	4	6	3.3	0
C15	1050	2,560	2,257	248.48	290.17	41.70	250.00	4	6	4.3	0
C16	800	2,560	2,257	248.18	290.17	41.99	250.00	5	5	0	0
C17	800	2,560	2,257	248.09	289.67	41.58	249.50	4	6	0	0
C18	800	2,560	2,257	248.16	289.67	41.51	249.50	5	5	0	0
C19	800	2,560	2,257	248.29	289.67	41.38	249.50	5	5	0	0
C20	1050	2,560	2,257	248.72	290.17	41.45	250.00	4	6	0	4.3
C21	1050	2,560	2,257	247.62	288.67	41.05	248.50	4	6	0	4.3
C22	800	2,560	2,257	247.75	289.17	41.42	249.00	5	5	0	0
C23	800	2,560	2,257	247.92	289.17	41.25	249.00	4	6	0	0
C24	800	2,560	2,257	248.21	289.67	41.46	249.50	5	5	0	0
C25	800	2,560	2,257	248.40	289.67	41.28	249.50	5	5	0	0
C26	1050	2,560	2,257	248.64	289.67	41.03	249.50	4	6	4.3	0

NOTE:
A SPECIAL USE PERMIT WAS APPROVED TO PERMIT TOWNHOME LOTS WITHOUT PUBLIC STREET FRONTAGES [DSUP 2019-0017].

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: [ ] CHECKED: [PHTTSC] AVBP | PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA
AARON M. VIRGIN
LIC. No.041851
PROFESSIONAL ENGINEER
4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

MISCELLANEOUS INFORMATION

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

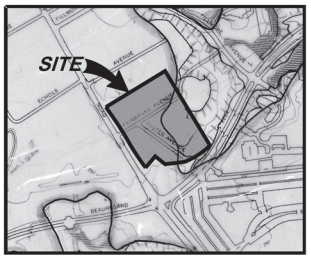
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0113.dwg

SHEET: C-0113

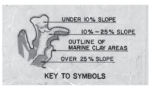
MARINE CLAY SOILS MAP



* THERE ARE KNOWN AREAS OF MARINE CLAY DEPOSITS ONSITE, ACCORDING TO THE CITY'S MARINE CLAY MAP

SCALE: 1"=500'

LIMITS OF SITE



KEY TO SYMBOLS

MASTER LEGEND

DESCRIPTION	PROPOSED	DESCRIPTION	EXISTING
AC AIR CONDITIONER		CURB & GUTTER CSCG-1	
BD BILCO DOOR		COPING CSCG-1	
BLDG BUILDING		TRANSITION FROM CATCH TO SPILL	
BO BLOWOFF	SPILL / CATCH		CATCH / SPILL
BSW BRICK SIDEWALK			
CAN CANOPY	S	SANITARY SEWER	S
CLF CHAINLINK FENCE	SL	SANITARY LATERAL	SL
CO CLEANOUT		COMBINED SEWER	
CONC CONCRETE		STORM SEWER	
CSW CONCRETE SIDEWALK	W	WATER MAIN	W
DB DEED BOOK		FIRE HYDRANT	
EM ELECTRIC METER		PLUG	
EP EDGE OF PAVEMENT		OVERHEAD WIRES	
ES ELEVATED STOOP		UTILITY POLE	
FC HEADER CURB	UE	UNDERGROUND ELECTRIC	UE
FEN FENCE	T	TELEPHONE	T
FF FIRST/FINISH FLOOR ELEVATION	G	GAS MAIN	G
GM GAS METER		TRANSFORMER	
GV GAS VALVE		HANDICAP RAMP (CG-12)	
INV INVERT		GUARDRAIL	
IPF IRON PIN FOUND (PROPERTY CORNER)		FENCE	
N/F NOW OR FORMERLY		HANDRAIL	
NF NAIL FOUND (PROPERTY CORNER)		TEST PIT	
NS NAIL SET (PROPERTY CORNER)		TRAFFIC FLOW	
OH OVERHANG		STREETLIGHT	
P PLANTER		BIKE RACK	
PCL PARCEL (PER DESCRIPTION)		TREES	
PG PAGE		DOOR	
PM PARKING METER		MANHOLE	
SD (122) STORM SEWER STRUCTURE		CLEAN OUT	C.O.
SMH (123) SANITARY SEWER STRUCTURE		CURB INLET	
SN SIGN	260	CONTOURS	260
SQ.FT. SQUARE FEET	264		264
TCB TRAFFIC CONTROL BOX	+264.50	SPOT ELEVATION	+264.50
THH TRAFFIC HAND HOLE		DRAINAGE FLOW DIRECTION	
TP TREE PLANTER	TC	TOP OF CURB	TC
TRLP TRAFFIC LIGHT/SIGNAL POLE	BC	BOTTOM OF CURB	BC
TSA TRAFFIC SIGNAL MAST ARM	FL	FLOW LINE	FL
UHH UTILITY HAND HOLE	TW	TOP OF WALL	TW
WDF WOODEN FENCE	BW	BOTTOM OF WALL	BW
WM WATER METER	H.P.	HIGH POINT	H.P.
WV WATER VALVE	L.P.	LOW POINT	L.P.
FIRE HYDRANT		LIMITS OF DISTURBANCE	
DOORWAY/ENTRANCE		SITE PROPERTY LINE	
UTILITY POLE			
LIGHT POLE		PROP. BUILDING	
FENCE			
GUY WIRE		CONCRETE	
OVERHEAD WIRES			
UNDERGROUND ELECTRIC LINE			
UNDERGROUND GAS LINE			
UNDERGROUND SANITARY LINE			
UNDERGROUND TELECOMMUNICATIONS LINE			
UNDERGROUND WATER LINE			
TREE			
LIMITS OF TREE CANOPY/VEGETATION			
CURB AND GUTTER			
BOLLARD			
SPOT ELEVATION			
SIGN			
(E) ELECTRIC MANHOLE			
(U) UTILITY MANHOLE			
(W) WATER MANHOLE			
TELECOMMUNICATIONS PEDESTAL			

CITY STANDARD GENERAL NOTES

1. THE SUBJECT SITE IS ZONED CDD#21 AND IS LOCATED ON CITY OF ALEXANDRIA ASSESSMENT MAP NUMBERS:

PROPERTY OWNERSHIP IDENTIFICATION

MAP-BLOCK-LOT #	LOT#	OWNER	DEED BOOK	PAGE	ADDRESS
010.02-03-11	6	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 220012054		5105 FAIRBANKS AVE, ALEXANDRIA, VA 22311
010.02-03-12	5	CORE ALEXANDRIA I, LLC.	INSTR. 180016808		5115 FAIRBANKS AVE, ALEXANDRIA, VA 22311
010.04-03-13	4	DB FOSTER, LLC.	INSTR. 060013311		5121 FAIRBANKS AVE, ALEXANDRIA, VA 22311
010.04-03-14	3	CORE ALEXANDRIA I, LLC.	INSTR. 180002282		5129 FAIRBANKS AVE, ALEXANDRIA, VA 22311
010.04-03-15	15	DB FOSTER, LLC.	INSTR. 050026812		5118 FAIRBANKS AVE, ALEXANDRIA, VA 22311
010.04-03-16	16	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 180012306		5106 FAIRBANKS AVE, ALEXANDRIA, VA 22311
010.04-03-17	14	BEN M. AND NANCY C. SPICER	898	382	2641 FOSTER AVE, ALEXANDRIA, VA 22311
010.04-03-18	520	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 110008352		2638 FOSTER AVE, ALEXANDRIA, VA 22311
010.04-03-20	---	CITY OF ALEXANDRIA	1144	212	5143 SEMINARY RD, ALEXANDRIA, VA 22311
010.04-03-21	519	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 110008352		2648 FOSTER AVE, ALEXANDRIA, VA 22311
010.04-03-22	518	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 110008352		2658 FOSTER AVE, ALEXANDRIA, VA 22311
010.04-03-23	7	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 110008352		5165 SEMINARY RD, ALEXANDRIA, VA 22311
010.04-03-24	2	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 150011093		5173 SEMINARY RD, ALEXANDRIA, VA 22311
010.04-03-25	1	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 210026176		5183 SEMINARY RD, ALEXANDRIA, VA 22311
011.03-01-01	17	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 220003035		5066 FAIRBANKS AVE, ALEXANDRIA, VA 22311
011.03-01-02	13	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 110008352		2627 FOSTER AVE, ALEXANDRIA, VA 22311
011.03-01-03	512	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 110008352		2623 FOSTER AVE, ALEXANDRIA, VA 22311
011.03-01-04	610	ALEXANDRIA DEVELOPMENT ASSOCIATES, LLC.	INSTR. 130007699		2618 FOSTER AVE, ALEXANDRIA, VA 22311

2. OWNER: SEE ABOVE (NOTE 1)
3. DEED INFORMATION: SEE ABOVE (NOTE 1)
4. ADDRESS: SEE ABOVE (NOTE 1)
5. SITE AREA: 8.4199 AC. OR 366,769 SF.
6. AT THE TIME OF PLAN PREPARATION, A SITE-SPECIFIC GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED. ACCORDING TO THE NRCS SOILS MAP, THE SITE MAINLY CONSISTS OF KINGSTOWNE-SASSAFRAS-NEABSCO COMPLEX SOILS AND URBAN LAND.
7. THE SITE IS LOCATED IN THE FOUR MILE RUN WATERSHED.
8. CONSTRUCTION PERMITS ARE REQUIRED FOR THIS PROJECT. THE APPROVED SITE PLAN MUST BE ATTACHED TO THE PERMIT APPLICATION THAT FULLY DETAILS THE CONSTRUCTION AS WELL AS LAYOUTS AND SCHEMATICS OF THE MECHANICAL ELECTRICAL, AND PLUMBING SYSTEMS.
9. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC AND/OR PRIVATE EASEMENTS UNLESS OTHERWISE PROVIDED BY THE PLANNING COMMISSION AND THE CITY OF ALEXANDRIA COUNCIL.
10. PLAT SUBJECT TO RESTRICTIONS OF RECORD.
11. BUILDING HEIGHT SHALL NOT EXCEED THE ALLOWABLE LIMIT BY CITY OF ALEXANDRIA ZONING ORDINANCE OR AS APPROVED BY THE PLANNING COMMISSION AND THE CITY OF ALEXANDRIA COUNCIL.
12. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND TO THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC)
13. FLOOR AREA CALCULATIONS WITH ALLOWABLE LIMITS AS APPROVED BY PLANNING COMMISSION AND CITY COUNCIL, ARE DEMONSTRATED HEREIN.
14. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. IF CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO STREETS, ALLEYWAYS, DRIVEWAY APRONS, SANITARY AND STORM SEWERS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER DROP INLET STRUCTURES ARE DAMAGED BY THE CONTRACTOR OR BY ACTIVITIES RELATING TO THE SITE CONSTRUCTION THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.
15. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARD AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).
16. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).
17. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM ADJACENT PROPERTY OWNERS.
18. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES, MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO RELEASE OF FINAL SITE PLAN. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 1 ACRE.
19. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ), TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES), AND BUILDING AND FIRE CODE ADMINISTRATION SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
20. ANY WORK IN THE PUBLIC RIGHT-OF-WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
21. THE PROPERTY ADDRESS MUST BE CLEARLY MARKED IN THE FRONT AND BACK OF THE PROPOSED DEVELOPMENT SITE DURING CONSTRUCTION FOR EMERGENCY RESPONSE PURPOSES IN CONTRASTING COLORS FOR EASY IDENTIFICATION.
22. THE APPLICANT SHALL CONTACT THE CRIME PREVENTION UNIT OF THE ALEXANDRIA POLICE DEPARTMENT AT (703) 838-4520 REGARDING SECURITY HARDWARE FOR NEW CONSTRUCTION. THIS SHALL BE COMPLETED PRIOR TO ISSUANCE OF BUILDING PERMIT.
23. ROOF DRAINING SYSTEM, SUMP PUMP DISCHARGE, AND FOUNDATION DRAIN SYSTEM MUST BE INSTALLED SO AS EITHER TO NOT ADVERSELY IMPACT UPON, NOR CAUSE EROSION DAMAGE TO ADJACENT PROPERTIES OR THE PUBLIC RIGHT OF WAY.
24. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES,
25. IN THE EVENT, THE PROPOSED ROOF DRAINAGE AND/OR SUMP PUMP DISCHARGE AND FOUNDATION DRAIN SYSTEM AND/OR GRADING ADVERSELY IMPACTS AND/OR CREATES A NUISANCE ON PUBLIC RIGHT OF WAY OR PRIVATE PROPERTIES THEN THE APPLICANT SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL IMPROVEMENTS TO THE ROOF DRAINAGE AND/OR SUMP PUMP DISCHARGE AND FOUNDATION DRAIN SYSTEMS AND/OR GRADING TO SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
26. PER THE REQUIREMENT OF SECTION 8-1-12 OF THE CITY CHARTER AND CODE, WHEN THE BUILDING FOOTING HAS BEEN PLACED AND THE WALLS HAVE BEEN RAISED TO THE FIRST JOIST BEARING OR STORY HEIGHT ABOVE GRADE, A PLOT PLAN SHOWING THE EXACT LOCATION OF THE WALLS SHALL BE PREPARED BY A LICENSED, CERTIFIED PUBLIC LAND SURVEYOR OR PROFESSIONAL ENGINEER AND FILED WITH THE BUILDING OFFICIAL FOR APPROVAL BEFORE PROCEEDING FURTHER WITH CONSTRUCTION.
27. A SEPARATE DESIGN IS REQUIRED FOR ALL WALLS 24" AND OVER IN HEIGHT FROM THE GRADE AND SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS, THIS FINAL SITE PLAN SHOWS LOCATION, AND PROPOSED GRADING OF THE WALLS ONLY.
28. SUBMIT A SURVEY, CONSISTENT WITH THE REQUIREMENTS FOR CERTIFICATE OF OCCUPANCY CHECKLIST, TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO REQUESTING AN INSPECTION FOR A CERTIFICATE OF OCCUPANCY.
29. ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENT SHALL BE OWNED AND MAINTAINED PRIVATELY.
30. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT OF WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.
31. ALL WATER FACILITY CONSTRUCTION SHALL CONFORM TO VIRGINIA AMERICAN WATER COMPANY STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONTACT VIRGINIA AMERICAN WATER COMPANY AT (703) 549-7080 TO COORDINATE CONSTRUCTION AND INSPECTION OF WATER FACILITIES.
32. THE SIDEWALKS SHALL REMAIN OPENED DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
33. PRIOR TO THE RELEASE OF THE SITE PLAN, A TRAFFIC CONTROL PLAN FOR CONSTRUCTION DETAILING PROPOSED CONTROLS TO TRAFFIC MOVEMENT, LANE CLOSURES, CONSTRUCTION ENTRANCES, HAUL ROUTES, AND STORAGE AND STAGING SHALL BE PROVIDED FOR INFORMATION PURPOSES; HOWEVER, AN AMENDED TRAFFIC CONTROL PLAN, IF REQUIRED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES SHALL BE SUBMITTED TO THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES ALONG WITH THE BUILDING PERMIT APPLICATION. THE FINAL PLAN SHALL INCLUDE A STATEMENT "FOR INFORMATION ONLY" ON THE TRAFFIC CONTROL PLAN SHEETS.
34. A CERTIFICATE OF OCCUPANCY SHALL BE OBTAINED PRIOR TO ANY OCCUPANCY OF THE BUILDING OR PORTION THEREOF, IN ACCORDANCE WITH VIRGINIA USBC 115.0.

CONSTRUCTION NOTES

1. CONTRACTOR AND DEVELOPER ARE ADVISED THAT ANY ELECTRONIC FILES ASSOCIATED WITH THE PREPARATION OF THESE PLANS WILL NOT BE RELEASED TO OTHERS FOR USE IN CONSTRUCTION STAKEOUT OR RELATED SERVICES.
2. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON RECORD INFORMATION AND FIELD SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN IN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
3. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED IF REQUIRED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
5. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC. WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR CAUSING EXISTING UTILITIES TO BE DISCONNECTED.
6. THE CONTRACTOR SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.
7. ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE AS RECOMMENDED BY THE COUNTY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
8. EXISTING SEPTIC FIELDS SHALL BE ABANDONED IN ACCORDANCE WITH VIRGINIA HEALTH DEPARTMENT STANDARDS AND SPECIFICATIONS.
9. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS (DESIGN & PERMITTING BY OTHERS).
10. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSION, DETAILS, AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
11. THE CONTRACTOR IS TO VERIFY INVERT, SIZE AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL PLANS PRIOR TO ORDERING & PLACEMENT OF UNDERGROUND UTILITIES.
12. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONTRACTOR.
13. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF DIRECTOR, T&ES.
14. ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
15. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, CONTACT ENGINEER FOR ADDITIONAL INFORMATION PRIOR TO CONSTRUCTING IMPROVEMENTS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS MAY BE REQUIRED.
16. THE DESIGN, CONSTRUCTION, FIELD PRACTICES AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA AND IT'S CURRENT ZONING ORDINANCE AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENTS OR THE PERMITS SHALL BE DEEMED A VIOLATION.
17. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA.
18. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.
19. THE CONTRACTOR IS REFERRED TO STRUCTURAL GEOTECHNICAL, MECHANICAL AND ARCHITECTURAL PLANS FOR FOUNDATION TREATMENT INCLUDING, BUT NOT LIMITED TO, SHEETING AND SHORING FOR BUILDING EXCAVATION. WATERPROOFING FOR FILL AGAINST BUILDINGS AND LOCATION OF MECHANICAL EQUIPMENT AND CONNECTIONS AT THE FACES OF BUILDINGS.
20. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR THE PONDING OF WATER ON THE ROADWAY.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.
22. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF IN-SITU MATERIAL SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TEST FOR ACTUAL DETERMINATION OF REQUIRED THICKNESS OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS. THE PAVEMENT SECTION SHALL BE DESIGNED BY AN GEOTECHNICAL/LICENCED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.
23. THE THICKNESS OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATA BOOK FOR CIVIL ENGINEERS, VOLUME ONE, DESIGN" WRITTEN BY ELWYN E. SEELYE. AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CBR AND VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWAMI METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE.
24. EMERGENCY VEHICLE EASEMENTS AND HANDICAPPED PARKING SPACES TO BE MARKED BY CITY OF ALEXANDRIA STANDARD SIGNAGE AND ADA REQUIREMENTS.
25. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
26. ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND SOILS REPORT REQUIREMENTS.
27. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
28. UNLESS OTHERWISE APPROVED THE CONTRACTOR SHALL PROVIDE THERMOPLASTIC STANDARD PEDESTRIAN CROSS WALKS AT ALL CROSSINGS AT THE PROPOSED DEVELOPMENT, WHICH MUST BE DESIGNED TO THE SATISFACTION OF THE DIRECTOR, T&ES. THE DESIGN OF STANDARD PEDESTRIAN CROSS WALK SHALL BE EVALUATED ON A CASE BY CASE BASIS AND SHALL COMPLY WITH THE REQUIREMENTS OF POLICY MANUAL SECTION 30.18, PEDESTRIAN CROSSWALKS, JULY 13, 2006. A COPY OF THE POLICY MANUAL CAN BE OBTAINED FROM BICYCLE AND PEDESTRIAN COORDINATOR/TRANSPORATION PLANNER.
29. THE OWNER AND CONTRACTOR ARE RESPONSIBLE FOR COMPLIANCE WITH ALL ASPECTS OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS PROJECT, BOTH OF WHICH ARE SEPARATE DOCUMENTS FROM THIS PLAN. VSMP AND SWPPP COMPLIANCE REQUIRES CONFORMANCE WITH THE ENDANGERED SPECIES ACT. THIS MAY INCLUDE BUT MAY NOT BE LIMITED TO OBTAINING WRITTEN CONFIRMATION FROM THE U.S. FISH AND WILDLIFE SERVICES THAT NO ENDANGERED SPECIES ARE PRESENT ON THE PROJECT SITE, AND/OR ENSURING THAT LAND CLEARING IS PERFORMED WITHIN PERMITTED DATE RANGES. CONFIRMATION IS REQUIRED PRIOR TO START OF CONSTRUCTION.
30. ACCORDING TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT (PREPARED BY RAMBOLL US CORPORATION) NO LANDFILL SITES WERE IDENTIFIED WITHIN 1000 FEET OF THE SITE.
31. ACCORDING TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT (PREPARED BY RAMBOLL US CORPORATION) THERE IS NO EVIDENCE FOR THE PRESENCE OF COMBUSTIBLE GASES.
32. ACCORDING TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT (PREPARED BY RAMBOLL US CORPORATION) THE FOLLOWING WAS LISTED AS A RECOGNIZED ENVIRONMENTAL CONDITION (REC):
    - A FORMER OFF-SITE DRY CLEANING FACILITY IS LOCATED ADJACENT TO SEVERAL OF THE SUBJECT PROPERTIES IN THE SOUTHWESTERN PORTION OF THE STUDY AREA. LIMITED PHASE II INVESTIGATIONS WERE CONDUCTED ON THREE OF THE SUBJECT PROPERTIES LOCATED ADJACENT TO THE FORMER DRY CLEANER TO ASSESS POTENTIAL IMPACTS. SOIL SAMPLES DID NOT SHOW ANY EVIDENCE OF SOIL CONTAMINATION ON THE THREE TESTED PROPERTIES. LOW LEVELS OF VOCs WERE DETECTED IN GROUNDWATER SAMPLES. NO SOURCES OF CONTAMINATION WERE FOUND ON ANY OF THE THREE SUBJECT PROPERTIES TESTED.

ESI Peer Review

WALTER L. PHILLIPS, INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | TASC: | AVBP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
02/25/22	FSP SUB #3
10/19/23	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

JASON M. VIRGIN, LIC. No.041851, 4/21/2023, COMMONWEALTH OF VIRGINIA, PROFESSIONAL ENGINEER

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

NOTES & LEGEND

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-0201

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0201.dwg

EMERGENCY VEHICLE EASEMENT (EVE) NOTE

1. ALL EMERGENCY VEHICLE EASEMENTS ARE SHOWN ON PLAN AND SHALL BE RECORDED WITH ALEXANDRIA LAND RECORDS.

ENVIRONMENTAL SITE ASSESSMENT

1. THERE ARE NO TIDAL WETLANDS, RPA'S, TIDAL SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIBLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, OR WETLANDS LOCATED ON THIS SITE. THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. THERE IS AN INTERMITTENT STREAM AND ASSOCIATED BUFFER WITHIN THE SITE LIMITS, BUT NOT WITHIN THE LIMITS OF DISTURBANCE FOR THIS PHASE OF DEVELOPMENT.

2. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS AND CONTAINERS ARE ENCOUNTERED AT THE SITE. SHOULD UNANTICIPATED CONDITIONS WARRANT, CONSTRUCTION WITHIN THE IMPACTED AREA SHALL BE STOPPED UNTIL THE APPROPRIATE ENVIRONMENTAL REPORTS ARE SUBMITTED AND APPROVED AT THE DISCRETION OF THE DIRECTOR OF T&ES. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASE TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.

3. ALL WELLS TO BE DEMOLISHED ON THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWCB) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIALIST AND AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703–746–4400 EXT. 267/255.

4. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   - MONDAY THROUGH FRIDAY FROM 7AM TO 6PM AND
   - SATURDAYS FROM 9AM TO 6PM
   - NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.

   PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
   - MONDAY THROUGH FRIDAY FROM 9AM TO 6PM AND
   - SATURDAYS FROM 10AM TO 4PM

ENVIRONMENTAL NOTES

1. ACCORDING TO THE PHASE I/II ESA PREPARED BY RAMBOLL US CORPORATION, SOIL SAMPLES COLLECTED DID NOT SHOW ANY EVIDENCE OF SOIL CONTAMINATION ON SUBJECT PROPERTIES. LOW LEVELS OF VOCs WERE DETECTED IN GROUNDWATER FROM SAMPLES COLLECTED ADJACENT TO THE OFFSITE FORMER DRY CLEANER. NO SOURCES OF CONTAMINATION WERE FOUND ON ANY OF THE SUBJECT PROPERTIES TESTED.

2. THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS ON SITE ACCORDING TO THE PHASE I/II ESA PREPARED BY RAMBOLL US CORPORATION.

3. THE PROPERTY IS NOT KNOWN TO BE LOCATED WITHIN 1,000 FEET OF A FORMER SANITARY LANDFILL, DUMP OR DISPOSAL AREA ACCORDING TO THE PHASE I/II ESA PREPARED BY RAMBOLL US CORPORATION.

4. THERE ARE NO KNOWN AREAS WITH THE POTENTIAL OF GENERATING COMBUSTIBLE GASES ON SITE ACCORDING TO THE PHASE I/II ESA PREPARED BY RAMBOLL US CORPORATION.

UTILITY WORKS

UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 4VAC50–30–40 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND ADDITIONAL APPLICABLE PRACTICES FOLLOWED BY THE CITY OF ALEXANDRIA:

A. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT–OF–WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS/CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.

B. ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN.

C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.

D. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.

E. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

F. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF–SITE PROPERTY.

G. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

H. SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D–1551) COMPACTION IN ALL TRENCH BACKFILL.

I. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS §4VAC50–30 EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).

J. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

K. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CITY OF ALEXANDRIA.

L. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.

M. A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WILL BE DEALT WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.

N. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "CLEAN" SOIL.

O. ALL UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES, INCLUDING WATER AND SEWER LATERALS ON PRIVATE AND PUBLIC PROPERTY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH MINIMUM 3" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPE (DUWT). THE DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" FOR DUWT WIDTHS OF 3" AND 24" FOR WIDTHS OF 6" SO AS TO MAKE UNDERGROUND INSTALLATION EASY TO FIND USING A NON–FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOLID SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS. (SEE TABLE BELOW)

COLOR	CODES
RED	CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTING CABLES
YELLOW	CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES, OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AND SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES, AND FORCE MAIN

UTILITY CONTACTS

ELECTRIC:
VIRGINIA DOMINION POWER
C/O KEN HOLMES
907 WEST GLEBE ROAD
ALEXANDRIA, VA 22305
(703) 838–2437

TELEPHONE:
VERIZON
C/O VAL FISHER
2980 FAIRVIEW PARK N., 6TH FLOOR
FALLS CHURCH, VA 22042
(703) 204–5068

NATURAL GAS:
WASHINGTON GAS
C/O RAY BAKER
6801 INDUSTRIAL ROAD
SPRINGFIELD, VA 22151
(703) 750–5953

CATV/HS INTERNET:
COMCAST
C/O BRIAN SHADE
3900 WHEELER AVENUE
ALEXANDRIA, VA 22304
(703) 567–4449

WATER:
VIRGINIA AMERICAN WATER COMPANY
C/O MATT GANCI
2223 DUKE STREET
ALEXANDRIA, VA 22314
(703) 706–3862

SOLID WASTE MANAGEMENT NOTES

1. SOLID WASTE COLLECTION AND DISPOSAL SERVICES SHALL BE PROVIDED BY PRIVATE COLLECTORS AND SHALL BE PASSED ON TO NEW OWNER IN CASE OF SALE OF THE PROPERTY SUBSEQUENT TO THE DEVELOPMENT.

2. THE PLAN DEMONSTRATES THAT ADEQUATE SPACE WITHIN EACH UNIT TO ACCOMMODATE A CITY STANDARD SUPER CAN AND RECYCLING CONTAINER HAS BEEN PROVIDED. THE CONTAINERS ARE PLACED INSIDE THE UNITS AND IS THEREFORE COMPLETELY SCREENED FROM VIEW. THE DEVELOPERS SHALL PURCHASE THE STANDARD CONTAINERS FROM THE CITY OR PROVIDE CONTAINERS THAT ARE COMPATIBLE WITH CITY COLLECTION SYSTEM AND APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.

3. THE PLAN DEMONSTRATES THAT ADEQUATE SPACE FOR SOLID WASTE AND RECYCLING CONTAINERS HAS BEEN PROVIDED AND DEVELOPMENT MEETS ALL THE MINIMUM STREET STANDARDS, INCLUDING ALL STANDARD CUL–DE–SAC TURNAROUNDS, IF APPLICABLE. THE TRASH TRUCK TURNING MOVEMENTS DEMONSTRATE THAT THE TRASH TRUCK IS ABLE TO PICK UP SOLID WASTE FROM PRIVATE STREETS . THE CONTAINERS HAVE BEEN PLACED WITHIN AN ENCLOSURE THAT COMPLETELY SCREENS THEM FROM VIEW, (SEE SHEET C–1102 FOR GARBAGE TRUCK MOVEMENT PLAN).

4. IN THE EVENT SECTION 5–1–2(12B) OF THE CITY CHARTER AND CODE TITLE 5: TRANSPORTATION AND ENVIRONMENTAL SERVICES IS AMENDED TO DESIGNATE MULTI–FAMILY DWELLINGS IN GENERAL, OR MULTI–FAMILY DWELLINGS WHEN SO PROVIDED BY SPECIAL USE PERMIT (SUP), AS REQUIRED USER PROPERTY (AS DEFINED IN 5–1–2(12B) OF THE CITY CHARTER AND CODE), THEN REFUSE COLLECTION SHALL BE PROVIDED BY THE CITY FOR THE TOWNHOME CONDOMINIUM PORTION OF THIS PLAN.

5. ALL SOLID WASTE, AS DEFINED BY THE CITY CHARTER AND CODE OF THE CITY OF ALEXANDRIA, SHALL BE DELIVERED TO COVANTA ENERGY WASTE FACILITY LOCATED AT 5301 EISENHOWER AVENUE.

CONSTRUCTION WASTE NOTE

1. CONTRACTOR SHALL IMPLEMENT A WASTE REFUSE CONTROL PROGRAM DURING THE CONSTRUCTION PHASE OF THIS DEVELOPMENT. THIS PROGRAM SHALL CONTROL WASTES SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER OR TRASH, TRASH GENERATED BY CONSTRUCTION WORKERS OR MOBILE FOOD VENDOR BUSINESSES SERVING THEM, AND ALL SANITARY WASTE AT THE CONSTRUCTION SITE AND PREVENT OFFSITE MIGRATION THAT MAY CAUSE ADVERSE IMPACTS TO NEIGHBORING PROPERTIES OR TO THE ENVIRONMENT TO THE SATISFACTION OF DIRECTORS OF T&ES AND CODE ADMINISTRATION. ALL WASTE SHALL BE PROPERLY DISPOSED OFFSITE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS.

DEMOLITION NOTES

1. A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.

2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED, TO ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH STANDARDS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY–RELATED WORK.

4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SUCH DATA TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

5. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS, AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.

6. PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

7. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS/CLEAN FILL AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).

8. THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON–SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

9. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE, AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

10. THE CONTRACTOR OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

RESOURCE PROTECTION AREA NOTE

1. THE SUBJECT PROPERTY DOES NOT LIE WITHIN THE CITY OF ALEXANDRIA RESOURCE PROTECTION AREA (RPA) AND THERE ARE NO MAPPED RPA'S ON THIS PROPERTY.

FLOOD PLAIN NOTE

1. THE SITE DOES NOT LIE WITHIN 100–YEAR FLOOD PLAIN WATER SURFACE ELEVATION (WSE) PER THE DEMARCATION OF THE CURRENT FLOOD INSURANCE RATE MAP (FIRM) PUBLISHED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

CEMETERY AND/OR BURIAL GROUNDS

1. TO THE BEST OF OUR KNOWLEDGE, THERE IS NO OBSERVABLE, HISTORICAL OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY.

RODENT ABATEMENT NOTE

1. PRIOR TO THE ISSUANCE OF A DEMOLITION PERMIT, A RODENT ABATEMENT PLAN SHALL BE SUBMITTED TO THE CITY OF ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION THAT WILL OUTLINE WHAT STEPS HAVE AND WILL BE TAKEN TO PREVENT THE SPREAD OF RODENTS FROM THE CONSTRUCTION SITE TO THE SURROUNDING COMMUNITY AND SEWERS. THE CONTRACTOR CAN CONTACT THE ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION AT (703) 746–4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION. PLEASE BE ADVISED ONCE ANY DEMOLITION HAS BEEN COMPLETED ANY ABOVE GROUND BAIT BOXES MUST BE RELOCATED WITHIN 50 FEET OF A STRUCTURE IN KEEPING WITH EPA REGULATIONS. IF THIS IS NOT POSSIBLE, THEY SHALL BE REMOVED AND REGULAR INSPECTION OF THE SITE CONDUCTED BY A VIRGINIA LICENSED PEST EXTERMINATOR TO ENSURE THE SITE REMAINS RODENT FREE.

MOSQUITO CONTROL NOTES

1. SINCE STORMWATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICE (BMP) SYSTEMS THAT HOLD WATER FOR MORE THAN 5 DAYS BETWEEN THE MONTHS OF MAY– OCTOBER HAVE THE POTENTIAL TO CAUSE MOSQUITO BREEDING HABITATS; THEREFORE, SUCH BMPS SHALL BE TREATED WITH A REGISTERED MOSQUITO LARVAL CONTROL PRODUCT. ALL LABELS SHOULD BE FOLLOWED FOR APPLICATION RATES AND AMOUNTS.

2. SINCE EXCESSIVE VEGETATION IN EXISTING BMPS ALSO INCREASE THE POTENTIAL FOR MOSQUITO PROBLEMS; THEREFORE, VEGETATION SHALL BE CONTROL AND CUT TO REDUCE MOSQUITO BREEDING.

3. CONTACT THE CITY OF ALEXANDRIA ENVIRONMENTAL HEALTH VECTOR BORNE ILLNESS PROGRAM (703–746–4910) FOR QUESTIONS OR TREATMENT ASSISTANCE.

ALEXRENEW NOTES

1. CONTRACTOR SHALL ENSURE ALL DISCHARGES IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.

2. DEWATERING AND OTHER CONSTRUCTION RELATED DISCHARGE LIMITS TO THE SEWER SYSTEM ARE REGULATED BY ALEXRENEW PRETREATMENT. CONTRACTOR IS REQUIRED TO CONTACT ALEXRENEW'S PRETREATMENT COORDINATOR AT (703) 721–3500 X 2020.

CODE NOTES

1. REQUIRED MEANS OF EGRESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION, DEMOLITION, REMODELING OR ALTERATIONS AND ADDITIONS TO ANY BUILDING.

2. WASTE MATERIALS SHALL BE REMOVED IN A MANNER WHICH PREVENTS INJURY OR DAMAGE TO PERSONS, ADJOINING PROPERTIES AND PUBLIC RIGHTS–OF–WAY.

3. SERVICE UTILITY CONNECTIONS SHALL BE DISCONTINUED AND CAPPED IN ACCORDANCE WITH THE APPROVED RULES AND THE REQUIREMENTS OF THE APPLICABLE GOVERNING AUTHORITY.

4. PROVISIONS SHALL BE MADE TO PREVENT THE ACCUMULATION OF WATER OR DAMAGE TO ANY FOUNDATION ON THE PREMISES OR ADJOINING PROPERTY.

5. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED AND PLACED SO AS NOT TO ENDANGER THE PUBLIC, THE WORKERS OR ADJOINING PROPERTY FOR THE DURATION OF THE CONSTRUCTION PROJECT, MATERIALS AND EQUIPMENT SHALL NOT BE PLACED OR STORED SO AS TO OBSTRUCT ACCESS TO FIRE HYDRANTS, STANDPIPES, FIRE OR POLICE ALARM BOXES, CATCH BASINS OR MANHOLES.

6. DURING CONSTRUCTION, DWELLINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FOR THE STREET OR ROAD FRONTING THE PROPERTY.

7. ADJOINING PUBLIC AND PRIVATE PROPERTY SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION, REMODELING AND DEMOLITION WORK. PROTECTION SHALL BE PROVIDED FOR FOOTINGS, FOUNDATIONS, PARTY WALLS, CHIMNEYS, SKYLIGHTS AND ROOFS. PROVISIONS SHALL BE MADE TO CONTROL WATER RUNOFF AND EROSION DURING CONSTRUCTION OR DEMOLITION ACTIVITIES. THE PERSON MAKING OR CAUSING AN EXCAVATION TO BE MADE SHALL PROVIDE WRITTEN NOTICE TO THE OWNERS OF ADJOINING BUILDINGS ADVISING THEM THAT THE EXCAVATION IS TO BE MADE AND THAT THE ADJOINING BUILDINGS SHOULD BE PROTECTED. SAID NOTIFICATION SHALL BE DELIVERED NOT LESS THAN 10 DAYS PRIOR TO THE SCHEDULED STARTING DATE OF THE EXCAVATION.

PERMITS NOTE

1. ALL REQUIRED PERMITS FROM VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, ENVIRONMENTAL PROTECTION AGENCY, ARMY CORPS OF ENGINEERS, VIRGINIA MARINE RESOURCES SHALL BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO CONSTRUCTION. THIS INCLUDES THE STATE REQUIREMENT FOR A CONSTRUCTION GENERAL PERMIT AND ASSOCIATED STORMWATER POLLUTION PREVENTION PLAN.

WALL CHECK NOTE

1. CONTRACTOR TO SUBMIT A WALL CHECK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF THE FIRST FLOOR ABOVE GRADE FRAMING FOR THE BUILDING. THE WALL CHECK SHALL INCLUDE THE BUILDING FOOTPRINT, AS DEPICTED IN THE APPROVED FINAL SITE PLAN, THE TOP OF SLAB ELEVATION AND THE FIRST FLOOR ELEVATION. THE WALL CHECK SHALL BE PREPARED AND SEALED BY A REGISTERED ENGINEER OR SURVEYOR, AND SHALL BE APPROVED BY P&Z PRIOR TO COMMENCEMENT OF FRAMING.

GEOTECHNICAL REPORT NOTE

1. A SITE SPECIFIC GEOTECHNICAL REPORT DATED DECEMBER 15, 2021 HAS BEEN PREPARED BY D.W. KOZERA, INC. AND SUBMITTED UNDER SEPARATE COVER. THERE ARE KNOWN SOURCES OF MARINE CLAY ACCORDING TO THE CITY'S MARINE CLAY SOILS MAP ON THIS PROPERTY.

GREEN BUILDING NARRATIVE

THE PROPOSED BUILDING WILL BE IN COMPLIANCE WITH THE CITY'S GREEN BUILDING POLICY. THE STRUCTURES WILL BE DESIGNED WITH ENVIRONMENTALLY CONSCIOUS STRATEGIES SUCH AS THOSE PROMOTED BY THE NATIONAL GREEN BUILDING STANDARD (OR EQUIVALENT). IT IS CURRENTLY THE EXPECTATION THAT THE PROPOSED TOWNHOMES WILL BE CONSTRUCTED TO MEET NGBS SILVER AND ENERGYSTAR 3.0 REQUIREMENTS (OR APPROVED EQUIVALENT).

THE APPLICANT IS EXPLORING THE USE OF ADVANCED ENERGY SUBMETERING SYSTEMS TO TRACK ENERGY USE. IT IS NOT EXPECTED THAT RENEWABLE ENERGY PRODUCTION NOR A NET ZERO ENERGY CERTIFICATION WILL BE PURSUED. IT IS EXPECTED THAT HVAC COMMISSIONING WILL BE PURSUED.

WATER USE REDUCTION STRATEGIES MAY INCLUDE LOW FLOW FIXTURES AND WATER CONSERVING APPLIANCES.

INDOOR ENVIRONMENTAL QUALITY PRACTICES MAY INCLUDE POLLUTANT SOURCE CONTROL MEASURES THAT CONSIDER THE APPROPRIATE PLACEMENT OF SPACE AND WATER HEATING EQUIPMENT AND HVAC SYSTEMS WITHIN THE HOMES. ADDITIONAL STRATEGIES MAY INCLUDE THE USE OF MATERIALS THAT ARE COMPLIANT WITH THE CERTIFICATION MEASURES OF THE GREEN BUILDING POLICY OF CHOICE AND THE INSTALLATION OF CARBON MONOXIDE DETECTORS.

ELECTRONIC FILE NOTE

1. CONTRACTOR AND DEVELOPER ARE ADVISED THAT ANY ELECTRONIC FILES ASSOCIATED WITH THE PREPARATION OF THESE PLANS WILL NOT BE RELEASED TO OTHERS FOR USE IN CONSTRUCTION STAKE OUT OR RELATED SERVICES.

AFFORDABLE HOUSING NARRATIVE

1. THE APPLICANT WILL MEET THE PROVISIONS PRESENTED IN THE AFFORDABLE HOUSING PLAN DATED JANUARY 29, 2021. [APPROVAL CONDITION 117]

SIGN CONSTRUCTION

A SEPARATE PERMIT IS REQUIRED FOR SIGN CONSTRUCTION.

NOISE NOTE

1. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 7AM TO 6PM
   SATURDAYS FROM 9AM TO 6PM
   NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS AND HOLIDAYS

2. PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 9AM TO 6PM
   SATURDAYS FROM 10AM TO 4PM
   NO PILE DRIVING IS PERMITTED ON SUNDAYS AND HOLIDAYS

3. WORK IN THE RIGHT–OF–WAY FOR EXCAVATION IS FURTHER RESTRICTED TO THE FOLLOWING HOURS
   MONDAY THROUGH SATURDAY 7 AM TO 5PM
   NO EXCAVATION IN THE RIGHT OF WAY PERMITTED ON SUNDAYS

GENERAL AND SITE SPECIFIC NOTES

1. A VSMP/VPDES PERMIT IS REQUIRED FOR THIS DEVELOPMENT. CONTRACTOR RESPONSIBLE FOR ENSURING PERMIT IS OBTAINED AND CURRENT THROUGHOUT THE DURATION OF THE PROJECT.

2. A POTW PERMIT IS NOT REQUIRED.

3. THE PROPERTY ADDRESS MUST BE CLEARLY MARKED IN THE FRONT AND BACK OF THE PROPOSED DEVELOPMENT SITE DURING CONSTRUCTION FOR EMERGENCY RESPONSE PURPOSES IN CONTRASTING COLORS FOR EASY IDENTIFICATION.

4. THERE ARE KNOWN AREAS OF MARINE CLAY ON THIS SITE (SEE MAP SHEET C–0201).

5. THIS PROJECT IS NOT IN A COMBINED SEWER AREA.

6. DAMAGE TO ANY EXISTING ENTRANCES, CURB AND GUTTER, PAVEMENT OR OTHER EXISTING STRUCTURES NOT PROPOSED TO BE DISTURBED WITH THIS DEVELOPMENT, WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE REPAIRED TO THE SATISFACTION OF THE CITY OF ALEXANDRIA AND ANY ADJOINING OWNERS THAT MAY BE AFFECTED.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO BE RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COORDINATION WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT MATERIAL THAT DOES NOT SURVIVE STORAGE AND REPLANTING.

8. THERE ARE NO MAPPED RESOURCE PROTECTION AREAS ON SITE.

9. ALL ON–SITE RETAINING WALLS ARE SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS. THIS PLAN IS FOR LOCATION AND PROPOSED GRADING ONLY. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE ACCOMPLISHED BY OTHERS.

10. THERE WILL BE AN INCREASE IN SANITARY SEWER DISCHARGE ASSOCIATED WITH THIS DEVELOPMENT. SEE SHEET C–0904 FOR ADDITIONAL INFORMATION.

11. A SEPARATE PERMIT IS REQUIRED FOR SIGN CONSTRUCTION, IF NECESSARY.

12. EXISTING WELLS SHALL BE PERMANENTLY ABANDONED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD REQUIREMENTS.

13. PROPOSED PAVEMENT SECTION DEPTH(S) ARE BASED ON A CBR VALUE OF 10. LABORATORY TESTS OF SUBGRADE SOIL SHALL BE PERFORMED FOR ACTUAL DETERMINATION OF REQUIRED SUBGRADE THICKNESS PRIOR TO PAVING, IN THE CASE OF PAVEMENT PATCHES. PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION. SEE SOILS REPORT, BY OTHERS, FOR ADDITIONAL INFORMATION.

14. ALL EROSION CONTROLS SHALL CONFORM TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST VERSION OF) AND MUST BE SUBMITTED AND APPROVED BY T&ES.

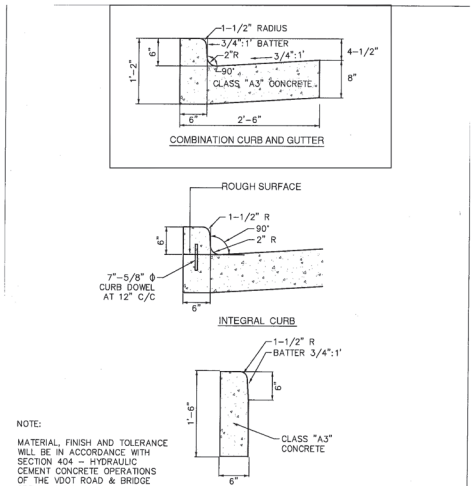
15. ALL EMERGENCY VEHICLE EASEMENTS MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CITY STANDARDS (CSAP–1A).

16. PROVIDE ALL PEDESTRIAN AND TRAFFIC SIGNAGE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) TO THE SATISFACTION OF THE DIRECTOR OF T&ES.

17. ALL PRIVATE UTILITIES ARE TO BE LOCATED OUTSIDE OF PUBLIC RIGHT–OF–WAY AND PUBLIC UTILITY EASEMENTS.

18. THE STORMWATER COLLECTION SYSTEM IS LOCATED WITHIN THE FOUR MILE RUN WATERSHED. ALL ON–SITE STORMWATER CURB INLETS AND PUBLIC CURB INLETS WITHIN 50 FT OF THE PROPERTY LINE SHALL BE DULY MARKED USING STANDARD CITY MARKERS, OR TO THE SATISFACTION OF THE DIRECTOR OF T&ES.

19. PRIOR TO RELEASE OF THE PERFORMANCE BOND, A COPY OF THE OPERATION AND MAINTENANCE MANUAL SHALL BE SUBMITTED TO THE DIVISION OF ENV



CURB AND GUTTER AND COPING CURB		REVISION	DATE
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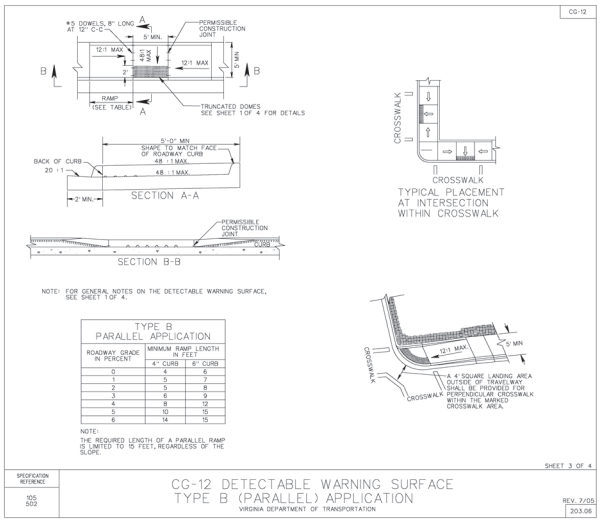
CURB AND GUTTER DETAIL

NOT TO SCALE

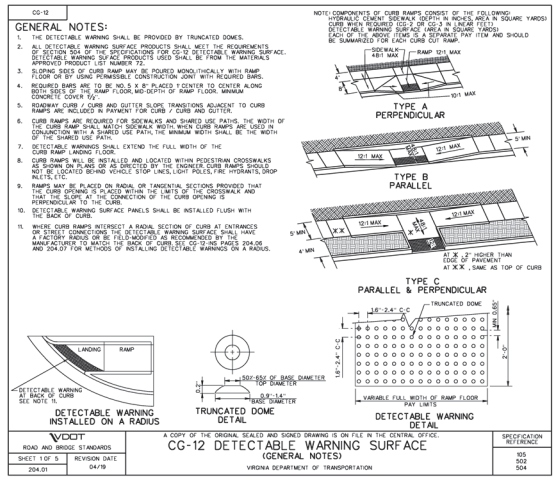
NOTE:

1. CSCG-1 TO BE USED IN THE PUBLIC RIGHT-OF-WAY.



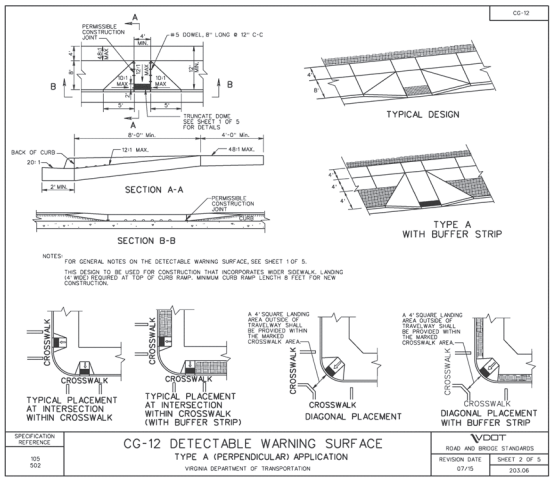
CG-12B DETAIL

NOT TO SCALE



VDOT DETECTABLE WARNING SURFACE DETAIL

NOT TO SCALE

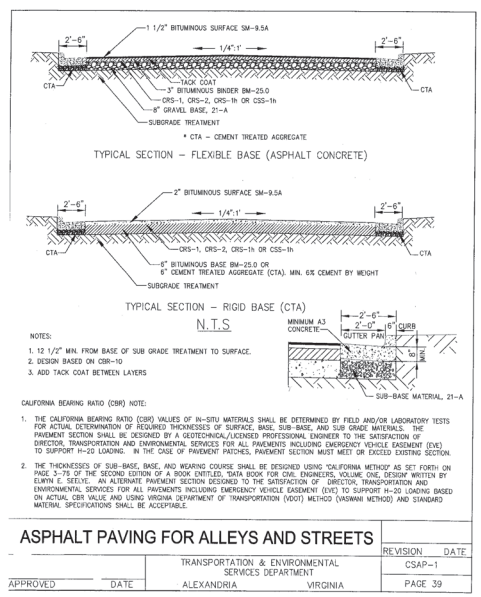


CG-12A VDOT STD. ADA ACCESSIBLE RAMP

NOT TO SCALE

ACCESSIBILITY NOTES:

1. THE DESIGN PROFESSIONAL SIGNING THIS DOCUMENT REPRESENTS THAT TO THE BEST OF HIS/HER PROFESSIONAL JUDGEMENT, KNOWLEDGE, AND BELIEF THE DESIGN SPECIFICATIONS HEREIN COMPLY WITH THE CHAPTER 11 OF THE VCC AND ICC/ANSI A117.1 – 2003 (ANSI) AND, WHERE APPLICABLE, THE AMERICANS WITH DISABILITIES ACT (ADA).
2. ALL GRADES/SLOPES SHOWN ON THIS PLAN WERE DESIGNED AT OR BELOW MAXIMUMS ALLOWED BY ANSI. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE ANSI ACCESSIBILITY GUIDELINES, AND ADA. IN THE EVENT THAT A DESIGN QUESTION SHOULD ARISE, OR A FIELD CONDITION PRESENT ITSELF THAT IS DIFFERENT FROM THOSE SHOWN ON THESE PLANS, WORK SHOULD CEASE AND THE ENGINEER SHOULD BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DETERMINED.
3. THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL THE PHASES OR WORK RELATING TO ANSI ACCESSIBILITY FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS REQUIRED BY ANSI ARE SUBJECT TO REJECTION AND MAY BE REQUIRED TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
4. SINCE THE CIVIL ENGINEER OR SURVEYOR CANNOT CONTROL THE EXACT METHODS OR MEANS USED BY THE GENERAL CONTRACTOR OR THEIR SUBCONTRACTORS DURING GRADING AND CONSTRUCTION OF THE PROJECT, THE CIVIL ENGINEER OR SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE FINAL ACCEPTANCE OF ANSI/ADA ACCESSIBILITY RELATED ITEMS BY THE CITY OR COUNTY, ANY OTHER AUTHORITY, OR OTHER AFFECTED PARTIES.



ASPHALT PAVING FOR ALLEYS AND STREETS		REVISION	DATE
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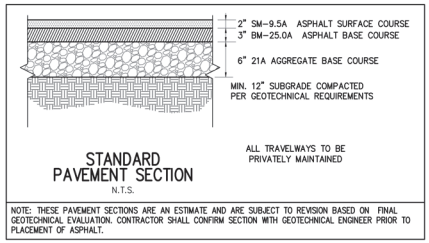
ASPHALT PAVEMENT DETAIL - PUBLIC STREETS

NOT TO SCALE

NOTE:

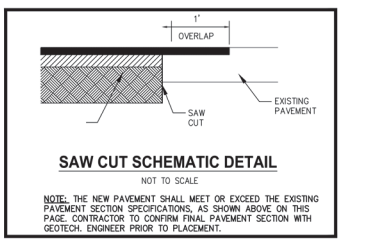
PAVEMENT SECTION PROVIDED ABOVE IS AN ESTIMATE AND A CITY OF ALEXANDRIA TYPICAL DETAIL. PRIOR TO PLACEMENT OF PAVEMENT, GEOTECHNICAL ENGINEER TO PERFORM CBR TESTS AND MAKE FINAL RECOMMENDATION TO PAVEMENT SECTION. THIS DETAIL MAY BE REFERRED TO FOR ASPHALT REPAIR OF EXISTING ROADWAYS. GEOTECHNICAL ENGINEER TO PERFORM CBR TESTS AND MAKE FINAL RECOMMENDATION TO PAVEMENT SECTION. AT A MINIMUM, PROPOSED PAVEMENT SECTION FOR REPLACED ASPHALT SHALL MATCH EXISTING SECTION.



NOTE: THESE PAVEMENT SECTIONS ARE AN ESTIMATE AND ARE SUBJECT TO REVISION BASED ON FINAL GEOTECHNICAL EVALUATION. CONTRACTOR SHALL CONFIRM SECTION WITH GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ASPHALT.

E.V.E. AND PRIVATE ALLEY PAVING DETAIL

NOT TO SCALE



SAW CUT SCHEMATIC DETAIL

NOT TO SCALE

NOTE: THE NEW PAVEMENT SHALL MEET OR EXCEED THE EXISTING PAVEMENT SECTION SPECIFICATIONS, AS SHOWN ABOVE ON THIS PAGE. CONTRACTOR TO CONFIRM FINAL PAVEMENT SECTION WITH GEOTECH. ENGINEER PRIOR TO PLACEMENT.

ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AS OF THE DATE OF THIS PLAN. CONTRACTOR TO CONFIRM LATEST DETAIL WITH ENGINEER AND CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION

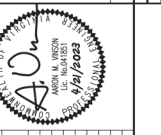
ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: TSC | AVBP

DATE	DESCRIPTION	DATE	DESCRIPTION
08/02/21	FSP SUB #1	05/20/22	FSP SUB #3
12/22/21	FSP SUB #2	10/19/22	FSP SUB #4

PLAN STATUS



REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

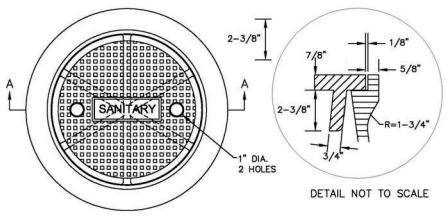
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

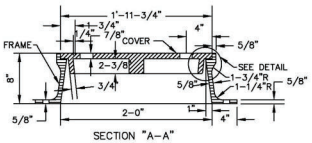
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0201.dwg

SHEET: C-0203





NOTE: THE MANHOLE FRAME AND COVER SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.

NOTE :
TOP AND CASTING TO BE MACHINED.
FRAME WEIGHT 200 LBS.
COVER WEIGHT 125 LBS.
TOTAL WEIGHT 325 LBS.

MANHOLE FRAME & COVER

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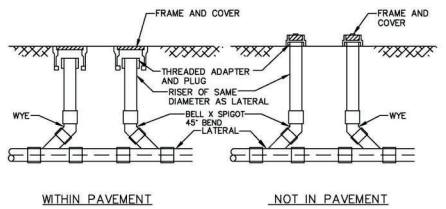
SANITARY MANHOLE FRAME & COVER DETAIL

NOT TO SCALE



NOTE:
1. TERMINATE TRACER WIRE WITH CLEANOUT THAT IS WITHIN 5' OF BUILDING'S EXTERIOR. TERMINATE TRACER WIRE ABOVE GRADE IN AN ACCESSIBLE LOCATION. WHERE PROJECTED FROM DAMAGE. IF NOT USING IRON FRAME AND COVER.
2. TRACER WIRE TO BE #12 AWG SOLID COPPER WITH 45 MIL POLYETHYLENE INSULATION. AT TEMPORARY TERMINATION OF LATERAL BY UTILITY CONTRACTOR, MAKE SPLICE WITH BUTT CONNECTOR AND SHRINK SLEEVE. NO OTHER SPLICES PERMITTED.
3. EXPOSED CONCRETE TO HAVE CHAMFERED EDGES.

SANITARY SEWER CLEANOUT

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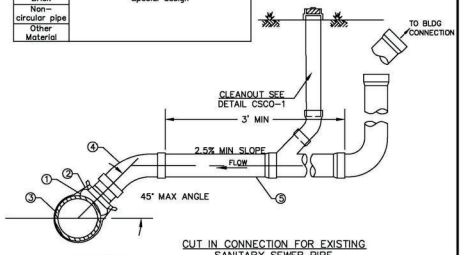
Pipe Type	Pipe Cutting Method	Connection Type	Applicable Detail
PVC (SDR-26) or Schedule 40	Tapping Machine	Romac CB Sewer Saddle or approved equal	CSLC-1A
Concrete	Coring	Romac CB Sewer Saddle or approved equal	CSLC-1A
Cast Iron/ Ductile Iron	Tapping Machine	Romac CB Sewer Saddle or approved equal	CSLC-1A
Vitrified Clay Pipe (VCP)	Saw Cut	Manufactured Y or T connection	CSLC-1B
Brick	Special design		
Non-circular pipe			
Other Material			



NOTE:
1. ROMAC CB SEWER SADDLE OR CITY APPROVED EQUAL
2. ROMAC CB STRAPS 304 STAINLESS STEEL
3. EXISTING SEWER MAIN
4. 45° ELBOW/ BEND
5. PVC LATERAL SDR 26 OR SCHEDULE 40

SANITARY SEWER LATERAL CONNECTION

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SANITARY LATERAL DETAIL

NOT TO SCALE

NOTES:
A. CONNECTION TO A PUBLIC SANITARY SEWER SHALL REQUIRE A SEWER LATERAL CONNECTION PERMIT FROM THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). IF THE SANITARY SEWER IS LOCATED WITHIN THE PUBLIC RIGHT OF WAY AN EXCAVATION PERMIT SHALL ALSO BE REQUIRED.
B. THE CONNECTION SHALL BE MADE PER THE RECOMMENDATIONS OF THE MANUFACTURER, AND IN THE PRESENCE OR WITH THE APPROVAL OF THE T&ES, CONSTRUCTION AND INSPECTION (C&I) INSPECTOR.
C. THE SADDLE SHALL PROPERLY MATCH THE SANITARY SEWER MAIN PIPE.
D. THE CUT ON THE EXISTING PIPE MUST BE NO LARGER THAN NECESSARY TO INSTALL SADDLE.
E. ROUGH EDGES LEFT BY SAW CUT OR CORING SHALL BE SMOOTHED WITH A FILE OR SAND PAPER DEPENDING UPON THE MATERIAL OF THE SANITARY SEWER PIPE.
F. OVER CUTTING THE HOLE OR DAMAGING THE SEWER MAIN WILL WARRANT REPLACEMENT OF THE DAMAGED MAIN LINE SEGMENT AND INSTALLATION OF A FACTORY MANUFACTURED WYE OR TEE CONNECTION PER DETAIL CSLC-1B.
G. THE SADDLE CONNECTION MAY BE REPLACED WITH COMPRESSION SLEEVE CONNECTION WITH APPROVAL OF T&ES ENGINEER.
H. THE TAP MUST BE OFFSET MINIMUM 2" FROM THE JOINTS.
I. THE MANUFACTURED WYE OR TEE CONNECTION SHALL BE INSTALLED BY CUTTING OUT A SECTION OF VCP SEWER MAIN, MAINTAINING SQUARE ENDS, AND INSERTING THE MANUFACTURED WYE OR TEE SECTION. THE JOINTS ON BOTH SIDES SHALL BE SEALED USING HYMAX COUPLERS OR HYMAX FLANGED ADAPTERS OR CITY APPROVED EQUAL.
J. T&ES INSPECTOR MUST INSPECT THE TAP PRIOR TO BACKFILL.
K. ALL NEW INSTALLATIONS AND/OR REINSTALLATIONS OF SANITARY LINES AND SEWER LATERALS BOTH ON PRIVATE PROPERTY AND IN THE PUBLIC RIGHT OF WAY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH 3" AND 6" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPES (DUWT).THE 3" DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" AND 6" WIDE AT A DEPTH OF 24" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS. THE APPROVED COLOR FOR SANITARY SEWER LINES AND LATERALS IS GREEN.
L. BEDDING SHOULD BE AS PER (CSTB-1).
M. SEE CSCO-1 FOR CLEANOUT DETAIL.
N. FOR PIPE MATERIAL TABLE SEE DETAIL CSLC-1A.

SANITARY SEWER LATERAL CONNECTION NOTES

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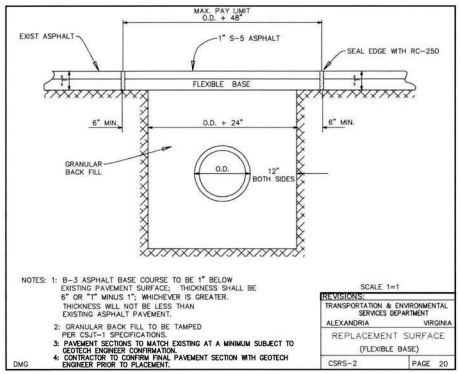

NOTES: 1: B-3 ASPHALT BASE COURSE TO BE 1" BELOW EXISTING PAVEMENT SURFACE; THICKNESS SHALL BE 6" OR "1" MINUS 1"; WHICHEVER IS GREATER. THICKNESS WILL NOT BE LESS THAN EXISTING ASPHALT PAVEMENT.
2: GRANULAR BACK FILL TO BE TAMPED PER CSJT-1 SPECIFICATIONS.
3: PAVEMENT SECTIONS TO MATCH EXISTING AT A MINIMUM SUBJECT TO GEOTECH ENGINEER CONFIRMATION.
4: CONTRACTOR TO CONFIRM FINAL PAVEMENT SECTION WITH GEOTECH ENGINEER PRIOR TO PLACEMENT.

DMG

SCALE 1=1

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TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA

REPLACEMENT SURFACE (FLEXIBLE BASE)

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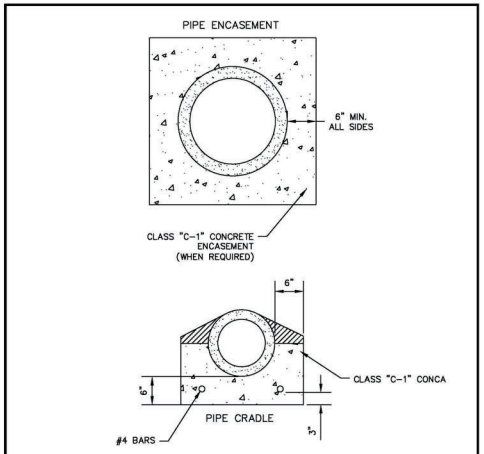
REPLACEMENT SURFACE DETAIL



NOTE:
1. MINIMUM REQUIRED FOR UNCONTROLLED FILL AND UNACCEPTABLE NATIVE SOILS. GEOTECHNICAL ANALYSIS REQUIRED FOR OTHER CONDITIONS.
2. ENCASEMENT TO BE ONLY FOR SHALLOW COVER ≤ 2 FEET.

SEWER PIPE ENCASEMENT AND HIGH CRADLE

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STORM DRAIN INLET MARKER

TO BE PLACED ON EVERY INLET ON SITE AND WITHIN 50 FT OF SUBJECT PROPERTY

ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AS OF THE DATE OF THIS PLAN. CONTRACTOR TO CONFIRM LATEST DETAIL WITH ENGINEER AND CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION

ESI Peer Review

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207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

MARK W. VIRGIN
LIC. No.041851
6/21/2023
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

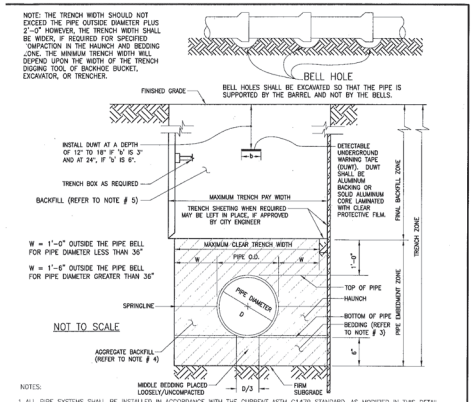
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0201.dwg

SHEET: C-0204



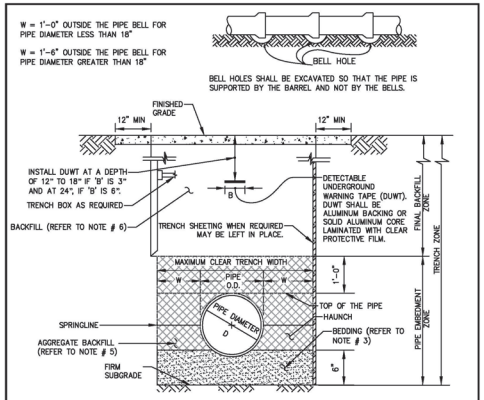
NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT ASTM D1479 STANDARD, AS MODIFIED IN THIS DETAIL.
2. MINIMUM COVER FOR ALL H-25 LOADING APPLICATIONS SHALL BE 3'-6". MINIMUM COVER IS MEASURED FROM THE TOP OF PIPE TO THE TOP OF A RIGID PAVEMENT OR BOTTOM OF FLEXIBLE/ASPHALT PAVEMENT SECTIONS.
3. BEDDING MATERIAL SHALL BE TYPE I MATERIAL PER CURRENT ASTM D1479 STANDARD OR VDOT CRUSHER RUN AGGREGATE SIZE # 25 OR 26. WHEN STANDING WATER IS IN PIPE FOUNDATION AREA, #57 STONE CAN BE USED AS A BACKFILL IN THE SUBFOUNDATION WITH THE CONDITION THAT #57 STONE SHALL BE CAPPED WITH A MINIMUM 4" CRUSHER RUN PRIOR TO PLACEMENT OF A PIPE (COMPACTION TESTING ON #57 STONE IS NOT REQUIRED; SEAT STONE IN TRENCH).
4. BACKFILL MATERIAL SHALL BE CATEGORY I MATERIAL PER CURRENT ASTM D1479 STANDARD OR VDOT CLASS I BACKFILL MATERIAL SHALL BE CRUSHER RUN #25 / #26, AGGREGATE BASE 21-A, OR 21-B WITH DRAINAGE, FLOWABLE FILL, OR CRUSHED GLASS CONFORMING TO THE SIZE REQUIREMENTS FOR CRUSHER RUN AGGREGATE SIZE # 25 AND # 26 – FROM BEDDING TO FLOW LINE OF PIPE TO 1 FOOT ABOVE TOP OF PIPE.
5. EXCAVATED MATERIAL BACKFILLED IF APPROVED BY CITY ENGINEER, IN 6" LAYERS TO 95% COMPACTION. SELECT MATERIAL, WHERE CALLED FOR, MAY BE USED AS A SEPARATE PAY ITEM. BACKFILL IN RIGHT OF WAY TO BE SELECT GRANULAR MATERIAL AS APPROVED BY CITY ENGINEER.

TRENCH BEDDING & BACKFILL DETAIL
TYPE I FOR REINFORCED CONCRETE PIPE (RCP)

REVISION	DATE
CSTB-2	
PAGE 9	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

APPROVED DATE



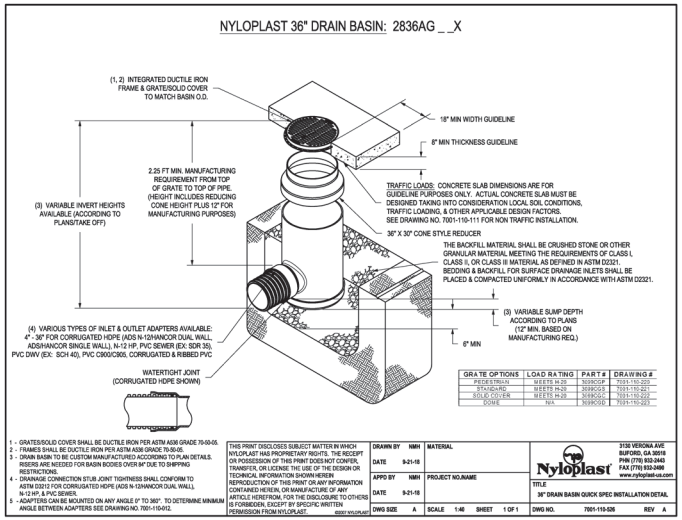
NOT TO SCALE

NOTE:
- THE TRENCH WIDTH SHOULD NOT EXCEED THE PIPE OUTSIDE DIAMETER PLUS W.
- PAVEMENT RESTORATION IS 12 INCHES MINIMUM BEYOND THE EDGE OF THE TRENCH ON LONGITUDINAL OPEN CUTS, OR 25 FEET MINIMUM BEYOND THE TRENCH CENTERLINE ON PERPENDICULAR OPEN CUT, OR AS MENTIONED ON COA APPROVED PLANS.

TRENCH BEDDING & BACKFILL DETAIL
DUCTILE IRON PIPE (DIP) - TYPE 4

REVISION	DATE
	06/21/2021
CSTB-2	
PAGE 37	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-20	3036CGP	7001-110-220
STANDARD	MEETS H-20	3036CGS	7001-110-221
SOLID COVER	MEETS H-20	3036CSC	7001-110-222
DOME	N/A	3036CGD	7001-110-223

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASIN BODIES OVER 84" DUE TO SHIPPING RESTRICTIONS.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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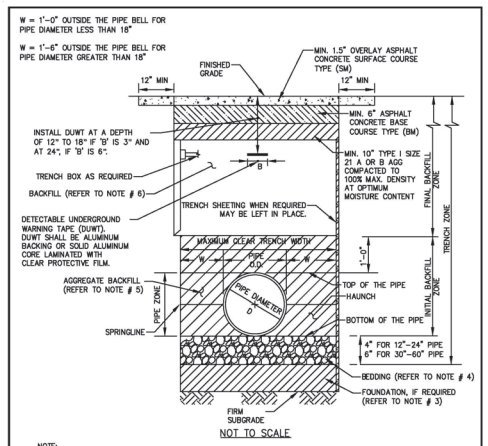
DRAWN BY	NMH
DATE	9-21-10
APPD BY	NMH
DATE	9-21-10
MATERIAL	
PROJECT NO./NAME	
DWG SIZE	A
SCALE	1:40
SHEET	1 OF 1
DWG NO.	7001-110-026
REV	A

Nyloplast
3126 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2486
www.nyloplast-us.com
TITLE
36" DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

NYLOPLAST BASIN DETAIL
NOT TO SCALE



NOT TO SCALE

NOTE:
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TRENCH BEDDING & BACKFILL DETAIL
FLEXIBLE / PVC PIPE

REVISION	DATE
	06/21/2021
CSTB-1	
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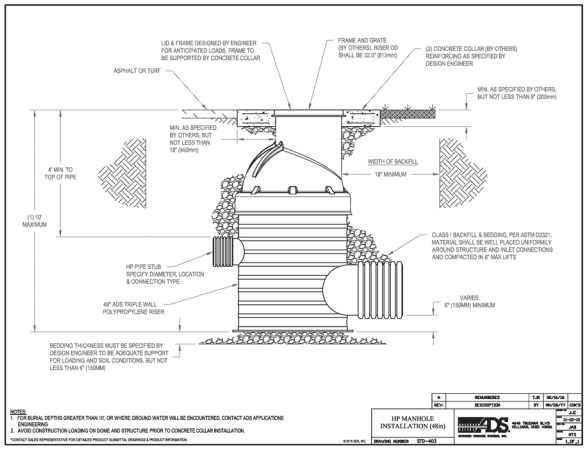
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NOTES:
1. FOR BURIAL DEPTHS GREATER THAN 10', OR WHERE GROUND WATER WILL BE ENCOUNTERED, CONTACT ADS APPLICATIONS ENGINEERING.
2. AVOID CONSTRUCTION LOADING ON DOME AND STRUCTURE PRIOR TO CONCRETE COLLAR INSTALLATION.

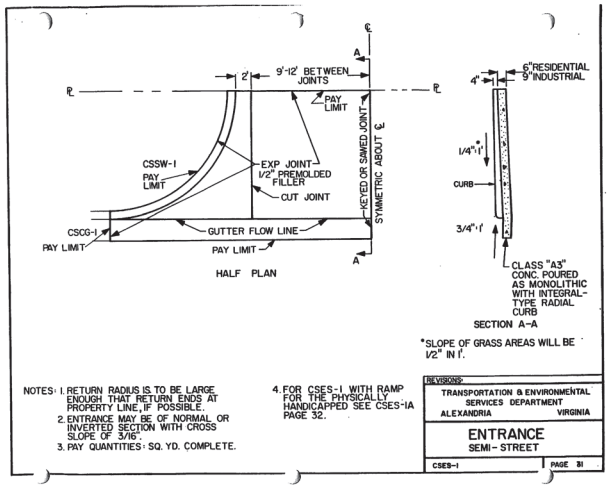
*CONTACT ADS'S REPRESENTATIVE FOR DETAILED PRODUCT SUBMITTAL DRAWINGS & PRODUCT INFORMATION.

#	REVISIONS	YJR	03/15/16
REV.	DESCRIPTION	BY	REVISION DATE

HP MANHOLE INSTALLATION (48in)

ADS ADVANCED DRAINAGE SYSTEMS, INC. HILLIARD, OHIO

DRAWING NUMBER STD-403



NOTES:
1. RETURN RADIUS IS TO BE LARGE ENOUGH THAT RETURN ENDS AT PROPERTY LINE, IF POSSIBLE.
2. ENTRANCE MAY BE OF NORMAL OR INVERTED SECTION WITH CROSS SLOPE OF 3/16".
3. PAY QUANTITIES: SQ. YD. COMPLETE.
4. FOR CSES-1 WITH RAMP FOR THE PHYSICALLY HANDICAPPED SEE CSES-1A PAGE 32.

REVISIONS:

TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA

ENTRANCE
SEMI - STREET

CSES-1 PAGE 31

ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AS OF THE DATE OF THIS PLAN. CONTRACTOR TO CONFIRM LATEST DETAIL WITH ENGINEER AND CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION

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PLAN STATUS

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10/19/22	FSP SUB #4

MARSH W. VIRGIN LIC. No.041851 PROFESSIONAL ENGINEER 4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

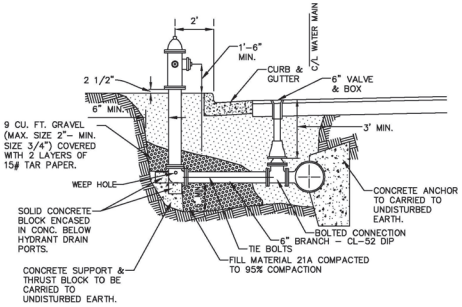
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0201.dwg

SHEET: C-0205



FIRE HYDRANT INSTALLATION

REVISION	DATE
	06/21/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSFH–1
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NOTES:
1. FIRE HYDRANT: MUELLER CENTURION – CATALOG # A423 WITH 1 1/2 INCH PENTAGON OPERATING NUT; LEFT TURN TO OPEN. TWO 2 1/2" HOSE NOZZLES AND ONE 4" HOSE NOZZLE.
2. VALVE: MUELLER GATE VALVE – CATALOG # A2380–20, WITH 6 INCH MECHANICAL JOINTS. 2 INCH SQUARE NUT, LEFT TURN TO OPEN. VALVES AND FITTINGS SHALL BE WRAPPED IN 10MIL. OR THICKER POLYETHYLENE.
3. ALL FITTINGS SHALL BE DUCTILE IRON. ALL FITTINGS TO BE RESTRAINED.
4. LOCATIONS TO BE AS SHOWN ON PLANS. VARIANCE OF THE 2' MIN. FROM THE FACE OF THE CURB SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE TRANSPORTATION AND ENVIRONMENTAL SERVICES ENGINEER.
5. FIRE HYDRANTS TO BE INSTALLED AND TESTED IN ACCORDANCE WITH CURRENT VERSION OF AWWA M17 MANUAL.
6. VALVES AND SERVICE LINES ARE TO BE INSTALLED AND TESTED IN ACCORDANCE WITH THE CURRENT VERSION OF AWWA G200–09 DISTRIBUTION SYSTEMS AND M44 DISTRIBUTION VALVES; SELECTION, INSTALLATION, FIELD TESTING, AND MAINTENANCE, 3RD ED.
7. PRIOR TO ACCEPTANCE BY THE CITY OF ALEXANDRIA, FIELD TESTING AND PRESSURE READINGS SHALL BE PROVIDED BY THE CONTRACTOR.
8. FIRE HYDRANTS SHALL BE LOCATED AT EACH STREET INTERSECTION. THERE SHALL BE AT LEAST ONE FIRE HYDRANT LOCATED AT EACH INTERSECTION. THE MAXIMUM DISTANCE BETWEEN FIRE HYDRANTS IN BUSINESS DISTRICTS, MEASURING ALONG STREET CENTERLINES, SHALL BE 300 FEET. ALL PARTS OF EACH BUILDING SHALL BE WITHIN 500 FEET OF HOSE RUN FROM A FIRE HYDRANT. THE MAXIMUM DISTANCE BETWEEN FIRE HYDRANTS IN RESIDENTIAL DISTRICTS, MEASURED ALONG STREET CENTERLINES, SHALL NOT EXCEED 500 FEET.
9. PRIOR TO INSTALLATION OF PRIVATE HYDRANTS, AMERICAN WATER IS TO SIGN OFF ON THE HYDRANT LOCATION.
10. HYDRANTS SHALL NOT BE USED AS TEMPORARY BLOW–OFFS DURING CONSTRUCTION.
11. NO VERTICAL OBSTRUCTIONS SHALL BE WITHIN 10' OF EITHER SIDE OR REAR OF HYDRANT.
12. SPECIFY BOLLARDS WHERE HYDRANTS ARE UNPROTECTED BY CURB AND GUTTER, PLACED IN OPEN SPACE OR AT THE REAR OF COMMERCIAL BUILDINGS.
13. FIRE HYDRANTS SHALL BE PLACED AT SIGNIFICANT HIGH POINTS OF MAINS TO RELEASE AIR.
14. TO ENABLE THE DRAINING AND FLUSHING OF ALL MAINS, SPECIFY FIRE HYDRANTS AT SIGNIFICANT LOW POINTS.
15. LANDSCAPING, TREES, BMP'S, SIGNS, SIGNALS, LIGHT POLES, AND/OR OTHER UTILITIES ARE NOT PERMITTED TO BE WITHIN 5 FEET OF A HYDRANT.
16. WHEN INSTALLED IN PARKING AREA, FIRE HYDRANT SHALL BE PROTECTED BY BARRIERS THAT WILL PREVENT PHYSICAL DAMAGE BY VEHICLES.
17. IN THE CITY OF ALEXANDRIA, PUBLIC AND PRIVATE FIRE HYDRANTS ARE LOCATED AND MAINTAINED TO ASSURE THE APPROPRIATE SUPPLY OF WATER IS AVAILABLE FOR FIREFIGHTING PURPOSES. ALL PUBLIC FIRE HYDRANTS ARE THE PROPERTY OF THE CITY OF ALEXANDRIA. ALL FIRE HYDRANTS LOCATED ON PRIVATE PROPERTY ARE THE OWNERSHIP AND MAINTENANCE RESPONSIBILITY OF THE PROPERTY OWNER. IN ORDER TO PROVIDE FOR FIREFIGHTING PURPOSES, IT IS NECESSARY THAT ALL FIRE HYDRANTS BE EASILY RECOGNIZABLE TO AVOID BEING BLOCKED OR OBSTRUCTED. TO AID IN MAINTAINING THE IDENTIFIABLE APPEARANCE AND BY ORDER OF THE FIRE CHIEF, ALL FIRE HYDRANTS SHALL BE PAINTED AS DIRECTED;
   A. ALL PUBLIC AND PRIVATE HYDRANT BARRELS AND EXTENSIONS SHALL BE PAINTED WITH THE APPROVED: SHERWIN WILLIAMS "SAFETY YELLOW" #B54YZ437
   B. ALL PUBLIC HYDRANT BONNETS AND CAPS SHALL BE PAINTED WITH AN APPROVED REFLECTIVE WHITE: SHERWIN WILLIAMS "PURE WHITE" # B54WZ401
   C. ALL PRIVATE HYDRANT BONNETS SHALL BE PAINTED WITH THE APPROVED: SHERWIN WILLIAMS "SAFETY YELLOW" #B54YZ437
   D. ALL PRIVATE HYDRANT CAPS SHALL BE PAINTED WITH THE APPROVED: SHERWIN WILLIAMS "PURE WHITE" #B54WZ401
   E. HYDRANT BARRELS AND EXTENSIONS MAY BE PAINTED WITH AN APPROVED FLAT BLACK IN THE HISTORIC AND OLD TOWN AREAS OF THE CITY WHEN SPECIFICALLY APPROVED IN WRITING BY THE FIRE CHIEF.

FIRE HYDRANT INSTALLATION NOTES

REVISION	DATE
	06/21/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSFH–1A
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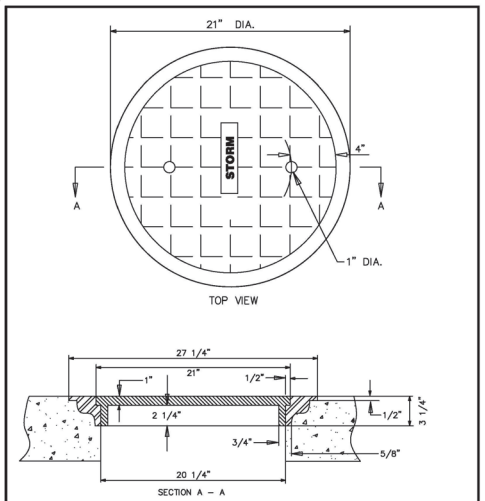

YARD & CURB DROP INLET FRAME & COVER

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSFC–1
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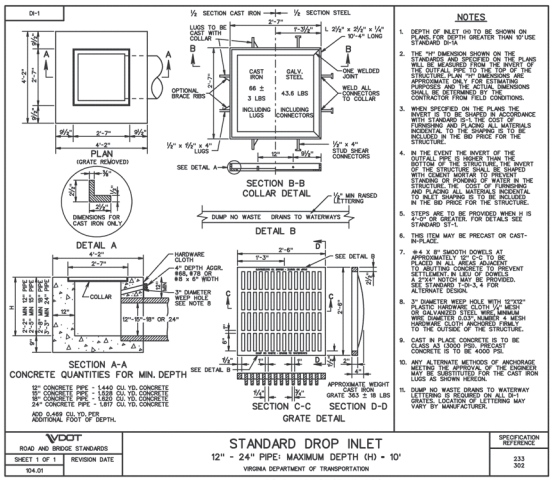
CURB DROP INLET FRAME & COVER DETAIL

NOT TO SCALE

2016 ROAD & BRIDGE STANDARDS

DI–1



NOTES
1. DEPTH OF INLET ON TO BE SHOWN ON PLANS. FOR DEPTH GREATER THAN 10' USE STANDARD DI–3A
2. THE "H" DIMENSION SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF THE OUTFALL PIPE TO THE TOP OF THE STRUCTURE. PLAN "H" DIMENSIONS ARE NOMINAL AND ARE FOR BIDDING PURPOSES AND THE ACTUAL DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FROM FIELD CONDITIONS.
3. WHEN SPECIFIED ON THE PLANS THE INVERT IS TO BE SHAPED IN ACCORDANCE WITH STANDARD SI–1. THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO THE SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
4. IN THE EVENT THE INVERT OF THE OUTFALL PIPE IS RAISED THAN THE BOTTOM OF THE STRUCTURE THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR TO PREVENT STANDING OR PONDING OF WATER. IN THE STANDING OR PONDING OF WATER. IN THE AND PLACING ALL MATERIALS INCIDENTAL TO INLET SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
5. STEPS ARE TO BE PROVIDED WHEN H IS 4'-0" OR GREATER. FOR DETAILS SEE STANDARD ST–1.
6. THIS ITEM MAY BE PRECAST OR CAST–IN–PLACE.
7. #4 X 8" SMOOTH DOWELS AT APPROXIMATELY 18" C–C TO BE EPOXY GROUTED INTO DRILLED HOLES TO ABUTTING CONCRETE TO PREVENT SETTLEMENT. IN LIEU OF DOWELS A 2"X4" NOTCH MAY BE PROVIDED. SEE STANDARD T–DR–3, 4 FOR ALTERNATE DESIGN.
8. 3" DIAMETER WEEP HOLE WITH 12"X12" PLASTIC HARDWARE CLOTH 1/4" MESH OR 3/4 X WIRED STEEL HARDWARE CLOTH 1/4" MESH HARDWARE CLOTH ANCHORED FINALLY TO THE OUTSIDE OF THE STRUCTURE.
9. CAST IN PLACE CONCRETE IS TO BE CLASS A3 (3000 PSI). PRECAST CONCRETE IS TO BE 4000 PSI.
10. ANY ALTERNATE METHODS OF ANCHORAGE MEETING THE APPROVAL OF THE ENGINEER MAY BE SUBSTITUTED FOR THE CAST IRON LUGS AS SHOWN HEREON.
11. DUMP NO WASTE DRAINS TO WATERWAY LETTERING IS REQUIRED ON ALL DI–1 GRATES. LOCATION OF LETTERING MAY VARY BY MANUFACTURER.

VDOT
ROAD AND BRIDGE STANDARDS
SHEET 1 OF 1 | REVISION DATE
104.01

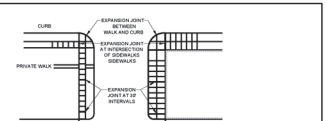
STANDARD DROP INLET
12" - 24" PIPE: MAXIMUM DEPTH (H) - 10'
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
233
302

2016 ROAD & BRIDGE STANDARDS

DROP INLET DETAIL

NOT TO SCALE



EXPANSION JOINT PLACEMENT

*ADA: AMERICAN WITH DISABILITY ACT.

SIDEWALK SECTION (N.T.S.) EXPANSION JOINT

NOTES:
1. SCORING OF CONCRETE SLAB SHALL BE SAW CUT NOT MORE THAN 3/16" IN WIDTH AND NOT MORE THAN ¼" DEEP.
2. THE EXPANSION JOINTS SHALL BE ½" WIDE, FULL DEPTH, AND SHALL BE OF PRE–FORMED EXPANSION JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM D994 ASPHALT OR ASTM D1751 FIBRE. EXPANSION MATERIAL SHALL BE SECURED IN A MANNER THAT WILL PREVENT MOVEMENT OR DISPLACEMENT OF CONCRETE DURING PLACEMENT.
3. THE EXPANSION JOINTS SHALL BE PLACED PERPENDICULAR TO CONCRETE CURB AT A DISTANCE OF 30' OR COINCIDING WITH THE SCORING.
4. DOWELS SHALL BE PLACED AT THE END OF A SIDEWALK PLACEMENT, AT INTERRUPTIONS FOR A DRIVEWAY, OR IF SIDEWALK SLABS ARE POURED AT DIFFERENT TIMES.
5. SAWING OF JOINTS SHALL BE CONDUCTED AS SOON AS THE CONDITION OF THE CONCRETE PERMITS AND BEFORE ANY RANDOM CRACKING APPEARS.
6. ALL STRUCTURAL ITEMS TO CONFORM TO THE LATEST EDITION OF UNIFORM STATEWIDE BUILDING CODE (USBC) REQUIREMENTS.
7. PRIOR TO CONSTRUCTION, ALL STRUCTURAL CROSS SECTIONS SHALL BE REVIEWED BY A QUALIFIED STRUCTURAL AND/OR GEOTECHNICAL ENGINEER, AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT.

STANDARD CONCRETE SIDEWALK

DATE

APPROVED DATE

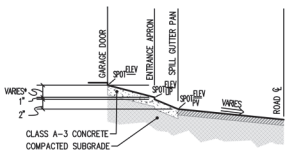
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSSW–1
PAGE 41

CONCRETE SIDEWALK DETAIL

NOT TO SCALE

NOTE: THIS CONCRETE SIDEWALK DETAIL APPLIES TO THE CONSTRUCTION OF CONCRETE SIDEWALK WITHIN THE PUBLIC RIGHT–OF–WAY, UNLESS OTHERWISE NOTED. THIS DETAIL MAY BE UPDATED BY THE CITY AT A LATER DATE. THE CONTRACTOR SHALL COORDINATE WITH THE CITY AT THE TIME OF INSTALLATION TO ENSURE THE MOST CURRENT DETAIL IS IMPLEMENTED.



* REFER TO GRADING PLAN SHEETS C–0502 – C–0505

GARAGE ENTRANCE GRADING TYPICAL SECTION
REAR LOAD TOWNHOMES A, B & C BLOCK

N.T.S

ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AS OF THE DATE OF THIS PLAN. CONTRACTOR TO CONFIRM LATEST DETAIL WITH ENGINEER AND CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION

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PLAN STATUS

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02/25/22	FSP SUB #3
10/19/23	FSP SUB #4

PROFESSIONAL ENGINEER — MARION W. VIRGIN — LIC. NO.041851 — 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DETAILS

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DIRECTOR DATE

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SITE PLAN No. _____

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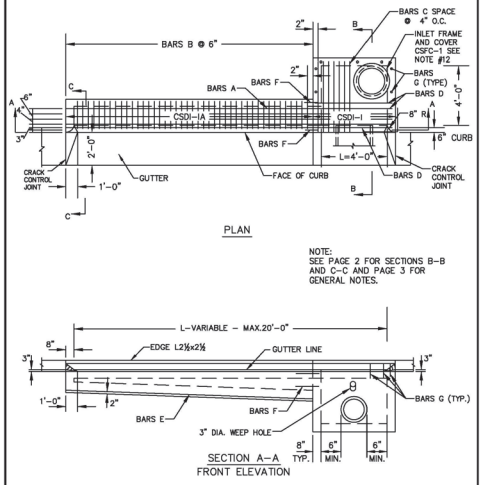
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C–0201.dwg

SHEET: C-0206



CURB DROP INLET

WITH VARIABLE LENGTH INLET

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSDI-I & CSDI-IA

PAGE 1

GENERAL NOTES:

1. DEPTH OF INLET (H) SHALL BE SHOWN ON PLANS. MINIMUM DEPTH (H)=4'-0" MAXIMUM DEPTH (H)=8'-0".
2. THE "H" DIMENSION SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF OUTFALL PIPE TO THE TOP OF THE STRUCTURE. PLAN "H" DIMENSIONS ARE APPROXIMATE ONLY FOR ESTIMATING PURPOSES AND THE ACTUAL DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FROM FIELD CONDITIONS.
3. THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR IN ACCORDANCE WITH CSIS-1 TO PREVENT STANDING OR PONDING OF WATER IN THE STRUCTURE.
4. THIS ITEM MAY BE PRECAST OR CAST-IN-PLACE.
5. ALL REINFORCING BARS TO BE #5 OR AS SHOWN ON PLANS.
6. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" OR AS SHOWN ON PLANS.
7. CAST-IN PLACE CONCRETE IS TO BE CLASS A3 (3000PSI). PRECAST CONCRETE IS TO BE 4000PSI.
8. ALL REINFORCING STEEL TO BE CUT CLEAR OF ALL OPENINGS BY 2".
9. 3" DIAMETER WEEP HOLE TO BE LOCATED TO DRAIN SUBBASE MATERIAL. WEEP HOLE WITH 12"X12" PLASTIC HARDWARE CLOTH ¼" MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.03", NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO THE OUTSIDE OF THE STRUCTURE.
10. LENGTH OF ANGLE IRON AS SHOWN ON PAGE 1 IS TO BE L+16".
11. INLET FRAME AND COVER SHALL MEET REQUIREMENTS FOR HS20 LOADING. (REFER TO FRAME AND COVER DETAIL (CSFC-1.)
12. JOINTS BETWEEN CONCRETE COVER AND GUTTERS (WHEN REQUIRED) ARE TO BE DOWELED, KEYED OR OTHER CITY APPROVED METHODS.
13. FOR RETROFIT PROJECTS:
    - A. CHECK WITH CITY INSPECTOR TO CONNECT NEXT CONCRETE C&G SECTION TO REQUIRED SAW CUT, PROPER JOINT MATERIAL ETC.
    - B. CURB OPENING SHALL NOT ENCROACH UPON CROSSWALK AREA.
    - C. PROVIDE NOTES FOR THE THICKNESS OF BEDDING AND TYPE ON SUBGRADE PRIOR TO INSTALLATION.
14. FOR BACKFILL DETAIL SEE BEDDING DETAIL (CSJT-1).
15. FOR CURB DROP INLET REINFORCEMENT SEE PAGE 4.

CURB DROP INLET

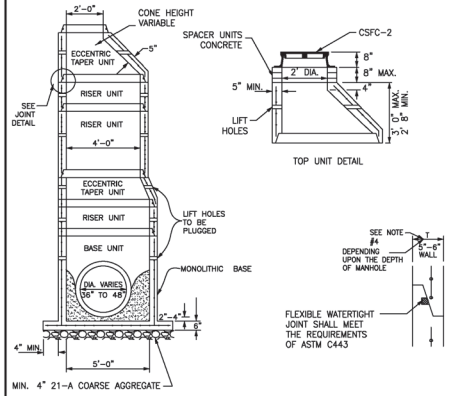
GENERAL NOTES

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSDI-1 & CSDI-1A

PAGE 3



REINFORCEMENT SCHEDULE FOR 4' AND 5' INSIDE DIAMETER MANHOLES

Depth	Wall Thickness	Wall Reinforcement	Base Slab Thickness	Base Slab Reinforcement
<12'	5"	#4 @ 8" EW	6"	#4 @ 8" EW
>12'	6"	#4 @ 8" EW	6"	#4 @ 8" EW

PRECAST MANHOLE

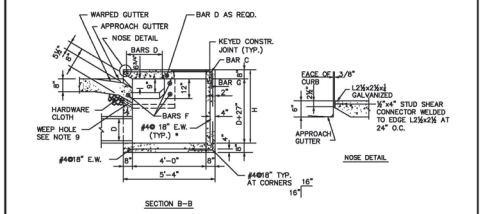
5' INSIDE DIAMETER; FOR PIPES 36" TO 48"" IN DIAMETER

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSMH-2

PAGE 11



NOTES:
SEE PAGE 3 FOR GENERAL NOTES.

CURB DROP INLET

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSDI-1 & CSDI-1A

PAGE 2

CURB DROP INLET REINFORCEMENT SCHEDULE

L	AREA OF SLOT	BARS A		BARS B		BARS C		BARS D		BARS E		BARS F		BARS G		WEIGHT
Ft.	Sq. Ft.	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	Lbs.
4'	1.83	5	1'-6"	12	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	1'-6"	3	1'-6"	4	1'-0"	84
6'	3.75	5	3'-6"	8	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	3'-6"	3	1'-6"	4	1'-0"	111
8'	5.67	5	5'-6"	10	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	5'-6"	3	1'-6"	4	1'-0"	158
10'	4.58	5	7'-6"	14	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	7'-6"	3	1'-6"	4	1'-0"	204
12'	5.50	5	9'-6"	18	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	9'-6"	3	1'-6"	4	1'-0"	251
14'	6.42	5	11'-6"	22	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	11'-6"	3	1'-6"	4	1'-0"	298
16'	7.33	5	13'-6"	26	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	13'-6"	3	1'-6"	4	1'-0"	345
18'	8.25	5	15'-6"	30	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	15'-6"	3	1'-6"	4	1'-0"	391
20'	9.17	5	17'-6"	34	6"-7" to 6'-10"	3	5'-7"	3	3'-2"	4	17'-6"	3	1'-6"	4	1'-0"	438

* DENOTES LENGTH OF ONE (1) BAR.

CURB DROP INLET

REINFORCEMENT SCHEDULE

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSDI-I & CSDI-IA

PAGE 4

NOTES:

1. THE MANHOLE SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.
2. JOINTS BETWEEN UNITS SHALL BE TONGUE & GROOVE.
3. PIPE MUST BE FLUSH WITH INSIDE WALL OF MANHOLE.
4. WALLS TO DEPTH OF 12' TO BE 5" THICK. WALLS DEEPER THAN 12' TO BE 6".
5. LOSS FOR STRAIGHT RUN MANHOLE SHALL BE 0.05 FEET. IN NO CASE SHALL LOSS LESS THAN 0.05 FEET BE ALLOWED.
6. FOR RETROFIT PROJECTS:

   A. PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)

   B. GRADE AND SLOPE ADJUSTMENT SHALL BE PROVIDED IN THE FIELD BY CONTRACTOR PER APPROVED PLANS REQUIREMENTS.

   IF THE STRUCTURE IS NOT PRECAST OR HAS ANGLE BETWEEN THE RCP PIPE AND STRUCTURE'S

   C. PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE

   D. PROVIDE RAILS (IF REQUIRED)

7. THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR IN ACCORDANCE WITH CSIS-1 TO PREVENT STANDING OR PONDING OF WATER IN THE STRUCTURE.

PRECAST MANHOLE

GENERAL NOTES

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSMH-1 & CSMH-2

PAGE 12

ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AS OF THE DATE OF THIS PLAN. CONTRACTOR TO CONFIRM LATEST DETAIL WITH ENGINEER AND CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION

ESI Peer Review

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | MBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARSH W. VIRGIN
LIC. No.041851
4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0201.dwg

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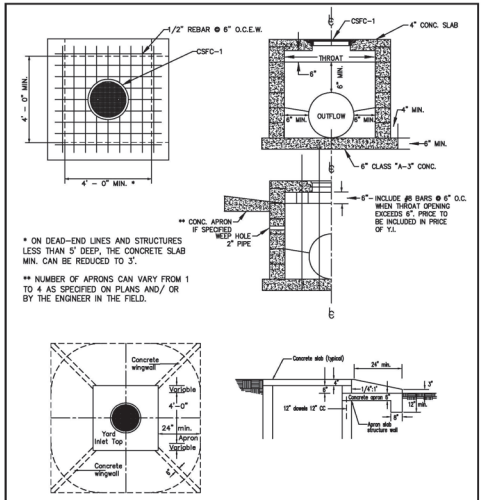


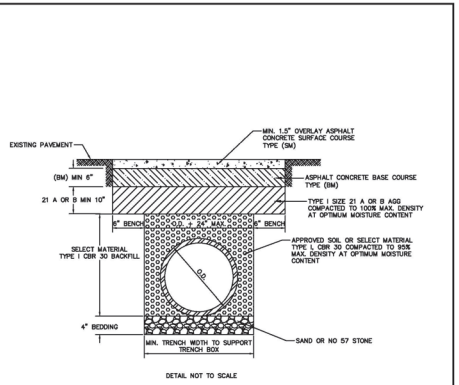
YARD INLET

01/16/2021

REVISION	DATE
CSYI-1	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

PAGE 8



NOTES:
1. BACKFILL MATERIAL SHALL BE COMPACTED AT A MAXIMUM DEPTH OF EVERY SIX INCHES (6") THROUGH THE USE OF MECHANICAL TAMPING THROUGHOUT THE TRENCH TO ENSURE THAT ADEQUATE SUPPORT IS PROVIDED.
2. PAVEMENT RESTORATION IS 12 INCHES MINIMUM BEYOND THE EDGE OF THE TRENCH ON LONGITUDINAL OPEN CUTS, OR 25 FEET MINIMUM BEYOND THE TRENCH CENTERLINE ON PERPENDICULAR OPEN CUTS, OR AS DETERMINED BY THE T&ES DIRECTOR.
3. PAVEMENT RESTORATION ALSO INCLUDES THE REPLACEMENT OF ANY TRAFFIC CONTROL DEVICES AND/OR MARKINGS.
4. PAVEMENT THAT HAS BEEN RESURFACED WITHIN THE LAST FIVE (5) YEARS; PAVEMENT RESTORATION SHALL BE AT A MINIMUM WIDTH FROM CURB TO CURB AND LONGITUDINALLY PER NOTE #2. ADDITIONAL PAVING AND RESTORATION MAY BE REQUIRED, AS DETERMINED BY THE T&ES DIRECTOR.

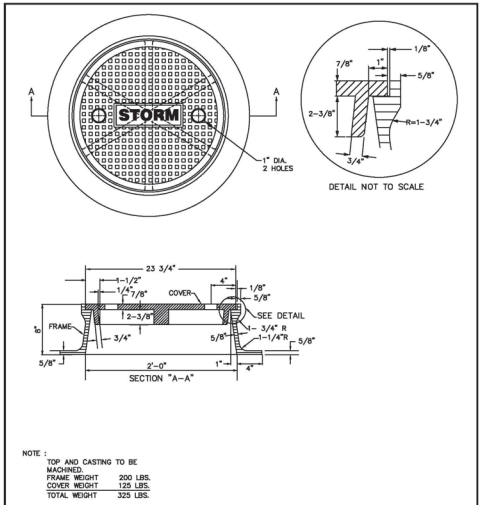
BEDDING FOR PIPE & TRENCH SECTIONS

01/16/2021

REVISION	DATE
CSJT-1	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

PAGE 17



NOTE :
TOP AND CASTING TO BE MACHINED.

FRAME WEIGHT	200 LBS.
COVER WEIGHT	125 LBS.
TOTAL WEIGHT	325 LBS.

MANHOLE FRAME & COVER

01/16/2021

REVISION	DATE
CSFC-2	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

PAGE 16

NOTES:
1. WHEN SPECIFIED, CONCRETE APRONS (1/4" PER FEET MIN) TO BE INCLUDED IN PRICE OF YARD INLET.
2. CONCRETE APRON MAY BE CAST IN PLACE OR PRECAST. REINFORCING MUST BE 6"x6" NO 6 WIRE MESH. ALL CONCRETE MUST BE CLASS A3.
3. AN 6" THICK CONC. APRON 2' WIDE (MIN.) WILL BE INSTALLED IN FRONT OF EACH THROAT. THEY WILL BE SHAPED TO MEET CONDITIONS AS DIRECTED IN THE FIELD BY CITY INSPECTOR.
4. CLASS "A3" CONC. USED THROUGHOUT. WALLS OF POURED OR BLOCK CONC. OR BRICK IN MORTAR WILL BE PARGED 1/4" INSIDE (AND OUTSIDE ABOVE FINISHED GRADE).
5. WALLS OF POURED OR SOLID BLOCK CONCRETE WILL BE 8" THICK.
6. SPECIAL DESIGN WILL BE REQUIRED FOR PIPE SIZES GREATER THEN 36".
7. FOR RETROFIT PROJECTS:
   A. PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
   B. GRADE AND SLOPE ADJUSTMENT SHALL BE PROVIDED IN THE FIELD BY CONTRACTOR PER APPROVED PLANS REQUIREMENTS.

   IF THE STRUCTURE IS NOT PRECAST OR HAS ANGLE BETWEEN THE RCP PIPE AND STRUCTURE'S
   A. PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
   B. PROVIDE RAILS (IF REQUIRED)

YARD INLET

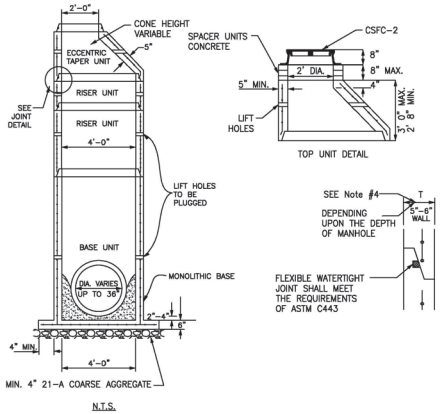
GENERAL NOTES

01/16/2021

REVISION	DATE
CSYI-1	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

PAGE 9



NOTE:
FOR REINFORCEMENT SCHEDULE SEE CSMH-2, PAGE 11.

PRECAST MANHOLE

4' INSIDE DIAMETER; FOR PIPES UP TO 36" IN DIAMETER

01/16/2021

REVISION	DATE
CSMH-1	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

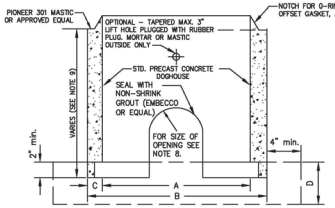
PAGE 10

NOTE:
1. CONCRETE TO BE VDOT CLASS A-4.
2. ALL REINFORCING STEEL TO MEET THE CURRENT REQUIREMENTS OF ASTM SPEC. A-615.
3. MANHOLE SECTIONS TO MEET THE CURRENT REQUIREMENTS OF ASTM SPEC. C-478.
4. TAPERED JOINT WITH O-RING GASKET, OR SINGLE OFFSET JOINT WITH RUBBER GASKET TO MEET CURRENT REQUIREMENTS OF ASTM SPEC. C-443.
5. DOGHOUSE OPENING MAY ONLY BE USED WHEN PLACING A NEW MH OVER AN EXISTING LINE; OTHERWISE, THE OPENING MUST BE CAST. SIZE, LOCATION & ANGLE OF ENTRY MUST BE AS REQUIRED BY THE PLANS.
6. MH SECTION TO BE CAST IN THE BASE A MIN. OF 2".
7. JOINT CONFIGURATION MAY BE CAST BELL-UP OR SPIGOT-UP.
8. HOLES IN PRECAST UNITS ARE TO BE 4" MIN. 8" MAX. LARGER THAN THE OUTSIDE DIA. OR THE PROPOSED PIPE.
9. BASE SECTION TO PROVIDE MIN. 6" CLEARANCE BETWEEN TOP OF PIPE OPENING AND BOTTOM OF BELL AND SPIGOT JOINT.
10. THE MANHOLE SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.

CHART "A"

MIN. DIMENSIONS (in.)			
MH	4' - 0"	5' - 0"	6' - 0"
A	48"	60"	72"
B	58"	72"	86"
C	5"	6"	7"
D	6"	8"	10"

DIMENSIONS OF D MUST BE TAKEN FROM BOTTOM OF KEY (SEE DRAWING BELOW)



DOGHOUSE MANHOLE

06/21/2021

REVISION	DATE
CSMH-5	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

PAGE 30

ALL DETAILS PROVIDED ON THIS SHEET ARE CURRENT AS OF THE DATE OF THIS PLAN. CONTRACTOR TO CONFIRM LATEST DETAIL WITH ENGINEER AND CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: [illegible] | CHECKED: [illegible] | PLAN STATUS: [illegible]

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

MARK W. VIRGIN LIC. No.041851 4/21/2023 PROFESSIONAL ENGINEER COMMONWEALTH OF VIRGINIA

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

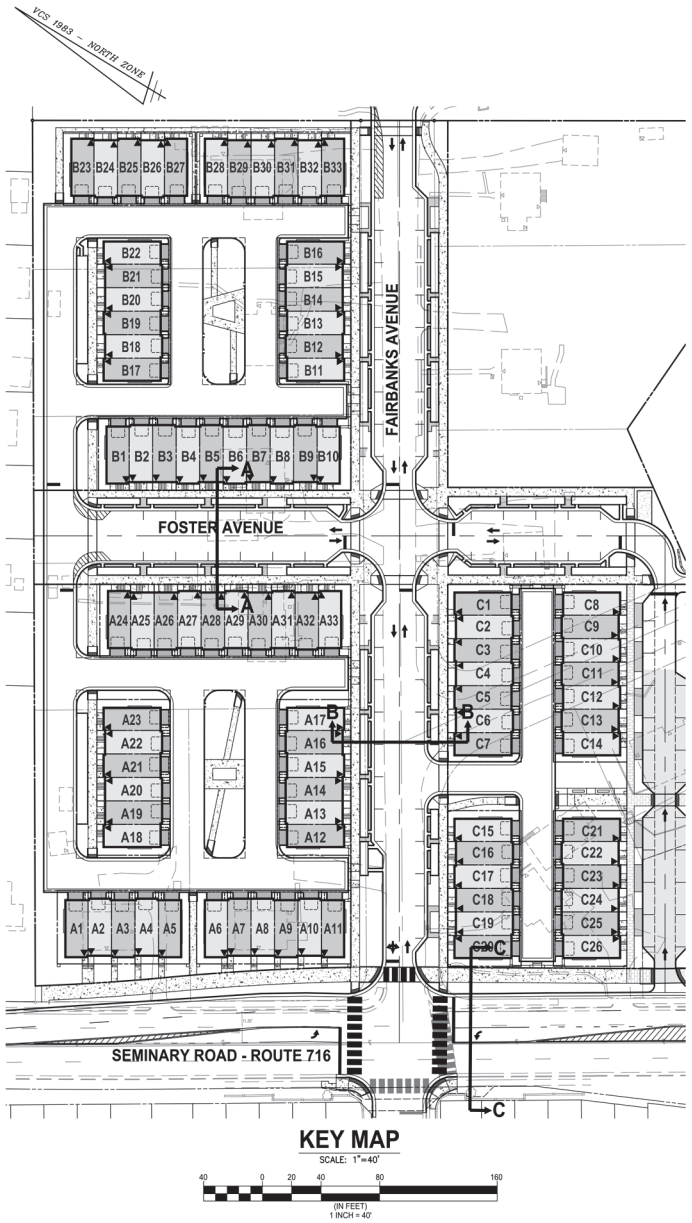
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0201.dwg

SHEET: C-0208



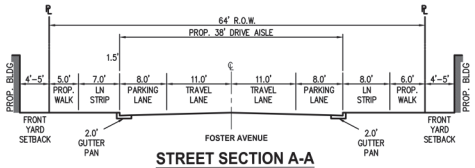
KEY MAP

SCALE: 1"=40'

40 0 20 40 80 160

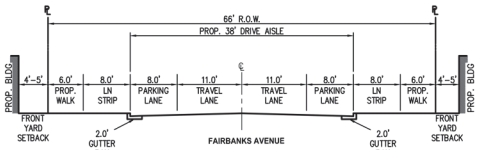
(IN FEET)
1 INCH = 40'

TYPICAL STREET SECTIONS



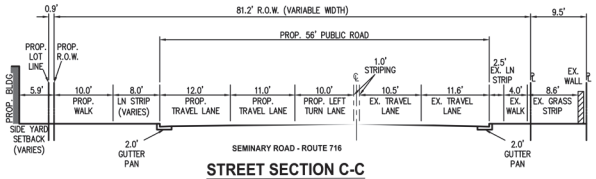
STREET SECTION A-A

SCALE: 1" = 10'



STREET SECTION B-B

SCALE: 1" = 10'

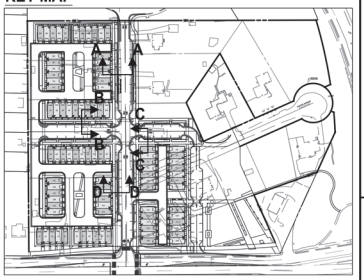


STREET SECTION C-C

SCALE: 1" = 10'

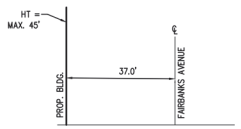
SITE SECTIONS

KEY MAP

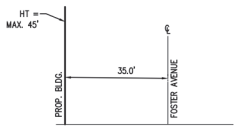


SCALE: 1"=150'

NOTE:
SECTIONS PROVIDED TO SHOW COMPLIANCE WITH SECTION 6-403 OF THE ZONING ORDINANCE. THE TOWNHOME WITH THE CLOSEST SETBACK TO THE OPPOSING CENTERLINE IS SHOWN FOR EACH SIDE OF EACH RESPECTIVE PUBLIC ROAD



SECTION A-A
NOT TO SCALE



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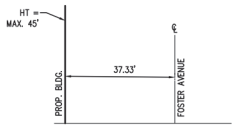
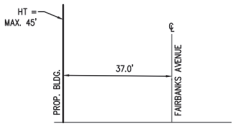
NOT TO SCALE



SECTION C-C
NOT TO SCALE



SECTION D-D
NOT TO SCALE

ESI
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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: AS NOTED | DATE: 04/21/2023 | DRAWN: [illegible] | CHECKED: AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA
AARON W. VIRGIN
LIC. No.041851
PROFESSIONAL ENGINEER
6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SITE & STREET SECTIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0209.dwg

SHEET: C-0209

VAW (MAW) FIXTURE COUNT DATA SHEET

Service Address Upland Park - Typical Townhouse Type of Occupancy: Residential Date:

Customer Name: Phone # Email

Fixture or Appliance	Fixture Quantity		Fixture Value @ 60psi (Refer to AWWA M22, 2nd Edition, Table 4-2)		TOTAL
Toilet- (Tank)	4	X	4	=	16
Toilet- (Flush Valve)		X	35	=	
Urinal- Wall or Stall		X	16	=	
Urinal- Flush Valve		X	35	=	
Bidet		X	2	=	
Shower (single head)	1	X	2.5	=	2.5
Faucet – Lavatory Sink	7	X	1.5	=	10.5
Faucet – Kitchen Sink	1	X	2.2	=	2.2
Faucet – Utility Sink		X	4	=	
Dishwasher	1	X	2	=	2
Bathtub	2	X	8	=	16
Clothes Washer	1	X	6	=	6
Hose Bibs (w/ 50 ft. of hose) - 1/2"		X	5	=	
Hose Bibs (w/ 50 ft. of hose) - 5/8"		X	9	=	
Hose Bibs (w/ 50 ft. of hose) - 3/4"		X	12	=	
Bedpan Washer		X	10	=	
Dental Unit		X	2	=	
Drinking Fountain		X	2	=	
add other miscellaneous fixtures below (need to call out fixture value reference source)					
Fixture values reference source					
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
Combined Fixture Value Total					53.2
Customer Peak Demand (from Figure 4-2 or 4-3) (Please highlight selected point at figure curve)					20 gpm
Static Water Pressure at Meter Location 71 psi; Pressure Adjustment Factor (from Table 4-1)					(1.09)
Adjusted Peak Demand (customer peak demand x Pressure adjustment factor)					21.8 gpm
Irrigation Demand (GPM) occur simultaneously with normal water use					gpm
Other fixed load water demand (GPM) for equipment runs simultaneously with normal water use					gpm
Total Estimated Peak Demand					21.8 gpm
Recommended Meter Size					5/8 inches

NOTE:
FIXTURE WORKSHEET ESTIMATE ISSUED BY NVR, INC.

VIRGINIA- AMERICAN WATER COMPANY MATERIAL SPECIFICATIONS

Date: September 30, 2022

Item	Authorized Manufacturer
DUCTILE IRON PIPE (AWWA C151/A21.51) • Double coated cement lining with paint seal coat • Tar coated on outside • Press-on joint (NO MJ PIPE) • Thickness Class 52 for 4"- 16" under normal laying conditions • All buried ductile iron pipe & fittings shall be polywrap encased. PolyWrap encasement (AWWA-C105), blue color, seamless 12mil thick high density cross laminated	• United States Pipe and Foundry • Griffin Pipe Products, Inc. • American (ACI PCO) • McWane, Inc.
DUCTILE IRON FITTINGS • Compact Ductile Iron Fittings AWWA C153/A21.53 • Double thickness cement lining with paint seal coat • Tar coated on outside • 350 PSI working pressure • Mechanical joint (ALL MJ)	• United States Pipe and Foundry • American (ACIPCO) • McWane, Inc.
GATE VALVES 2"- 12" AWWA C509 • Resilient-seated • Iron body suitable for buried service, Epoxy coated AWWA C550 • 2" square operating nut • Open left • Non-rising stem with double O-Ring stem seal • 200 PSI working pressure and 400 PSI test pressure • 4"-12" valves: Mechanical joint • 2" valve: Screw Joint	• Mueller Co. McWane Valve: Muller #A2360 MJ Tapping Sleeve: Muller #H619 MJ Tapping Valve: Muller #T2360-16-LN • American Flow Control MJ Tapping Sleeve: Series 2800-C
BUTTERFLY VALVES 16"- 24" AWWA C504 • Rubber seated • Iron body suitable for buried service • Manual operator with 2" square operating nut • Class 150 • Mechanical joint	• Henry Pratt Co. • Dezurik
FTRE HYDRANTS AWWA C502 • Mueller Super Centurion 250 • 5 ¼" valve with 6" mechanical joint inlet • 4 ½ feet bury • Two 2 ½" nozzles with 7 ½ threads per inch • Prince William County: One 4 ½" pumper nozzle with National Standard threads • Alexandria City: One 4" pumper nozzle with National Standard threads • 1 ½" pentagon operating nut, open left	• Mueller Co. Dale City: Mueller #A423-500-007 Alexandria City: Mueller #A423-500-100 Other district: contact local engineer
VALVE BOXES • Cast iron, slide type adjustment, with "WATER" on the lid • 5 ¼" x 60" two piece with flared base	Bingham & Taylor; Mueller; Hamilay Ind.; N.Y.MEGs-Hall Quality Water Products; Clay & Bailey
WATER FACILITY MISCELLANEOUS MATERIALS • Penrotec: food grade adhesive, either FORM-A-GASKET No.2 Sealant or Clear RTV Silicone Adhesive • Pipe Soap: Nontoxic vegetable soap, such as Tyton Joint Lubricant or Super Bell-Tite Lubricant • Chlorine tablets: Clin Pulsar CCH Tablets, 5G size, available chlorine - 65% (Calcium Hypochlorite) • Pipe Joint Compound: Nontoxic for water, Harvey's TFE Paste w/ Teflon or Rectorseal T Plus 2 • Asphalt Coating: Koppers #50 Coal Tar or Orion HS-2 by Triple G Coatings Inc. • Concrete: 3000 PSI @ 28 days ASTM C-94. Slump 3"- 5" • All copper tube shall be Type K. All copper and brass fittings shall be lead fee.	

STANDARD SPECIFICATIONS AND DETAILS OF VIRGINIA AMERICAN WATER GENERAL DISTRIBUTION

General Notes:

1. Contractor shall submit material shop drawing to VAW and obtains approval, before order any materials.

2. Contractor shall install thrust block at all tapping sleeve, BEND, TEE, CROSS, reducer, hydrant, dead-end, blowoff, in accordance with standard details.

3. All buried ductile iron pipe shall be Thickness Class 52 (minimum), and shall apply 12mil blue color polywrap encasement. All buried ductile iron pipe fittings shall be mechanical joint.

4. All copper tube shall be Type "K". Copper tube and brass fittings shall be lead free. Connections shall be compression or flare, and determined by local district engineer:
   Alexandria City and Dale City: use flare connection
   Hopewell City and Fort LEE district: use compression connection
   Maryland Bel Air district: use compression connection

VIRGINIA AMERICAN WATER
DEVELOPER INSTALL WATER MAIN AND SERVICE LINE SPECIFICATIONS AND DETAILS

Division 15 – Mechanical
Section 15000 – Piping – General Provisions
Section 15020 – Disinfecting Pipelines
Section 15025 – Cleaning Pipelines
Section 15030 – Pressure and Leakage Tests
Section 15106 – Ductile Iron Pipe and Fittings (Contractor Furnished)
Section 15110 – Steel Pipe and Fittings (Contractor Furnished)
Section 15115 – Concrete Pipe and Fittings (Contractor Furnished)
Section 15121 – Polyvinyl Chloride (PVC) Pipe (Contractor Furnished)
Section 15125 – High Density Polyethylene (HDPE) Pipe (Contractor Furnished)
Section 15131 – Piping Specialties (Contractor Furnished)
Section 15151 – Gate Valves, Pressure Reducing Valves, Cross Connection and Backflow Prevention, and Check Valves (Contractor Furnished)
Section 15155 – Butterfly Valves (Contractor Furnished)
Section 15171 – Tapping Sleeves, Saddles and Valves (Contractor Furnished)
Section 15181 – Fire Hydrants (Contractor Furnished)
Section 15190 – Air Release and Blow-Off Outlets (Contractor Furnished)
Section 15200 – Service Lines (Contractor Furnished)
Section 15205 – Service Lines (Owner Furnished)

DALE CITY SEWER PIPE (GRAVITY): refer to PWCSA Utility Standard Manual 2021 Edition: Chapter 5.5

- Pipe & fittings:
  - Polyvinyl Chloride (PVC) C-900: meet AWWA C-900
  - DR rating as table below
  - All joints shall be standard "Push-on" joints.
  - No pipe deflection is permitted in the joints or pipe.
  - Joints meet ASTM D-3139
  - Elastomeric Seals (Gaskets) meet ASTM F477.

The Applicant shall not design sanitary sewer mains at depths greater than the depths shown in Table 5-3.

TABLE 5-3: Allowable Depth of Cover

	Depth (ft)	
	ASSU/AWWA Cxxx PVC*	
Pipe Diameter	DR25	DR14
8	15	15
10	15	15
12	15	15
14	15	15
15	--	--
16	15	15
18	15	15
20	15	15
21	--	--
24	15	--
27	--	--
30	15	--

Applicant shall provide design calculations for pipe designed at depths greater than values shown in this table.

- PVC Fittings
  - meet ASTM D1784 and AWWA C907
  - Polyvinyl Chloride (PVC) C-900: meet AWWA C-900
  - Class 150, White Color

Approved Manufacture:
- Harco

VIRGINIA AMERICAN WATER
DEVELOPER INSTALL WATER MAIN AND SERVICE LINE SPECIFICATIONS AND DETAILS

TABLE OF CONTENTS

GENERAL NOTES
Appendix – Disposal of Chlorinated Waters
Appendix – Backflow and Cross Connection Program

TECHNICAL SPECIFICATIONS

Division 1 – General Requirements
Section 01300 – Submittals
Attachment – Water Main As-Built and Field Sketch Requirements
Section 01600 – Products
Section 01700 – Project Closeout

Division 2 – Site Work
Section 02020 – Dewatering
Section 02025 – Existing Utilities and Structures
Section 02105 – Clearing and Grubbing
Section 02210 – Trenching Backfilling and Compacting
Section 02220 – Casing Installation
Section 02230 – Stream Crossing
Section 02235 – Bridge Crossing
Section 02276 – Gabions
Section 02457 – Small Main Directional Drilling
Section 02458 – Large Main Directional Drilling
Section 02540 – Erosion and Sedimentation Control
Section 02558 – Identification Location Guide
Section 02610 – Paving and Surfacing
Section 02614 – Concrete Curbs, Drives, and Sidewalks
Section 02820 – Lawn Restoration
Section 02958 – Pipe Bursting

Division 3 – Concrete
Section 03300 – Cast-In-Place Concrete
Section 03450 – Precast Concrete Manhole

VIRGINIA AMERICAN WATER
DEVELOPER INSTALL WATER MAIN AND SERVICE LINE SPECIFICATIONS AND DETAILS

GENERAL NOTES

1. "Owner" used in these specification and details means "American Water".
2. "Engineer" used in these specification and details means "American Water Engineering Department".
3. "Contractor" used in these specification and details means "Developer and its contractor".
4. Developer is not permitted to make any connection to existing Water Company Facilities. The Water Company or its designated Contractor shall make all such connections to provide water service to the main extension. The Water Company or its designated contractor shall perform all main installation within the existing public right-of-way.
5. Developer shall provide cut sheets sealed by a state VA licensed professional Surveyor/Engineer for all water (and Dale City Sanitary Sewer) facility installations. The professional Surveyor/Engineer who seals and signs the cut sheets shall also provide the following statement on all sets: "The professional seal and signature appearing on this document certifies that information shown conforms to the approved Project Plan and/or actual field conditions."
6. Before construction, developer's state licensed surveyor shall place line and grade stakes identifying dedicated easements, main, service connections, and other appurtenances to ensure the water and sanitary sewer system is constructed in accordance with the approved project plans.
7. Developer shall contact VAW to obtain all construction specifications and details, before construction start and/or order materials.
8. Developer needs to submit water main extension and/or replacement construction schedule, call out each water main section construction sequence, including pressure test length, disinfection method, water main flushing and bacteria sample collection timeline.

NOTE:
DEVELOPER TO CONTACT VAW TO OBTAIN FULL COPY OF VAW SPECS BEFORE ORDERING WATER PIPE MATERIALS AND CONSTRUCTION.

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WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE DATE: 04/21/2023 DRAWN: JWP CHECKED: JWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PROFESSIONAL ENGINEER JASON W. VIRGIN LIC. No.041851 4/21/2023

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

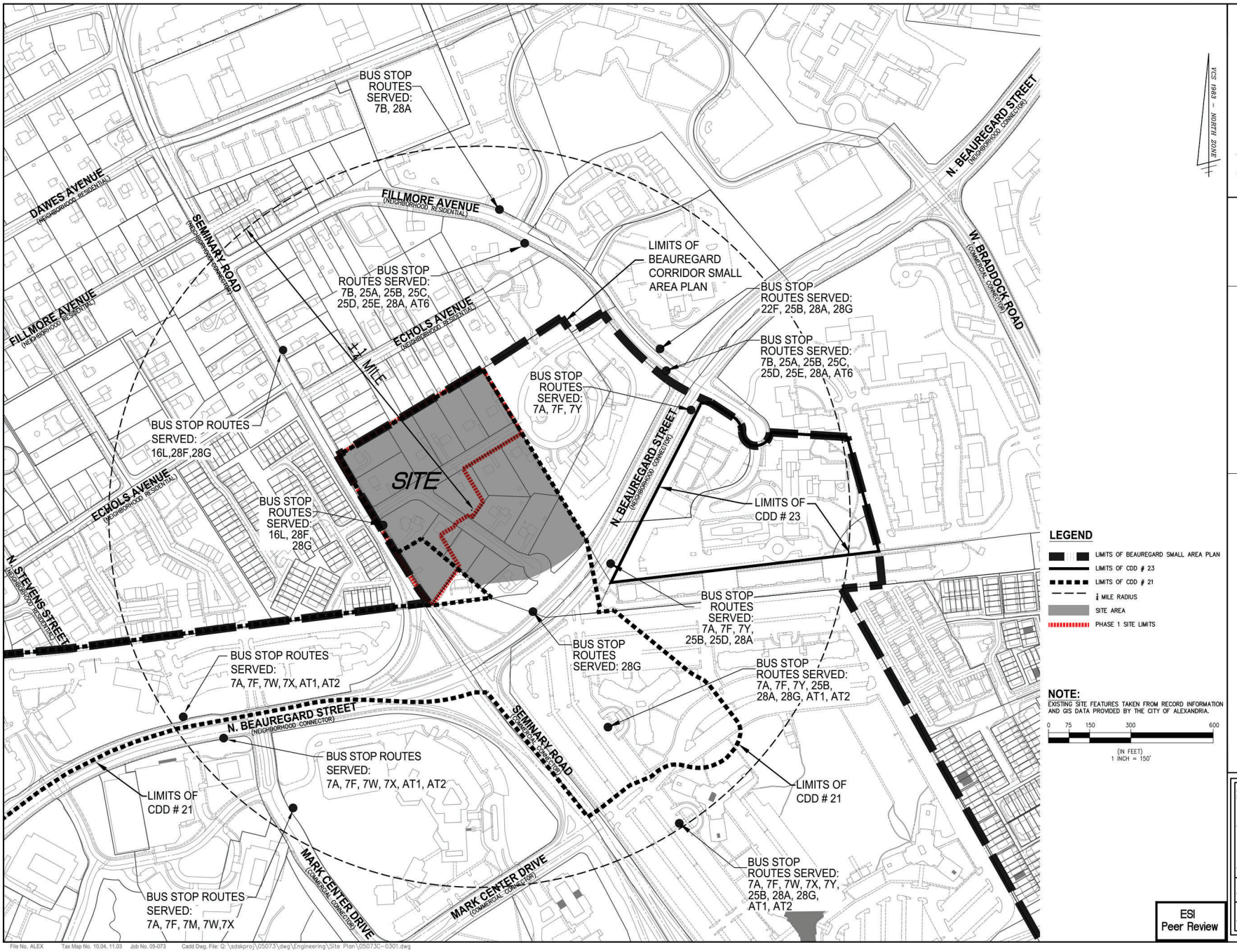
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

VAWC NOTES & DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0209.dwg

SHEET: C-0210



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DATE	DESCRIPTION
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11/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

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PROFESSIONAL ENGINEER — COMMONWEALTH OF VIRGINIA — JASON M. VIRGIN — LIC. No.041851 — 4/21/2023

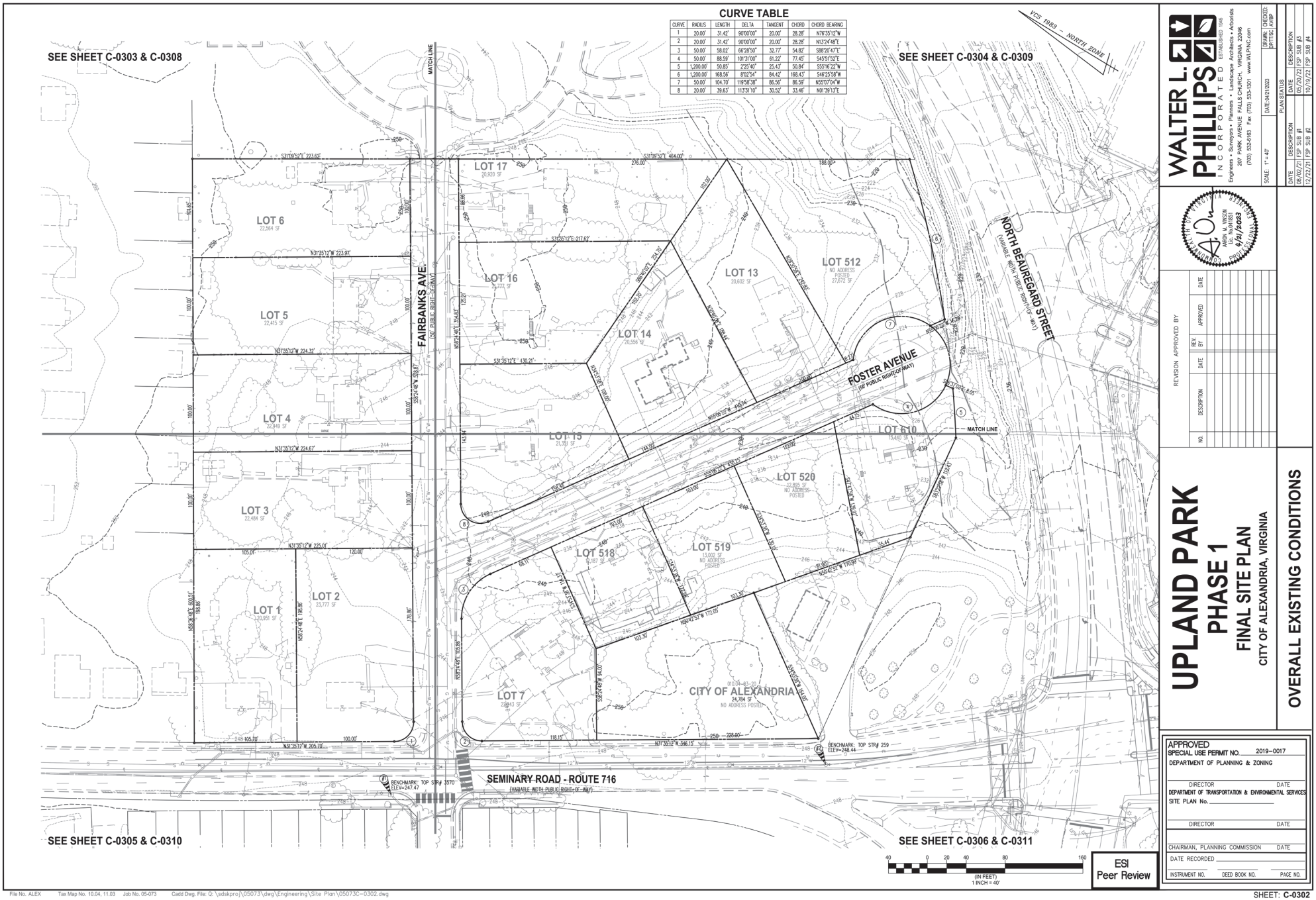
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SITE CONTEXT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0301.dwg

SHEET: C-0301



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08/02/21	FSP SUB #1
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10/19/22	FSP SUB #4

MARK W. VIRGIN LIC. No.041851 4/28/2023

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UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

OVERALL EXISTING CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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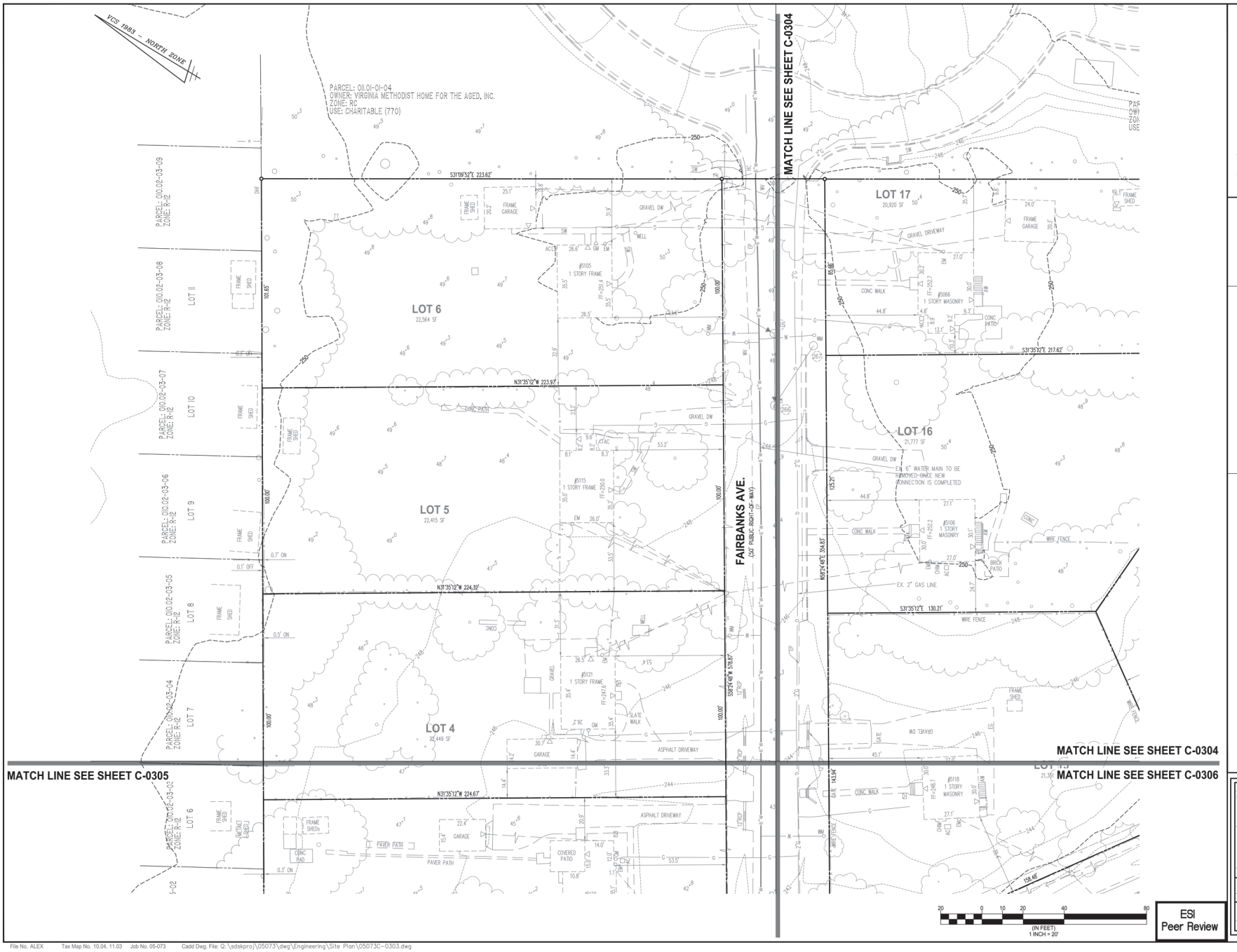

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PLAN STATUS

DATE	DESCRIPTION
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12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARION M. VIRGIN
LIC. No.041851
4/21/2023

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS PLAN - NORTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
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SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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SHEET: C-0303

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08/02/21	FSP SUB #1
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DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

MARIN M. VIRGIN
LIC. NO.141851
4/28/2023

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS PLAN - EAST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
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SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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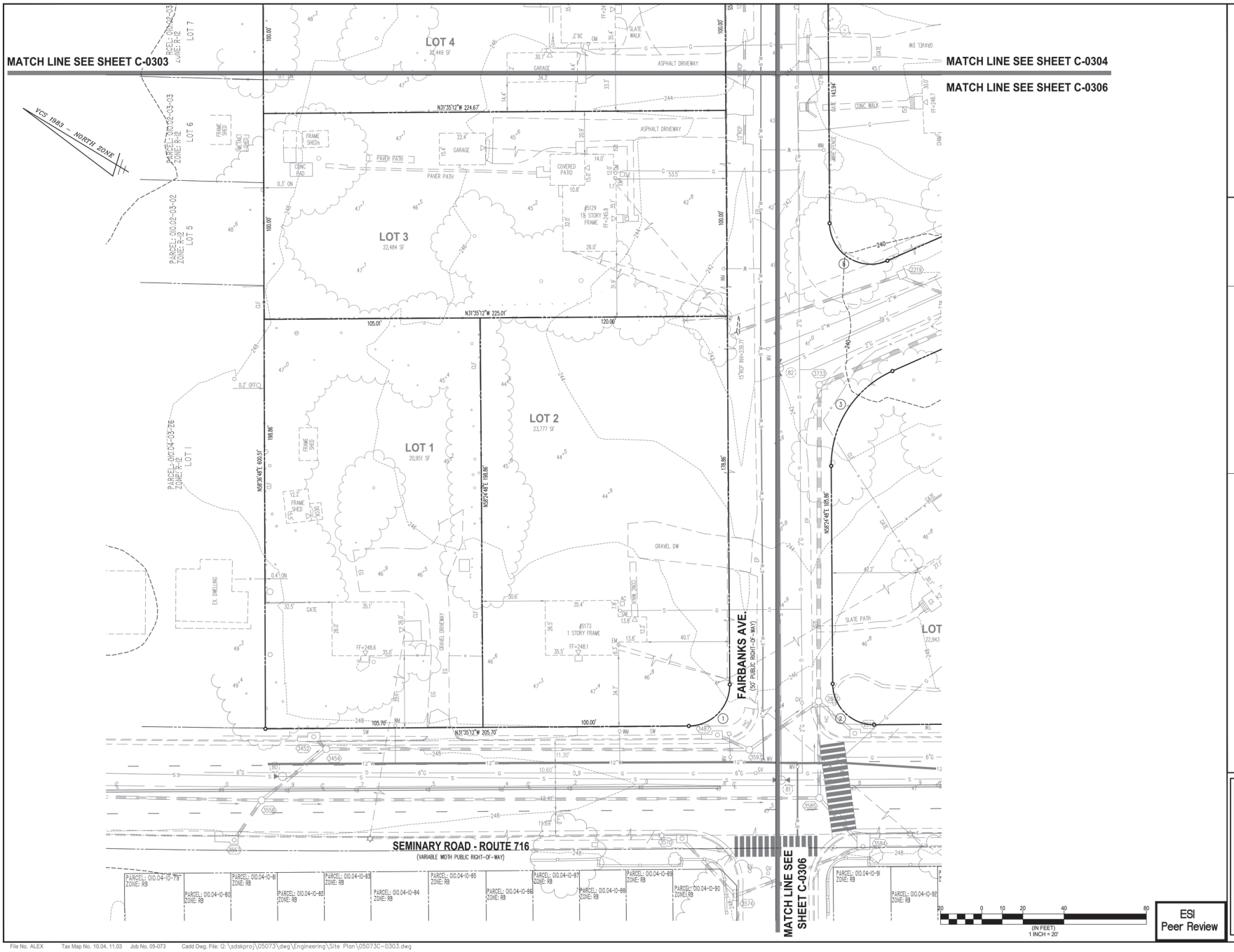
SHEET: C-0304



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12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

AARON M. VIRGIN
LIC. No.041651
4/21/2023
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS PLAN - WEST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
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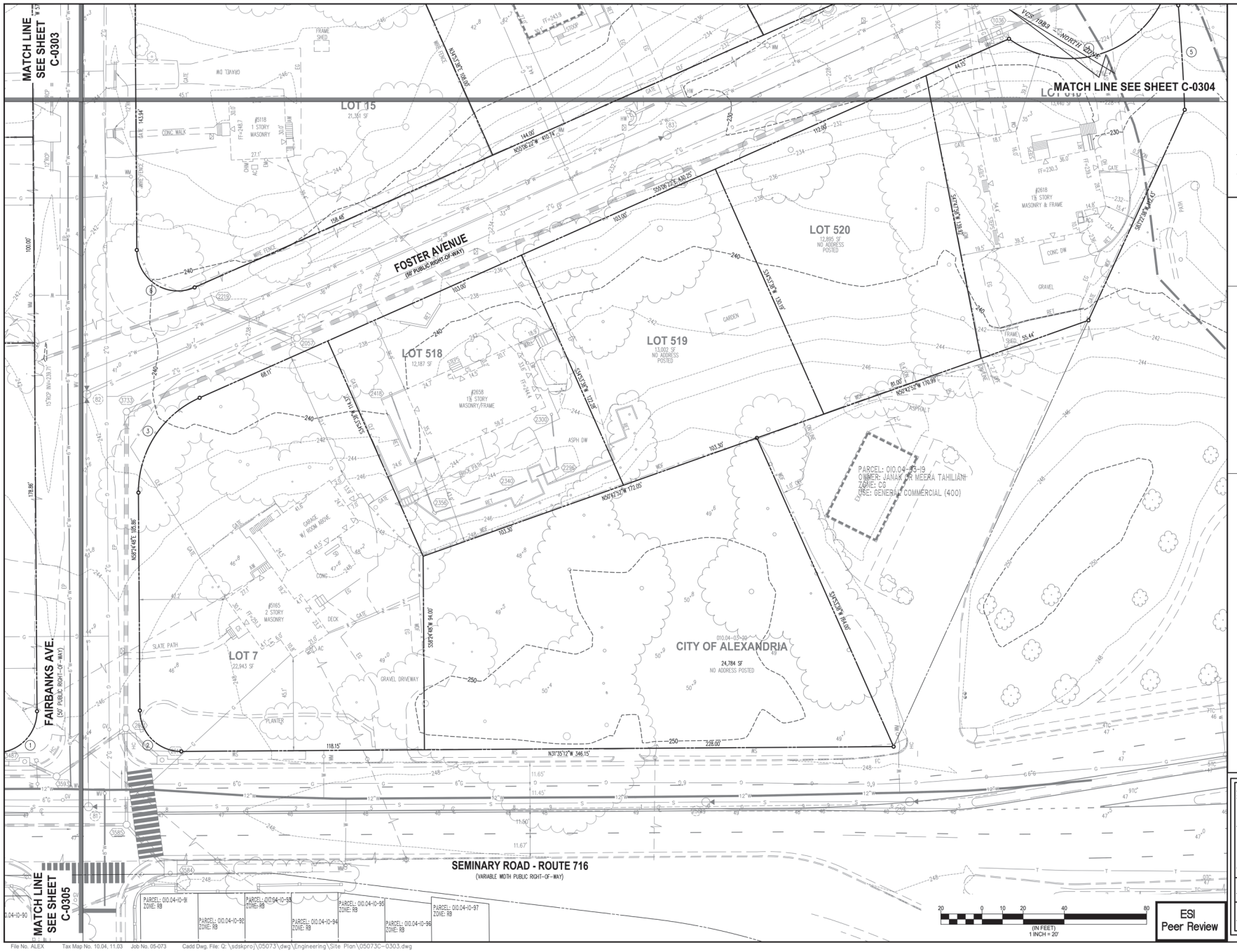

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12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

MARSH W. VIRGIN
LIC. No.041851
6/21/2023

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS PLAN - SOUTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

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SHEET: C-0306

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STORM AS-BUILT DATA

SD 3557	
CURB INLET TOP =	248.60
15"RCP OUT (SD 3558) =	245.18
SD 3558	
MANHOLE TOP =	248.93
15"RCP IN (SD 3557) =	245.15
15"RCP IN (NORTH) =	242.17
15"RCP OUT (SD 3454) =	242.49
15"RCP OUT (SD 3585) =	242.08
SD 3452	
CURB INLET TOP =	248.50
15"RCP OUT (SD 3454) =	243.18
SD 3454	
MANHOLE TOP =	248.11
15"RCP IN (SD 3452) =	243.07
15"RCP IN (SD 3558) =	241.17
15"RCP OUT (N. WEST) =	241.27
15"RCP OUT (SD 3593) =	241.14
SD 3487	
CURB INLET TOP =	247.51
15"RCP OUT (SD 3593) =	241.97

SD 3593	
MANHOLE TOP =	247.25
15"RCP IN (SD 3487) =	241.03
15"RCP IN (SD 3454) =	239.61
15"RCP OUT (SD 2601) =	239.44
SD 2611	
CURB INLET TOP =	247.53
15"RCP OUT (SD 2601) =	243.03
SD 3584	
CURB INLET TOP =	247.66
15"RCP OUT (SD 3585) =	240.14
SD 3570	
CURB INLET TOP =	247.47
15"RCP OUT (SD 3574) =	242.59
SD 3574	
CURB INLET TOP =	247.10
15"RCP IN (SD 3570) =	XXX.XX
15"RCP OUT (SD 3585) =	XXX.XX
SD 3585	
MANHOLE TOP =	247.70
15"RCP IN (SD 3558) =	240.58
15"RCP IN (SD 3584) =	240.02
15"RCP OUT (SD 2601) =	239.79
SD 2601	
MANHOLE TOP =	246.62
15"RCP IN (SD 2611) =	240.72
15"RCP IN (SD 3585) =	239.12
15"RCP IN (SD 3593) =	239.05
24"RCP OUT (SD 3733) =	238.94

SD 3733	
MANHOLE TOP =	240.98
24"RCP IN (SD 2601) =	236.88
24"RCP OUT (SD 2057) =	236.83
SD 2219	
YARD INLET TOP =	239.22
THROAT INVERT =	237.90
15"RCP IN (N.WEST) =	236.45
15"RCP OUT (SD 2057) =	235.68
SD 2057	
MANHOLE TOP =	237.92
24"RCP IN (SD 3733) =	234.46
15"RCP IN (SD 2219) =	234.44
24"RCP OUT (SD 2025) =	233.78
SD 2025	
MANHOLE TOP =	231.96
24"RCP IN (SD 2057) =	228.45
24"RCP OUT (SD 1036) =	228.33
SD 1036	
MANHOLE TOP =	225.95
24"RCP IN (SD 2025) =	222.14
27"RCP OUT (S.EAST) =	221.27

SANITARY AS-BUILT DATA

SMH 78	
MANHOLE TOP =	250.54
10"INV IN (N.EAST) =	XXX.XX
10"INV IN (N.WEST) =	245.37
10"INV OUT (SMH 80) =	245.37
SMH 80	
MANHOLE TOP =	248.88
10"INV IN (SMH 78) =	244.12
10"INV OUT (SMH 81) =	244.10
SMH 259	
MANHOLE TOP =	248.44
INVERTS INACCESSIBLE	
CANNOT OPEN	
SMH 258	
MANHOLE TOP =	248.93
10"INV IN (SMH 259) =	243.93
10"INV OUT (SMH 81) =	243.89
SMH 81	
MANHOLE TOP =	247.76
10"INV IN (SMH 80) =	242.92
10"INV IN (SMH 258) =	242.42
10"INV OUT (SMH 82) =	241.70
SMH 265	
MANHOLE TOP =	248.84
INV IN =	242.84
10"INV OUT (SMH 266) =	242.54
SMH 267	
MANHOLE TOP =	249.13
INV IN =	242.50
INV OUT (SMH 266) =	242.35
SMH 266	
INVERTS INACCESSIBLE	
MANHOLE BURIED	
SMH 82	
MANHOLE TOP =	241.78
10"INV IN (SMH 81) =	236.25
10"INV IN (SMH 266) =	236.20
10"INV OUT (SMH 83) =	235.94

SMH 83	
MANHOLE TOP =	231.30
10"INV IN (SMH 82) =	226.20
10"INV OUT (SMH 39) =	226.10
SMH 19247	
MANHOLE TOP =	238.97
10"INV IN (EAST) =	222.47
10"INV OUT (SMH 38) =	222.17
SMH 38	
MANHOLE TOP =	237.23
8"LATERAL IN (S.EAST) =	221.42
10"INV IN (SMH 19247) =	220.09
10"INV OUT (SMH 39) =	219.99
SMH 39 (741 SSMH)	
MANHOLE TOP =	224.98
10"INV IN (SMH 83) =	XXX.XX
10"INV IN (SMH 38) =	216.41
10"INV OUT (SMH 40) =	216.18
SMH 40 (564 SSMH)	
MANHOLE TOP =	219.81
10"INV IN (SMH 39) =	205.05
10"INV OUT (N.EAST) =	204.98
SMH 41	
MANHOLE TOP =	202.24
INVERTS INACCESSIBLE	
CANNOT OPEN	
SMH 29	
MANHOLE TOP =	194.10
INVERTS INACCESSIBLE	
CANNOT OPEN	
SMH 30495 (565 SSMH)	
MANHOLE TOP =	202.24
10"INV IN (SMH 40) =	190.88
10"INV OUT (SMH 30496) =	190.82
SMH 30496 (566 SSMH)	
MANHOLE TOP =	194.10
10"INV IN (SMH 30495) =	182.40
10"INV IN (S. EAST) =	182.52
10"INV IN (SMH 1486) =	181.56
12"INV OUT (SMH 30499) =	181.51
SMH 30499 (758 SSMH)	
MANHOLE TOP =	177.61
10"INV IN (N. WEST) =	168.31
12"INV IN (SMH 30496) =	167.71
12"INV OUT (SMH 30498) =	167.61
SMH 30498 (562 SSMH)	
MANHOLE TOP =	162.20
10"INV IN (S. EAST) =	153.22
12"INV IN (SMH 30499) =	153.41
12"INV OUT (SMH 30497) =	153.22
SMH 30497 (795 SSMH)	
MANHOLE TOP =	155.99
10"INV IN (N. WEST) =	151.59
12"INV IN (SMH 30498) =	148.41
12"INV OUT (SMH 2257) =	148.37

SMH 2257 (762 SSMH)	
MANHOLE TOP =	151.90
10"INV IN (S. EAST) =	147.85
12"INV IN (SMH 30497) =	143.80
12"INV OUT (SMH 2258) =	143.75
SMH 2258 (775 SSMH)	
MANHOLE TOP =	147.13
10"INV IN (N. WEST) =	132.95
12"INV IN (SMH 2257) =	132.32
12"INV OUT (SMH 2259) =	132.12
SMH 2259 (774 SSMH)	
MANHOLE TOP =	143.94
12"INV IN (SMH 2258) =	128.40
18"INV OUT (SMH 2260) =	128.34
SMH 2260 (773 SSMH)	
MANHOLE TOP =	141.82
10"INV IN =	127.11
10"INV IN =	135.70
18"INV IN (SMH 2259) =	126.78
18"INV OUT (SMH 2261) =	126.51
SMH 2261 (776 SSMH)	
MANHOLE TOP =	140.21
18"INV IN (SMH 2260) =	123.37
15"INV OUT (SMH 2262) =	123.27
SMH 2262 (697 SSMH)	
MANHOLE TOP =	138.22
10"INV IN (S. EAST) =	130.01
15"INV IN (SMH 2261) =	119.53
15"INV OUT (SMH 2263) =	119.27
SMH 2263 (699 SSMH)	
MANHOLE TOP =	139.16
15"INV IN (SMH 2262) =	118.58
15"INV OUT (SMH 2264) =	118.56
SMH 2264 (780 SSMH)	
MANHOLE TOP =	121.98
15"INV IN (SMH 2263) =	113.52
15"INV OUT (EAST) =	113.59

SANITARY PIPE SIZES ARE FROM RECORD INFORMATION. CITY FACILITY I.D. IS INCLUDED WHERE APPLICABLE NEXT TO WLP STRUCTURE NUMBERS IN PARENTHESIS.

NOTES

1. THE PROPERTIES ARE DELINEATED ON ALEXANDRIA ASSESSMENT MAPS 10.02, 10.04 AND 11.03 AND ARE ZONED CDD #21.

2. THE PROPERTY SHOWN HEREON IS COMPRISED OF THE FOLLOWING:
   A) LOTS 1–7 AND 13–17, SHIRLEY GARDEN AS RECORDED IN DEED BOOK 622 AT PAGE 263.
   B) LOT 512, RESUBDIVISION OF LOTS 10–12 SHIRLEY GARDEN, AS RECORDED IN DEED BOOK 469 AT PAGE 260.
   C) LOTS 518–520 AND LOT 610, RESUBDIVISION OF LOTS 8, 9 AND 510, SHIRLEY GARDEN, AS RECORDED IN DEED BOOK 479 AT PAGE 574.
   D) CITY OF ALEXANDRIA PROPERTY (PARCEL B – PROPERTY OF IRVING PAYNE PER CITY OF ALEXANDRIA RECORDS) AS RECORDED IN DEED BOOK 1144 AT PAGE 212

3. THIS PLAN AND THE SURVEY UPON WHICH IT IS BASED SHOWS ONLY THOSE IMPROVEMENTS THAT ARE OBSERVABLE AND CAN BE LOCATED USING NORMAL SURVEY METHODS. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, MISS UTILITY MARKINGS AND EXISTING RECORDS. THERE IS NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED, OR THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED.

4. THIS PLAN IS BASED ON A FIELD SURVEY BY THIS FIRM ON MAY 10, 2011.

5. THESE PROPERTIES ARE SUBJECT TO ALL DEDICATIONS, EASEMENTS, RESTRICTIONS AND COVENANTS EXISTING IN THE CHAIN OF TITLE. NO TITLE REPORT FURNISHED.

6. ELEVATIONS BASED ON USGS DATUM. COUNTOUR INTERVAL IS TWO FEET. THE FOOT DEFINITION USED IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT.

7. THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF,
   JAMES A. MADISON, JR., L.S., FROM AN ACTUAL [X] GROUND OR [ ] AIRBORNE SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON MAY 10, 2011; AND THAT THIS PLAN, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS NOTES & AS-BUILT DATA

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0303.dwg

SHEET: C-0307

DEMOLITION LEGEND

- ITEM/STRUCTURE TO BE REMOVED
- BUILDING TO BE DEMOLISHED
- CONCRETE TO BE DEMOLISHED
- PAVEMENT TO BE DEMOLISHED
- TREE PROTECTION FENCE
- SUPER SILT FENCE
- TP — TEST PIT

NOTES:

1. DESIGN OF DRY UTILITY RELOCATION AND UNDERGROUNDINGS OF OVERHEAD UTILITY LINES BY OTHERS. DISPOSITION OF THOSE FACILITIES SHOWN ON THIS PLAN PROVIDED FOR INFORMATION ONLY. CONFIRM FINAL DRY UTILITY DESIGN INCLUDING ANY REQUIRED RELOCATION, UNDERGROUNDING, REMOVAL, ETC. WITH DRY UTILITY DESIGN ENGINEER.
2. SEE TREE PRESERVATION PLAN, SHEET C-1201, FOR ADDITIONAL INFORMATION.
3. SEE SHEET C-0202 FOR ADDITIONAL DEMOLITION NOTES.
4. ALL UTILITIES TO BE ABANDONED IN PLACE SHALL BE CAPPED AND FILLED WITH FLOWABLE FILL OR GROUT.
5. PROVIDE SIDEWALK CLOSURE SIGNS IN ACCORDANCE WITH APPROVED CONSTRUCTION MANAGEMENT PLAN.
6. ALL EX. UTILITIES TO REMAIN AND/OR PRESERVED SHALL BE PROTECTED IN PLACE. COORDINATE ANY DISRUPTIONS OF SERVICE WITH OWNER OF UTILITY.
7. A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION & SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE. SEE SHEETS C-0601 THROUGH C-0605 FOR EROSION AND SEDIMENT CONTROL PLAN SHEETS.
8. IF THE CITY'S EXISTING INFRASTRUCTURE IS DAMAGED DURING CONSTRUCTION, OR PATCH WORK REQUIRED FOR UTILITY INSTALLATION THEN THE APPLICANT SHALL BE RESPONSIBLE FOR CONSTRUCTION, INSTALLATION OR REPAIR OF THE SAME AS PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF DIRECTOR, T&ES.
9. A PRE-CONSTRUCTION WALK OF THE SITE SHALL OCCUR WITH T&ES CONSTRUCTION AND INSPECTIONS STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBANCE ACTIVITIES.
10. ASPHALT PATCHES LARGER THAN 20% OF THE TOTAL ASPHALT SURFACE, MEASURED ALONG THE LENGTH OF THE ROAD ADJACENT TO THE PROPERTY FRONTAGE AND/OR EXTENDING TO THE CENTERLINE OF THE STREET, WILL REQUIRE FULL CURB TO CURB RESTORATION.
11. NOTARIZED LETTER OF PERMISSION OR RECORDATION OF TEMPORARY CONSTRUCTION EASEMENT REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY ON ADJACENT PRIVATE PROPERTY.

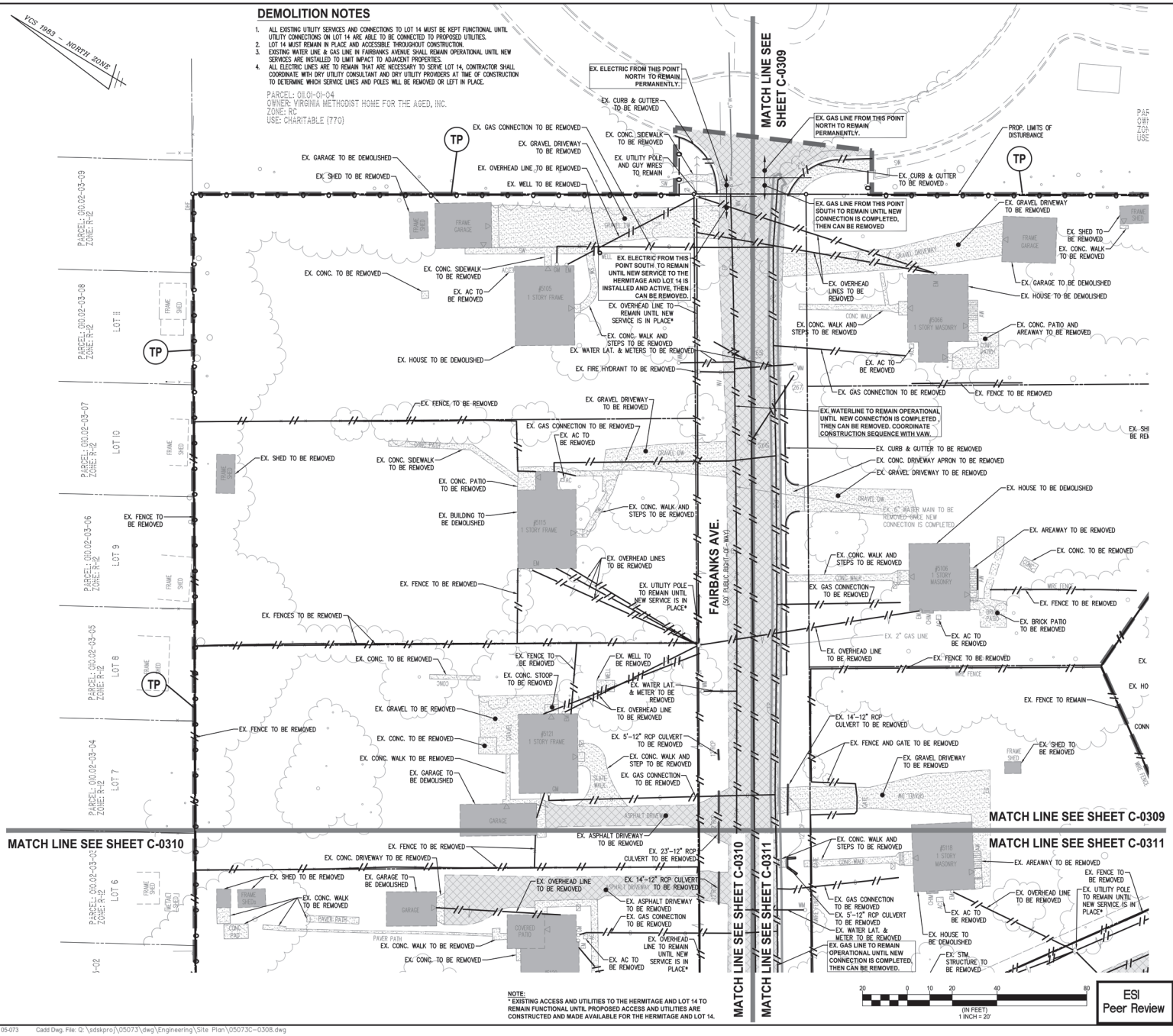
ARCHAEOLOGY NOTES

1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING, AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT 703-746-4399.
2. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
3. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY THE ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAY.
4. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR CITY ARCHAEOLOGISTS CAN BE ARRANGED.

DEMOLITION NOTES

1. ALL EXISTING UTILITY SERVICES AND CONNECTIONS TO LOT 14 MUST BE KEPT FUNCTIONAL UNTIL UTILITY CONNECTIONS ON LOT 14 ARE ABLE TO BE CONNECTED TO PROPOSED UTILITIES.
2. LOT 14 MUST REMAIN IN PLACE AND ACCESSIBLE THROUGHOUT CONSTRUCTION.
3. EXISTING WATER LINE & GAS LINE IN FAIRBANKS AVENUE SHALL REMAIN OPERATIONAL UNTIL NEW SERVICES ARE INSTALLED TO LIMIT IMPACT TO ADJACENT PROPERTIES.
4. ALL ELECTRIC LINES ARE TO REMAIN THAT ARE NECESSARY TO SERVE LOT 14, CONTRACTOR SHALL COORDINATE WITH DRY UTILITY CONSULTANT AND DRY UTILITY PROVIDERS AT TIME OF CONSTRUCTION TO DETERMINE WHICH SERVICE LINES AND POLES WILL BE REMOVED OR LEFT IN PLACE.

PARCEL: 010-01-01-04
OWNER: VIRGINIA METHODIST HOME FOR THE AGED, INC.
ZONE: RC
USE: CHARITABLE (770)



NOTE:
* EXISTING ACCESS AND UTILITIES TO THE HERMITAGE AND LOT 14 TO REMAIN FUNCTIONAL UNTIL PROPOSED ACCESS AND UTILITIES ARE CONSTRUCTED AND MADE AVAILABLE FOR THE HERMITAGE AND LOT 14.

(IN FEET)
1 INCH = 20'

ESI Peer Review

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | TASC: | AVBP

DATE	DESCRIPTION	DATE	DESCRIPTION
08/02/21	FSP SUB #1	05/20/22	FSP SUB #3
12/22/21	FSP SUB #2	10/19/23	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

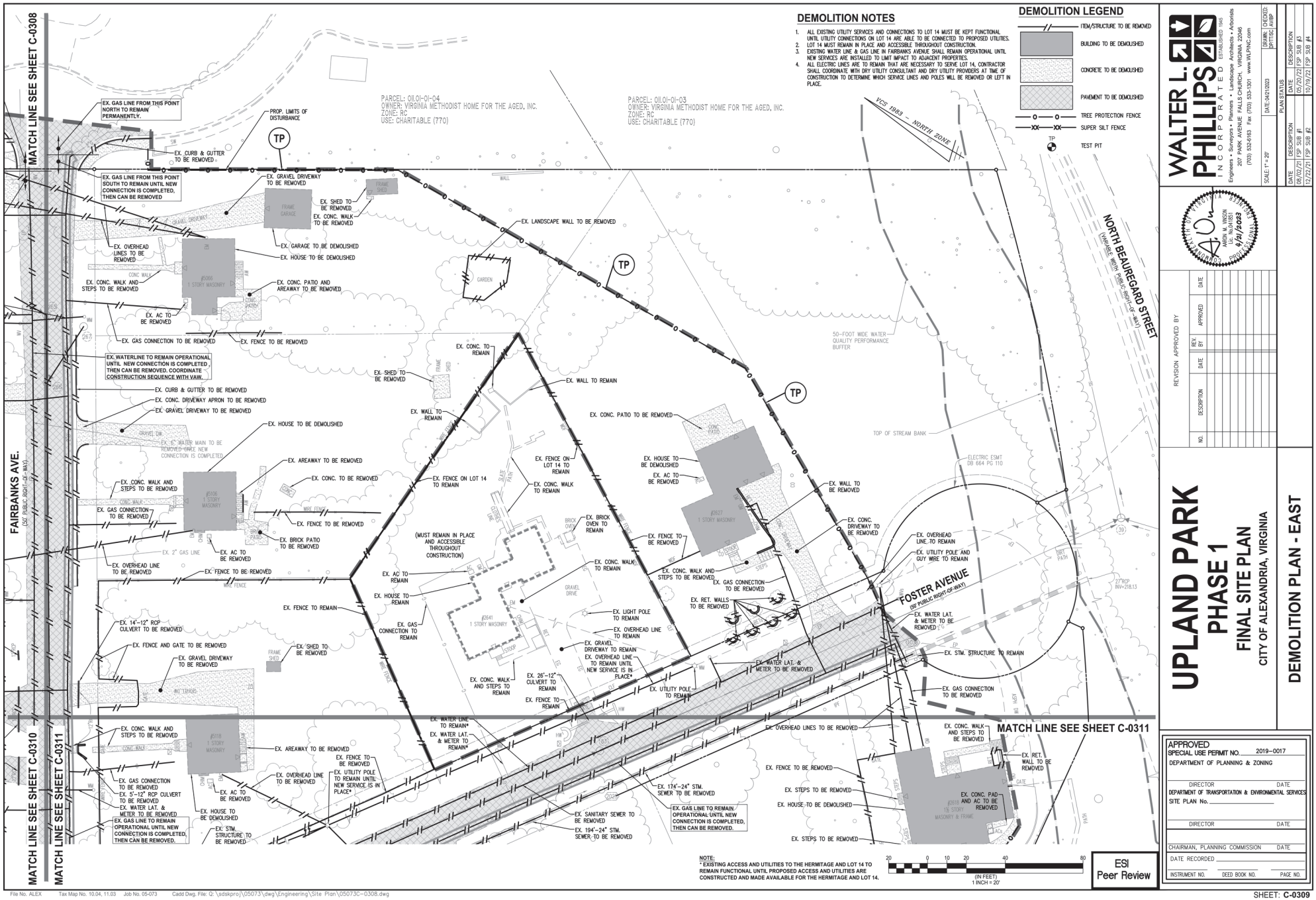
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DEMOLITION PLAN - NORTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0308.dwg

SHEET: C-0308



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SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: [illegible] | CHECKED: [illegible]

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

MARION W. VIRGIN
LIC. No.041851
6/21/2023
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DEMOLITION PLAN - EAST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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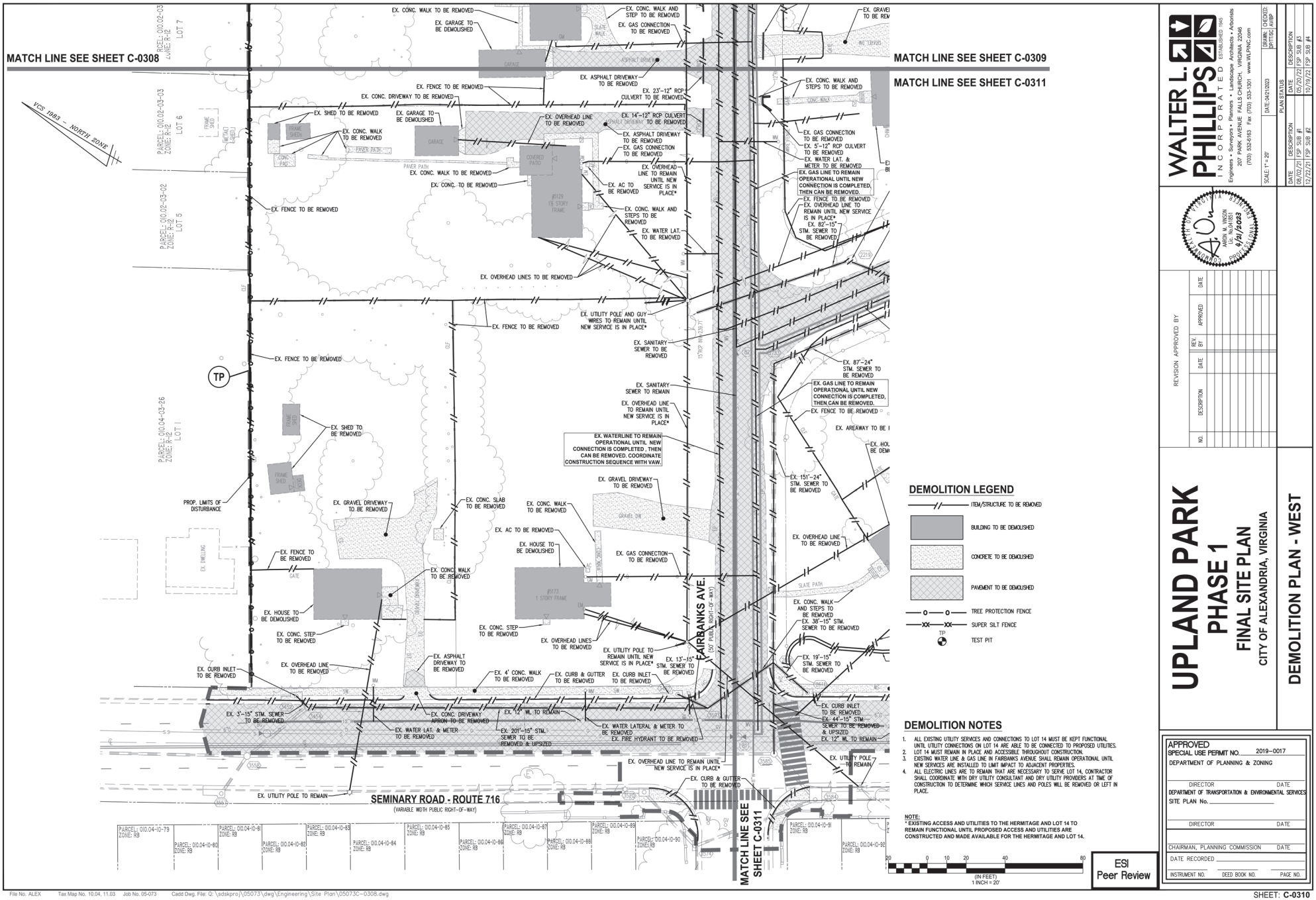

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT SET: AWP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

AARON M. VIRGIN LIC. No.041851 4/21/2023 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DEMOLITION PLAN - WEST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

ESI Peer Review

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0308.dwg

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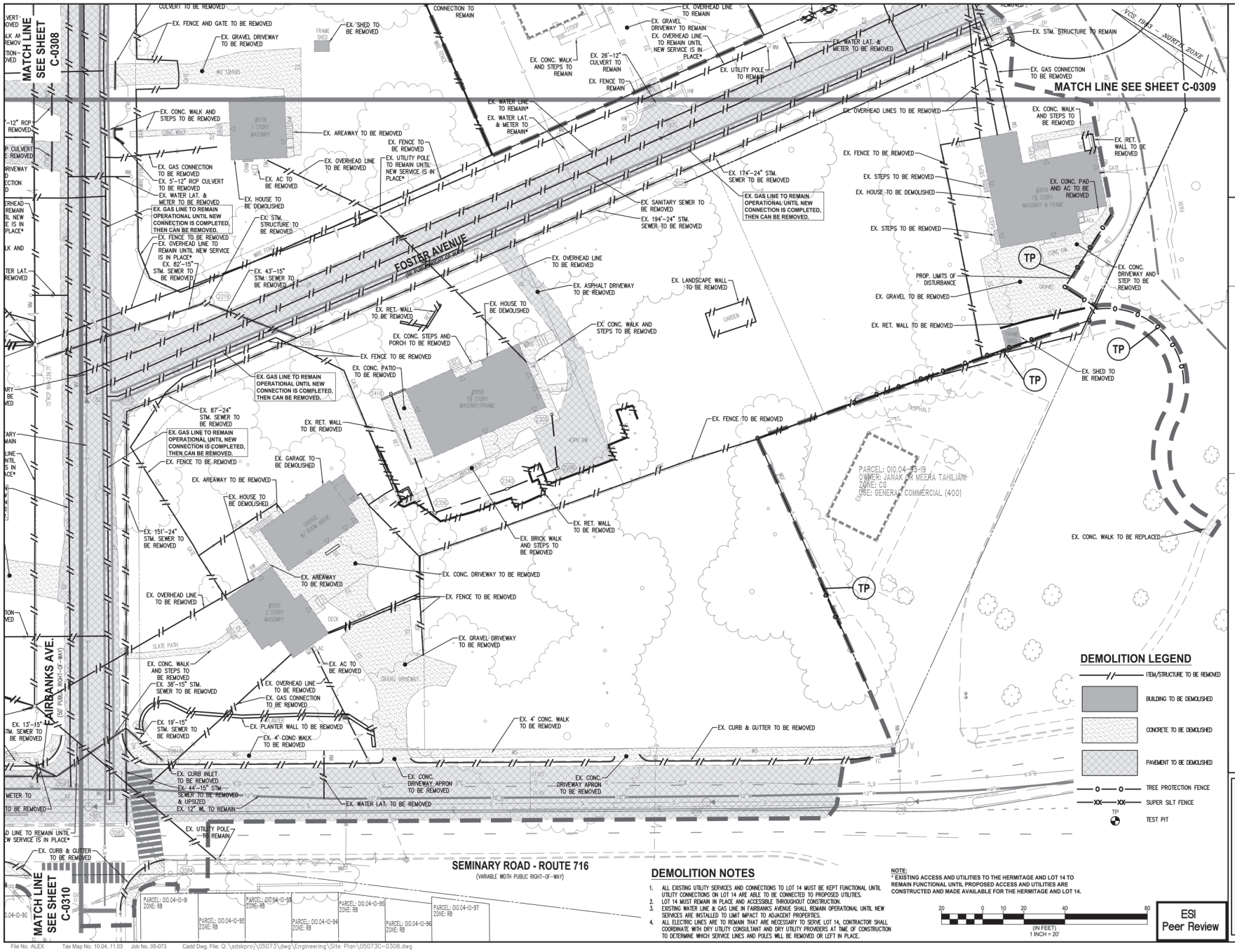

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PLAN STATUS

DATE	DESCRIPTION
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12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PROFESSIONAL ENGINEER — AARON M. VIRGIN, LIC. No.041851 — 4/28/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

DEMOLITION PLAN - SOUTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

ESI Peer Review

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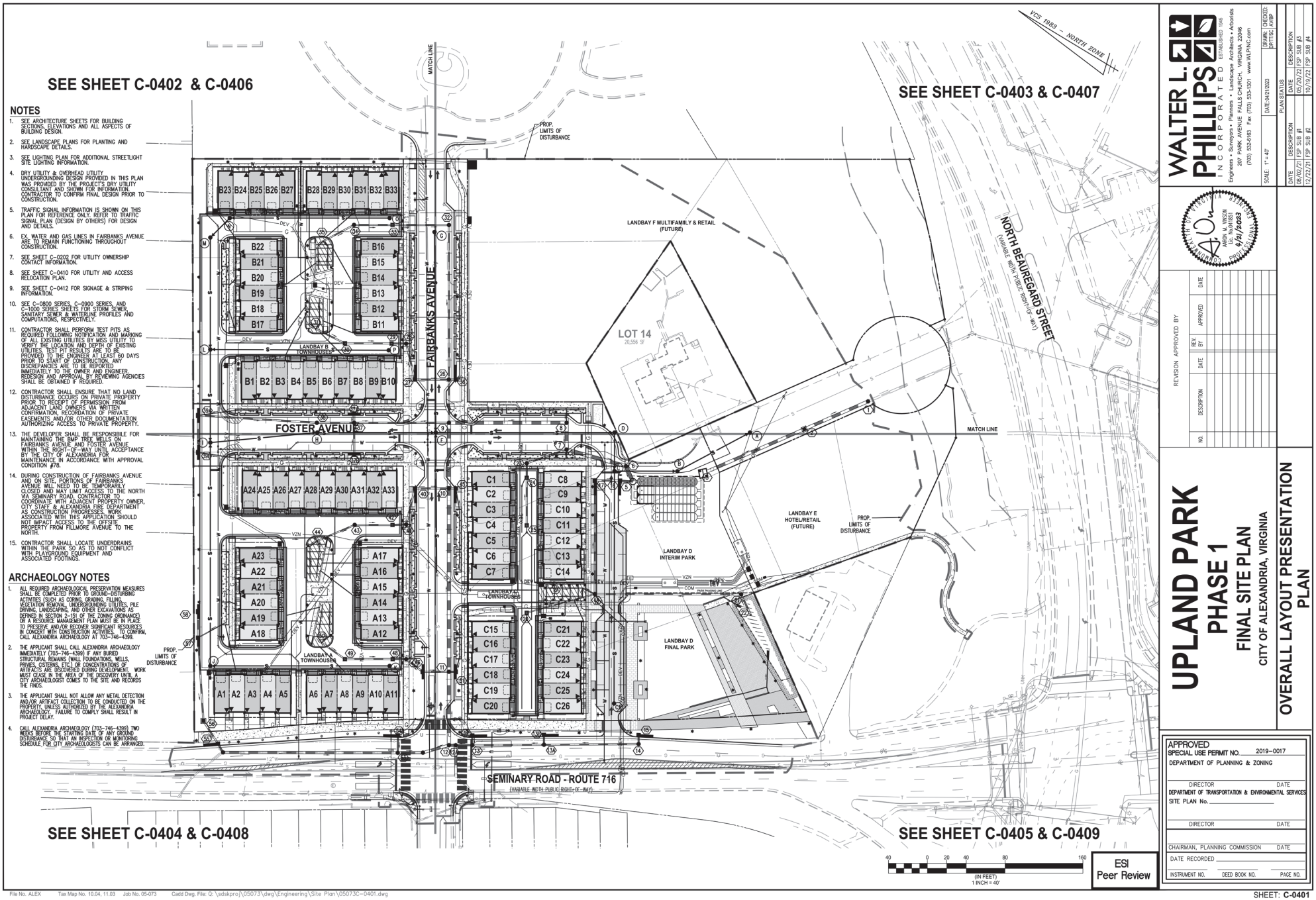
SHEET: C-0311



NOTES

1. SEE ARCHITECTURE SHEETS FOR BUILDING SECTIONS, ELEVATIONS AND ALL ASPECTS OF BUILDING DESIGN.
2. SEE LANDSCAPE PLANS FOR PLANTING AND HARDSCAPE DETAILS.
3. SEE LIGHTING PLAN FOR ADDITIONAL STREETLIGHT SITE LIGHTING INFORMATION.
4. DRY UTILITY & OVERHEAD UTILITY UNDERGROUNDING DESIGN PROVIDED IN THIS PLAN WAS PROVIDED BY THE PROJECT'S DRY UTILITY CONSULTANT AND SHOWN FOR INFORMATION. CONTRACTOR TO CONFIRM FINAL DESIGN PRIOR TO CONSTRUCTION.
5. TRAFFIC SIGNAL INFORMATION IS SHOWN ON THIS PLAN FOR REFERENCE ONLY. REFER TO TRAFFIC SIGNAL PLAN (DESIGN BY OTHERS) FOR DESIGN AND DETAILS.
6. EX. WATER AND GAS LINES IN FAIRBANKS AVENUE ARE TO REMAIN FUNCTIONING THROUGHOUT CONSTRUCTION.
7. SEE SHEET C-0202 FOR UTILITY OWNERSHIP CONTACT INFORMATION.
8. SEE SHEET C-0410 FOR UTILITY AND ACCESS RELOCATION PLAN.
9. SEE SHEET C-0412 FOR SIGNAGE & STRIPING INFORMATION.
10. SEE C-0800 SERIES, C-0900 SERIES, AND C-1000 SERIES SHEETS FOR STORM SEWER, SANITARY SEWER & WATERLINE PROFILES AND COMPUTATIONS, RESPECTIVELY.
11. CONTRACTOR SHALL PERFORM TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES BY MISS UTILITY TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST PIT RESULTS ARE TO BE PROVIDED TO THE ENGINEER AT LEAST 60 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED IF REQUIRED.
12. CONTRACTOR SHALL ENSURE THAT NO LAND DISTURBANCE OCCURS ON PRIVATE PROPERTY PRIOR TO RECEIPT OF PERMISSION FROM ADJACENT LAND OWNERS VIA WRITTEN CONFIRMATION, RECORDATION OF PRIVATE EASEMENTS AND/OR OTHER DOCUMENTATION AUTHORIZING ACCESS TO PRIVATE PROPERTY.
13. THE DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING THE BMP TREE WELLS ON FAIRBANKS AVENUE AND FOSTER AVENUE WITHIN THE RIGHT-OF-WAY UNTIL ACCEPTANCE BY THE CITY OF ALEXANDRIA FOR MAINTENANCE IN ACCORDANCE WITH APPROVAL CONDITION #78.
14. DURING CONSTRUCTION OF FAIRBANKS AVENUE AND ON SITE, PORTIONS OF FAIRBANKS AVENUE WILL NEED TO BE TEMPORARILY CLOSED AND MAY LIMIT ACCESS TO THE NORTH VIA SEMINARY ROAD. CONTRACTOR TO COORDINATE WITH ADJACENT PROPERTY OWNER, CITY STAFF & ALEXANDRIA FIRE DEPARTMENT AS CONSTRUCTION PROGRESSES. WORK ASSOCIATED WITH THIS APPLICATION SHOULD NOT IMPACT ACCESS TO THE SITE PROPERTY FROM FILLMORE AVENUE TO THE NORTH.
15. CONTRACTOR SHALL LOCATE UNDERDRAINS WITHIN THE PARK SO AS TO NOT CONFLICT WITH PLAYGROUND EQUIPMENT AND ASSOCIATED FOOTINGS.

ARCHAEOLOGY NOTES

1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING, AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT 703-746-4399.
2. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
3. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY THE ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAY.
4. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR CITY ARCHAEOLOGISTS CAN BE ARRANGED.

PROP. LIMITS OF DISTURBANCE

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SCALE: 1" = 40' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT: | AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN LIC. No.041851 6/21/2023 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

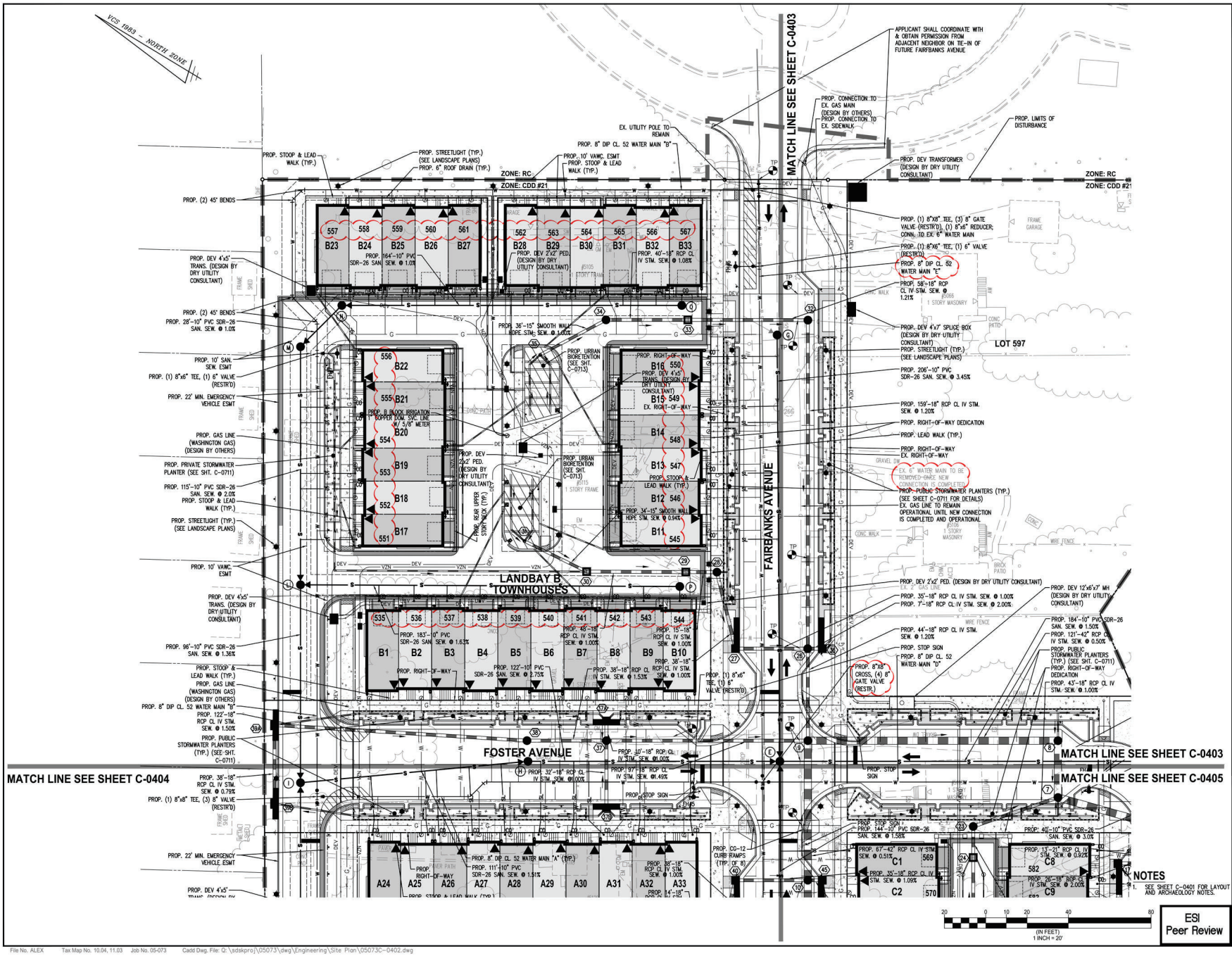
OVERALL LAYOUT PRESENTATION PLAN

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

ESI Peer Review

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0401.dwg

SHEET: C-0401



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SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | TSC: | AVBP:

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/25/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN LIC. No.041851 6/21/2023 PROFESSIONAL ENGINEER

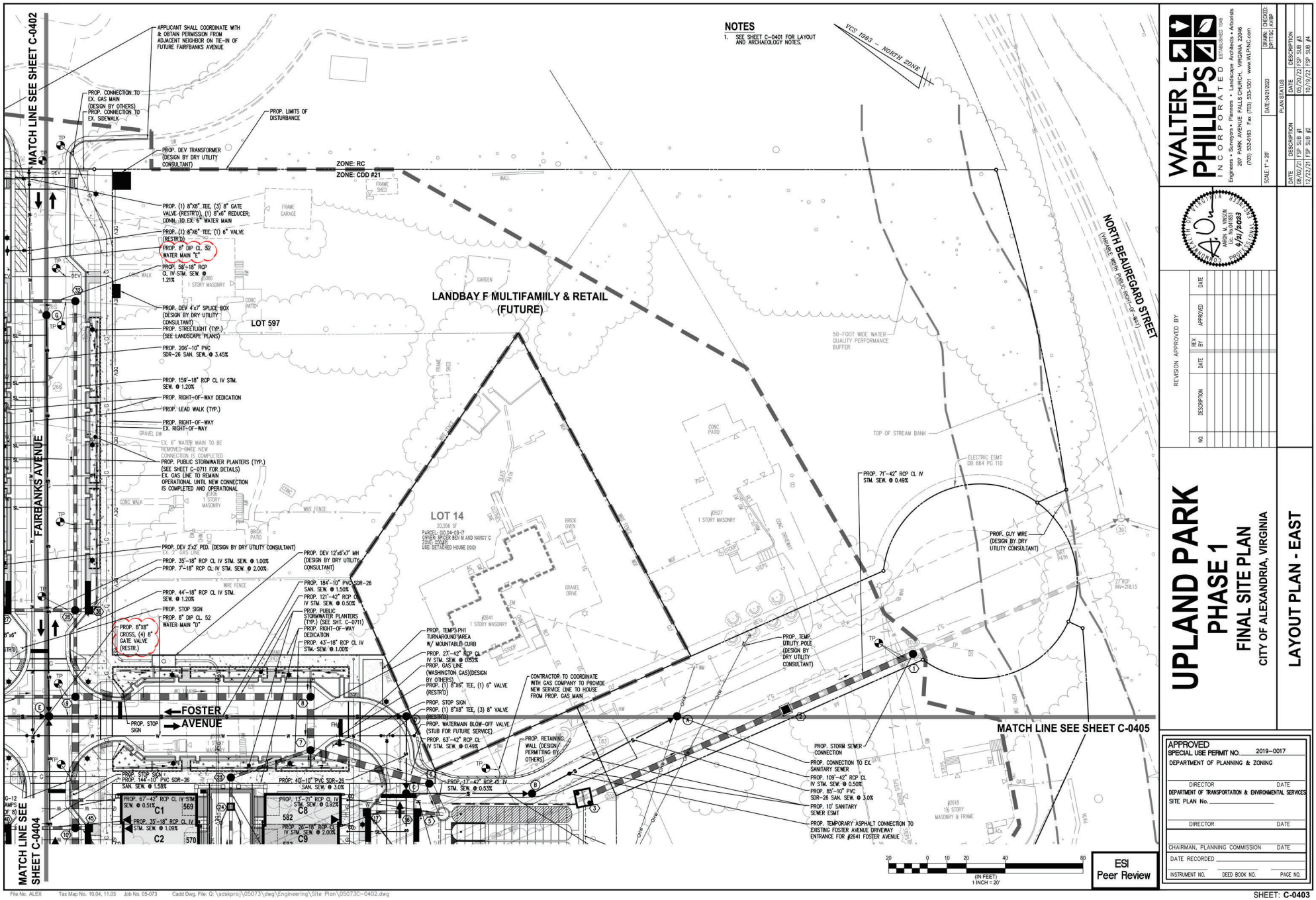
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

LAYOUT PLAN - NORTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0402.dwg

SHEET: C-0402



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DATE	DESCRIPTION
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12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN
LIC. No.041851
6/28/2023
PROFESSIONAL ENGINEER

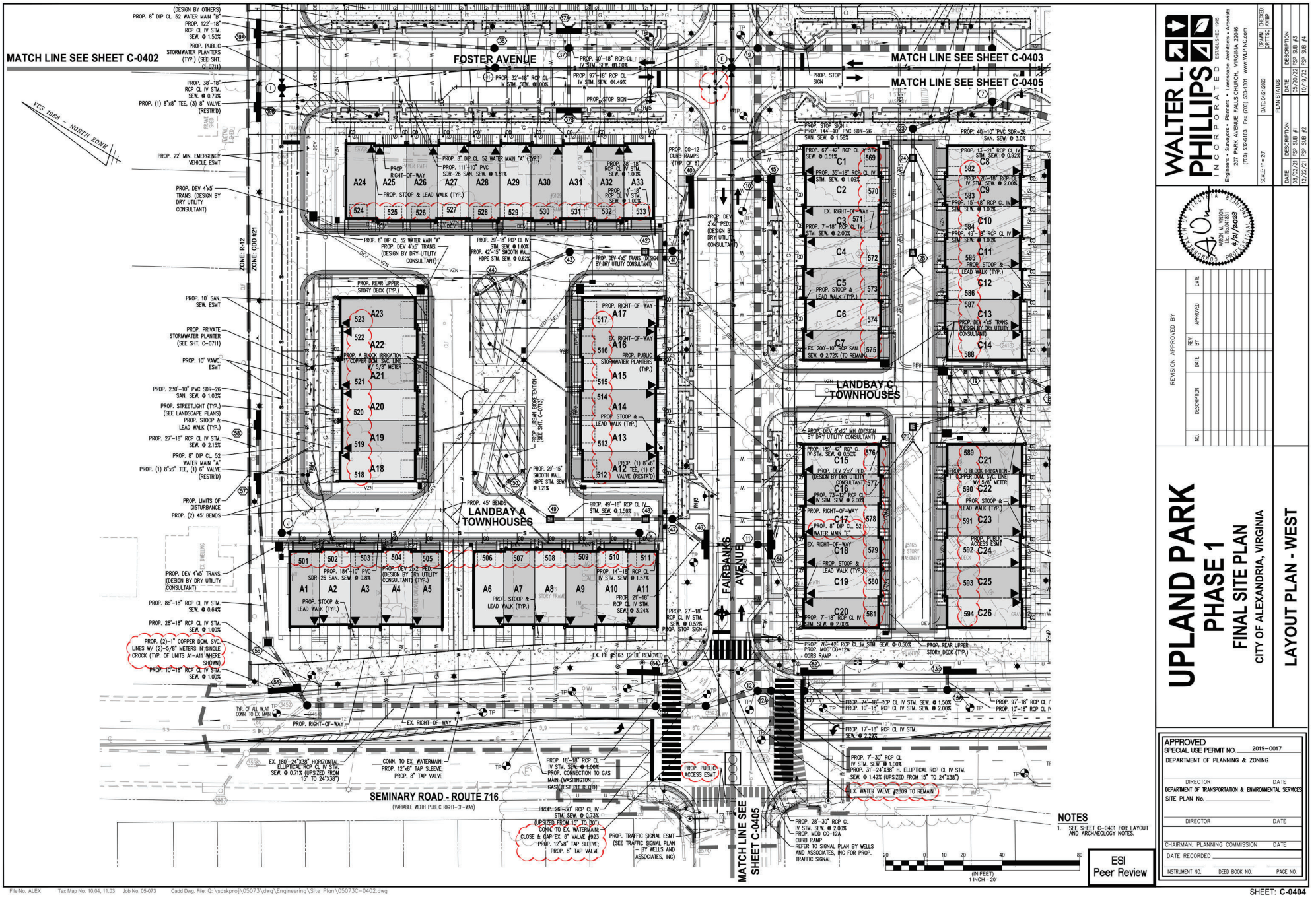
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

LAYOUT PLAN - EAST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0402.dwg

SHEET: C-0403



NOTES

1. SEE SHEET C-0401 FOR LAYOUT AND ARCHAEOLOGY NOTES.

ESI Peer Review

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DATE	DESCRIPTION
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10/19/23	FSP SUB #4

MARK W. VIRGIN LIC. No.041851 4/28/2023

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

LAYOUT PLAN - WEST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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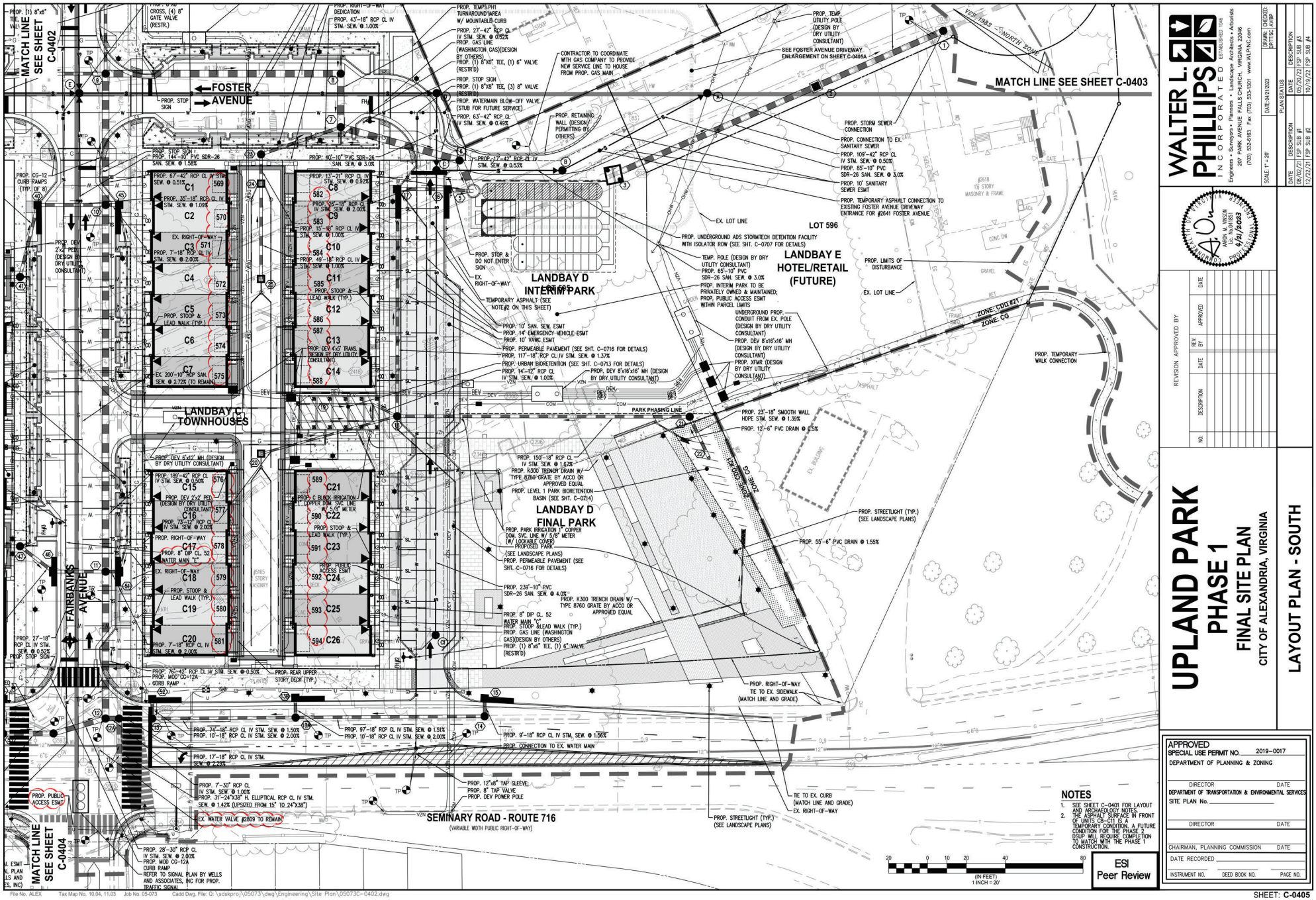
SHEET: C-0404



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DATE	DESCRIPTION
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PLAN STATUS

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

JASON M. VIRGIN Lic. No.041851 6/26/2023

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UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

LAYOUT PLAN - SOUTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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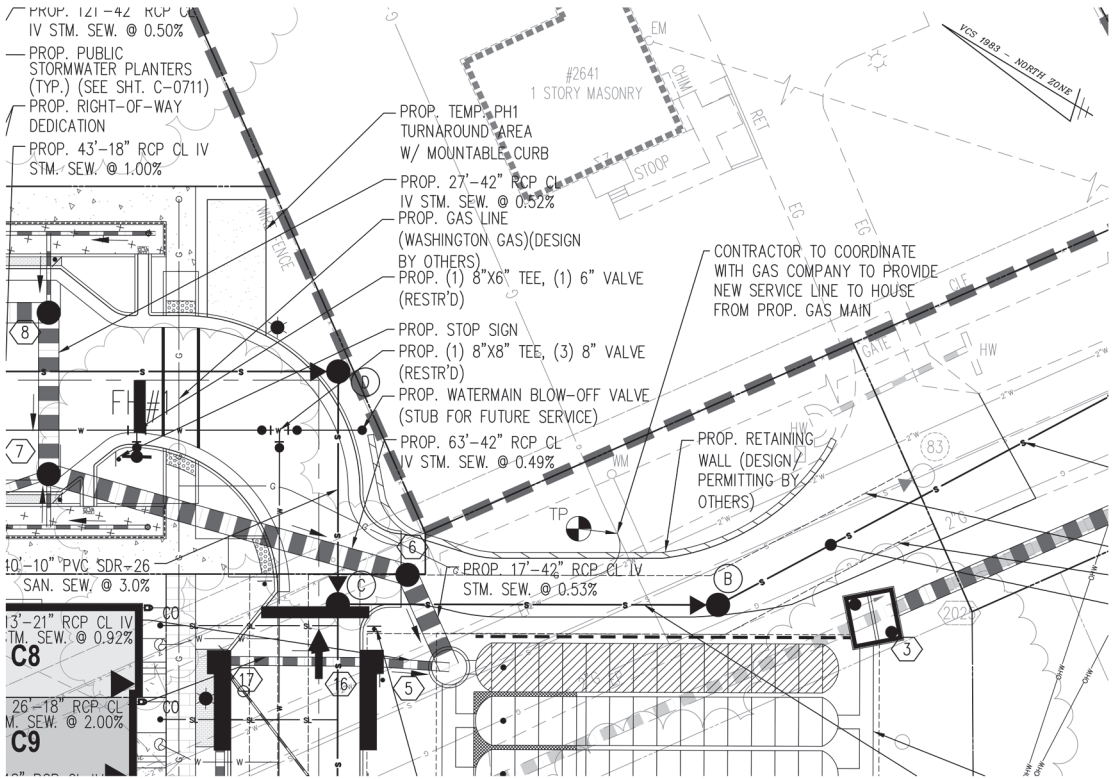
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\[05073\dwg\Engineering\Site Plan\05073C-0402.dwg

SHEET: C-0405



NOTES

1. REFER TO C-0410 FOR UTILITY AND ACCESS RELOCATION PLAN.
3. EXISTING WATER LINE & GAS LINE IN FAIRBANKS AVENUE SHALL REMAIN OPERATIONAL UNTIL NEW SERVICES ARE INSTALLED TO LIMIT IMPACT TO ADJACENT PROPERTIES.
4. THIS SHEET INCLUDES AN ENLARGEMENT OF THE DETAILS SHOWN ON SHEET C-0405 RELATED TO THE IMPROVEMENTS PROPOSED WITHIN THE VICINITY OF THE PRIVATE PARK ROAD ND EXISTING 2641 FOSTER AVENUE. SEE C-0400'S SERIES SHEETS FOR ADDITIONAL SITE LAYOUT DETAILS.

10 0 5 10 20 40
(IN FEET)
1 INCH = 10'

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PLAN STATUS

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05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

AARON M. VIRGIN LIC. No.041851 4/21/2023

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

2641 FOSTER AVE DRIVEWAY ENLARGEMENT

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0405A.dwg

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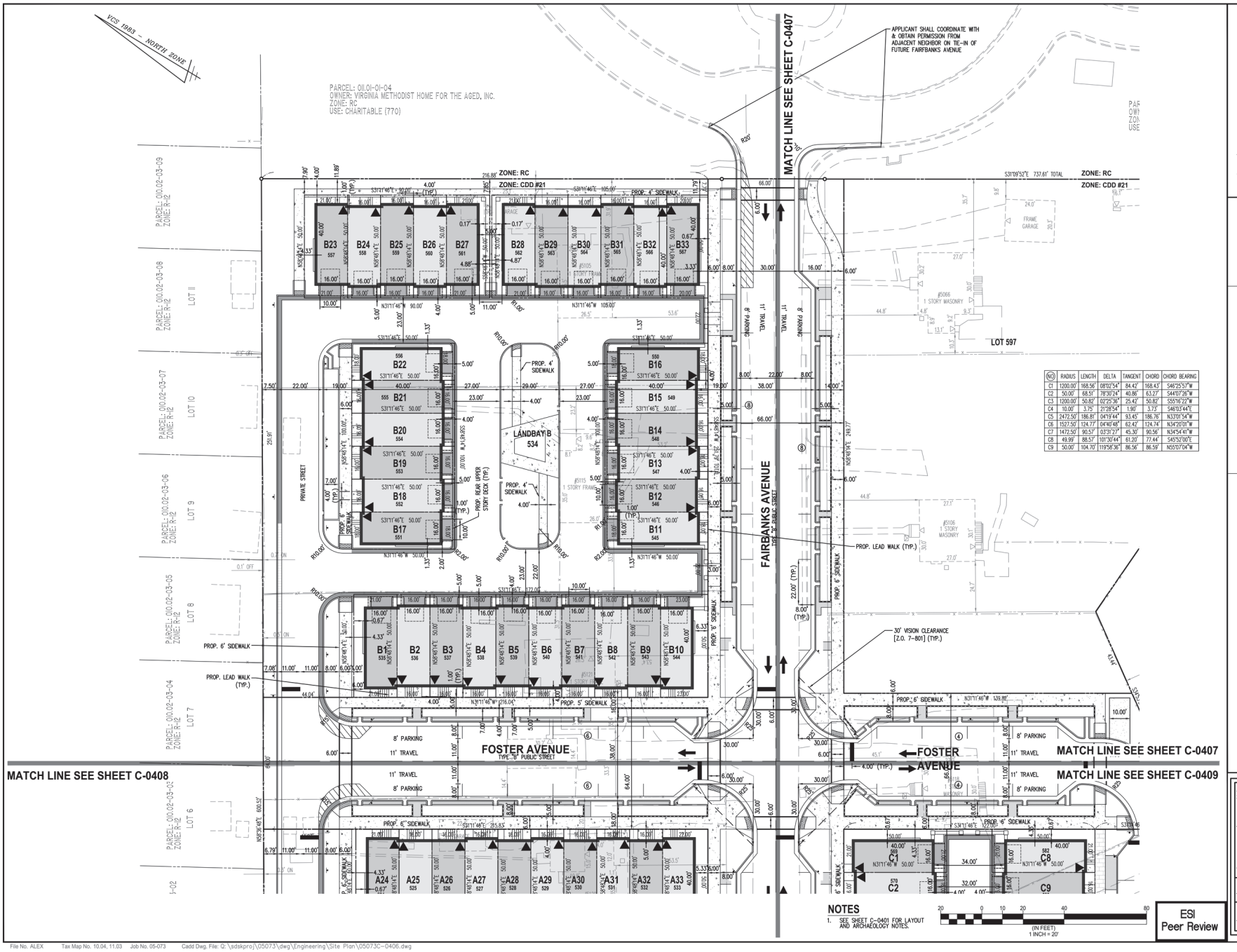

NO.	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C1	1200.00'	168.56'	08°02'54"	84.42'	168.43'	S46°25'57"W
C2	50.00'	68.51'	78°30'24"	40.86'	63.27'	S44°07'26"W
C3	1200.00'	50.82'	02°25'36"	25.42'	50.82'	S55°16'23"W
C4	10.00'	3.75'	21°28'54"	1.90'	3.73'	S46°03'44"E
C5	2472.50'	186.81'	04°19'44"	93.45'	186.76'	N33°01'54"W
C6	1527.50'	124.77'	04°40'48"	62.42'	124.74'	N34°20'01"W
C7	1472.50'	90.57'	03°31'27"	45.30'	90.56'	N34°54'41"W
C8	49.99'	88.57'	101°30'44"	61.20'	77.44'	S45°52'00"E
C9	50.00'	104.70'	119°56'36"	86.56'	86.59'	N55°07'04"W

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DATE	DESCRIPTION
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12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

MARION W. VIRGIN
LIC. No.041651
4/21/2023
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GEOMETRIC PLAN - NORTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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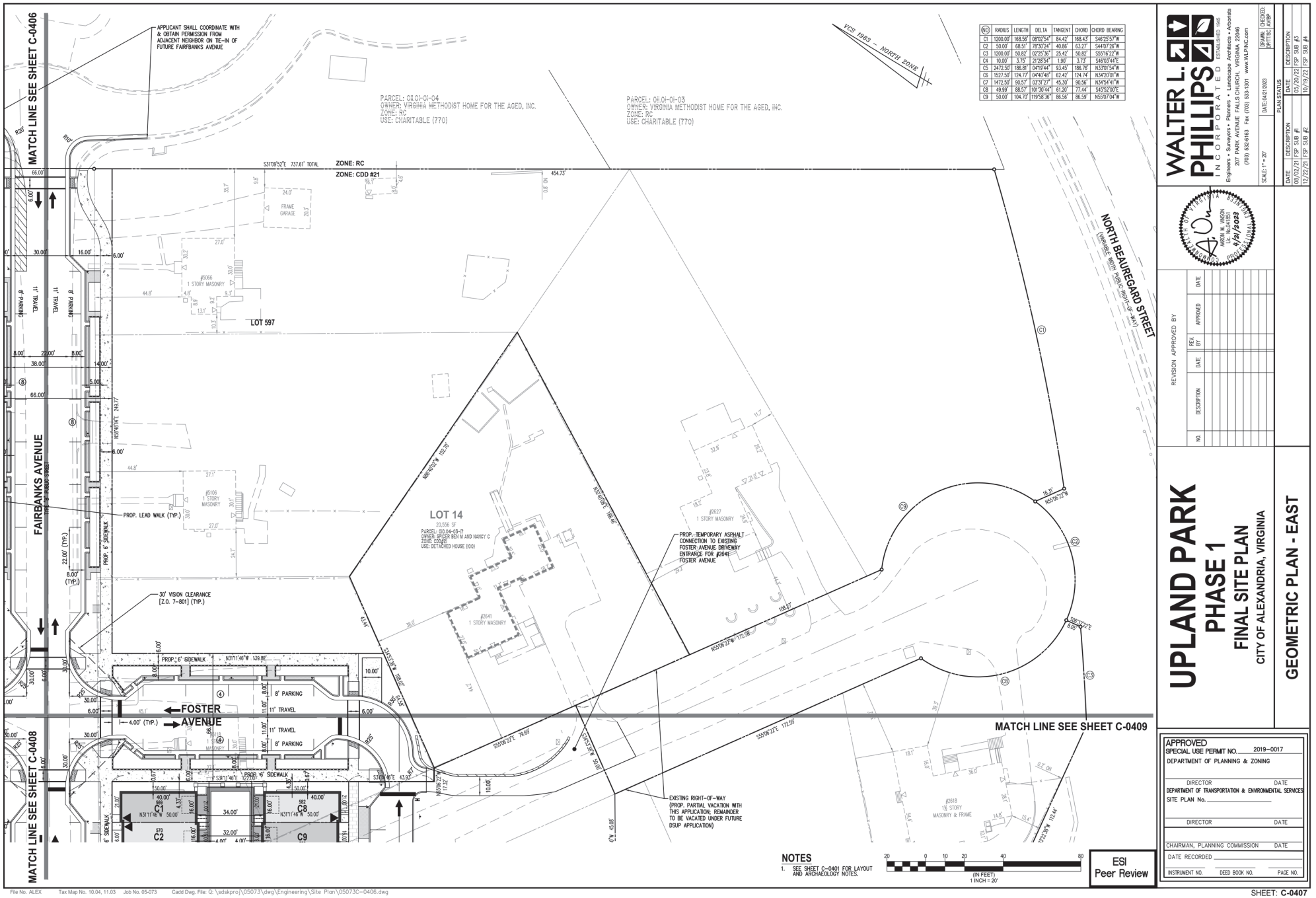
Peer Review

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0406.dwg

SHEET: C-0406



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C6	1527.50'	124.77'	04°40'48"	62.42'	124.74'	N34°20'01"W
C7	1472.50'	90.57'	03°31'27"	45.30'	90.56'	N34°54'41"W
C8	49.99'	88.57'	101°30'44"	61.20'	77.44'	S45°02'00"E
C9	50.00'	104.70'	119°58'36"	86.56'	86.59'	N55°07'04"W

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PLAN STATUS

DATE	DESCRIPTION
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12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

MARSH W. VIRGIN
LIC. No.041651
4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GEOMETRIC PLAN - EAST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
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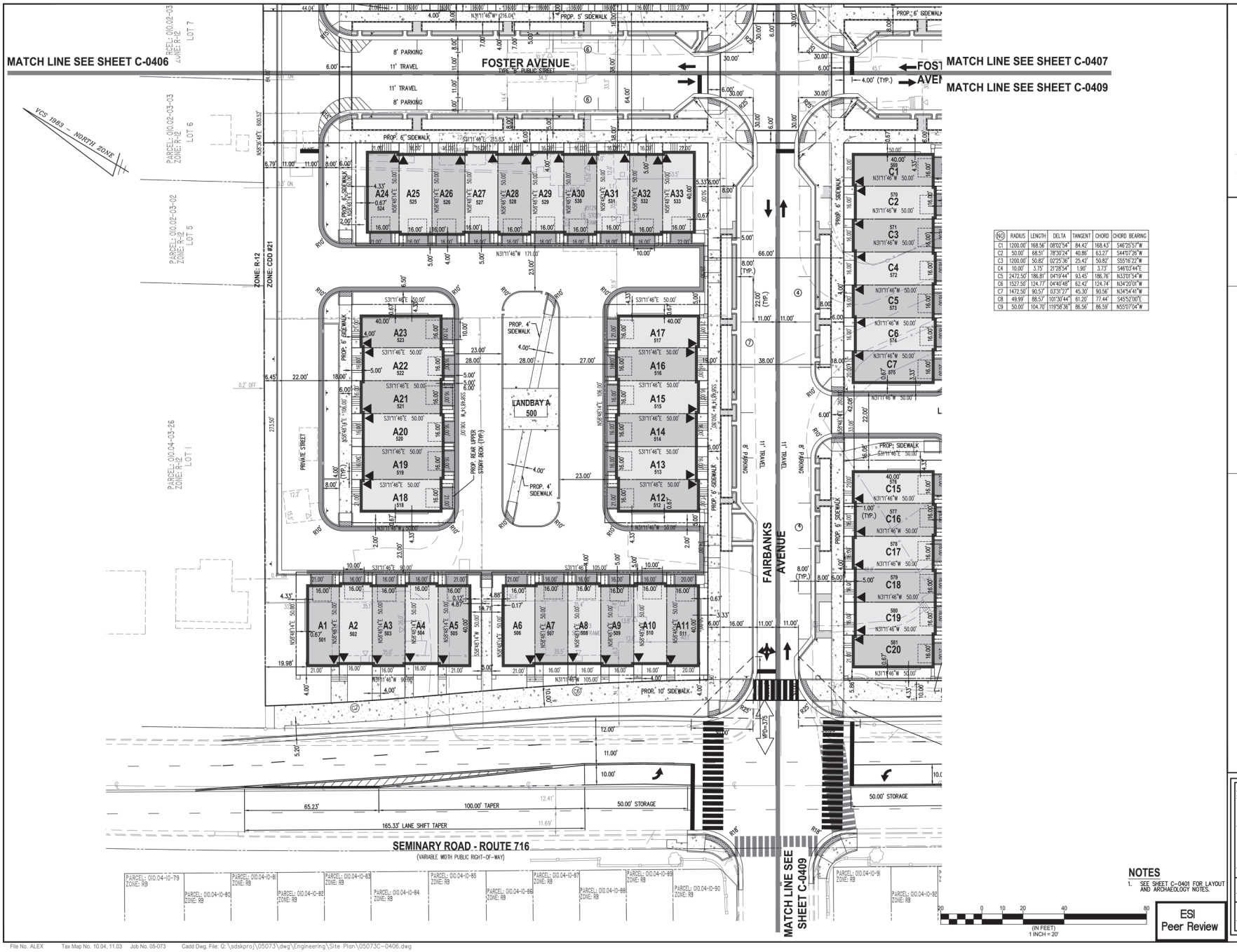
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0406.dwg

SHEET: C-0407



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C9	50.00'	104.70'	119°58'36"	86.56'	86.59'	N55°07'04"W

NOTES
1. SEE SHEET C-0401 FOR LAYOUT AND ARCHAEOLOGY NOTES.

(IN FEET)
1 INCH = 20'

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DATE	DESCRIPTION
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DATE	DESCRIPTION
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10/19/22	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN
LIC. No.041851
4/21/2023

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GEOMETRIC PLAN - WEST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
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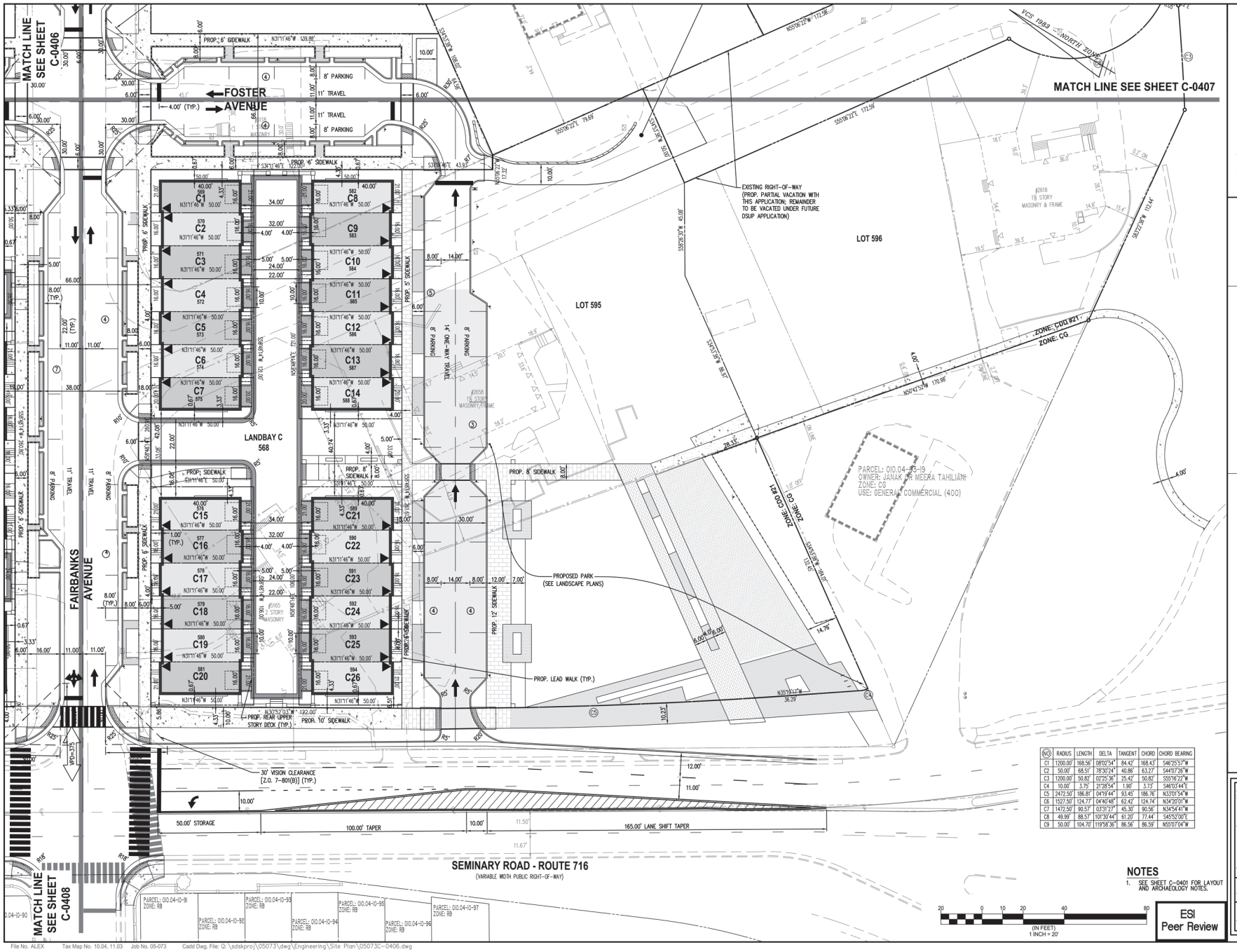
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0406.dwg

SHEET: C-0408



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05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARION W. VIRGIN LIC. No.041851 4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GEOMETRIC PLAN - SOUTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

ESI Peer Review

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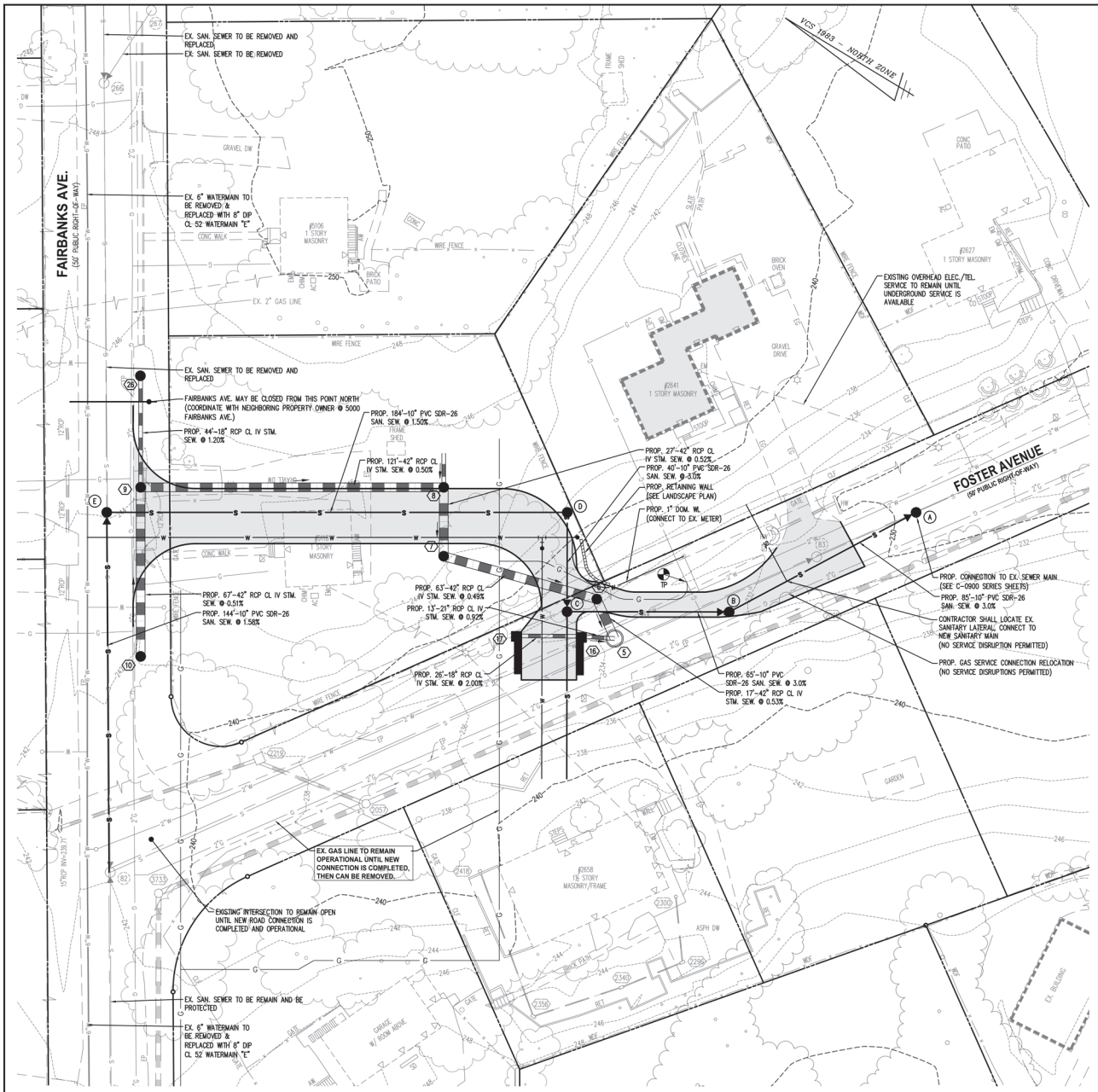
SHEET: C-0409



UTILITY AND ACCESS RELOCATION NARRATIVE

ACCESS AND UTILITY SERVICE TO 2641 FOSTER AVENUE, UTILITY SERVICE TO 5000 FAIRBANKS AVENUE (THE HERMITAGE), AND THE PUBLIC SEWER NETWORK RUNNING THROUGH THIS SITE ARE TO REMAIN AVAILABLE AND OPERATIONAL THROUGHOUT THE DURATION OF CONSTRUCTION. THE PURPOSE OF THIS PLAN IS TO DEMONSTRATE THE INITIAL MEASURES NECESSARY TO ACCOMPLISH THIS BEFORE CONSTRUCTION IN OTHER AREAS OF THE SITE WHICH COULD DAMAGE OR DISRUPT UTILITY SERVICE AND ACCESS BEGIN.

PRECONSTRUCTION PLAN AND MEETING

PRIOR TO COMMENCING ANY CONSTRUCTION WORK WHICH COULD DISRUPT ACCESS AND UTILITY SERVICE TO 2641 FOSTER AVENUE OR UTILITY SERVICE TO 5000 FAIRBANKS AVENUE, THE CONTRACTOR IS REQUIRED TO DEVELOP A DETAILED PLAN FOLLOWING THE GUIDANCE PROVIDED HERE, AND SCHEDULE A MEETING WITH THE DEVELOPER, ENGINEER, AND OTHER STAKEHOLDERS TO DISCUSS HOW NECESSARY IMPROVEMENTS WILL BE IMPLEMENTED IN A MANNER WHICH WILL PRESERVE ACCESS AND UTILITY SERVICE TO BOTH POTENTIALLY IMPACTED PROPERTIES.

PHASING NARRATIVE

BEFORE WORK IN THIS AREA COMMENCES, ALL REQUIRED EROSION CONTROL, TREE PRESERVATION, AND SAFETY MEASURES SHALL BE IN PLACE WITHIN THE AFFECTED AREA DEPICTED ON THIS SHEET. REFER TO OTHER SHEETS THROUGHOUT THIS PLAN SET FOR DETAILED INFORMATION.

1. FIRST, SANITARY SEWER MANHOLES B, C, AND D SHOULD BE INSTALLED, ALONG WITH SEWER RUNS. B–C, C–D, PORTIONS OF D–E, AND PORTIONS OF A–B, ONCE THOSE RUNS ARE INSTALLED, CONNECTION TO EXISTING MAIN AT MANHOLE E AND MANHOLE A SHOULD BE MADE. DISRUPTION TO SEWER SERVICE SHOULD MINIMAL OR AVOIDED COMPLETELY.
2. SECOND, A NEW SANITARY LATERAL SERVING 2641 FOSTER AVENUE SHOULD BE INSTALLED, CONNECTING THE EXISTING LATERAL SERVING THE PROPERTY TO THE NEW SEWER MAIN IN FOSTER AVENUE. THE CONTRACTOR SHALL LOCATE THE EXISTING LATERAL WITHIN THE PUBLIC RIGHT-OF-WAY, AND INSTALL A NEW LATERAL FROM THE EXISTING LOCATION TO THE RECENTLY INSTALLED SEWER MAIN BETWEEN MANHOLES A AND B.
   2.1. CONCURRENTLY WITH SEWER WORK, GAS SERVICE RELOCATION FOR 2641 FOSTER AVENUE SHOULD OCCUR AS DEPICTED ON THIS SHEET.
3. THIRD, A PORTION OF THE PROPOSED WATER MAIN SHOULD BE INSTALLED AS DEPICTED HERE. ONCE THAT WATER MAIN IS INSTALLED, TESTED AND ACTIVATED, A NEW DOMESTIC SERVICE SHALL BE PROVIDED TO 2641 FOSTER AVENUE. THE NEW WATER SERVICE SHALL BE INSTALLED TO THE EXISTING METER LOCATION. THE EXISTING METER IS TO REMAIN AND THE INCOMING SERVICE LINE IS TO BE REPLACED.
4. ONCE ALL UTILITY RELOCATION TO 2641 FOSTER AVENUE IS COMPLETE, THE STORM SEWER SYSTEM SHOWN HERE, AS WELL AS AN OTHER SUBSURFACE IMPROVEMENTS WITHIN THE ROADWAY SHOWN ON THIS SHEET, SHOULD BE INSTALLED. AT THE COMPLETION OF THIS STEP, ALL SUBSURFACE IMPROVEMENTS WITHIN THE LIMITS OF THIS PLAN SHOULD BE INSTALLED.
5. ONCE ALL SUBSURFACE IMPROVEMENTS HAVE BEEN COMPLETED, THE CONTRACTOR SHALL BRING THE AREA AROUND THE ROADWAY TO SUBGRADE ELEVATIONS, INCLUDING ALL CUT AND FILL IN ACCORDANCE WITH GEOTECHNICAL REQUIREMENTS.
6. NEXT, THE ROADWAY SHOWN HERE SHALL BE INSTALLED. ROADWAY CONSTRUCTION SHOULD BE PHASED IN SUCH A WAY THAT ACCESS TO 2641 FOSTER AVENUE IS MAINTAINED. CONSTRUCT PORTIONS OF THE ROADWAY BETWEEN FAIRBANKS AVENUE AND FOSTER AVENUE FIRST, MAINTAINING ACCESS TO 2641 VIA EXISTING FOSTER AVENUE. THE FINAL COMPONENT OF ROADWAY INSTALLATION SHOULD BE THE CONNECTION OF THE NEW ROADWAY TO THE EXISTING DRIVEWAY ON 2641 FOSTER AVENUE.
7. AT THIS POINT, UTILITY CONNECTIONS AND ACCESS TO 2641 FOSTER AVENUE SHOULD BE FULLY RESTORED, THE NEW SEWER MAIN SHOULD BE INSTALLED AND OPERATIONAL, AND EXISTING WATER AND SEWER MAINS IN FAIRBANKS AVENUE SERVING 5000 FAIRBANKS SHOULD CONTINUE TO BE OPERATIONAL. AT THE COMPLETION OF THIS WORK, THE CONTRACTOR SHALL PROVIDE CONFIRMATION TO THE DEVELOPER AND ENGINEER THAT ALL NECESSARY MEASURES HAVE BEEN COMPLETED.

NOTES

1. REFER TO C-0300 SERIES SHEETS FOR EXISTING CONDITIONS AND DEMOLITION INFORMATION. WORK DETAILED ON THIS PLAN SHALL BE PERFORMED IN CONFORMANCE WITH THE DEMOLITION PLAN.
2. REFER TO C-0400 SERIES SHEETS FOR LAYOUT AND UTILITY INFORMATION.WORK DETAILED ON THIS PLAN SHALL BE PERFORMED IN CONFORMANCE WITH THE LAYOUT AND GEOMETRY PLANS.
3. REFER TO C-0500 SERIES SHEETS FOR GRADING INFORMATION AND REFER TO C-1100 SERIES SHEETS FOR STREET PROFILES .WORK DETAILED ON THIS PLAN SHALL BE PERFORMED IN CONFORMANCE WITH THE GRADING PLAN AND STREET PROFILES.
4. REFER TO C-0600 SERIES SHEETS FOR EROSION AND SEDIMENT CONTROL INFORMATION. ALL REQUIRED EROSION AND SEDIMENT CONTROLS SHALL BE IN PLACE BEFORE WORK SHOWN HERE COMMENCES.
5. REFER TO C-0800 SERIES SHEETS FOR STORM SEWER PROFILES AND COMPUTATIONS.
6. REFER TO C-0900 SERIES SHEETS FOR SANITARY SEWER PROFILES AND COMPUTATIONS.
7. REFER TO C-1000 SERIES SHEETS FOR WATER LINE PROFILES.
8. REFER TO C-1200 SERIES SHEETS FOR TREE PRESERVATION INFORMATION. ALL TREE PRESERVATION MEASURES IN THIS AREA SHALL BE COMPLETED BEFORE WORK IN THIS AREA COMMENCES.
9. SEE C-1400 SERIES SHEETS FOR GEOTECHNICAL INFORMATION (PREPARED BY OTHERS).
10. USE OF THE PUBLIC RIGHT-OF-WAY WILL BE EVALUATED UNDER A SEPARATE REVIEW AS PART OF THE T&ES PERMIT APPLICATION PROCESS.
11. CONTRACTOR IS TO PROVIDE SUPPLEMENTARY MEASURES AS REQUIRED BY INSPECTORS.
12. CONTRACTOR TO PROVIDE INLET PROTECTION TO ANY EXISTING INLET DOWN STREAM OF THE SITE THAT MAY BE AFFECTED BY EROSION AND SEDIMENT GENERATED ONSITE.
13. INLET PROTECTION INSTALLED WITHIN PUBLIC RIGHT OF WAY SHALL NOT EXTEND BEYOND LIMITS OF GUTTER PAN.

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CURB & GUTTER	
S	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
● C.O.	CLEAN OUT	○ C.O.
	STORM SEWER	
W	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
UE	UNDERGROUND ELECTRIC	UE
T	TELEPHONE	T
G	GAS MAIN	G
E	ELECTRICAL	E
	TRANSFORMER	
	HANDICAP RAMP (CG-12)	
	GUARDRAIL	
X X X	FENCE	X X X
	LIGHT	
	DOOR	
	TREES	
260 / 264	CONTOURS	260 / 264
+264.50	SPOT ELEVATION	+264.50
	DRAINAGE FLOW DIRECTION	
TC	TOP OF CURB	TC
BC	BOTTOM OF CURB	BC
TW	TOP OF WALL	TW
BW	BOTTOM OF WALL	BW
HP	HIGH POINT	H.P.
TP	TEST PIT	
	LIMITS OF CLEARING AND GRADING	

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

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10/19/23	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN
LIC. No.041851
4/21/2023

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

INTERIM UTILITY CONNECTION EXHIBIT

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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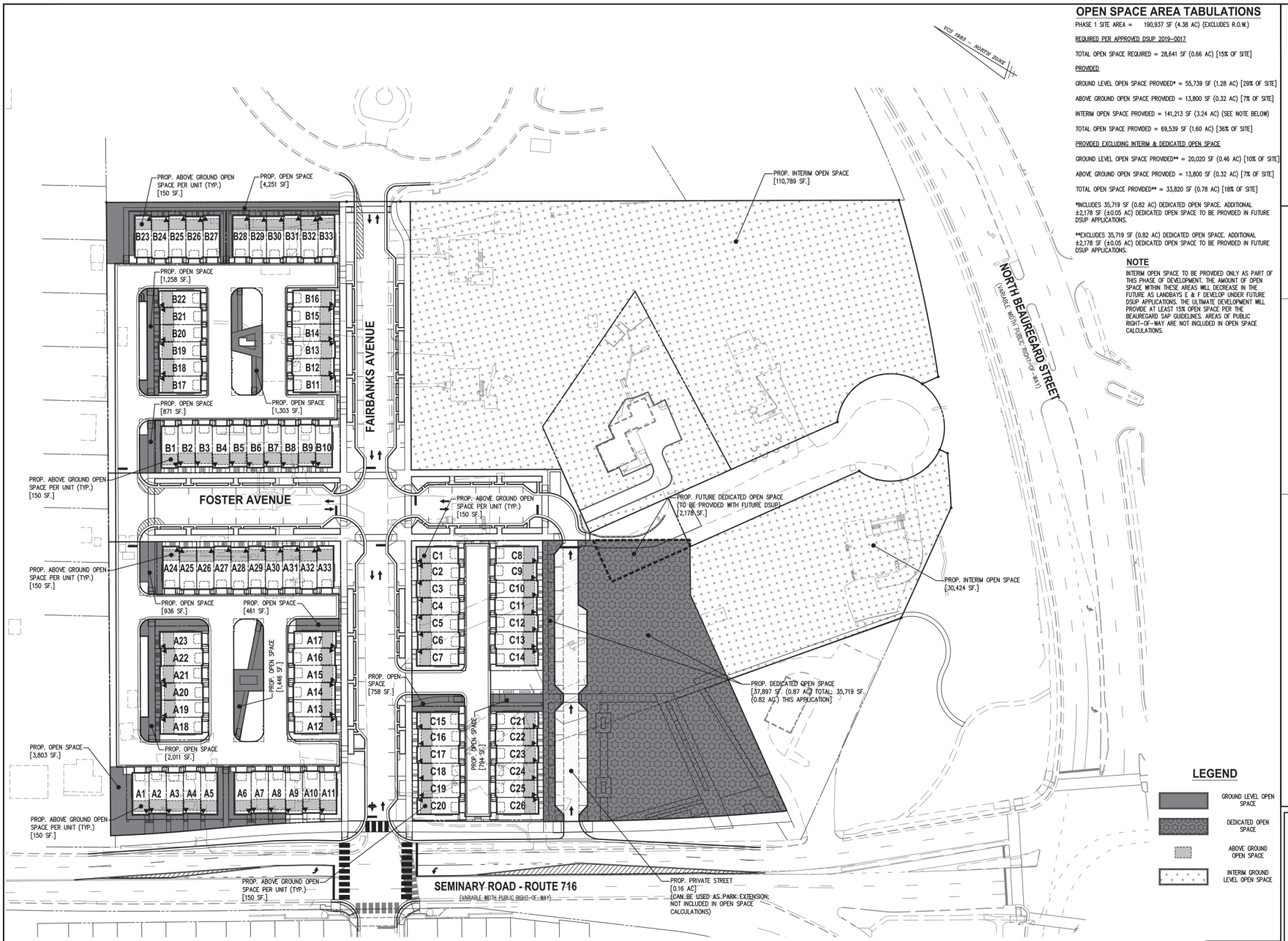

OPEN SPACE AREA TABULATIONS

PHASE 1 SITE AREA = 190,937 SF (4.38 AC) (EXCLUDES R.O.W.)

REQUIRED PER APPROVED DSUP 2019-0017

TOTAL OPEN SPACE REQUIRED = 28,641 SF (0.66 AC) [15% OF SITE]

PROVIDED

GROUND LEVEL OPEN SPACE PROVIDED* = 55,739 SF (1.28 AC) [29% OF SITE]

ABOVE GROUND OPEN SPACE PROVIDED = 13,800 SF (0.32 AC) [7% OF SITE]

INTERIM OPEN SPACE PROVIDED = 141,213 SF (3.24 AC) (SEE NOTE BELOW)

TOTAL OPEN SPACE PROVIDED = 69,539 SF (1.60 AC) [36% OF SITE]

PROVIDED EXCLUDING INTERIM & DEDICATED OPEN SPACE

GROUND LEVEL OPEN SPACE PROVIDED** = 20,020 SF (0.46 AC) [10% OF SITE]

ABOVE GROUND OPEN SPACE PROVIDED = 13,800 SF (0.32 AC) [7% OF SITE]

TOTAL OPEN SPACE PROVIDED** = 33,820 SF (0.78 AC) [18% OF SITE]

*INCLUDES 35,719 SF (0.82 AC) DEDICATED OPEN SPACE. ADDITIONAL ±2,178 SF (±0.05 AC) DEDICATED OPEN SPACE TO BE PROVIDED IN FUTURE DSUP APPLICATIONS.

**EXCLUDES 35,719 SF (0.82 AC) DEDICATED OPEN SPACE. ADDITIONAL ±2,178 SF (±0.05 AC) DEDICATED OPEN SPACE TO BE PROVIDED IN FUTURE DSUP APPLICATIONS.

NOTE

INTERIM OPEN SPACE TO BE PROVIDED ONLY AS PART OF THIS PHASE OF DEVELOPMENT. THE AMOUNT OF OPEN SPACE WITHIN THESE AREAS WILL DECREASE IN THE FUTURE AS LANDBAYS E & F DEVELOP UNDER FUTURE DSUP APPLICATIONS. THE ULTIMATE DEVELOPMENT WILL PROVIDE AT LEAST 15% OPEN SPACE PER THE BEAUREGARD SAP GUIDELINES. AREAS OF PUBLIC RIGHT-OF-WAY ARE NOT INCLUDED IN OPEN SPACE CALCULATIONS.

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10/19/22	FSP SUB #4

AARON M. VIRGIN LIC. No.0416551 6/21/2023

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UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

OPEN SPACE PLAN

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0411.dwg

SHEET: C-0411

STRIPING LEGEND

- (A) WHITE; SOLID PAINTED ARROW
- (B) 24" WHITE; THERMOPLASTIC STOP BAR
- (C) 6" WHITE; THERMOPLASTIC CROSSWALK
- (D) 4" YELLOW; DOUBLE SOLID
- (E) 6" WHITE; STRIPED/HATCHED
- (F) 4" WHITE; 10' LONG, 30' SPACE
- (G) 4" WHITE; 2' LONG, 3' SPACE
- (H) 4" WHITE; SOLID
- (I) 6" YELLOW; STRIPED/HATCHED

SIGN LEGEND

SIGN "A"	SIGN "B"	SIGN "C"	SIGN "D"	SIGN "E1"	SIGN "E2"	SIGN "E3"	SIGN "F1"	SIGN "F2"	SIGN "G1"	SIGN "G2"	SIGN "H"
STOP	DO NOT ENTER	WRONG WAY	ALL-WAY	NO PARKING ANY TIME	NO PARKING ANY TIME	NO PARKING ANY TIME	30 MINUTE PARKING 7AM - 7PM MON-FRI 8AM - 7PM SAT-SUN	30 MINUTE PARKING 7AM - 7PM MON-FRI 8AM - 7PM SAT-SUN			NO OUTLET
R1-1 30" X 30"	R5-1 30" X 30"	R5-1a 30" X 24"	R1-4 18" X 6"	R7-1 12" X 18"	R7-1 12" X 18"	R7-1 12" X 18"	R7-108 12" X 18" GREEN/WHITE	R7-108 12" X 18" GREEN/WHITE	W11-2 W16-7P 36" X 36" 24" X 12"	W11-2 W16-7P 36" X 36" 24" X 12"	W14-2 30" X 30"

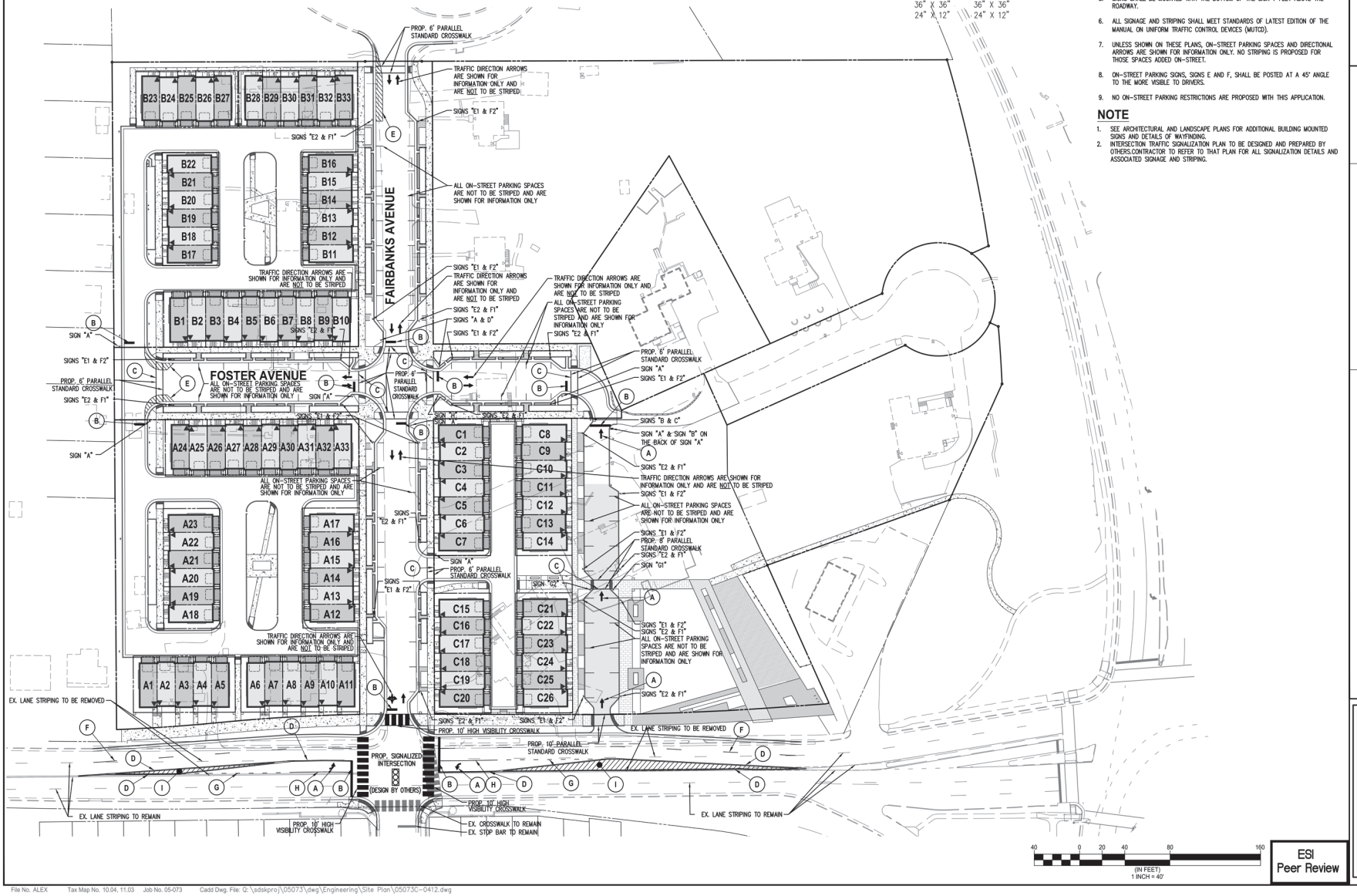
VCS 1983 - NORTH 90DEG

SIGNAGE AND STRIPING NOTES

1. STANDARD CROSSWALKS SHALL BE STANDARD, 6 INCH WIDE, WHITE THERMOPLASTIC PARALLEL LINES WITH REFLECTIVE MATERIAL, WITH 10 FEET IN WIDTH BETWEEN INTERIOR LINES (OR AS NOTED).
2. HIGH-VISIBILITY CROSSWALKS TO BE 10' WIDTH AND MADE OF WHITE THERMOPLASTIC LADDER DESIGN PER MUTCD DESIGN STANDARDS.
3. ALL EXISTING PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS ON THIS PLAN SHEET SHALL BE ERADICATED VIA GRINDING BEFORE PROPOSED MARKINGS ARE INSTALLED.
4. SIGN POSTS SHALL BE 2" DIAMETER GALVANIZED SQUARE TUBE POSTS AND PAINTED BLACK. SIGNS SHALL BE HIGHWAY C ALUMINUM, 0.080 GAUGE BLANKS, WITH 3M MP SHEETING.
5. SIGNS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGN 7 FEET ABOVE THE ROADWAY.
6. ALL SIGNAGE AND STRIPING SHALL MEET STANDARDS OF LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
7. UNLESS SHOWN ON THESE PLANS, ON-STREET PARKING SPACES AND DIRECTIONAL ARROWS ARE SHOWN FOR INFORMATION ONLY. NO STRIPING IS PROPOSED FOR THOSE SPACES ADDED ON-STREET.
8. ON-STREET PARKING SIGNS, SIGNS E AND F, SHALL BE POSTED AT A 45° ANGLE TO THE MORE VISIBLE TO DRIVERS.
9. NO ON-STREET PARKING RESTRICTIONS ARE PROPOSED WITH THIS APPLICATION.

NOTE

1. SEE ARCHITECTURAL AND LANDSCAPE PLANS FOR ADDITIONAL BUILDING MOUNTED SIGNS AND DETAILS OF WAYFINDING.
2. INTERSECTION TRAFFIC SIGNALIZATION PLAN TO BE DESIGNED AND PREPARED BY OTHERS.CONTRACTOR TO REFER TO THAT PLAN FOR ALL SIGNALIZATION DETAILS AND ASSOCIATED SIGNAGE AND STRIPING.



(IN FEET) 1 INCH = 40'

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05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

ARON M. VINCH LIC. No.041851 6/21/2023

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UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SIGNAGE AND STRIPING PLAN

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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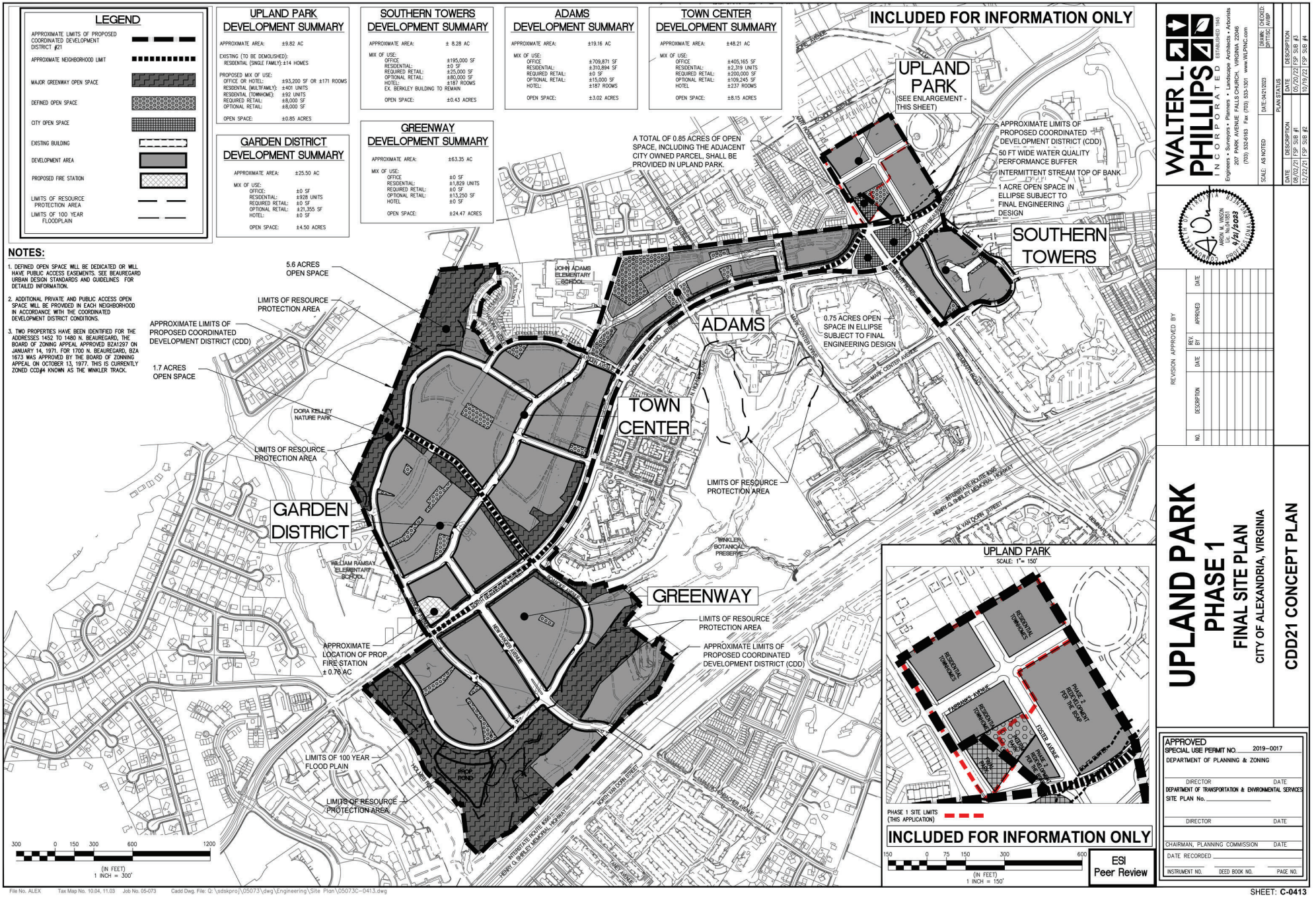
SHEET: C-0412



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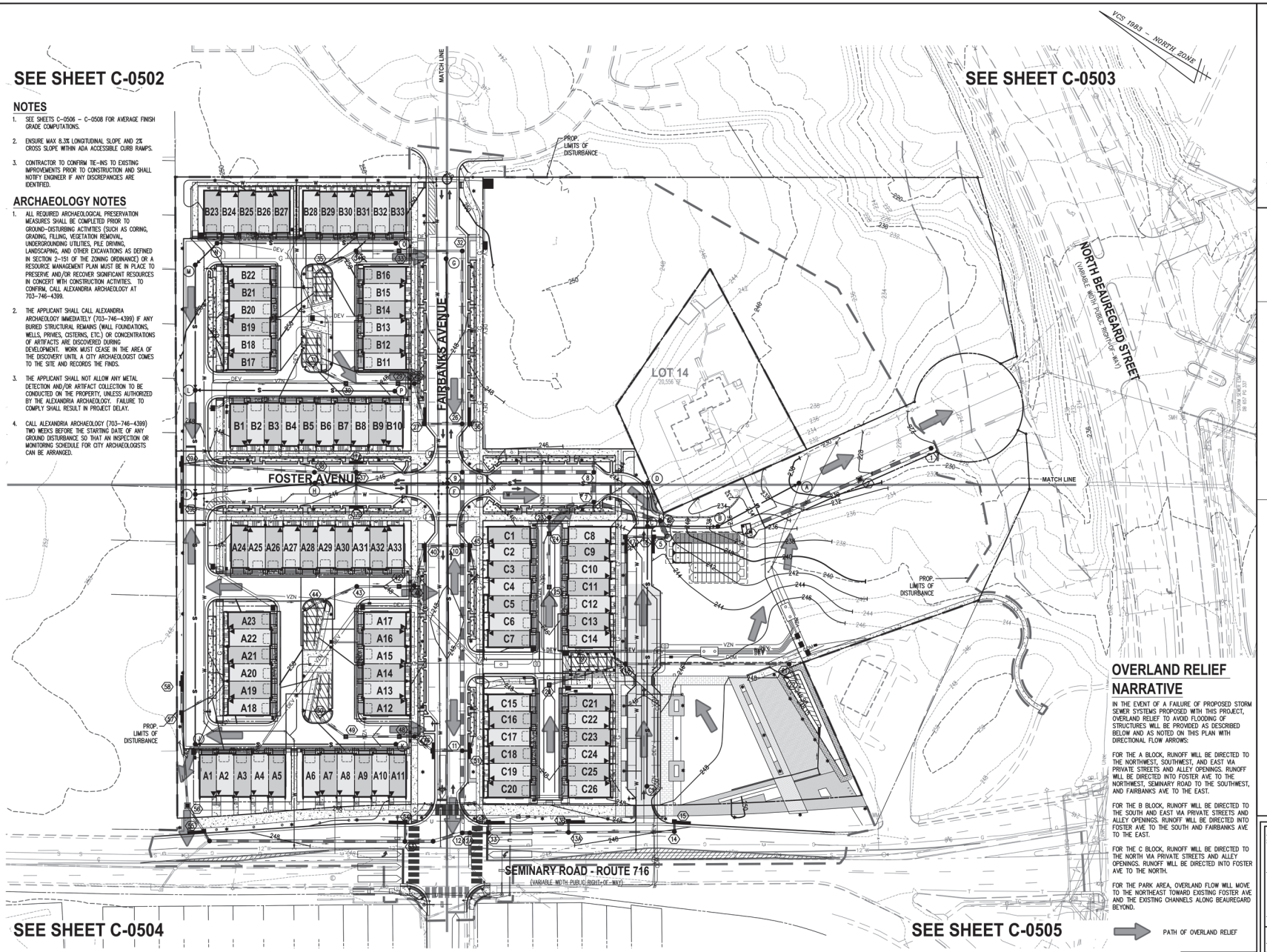

NOTES

1. SEE SHEETS C-0506 – C-0508 FOR AVERAGE FINISH GRADE COMPUTATIONS.
2. ENSURE MAX 8.3% LONGITUDINAL SLOPE AND 2% CROSS SLOPE WITHIN ADA ACCESSIBLE CURB RAMPS.
3. CONTRACTOR TO CONFIRM TIE-INS TO EXISTING IMPROVEMENTS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES ARE IDENTIFIED.

ARCHAEOLOGY NOTES

1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING, AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT 703-746-4399.
2. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
3. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY THE ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAY.
4. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR CITY ARCHAEOLOGISTS CAN BE ARRANGED.

OVERLAND RELIEF NARRATIVE

IN THE EVENT OF A FAILURE OF PROPOSED STORM SEWER SYSTEMS PROPOSED WITH THIS PROJECT, OVERLAND RELIEF TO AVOID FLOODING OF STRUCTURES WILL BE PROVIDED AS DESCRIBED BELOW AND AS NOTED ON THIS PLAN WITH DIRECTIONAL FLOW ARROWS:

FOR THE A BLOCK, RUNOFF WILL BE DIRECTED TO THE NORTHWEST, SOUTHWEST, AND EAST VIA PRIVATE STREETS AND ALLEY OPENINGS. RUNOFF WILL BE DIRECTED INTO FOSTER AVE TO THE NORTHWEST, SEMINARY ROAD TO THE SOUTHWEST, AND FAIRBANKS AVE TO THE EAST.

FOR THE B BLOCK, RUNOFF WILL BE DIRECTED TO THE SOUTH AND EAST VIA PRIVATE STREETS AND ALLEY OPENINGS. RUNOFF WILL BE DIRECTED INTO FOSTER AVE TO THE SOUTH AND FAIRBANKS AVE TO THE EAST.

FOR THE C BLOCK, RUNOFF WILL BE DIRECTED TO THE NORTH VIA PRIVATE STREETS AND ALLEY OPENINGS. RUNOFF WILL BE DIRECTED INTO FOSTER AVE TO THE NORTH.

FOR THE PARK AREA, OVERLAND FLOW WILL MOVE TO THE NORTHEAST TOWARD EXISTING FOSTER AVE AND THE EXISTING CHANNELS ALONG BEAUREGARD BEYOND.

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02/25/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN
LIC. No.041851
6/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

OVERALL GRADING PRESENTATION PLAN

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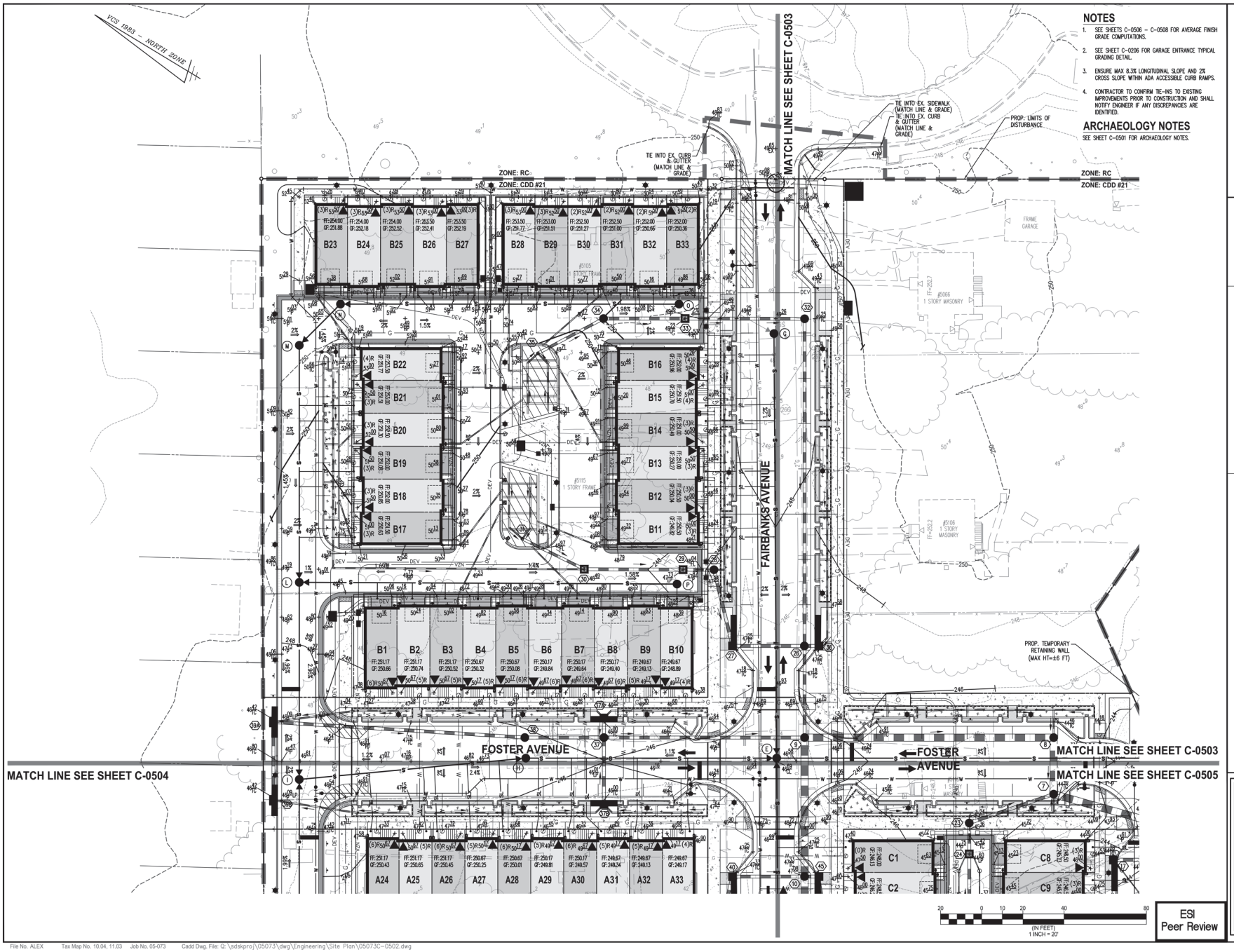
SHEET: C-0501



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PROFESSIONAL ENGINEER — AARON M. VIRGIN LIC. No.041851 — 6/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

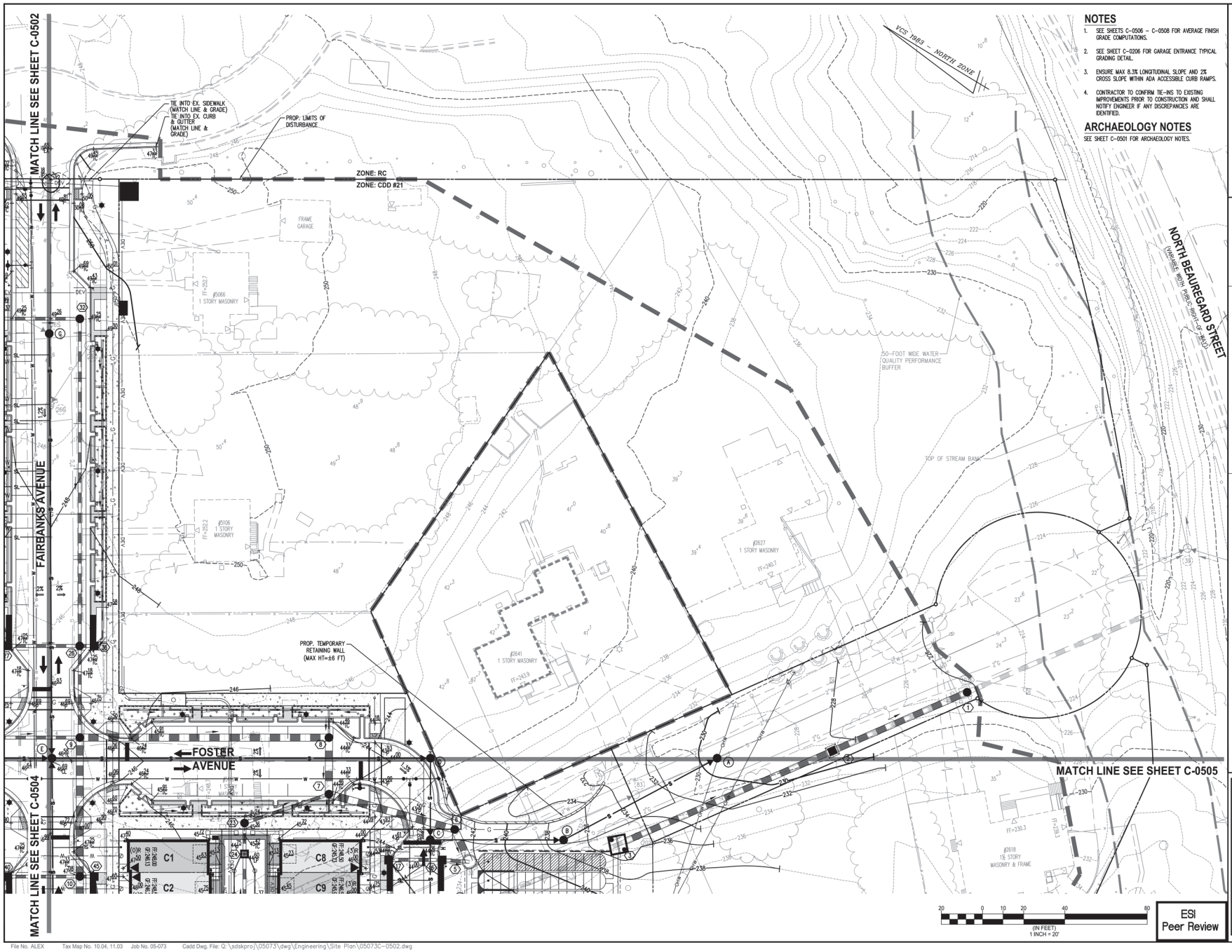
GRADING PLAN - NORTH

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

ESI Peer Review

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0502.dwg

SHEET: C-0502



NOTES

1. SEE SHEETS C-0506 – C-0508 FOR AVERAGE FINISH GRADE COMPUTATIONS.
2. SEE SHEET C-0206 FOR GARAGE ENTRANCE TYPICAL GRADING DETAIL.
3. ENSURE MAX 8.3% LONGITUDINAL SLOPE AND 2% CROSS SLOPE WITHIN ADA ACCESSIBLE CURB RAMPS.
4. CONTRACTOR TO CONFIRM TIE-INS TO EXISTING IMPROVEMENTS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES ARE IDENTIFIED.

ARCHAEOLOGY NOTES

SEE SHEET C-0501 FOR ARCHAEOLOGY NOTES.

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT: | AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN LIC. No.041851 6/28/2023

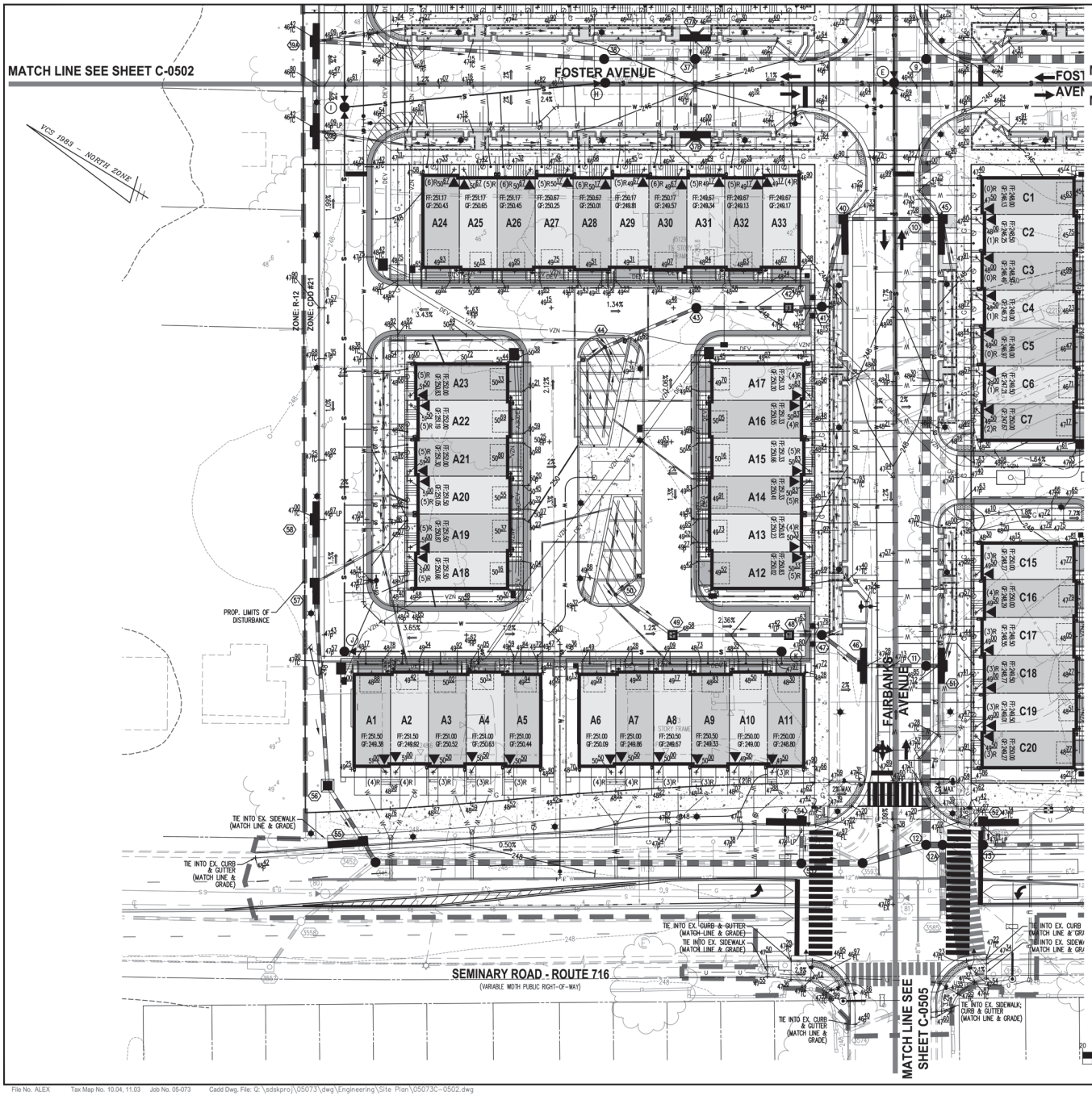
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GRADING PLAN - EAST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0502.dwg

SHEET: C-0503



NOTES

1. SEE SHEETS C-0506 – C-0508 FOR AVERAGE FINISH GRADE COMPUTATIONS.
2. SEE SHEET C-0206 FOR GARAGE ENTRANCE TYPICAL GRADING DETAIL.
3. ENSURE MAX 8.3% LONGITUDINAL SLOPE AND 2% CROSS SLOPE WITHIN ADA ACCESSIBLE CURB RAMPS.
4. CONTRACTOR TO CONFIRM TIE-INS TO EXISTING IMPROVEMENTS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES ARE IDENTIFIED.

ARCHAEOLOGY NOTES

SEE SHEET C-0501 FOR ARCHAEOLOGY NOTES.

(IN FEET)
1 INCH = 20'

ESI Peer Review

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SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PRTTSC: | AWP

DATE	DESCRIPTION	DATE	DESCRIPTION
08/02/21	FSP SUB #1	05/20/22	FSP SUB #3
12/22/21	FSP SUB #2	10/19/22	FSP SUB #4

PLAN STATUS

MARION W. VIRGIN LIC. No.041851 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

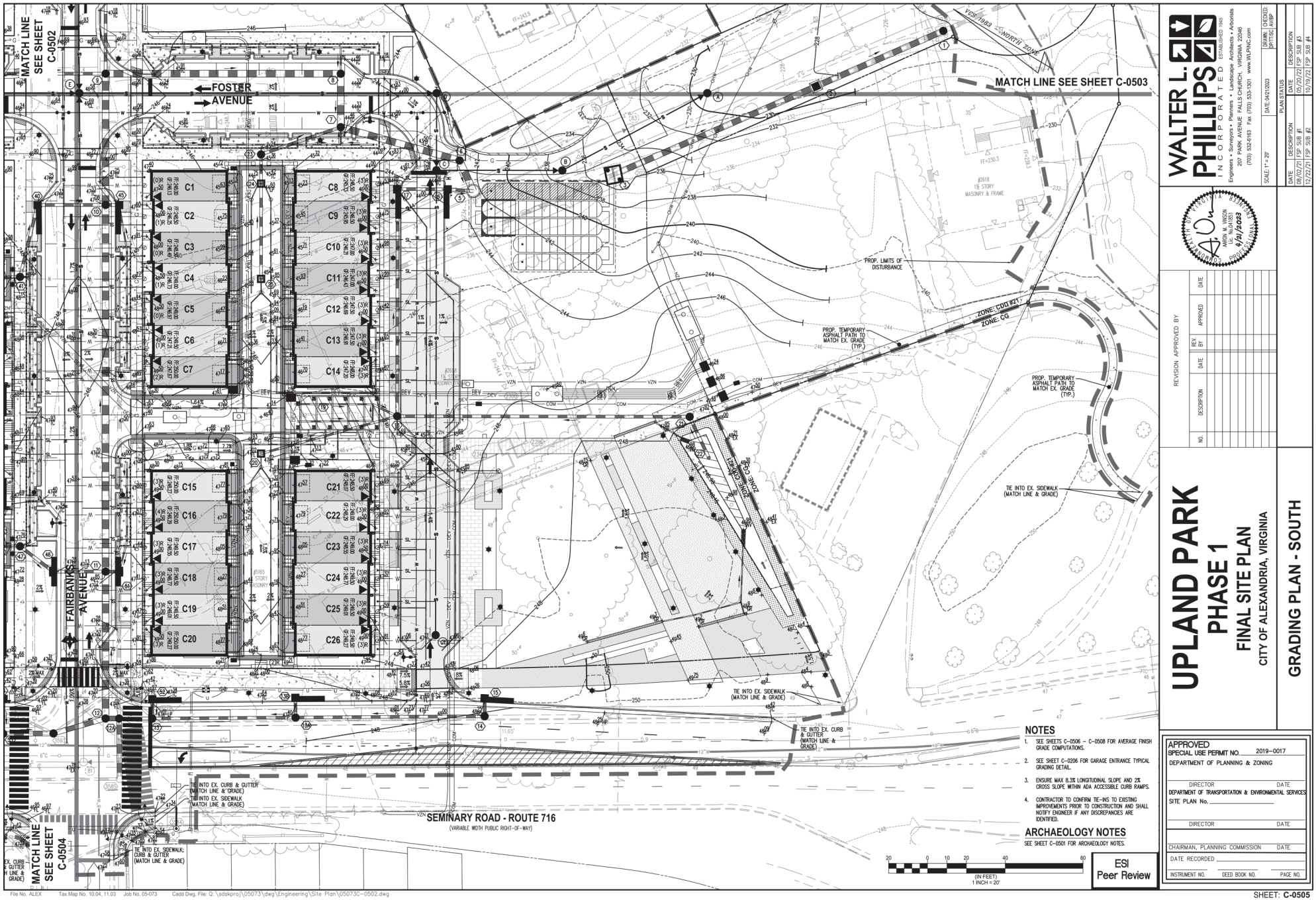
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GRADING PLAN - WEST

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0502.dwg

SHEET: C-0504



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SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PRTTSC: | AWP

DATE	DESCRIPTION	DATE	DESCRIPTION
08/02/21	FSP SUB #1	05/20/22	FSP SUB #3
12/22/21	FSP SUB #2	10/19/22	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MASON W. VIRGIN
LIC. No.041651
4/21/2023

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GRADING PLAN - SOUTH

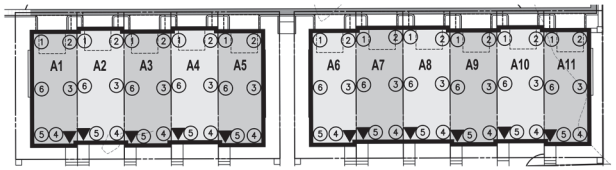
APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0502.dwg

SHEET: C-0505

VCS 1983 – NORTH ZONE

LOTS A1-A11

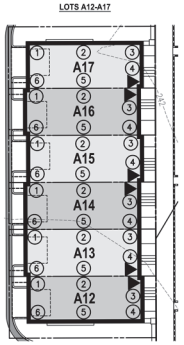


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT A1		LOT A2		LOT A3		LOT A4		LOT A5		LOT A6		LOT A7		LOT A8		LOT A9		LOT A10		LOT A11	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	249.00	1	249.15	1	249.72	1	250.08	1	250.04	1	249.13	1	249.48	1	249.27	1	249.00	1	248.58	1	248.17
2	249.15	2	249.72	2	250.08	2	250.04	2	249.44	2	249.48	2	249.27	2	249.00	2	248.58	2	248.17	2	248.28
3	250.075	3	249.405	3	249.53	3	249.43	3	249.12	3	249.99	3	248.85	3	248.67	3	248.4	3	248.105	3	248.09
4	251.00	4	249.09	4	248.98	4	248.82	4	248.8	4	250.50	4	248.43	4	248.34	4	248.22	4	248.04	4	247.9
5	249.25	5	251.00	5	250.50	5	250.5	5	250.5	5	248.70	5	250.5	5	250	5	250	5	249.5	5	249.5
6	249.125	6	250.075	6	250.11	6	250.29	6	250.27	6	248.915	6	249.99	6	249.635	6	249.5	6	249.04	6	248.835
AVG	249.60	AVG	249.74	AVG	249.82	AVG	249.86	AVG	249.70	AVG	249.45	AVG	249.42	AVG	249.15	AVG	248.95	AVG	248.57	AVG	248.46
FF	251.5	FF	251.5	FF	251	FF	251	FF	251	FF	251	FF	251	FF	250.5	FF	250.5	FF	250	FF	250

LOTS A12-A17

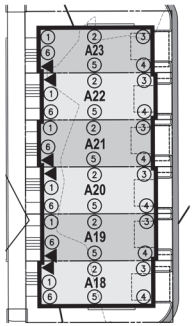


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT A12		LOT A13		LOT A14		LOT A15		LOT A16		LOT A17	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	249.63	1	249.82	1	250.04	1	250.11	1	249.88	1	249.45
2	249.98	2	248.85	2	250.435	2	249.195	2	250.355	2	249.07
3	250.33	3	247.88	3	250.83	3	248.28	3	250.83	3	249.11
4	248.59	4	250.33	4	247.88	4	250.83	4	248.28	4	250.83
5	249.185	5	249.98	5	248.85	5	250.435	5	249.195	5	250.355
6	249.78	6	249.63	6	249.82	6	250.04	6	250.11	6	249.88
AVG	249.58	AVG	249.42	AVG	249.64	AVG	249.82	AVG	249.78	AVG	249.78
FF	250.83	FF	250.83	FF	251.33	FF	251.33	FF	251.33	FF	251.33

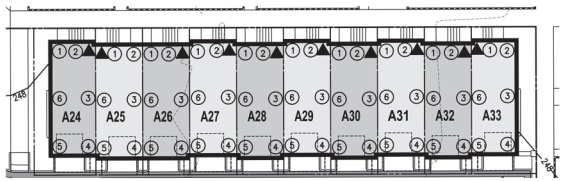
LOTS A18-A23



AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOTS A24-A33



AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT A18		LOT A19		LOT A20		LOT A21		LOT A22		LOT A23	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	251.00	1	248.1	1	251.00	1	248.40	1	251.50	1	249
2	250.635	2	249.28	2	250.84	2	249.575	2	251.005	2	249.72
3	250.27	3	250.46	3	250.68	3	250.75	3	250.51	3	250.44
4	250.3	4	250.27	4	250.46	4	250.68	4	250.75	4	250.51
5	249.99	5	250.635	5	249.28	5	251.09	5	249.585	5	251.005
6	249.68	6	251.00	6	248.1	6	251.50	6	248.42	6	251.50
AVG	250.31	AVG	249.96	AVG	250.06	AVG	250.33	AVG	250.30	AVG	250.36
FF	251.5	FF	251.5	FF	251.5	FF	252	FF	252	FF	252

LOT A24		LOT A25		LOT A26		LOT A27		LOT A28		LOT A29		LOT A30		LOT A31		LOT A32		LOT A33	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	247.58	1	250.67	1	247.81	1	247.45	1	247.09	1	246.73	1	246.38	1	246.02	1	246.13	1	249.17
2	250.67	2	247.81	2	250.67	2	250.17	2	250.17	2	249.67	2	249.67	2	249.17	2	249.17	2	246.5
3	250.355	3	248.93	3	250.26	3	249.9	3	249.79	3	249.43	3	249.315	3	248.955	3	248.91	3	247.71
4	250.04	4	250.05	4	249.85	4	249.63	4	249.41	4	249.19	4	248.96	4	248.74	4	248.65	4	248.98
5	249.65	5	250.04	5	250.05	5	249.85	5	249.63	5	249.41	5	249.19	5	248.96	5	248.74	5	248.65
6	248.615	6	250.355	6	248.93	6	248.65	6	248.36	6	248.07	6	247.785	6	247.49	6	247.435	6	248.91
AVG	249.49	AVG	249.64	AVG	249.60	AVG	249.28	AVG	249.08	AVG	248.75	AVG	248.55	AVG	248.22	AVG	248.17	AVG	248.32
FF	251.17	FF	251.17	FF	251.17	FF	250.67	FF	250.67	FF	250.17	FF	250.17	FF	249.67	FF	249.67	FF	249.67

NOTE:

1. EXTERIOR GRADE AT APPROXIMATELY 20' INTERVALS.

20 0 10 20 40 80

(IN FEET)
1 INCH = 20'

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | [prttsc] | AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. No.041651 — 4/21/2023 — PROFESSIONAL ENGINEER

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

AVERAGE FINISH GRADE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

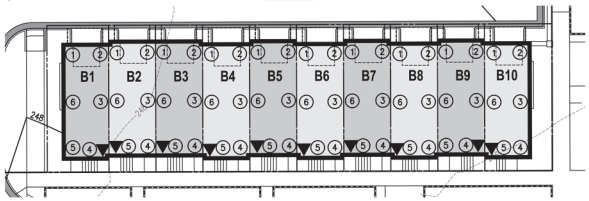
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0506.dwg

SHEET: C-0506

VCS 1983 – NORTH ZONE

LOTS B1-B10

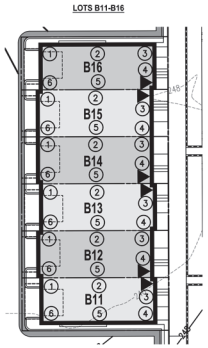


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT B1		LOT B2		LOT B3		LOT B4		LOT B5		LOT B6		LOT B7		LOT B8		LOT B9		LOT B10	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	250.00	1	250.2	1	250.13	1	249.92	1	249.70	1	249.46	1	249.24	1	249.02	1	248.77	1	248.51
2	250.2	2	250.13	2	249.92	2	249.70	2	249.46	2	249.24	2	249.02	2	248.77	2	248.51	2	248.38
3	250.435	3	248.97	3	248.685	3	248.385	3	248.1	3	247.8	3	247.52	3	247.415	3	248.84	3	247.58
4	250.67	4	247.81	4	247.45	4	247.07	4	246.74	4	246.36	4	246.02	4	246.06	4	249.17	4	248.21
5	247.38	5	250.67	5	250.67	5	250.17	5	250.17	5	249.67	5	249.67	5	249.67	5	246.08	5	249.17
6	248.69	6	250.435	6	250.4	6	250.045	6	249.935	6	249.565	6	249.455	6	249.345	6	247.425	6	248.79
AVG	249.56	AVG	249.70	AVG	249.54	AVG	249.22	AVG	249.02	AVG	248.68	AVG	248.49	AVG	248.38	AVG	248.13	AVG	248.44
FF	251.17	FF	251.17	FF	251.17	FF	250.67	FF	250.67	FF	250.17	FF	250.17	FF	250.17	FF	249.67	FF	249.67

LOTS B11-B16

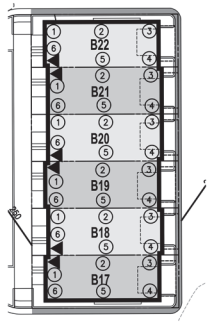


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT B11		LOT B12		LOT B13		LOT B14		LOT B15		LOT B16	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	249.43	1	249.66	1	249.88	1	250.1	1	250.33	1	250.77
2	249.715	2	249.125	2	250.19	2	249.55	2	250.665	2	250.515
3	250	3	248.59	3	250.5	3	249	3	251	3	250.26
4	248.21	4	250	4	248.57	4	249.5	4	249	4	251.5
5	248.5	5	249.715	5	249.115	5	249.69	5	249.55	5	250.915
6	248.79	6	249.43	6	249.66	6	249.88	6	250.1	6	250.33
AVG	249.11	AVG	249.42	AVG	249.65	AVG	249.62	AVG	250.11	AVG	250.72
FF	250.50	FF	250.50	FF	251.00	FF	251.00	FF	251.50	FF	252.00

LOTS B17-B22

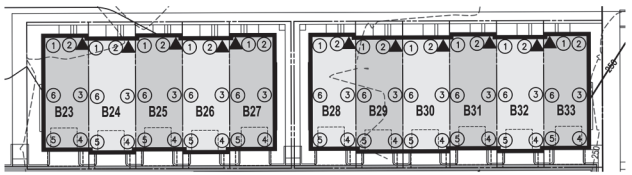


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT B17		LOT B18		LOT B19		LOT B20		LOT B21		LOT B22	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	251	1	250.23	1	251.5	1	250.69	1	252.5	1	251.9
2	250.62	2	250.35	2	251.095	2	250.8	2	251.82	2	252.4
3	250.24	3	250.47	3	250.69	3	250.91	3	251.14	3	252.04
4	250.33	4	250.24	4	250.47	4	250.69	4	250.91	4	251.14
5	250.58	5	250.87	5	250.34	5	251.345	5	250.8	5	252.07
6	250.21	6	251.5	6	250.21	6	252	6	250.69	6	253
AVG	250.50	AVG	250.61	AVG	250.72	AVG	251.07	AVG	251.31	AVG	252.09
FF	251.50	FF	252.00	FF	252.00	FF	252.50	FF	253.00	FF	253.50

LOTS B23-B33



AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT B23		LOT B24		LOT B25		LOT B26		LOT B27		LOT B28		LOT B29		LOT B30		LOT B31		LOT B32		LOT B33	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	252.4	1	252.22	1	252	1	251.82	1	253	1	251.6	1	251.25	1	251.09	1	250.9	1	250.75	1	251.5
2	253.5	2	253.5	2	253.5	2	253	2	251.6	2	253	2	252.5	2	252	2	252	2	251.5	2	250.4
3	252.52	3	252.68	3	252.74	3	252.40	3	252.05	3	252.07	3	251.70	3	251.32	3	251.17	3	250.76	3	250.03
4	251.53	4	251.85	4	251.97	4	251.8	4	251.66	4	251.14	4	250.89	4	250.64	4	250.33	4	250.01	4	250.06
5	251.56	5	251.53	5	251.85	5	251.97	5	251.8	5	251.26	5	251.14	5	250.89	5	250.64	5	250.33	5	250.01
6	251.98	6	251.88	6	251.93	6	251.90	6	252.40	6	252.05	6	251.20	6	250.99	6	250.77	6	250.54	6	250.76
AVG	252.25	AVG	252.28	AVG	252.33	AVG	252.15	AVG	252.09	AVG	251.85	AVG	251.45	AVG	251.16	AVG	250.97	AVG	250.65	AVG	250.46
FF	254.00	FF	254.00	FF	254.00	FF	253.50	FF	253.50	FF	253.50	FF	253.00	FF	252.50	FF	252.50	FF	252.00	FF	252.00

NOTE:

1. EXTERIOR GRADE AT APPROXIMATELY 20' INTERVALS.

20 0 10 20 40 80

(IN FEET)
1 INCH = 20'

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: [illegible] | CHECKED: AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. No.041651 — PROFESSIONAL ENGINEER — 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

AVERAGE FINISH GRADE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

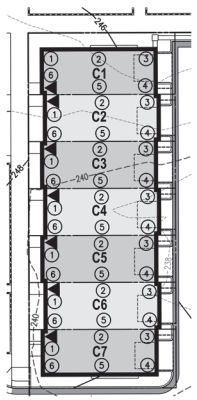
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0506.dwg

SHEET: C-0507

VCS 1983 – NORTH ZONE

LOTS C1-C7

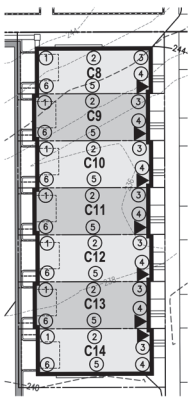


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT C1		LOT C2		LOT C3		LOT C4		LOT C5		LOT C6		LOT C7	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	246.67	1	248	1	248	1	248.5	1	248.5	1	249	1	249.5
2	245.99	2	246.845	2	246.935	2	247.305	2	247.425	2	247.795	2	248.22
3	245.72	3	245.69	3	245.87	3	246.11	3	246.35	3	246.59	3	246.94
4	245.69	4	245.87	4	246.11	4	246.35	4	246.59	4	246.94	4	247.56
5	246.595	5	246.89	5	247.12	5	247.375	5	247.605	5	247.715	5	247.93
6	247.5	6	247.91	6	248.13	6	248.4	6	248.62	6	248.49	6	248.3
AVG	246.36	AVG	246.87	AVG	247.03	AVG	247.34	AVG	247.52	AVG	247.76	AVG	248.08
FF	248	FF	248.5	FF	248.5	FF	249	FF	249	FF	249.5	FF	250

LOTS C8-C14

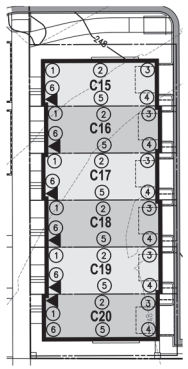


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT C8		LOT C9		LOT C10		LOT C11		LOT C12		LOT C13		LOT C14	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	245.72	1	245.34	1	245.58	1	245.82	1	246.06	1	246.3	1	246.56
2	244.86	2	245.03	2	245.255	2	245.495	2	245.715	2	245.96	2	247.03
3	244	3	244.72	3	244.93	3	245.17	3	245.37	3	245.62	3	247.5
4	246	4	246	4	246.5	4	246.5	4	247	4	247	4	245.8
5	245.67	5	245.79	5	246.16	5	246.28	5	246.65	5	246.78	5	246.515
6	245.34	6	245.58	6	245.82	6	246.06	6	246.3	6	246.56	6	247.23
AVG	245.27	AVG	245.41	AVG	245.71	AVG	245.89	AVG	246.18	AVG	246.37	AVG	246.77
FF	246.5	FF	246.5	FF	247	FF	247	FF	247.5	FF	247.5	FF	248

LOTS C15-C20

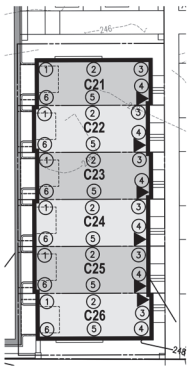


AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT C15		LOT C16		LOT C17		LOT C18		LOT C19		LOT C20	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	249.05	1	247.51	1	247.28	1	247.09	1	247.12	1	249.5
2	248.07	2	247.645	2	247.6	2	247.625	2	247.755	2	249.07
3	247.81	3	247.78	3	247.92	3	248.16	3	248.39	3	248.64
4	247.78	4	247.92	4	248.16	4	248.39	4	248.64	4	249.21
5	248.64	5	248.71	5	248.58	5	248.695	5	248.82	5	247.93
6	249.5	6	249.5	6	249	6	249	6	249	6	247.99
AVG	248.48	AVG	248.18	AVG	248.09	AVG	248.16	AVG	248.29	AVG	248.72
FF	250	FF	250	FF	249.5	FF	249.5	FF	249.5	FF	250

LOTS C21-C25



AVERAGE FINISHED GRADE COMPUTATIONS

EXTERIOR GRADE ELEVATIONS AT APPROXIMATELY 20' INTERVALS (SEE CIRCLE IN THE PLAN VIEW)

LOT C21		LOT C22		LOT C23		LOT C24		LOT C25		LOT C26	
POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION	POINT	ELEVATION
1	247.84	1	247.68	1	247.92	1	248.16	1	248.39	1	248.64
2	247.4	2	247.285	2	247.505	2	247.73	2	247.97	2	248.82
3	246.96	3	246.89	3	247.09	3	247.30	3	247.55	3	249
4	248	4	248.5	4	248.5	4	249	4	249	4	247.95
5	247.84	5	248.21	5	248.33	5	248.695	5	248.82	5	248.21
6	247.68	6	247.92	6	248.16	6	248.39	6	248.64	6	249.21
AVG	247.62	AVG	247.75	AVG	247.92	AVG	248.21	AVG	248.40	AVG	248.64
FF	248.5	FF	249	FF	249	FF	249.5	FF	249.5	FF	249.5

NOTE:

1. EXTERIOR GRADE AT APPROXIMATELY 20' INTERVALS.

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

ESI Peer Review

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SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: [ ] CHECKED: [prttsc] AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. No.041651 — PROFESSIONAL ENGINEER — 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

AVERAGE FINISH GRADE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0506.dwg

SHEET: C-0508

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
CE	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WITH WASH RACK	
SF	SILT FENCE	
SSF	SUPER SILT FENCE	
TP	TREE PROTECTION	
IP	STORM DRAIN INLET PROTECTION	
SAF	SAFETY FENCE	
DW	POTENTIAL LOCATION OF DEWATERING DEVICE (BY OTHERS)	
DD	TEMPORARY DIVERSION DIKE	
CD	CHECK DAM	
CIP	CULVERT INLET PROTECTION	
	LIMITS OF CLEARING AND GRADING	

NOTES

1. THE LOCATIONS OF THE SAFETY FENCE AND SILT FENCE WILL NOT BE ALLOWED IN THE RIGHT-OF-WAY FOR THE DURATION OF THE PROJECT. THE LOCATIONS OF SAFETY FENCE AND SILT FENCE MUST BE COORDINATED WITH THE FIELD INSPECTOR AT THE TIME OF CONSTRUCTION.
2. AT VARIOUS TIMES, CONCRETE AND FACADE STAGING MAY BE REQUIRED IN THE RIGHT-OF-WAY IN ORDER TO CONSTRUCT THE TOWNHOMES. SEE CONSTRUCTION MANAGEMENT PLAN FOR ADDITIONAL INFORMATION.
3. USE OF THE PUBLIC RIGHT-OF-WAY WILL BE EVALUATED UNDER A SEPARATE REVIEW AS PART OF THE T&ES PERMIT APPLICATION PROCESS.
4. CONSTRUCTION ENTRANCE WASH DOWN WATER SOURCE TO BE PROVIDED BY PUMPER TRUCK/WATER TANK. IF POSSIBLE, EXISTING FIRE HYDRANTS MAY BE USED AS AN ALTERNATIVE WATER SOURCE (NOTE THAT A PERMIT FROM THE FIRE MARSHAL MAY BE REQUIRED IN ORDER TO UTILIZE AN EXISTING FIRE HYDRANT).
5. THERE ARE NO KNOWN RESOURCE PROTECTION AREAS ON THIS SITE.
6. CONTRACTOR IS TO PROVIDE SUPPLEMENTARY MEASURES AS REQUIRED BY INSPECTORS.
7. CONTRACTOR IS TO REMOVE ONLY TREES IDENTIFIED IN THE TREE PROTECTION PLAN AS "TO BE REMOVED". SEE SHEETS C-1201 THROUGH C-1204.
8. SILT FENCE TO BE INSTALLED AT THE DISCRETION OF THE INSPECTOR. CONTRACTOR TO COORDINATE TIMING AND LOCATION OF PLACEMENT WITH INSPECTOR.
9. CONTRACTOR MAY MODIFY CONSTRUCTION ENTRANCE LOCATIONS AS DIRECTED BY INSPECTOR.
10. CONTRACTOR TO PROVIDE INLET PROTECTION TO ANY EXISTING INLET DOWN STREAM OF THE SITE THAT MAY BE AFFECTED BY EROSION AND SEDIMENT GENERATED ONSITE.
11. THE LIMITS OF CLEARING AND GRADING AS SHOWN ON SHEET THIS SHEET REPRESENT THE DISTURBANCE NECESSARY FOR THE INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS ONLY. THE CONTRACTOR MUST APPLY SEPARATELY TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) FOR ANY WORK, INCLUDING THE PLACEMENT OF CONSTRUCTION FENCING, WITHIN THE RIGHT-OF-WAY. THE CITY OF ALEXANDRIA WILL NOT ALLOW INCLUSION OF ANY PORTION OF THE PUBLIC RIGHT-OF-WAY, INCLUDING SIDEWALKS, INTO THE PROJECT AREA FOR THE PROJECT DURATION. WORK AND ASSOCIATED CLOSURES IN THE PUBLIC RIGHT-OF-WAY WILL BE PERMITTED SEPARATELY ON AN AS NEEDED BASIS BY T&ES.
12. INLET PROTECTION INSTALLED WITHIN PUBLIC RIGHT OF WAY SHALL NOT EXTEND BEYOND LIMITS OF GUTTER PAN.
13. AREAS CONTAINING MARINE CLAY SOILS ARE TO BE CONSIDERED CRITICAL.

ARCHAEOLOGY NOTES

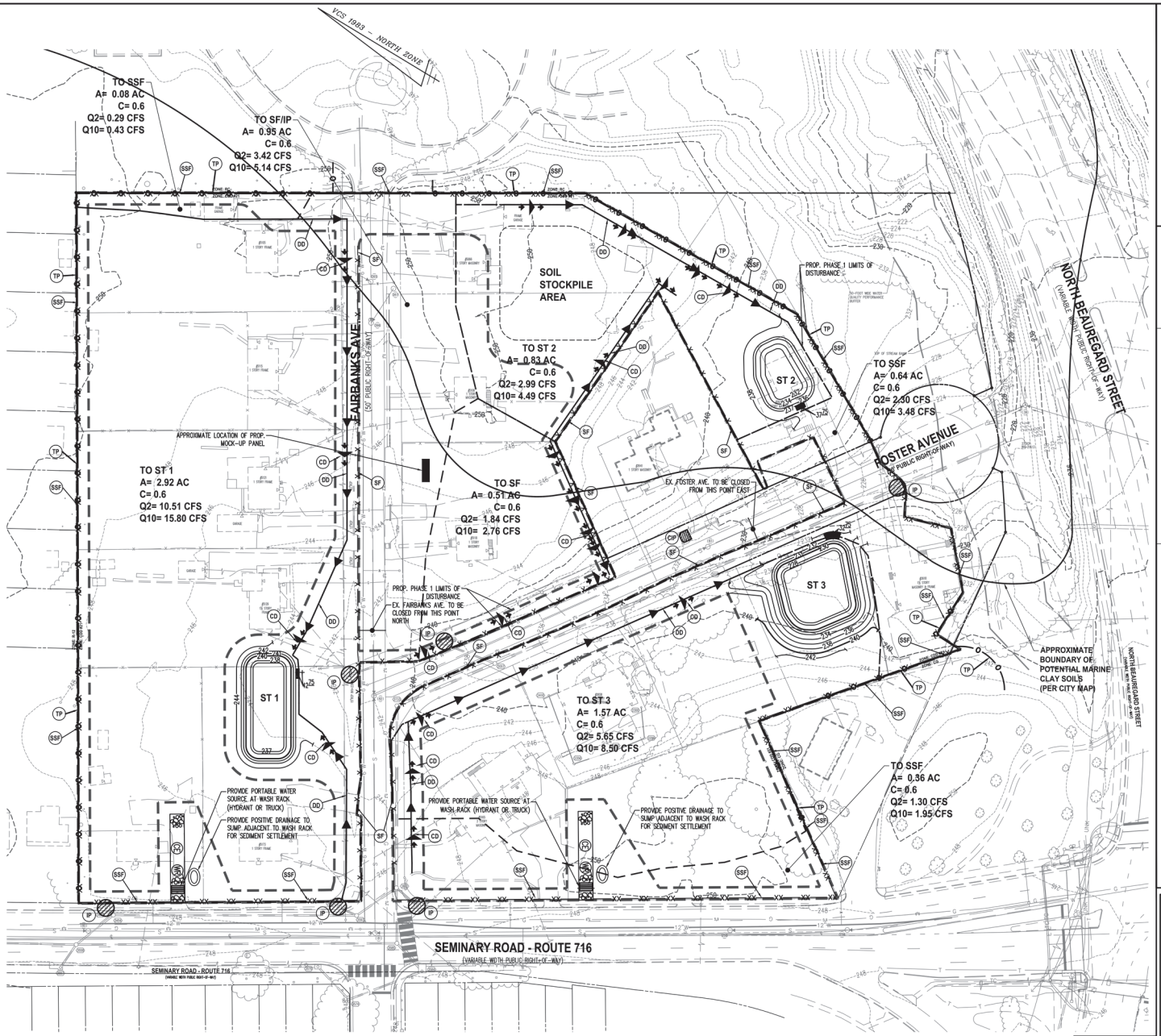
1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING, AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT 703-746-4399.
2. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
3. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY THE ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAY.
4. ALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR CITY ARCHAEOLOGISTS CAN BE ARRANGED.

CERTIFIED LAND DISTURBER NOTE

A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF INFRASTRUCTURE RIGHT OF WAY PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF.

PRECONSTRUCTION MEETING NOTE

PRIOR TO COMMENCING CLEARING AND GRADING OF THE SITE, THE APPLICANT SHALL HOLD A MEETING WITH NOTICE TO ALL ADJOINING PROPERTY OWNERS AND CIVIC ASSOCIATIONS TO REVIEW THE LOCATION OF CONSTRUCTION WORKER PARKING PLAN FOR TEMPORARY PEDESTRIAN AND VEHICULAR CIRCULATION AND HOURS AND OVERALL SCHEDULE FOR CONSTRUCTION. THE DEPARTMENT OF P&Z AND T&ES SHALL BE NOTIFIED OF THE DATE OF THE MEETING BEFORE THE PERMIT IS ISSUED.



PH.1 DISTURBED AREA = 133,801 SF OR 3.07 AC

40 0 20 40 80 160
(IN FEET)
1 INCH = 40'

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1001 www.WLPINC.com

SCALE: 1" = 40' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN
LIC. No.041851
6/21/2023

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EROSION & SEDIMENT CONTROL - PHASE 1

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0601.dwg

SHEET: C-0601

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL
CE	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE WITH WASH RACK	
SF	SILT FENCE	
SSF	SUPER SILT FENCE	
TP	TREE PROTECTION	
IP	STORM DRAIN INLET PROTECTION	
SAF	SAFETY FENCE	
DW	POTENTIAL LOCATION OF DEWATERING DEVICE (BY OTHERS)	
DD	TEMPORARY DIVERSION DIKE	
CD	CHECK DAM	
CIP	CULVERT INLET PROTECTION	
	LIMITS OF CLEARING AND GRADING	

NOTES

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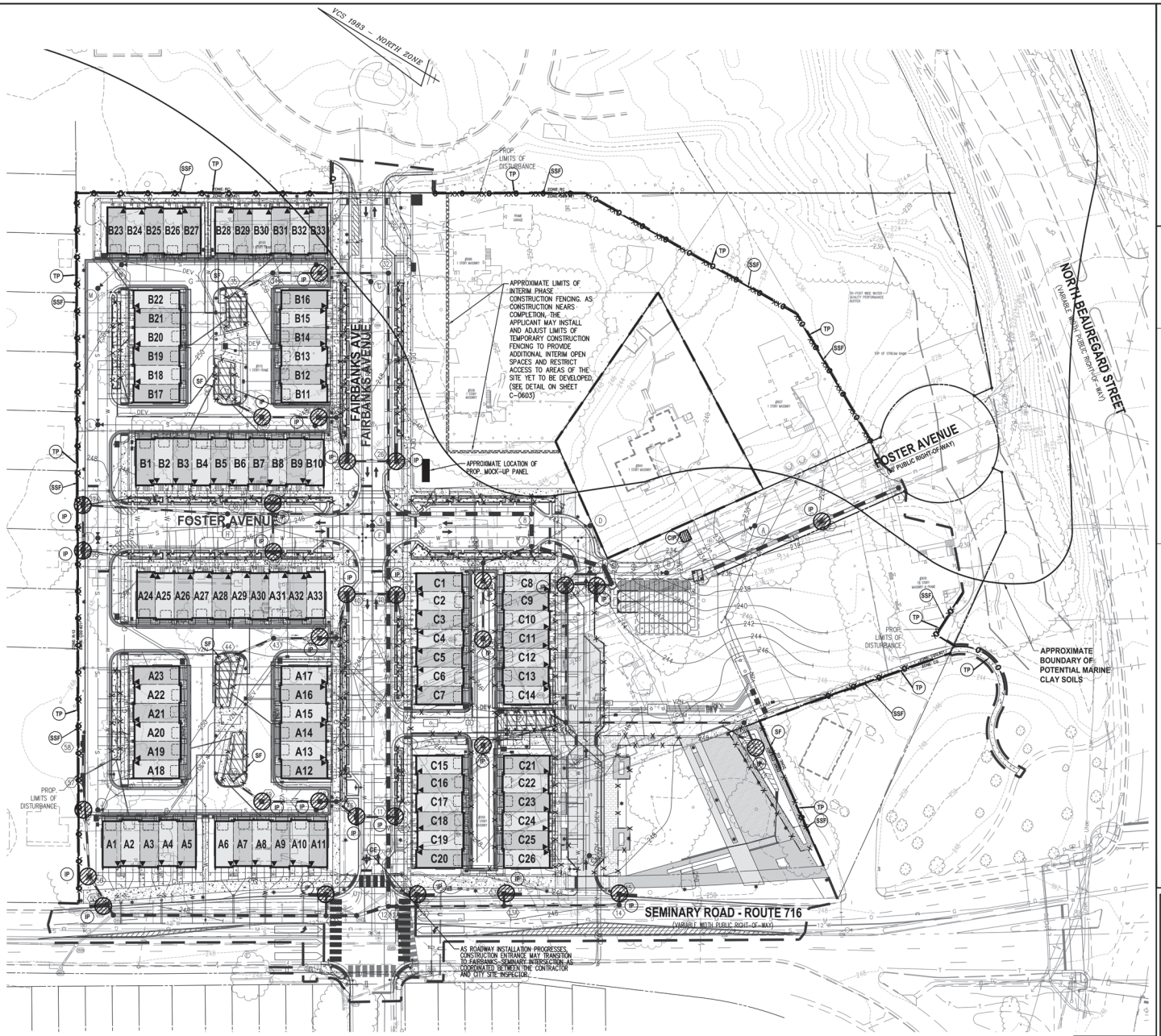

PH.2 DISTURBED AREA = 389,650 SF OR 8.95 AC

40 0 20 40 80 160
(IN FEET)
1 INCH = 40'

ESI Peer Review

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SCALE: 1" = 40' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PLAN STATUS: | DATE | DESCRIPTION

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARK W. VIRGIN LIC. No.041851 4/28/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EROSION & SEDIMENT CONTROL - PHASE 2

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0602.dwg

SHEET: C-0602

EROSION - SILTATION CONTROL NARRATIVE

PROJECT DESCRIPTION:
IN ACCORDANCE WITH APPROVED DSUP#2019–0017, THE APPLICANT PROPOSES TO DEVELOP THE PROPERTY WITH 92 TOWNHOMES & PUBLIC PARK SPACE DURING THIS PHASE OF DEVELOPMENT. ALSO PROPOSED IS ALL SUPPORTING INFRASTRUCTURE NECESSARY TO SUPPORT THIS PHASE OF DEVELOPMENT. THE ULTIMATE LIMITS OF DISTURBANCE ARE APPROXIMATELY 389,650 SQUARE FEET OR 8.95 ACRES.

EXISTING SITE CONDITIONS:
THE SITE CONSISTS SINGLE FAMILY RESIDENTIAL HOMES, VACANT LOTS, AND PUBLIC STREETS – FOSTER & FAIRBANKS AVENUE. THE AFFECTED AREA OF THE SITE ULTIMATELY DRAINS TO SOUTHEAST TOWARDS NORTH BEAUREGARD STREET.

ADJACENT PROPERTIES:
NORTH: SINGLE FAMILY RESIDENTIAL HOMES

EAST: ASSISTED LIVING FACILITY

SOUTH: NORTH BEAUREGARD STREET

WEST: SEMINARY ROAD

OFFSITE AREAS:
PORTIONS OF PUBLIC RIGHT OF WAY WILL BE AFFECTED BY THIS DEVELOPMENT. DISTURBED AREAS WILL BE COORDINATED WITH CITY STAFF.

SOILS:
THE SITE IS KNOWN TO CONTAIN MARINE CLAY SOILS. SOILS REPORT TO BE SUBMITTED UNDER SEPARATE COVER. CONTAMINATED SOILS ON THIS SITE, IF PRESENT, WILL BE DELINEATED AND REMEDIED AS ART OF THIS PROJECT.

CRITICAL AREAS:
AREAS CONTAINING MARINE CLAY SOILS ARE TO BE CONSIDERED CRITICAL.

EROSION CONTROL PROGRAM:
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATION OF THE VIRGINIA EROSIONS AND SEDIMENT CONTROL HANDBOOK.

EROSION CONTROL MEASURES FOR THIS PROJECT SHALL BE ACCOMPLISHED IN TWO PHASES. THE FIRST PHASE SHALL INVOLVE ONLY THE WORK NECESSARY TO MOBILIZE ON THE PROPERTY AND TO INSTALL THE PHASE I PERIMETER CONTROLS. PHASE I MEASURES SHALL REMAIN IN PLACE UNTIL THEIR UPSTREAM DRAINAGE AREAS ARE COMPLETELY STABILIZED. THE EROSION AND SEDIMENT CONTROL FACILITIES MUST REMAIN OPERATIONAL UNTIL THE AREAS DRAINING TO THE FACILITIES HAVE BEEN STABILIZED AND THE CITY'S SITE INSPECTOR AUTHORIZES THEIR REMOVAL.

ONCE THE PHASE II MEASURES HAVE BEEN INSTALLED, THEY SHALL REMAIN IN PLACE UNTIL THEIR UPSTREAM DRAINAGE AREAS ARE COMPLETELY STABILIZED AND FINAL GRADING IS ACHIEVED. TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED TO ANY DISTURBED AREA NOT WORKED FOR 7 DAYS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROL FACILITIES WITH THE CITY'S SITE INSPECTOR.

PHASE 1:
FIRST, THE CONSTRUCTION ENTRANCES WITH WASH RACKS WILL BE PLACED AS SHOWN ON SHEET C–0601. A SPRAY NOZZLE IS TO BE PROVIDED ADJACENT TO EACH WASH RACK TO CLEAN CONSTRUCTION VEHICLES BEFORE THEY ENTER RIGHT–OF–WAY. THE HOSE WILL BE CONNECTED AT THE CLOSEST WATER SOURCE (IF NO WATER SOURCE IS AVAILABLE, A WATER TRUCK SHALL BE PROVIDED). POSITIVE DRAINAGE FROM THE WASH RACK TO A LOCAL SUMP SHALL BE PROVIDED TO ALLOW SEDIMENT SETTLEMENT. THE CONSTRUCTION ENTRANCE ALIGNMENT MAY NEED TO BE TEMPORARILY MODIFIED AT VARIOUS TIMES DURING CONSTRUCTION IN ORDER TO PROMOTE UTILITY INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MINOR ADJUSTMENTS WITH CITY'S SITE INSPECTOR.

NEXT, PERIMETER CONTROLS INCLUDING INLET PROTECTION, SILT FENCE, TREE PROTECTION FENCE AND SAFETY FENCE SHALL BE INSTALLED AS SHOWN ON SHEET C–0601. PHASING OF PERIMETER CONTROLS MAY BE ALLOWED SO LONG AS DOWNSTREAM ARE IN PLACE PRIOR TO UPSTREAM LAND DISTURBING ACTIVITIES.

A. ONCE PERIMETER CONTROLS ARE INSTALLED FOR EACH DRAINAGE AREA, SEDIMENT TRAPS AND BASINS SHOULD BE INSTALLED AS THE FIRST STEP BEFORE GRADING COMMENCES FOR DIVERSION DIKES DIRECTING SEDIMENT LADEN STORMWATER RUNOFF TO THE SEDIMENT TRAPS/BASINS. PIPED OUTLETS FROM THE BASINS AND TRAPS SHALL BE PROTECTED USING RIP–RAP TO MINIMIZE DISCHARGE VELOCITIES. SEDIMENT ACCUMULATIONS WITHIN SEDIMENT TRAPS AND BASINS SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES THE CLEANOUT POINT INDICATED ON THE RISER PIPE (I.E. HALF OF THE WET STORAGE PROVIDED).

B. CONTRACTOR SHALL ENSURE ALL STOCKPILE AREAS FROM EXCAVATION SHALL BE PLACED ON THE UPHILL SIDE OF THE UTILITY TRENCHES.

WHEN PHASE 1 MEASURES ARE IN PLACE FOR A DRAINAGE AREA, AN INSPECTION CAN BE MADE. INSPECTION REQUESTS MUST BE MADE 48 HOURS IN ADVANCE. FOLLOWING THE INSPECTORS APPROVAL OF THE PHASE 1 CONTROL MEASURES, SITE CLEARING AND GRADING AND COMMENCEMENT OF PHASE 2 CONSTRUCTION WILL THEN BE AUTHORIZED FOR THAT DRAINAGE AREA. IT IS RECOMMENDED THAT THE CONTRACTOR LIMIT THE AMOUNT OF DISTURBED AREA AT ANY ONE TIME.

PHASE 2:
ALL PHASE I CONTROLS ARE TO REMAIN IN PLACE DURING LAND DISTURBING ACTIVITIES UNTIL SUCH TIME AS THE CITY'S SITE INSPECTOR HAS APPROVED THEIR REMOVAL. SUPPLEMENTAL CONTROLS ARE TO BE PROVIDED AS SHOWN ON THE PHASE II PLAN, SHEET C–0602, FOR NEWLY CONSTRUCTED SEWER STRUCTURES. ALL CONTROLS ARE TO BE ADJUSTED AS REQUIRED AS THE SITE CONSTRUCTION PROGRESSES AND AS DIRECTED BY THE INSPECTOR.

THIS PHASE WILL CONSIST OF THE COMPLETION OF THE PROPOSED TOWNHOMES, ROADWAYS, AND UTILITIES. IT WILL ALSO INCLUDE THE INSTALLATION OF PEDESTRIAN SITE IMPROVEMENTS. ADDITIONAL CONTROLS MAY BE REQUIRED DURING CONSTRUCTION. EROSION AND SEDIMENT CONTROLS MAY BE MOVED AS NECESSARY TO ACCOMMODATE BUILDING PROGRESS WITHIN EACH DRAINAGE AREA. CONTRACTOR TO COORDINATE SUPPLEMENTAL CONTROLS WITH CITY'S SITE INSPECTOR.

THE CONSTRUCTION ENTRANCE ALIGNMENT MAY NEED TO BE TEMPORARILY MODIFIED AT VARIOUS TIMES DURING CONSTRUCTION IN ORDER TO PROMOTE UTILITY INSTALLATION. CONTRACTOR SHALL COORDINATE TIMING AND FINAL PLACEMENT WITH THE CITY'S SITE INSPECTOR.

ANY SOIL STOCKPILE ONSITE SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE, GRADED WITH SLOPES NOT STEEPER THAN 2:1 AND SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SILT FENCE AROUND THE TEMPORARY STOCKPILE SHALL BE PROVIDED ON THE DOWNSTREAM SIDE PRIOR TO STOCKPILING.

ALL CONTROLS ARE TO BE ADJUSTED AS REQUIRED BY THE SITE CONSTRUCTION PROGRESS OR AS DIRECTED BY THE INSPECTOR. CONTRACTOR TO MAINTAIN ADJACENT ROADWAYS IN A MUD AND DUST FREE CONDITION AT ALL TIMES IN ACCORDANCE WITH SECTION 3.39 OF THE VESCH.

UPON FINAL SITE STABILIZATION, CONTROL MEASURES CAN BE REMOVED AS COORDINATED WITH THE INSPECTOR. THE PROPOSED BMP FACILITIES SHALL BE PROTECTED FROM SEDIMENT DURING CONSTRUCTION AND SURROUNDED BY SILT FENCE AND SHALL NOT BE MADE OPERATIONAL UNTIL AFTER SITE WORK IS COMPLETED AND FINAL SITE STABILIZATION MEASURES HAVE BEEN IMPLEMENTED.

MAINTENANCE PROGRAM:
THE SITE SUPERINTENDENT, OR HIS/HER REPRESENTATIVE, SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AREAS) ON A DAILY BASIS, ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO ENSURE THAT ALL CONTROLS ARE MAINTAINED AND PROPERLY FUNCTIONING. ANY DAMAGED CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE–SEEDING AND MULCHING IF NECESSARY.

ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE PLAN STABILIZATION AFTER THE PERMISSION OF THE INSPECTOR.

UTILITY INSTALLATION NOTE:
ALL UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH VESCH CHAPTER 8, PAGE 28, NOTE 16.

STOCKPILING NOTE:
SOME STOCKPILING OF EXCAVATED MATERIAL IS ANTICIPATED WITH THIS PROJECT. ALL STOCKPILING AREAS SHALL BE PROTECTED WITH SILT FENCE ON THE DOWNSTREAM SIDE. DOWNSTREAM CONTROLS ARE TO BE IN PLACE PRIOR TO STOCKPILING.

MAINTENANCE NOTES:
PERIMETER CONTROLS SHALL BE INSPECTED AT THE END OF EACH DAY AND AFTER EACH RAINFALL. AND REQUIRED OR REPLACEMENTS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS WILL BE REMOVED AFTER EACH RAINFALL AND AT ANY TIME THE DEPOSITS REACH APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER.

EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED IN PLACE UNTIL GROUND DISTURBING CONSTRUCTION AND PERMANENT STABILIZATION IS COMPLETE AND SHALL BE REMOVED BY PERMISSION OF THE CITY OF ALEXANDRIA'S SITE INSPECTOR.

GENERAL LAND CONSERVATION NOTES

1. NO DISTURBED AREA WILL BE DENUDED FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR OR HIS AGENT.
2. ALL EROSION AND SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
3. ALL STORM AND SANITARY LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET ARE TO BE OPEN AT ANY ONE TIME.
4. ELECTRIC POWER, TELEPHONE, AND GAS SUPPLY TRENCHES AREA TO BE COMPACTED, SEEDED, AND MULCHED WITHIN 5 DAYS AFTER BACKFILL.
5. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
6. ANY DISTURBED AREA NOT COVERED BY NOTE #1 ABOVE AND NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1ST, OR DISTURBED AFTER THAT DATE, IS TO BE MULCHED WITH HAY OR STRAW MULCH AT THE RATE OF TWO TONS PER ACRE AND OVERSEEDED NO LATER THAN MARCH 15TH.
7. AT THE COMPLETION OF CONSTRUCTION PROJECTS, AND PRIOR TO THE RELEASE OF THE BOND, ALL TEMPORARY SILTATION AND EROSION CONTROLS SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED.
8. IF THE MAXIMUM PERIOD FOR DENUDATION IS EXCEEDED AND ANY AREAS REMAIN EXPOSED WITHOUT COVER OR SURFACE, THE CITY MAY (IN THE EVENT THE DEVELOPER DOES NOT) INSTALL SUCH GROUND COVER OR OTHER STABILIZING DEVICES AND/OR MATERIAL TO THE MINIMUM EXTENT NECESSARY TO ACHIEVE EROSION AND SEDIMENT CONTROL EQUAL TO THAT WHICH WOULD HAVE BEEN FURNISHED BY THE PERMANENT COVER SHOWN ON THE APPROVED PLANS. THE COST OF ANY SUCH TEMPORARY MEASURES TAKEN BY THE CITY SHALL BE BORNE BY THE DEVELOPER AND SHALL BE A CHARGE AGAINST THE CONSERVATION DEPOSIT.
9. TEMPORARY DIVERSIONS, SEEDED, AND MULCHED OR SILT FENCE AND OTHER CONTROL MEASURES AS NECESSARY ARE TO BE PLACED AS INDICATED ON THE DRAWINGS PRIOR TO OR AS THE FIRST STEP IN EXCAVATION.
10. WHERE CONSISTENT WITH JOB SAFETY REQUIREMENTS, ALL EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES. NO MATERIAL IS TO BE PLACED IN STREAMBEDS. WHERE SOIL IS PLACED ON DOWNHILL SIDE OF TRENCHES, IT IS TO BE BACKSLOPED TO DRAIN TOWARD THE TRENCH. WHEN NECESSARY TO DEWATER THE TRENCHES, THE PUMP DISCHARGE HOSES MUST OUTLET IN A STABILIZED AREA TO AN EXISTING STORM INLET.
11. ANY SOIL REMOVED FROM THE SITE SHALL BE PLACED IN A PERMITTED SITE, ANY SOIL THAT IS BROUGHT ONTO THE SITE WILL BE OBTAINED FROM A PERMITTED SITE.
12. THE LIMITS OF DISTURBANCE AS SHOWN ON THIS PLAN ARE ULTIMATE LIMITS FOR THE PROJECT. THE CONTRACTOR MUST APPLY SEPARATELY TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) FOR ANY WORK, INCLUDING THE PLACEMENT OF CONSTRUCTION FENCING, WITHIN THE PUBLIC RIGHT–OF–WAY. THE CITY WILL NOT ALLOW INCLUSION OF ANY PORTION OF THE PUBLIC RIGHT–OF–WAY, INCLUDING SIDEWALKS, INTO THE PROJECT AREA FOR THE PROJECT DURATION. WORK AND ASSOCIATED CLOSURES IN THE PUBLIC RIGHT OF WAY WILL BE PERMITTED SEPARATELY ON AN AS NEEDED BASIS BY T&ES.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

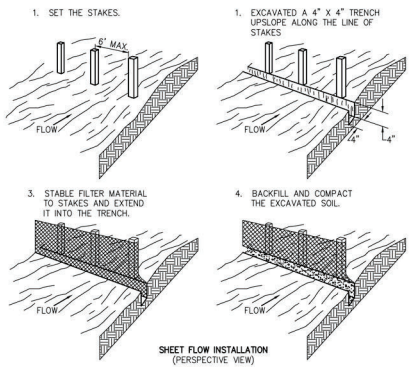
1. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET.
2. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), VIRGINIA REGULATIONS §4VAC50–30 EROSION AND SEDIMENT CONTROL REGULATIONS.
3. AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE FINAL PLANS FOR APPROVAL BY THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT.
4. A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION MANAGEMENT AND INSPECTION PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF.
5. THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&I) DIVISION MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE–CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONSIBLE CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE–CONSTRUCTION MEETING.
6. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP–SLOPE LAND DISTURBANCE TAKES PLACE.
7. CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSIBLE. AREAS NOT TO BE DISTURBED MUST BE CLEARLY FLAGGED OR MARKED.
8. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
9. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
10. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS INCLUDING, BUT NOT LIMITED TO, OFF–SITE BORROW OR WASTE AREAS, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE CITY OF ALEXANDRIA.
11. THE DEVELOPER AND CONTRACTORS ARE TO KEEP DENUDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS MUST BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED.
12. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS AFTER GRADING.
13. ALL DISTURBED AREAS ARE TO DRAIN APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
14. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY IMPACT FLOWING STREAMS OR OFF–SITE PROPERTY.
15. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF–PRODUCING RAINFALL EVENT, ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
16. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL (T&ES) SERVICES OF THE CITY OF ALEXANDRIA.
17. ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 2500 SQUARE FEET SHALL BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED.
18. ALL VEHICLES SHALL BE CLEANED BEFORE ENTERING ONTO THE PUBLIC RIGHT–OF–WAY.
19. THE WASH WATER FROM THE CONSTRUCTION ENTRANCE SHALL BE FILTERED THROUGH THE PROVIDED SILT FENCE TO ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO RUNOFF ON TO THE ADJACENT PROPERTY OR THE PUBLIC RIGHT OF WAY.
20. INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE.
21. DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION AS NEEDED.
22. THE LIMITS OF DISTURBNANCE AS SHOWN ON THIS PLAN ARE ULTIMATE LIMITS FOR THE PROJECT. THE CONTRACTOR MUST APPLY SEPARATELY TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) FOR ANY WORK, INCLUDING THE PLACEMENT OF CONSTRUCTION FENCING, WITHIN THE PUBLIC RIGHT–OF–WAY. THE CITY WILL NOT ALLOW INCLUSION OF ANY PORTION OF THE PUBLIC RIGHT–OF–WAY, INCLUDING SIDEWALKS, INTO THE PROJECT AREA FOR THE PROJECT DURATION. WORK AND ASSOCIATED CLOSURES IN THE PUBLIC RIGHT OF WAY WILL BE PERMITTED SEPARATELY ON AN AS NEEDED BASIS BY T&ES.
23. THIS SITE IS SUBJECT TO SEPARATE PERMITS.

CERTIFIED LAND DISTURBER

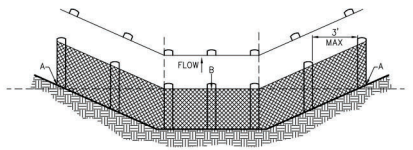
A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF INFRASTRUCTURE RIGHT OF WAY PRIOR TO ANY LAND DISTURBANCE ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF AND CITY INSPECTOR.

CONTAMINATED SOILS

THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OF UNDERGROUND STORAGE TANKS, DRUMS & CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBTS ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, IT'S CONTENTS, ANY SOIL CONTAINMENT AND RELEASE TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE AND CITY REGULATIONS.



SHEET FLOW INSTALLATION
(PERSPECTIVE VIEW)



POINTS A SHOULD BE HIGHER THAN POINT B.
DRAINAGEWAY INSTALLATION
(FRONT ELEVATION)

CONSTRUCTION OF SILT FENCE (WITHOUT WIRE SUPPORT)

NOT TO SCALE

SEQUENCE OF CONSTRUCTION FOR INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES

1. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS; AND STABILIZE CONSTRUCTION ENTRANCES AS SHOWN ON THIS PLAN.
2. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED/VERIFIED IN FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
3. INSTALL INLET PROTECTION AT EXISTING STORM DRAIN INLETS AS NECESSARY AND AS SHOWN ON THIS PLAN.
4. INSTALL TEMPORARY SEDIMENT TRAPS AND BASINS BEFORE GRADING COMMENCES.
5. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES AS NECESSARY AND AS DIRECTED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR.
6. CONDUCT DEMOLITION AND CONSTRUCTION ACTIVITIES ACCORDING TO THE APPLICABLE PLANS.
7. AS CONTRIBUTORY DRAINAGE AREAS ARE STABILIZED AND WITH THE PERMISSION OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, REMOVE INDIVIDUAL EROSION AND SEDIMENT CONTROL PRACTICES.
8. UPON COMPLETION OF DEMOLITION, CONSTRUCTION AND LAND DISTURBING ACTIVITIES; PROVIDE PERMANENT STABILIZATION ACCORDING TO APPROVED METHODS AND REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROL MEASURES WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.

CONSTRUCTION STAGING NOTE

NO MAJOR CONSTRUCTION STAGING SHALL BE ALLOWED WITHIN THE PUBLIC RIGHT–OF–WAY ON SEMINARY ROAD. CONTRACTOR SHALL MEET WITH T&ES TO DISCUSS CONSTRUCTION STAGING ACTIVITIES PRIOR TO RELEASE OF ANY PERMITS FOR GROUND DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES:

1. SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO GRADING.
2. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL GROUND DISTURBING ACTIVITY CEASES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS IS COMPLETE.
3. ALL STANDARDS AND SPECIFICATIONS REFER TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
4. TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATIONS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE AND THE CITY'S SITE INSPECTOR; THE CONTRACTOR TO PROVIDE APPROPRIATE EROSION CONTROL MEASURES FOR ANY STOCKPILED AREA.
5. ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE NOT TO BE CONSTRUCTED UPON SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISH GRADING BY SEEDING AND MULCHING PER STD. AND SPEC. NO. 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
6. BARE SOIL SURFACE NOT AT FINISHED GRADE, WHICH WILL BE EXPOSED MORE THE 7 DAYS SHALL BE ESTABLISHED WITH TEMPORARY SEEDING & MULCH PER STD. SPEC. NO. 3.31 OF THE VESCH.
7. THE FOLLOWING EROSION & SEDIMENT CONTROL MEASURES ARE ANTICIPATED TO BE REQUIRED AT A MINIMUM:
   - PERIMETER CONTROLS WILL REQUIRE SAFETY FENCE (VESCH STD. & SPEC. 3.01)
   - SEDIMENT BARRIERS WILL REQUIRE SILT FENCE (VESCH STD. & SPEC. 3.05) AND STORM DRAIN INLET PROTECTION (VESCH STD. & SPEC. 3.07)
   - CHECK DAMS ARE REQUIRED (VESCH STD. & SPEC. 3.20)
   - DIVERSION DIKES ARE REQUIRED (VESCH STD. & SPEC. 3.09)
   - SEDIMENT TRAPS ARE REQUIRED (VESCH STD. & SPEC. 3.13)
   - A CONSTRUCTION ENTRANCE IS REQUIRED (VESCH STD. & SPEC. 3.02)
   - A DEWATERING DEVICE (BY OTHERS) MAY BE REQUIRED (VESCH STD. & SPEC. 3.26)
   - DUST CONTROL IS REQUIRED (VESCH STD. & SPEC. 3.39)

US Filter Bags are designed to collect silt and sediment from pumped water and are ideal for construction site dewatering applications. To begin dewatering, simply cut an opening into the bag, insert the discharge hose and secure the connection with a clamp, tie or tape. US Filter Bags are made from a nonwoven, needlepunched, polypropylene geotextile that meets the following M.A.R.V. values except where noted:

PROPERTY	TEST METHOD	ENGLISH	METRIC
Weight - Typical	ASTM D-5261	8 oz/sy	271 g/sm
Tensile Strength	ASTM D-4632	205 lbs	912 N
Elongation @ Break	ASTM D-4632	50%	50%
Mullen Burst	ASTM D-3786	350 psi	2,413 kPa
Puncture Strength	ASTM D-4833	120 lbs	534 N
CBR Puncture	ASTM D-6241	535 lbs	2,381 N
Trapezoidal Tear	ASTM D-4533	85 lbs	378 N
Apparent Opening Size	ASTM D-4751	80 US Sieve	0.180 mm
Permittivity	ASTM D-4491	1.35 Sec-1	1.35 Sec-1
Water Flow Rate	ASTM D-4491	90 gpm/sf	3,657 l/min/sm
UV Resistance @ 500 Hours	ASTM D-4355	70%	70%

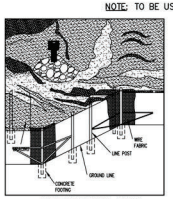
ROLL SIZE	AREA	WEIGHT
15' x 10'	17 sys	20 lbs
15' x 15'	25 sys	30 lbs

The above information is to the best of our knowledge accurate, but it is not intended to be considered a guarantee. Any implied warranty for a particular use or purpose is excluded. If the product does not meet the above properties, and notice is given to US Filters, Inc., the product will be replaced or refunded. (1/2011)

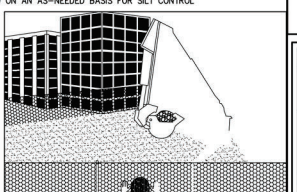
DE-WATERING DETAIL (IF NECESSARY)

NOT TO SCALE

NOTE: TO BE USED ON AN AS–NEEDED BASIS FOR SILT CONTROL



PERSPECTIVE VIEW
METAL FENCE



SAFETY FENCE

MOVABLE POSTS ARE TO BE USED IN THE ROADWAYS. SEE C–0601 & C–0602 FOR SAFETY FENCE LOCATION.

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | AVBP

DATE	DESCRIPTION
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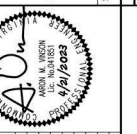


REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EROSION & SEDIMENT CONTROL NOTES & DETAILS

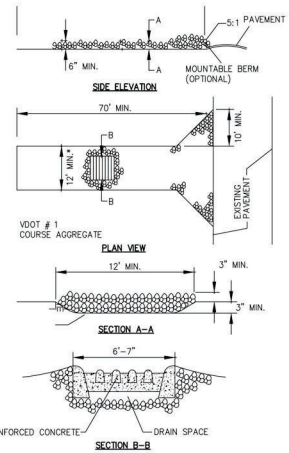
APPROVED
SPECIAL USE PERMIT NO. 2019–0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMM



CONSTRUCTION ENTRANCE

NOT TO SCALE

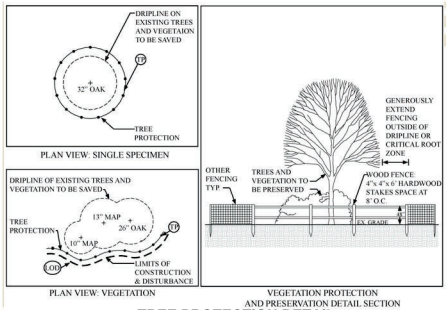
SIZING COMPUTATIONS FOR SEDIMENT SETTLEMENT AREA ADJACENT TO CE:.
DRAINAGE AREA (A) = 6'-7" X 6'-7" = 43 SF
TRAP DEPTH (D) = 0.5 FT

REQUIRED WET STORAGE VOLUME:
VI = 0.85 X A X D/2
VI = 0.85 X 43 X 0.25 = 9 CU

REQUIRED DRY STORAGE VOLUME:
V2 = A X D/2
V2 = 43 X 0.25 = 10.75 CU

TOTAL REQUIRED VOLUME = 19.75 CU

PROVIDED VOLUME:
V = 6.5' X 6.5' X 0.5' = 21.12 CU (> 19.75 CU, REQUIREMENT MET)



TREE PROTECTION DETAIL

NOT TO SCALE

NOTES FOR PROTECTION AND PRESERVATION OF EXISTING VEGETATION

1. ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION INCLUDING MAINTENANCE SHALL BE PREPARED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA AND APPROVED BY THE CITY ARBORIST IN–FIELD PRIOR TO COMMENCEMENT OF ANY SIZE DISTURBING AND CONSTRUCTION ACTIVITIES.
2. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED/VERIFIED IN FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
3. LOCATION AND METHOD FOR PROTECTION AND PRESERVATION OF EXISTING TREES WILL BE SHOWN ON DEMOLITION, SEDIMENT AND EROSION CONTROL AND LANDSCAPE SHEETS.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO BE RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COORDINATION WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT MATERIAL THAT DOES NOT SURVIVES STORAGE AND REPLANTING.
5. APPLICANT MUST INCLUDE ON THE PLAN DOCUMENTATION OF COMMUNICATION WITH THE ADJACENT PROPERTY OWNER(S) VERIFYING NOTIFICATION OF AN AGREEMENT WITH CONSTRUCTION IMPACT, POTENTIAL FOR LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREE(S) ON ADJACENT PROPERTIES THAT WILL BE AFFECTED BY PROJECT WORK.
6. INCLUDE SPECIFIC CONSTRUCTION STAGING INFORMATION ON THE PLAN THAT INDICATES THE METHODS, AND PROCEDURES TO BE IMPLEMENTED FOR PROTECTION OF EXISTING ON–SITE AND OFF–SITE VEGETATION.

TEMPORARY SEEDING TABLE

TABLE 3.31-C

TEMPORARY SEEDING PLANT MATERIALS, SEEDING RATES, AND DATES

SPECIES	SEEDING RATE		NORTH[a]			SOUTH[b]			PLANT CHARACTERISTICS
	Acre	1000 ft²	3/1 to 4/30	5/1 to 8/15	8/15 to 11/1	2/15 to 4/30	5/1 to 9/1	9/1 to 11/15	
OATS (Avena sativa)	3 bu. (up to 100 lbs., not less than 50 lbs.)	2 lbs.	X	-	-	X	-	-	Use spring varieties (e.g., Noble).
RYE[d] (Secale cereale)	2 bu. (up to 110 lbs., not less than 50 lbs.)	2.5 lbs.	X	-	X	X	-	X	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
GERMAN MILLET (Setaria italica)	50 lbs.	approx. 1 lb.	-	X	-	-	X	-	Warm-season annual. Dies at first frost. May be added to summer mixes.
ANNUAL RYEGRASS[c] (Lolium multi-florum)	60 lbs.	1½ lbs.	X	-	X	X	-	X	May be added in mixes. Will mow out of most stands.
WEEPING LOVEGRASS (Eragrostis curvula)	15 lbs.	5½ ozs.	-	X	-	-	X	-	Warm-season perennial. May bunch. Tolerates hot, dry slopes and acid, infertile soils. May be added to mixes.
KOREAN LESPEDEZA[c] (Lespedeza stipulacea)	25 lbs.	approx. 1¼ lbs.	X	X	-	X	X	-	Warm season annual legume. Tolerates acid soils. May be added to mixes.

[a] Northern Piedmont and Mountain region. See Plates 3.22-1 and 3.22-2.
[b] Southern Piedmont and Coastal Plain.
[c] May be used as a cover crop with spring seeding.
[d] May be used as a cover crop with fall seeding.
X May be planted between these dates.
- May not be planted between these dates.

1992

3.31

PERMANENT SEEDING TABLE

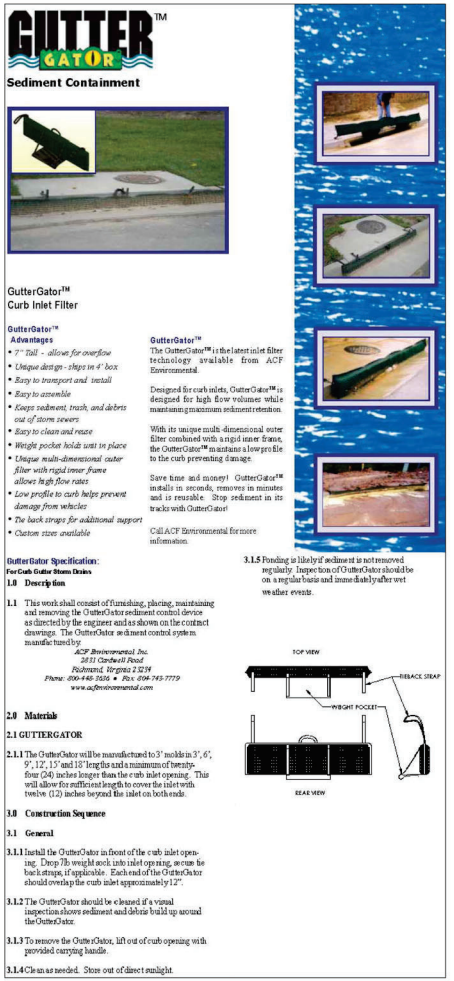
TABLE 3.32-D

SITE SPECIFIC SEEDING MIXTURES FOR COASTAL PLAIN AREA

	Total Lbs. Per Acre
Minimum Care Lawn	
- Commercial or Residential	
- Kentucky 31 or Turf-Type Tall Fescue	175-200 lbs.
or	
- Common Bermudagrass **	75 lbs.
High-Maintenance Lawn	
- Kentucky 31 or Turf-Type Tall Fescue	200-250 lbs.
or	
- Hybrid Bermudagrass (seed) **	40 lbs. (unhulled)
or	30 lbs. (hulled)
- Hybrid Bermudagrass (by other vegetative establishment method, see Std. & Spec. 3.34)	
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
	150 lbs.
Low Maintenance Slope (Steeper than 3:1)	
- Kentucky 31 Tall Fescue	93-108 lbs.
- Common Bermudagrass **	0-15 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
- Sericea Lespedeza **	20 lbs.
	150 lbs.

* Use seasonal nurse crop in accordance with seeding dates as stated below:
February, March through April ..... Annual Rye
May 1st through August ..... Foxtail Millet
September, October through November 15th ..... Annual Rye
November 16th through January ..... Winter Rye

** May through October, use hulled seed. All other seeding periods, use unhulled seed. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.



GutterGator Specification:
For Curb Gutter Storm Drains

1.0 Description

1.1 This work shall consist of furnishing, placing, maintaining and removing the GutterGator sediment control device as directed by the engineer and as shown on the contract drawings. The GutterGator sediment control system is manufactured by:

ACF Environmental, Inc.
2331 Cardwell Road
Richmond, Virginia 23234
Phone: 800-448-2636 • Fax: 804-743-7779
www.acfenvironmental.com

2.0 Materials

2.1 GUTTERGATOR

2.1.1 The GutterGator will be manufactured to 3' molds in 3', 6', 9', 12', 15' and 18' lengths and a minimum of twenty-four (24) inches longer than the curb inlet opening. This will allow for sufficient length to cover the inlet with twelve (12) inches beyond the inlet on both ends.

3.0 Construction Sequence

3.1 General

3.1.1 Install the GutterGator in front of the curb inlet opening. Drop 75-weight sock into inlet opening, secure to back straps, if applicable. Each end of the GutterGator should overlap the curb inlet approximately 12".

3.1.2 The GutterGator should be cleaned if a visual inspection shows sediment and debris build up around the GutterGator.

3.1.3 To remove the GutterGator, lift out of curb opening with provided carrying handle.

3.1.4 Clean as needed. Store out of direct sunlight.

3.1.5 Ponding is likely if sediment is not removed regularly. Inspection of GutterGator should be on a regular basis and immediately after wet weather events.

INLET PROTECTION DETAIL

NOT TO SCALE

NOTE: GUTTER GATORS SHALL NOT BE REPLACED WITH ANY OTHER TYPE OF INLET PROTECTION WITHOUT WRITTEN CONSENT FROM THE CITY OF ALEXANDRIA'S SITE INSPECTOR.

GENERAL STABILIZATION NOTES

1. BARE SOIL SURFACES NOT AT FINISH GRADE, WHICH WILL BE EXPOSED MORE THAN 7 DAYS, SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING PER STD. AND SPEC. NO.3.31 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
2. ALL TEMPORARY SEEDING SHALL CONFORM TO VESCH. SPEC 3.31. (SEE C–0604)
3. ALL PERMANENT SEEDING SHALL CONFORM TO VESCH. SPEC 3.32. (SEE C–0604)
4. ALL SODDING SHALL CONFORM TO VESCH. SPECIFICATION SPECIFICATION. 3.33.

ESI Peer Review

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PLAN STATUS	DATE
DESCRIPTION	
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FSP SUB #3	
FSP SUB #4	

PROFESSIONAL ENGINEER — AARON M. VIRGIN — LIC. No.041851 — 4/21/2023

REVISION APPROVED BY

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UPLAND PARK PHASE 1
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EROSION & SEDIMENT CONTROL NOTES & DETAILS

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DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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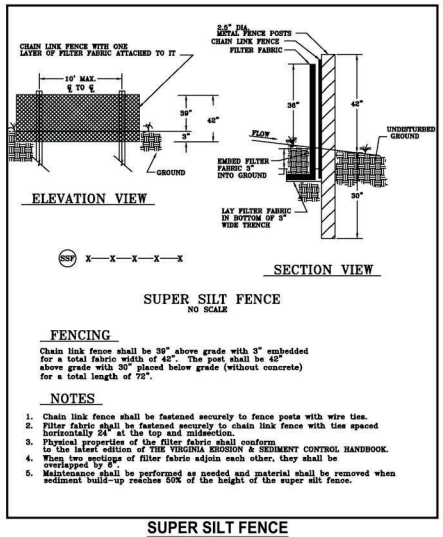
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-0604

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C–0602.dwg



SUPER SILT FENCE
NO SCALE

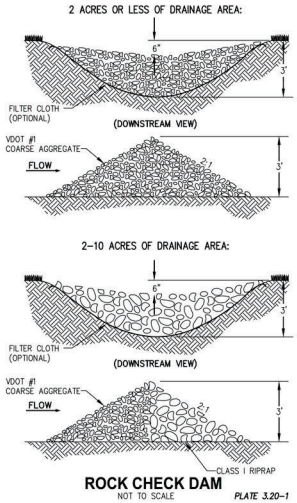
FENCING

Chain link fence shall be 39" above grade with 3" embedded for a total fabric width of 42". The post shall be 42" above grade with 30" placed below grade (without concrete) for a total length of 72".

NOTES

1. Chain link fence shall be fastened securely to fence posts with wire ties.
2. Filter fabric shall be fastened securely to chain link fence with ties spaced horizontally 24" at the top and midsection.
3. Physical properties of the filter fabric shall conform to the latest edition of THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.
4. When two sections of filter fabric adjoin each other, they shall be overlapped by 6".
5. Maintenance shall be performed as needed and material shall be removed when sediment build-up reaches 50% of the height of the super silt fence.

SUPER SILT FENCE
NOT TO SCALE



ROCK CHECK DAM
NOT TO SCALE

PLATE 3.20–1

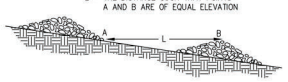
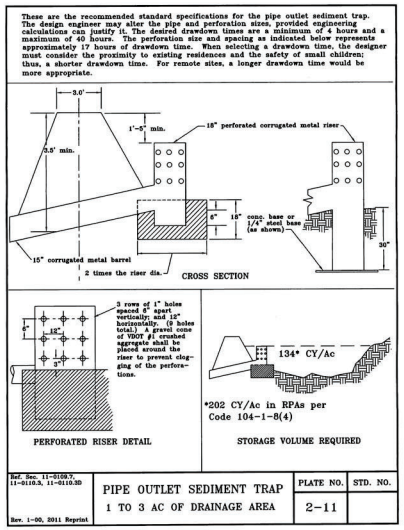


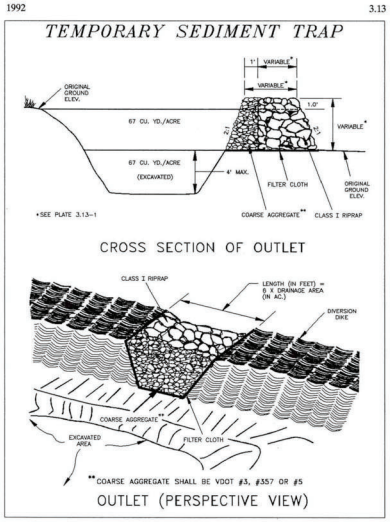
PLATE 3.20–2

SPACING BETWEEN CHECK DAMS
NOT TO SCALE

SPECIFICATIONS

1. THE DRAINAGE AREA OF THE DITCH OR SWALE BEING PROTECTED SHALL NOT EXCEED 2 ACRES WHEN VDOT #1 COARSE AGGREGATE IS USED ALONE AND SHALL NOT EXCEED 10 ACRES WHEN A COMBINATION OF CLASS I RIPRAP (ADDED FOR STABILITY) AND VDOT #1 COARSE AGGREGATE IS USED. *REFER TO PLATE 3.20–1* FOR ORIENTATION OF STONE AND A CROSS–SECTIONAL VIEW OF THE MEASURE. AN EFFORT SHOULD BE MADE TO EXTEND THE STONE TO THE TOP OF THE CHANNEL BANKS.
2. HOWEVER, THE MAXIMUM HEIGHT OF THE DAM SHALL BE 3.0 FEET.
3. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES. FIELD EXPERIENCE HAS SHOWN THAT MANY DAMS ARE NOT CONSTRUCTED TO PROMOTE THIS "WEIR" EFFECT. STORMWATER FLOWS ARE THEN FORCED TO THE STONE–SOIL INTERFACE, THEREBY PROMOTING SCOUR AT THAT POINT AND SUBSEQUENT FAILURE OF THE STRUCTURE TO PERFORM ITS INTENDED FUNCTION.
4. FOR ADDED STABILITY, THE BASE OF THE CHECK DAM CAN BE KEYED INTO THE SOIL APPROXIMATELY 6 INCHES.
5. THE MAXIMUM SPACING BETWEEN THE DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM *(SEE PLATE 3.20–2)*.
6. STONE SHOULD BE PLACED ACCORDING THE CONFIGURATION IN *PLATE 3.20–1*. HAND OR MECHANICAL PLACEMENT WILL BE NECESSARY TO ACHIEVE COMPLETE COVERAGE OF THE DITCH OR SWALE AND TO INSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES.
7. FILTER CLOTH MAY BE USED UNDER THE STONE TO PROVIDE A STABLE FOUNDATION AND TO FACILITATE THE REMOVAL OF THE STONE. SEE STD. AND SPEC. 3.19, RIPRAP, FOR REQUIRED PHYSICAL PROPERTIES OF THE FILTER CLOTH.



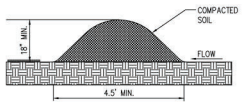


Source: Va. DSWC

Plate 3.13-2

III - 76

TEMPORARY SEDIMENT TRAP
NOT TO SCALE



SOURCE : VA. DSWC

SIDE SLOPES

1 1/2 : 1 OR FLATTER, ALONG WITH A MINIMUM BASE WIDTH OF 4.5 FEET (SEE PLATE 3.09–1)

GRADE

THE CHANNEL BEHIND THE DIKE SHALL HAVE A POSSITIVE GRADE TO A STABILIZED OUTLET. IF THE CHANNEL SLOPE IS LESS THAN OR EQUAL TO 2% NO STABILIZATION IS REQUIRED. IF THE SLOPE IS GREATER THAN 2%, THE CHANNEL SHALL BE STABILIZED IN ACCORDANCE WITH STANDARD AND SPECIFICATION 3.17, STORMWATER CONVEYANCE CHANNEL.

TEMPORARY DIVERSION DIKE
N.T.S.

ROCK CHECK DAM
NOT TO SCALE
DETAIL FROM VESCH PLATE 3.20

SEDIMENT TRAP STAGE STORAGE

Sediment TRAP 1
Drainage Area: 2.92 Acres Max
Required Volume 391 CY =134 CY/AC *2.92AC

Elevation	Area		Depth		Incr. Volume	Total Volume	Total Volume		
237.00	1,923	SF	0.00	FT	CF 0.00	CF 0.00	CY		WET
238.00	2,321	SF	1.00	FT	CF 2,122	CF 2,122	CF 78.59	CY	ELEV=239.22
240.00	3,194	SF	3.00	FT	CF 5,515	CF 7,637	CF 282.85	CY	DRY
241.00	3,667	SF	4.00	FT	CF 3,431	CF 11,068	CF 409.91	CY Spillway elevation	
242.00	4,166	SF	5.00	FT	CF 3,917	CF 14,984	CF 554.96	CY Embankment elevation	

Sediment TRAP 2
Drainage Area: 0.83 Acres Max
Required Volume 111 CY =134 CY/AC *0.83AC

Elevation	Area		Depth		Incr. Volume	Total Volume	Total Volume		
232.00	885	SF	0.00	FT	CF 0	CF 0	CF 0.00	CY	WET
234.00	1,399	SF	2.00	FT	CF 2,284	CF 2,284	CF 84.59	CY	ELEV=233.41
236.00	2,013	SF	4.00	FT	CF 3,412	CF 5,696	CF 210.96	CY Spillway elevation	DRY
237.00	2,358	SF	5.00	FT	CF 2,186	CF 7,882	CF 291.91	CY Embankment elevation	

Sediment TRAP 3
Drainage Area: 1.57 Acres Max
Required Volume 210 CY =134 CY/AC *1.57AC

Elevation	Area		Depth		Incr. Volume	Total Volume	Total Volume		
227.00	2,389	SF	0.00	FT	CF 0	CF 0	CF 0.00	CY	WET
228.00	2,771	SF	1.00	FT	CF 2,580	CF 2,580	CF 95.56	CY	ELEV=228.10
230.00	3,612	SF	3.00	FT	CF 6,383	CF 8,963	CF 331.96	CY	DRY
231.00	4,070	SF	4.00	FT	CF 3,841	CF 12,804	CF 474.22	CY Spillway elevation	
232.00	4,553	SF	5.00	FT	CF 4,312	CF 17,116	CF 633.91	CY Embankment elevation	

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PROFESSIONAL ENGINEER — JASON M. VIRGIN, LIC. No.041851 — 4/21/2023

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SHEET: C-0605

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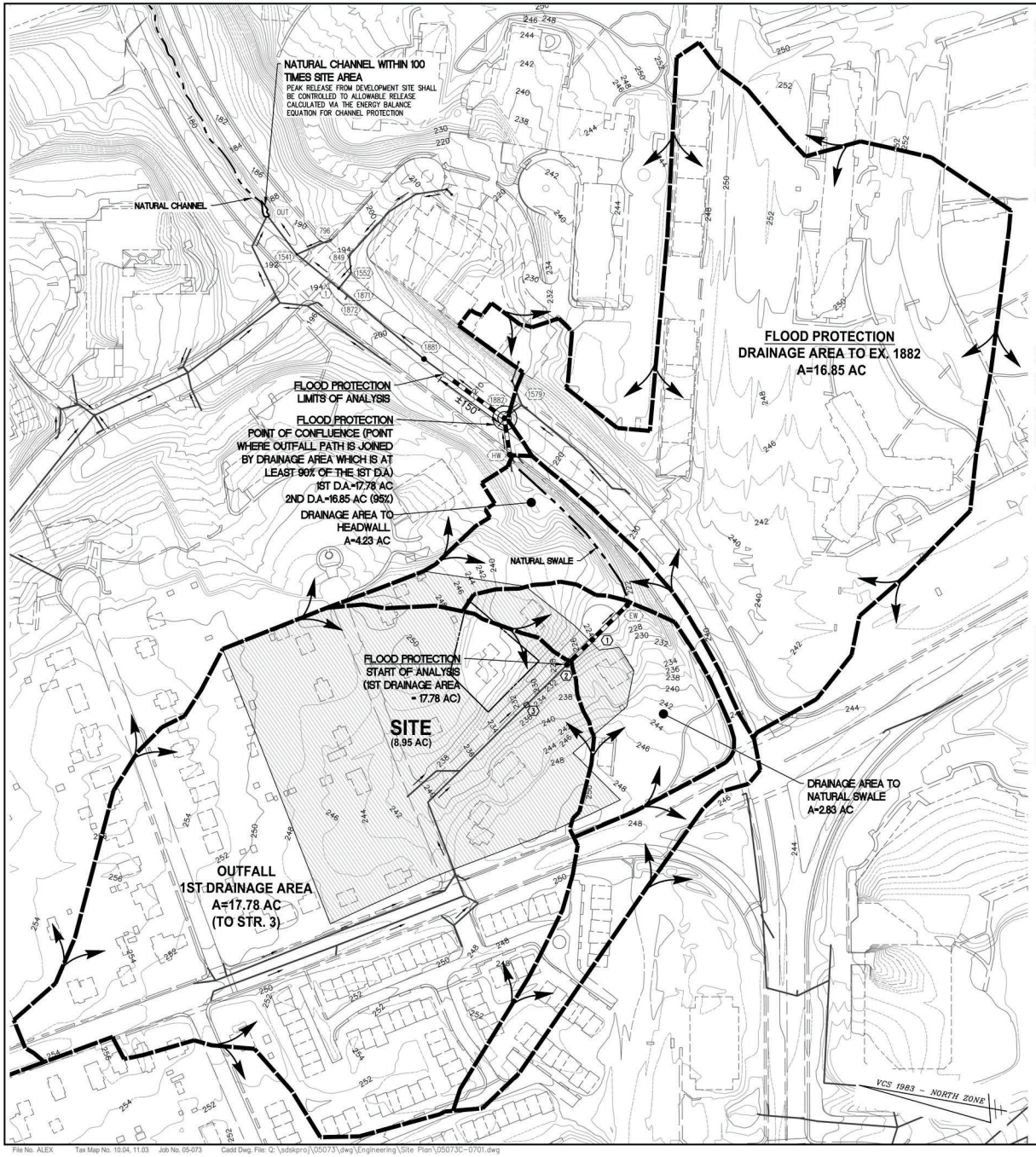

STORM SEWER OUTFALL ANALYSIS

EXISTING CONDITIONS

THE SITE IS LOCATED WITHIN THE FOUR MILE RUN WATERSHED. A STORM SEWER SYSTEM FROM SEMINARY ROAD RUNS DOWN FAIRBANKS AVE. AND THEN FOSTER AVE. THIS STORM SEWER RUNS SOUTHEAST TO THE END OF FOSTER AVENUE AND DISCHARGES AT AN ENDWALL INTO A NATURAL SWALE THAT FLOWS NORTHEAST ALONGSIDE N. BEAUREGARD STREET. THE SITE RECEIVES SHEET FLOW FROM THE NEIGHBORING SINGLE FAMILY PROPERTIES TO THE NORTHWEST. THIS STORMWATER RUNOFF AS WELL AS RUNOFF FROM THE SITE IS COLLECTED BY THE EXISTING STORM SEWER SYSTEM. THE NATURAL SWALE ALONG N. BEAUREGARD RUNS ENDS AT A HEADWALL FOR A STORM SEWER SYSTEM WITHIN NORTH BEAUREGARD STREET. THIS STORM SEWER ULTIMATELY DISCHARGES INTO A NATURAL CHANNEL WHICH IS A TRIBUTARY OF FOUR MILE RUN. SEE SHEET P-0302 FOR EXISTING CONDITIONS PLAN AND THIS SHEET FOR AN OVERALL OUTFALL MAP.

PROPOSED CONDITIONS

RUNOFF IS COLLECTED ON SITE BY PROPOSED INLETS, STORMWATER WATER QUALITY AND DETENTION FACILITIES AND STORM SEWERS. THE PROPOSED STORM SEWER SYSTEM TIES INTO THE EXISTING STORM SEWER AT EXISTING STRUCTURE NO. 1036 AT THE FOSTER AVENUE CUL-DE-SAC. RUNOFF THEN FOLLOWS THE SAME PATH AS EXISTING THROUGH THE NATURAL SWALE AND INTO THE TRUNK SEWER WITHIN N. BEAUREGARD STREET.

CHANNEL PROTECTION ANALYSIS

THE LIMITS OF ANALYSIS FOR CHANNEL PROTECTION SHALL EXTEND TO A POINT IN WHICH THE WATERSHED IS 100 TIMES THE SITE'S CONTRIBUTING AREA (898 ACRES). AS SHOWN IN THE OUTFALL ANALYSIS MAP THERE IS A NATURAL STREAM PRESENT WITHIN THE LIMITS OF ANALYSIS. THEREFORE, THE DESIGN PARAMETERS OF Z.O. 13-107(F)(1)(C) FOR NATURAL STORMWATER CONVEYANCE SYSTEM HAVE BEEN UTILIZED IN ORDER TO COMPLY WITH THE CHANNEL PROTECTION REQUIREMENTS FOR EACH OUTFALL.

THE ALLOWABLE PEAK RELEASE FOR THE 1-YR, 24-HR STORM FOR THE SITE UNDER POST-DEVELOPMENT CONDITIONS HAS BEEN CALCULATED WITH THE FOLLOWING METHODOLOGY:

$$Q1\ POST \leq \frac{0.8\ (Q1\ PRE \times VI\ PRE)}{VI\ POST}$$

BASED ON THE COMPUTATIONS PROVIDED ON SHEET C-0703, THE DESIGN CRITERIA FOR A NATURAL STORMWATER CONVEYANCE SYSTEM HAS BEEN SATISFIED, THEREFORE, THE OUTFALL IS DETERMINED TO BE ADEQUATE IN ACCORDANCE WITH THE CHANNEL PROTECTION PARAMETERS.

FLOOD CONTROL ANALYSIS

BASED ON AN ANALYSIS OF THE EXISTING DRAINAGE NETWORK DOWNSTREAM OF THE SITE'S DISCHARGE POINT, THE RECEIVING CONVEYANCE SYSTEM DOES NOT EXPERIENCE LOCALIZED FLOODING WITHIN THE LIMITS OF ANALYSIS. ADDITIONALLY, THE ONSITE 10-YR, 24 HR PEAK FLOW RATE WILL BE RELEASED SO THAT THE OVERALL POST DEVELOPMENT PEAK RATE IS BELOW THE PREDEVELOPMENT PEAK RATE IN ACCORDANCE WITH Z.O. SECTION 13-109(F)(2)(o)(i & ii). SEE SHEET C-0703 FOR STORMWATER MANAGEMENT COMPUTATIONS.

AS SHOWN IN THE OUTFALL ANALYSIS MAP THIS SHEET, AT STRUCTURE #1882 THE OUTFALL IS JOINED BY A SECOND DRAINAGE AREA (16.85 AC) THAT IS AT LEAST 90% IN SIZE OF THE FIRST DRAINAGE AREA (17.78 AC). THE LIMITS OF ANALYSIS FOR FLOOD PROTECTION SHALL EXTEND 150' FROM THIS POINT OF CONFLUENCE. BASED ON THE ANALYSES THIS SHEET, THE EXISTING STORM SEWER SYSTEM WITHIN THE LIMITS OF ANALYSIS CAN ADEQUATELY CONVEY THE POST-DEVELOPMENT PEAK FLOW OF THE 10-YR, 24 HR STORM.

10-YR STORM SEWER COMPUTATIONS (FLOOD PROTECTION)

THESE COMPUTATIONS ANALYZE THE CAPACITY OF THE DOWNSTREAM SYSTEM TO HANDLE THE DESIGN FLOWS FOLLOWING THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT IMPROVEMENTS.

FROM POINT	TO POINT	AREA "A" ACRES	AREA ACCUM-ULATED	RUN-OFF COEF. C	INLET TIME MIN	RAIN FALL IN/HR	RUNOFF Q ACCUM-ULATED C.F.S.*	INVERT ELEV'S UPPER END	INVERT ELEV'S LOWER END	LENGTH FT.	SLOPE FT./FT.	MANNING'S 'n'	DIA. IN	CAPA-CITY C.F.S.
												0.013		
3	2	17.78	17.78				70.30	222.36	221.82	109	0.0050	0.013	42	70.74
2	1	0.12	17.90	0.31	10.00	7.00	70.56	221.72	221.37	71	0.0049	0.013	42	70.57
1	EW	0.00	17.90	0.64	10.00	7.00	70.56	221.27	218.13	98	0.0320	0.013	42	179.90
HW	1882	7.06	24.96	0.58	20.00	5.00	91.03	216.31	204.27	74	0.1627	0.013	48	579.06
1882	1881	16.85	41.81	0.62	30.00	4.00	132.82	204.15	195.75	199	0.0422	0.013	48	294.95

* INCLUDES FLOWS FROM DETENTION ON-SITE

LEGEND

- DRAINAGE DIVIDES
- POINT OF CONFLUENCE
- FLOW DIRECTION IN PIPE
- STORM SEWER WITHIN LIMITS OF ANALYSIS
- STORM SEWER OUTSIDE LIMITS OF ANALYSIS

DESIGN RAINFALL DEPTHS

2-YR STORM	I = 2.7 INCHES
10-YR STORM	I = 5.2 INCHES
100-YR STORM	I = 8.2 INCHES

100 0 50 100 200 400
(IN FEET)
1 INCH = 100'

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10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA 3301 AARON M. VINSON Lic. No.041851 6/21/2023 PROFESSIONAL ENGINEER

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UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

OUTFALL ANALYSIS

APPROVED
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DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
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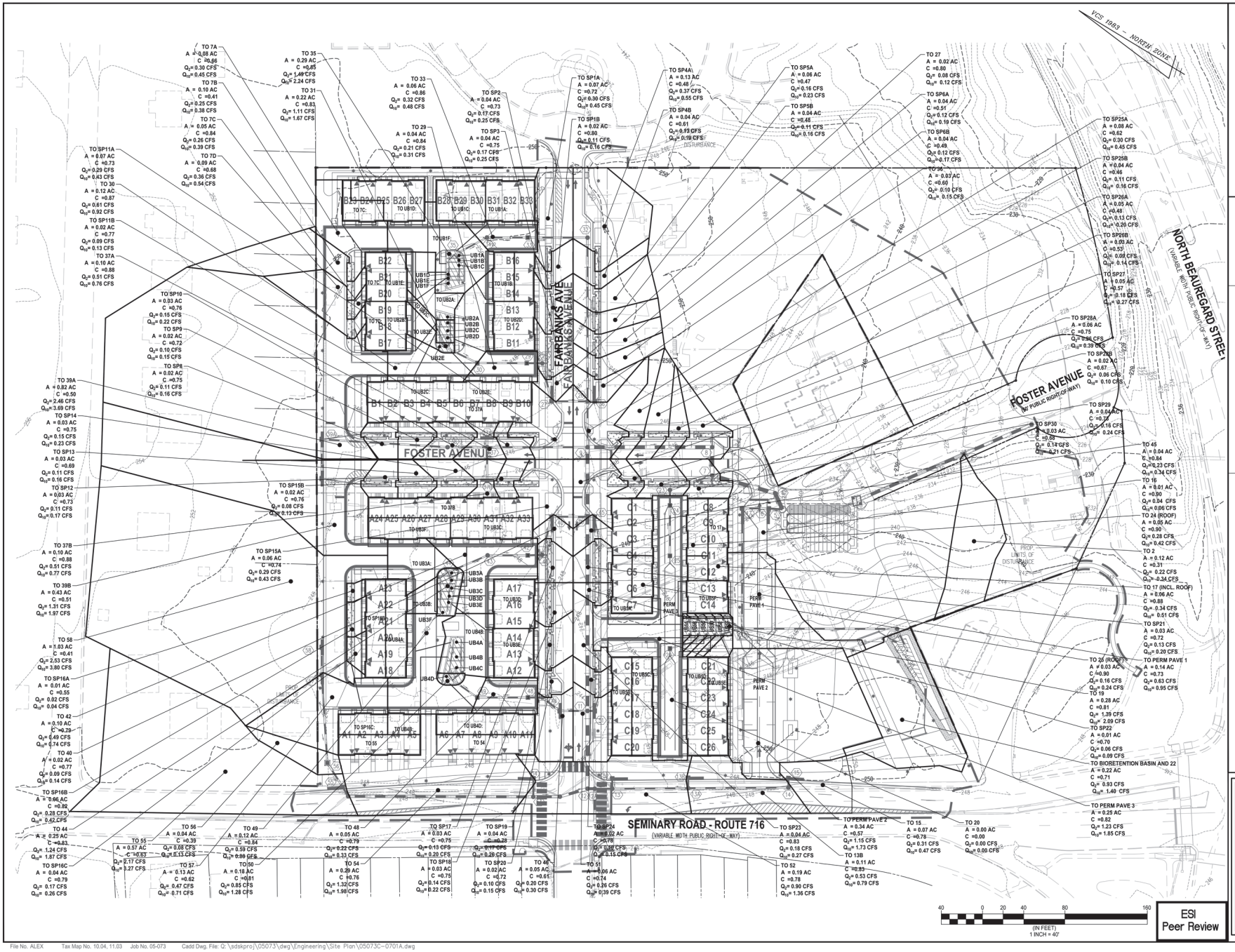
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskproj\05073\dwg\Engineering\Site Plan\05073C-0701.dwg

SHEET: C-0701



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DATE	DESCRIPTION
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10/19/22	FSP SUB #4

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UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PROPOSED DRAINAGE DIVIDE MAP

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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SHEET: C-0701A

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10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
LIC. No.041851
6/21/2023
PROFESSIONAL ENGINEER

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UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

IMPERVIOUS AREA MAP

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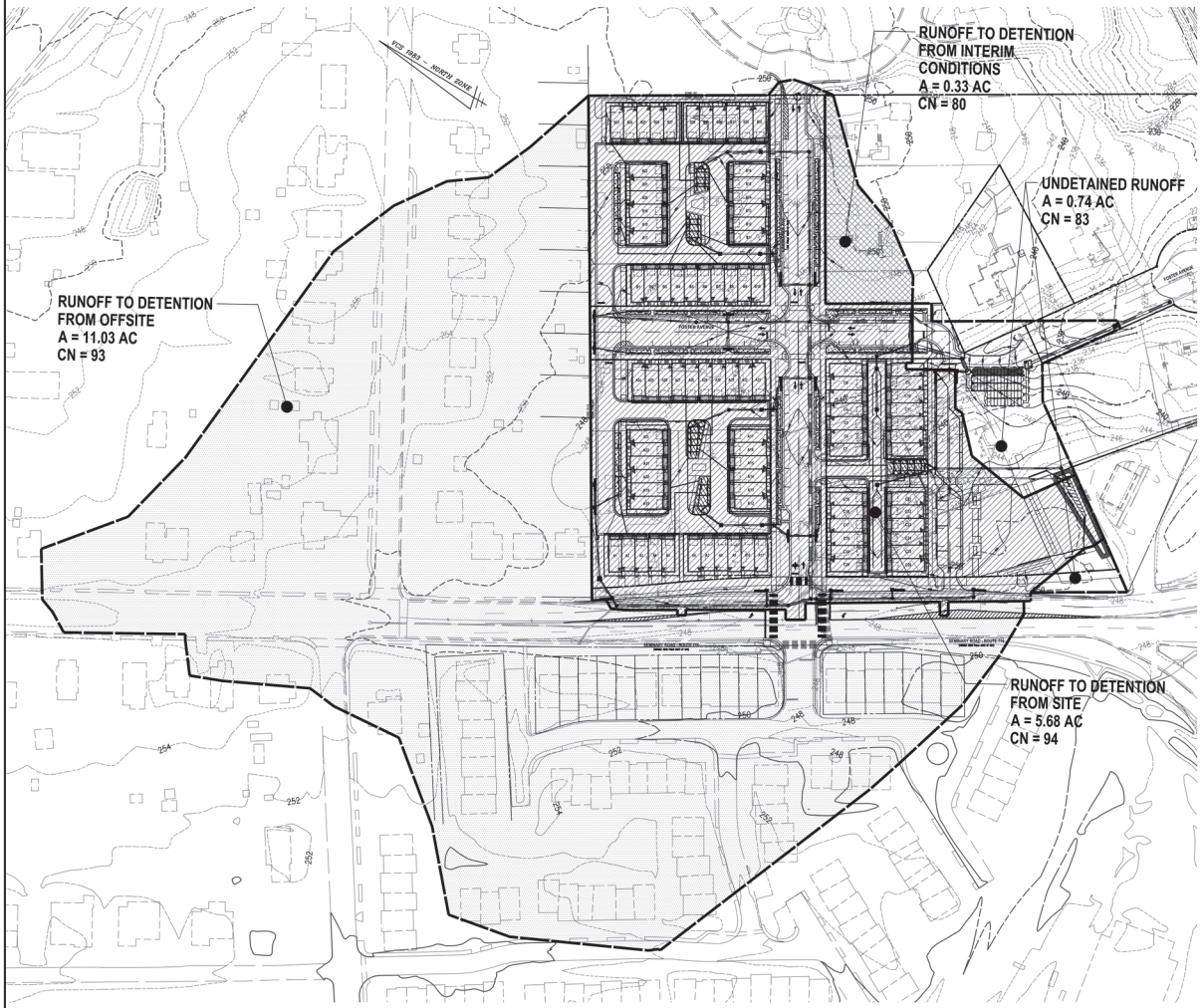
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-0702

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0702.dwg

STORMWATER MANAGEMENT DRAINAGE MAP

SCALE: 1" = 70'



LEGEND

- RUNOFF TO DETENTION FROM SITE (5.68 AC)
- RUNOFF TO DETENTION FROM INTERIM CONDITION (0.33 AC)
- RUNOFF TO DETENTION FROM OFFSITE (11.03 AC)
- UNDETAINED RUNOFF (0.74 AC)

70 0 35 70 140 280
(IN FEET)
1 INCH = 70'

STORMWATER MANAGEMENT COMPUTATIONS

I. PRE-DEVELOPMENT CONDITION (INTERIM – SHEETFLOW)

SITE AREA = 2.14 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	1.80	80
IMPERVIOUS	0.34	98

B. WEIGHTED CN = 83

C. TIME OF CONCENTRATION = 20 MIN.

D. RUNOFF
Q1 = 2.06 CFS
Q2 = 2.88 CFS
Q10 = 5.57 CFS
Q100 = 11.33 CFS

II. POST-DEVELOPMENT CONDITION (INTERIM – SHEETFLOW)

SITE AREA = 2.14 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	2.11	80
IMPERVIOUS	0.03	98

B. WEIGHTED CN = 80

C. TIME OF CONCENTRATION = 20 MIN.

D. RUNOFF
Q1 = 1.71 CFS
Q2 = 2.48 CFS
Q10 = 5.08 CFS
Q100 = 10.80 CFS

I. PRE-DEVELOPMENT CONDITION (PHASE 1)

SITE AREA = 6.42 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	4.95	80
IMPERVIOUS	1.47	98

B. WEIGHTED CN = 84

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q1 = 11.14 CFS (V1 = 27,943 CF)
Q2 = 13.94 CFS
Q10 = 26.13 CFS
Q100 = 51.96 CFS

II. POST-DEVELOPMENT CONDITION (PHASE 1)

SITE AREA = 6.42 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	2.08	80
IMPERVIOUS	4.34	98

B. ADJUSTED CN FROM VRRM = 89 (1 YR)
ADJUSTED CN FROM VRRM = 90 (2,10 YR)
WEIGHTED CN = 92 (100 YR)

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q1 = 13.04 CFS (V1 = 36,225 CF)
Q2 = 17.66 CFS
Q10 = 30.05 CFS
Q100 = 56.38 CFS

POST DEVELOPMENT CONDITIONS – AREA BREAKDOWN

III. UNDETAINED RUNOFF

UNDETAINED AREA = 0.74 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	0.63	80
IMPERVIOUS	0.11	98

B. WEIGHTED CN = 83

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q1 = 1.11 CFS
Q2 = 1.54 CFS
Q10 = 2.93 CFS
Q100 = 5.91 CFS

IV. RUNOFF TO DETENTION FROM SITE

DETAINED AREA = 5.68 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	1.45	80
IMPERVIOUS	4.23	98

B. ADJUSTED CN FROM VRRM = 90 (1, 2 YR)
ADJUSTED CN FROM VRRM = 91 (10 YR)
WEIGHTED CN = 93 (100 YR)

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q1 = 12.06 CFS
Q2 = 15.62 CFS
Q10 = 27.10 CFS
Q100 = 50.23 CFS

V. RUNOFF TO DETENTION FROM INTERIM CONDITIONS

DETAINED AREA = 0.33 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	0.33	80
IMPERVIOUS	0.00	98

B. WEIGHTED CN = 80

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q1 = 0.29 CFS
Q2 = 0.42 CFS
Q10 = 0.86 CFS
Q100 = 1.82 CFS

VI. RUNOFF TO DETENTION FROM OFFSITE

DETAINED AREA = 11.03 AC

A. CONTRIBUTING AREAS:	HSG D AC	CN
PERVIOUS	3.35	80
IMPERVIOUS	7.68	98

B. WEIGHTED CN = 93

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q1 = 22.90 CFS
Q2 = 28.91 CFS
Q10 = 47.24 CFS
Q100 = 84.84 CFS

VII. STORMWATER MANAGEMENT REQUIREMENT – ALLOWABLE RELEASE FROM DEVELOPMENT

A. Q1 = 0.8 (10.19 CFS X 27,943 CF) / 36,225 CF = 6.29 CFS

B. Q2 = 13.94 CFS
Q10 = 26.13 CFS

C. Q100 = 51.96 CFS

CHANNEL PROTECTION REQUIREMENT
– ENERGY BALANCE EQUATION PER SECTION 109(F)(1)(c)(i) (NATURAL CHANNEL WITHIN 100x SITE AREA)

FLOOD PROTECTION
– PREDEVELOPMENT SITE RELEASE FOR 2 & 10YR, 24 HR STORM

FOUR MILE RUN WATERSHED
– PREDEVELOPMENT SITE RELEASE FOR 100YR, 24 HR STORM

VIII. ALLOWABLE RELEASE ADJUSTED TO INCLUDE OFFSITE AREA AND INTERIM AREAS FLOWING THROUGH THE SITE (PHASE 1)

INCLUDES PEAK RELEASE FROM OFFSITE AREAS FROM THE ADJACENT PARCEL AND INTERIM AREAS WHICH FLOWS THROUGH THE DETENTION STRUCTURE (SEE SECTION V ABOVE)

Q(ALLOW) = Q(OFFSITE) + Q(INTERIM DETAIN) + Q(COMPUTED ALLOWABLE PER SECTION VII ABOVE)
Q1 = 22.90 CFS + 0.29 CFS + 6.29 = 29.42 CFS
Q2 = 28.91 CFS + 0.42 CFS + 13.94 = 43.27 CFS
Q10 = 47.24 CFS + 0.86 CFS + 26.13 = 74.23 CFS
Q100 = 84.84 CFS + 1.82 CFS + 51.96 = 138.62 CFS

IX. STORMWATER RELEASES FROM DETENTION

ROUTED RELEASES FROM PROPOSED STORMTECH DETENTION STRUCTURE:
Q1 = 27.79 CFS
Q2 = 40.25 CFS
Q10 = 70.30 CFS
Q100 = 131.17 CFS

X. COMPLIANCE

DEMONSTRATE THAT RELEASES FROM THE SITE (INCLUDES RELEASES FROM DETENTION AND UNDETAINED RUNOFF FROM THE SITE) DO NOT EXCEED STORMWATER REQUIREMENT OF SECTION VIII.

FROM DETENTION		UNDETAINED		TOTAL FROM SITE	≤	ALLOWABLE (ADJ.)*
Q1 = 27.79 CFS	+	1.11 CFS	=	28.90 CFS	≤	29.48 CFS
Q2 = 40.25 CFS	+	1.54 CFS	=	41.79 CFS	≤	43.27 CFS
Q10 = 70.30 CFS	+	2.93 CFS	=	73.23 CFS	≤	74.23 CFS
Q100 = 131.17 CFS	+	5.91 CFS	=	137.08 CFS	≤	138.62 CFS

* SEE SECTION VIII FOR COMPUTATION OF "ADJUSTED" ALLOWABLE RELEASE FROM THE SITE.

NOTES:
SOIL WITHIN THE SITE ARE EXPECTED AND ASSUMED TO BE D TYPE SOILS. COMPUTATIONS PROVIDED IN THIS SHEET AS WELL AS SHEET P-0703 ARE CONSISTENT WITH THIS ASSUMPTION.

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10/19/22	FSP SUB #4

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UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SWM COMPUTATIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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SHEET: C-0703

VRRM COMPUTATIONS FOR PHASE 1

Project Name: Upland Park - Phase 1
Date: 4/23/2021
Linear Development Project? No

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 6.81

Maximum reduction required:	20%
The site's net increase in impervious cover (acres) is:	2.87
Post-Development TP Load Reduction for Site (lb/yr):	5.92

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

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				4.95	4.95
Impervious Cover (acres)				1.47	1.47
					6.42

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				2.08	2.08
Impervious Cover (acres)				4.34	4.34
Area Check	OK.	OK.	OK.	OK.	6.42

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

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre 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)	4.95	2.08
Weighted Rv(turf)	0.25	0.25
% Managed Turf	77%	59%
Impervious Cover (acres)	1.47	1.47
Rv(impervious)	0.95	0.95
% Impervious	23%	41%
Total Site Area (acres)	**6.42**	**3.55**
Site Rv	**0.41**	**0.54**

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final) Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.08
Weighted Rv (turf)	0.25
% Managed Turf	32%
Impervious Cover (acres)	4.34
Rv(impervious)	0.95
% Impervious	68%
Final Site Area (acres)	**6.42**
Final Post Dev Site Rv	**0.72**

Land Cover Summary-Post Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.08
Weighted Rv (turf)	0.25
% Managed Turf	59%
ReDev. Impervious Cover (acres)	1.47
Rv(impervious)	0.95
% Impervious	41%
Total ReDev. Site Area (acres)	**3.55**
ReDev Site Rv	**0.54**

Land Cover Summary-Post Post-Development New Impervious	
New Impervious Cover (acres)	2.87
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.2195	0.1597	
Pre-ReDevelopment Treatment Volume (cubic feet)	9,561	6,957	
Pre-ReDevelopment TP Load (lb/yr)	6.01	4.37	
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.94	1.23	
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		1.46	

Final Post-Development Treatment Volume (acre-ft)	0.3869	Post-ReDevelopment Treatment Volume (acre-ft)	0.1597	Post-Development Treatment Volume (acre-ft)	0.2272
Final Post-Development Treatment Volume (cubic feet)	16,854	Post-ReDevelopment Treatment Volume (cubic feet)	6,957	Post-Development Treatment Volume (cubic feet)	9,897
Final Post-Development TP Load (lb/yr)	10.59	Post-ReDevelopment Load (TP) (lb/yr)*	4.37	Post-Development TP Load (lb/yr)	6.22
Final Post-Development TP Load per acre (lb/acre/yr)	1.65	Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.23		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	20%		
		TP Load Reduction Required for Redeveloped Area (lb/yr)	0.87	TP Load Reduction Required for New Impervious Area (lb/yr)	5.04

[1] *Adjusted Land Cover Summary:*
Pre ReDevelopment 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-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	5.92

← PHOSPHOROUS REDUCTION REQUIRED

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				1.45	1.45	0.25
Impervious Cover (acres)				4.23	4.23	0.95
				Total	5.68	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr) 9.99
Post Development Treatment Volume in D.A. A (ft³) 15,903

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45			0	0	0	0	25	0.00	0.00	0.00	0.00	None
3.b. Permeable Pavement #2 (Spec #7)	75		0.47		1,216	405	1,621	25		1.02	0.83	0.19	14.b. MTD - Filtering
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	0.67	2.19	0	3,264	4,896	8,160	25	0.00	5.12	2.82	2.30	14.b. MTD - Filtering
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80	0.07	0.15	0	465	116	581	50	0.00	0.36	0.33	0.04	14.b. MTD - Filtering
14. Manufactured Treatment Devices (no RR)													
14.b. Manufactured Treatment Device-Filtering	0	0.71	1.42	5,418	0	10,959	10,959	40	2.53	3.48	2.40	3.61	

Nitrogen Removal Efficiency (%)	Nitrogen Load from Upstream Practices (lbs)	Untreated Nitrogen Load to Practice (lbs)	Nitrogen Removed By Practice (lbs)	Remaining Nitrogen Load (lbs)
3. Permeable Pavement (RR)				
25	0.00	0.00	0.00	0.00
25		7.28	5.91	1.36
6. Bioretention (RR)				
40	0.00	36.64	23.45	13.19
60	0.00	2.61	2.40	0.21
14. Manufactured BMP (no RR)				
0	14.76	24.88	0.00	39.64

TOTAL IMPERVIOUS COVER TREATED (ac) 4.23 AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac) 1.45 AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr) 5.92

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr) 9.99
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 2.40
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 3.97
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr) 6.37
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr) 3.62

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 31.76
NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00
TOTAL NITROGEN REMOVED IN D.A. A (lb/yr) 31.76

Drainage Area B

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.63	0.63	0.25
Impervious Cover (acres)				0.11	0.11	0.95
				Total	0.74	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. B (lb/yr) 0.60
Post Development Treatment Volume in D.A. B (ft³) 951

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths (RV Developed) are computed with and without reduction practices.

Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	1.45
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	4.23
	CN	98	98	98	98
				$CN_{(D.A. A)}$	93

Total Area (acres): 5.68
Runoff Reduction Volume (ft³): 4,944

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.84	2.35	3.96
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.60	2.11	3.72
Adjusted CN*	90	90	91

**See Notes above*

Drainage Area B		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.63
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.11
	CN	98	98	98	98
				$CN_{(D.A. B)}$	83

Total Area (acres): 0.74
Runoff Reduction Volume (ft³): 0

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.10	1.53	2.96
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.10	1.53	2.96
Adjusted CN*	83	83	83

**See Notes above*

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)	4.23	0.11	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	4.23	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	1.45	0.63	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	1.45	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³) 16,854

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 (ft³)	4,944	0	0	0	0	4,944
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	9.99	0.60	0.00	0.00	0.00	10.59
TP LOAD REDUCTION ACHIEVED (lb/yr)	6.37	0.00	0.00	0.00	0.00	6.37
TP LOAD REMAINING (lb/yr)	3.62	0.60	0.00	0.00	0.00	4.21
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	31.76	0.00	0.00	0.00	0.00	31.76

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	10.59
TP LOAD REDUCTION REQUIRED (lb/yr)	5.92
TP LOAD REDUCTION ACHIEVED (lb/yr)	6.37
TP LOAD REMAINING (lb/yr)	4.21
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr)	0.00 **

** TARGET TP REDUCTION EXCEEDED BY 0.46 LB/YEAR ** ← COMPLIANCE VERIFICATION

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	75.75
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	31.76
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	44.00

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: AS NOTED
DRAWN: CHECKED: PPT/DSC, AWP
DATE: 04/21/2023
PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/25/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — Lic. No.041851 — 6/21/2023 — PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

BMP COMPUTATIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0702.dwg

SHEET: C-0704

INDIVIDUAL BMP INFORMATION TABLE

NAME OF PRACTICE	TOTAL CREDIT AREA TREATED (AC)	PERVIOUS CREDIT AREA TREATED (AC)	BIORETENTION AREA (AC)	IMPERVIOUS CREDIT AREA TREATED (AC)	PHOSPHOROUS REMOVAL EFFICIENCY (%)	PHOSPHOROUS REMOVAL LOAD (LBS)	COORDINATES	
							LATITUDE	LONGITUDE
URBAN BIORETENTION #UB1A	0.05	0.00	0.00	0.04	55	0.05	38.836828	-77.116922
URBAN BIORETENTION #UB1B	0.02	0.00	0.00	0.02	55	0.02	38.836819	-77.116936
URBAN BIORETENTION #UB1C	0.05	0.00	0.00	0.04	55	0.05	38.836814	-77.116953
URBAN BIORETENTION #UB1D	0.05	0.00	0.00	0.05	55	0.05	38.836806	-77.116975
URBAN BIORETENTION #UB1E	0.02	0.00	0.00	0.02	55	0.02	38.836797	-77.116992
URBAN BIORETENTION #UB1F	0.05	0.00	0.00	0.05	55	0.05	38.836792	-77.117006
URBAN BIORETENTION #UB2A	0.04	0.01	0.00	0.04	55	0.04	38.836769	-77.117122
URBAN BIORETENTION #UB2B	0.03	0.00	0.00	0.02	55	0.03	38.836758	-77.117142
URBAN BIORETENTION #UB2C	0.05	0.00	0.00	0.04	55	0.05	38.836747	-77.117161
URBAN BIORETENTION #UB2D	0.05	0.00	0.00	0.04	55	0.05	38.836736	-77.117183
URBAN BIORETENTION #UB2E	0.06	0.00	0.00	0.05	55	0.06	38.836725	-77.117208
URBAN BIORETENTION #UB3A	0.05	0.01	0.00	0.04	55	0.05	38.836417	-77.117867
URBAN BIORETENTION #UB3B	0.02	0.00	0.00	0.02	55	0.02	38.836408	-77.117892
URBAN BIORETENTION #UB3C	0.04	0.00	0.00	0.04	55	0.04	38.836400	-77.117917
URBAN BIORETENTION #UB3D	0.05	0.00	0.00	0.04	55	0.05	38.836389	-77.117939
URBAN BIORETENTION #UB3E	0.05	0.00	0.00	0.04	55	0.05	38.836381	-77.117961
URBAN BIORETENTION #UB3F	0.04	0.00	0.00	0.04	55	0.04	38.836372	-77.117983
URBAN BIORETENTION #UB4A	0.05	0.00	0.00	0.05	55	0.05	38.836300	-77.118056
URBAN BIORETENTION #UB4B	0.02	0.00	0.00	0.02	55	0.02	38.836286	-77.118094
URBAN BIORETENTION #UB4C	0.06	0.01	0.00	0.05	55	0.06	38.836275	-77.118133
URBAN BIORETENTION #UB4D	0.05	0.00	0.00	0.05	55	0.05	38.836261	-77.118172
URBAN BIORETENTION #UB5A	0.04	0.00	0.00	0.03	55	0.04	38.835794	-77.117617
URBAN BIORETENTION #UB5B	0.05	0.00	0.00	0.04	55	0.05	38.835775	-77.117600
URBAN BIORETENTION #UB5C	0.05	0.00	0.00	0.05	55	0.05	38.835753	-77.117586
URBAN BIORETENTION #UB5D	0.05	0.00	0.00	0.05	55	0.05	38.835733	-77.117572
URBAN BIORETENTION #UB5E	0.05	0.00	0.00	0.04	55	0.05	38.835717	-77.117556
URBAN BIORETENTION #UB5F	0.04	0.01	0.00	0.03	55	0.04	38.835697	-77.117542
BIORETENTION FILTER #BF1*	0.22	0.06	0.01	0.15	90	0.33	38.835200	-77.117344
STREETSCAPE STORMWATER PLANTER #SP1A	0.06	0.01	0.00	0.05	55	0.06	38.836594	-77.116794
STREETSCAPE STORMWATER PLANTER #SP1B	0.02	0.00	0.00	0.02	55	0.02	38.836578	-77.116831
STREETSCAPE STORMWATER PLANTER #SP2	0.04	0.00	0.00	0.03	55	0.04	38.836536	-77.116922
STREETSCAPE STORMWATER PLANTER #SP3	0.04	0.00	0.00	0.03	55	0.04	38.836475	-77.117053
STREETSCAPE STORMWATER PLANTER #SP4A	0.06	0.02	0.00	0.04	55	0.06	38.836481	-77.116714
STREETSCAPE STORMWATER PLANTER #SP4B	0.04	0.02	0.00	0.02	55	0.04	38.836464	-77.116747
STREETSCAPE STORMWATER PLANTER #SP5A	0.06	0.04	0.00	0.02	55	0.06	38.836433	-77.116814
STREETSCAPE STORMWATER PLANTER #SP5B	0.04	0.02	0.00	0.01	55	0.04	38.836403	-77.116886
STREETSCAPE STORMWATER PLANTER #SP6A	0.04	0.02	0.00	0.01	55	0.04	38.836372	-77.116950
STREETSCAPE STORMWATER PLANTER #SP6B	0.04	0.02	0.00	0.01	55	0.04	38.836344	-77.117014
STREETSCAPE STORMWATER PLANTER #SP7A	0.06	0.01	0.00	0.05	55	0.06	38.837044	-77.117150
STREETSCAPE STORMWATER PLANTER #SP7B	0.06	0.04	0.00	0.02	55	0.06	38.837017	-77.117206
STREETSCAPE STORMWATER PLANTER #SP7C	0.05	0.00	0.00	0.05	55	0.05	38.836992	-77.117261
STREETSCAPE STORMWATER PLANTER #SP7D	0.06	0.00	0.00	0.06	55	0.06	38.836967	-77.117319
STREETSCAPE STORMWATER PLANTER #SP8	0.02	0.00	0.00	0.02	55	0.02	38.836764	-77.117586
STREETSCAPE STORMWATER PLANTER #SP9	0.02	0.00	0.00	0.02	55	0.02	38.836669	-77.117514
STREETSCAPE STORMWATER PLANTER #SP10	0.03	0.00	0.00	0.03	55	0.03	38.836567	-77.117439
STREETSCAPE STORMWATER PLANTER #SP11A	0.06	0.01	0.00	0.05	55	0.06	38.836453	-77.117336
STREETSCAPE STORMWATER PLANTER #SP11B	0.02	0.00	0.00	0.02	55	0.02	38.836486	-77.117392
STREETSCAPE STORMWATER PLANTER #SP12	0.03	0.00	0.00	0.02	55	0.02	38.836700	-77.117731
STREETSCAPE STORMWATER PLANTER #SP13	0.03	0.00	0.00	0.02	55	0.02	38.836606	-77.117661
STREETSCAPE STORMWATER PLANTER #SP14	0.03	0.00	0.00	0.03	55	0.03	38.836503	-77.117581
STREETSCAPE STORMWATER PLANTER #SP15A	0.06	0.01	0.00	0.05	55	0.06	38.836375	-77.117483
STREETSCAPE STORMWATER PLANTER #SP15B	0.02	0.00	0.00	0.01	56	0.02	38.836425	-77.117525
STREETSCAPE STORMWATER PLANTER #SP16A	0.01	0.00	0.00	0.00	55	0.01	38.836611	-77.118092
STREETSCAPE STORMWATER PLANTER #SP16B	0.06	0.00	0.01	0.05	55	0.05	38.836572	-77.118181
STREETSCAPE STORMWATER PLANTER #SP16C	0.04	0.00	0.00	0.03	55	0.03	38.836533	-77.118261
STREETSCAPE STORMWATER PLANTER #SP17	0.03	0.00	0.00	0.02	55	0.03	38.836200	-77.117658
STREETSCAPE STORMWATER PLANTER #SP18	0.03	0.00	0.00	0.03	55	0.03	38.836142	-77.117786
STREETSCAPE STORMWATER PLANTER #SP19	0.04	0.00	0.00	0.03	55	0.04	38.836081	-77.117922
STREETSCAPE STORMWATER PLANTER #SP20	0.02	0.00	0.00	0.02	55	0.02	38.836033	-77.118025
STREETSCAPE STORMWATER PLANTER #SP21	0.03	0.00	0.00	0.02	55	0.03	38.836086	-77.117575
STREETSCAPE STORMWATER PLANTER #SP22	0.01	0.00	0.00	0.01	55	0.01	38.836042	-77.117672
STREETSCAPE STORMWATER PLANTER #SP23	0.04	0.00	0.00	0.03	55	0.03	38.835950	-77.117872
STREETSCAPE STORMWATER PLANTER #SP24	0.02	0.00	0.00	0.02	55	0.02	38.835919	-77.117939
STREETSCAPE STORMWATER PLANTER #SP25A	0.06	0.01	0.00	0.04	55	0.06	38.836194	-77.117158
STREETSCAPE STORMWATER PLANTER #SP25B	0.04	0.03	0.00	0.01	55	0.04	38.836172	-77.117139
STREETSCAPE STORMWATER PLANTER #SP26A	0.05	0.03	0.00	0.01	55	0.05	38.836117	-77.117097
STREETSCAPE STORMWATER PLANTER #SP26B	0.03	0.01	0.00	0.01	55	0.03	38.836069	-77.117064
STREETSCAPE STORMWATER PLANTER #SP27	0.05	0.02	0.00	0.02	55	0.05	38.835992	-77.117006
STREETSCAPE STORMWATER PLANTER #SP28A	0.06	0.01	0.00	0.04	55	0.06	38.836125	-77.117300
STREETSCAPE STORMWATER PLANTER #SP28B	0.02	0.00	0.00	0.01	55	0.02	38.836103	-77.117283
STREETSCAPE STORMWATER PLANTER #SP29	0.04	0.01	0.00	0.03	55	0.04	38.836028	-77.117225
STREETSCAPE STORMWATER PLANTER #SP30	0.03	0.01	0.00	0.02	55	0.03	38.835925	-77.117150
LEVEL 2 PERMEABLE PAV'T #PP1	0.10	0.00	N/A	0.10	81	0.18	38.835678	-77.117383
LEVEL 2 PERMEABLE PAV'T #PP2	0.15	0.00	N/A	0.15	81	0.26	38.835531	-77.117700
LEVEL 2 PERMEABLE PAV'T #PP3	0.22	0.00	N/A	0.22	81	0.39	38.835833	-77.117653

VRRM COMPUTATIONS FOR INTERIM CONDITIONS

Project Name: Upland park - Interim
Date: 4/20/2021
Linear Development Project? No

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 2.14

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*0*
Post-Development TP Load Reduction for Site (lb/yr):	*-0.14*

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

TP LOAD REDUCTION NOT REQUIRED

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				1.80	1.80
Impervious Cover (acres)				0.34	0.34
					2.14

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				2.11	2.11
Impervious Cover (acres)				0.03	0.03
Area Check	OK.	OK.	OK.	OK.	2.14

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

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre		
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)	1.80	1.80
Weighted Rv(turf)	0.25	0.25
% Managed Turf	84%	84%
Impervious Cover (acres)	0.34	0.34
Rv(impervious)	0.95	0.95
% Impervious	16%	16%
Total Site Area (acres)	**2.14**	**2.14**
Site Rv	**0.36**	**0.36**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0644	0.0644
Pre-ReDevelopment Treatment Volume (cubic feet)	2,806	2,806
Pre-ReDevelopment TP Load (lb/yr)	**1.76**	**1.76**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.82	0.82
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.88*

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)	
Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.11
Weighted Rv (turf)	0.25
% Managed Turf	99%
Impervious Cover (acres)	0.03
Rv(impervious)	0.95
% Impervious	1%
Final Site Area (acres)	**2.14**
Final Post Dev Site Rv	**0.26**

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.11
Weighted Rv (turf)	0.25
% Managed Turf	99%
ReDev. Impervious Cover (acres)	0.03
Rv(impervious)	0.95
% Impervious	1%
Total ReDev. Site Area (acres)	**2.14**
ReDev Site Rv	**0.26**

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	0.00
Rv(impervious)	--

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0463	Post-ReDevelopment Treatment Volume (acre-ft)	0.0463	Post-Development Treatment Volume (acre-ft)	--
Final Post-Development Treatment Volume (cubic feet)	2,018	Post-ReDevelopment Treatment Volume (cubic feet)	2,018	Post-Development Treatment Volume (cubic feet)	--
Final Post-Development TP Load (lb/yr)	**1.27**	**Post-ReDevelopment Load (TP) (lb/yr)***	**1.27**	**Post-Development TP Load (lb/yr)**	**--**
Final Post-Development TP Load per acre (lb/acre/yr)	0.59	Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.59		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	20%		
		TP Load Reduction Required for Redeveloped Area (lb/yr)	**-0.14**	**TP Load Reduction Required for New Impervious Area (lb/yr)**	**0**

[1] *Adjusted Land Cover Summary:*
Pre ReDevelopment 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-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	**-0.14**	** *TP LOAD REDUCTION NOT REQUIRED*

INTERIM CONDITION PHOSPHORUS REDUCTION NOT REQUIRED (SEE NARRATIVE ABOVE)

INTERIM CONDITION SWM/BMP NARRATIVE

CONSISTENT WITH THE PRELIMINARY DSUP PLANS, THE APPLICANT PROPOSES TO REMOVE ADDITIONAL SITE FEATURES ON THE PROPERTY OUTSIDE OF THE PHASE 1 LIMITS OF DEVELOPMENT. THIS INTERIM AREA OF DISTURBANCE IS INTENDED TO ACCOUNT FOR THE DEMOLITION OF THE EXISTING HOMES AND ANCILLARY SITE FEATURES ON THE PROPERTY. THE REMOVAL OF IMPERVIOUS SURFACES AND TEMPORARY CONVERSION TO A TURF CONDITION WILL NOT REQUIRE ADDITIONAL BMP MEASURES UNDER THIS PHASE. THE APPLICANT REQUESTS THAT THE EXISTING IMPERVIOUS AREAS SHOWN WITHIN THESE INTERIM LIMITS BE RESERVED FOR THE FUTURE DEVELOPMENT FOR STORMWATER MANAGEMENT PURPOSES, PROVIDED THAT THEY ARE CONSISTENT WITH WHAT IS SHOWN ON THIS APPLICATION.

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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SCALE: AS NOTED | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | AVBP:

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

ARON W. VINCENT, LIC. No.041851, 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

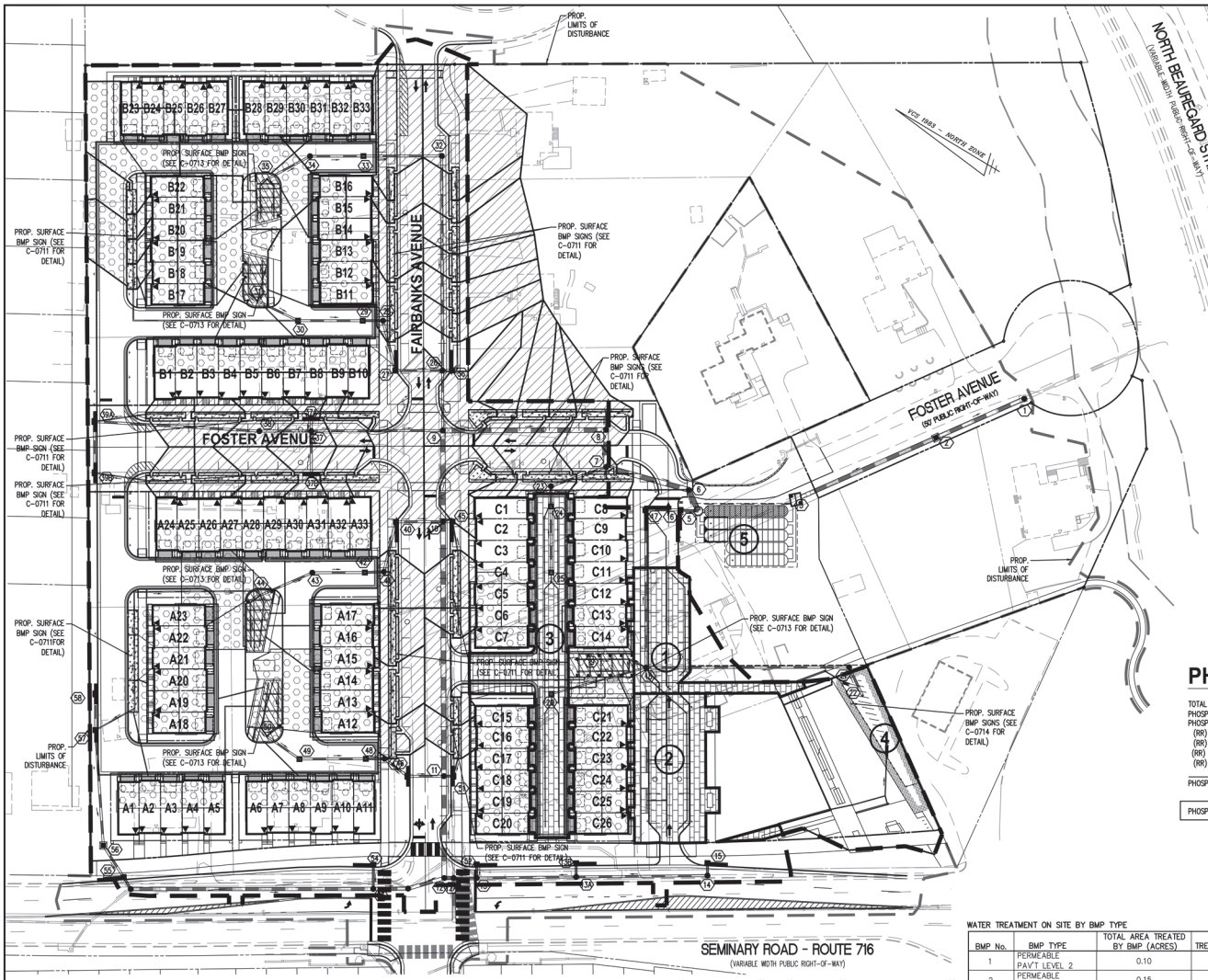
UPLAND PARK PHASE 1 FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

BMP COMPUTATIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-0705

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0702.dwg



WATER QUALITY NARRATIVE

THIS APPLICATION INCLUDES THE IMPROVEMENTS PROPOSED WITHIN UPLAND PARK PHASE 1. THE PROPOSED DEVELOPMENT IS SUBJECT TO THE STORMWATER MANAGEMENT CRITERIA DESCRIBED IN SECTION 13-109 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE FOR RE-DEVELOPMENT. COMPLIANCE FOR THE APPLICABLE STORMWATER QUALITY REQUIREMENTS HAS BEEN DETERMINED USING THE DEQ RUNOFF REDUCTION METHOD (VRRM) SPREADSHEET PROVIDED ON SHEET C-0704, AND THE USE OF STORMWATER BMPS ESTABLISHED IN 9VAC25-870 AND FOUND UNDER THE VIRGINIA BMP CLEARING HOUSE WEBSITE. FOR THE PURPOSES OF THE STORMWATER MANAGEMENT, THE ANALYSES FOCUS ON TWO AREAS: (1) THE SITE AREA (6.42 ACRES), WHICH CONSISTS OF THE LIMITS OF DISTURBANCE WITH THE PHASE 1 BOUNDARY AND WHERE RUNOFF TREATMENT IS PROPOSED WITH THE INSTALLATION OF BMP FACILITIES AND (2) THE "INTERIM CONDITIONS" WHICH REPRESENT THE DISTURBANCE THAT IS NOT WITHIN THE PHASE 1 DEVELOPMENT.

BASED ON THE ANALYSIS PROVIDED ON SHEET C-0702 AND C-0703, THE AMOUNT OF IMPERVIOUS AREA WITHIN THE SITE (PHASE 1 DEVELOPMENT AREA), WILL INCREASE WITH THE PROPOSED DEVELOPMENT BY 2.87 ACRES. THE AREA OUTSIDE OF PHASE 1, WHICH REFLECTS INTERIM CONDITIONS, WILL RESULT IN A DECREASE IN THE AMOUNT OF IMPERVIOUS AREAS BY 0.31 ACRES.

FOR THE LIMITS OF THE PHASE 1 DEVELOPMENT THE REQUIRED PHOSPHOROUS REMOVAL SHALL BE AT LEAST 5.92 LB/YR AS COMPUTED USING THE DEQ VRRM SPREADSHEET. THE REQUIRED PHOSPHOROUS REMOVAL IS PROPOSED TO BE ACHIEVED BY TREATING APPROXIMATELY 5.68 ACRES ON SITE. THE VRRM FOR THE INTERIM CONDITIONS SHOW THAT THE REDUCTION IN IMPERVIOUS AREAS FROM PRE-DEVELOPMENT TO POST-DEVELOPMENT CONDITIONS SATISFY THE PHOSPHOROUS REMOVAL REQUIREMENT FOR THE AREA OUTSIDE OF THE PHASE 1 LIMITS.

AS SHOWN ON THIS SHEET, TREATMENT FOR THE AREA WITHIN THE PHASE 1 LIMITS WILL BE PROVIDED WITH THE INSTALLATION OF PERMEABLE PAVEMENT AND BIORETENTION FACILITIES (BASINS AND PLANTERS ALONG PRIVATE AND PUBLIC STREETS) IN SERIES WITH A FILTERING DEVICE (STORMTECH WITH ISOLATOR ROW). RUNOFF FROM THE RIGHT-OF-WAY WILL BE CAPTURED AND TREATED BY BIORETENTION PLANTERS LOCATED ALONG FOSTER AVENUE AND FAIRBANKS AVENUE. A BREAKDOWN OF AREAS TREATED BY EACH DEVICE CAN BE FOUND ON THIS SHEET AND SHEETS C-0709 AND C-0710. THE TOTAL PHOSPHOROUS REMOVAL ACHIEVED ONSITE AS COMPUTED BY THE VRRM IS 6.37 LB/YR WHICH EXCEEDS THE WATER QUALITY CONTROL REQUIREMENTS OF SECTION 13-109.

ALTHOUGH EXCEEDING THE WATER QUALITY CONTROL REQUIREMENTS DESCRIBED IN SECTION 13-109 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE, A PORTION OF THE WATER QUALITY VOLUME WITHIN THE LIMITS OF PHASE 1, AS DESCRIBED IN SECTION 19-103(E)(1) OF THE ZONING ORDINANCE, WILL NOT BE TREATED WITH THE PROPOSED BMP FACILITIES. THEREFORE THE APPLICANT PROPOSES TO MAKE A CONTRIBUTION TO THE WATER QUALITY EQUIVALENCY FUND TO COMPENSATE FOR THE UNTREATED IMPERVIOUS AREAS.

BECAUSE THE AREAS OUTSIDE OF THE PHASE 1 BOUNDARY DO NOT REFLECT ULTIMATE CONDITIONS, REQUIREMENTS FOR WATER QUALITY FOR THIS AREA WILL BE PROVIDED WITH A FUTURE PLAN WITH THE EXPANSION OF THE REMAINDER OF THE PARCEL OF 2.14 ACRES.

LEGEND

- AREA TO STREETSCAPE STORMWATER PLANTER IN R.O.W (1.35 ACRES)
- AREA TO STREETSCAPE STORMWATER PLANTER ON PRIVATE AREA (1.51 ACRES)
- AREA TO PERMEABLE PAVERS (0.47 ACRES)
- AREA TO MANUFACTURED FILTERING DEVICE (STORMTECH W/ ISOLATOR ROW) (5.68 ACRES- INCL. 3.54 ACRES TREATED BY UPSTREAM BMPS)*
- (#) DRAINAGE AREA LABEL

PHOSPHOROUS REMOVAL SUMMARY

TOTAL SITE AREA (PHASE 1)	6.42 ACRES
PHOSPHOROUS REMOVAL REQUIRED	5.92 LB/YR
PHOSPHOROUS REMOVAL ACHIEVED:	
(RR) 0.47 ACRES PERMEABLE PAVERS LV 2 (TO MTD)	0.83 LB/YR (14% OF TP REQUIREMENT)
(RR) 0.22 ACRES TO BIO-RETENTION LV 2 (TO MTD)	0.33 LB/YR (6% OF TP REQUIREMENT)
(RR) 1.51 ACRES TO BIO-RETENTION ON PRIVATE AREA (TO MTD)	1.62 LB/YR (27% OF TP REQUIREMENT)
(RR) 1.34 ACRES TO BIO-RETENTION IN R.O.W (TO MTD)	1.19 LB/YR (20% OF TP REQUIREMENT)
5.68 ACRES TO MANUFACTURED TREATMENT DEVICE*	2.40 LB/YR
PHOSPHOROUS REMOVAL ACHIEVED ON SITE	6.37 LB/YR
PHOSPHOROUS REMOVAL ACHIEVED WITH RR PRACTICES	3.97 LB/YR (67.1% OF TP REQUIREMENT)

PROJECT DESCRIPTION

DEVELOPMENT OR REDEVELOPMENT

DRAINAGE AREA	IMPERVIOUS	PERVIOUS	TOTAL
SITE AREA	4.34 AC	2.08 AC	6.42 AC
ON-SITE TREATED	4.23 AC	1.45 AC	5.68 AC
OFF-SITE TREATED	0.00 AC	0.00 AC	0.00 AC
TOTAL IMPERVIOUS AREA TREATED	4.23 AC		
ON-SITE IMPERVIOUS AREAS DISCONNECTED BY A VEGETATED BUFFER	0.00 AC		
TOTAL IMPERVIOUS AREA TREATED OR DISCONNECTED	4.23 AC		

MISCELLANEOUS

TOTAL WQV TREATED: YES NO

DETENTION ON SITE: YES NO

PROJECT IS WITHIN WHICH WATERSHED? FOUR MILE RUN

DISCHARGES TO WHICH BODY OF WATER? FOUR MILE RUN

WQV TREATMENT REQUIRED= 1,816 CF/AC OF IMPERVIOUS AREA
= 1,816 X 4.34 AC
= 7,811 CF (0.181 AC*FT)

% WQV PROVIDED= 1,816 CF/AC X 4.23 AC
= 7,682 CF (0.176 AC*FT) =97% WQV PROVIDED

WATER TREATMENT ON SITE BY BMP TYPE

BMP No.	BMP TYPE	TOTAL AREA TREATED BY BMP (ACRES)	IMPERVIOUS AREA TREATED BY BMP (ACRES)	PERVIOUS AREA TREATED BY BMP (ACRES)	BMP EFFICIENCY (%)	LATITUDE	LONGITUDE
1	PERMEABLE PAVT LEVEL 2	0.10	0.10	N/A	81	38.835678°	-77.117383°
2	PERMEABLE PAVT LEVEL 2	0.15	0.15	N/A	81	38.835531°	-77.117700°
3	PERMEABLE PAVT LEVEL 2	0.22	0.22	N/A	81	38.835833°	-77.117653°
4	BIORETENTION BASIN LEVEL 2	0.22	0.15	0.07	90	38.835200°	-77.117344°
	URBAN BIORETENTION	2.86	2.19	0.67	55	SEE URBAN BIORETENTION ELEVATION/LOCATION DATA	
	RR BMP TOTALS	3.56	2.82	0.74			
5	ISOLATOR ROW *	5.68*	4.23*	1.45*	40	38.835362°	-77.117501°

NOTE: SEE C-0705 FOR BMP TABLE WITH INDIVIDUAL BREAKDOWNS.

NOTES

1. REFER TO SHEET C-0701A FOR MORE DETAILED BMP DRAINAGE AREAS.
* ISOLATOR ROW TREATMENT TRAIN DRAINAGE AREA INCLUDES 3.07 AC TREATED BY BIORETENTION BASIN/PLANTERS AND 0.47 AC OF PERMEABLE PAVEMENT UPSTREAM. .

ESI Peer Review

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SCALE: 1" = 40' DATE: 04/21/2023 DRAWN: | CHECKED: | PP/TSC | AWP

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AARON M. VINSON LIC. No.041851 6/21/2023 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

BMP MAP & TABULATIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskproj\05073\dwg\Engineering\Site Plan\05073C-0706.dwg

SHEET: C-0706

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	JIM CLARK 240-463-0124 JAMES.CLARK@ADS-PIPE.COM
ADS SALES REP:	TIM GIMPLE 540-235-4519 TIM.GIMPLE@ADS-PIPE.COM
PROJECT NO:	S197815

Advanced Drainage Systems, Inc.

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UPLAND PARK PHASE 1

ALEXANDRIA, VA

MC-4500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-4500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/IN/IN. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - THIS PROJECT REQUIRES COMPACTION OF EMBEDMENT STONE AND REQUIREMENTS FOR STONE HARDNESS AND SHAPE WHICH ARE NOT SPECIFIED IN OTHER STORMTECH DOCUMENTS. CONTRACTORS MUST FOLLOW THE SPECIAL PROVISIONS IN THIS PLAN SET.

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IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

1. STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

62	STORMTECH MC-4500 CHAMBERS
10	STORMTECH MC-4500 END CAPS
12	STONE ABOVE (in)
78	STONE BELOW (in)
40	% STONE VOID
20,044	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
3169	SYSTEM AREA (ft²)
245	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS

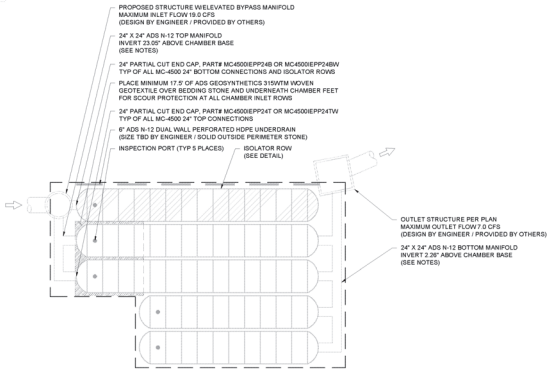
248.50±	MAXIMUM GRADE PER ENGINEER'S PLAN
236.50	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
236.00	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
236.00	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
236.00	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
235.00	TOP OF STONE
234.00	TOP OF MC-4500 CHAMBER
230.92	24" TOP MANIFOLD INVERT
229.19	24" ISOLATOR ROW CONNECTION INVERT
229.19	24" BOTTOM MANIFOLD INVERT
229.00	BOTTOM OF MC-4500 CHAMBER
222.50	UNDERDRAIN INVERT
222.50	BOTTOM OF STONE

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

TIER 1 DEEP COVER SPECIAL PROVISIONS

1. INSTALLATION REQUIREMENTS SHALL BE AS SPECIFIED IN THE STORMTECH DESIGN MANUALS AND CONSTRUCTION GUIDES EXCEPT AS MODIFIED IN THESE SPECIAL PROVISIONS.
2. ATTENTION IS CALLED TO "TABLE 1 - ACCEPTABLE FILL MATERIALS" IN THE STORMTECH CONSTRUCTION GUIDE AND ALL OTHER APPEARANCES OF THE "ACCEPTABLE FILL MATERIALS TABLE. FOR AREAS OF THE SYSTEM WITH COVER ABOVE 7 FEET (2.1 m) FOR THE MC-4500/MC-7200 AND ABOVE 8 FEET (2.4 m) FOR THE MC-3500, EMBEDMENT STONE SHALL BE COMPACTED WITH 1-3 PASSES OF A VIALY, BEHIND VIBRATORY PLATE COMPACTOR OR JUMPING JACK IN 12-18" (300-450 mm) LIFTS.
3. STONE SHALL BE CLEAN, CRUSHED, AND ANGULAR AND SHALL CONFORM TO THE SPECIFICATIONS DESIGNATED IN THE ACCEPTABLE FILL MATERIALS TABLE.
4. STONE SHALL BE HARD AND DURABLE. IT IS THE ENGINEER'S OR CONTRACTOR'S RESPONSIBILITY TO SELECT HARD AND DURABLE STONE. STORMTECH CONSIDERS AN LA ABRASION VALUE OF LESS THAN OR EQUAL TO 30 TO BE HARD STONE.
5. FOUNDATION STONE SHALL BE MECHANICALLY COMPACTED WITH A VIBRATORY ROLLER OR VIBRATORY PLATE IN 6" (152 mm) LIFTS.
6. EMBEDMENT STONE MUST BE DUMPED IN PLACE BY A STONE SHOOTER OR CONVEYOR OR EXCAVATOR.
7. INSPECTION DURING THE INSTALLATION BY THE ENGINEER, OWNER OR OTHER REPRESENTATIVE IS RECOMMENDED. THE INSPECTION SHALL INCLUDE OBSERVATIONS OF THE CHAMBER SYMMETRY DURING BACKFILLING TO ENSURE THE CONTRACTOR'S METHODS ARE NOT CAUSING UNACCEPTABLE DISTORTION OF THE CHAMBERS.
8. AN ADS FIELD TECHNICIAN WILL CONDUCT A PRE-CONSTRUCTION MEETING TO TRAIN REPRESENTATIVES INSTALLING THE CHAMBERS AND THOSE WHO MAY BE PERFORMING INSTALLATION INSPECTIONS.



UPLAND PARK PHASE 1
ALEXANDRIA, VA
DATE: 11-11-21 DRAWN: TBG
PROJECT #: S197815 CHECKED: C/O

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888-892-2694 | WWW.STORMTECH.COM

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026

0 15' 30'

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION OF THE STORMWATER MANAGEMENT SYSTEM AS DESIGNED. THE CONTRACTOR SHALL OBTAIN AND REVIEW THE STORMTECH INSTALLATION INSTRUCTIONS PRIOR TO THE INSTALLATION OF THE SYSTEM. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THE SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION ARE DIFFERENT THAN THE CONDITIONS ASSUMED IN THE DESIGN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THE INSTALLATION OF THE SYSTEM DOES NOT MEET THE REQUIREMENTS OF THE SITE DESIGN STANDARDS AS DESCRIBED IN THE STORMTECH INSTALLATION INSTRUCTIONS AND THE STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE. THE CONTRACTOR SHALL NOT PLACE ADDITIONAL LAYERS OF STONE OVER THE CHAMBERS UNTIL THE ENGINEER HAS APPROVED THE INSTALLATION.

2 SHEET OF 6

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PLAN STATUS

DATE	DESCRIPTION
09/10/21	FSP SUB #1
12/22/21	FSP SUB #2
05/25/22	FSP SUB #3
10/19/22	FSP SUB #4

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

JASON M. VIRGIN LIC. No.041651 6/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SWM & BMP DETAILS

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DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskproj\05073\dwg\Engineering\Site Plan\05073C-0706.dwg

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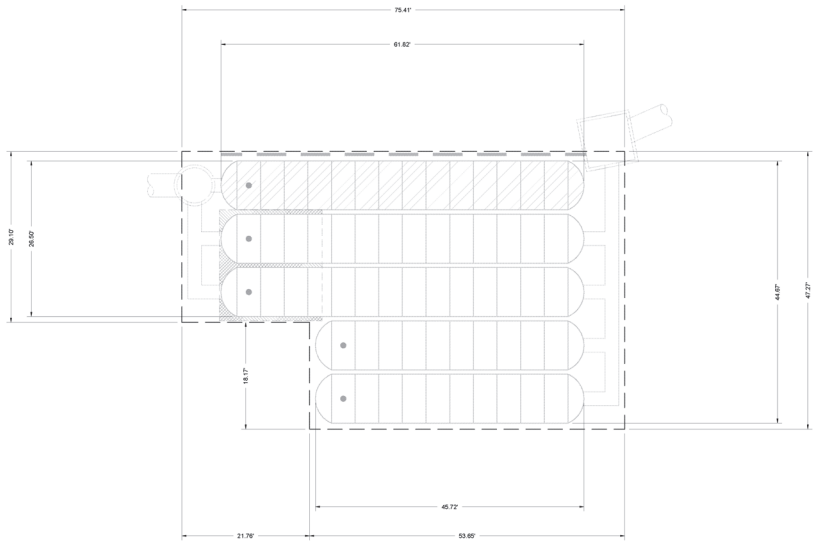

UPLAND PARK PHASE 1
ALEXANDRIA, VA
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PROJECT #: 5197815 CHECKED: CJO

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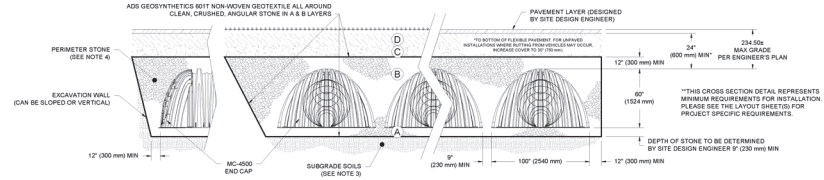
ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[4] A-1, A-2-4, A-3 OR AASHTO M43[4] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[4] 3, 4	COMPACTION REQUIRED. SEE SPECIAL REQUIREMENTS ON LAYOUT PAGE.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[4] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



UPLAND PARK PHASE 1 SPECIFIC CROSS SECTION

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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ARON M. VIRGIN LIC. No.041851 6/21/2023

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UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SWM & BMP DETAILS

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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskproj\05073\dwg\Engineering\Site Plan\05073C-0706.dwg

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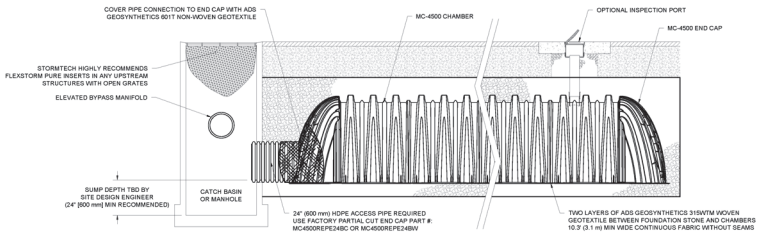


MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

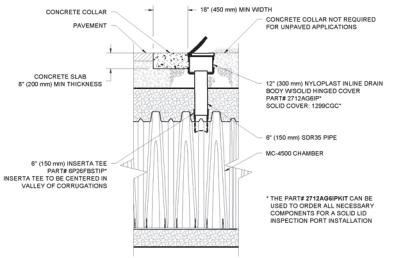
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



MC-4500 6" (150 mm) INSPECTION PORT DETAIL
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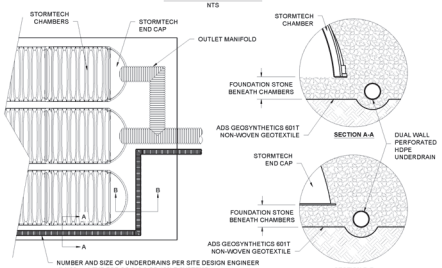
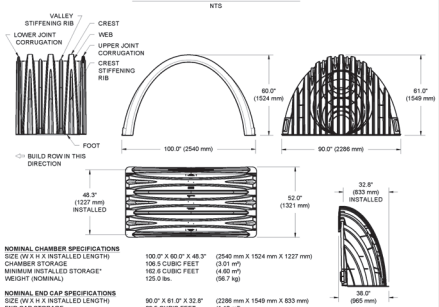


MC-4500 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.5 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m³)
WEIGHT (NOMINAL)	125.0 lbs.	(56.7 kg)

NOMINAL END CAP SPECIFICATIONS

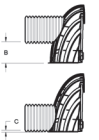
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

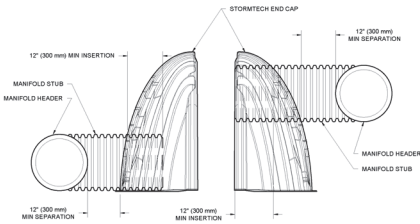
PART #	STUB	B	C
MC-4500IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC-4500IEPP06B		---	0.86" (22 mm)
MC-4500IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC-4500IEPP08B		---	1.01" (26 mm)
MC-4500IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC-4500IEPP10B		---	1.33" (34 mm)
MC-4500IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC-4500IEPP12B		---	1.55" (39 mm)
MC-4500IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC-4500IEPP15B		---	1.70" (43 mm)
MC-4500IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC-4500IEPP18TW			
MC-4500IEPP18B		---	1.97" (50 mm)
MC-4500IEPP18BW			
MC-4500IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC-4500IEPP24TW			
MC-4500IEPP24B		---	2.26" (57 mm)
MC-4500IEPP24BW			
MC-4500IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC-4500IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC-4500IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

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AARON M. VIRGIN LIC. No.0416511 6/21/2023 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

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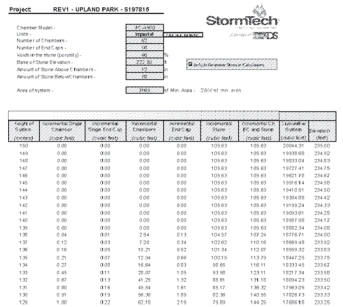
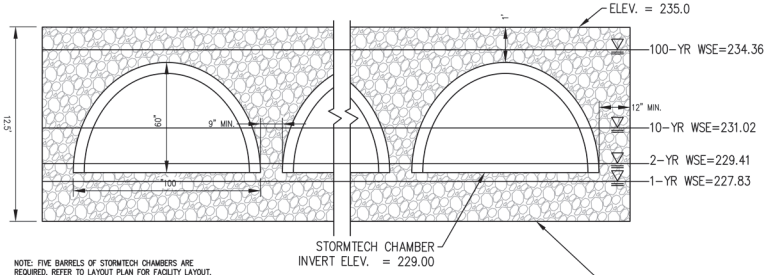




NOTE: FIVE BARRELS OF STORMTECH CHAMBERS ARE REQUIRED. REFER TO LAYOUT PLAN FOR FACILITY LAYOUT.

BMP/DETENTION FACILITY CROSS SECTION

STORMWATER FACILITY CONSTRUCTION NOTES:

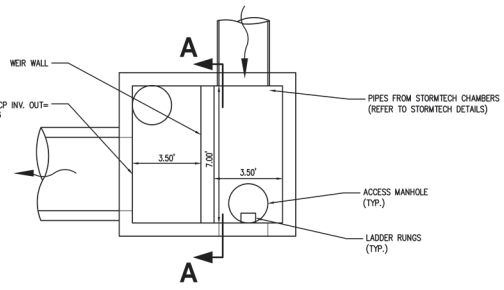
1. ALL STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
2. ALL STORMWATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA DEQ SPECIFICATIONS AND LOCAL JURISDICTION'S REGULATIONS AND MANUALS. THIS INCLUDES MATERIALS, CONSTRUCTION METHODS AND SEQUENCE. IN THE EVENT OF A CONFLICT BETWEEN THE PLANS, DEQ OR LOCAL JURISDICTION, THE LOCAL JURISDICTION'S REQUIREMENTS SHALL GOVERN.
3. THE DETAILS FROM THE MANUFACTURER OF THE STORMWATER FACILITIES SHOWN ARE CURRENT AT THE TIME OF PLAN PREPARATION. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE LATEST DETAILS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONSTRUCT THE FACILITIES IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4. ALL STORMWATER STRUCTURES, INCLUDING ACCESS MANHOLES, SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER FOR HS-20 LOADING UNLESS OTHERWISE NOTED.
5. A PRE-CONSTRUCTION MEETING IS REQUIRED BETWEEN THE CONTRACTOR, STORMWATER FACILITY MANUFACTURER, IF ANY, AND GEOTECHNICAL ENGINEER OF RECORD.
6. THE CONTRACTOR SHALL PROVIDE MATERIAL CERTIFICATIONS, DELIVERY SLIPS, AND PHOTOGRAPHIC DOCUMENTATION OF EACH STEP OF INSTALLATION AND A SIGNED CERTIFICATION THAT THE FACILITY WAS CONSTRUCTED IN ACCORDANCE WITH THESE PLANS.
7. THE INSTALLATION OF ALL STORMWATER DETENTION AND WATER QUALITY FACILITIES SHALL BE INSPECTED BY A LICENSED PROFESSIONAL IN ACCORDANCE WITH THE DEQ SPECIFICATIONS, IF APPLICABLE, AS WELL AS THE JURISDICTION REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE LICENSED PROFESSIONAL SELECTED BY THE OWNER TO ARRANGE FOR THE NECESSARY INSPECTIONS.
8. IF BEDROCK, GROUNDWATER, OR OTHER CONDITIONS AFFECTING FACILITY CONSTRUCTION ARE ENCOUNTERED, EXCAVATION AND PREPARATION FOR THE FACILITY SHALL BE ADJUSTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER OF RECORD.
9. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT GEOTECHNICAL ENGINEER OF RECORD TO HAVE HIM VERIFY THE ALLOWABLE BEARING PRESSURE FOR THE STORMWATER FACILITY SUBGRADE UNDER SATURATED CONDITIONS ONCE THE SUBGRADE HAS BEEN EXPOSED DURING CONSTRUCTION. THE CONTRACTOR SHALL UNDERCUT UNSUITABLE SUBGRADE SOILS IF ANY AND INSTALL GRAVEL BEDDING AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER OF RECORD BASED ON THE SUBGRADE BEARING PRESSURE AND DEPTH OF COVER OVER THE FACILITY.
10. STORMWATER FACILITIES SHALL NOT BE PLACED INTO OPERATION UNTIL ALL AREAS DRAINING TO THE FACILITY HAVE BEEN STABILIZED TO PREVENT SOIL INTRUSION INTO THE FACILITY.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF THE STORMWATER FACILITIES AT LEAST UNTIL THE PROJECT IS SUBSTANTIALLY COMPLETE (UNLESS OTHERWISE SPECIFIED BY THE CONTRACTOR'S CONTRACT WITH THE OWNER). THE CONTRACTOR SHALL INSPECT THE FACILITY(IES) TWO WEEKS PRIOR TO CONTRACT COMPLETION TO DETERMINE ANY MAINTENANCE NEEDS. THIS INCLUDES REMOVING ANY SEDIMENT, TRASH OR DEBRIS THAT MAY HAVE COLLECTED IN THE FACILITY DURING CONSTRUCTION.

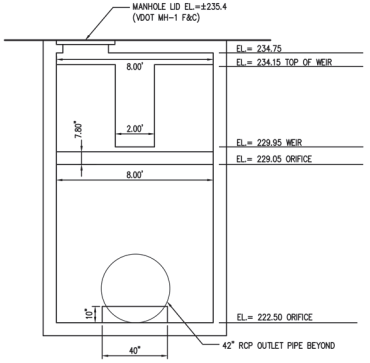
STORMWATER FACILITY INSPECTON AND MAINTENANCE NOTES:

1. THE OWNER SHOULD BE AWARE THAT THE STORMWATER DETENTION AND WATER QUALITY FACILITIES ARE SUBJECT TO A MAINTENANCE AGREEMENT WITH THE LOCAL JURISDICTION COMMITTING THE OWNER TO PROPERLY CONSTRUCTING, INSPECTING, AND MAINTAINING THE FACILITIES. THE AGREEMENT DETAILS THE SPECIFIC INSPECTION AND MAINTENANCE REQUIREMENTS WHICH THE OWNER SHOULD BECOME FAMILIAR WITH.
2. THE OWNER IS REQUIRED TO OR SHOULD HAVE THE FACILITIES INSPECTED AND MAINTAINED ON A REGULAR BASIS IN ACCORDANCE WITH DEQ OR LOCAL JURISDICTION REQUIREMENTS AND RECOMMENDATIONS. THE JURISDICTION MAY REQUIRE THE SUBMISSION OF REPORTS ON ALL INSPECTIONS AND MAINTENANCE ACTIVITIES. IF REQUIRED POST CONSTRUCTION, THESE ARE THE RESPONSIBILITY OF THE PROPERTY OWNER.
3. THE LOCAL JURISDICTION IS REQUIRED UNDER VIRIGINIA REGULATIONS TO PERFORM THEIR OWN INSPECTION OF STORMWATER FACILITIES AT LEAST ONCE EVERY FIVE YEARS. THE JURISDICTION WILL NOTIFY THE OWNER OF ANY NOTED DEFICIENCIES, WHAT ACTIONS ARE REQUIRED, AND BY WHEN. THE MAINTENANCE AGREEMENT ALLOWS THE JURISDICTION TO CORRECT DEFICIENCIES, AT THE OWNER'S EXPENSE, IF THE OWNER FAILS TO DO SO WITHIN THE SPECIFIED TIMEFRAME.
4. THE OWNER SHOULD BE AWARE THAT NO ALTERATIONS ARE ALLOWED TO THE FACILITY WITHOUT PROCESSING A PLAN AND CONSTRUCTION PERMIT THROUGH THE LOCAL JURISDICTION.

NOTES:

1. ALL STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
2. THE STORMWATER STRUCTURE DETAILS SHOWN ABOVE SHOW THE DIMENSIONAL AND ELEVATION DATA NECESSARY FOR THE STRUCTURES TO HYDRAULICALLY FUNCTION IN CONFORMANCE WITH THE PROJECT'S STORMWATER REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR HAVING THE STRUCTURES DESIGNED BY A PROFESSIONAL ENGINEER AND CONSTRUCTING AND INSTALLING THE STRUCTURES IN ACCORDANCE WITH THE STRUCTURAL ENGINEER'S RECOMMENDATIONS.





SECTION A-A

NOTE: STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING

DETENTION CONTROL STRUCTURE #3

SCALE: 1" = 3'

ESI Peer Review

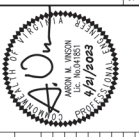
WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 3' | DATE: 04/21/2023 | DRAWN: JWP | CHECKED: JWP/TBC, AVBP

DATE	DESCRIPTION
09/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS



REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1

FINAL SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

SWM & BMP DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0706.dwg

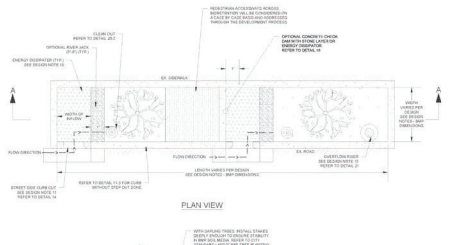
SHEET: C-0710

Facility No.	Drainage Area											100-Yr Q	Treatment Vol. Tv=(1)(Rv)(A)/12	Soil Media Depth	Depth of Gravel	Equivalent Subsurface Storage Depth [2]	Bioretention Surface Area			Resulting Surface Ponding Depth [3] =Tv/SA - ESSD
	Bioretention Area		Impervious Area			Pervious Area			Total Area								Width	Length	Area	
			Actual A	Credit A [4]		Actual A	Credit A [4]		Actual A	Credit A [4]	Credit A + Bioretention									
	(SF)	Rv	(SF)	(SF)	Rv	(SF)	(SF)	R_V [1]	(SF)	(SF)	(SF)	(cfs)	(CF)	(Ft)	(Ft)	(Ft)			(SF)	(Ft)
SP1A	120	0.95	2,151	2,151	0.95	735	349	0.25	3,006	2,500	2,620	0.69	187	4.0	1.00	1.40	5.00	24.00	120	0.16
SP1B	79	0.95	851	851	0.95	61	61	0.25	991	912	991	0.25	75	4.0	1.00	1.40	5.00	15.84	79	0.00
SP2	203	0.95	1,240	1,240	0.95	214	214	0.25	1,657	1,454	1,657	0.38	119	4.0	1.00	1.40	5.00	40.50	203	0.00
SP3	203	0.95	1,274	1,274	0.95	144	144	0.25	1,621	1,418	1,621	0.39	120	4.0	1.00	1.40	5.00	40.50	203	0.00
SP4A	120	0.95	1,711	1,711	0.95	3,654	789	0.25	5,485	2,500	2,620	0.84	161	4.0	1.00	1.40	5.00	24.00	120	0.00
SP4B	79	0.95	808	808	0.95	657	657	0.25	1,544	1,465	1,544	0.30	84	4.0	1.00	1.40	5.00	15.84	79	0.00
SP5A	100	0.95	696	696	0.95	1,631	1,631	0.25	2,427	2,327	2,427	0.36	97	4.0	1.00	1.40	5.00	19.92	100	0.00
SP5B	100	0.95	518	518	0.95	1,025	1,025	0.25	1,643	1,543	1,643	0.25	70	4.0	1.00	1.40	5.00	19.91	100	0.00
SP6A	100	0.95	641	641	0.95	1,026	1,026	0.25	1,767	1,667	1,767	0.29	80	4.0	1.00	1.40	5.00	19.92	100	0.00
SP6B	100	0.95	559	559	0.95	1,059	1,059	0.25	1,718	1,618	1,718	0.26	74	4.0	1.00	1.40	5.00	19.91	100	0.00
SP7A	124	0.95	1,999	1,999	0.95	1,184	501	0.25	3,307	2,500	2,624	0.69	179	4.0	1.00	1.40	7.00	17.76	124	0.04
SP7B	124	0.95	863	863	0.95	3,453	1,637	0.25	4,440	2,500	2,624	0.58	112	4.0	1.00	1.40	7.00	17.76	124	0.00
SP7C	124	0.95	2,069	2,069	0.95	69	69	0.25	2,262	2,138	2,262	0.60	175	4.0	1.00	1.40	7.00	17.76	124	0.01
SP7D	124	0.95	2,448	2,448	0.95	1,221	52	0.25	3,793	2,500	2,624	0.82	205	4.0	1.00	1.40	7.00	17.71	124	0.25
SP8	115	0.95	798	798	0.95	123	123	0.25	1,036	921	1,036	0.24	75	4.0	1.00	1.40	4.00	28.73	115	0.00
SP9	156	0.95	765	765	0.95	117	117	0.25	1,038	882	1,038	0.24	75	4.0	1.00	1.40	4.00	39.00	156	0.00
SP10	137	0.95	1,096	1,096	0.95	155	155	0.25	1,388	1,251	1,388	0.33	101	4.0	1.00	1.40	4.00	34.17	137	0.00
SP11A	120	0.95	2,077	2,077	0.95	691	423	0.25	2,888	2,500	2,620	0.66	183	4.0	1.00	1.40	4.00	29.93	120	0.13
SP11B	49	0.95	660	660	0.95	123	123	0.25	832	783	832	0.20	59	4.0	1.00	1.40	4.00	12.31	49	0.00
SP12	144	0.95	831	831	0.95	123	123	0.25	1,098	954	1,098	0.26	80	4.0	1.00	1.40	5.00	28.73	144	0.00
SP13	195	0.95	774	774	0.95	137	137	0.25	1,106	911	1,106	0.24	80	4.0	1.00	1.40	5.00	39.00	195	0.00
SP14	171	0.95	1,142	1,142	0.95	152	152	0.25	1,465	1,294	1,465	0.35	107	4.0	1.00	1.40	5.00	34.17	171	0.00
SP15A	120	0.95	2,081	2,081	0.95	619	419	0.25	2,820	2,500	2,620	0.66	183	4.0	1.00	1.40	5.00	24.00	120	0.12
SP15B	91	0.95	638	638	0.95	74	74	0.25	803	712	803	0.19	59	4.0	1.00	1.40	5.00	18.23	91	0.00
SP16A	124	0.95	162	162	0.95	26	26	0.25	312	198	312	0.05	23	4.0	1.00	1.40	7.00	17.76	124	0.00
SP16B	232	0.95	2,192	2,192	0.95	57	57	0.25	2,481	2,249	2,481	0.64	193	4.0	1.00	1.40	7.00	33.14	232	0.00
SP16C	159	0.95	1,325	1,325	0.95	79	79	0.25	1,563	1,404	1,563	0.39	119	4.0	1.00	1.40	7.00	22.76	159	0.00
SP17	203	0.95	999	999	0.95	60	60	0.25	1,262	1,059	1,262	0.30	96	4.0	1.00	1.40	5.00	40.50	203	0.00
SP18	203	0.95	1,097	1,097	0.95	85	85	0.25	1,385	1,182	1,385	0.33	105	4.0	1.00	1.40	5.00	40.50	203	0.00
SP19	196	0.95	1,335	1,335	0.95	83	83	0.25	1,614	1,418	1,614	0.40	123	4.0	1.00	1.40	5.00	39.25	196	0.00
SP20	113	0.95	739	739	0.95	155	155	0.25	1,007	894	1,007	0.23	71	4.0	1.00	1.40	5.00	22.50	113	0.00
SP21	203	0.95	997	997	0.95	162	162	0.25	1,362	1,159	1,362	0.31	98	4.0	1.00	1.40	5.00	40.50	203	0.00
SP22	100	0.95	438	438	0.95	84	84	0.25	622	522	622	0.14	44	4.0	1.00	1.40	5.00	19.97	100	0.00
SP23	99	0.95	1,430	1,430	0.95	52	52	0.25	1,581	1,482	1,581	0.42	122	4.0	1.00	1.40	5.00	19.75	99	0.00
SP24	106	0.95	768	768	0.95	58	58	0.25	932	826	932	0.23	70	4.0	1.00	1.40	5.00	21.25	106	0.00
SP25A	156	0.95	1,881	1,881	0.95	1,443	619	0.25	3,480	2,500	2,656	0.68	174	4.0	1.00	1.40			156	0.00
SP25B	69	0.95	463	463	0.95	1,176	1,176	0.25	1,708	1,639	1,708	0.25	67	4.0	1.00	1.40	5.00	13.87	69	0.00
SP26A	96	0.95	616	616	0.95	1,261	1,261	0.25	1,973	1,877	1,973	0.30	83	4.0	1.00	1.40	5.00	19.17	96	0.00
SP26B	96	0.95	509	509	0.95	640	640	0.25	1,245	1,149	1,245	0.21	61	4.0	1.00	1.40	5.00	19.16	96	0.00
SP27	185	0.95	1,088	1,088	0.95	1,007	1,007	0.25	2,280	2,095	2,280	0.41	122	4.0	1.00	1.40	5.00	37.00	185	0.00
SP28A	152	0.95	1,910	1,910	0.95	456	456	0.25	2,518	2,366	2,518	0.60	173	4.0	1.00	1.40			152	0.00
SP28B	74	0.95	448	448	0.95	184	184	0.25	706	632	706	0.15	45	4.0	1.00	1.40	5.00	14.75	74	0.00
SP29	195	0.95	1,184	1,184	0.95	222	222	0.25	1,601	1,406	1,601	0.37	114	4.0	1.00	1.40	5.00	39.00	195	0.00
SP30	185	0.95	988	988	0.95	299	299	0.25	1,472	1,287	1,472	0.32	99	4.0	1.00	1.40	5.00	37.00	185	0.00

Facility No.	Top of Curb Elevation [1]	Media Surface Elevation [2]	Underdrain Invert At Lower Curb Cut	Coordinates	
				Latitude	Longitude
SP1A	249.04	248.29	243.46	38.83659444	-77.11679444
SP1B	248.61	247.86	243.03	38.83657778	-77.11683056
SP2	248.04	247.29	242.46	38.83653611	-77.11692222
SP3	247.47	246.72	241.89	38.836475	-77.11705278
SP4A	249.04	248.29	243.46	38.83648056	-77.11671389
SP4B	249.61	248.86	244.03	38.83646389	-77.11674722
SP5A	248.28	247.53	242.70	38.83643333	-77.11681389
SP5B	248.04	247.29	242.46	38.83640278	-77.11688611
SP6A	247.74	246.99	242.16	38.83637222	-77.11695
SP6B	248.48	247.73	242.90	38.83634444	-77.11701389
SP7A	250.37	249.62	244.79	38.83704444	-77.11715
SP7B	250.10	249.35	244.52	38.83701667	-77.11720556
SP7C	249.89	249.14	244.31	38.83699167	-77.11726111
SP7D	249.66	248.91	244.08	38.83696667	-77.11731944
SP8	246.93	246.18	241.35	38.83676389	-77.11758611
SP9	246.61	245.86	241.03	38.83666944	-77.11751389
SP10	246.15	245.40	240.57	38.83656667	-77.11743889
SP11A	246.41	245.66	240.83	38.83645278	-77.11733611
SP11B	246.05	245.30	240.47	38.83648611	-77.11739167
SP12	246.93	246.18	241.35	38.8367	-77.11773056
SP13	246.61	245.86	241.03	38.83660556	-77.11766111
SP14	246.15	245.40	240.57	38.83650278	-77.11758056
SP15A	246.20	245.45	240.62	38.836375	-77.11748333
SP15B	246.05	245.30	240.47	38.836425	-77.117525
SP16A	248.32	247.57	242.74	38.83661111	-77.11809167
SP16B	248.23	247.48	242.65	38.83657222	-77.11818056
SP16C	248.17	247.42	242.59	38.83653333	-77.11826111
SP17	247.77	247.02	242.19	38.8362	-77.11765833
SP18	248.00	247.25	242.42	38.83614167	-77.11778611
SP19	247.51	246.76	241.93	38.83608056	-77.11792222
SP20	247.43	246.68	241.85	38.83603333	-77.1180225
SP21	247.77	247.02	242.19	38.83608611	-77.117575
SP22	248.22	247.47	242.64	38.83604167	-77.11767222
SP23	247.50	246.75	241.92	38.83595	-77.11787222
SP24	247.27	246.52	241.69	38.83591944	-77.11793889
SP25A	246.00	245.25	240.42	38.83619444	-77.11715833
SP25B	245.62	244.87	240.04	38.83617222	-77.11713889
SP26A	245.24	244.49	239.66	38.83611667	-77.11709722
SP26B	244.90	244.15	239.32	38.83606944	-77.11706389
SP27	244.30	243.55	238.72	38.83599167	-77.11700556
SP28A	246.00	245.25	240.42	38.836125	-77.1173
SP28B	245.61	244.86	240.03	38.83610278	-77.11728333
SP29	244.90	244.15	239.32	38.83602778	-77.117225
SP30	244.39	243.64	238.81	38.835925	-77.11715

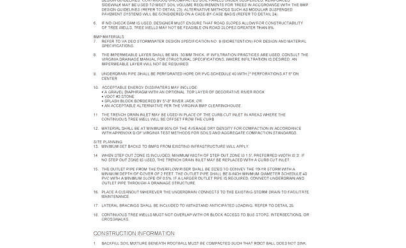
TYPICAL STREETSCAPE STORMWATER PLANTER DETAIL

NOT TO SCALE



DETAIL 2

CONTINUOUS TREE WELL



DETAIL 2

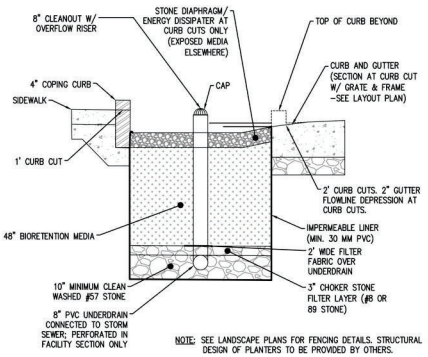
CONTINUOUS TREE WELL (continued)

TYPICAL 12"X18" SURFACE BMP SIGNAGE DETAIL

NOT TO SCALE

TYPICAL STREETSCAPE STORMWATER PLANTER DETAIL

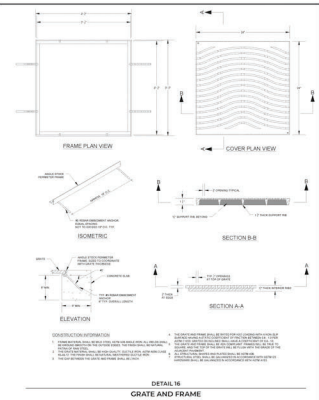
NOT TO SCALE



NOTE: SEE LANDSCAPE PLANS FOR FENCING DETAILS. STRUCTURAL DESIGN OF PLANTERS TO BE PROVIDED BY OTHERS.

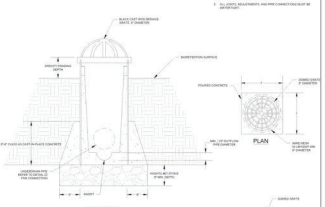
NOTES:

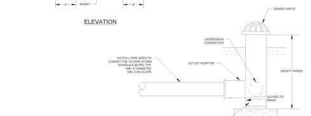
1. SEE VIRGINIA DEQ STORMWATER DESIGN SPECIFICATION NO. 9 FOR ADDITIONAL DESIGN AND CONSTRUCTION INFORMATION.
2. THE PLANTER BOX MAY BE CONTAINED IN A PRECAST CONCRETE OR CAST-IN-PLACE CONCRETE (WALLS AND BASE) (VIRGINIA DEQ DESIGN SPECIFICATION NO. 9, SECTION 9-A-1). FINAL DESIGN AND STRUCTURAL CONSIDERATIONS OF PLANTER BOX TO BE PROVIDED BY OTHERS.
3. AN ATRIUM GRATE OR EQUIVALENT MAY BE USED FOR THE OVERFLOW ON TOP OF THE PVC STANDPIPE.
4. CONTRACTOR TO ENSURE THAT THE PROPER DOWNSPOUTS (WHERE APPLICABLE) DISCHARGE INTO THE PLANTER BOX. NEVER ROCK OR OTHER ENERGY DISSIPATION SHALL BE USED WHERE DOWNSPOUTS TIE INTO THE PLANTER BOX.
5. FOR PLANTER BOXES ATTACHED TO THE FOUNDATION AND/OR A RETAINING WALL, SEE ARCHITECTURAL PLANS FOR STRUCTURAL DETAILS/REQUIREMENTS.
6. SEE LANDSCAPE PLANS FOR ORIENTATION AND PLACEMENT OF PLANTERS AND PROPOSED PLANTINGS.
7. CONSTRUCTION INSPECTION CHECKLISTS AND ASSOCIATED PHOTOGRAPHIC DOCUMENTATION MUST BE COMPLETED FOR EACH STORMWATER BEST MANAGEMENT PRACTICE (BMP) DURING CONSTRUCTION. PRIOR TO THE RELEASE OF THE PERFORMANCE BOND, THE APPLICANT MUST SUBMIT ALL DOCUMENTS REQUIRED BY THE CITY OF ALEXANDRIA AS-BUILT STORMWATER REQUIREMENTS TO THE CITY INCLUDING AS BUILT PLANS, CAD DATA, BMP CERTIFICATIONS AND COMPLETED CONSTRUCTION INSPECTION CHECKLISTS.



DETAIL 16

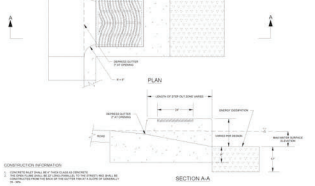
GRATE AND FRAME





DETAIL 21

OVERFLOW RISER



DETAIL 15

TRENCH DRAIN INLET

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE, FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax: (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: PP/TBC | CHECKED: AVB/PP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/25/22	FSP SUB #3
10/19/23	FSP SUB #4

PLAN STATUS

AARON M. VIRGIN LIC. No.041851 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1

FINAL SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

STREETSCAPE STORMWATER PLANTER DESIGN & DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

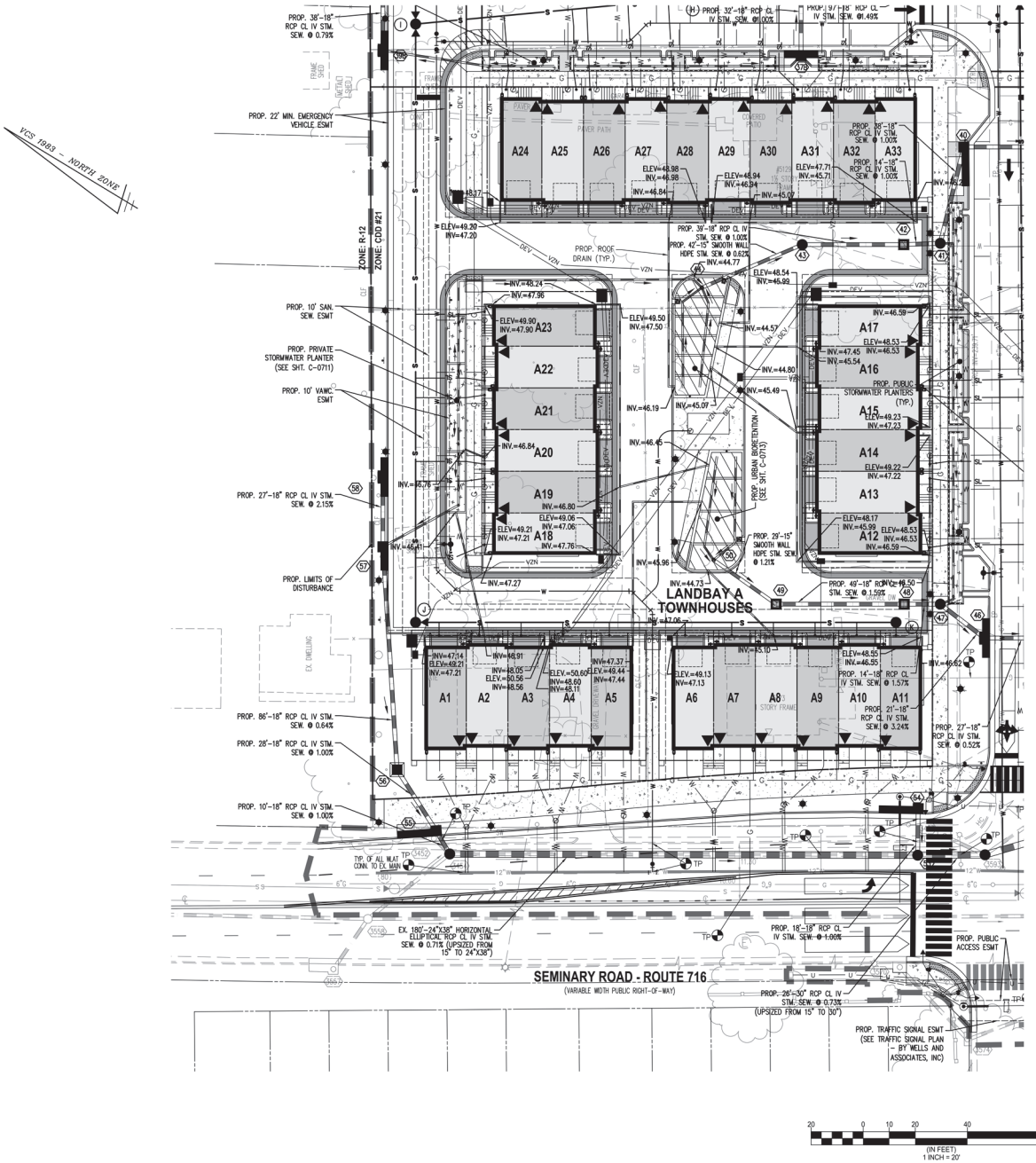
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



NOTES:
1. REFER TO C-0410 FOR UTILITY AND ACCESS RELOCATION PLAN.
2. EX. WATER LINE & GAS LINE IN FAIRBANKS AVENUE SHALL REMAIN OPERATIONAL UNTIL NEW SERVICES ARE INSTALLED TO LIMIT IMPACT TO ADJACENT PROPERTIES.
3. THIS PLAN INCLUDES ROOF DRAINAGE BEING COLLECTED AND CONVEYED TO THE STORMWATER MANAGEMENT FACILITIES. ROOF DRAINS, GUTTERS AND DOWNSPOUTS MUST BE DIRECTED AND/OR CONNECTED SUCH THAT THEY DISCHARGE TO THE STORMWATER MANAGEMENT FACILITIES. CONTRACTOR AND PLUMBER SHALL COORDINATE LOCATIONS AND INVERTS WITH ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: [ ] CHECKED: [PTTSC] AVBP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARION W. VIRGIN LIC. No.041851 6/21/2023 PROFESSIONAL ENGINEER

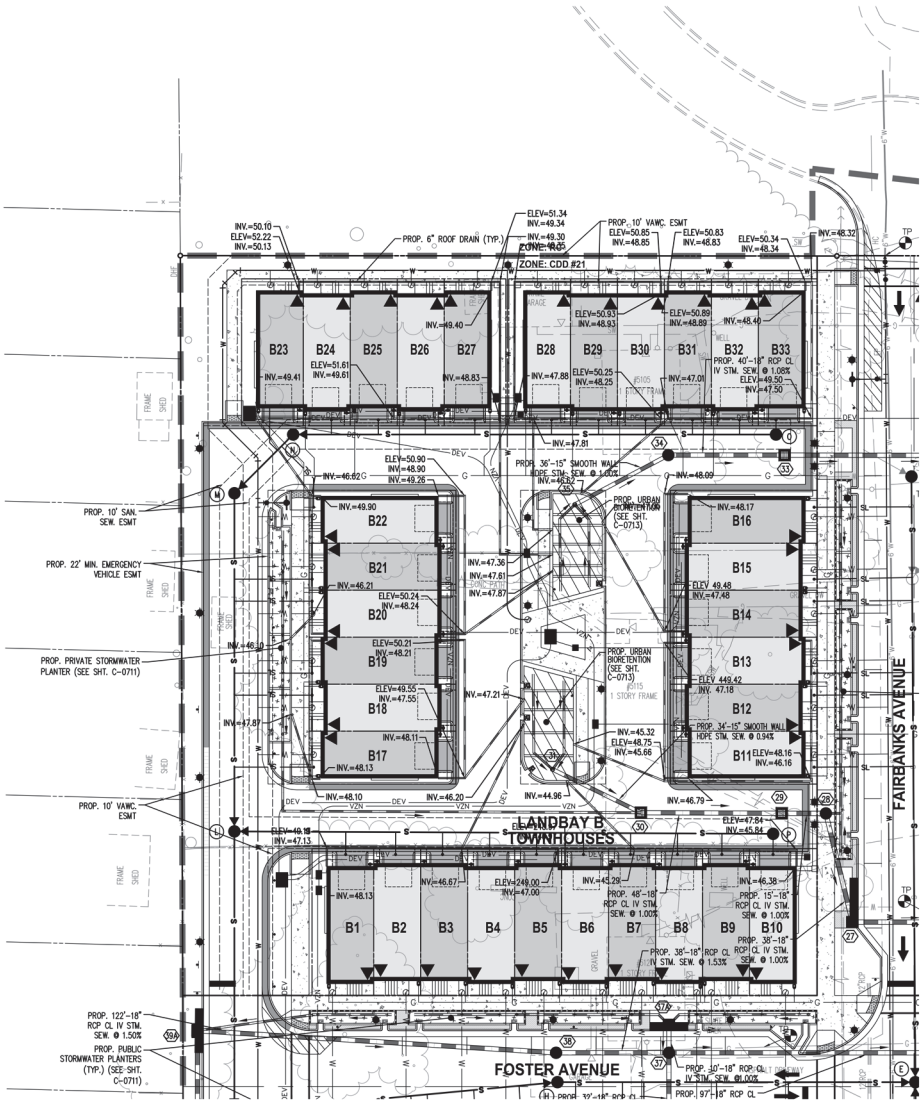
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

ROOF DRAIN CONNECTION AND INVERTS - A UNITS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0712A.dwg

SHEET: C-0712A



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20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

ESI
Peer Review

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MARK W. VIRGIN LIC. No.041651 6/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

ROOF DRAIN CONNECTION AND INVERTS - B UNITS

APPROVED
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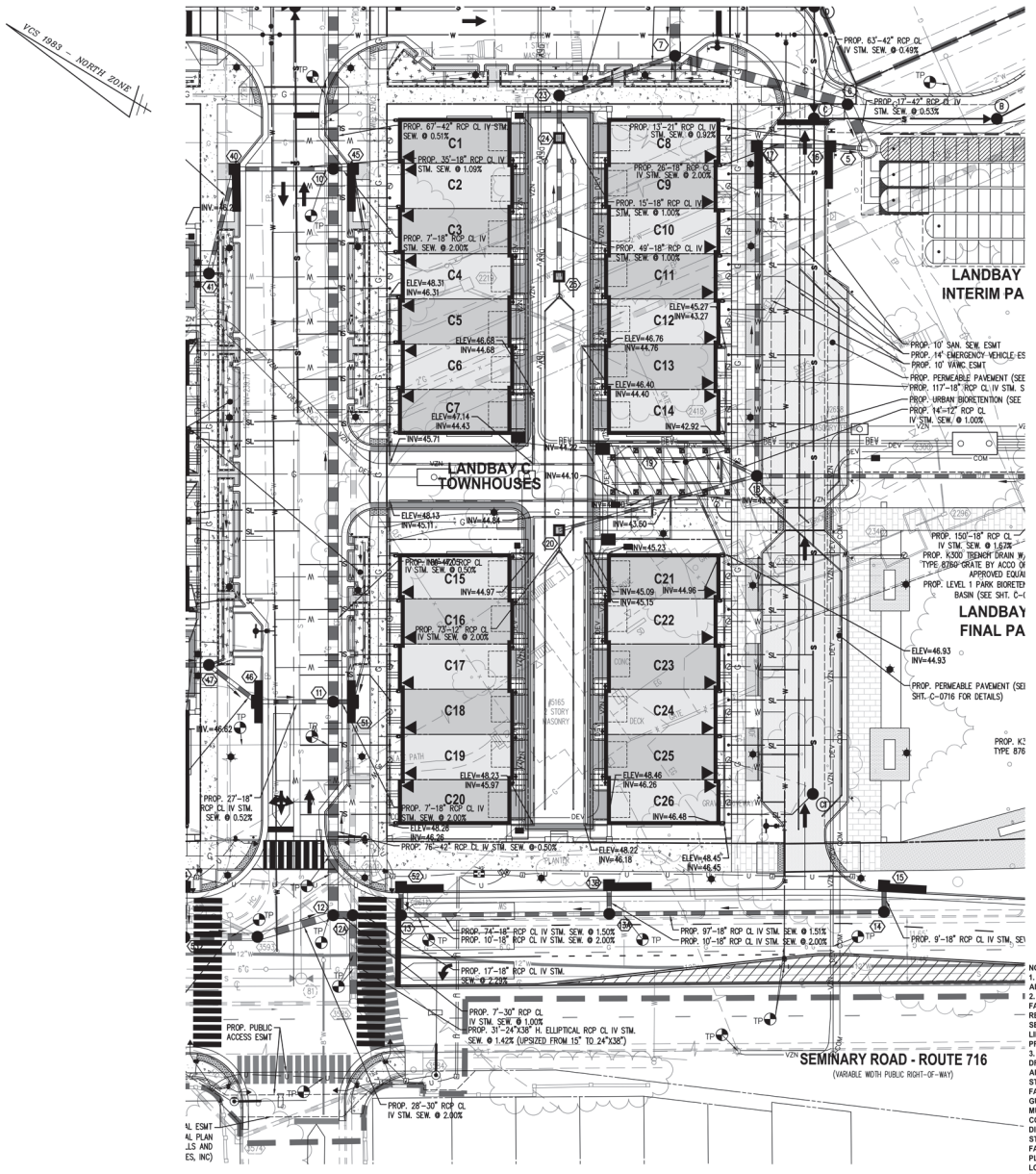
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0712A.dwg

SHEET: C-0712B



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PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
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05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

COMMONWEALTH OF VIRGINIA AARON M. VIRGIN LIC. No.041851 PROFESSIONAL ENGINEER 4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

ROOF DRAIN CONNECTION AND INVERTS - C UNITS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0712A.dwg

SHEET: C-0712C

Facility No.	Drainage Area											100-Yr Q	Treatment Vol. Tv=(1)(Rv)(A)/12	Soil Media Depth	Depth of Gravel	Equivalent Subsurface Storage Depth [2]	Bioretention Surface Area			Resulting Surface Ponding Depth [3] =Tw\SA - ESSD
	Bioretention Area		Impervious Area			Pervious Area			Total Area								Width	Length	Area	
	(SF)	Rv	Actual A (SF)	Credit A [4] (SF)	Rv	Actual A (SF)	Credit A [4] (SF)	Rv [1]	Actual A (SF)	Credit A [4] (SF)	Credit A + Bioretention (SF)	(cfs)	(CF)	(Ft)	(Ft)	(Ft)			(SF)	(Ft)
URBAN BIORETENTION IN ISLANDS																				
UB1A	97	0.95	1,920	1,920	0.95	30	30	0.25	2,047	1,950	2,047	0.55	160	3.0	1.00	1.15			97	0.50
UB1B	50	0.95	992	992	0.95	17	17	0.25	1,059	1,009	1,059	0.29	83	3.0	1.00	1.15			50	0.51
UB1C	97	0.95	1,923	1,923	0.95	22	22	0.25	2,042	1,945	2,042	0.55	160	3.0	1.00	1.15			97	0.50
UB1D	112	0.95	2,222	2,222	0.95	24	24	0.25	2,358	2,246	2,358	0.64	185	3.0	1.00	1.15			112	0.50
UB1E	50	0.95	992	992	0.95	17	17	0.25	1,059	1,009	1,059	0.29	83	3.0	1.00	1.15			50	0.51
UB1F	96	0.95	3,685	2,000	0.95	474	0	0.25	4,255	2,000	2,096	1.10	166	3.0	1.00	1.15			96	0.58
UB1 TOTAL												3.43								
UB2A	100	0.95	1,608	1,608	0.95	248	248	0.25	1,956	1,856	1,956	0.49	140	3.0	1.00	1.15			100	0.25
UB2B	97	0.95	976	976	0.95	18	18	0.25	1,091	994	1,091	0.28	85	3.0	1.00	1.15			97	0.00
UB2C	120	0.95	1,951	1,951	0.95	44	44	0.25	2,115	1,995	2,115	0.57	165	3.0	1.00	1.15			120	0.22
UB2D	120	0.95	1,920	1,920	0.95	19	19	0.25	2,059	1,939	2,059	0.55	162	3.0	1.00	1.15			120	0.20
UB2E	120	0.95	2,300	2,300	0.95	79	79	0.25	2,499	2,379	2,499	0.67	193	3.0	1.00	1.15			120	0.46
UB2 TOTAL												2.56								
UB3A	121	0.95	1,912	1,912	0.95	316	316	0.25	2,349	2,228	2,349	0.58	168	3.0	1.00	1.15			121	0.23
UB3B	123	0.95	727	727	0.95	61	61	0.25	911	788	911	0.22	69	3.0	1.00	1.15			123	0.00
UB3C	113	0.95	1,632	1,632	0.95	23	23	0.25	1,768	1,655	1,768	0.47	139	3.0	1.00	1.15			113	0.08
UB3D	103	0.95	1,920	1,920	0.95	22	22	0.25	2,045	1,942	2,045	0.55	161	3.0	1.00	1.15			103	0.41
UB3E	97	0.95	1,920	1,920	0.95	22	22	0.25	2,039	1,942	2,039	0.55	160	3.0	1.00	1.15			97	0.50
UB3F	86	0.95	1,648	1,648	0.95	25	25	0.25	1,759	1,673	1,759	0.48	138	3.0	1.00	1.15			86	0.45
UB3 TOTAL												2.86								
UB4A	121	0.95	1,968	1,968	0.95	30	30	0.25	2,119	1,998	2,119	0.57	166	3.0	1.00	1.15			121	0.22
UB4B	177	0.95	656	656	0.95	32	32	0.25	865	688	865	0.20	67	3.0	1.00	1.15			177	0.00
UB4C	207	0.95	2,066	2,066	0.95	254	254	0.25	2,527	2,320	2,527	0.62	185	3.0	1.00	1.15			207	0.00
UB4D	172	0.95	1,968	1,968	0.95	24	24	0.25	2,164	1,992	2,164	0.57	170	3.0	1.00	1.15			172	0.00
UB4 TOTAL												1.96								
UB5A	127	0.95	1,441	1,441	0.95	44	44	0.25	1,612	1,485	1,612	0.42	125	3.0	1.00	1.15			127	0.00
UB5B	126	0.95	1,928	1,928	0.95	87	87	0.25	2,141	2,015	2,141	0.56	164	3.0	1.00	1.15			126	0.15
UB5C	126	0.95	2,039	2,039	0.95	134	134	0.25	2,299	2,173	2,299	0.60	174	3.0	1.00	1.15			126	0.23
UB5D	126	0.95	2,038	2,038	0.95	136	136	0.25	2,300	2,174	2,300	0.60	174	3.0	1.00	1.15			126	0.23
UB5E	126	0.95	1,943	1,943	0.95	147	147	0.25	2,216	2,090	2,216	0.57	167	3.0	1.00	1.15			126	0.17
UB5F	120	0.95	1,427	1,427	0.95	264	264	0.25	1,811	1,691	1,811	0.44	128	3.0	1.00	1.15			120	0.00
UB5 TOTAL												3.20								

URBAN BIORETENTION ELEVATION DATA/LOCATION DATA

Facility No.	Inlet Pipe Invert [1]	BMP Ponding Depth [2]	Mulch Surface Elevation	BMP Water Surface El.	Overflow Stucture Elevation [3]	Underdrain Invert	Underdrain Length Per Facility	Underdrain Slope	Pipe Invert Out of Outlet Structure	Coordinates	
										Latitude	Longitude
UB1A	246.62	0.50	246.02	246.52	246.52	241.94			241.74	38.83682778	-77.11692222
UB1B	247.05	0.51	246.44	246.95	246.95					38.83681944	-77.11693611
UB1C	247.36	0.50	246.76	247.26	247.26		32	0.037		38.83681389	-77.11695278
UB1D	247.61	0.50	247.01	247.51	247.51					38.83680556	-77.116975
UB1E	247.87	0.51	247.26	247.77	247.77					38.83679722	-77.11699167
UB1F		0.58	247.19	247.77	247.77	243.11				38.83679167	-77.11700556
UB2A		0.25	246.86	247.11	247.11	242.78				38.83676944	-77.11712222
UB2B	247.21	0.00	246.91	246.91	247.11					38.83675833	-77.11714167
UB2C	246.20	0.22	245.88	246.10	246.10		35	0.070		38.83674722	-77.11716111
UB2D	245.32	0.20	245.02	245.22	245.22					38.83673611	-77.11718333
UB2E	244.96	0.46	244.40	244.86	244.86	240.32			240.12	38.836725	-77.11720833
UB3A		0.23	244.08	244.31		240.00			239.80	38.83641667	-77.11789667
UB3B		0.00	244.18	244.18	244.47					38.83640833	-77.11789167
UB3C	244.57	0.08	244.27	244.35	244.47		39	0.040		38.8364	-77.11791667
UB3D	244.80	0.41	244.29	244.70	244.70					38.83638889	-77.11793888
UB3E	245.07	0.50	244.47	244.97	244.97					38.83638056	-77.11796111
UB3F	246.19	0.45	245.64	246.09	246.09	241.56				38.83637222	-77.11798333
UB4A	246.45	0.22	246.13	246.35	246.35	242.05				38.8363	-77.11805556
UB4B		0.00	245.34	245.34	245.54		44	0.039		38.83628611	-77.11809444
UBC	245.96	0.00	246.34	246.34	246.54					38.836275	-77.11813333
UB4D	244.73	0.00	244.43	244.43		240.35			240.15	38.83626111	-77.11817222
UB5A	244.22	0.00	244.12	244.12	244.32	240.04				38.83579444	-77.11761667
UB5B	244.10	0.15	243.85	244.00	244.05					38.835775	-77.1176
UB5C	244.00	0.23	243.67	243.90	243.90		47	0.028		38.83575278	-77.11758611
UB5D	243.50	0.23	243.17	243.40	243.40					38.83573333	-77.11757222
UB5E	243.30	0.17	243.03	243.20	243.23					38.83571667	-77.11755556
UB5F	242.92	0.00	242.82	242.82		238.74			238.54	38.83569722	-77.11754167

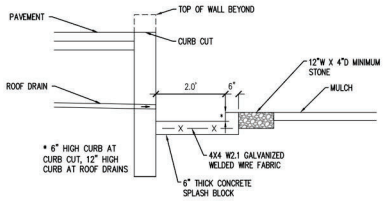
Footnotes:

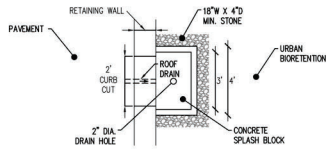
(1) Invert of roof drain that outlets into bioretention.
(2) 1" storm ponding depth from bioretention sizing calculations table.
(3) Each bioretention facility is divided by walls to create cells because urban bioretention design guidelines only allow claiming BMP credit for a maximum of 2,500 SF of treated area. The overflow mechanism for each cell is either the top of separating wall on the downstream/outlet side of the cell or an overflow inlet. The overflow structure elevations cited above apply to either the top of downstream wall or overflow inlet grate elevation.

URBAN BIORETENTION CURB CUT AND ROOF DRAIN SPLASH BLOCK DETAILS

NOT TO SCALE

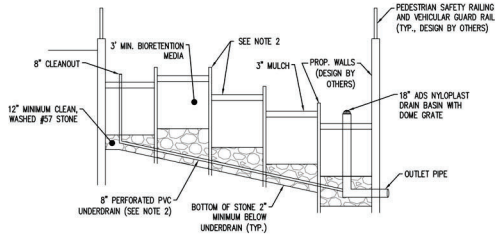
NOTE: ROOF DRAINS AND CURB CUTS DO NOT OCCUR AT THE SAME LOCATIONS.





URBAN BIORETENTION TYPICAL LONGITUDINAL SECTION

NOT TO SCALE



NOTES:
1. NUMBERS OF CELLS PER FACILITY VARIES.
2. REFER TO URBAN BIORETENTION ELEVATION DATA/LOCATION DATA TABLE FOR ELEVATIONS OF TOPS OF WALLS SEPARATING CELLS, OUTLET DRAIN GRATE, MULCH SURFACE, AND UNDERDRAIN INVERT.
3. PROPOSED WALLS SEPARATING THE FACILITY WILL BE DESIGNED AND PERMITTED BY OTHERS. THE WALLS ARE INTENDED TO BE CAST-IN-PLACE CONCRETE.

TYPICAL 12"X18" SURFACE BMP SIGNAGE DETAIL

NOT TO SCALE

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PLAN STATUS

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10/19/23	FSP SUB #4

REVISION APPROVED BY

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PROFESSIONAL ENGINEER — COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. No.041851 — 4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

URBAN BIORETENTION DESIGN & CONSTRUCTION DATA

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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SHEET: C-0713

BIORETENTION SIZING CALCULATIONS

IN ACCORDANCE WITH DEQ SPECIFICATION NO. 9

Design Level 2 (90% Phosphorous removal rate)

Design Basis:

1. Design assumes an infiltration rate of 3.58 in/hr using measured infiltration rate of 7.16 in/hr
2. Facility is not designed for stormwater detention

Bioretention Design:

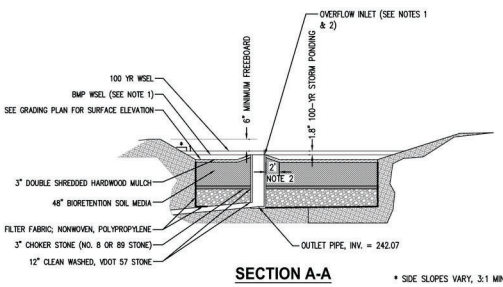
Facility No.	Surface Area		Drainage Area									100-Yr Q	Treatment Vol.	Soil Media Depth	Gravel Depth	Equivalent Subsurface Storage Depth (2)	Surface Area	Surface Ponding Depth (3) = (Tv)/SA - ESSD	Filter Mulch Surface Elevation	BMP Water Surface Elev. (4)
			Impervious Area			Pervious Area			Total Area											
	(SF)	(AC)	(SF)	(AC)	Rv	(SF)	(AC)	Rv (1)	(SF)	(Ac)	Rv	(Rational) (cfs)	Tv =(1.25)(Rv)(A)/12 (CF)	(Ft)	(Ft)	(Ft)	(SF)	(Ft)	(Ft)	(Ft)
BF1	337	0.01	6,670	0.15	0.95	2,548	0.06	0.25	9,555	0.22	0.73	2.14	726	4.0	1.0	1.40	337	0.76	246.98	247.74
TOTALS	337	0.01	6,670	0.15		2,548	0.06		9,555	0.22							337			

Footnotes:

(1) Rv based on HSG in accordance with Va. runoff reduction method (turf values are .15, .2, .22, .25 for A, B, C, and D soils respectively)
(2) Equivalent subsurface storage depth = media depth x 0.25 voids + gravel depth x 0.40 voids
(3) Preferred maximum water quality ponding depth is 6" but up to 12" is allowed with appropriate plants.
(4) Set overflow inlet top elevation at BMP WSEL.

PARK BIORETENTION TYPICAL DETAIL

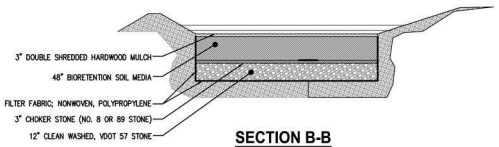
N.T.S.



NOTE:
1. OVERFLOW INLET SHALL BE 18" NYLOPLAST BASIN WITH NYLOPLAST DOME GRATE OR APPROVED EQUAL. SET GRATE ELEV. AT BMP WSEL.
2. SLOPE SOIL MEDIA AND MULCH AROUND INLET UP TO GRATE.

SECTION A-A

* SIDE SLOPES VARY, 3:1 MINIMUM, SEE GRADING PLAN



SECTION B-B

CONSTRUCTION NOTES:

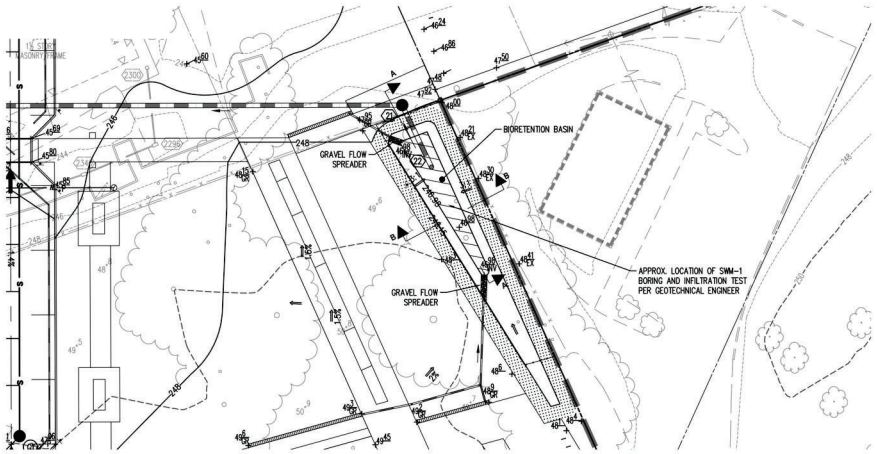
THE BIORETENTION (RAIN GARDEN) HAS BEEN DESIGNED IN ACCORDANCE WITH VIRGINIA DEQ/DCR STORMWATER DESIGN SPECIFICATION No. 9, VERSION 2.0 DATED JAN. 1, 2013. THE CONTRACTOR SHALL CONSTRUCT THE RAIN GARDEN FACILITY IN ACCORDANCE WITH THE VIRGINIA DEQ SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE MATERIAL DELIVERY TICKETS, TEST REPORTS AND CERTIFICATIONS. THE CONTRACTOR SHALL ALSO PROVIDE A SIGNED CERTIFICATION THAT THE FACILITY WAS CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND THE SPECIFICATIONS REFERENCED ABOVE. REFER TO SHEET C-0712 FOR VIRGINIA DEQ/DCR CONSTRUCTION SEQUENCE AND CONSTRUCTION INSPECTION RECOMMENDATIONS.

NOTE:

1. BIORETENTION FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED

TYPICAL 12"X18" SURFACE BMP SIGNAGE DETAIL

NOT TO SCALE



PARK BIORETENTION PLAN

SCALE: 1" = 20'

D. W. KOZERA, INC.
BALTIMORE, MARYLAND
GEOTECHNICAL & ENVIRONMENTAL ENGINEERING

Infiltration Test Report

Project Name: Upland Park — Test Date: 10/27/2021
Contract No: 21021.D — Boring No.: SWM-1
Project Location Alexandria, VA — Ground Surface Elev (ft): +248

Infiltration pipe set 10.00 feet below existing grade. — Date of Pipe saturation/pre-soak: 10/26/2021
Top of pipe set 0.00 feet above existing grade. — Time of Pipe saturation/pre-soak: 1:37 PM
Total length of pipe: 10.00 feet. — Depth of pre-soak from top of pipe: 8.00

Time of Measurement	Time Difference hr.	Cumulative Time hr.	Water Level Reading: Measurement from Top of Pipe (ft.)	Water Level Reading: Refilled water to depth of (ft.)	Difference ft.	Infiltration in./hr.
9:25 AM			7.93			
9:40 AM	0.25	0.3	8.47	7.61	0.54	25.92
10:25 AM	0.75	1.0	8.23	7.35	0.62	9.92
11:25 AM	1	2.0	8.02	7.41	0.67	8.04
12:25 PM	1	3.0	7.92	7.11	0.51	6.12
1:25 PM	1	4.0	7.72		0.61	7.32

Comments:
Infiltration Rate = in/hr (avg of last 3 readings)

MEASURED INFILTRATION RATE: 7.16 in/hr

Water level reading from top of the pipe after filling 2' water: Reading (ft) 8.00 — Date 10/26/21

Water level reading from top of the pipe after 24 hr: Reading (ft) Dry — Date 10/27/21

Tested By: S. Ndigwe

DESIGN INFILTRATION RATE = 0.5 * MEASURED INFILTRATION RATE → 3.58 IN/HR (> 0.5 IN/HR MIN.)

NOTE: REPORT INCLUDED FOR INFORMATION ONLY AND IS PREPARED BY OTHERS.

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: AS NOTED — DATE: 04/21/2023 — DRAWN: [ ] CHECKED: [PITTS/C] AVBP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

PLAN STATUS

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PROFESSIONAL ENGINEER — MARION W. VIRGIN — LIC. No.041851 — 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

BIORETENTION PLAN, COMPUTATIONS & DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0713.dwg

SHEET: C-0714

SECTION 8: CONSTRUCTION

8.1. Construction Sequence

Construction Stage E&S Controls. Micro-bioretention and small-scale bioretention areas should be fully protected by silt fence or construction fencing, particularly if they will rely on infiltration (i.e., have no underdrains). Ideally, bioretention should remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment. Bioretention basin locations may be used as small sediment traps or basins during construction. However, these must be accompanied by notes and graphic details on the ESC plan specifying that (1) the maximum excavation depth at the construction stage must be at least 1 foot above the post-construction maximum excavation, (2) the facility must contain an underdrain, and (3) the plan must also show the proper procedures for converting the temporary sediment control practice to a permanent bioretention facility, including dewatering, cleanout and stabilization.

8.2 Bioretention Installation

The following is a typical construction sequence to properly install a bioretention basin. The installation of a bioretention basin will include intermediate inspections at critical stages of construction with inspector sign-off that the particular elements of the bioretention are constructed according the approved plans and specifications. As an alternative, if allowed by the VSMP Authority, the contractor may rely on the engineer of record or other qualified individual

to conduct the intermediate inspections and certifications of compliance. The construction sequence for micro-bioretention is more simplified. These steps may be modified to reflect different bioretention applications or expected site conditions:

Step 1. Construction of the bioretention area may only begin after the entire contributing drainage area has been stabilized with vegetation. It may be necessary to block certain curb or other inlets while the bioretention area is being constructed. The proposed site should be checked for existing utilities prior to any excavation.

Step 2. The designer and the installer should have a preconstruction meeting, checking the boundaries of the contributing drainage area and the actual inlet elevations to ensure they conform to original design. Since other contractors may be responsible for constructing portions of the site, it is quite common to find subtle differences in site grading, drainage and paving elevations that can produce hydraulically important differences for the proposed bioretention area. The designer should clearly communicate, in writing, any project changes determined during the preconstruction meeting to the installer and the plan review/inspection authority.

Step 3. Temporary E&S controls are needed during construction of the bioretention area to divert stormwater away from the bioretention area until it is completed. Special protection measures such as erosion control fabrics may be needed to protect vulnerable side slopes from erosion during the construction process.

Step 4. Any pre-treatment cells should be excavated first and then sealed to trap sediments.

Step 5. Excavators or backhoes should work from the sides to excavate the bioretention area to its appropriate design depth and dimensions. Excavating equipment should have scoops with adequate reach so they do not have to sit inside the footprint of the bioretention area. Contractors should use a cell construction approach in larger bioretention basins, whereby the basin is split into 500 to 1,000 sq. ft. temporary cells with a 10-15 foot earth bridge in between, so that cells can be excavated from the side.

Step 6. It may be necessary to rip the bottom soils to a depth of 6 to 12 inches to promote greater infiltration.

Step 7. Place geotextile fabric on the sides of the bioretention area with a 6-inch overlap on the sides. If a stone storage layer will be used, place the appropriate depth of #57 stone on the bottom, install the perforated underdrain pipe, pack #57 stone to 3 inches above the underdrain pipe, and add approximately 3 inches of choker stone/pea gravel as a filter between the underdrain and the soil media layer. If no stone storage layer is used, start with 6 inches of #57 stone on the bottom, and proceed with the layering as described above.

Step 8. Obtain soil the media from a qualified vendor, and store it on an adjacent impervious area or plastic sheeting. After verifying that the media meets the specifications, apply the media in 12-inch lifts until the desired top elevation of the bioretention area is achieved. Wait a few days to check for settlement, and add additional media, as needed, to achieve the design elevation.

Step 9. Prepare planting holes for any trees and shrubs, install the vegetation, and water accordingly. Install any temporary irrigation.

Step 10. Place the surface cover in both cells (mulch, river stone or turf), depending on the design. If coir or jute matting will be used in lieu of mulch, the matting will need to be installed prior to planting **(Step 9)**, and holes or slits will have to be cut in the matting to install the plants.

Step 11. Install the plant materials as shown in the landscaping plan, and water them during weeks of no rain for the first two months.

8.3 Construction Inspection

Inspections during and immediately after construction are needed to ensure that all the elements of bioretention basins are built in accordance with these specifications. Use a detailed inspection checklist that requires sign-offs by qualified individuals at critical stages of construction and to ensure that the contractor's interpretation of the plan is consistent with the designer's intent. The following identifies the critical stages of construction where an intermediate inspection and sign-off by a qualified individual is recommended since the items can't be verified after construction is completed. A construction inspection checklist that includes certifications of inspection at critical stages is provided at the end of this specification.

The following represents items that are frequently overlooked during construction inspection but represent important elements for ensuring the success of the bioretention facility during the initial break-in period.

- Verify the proper coverage and depth of mulch, vegetation, or soil matting has been achieved following construction, both on the filter bed and the side-slopes.
- Inspect the pre-treatment forbays and filter strips to verify that they are properly installed, stabilized, and working effectively before opening the facility to runoff.
- Check that outfall protection/energy dissipation measures at concentrated inflow and outflow points are stable.

Upon final acceptance of the facility, log the practice's GPS coordinates and submit them for entry into the VSMP Authority's BMP maintenance tracking database.

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

The Virginia Stormwater Management regulations (4 VAC 50-60) specify the circumstances under which a maintenance agreement must be executed between the owner and the VSMP authority, and sets forth inspection requirements, compliance procedures if maintenance is neglected, notification of the local program upon transfer of ownership, and right-of-entry for local program personnel.

- All bioretention practices must include a long term maintenance agreements consistent with the provisions of the VSMP regulations, and must include the recommended maintenance tasks and a copy of an annual inspection checklist.
- When micro-scale bioretention practices are applied on private residential lots, homeowners should be educated regarding their routine maintenance needs by being provided a simple document that explains their purpose and routine maintenance needs. .
- A deed restriction, drainage easement or other mechanism enforceable by the VSMP authority must be in place to help ensure that rain gardens and bioretention filters are maintained and not converted or disturbed, as well as to pass the knowledge along to any subsequent owners.
- The mechanism should, if possible, grant authority for the VSMP authority to access the property for inspection or corrective action.

9.2. First Year Maintenance Operations

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- ***Initial inspections.*** For the first 6 months following construction, the site should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- ***Spot Reseeding.*** Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- ***Fertilization.*** One-time, spot fertilization may be needed for initial plantings.
- ***Watering.*** Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- ***Remove and replace dead plants.*** Since up to 10% of the plant stock may die off in the first year, construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction. The typical thresholds below which replacement is required are 85% survival of plant material and 100% survival of trees.

9.3. Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each bioretention area. The following is a list of some of the key maintenance problems to look for:

- Check to see if 75% to 90% cover (mulch plus vegetative cover) has been achieved in the bed, and measure the depth of the remaining mulch.
- Check for sediment buildup at curb cuts, gravel diaphragms or pavement edges that prevents flow from getting into the bed, and check for other signs of bypassing.
- Check for any winter- or salt-killed vegetation, and replace it with hardier species.
- Note presence of accumulated sand, sediment and trash in the pre-treatment cell or filter beds, and remove it.
- Inspect bioretention side slopes and grass filter strips for evidence of any rill or gully erosion, and repair it.
- Check the bioretention bed for evidence of mulch flotation, excessive ponding, dead plants or concentrated flows, and take appropriate remedial action.

- Check inflow points for clogging, and remove any sediment.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize them immediately.
- Check for clogged or slow-draining soil media, a crust formed on the top layer, inappropriate soil media, or other causes of insufficient filtering time, and restore proper filtration characteristics.

Example maintenance inspection checklists for Bioretention areas can be accessed in Appendix C of Chapter 9 of the *Virginia Stormwater Management Handbook* (2010).

9.4. Routine and Non-Routine Maintenance Tasks

Maintenance of bioretention areas should be integrated into routine landscape maintenance tasks. If landscaping contractors will be expected to perform maintenance, their contracts should contain specifics on unique bioretention landscaping needs, such as maintaining elevation differences needed for ponding, proper mulching, sediment and trash removal, and limited use of fertilizers and pesticides. A customized maintenance schedule must be prepared for each bioretention facility, since the maintenance tasks will differ depending on the scale of bioretention, the landscaping template chosen, and the type of surface cover. A generalized summary of common maintenance tasks and their frequency is provided in **Table 9.8**.

The most common non-routine maintenance problem involves standing water. If water remains on the surface for more than 48 hours after a storm, adjustments to the grading may be needed or underdrain repairs may be needed. The surface of the filter bed should also be checked for accumulated sediment or a fine crust that builds up after the first several storm events. There are several methods that can be used to rehabilitate the filter (try the easiest things first, as listed below):

- Open the underdrain observation well or cleanout and pour in water to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see if there is standing water all the way down through the soil. If there is standing water on top, but not in the underdrain, then there is a clogged soil layer. If the underdrain and stand pipe indicates standing water, then the underdrain must be clogged and will need to be snaked.
- Remove accumulated sediment and till 2 to 3 inches of sand into the upper 8 to 12 inches of soil.
- Install sand wicks from 3 inches below the surface to the underdrain layer. Sand wicks can be installed by excavating or augering (using a tree auger or similar tool) down to the gravel storage zone to create vertical columns which are then filled with a clean open-graded coarse sand material (coarse sand mix similar to the gradation used for the soil media). A sufficient number of wick drains of sufficient dimension should be installed to meet the design dewatering time for the facility.
- Last resort - remove and replace some or all of the soil media.

Table 9.8. Suggested Annual Maintenance Activities for Bioretention

Maintenance Tasks	Frequency
• Mowing of grass filter strips and bioretention turf cover	At least 4 times a year
• Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season
• Add reinforcement planting to maintain desired the vegetation density • Remove invasive plants using recommended control methods • Stabilize the contributing drainage area to prevent erosion	As needed
• Spring inspection and cleanup • Supplement mulch to maintain a 3 inch layer • Prune trees and shrubs	Annually
• Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Replace the mulch layer	Every 3 years

3rd Party Construction Inspection Checklist and Certification: Bioretention

DEQ Spec. No. 9 & PFM 6-1307

Project Name _____ Construction Firm _____

Co. Plan Number _____ 3rd Party Inspection Firm: _____

Site Address: _____ 3rd Party Inspector's Name: _____

Latitude / Longitude _____ °N _____ °W Contact Info / Phone Number: _____

BMP ID Number as shown on plan and general location on the site _____

- A certification is required for all SWM/BMP facilities under PFM 6-1300 et. seq.
- A Virginia licensed professional engineer or licensed professional meeting the exemption requirements of the Code of Virginia §54.1-401 must sign the certification at the end of this checklist.

Instructions:

- Check each item as complete, or write in "N/A" for those items that are not applicable.
- Fill in blanks for requested information on dimensions, materials, etc.
- Provide one or more photos for applicable items; checkboxes indicate items that *require* photos.

Pre-Installation Meeting and Site Preparation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		**Pre-Installation Meeting with** **- contractor designated to install the facility** **- 3rd party inspector (or designee)** **A review of checklist and tentative schedule for interim inspections and sign-offs has been discussed**	
☐		**Bioretention area has not been impacted during construction, or has been remediated prior to installation.** **Circle one: Not Impacted | Remediated**	
☐		**Impervious cover draining to the BMP have been constructed and area is free of equipment, vehicles and material storage**	
☐		**Pervious areas of contributing drainage area have been stabilized with adequate vegetation.**	
☐	☐	**Stormwater diverted around the bioretention area and perimeter E&S controls to protect the BMP during construction have been installed.**	
☐		**Drainage area slopes toward the bioretention facility.**	

Excavation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		**Size & horizontal location conforms to approved plans.** **Area of Excavation_____**	
☐		**If the area has previously been used as sediment trap verify that the bottom of the proposed stone reservoir is lower than the bottom elevation of the existing trap.**	
☐		**Level 2 bioretention: Excavation bottom was scarified prior to placement of stone.**	
☐	☐	**Subgrade surface free of rocks, roots, and large voids. (Voids may be refilled with base aggregate to create a level surface for the placement of aggregates and underdrain.)**	
☐		**No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device, and the design consultant has been notified.**	
☐	☐	**Excavation depth and side grades per approved plans.** **Depth of Excavation_____ ft.** **Grade of Side Slope_____ ft./ft.**	
☐		**Excavation of the facility bottom has not compacted the bottom of the facility.**	

Filter Layer, Underdrain and Stone Reservoir Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐	☐	**All aggregates (stone, sand, etc., as required) conform to specifications.**	
☐	☐	**Impermeable liner (when required) is placed in accordance with manufacturer specs & approved plans.**	
☐	☐	**Sides of excavation covered with geotextile (when required), with no tears, holes, or excessive wrinkles.**	
☐	☐	**Underdrain size, spacing, base material installed per approved plans.** **Underdrain Diameter _____ inches** **Underdrain Material _____** **Underdrain Spacing _____ ft.** **Perforation Size & Spacing _____Inches.** **Number of Cleanouts_____**	
☐		**Restriction device / flow control device (when required) placed per approved plans.**	
☐	☐	**Observation well(s) installed.** **Number_____**	
☐		**Stone placed to achieve the required storage depth.** **Depth of gravel stone sump layer_____ ft.**	
☐	☐	**Filter layer (choker stone/pea gravel/sand) installed per approved plans.** **Choker material: _____** **Depth of choker material: _____**	

Soil Media Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		**Soil media certification per project specifications.**	
☐		**Filter media placed in 8 – 12 inch lifts.** **No machinery over the filter media.** **Filter media raked to a level grade after final lift.**	
☐		**Depth of filter media** **Depth: _____ ft.**	
☐		**Filter media settlement** **Facility flooded (2-4 days after initial placement) until underdrain activated.** **Top elevation verified after draining.**	

Final Stabilization and Plant Installation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐	☐	**Energy dissipators and pretreatment practices conform to approved plans.** **List practices here:** _____ _____ _____	
☐	☐	**External bypass structure (when required) conforms to approved plans.**	
☐		**Mulch composition and depth conform to approved plans.** **Depth of mulch layer:_____ Inches**	
☐		**Final ponding depth (from top of mulch to lowest overflow point) conforms to plan.** **Depth of ponding area _____Inches.** **(above mulch, 12" maximum)**	
☐	☐	**Riser or overflow weir conforms to approved plans.**	
☐		**Overflow berm conforms to approved plans.** **Berm Height _____ft.** **(from downstream toe, max. 2 ft)** **Berm Width (usually 2 ft.) _____ ft.** **Side Slopes (max. 2:1) _____:1**	
☐		**Signs installed as shown on approved plans.**	
☐	☐	**Plant installation conforms to approved plans, and all plants are healthy.**	
☐	☐	**Final grades within the bioretention after plant and mulch installation match the approved plan elevations.**	
☐	☐	**Provide a photo of the BMP facility after completion of construction.**	

Final Certification

I do hereby certify that this as-built information for the stormwater management/BMP facility was inspected by me (or by an individual under my responsible charge) and conforms to the approved plans, except as indicated.

Signature:_____ Date:_____

License Number (Seal):_____

("Certify" means to state or declare a professional opinion based on sufficient and appropriate onsite inspections and material tests conducted during construction)

NOTES:
1. THIS SHEET PROVIDES SOME GENERAL RECOMMENDATIONS FROM THE VIRGINIA DEQ THAT SHALL BE FOLLOWED FOR PROPER CONSTRUCTION OF THE BIORETENTION.
2. THIS SHEET ALSO PROVIDES A COPY OF THE THIRD PARTY INSPECTION CHECKLIST THAT SHALL BE COMPLETED.
3. THIS SHEET ALSO PROVIDES SOME GENERAL RECOMMENDATIONS FOR MAINTENANCE AND MAINTENANCE INSPECTIONS OF THESE FACILITIES. NOTE THAT THE PROPERTY OWNER IS REQUIRED TO EXECUTE A STORMWATER MANAGEMENT FACILITY MAINTENANCE AGREEMENT WITH THE CITY WHICH CONTAINS FURTHER CONSTRUCTION, MAINTENANCE, AND INSPECTION REQUIREMENTS

ESI Peer Review

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | TSC: | AVBP:

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY:

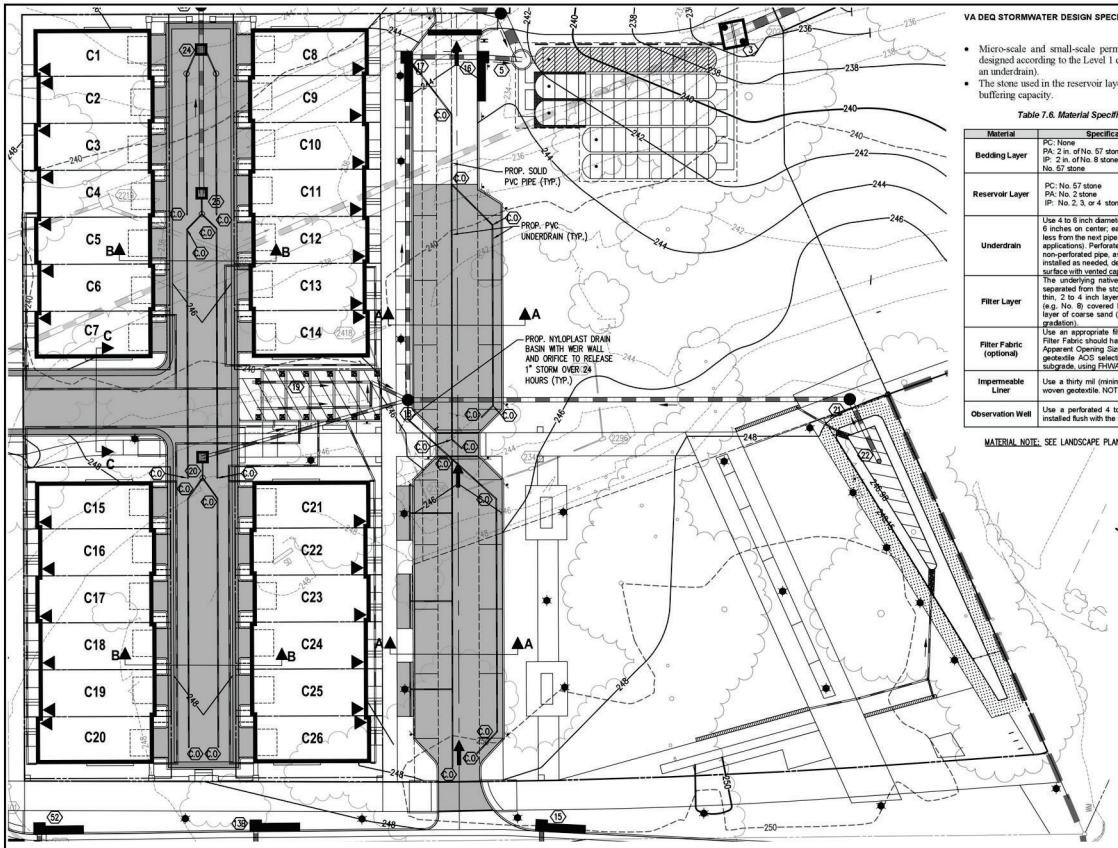
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. NO.041851 — 4/21/2023 — PROFESSIONAL ENGINEER

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

BIORETENTION CONSTRUCTION & MAINTENANCE SPECIFICATIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.



PERMEABLE PAVEMENT PLAN

1" = 20'

VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 — **PERMEABLE PAVEMENT**

- Micro-scale and small-scale permeable pavement installations are acceptable if they are designed according to the Level 1 criteria (i.e., they possess an impermeable bottom liner and an underdrain).
- The stone used in the reservoir layer should be carbonate in nature to provide extra chemical buffering capacity.

Table 7.6. Material Specifications for Underneath the Pavement Surface

Material	Specification	Notes
Bedding Layer	PC: None PA: 2 in. of No. 57 stone IP: 2 in. of No. 8 stone over 4 inches of No. 57 stone	ASTM D448 size No. 8 stone (e.g. 3/8 to 3/16 inch in size). Should be washed and clean and free of all fines.
Reservoir Layer	PC: No. 57 stone PA: No. 2 stone IP: No. 2, 3, or 4 stone	ASTM D448 size No. 57 stone (e.g. 1 1/2 to 1/2 inch in size); No. 2 Stone (e.g. 3 inch to 3/4 inch in size). Depth is based on the pavement structural and hydraulic requirements. Should be washed and clean and free of all fines.
Underdrain	Use 4 to 6 inch diameter perforated PVC (AASHTO M 252) pipe, with 3/8-inch perforations at 6 inches on center; each underdrain installed at a minimum 0.5% slope located 20 feet or less from the next pipe (or equivalent corrugated HDPE may be used for smaller load-bearing applications). Perforated pipe installed for the full length of the permeable pavement cell, and non-perforated pipe, as needed, is used to connect with the storm drain system. T's and Y's installed as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the Ts and Ys.	
Filter Layer	The underlying native soils should be separated from the stone reservoir by a thin, 2 to 4 inch layer of choker stone (e.g. No. 8) covered by a 6 to 8 inch layer of coarse sand (e.g. ASTM C 33, gradation).	The sand should be placed between the stone reservoir and the choker stone, which should be placed on top of the underlying native soils.
Filter Fabric (optional)	Use an appropriate filter fabric for the particular application based on AASHTO M288-06 Filter Fabric should have a Flow Rate greater than 125 gpm/sq. ft. (ASTM D4491), and an Apparent Opening Size (AOS) equivalent to a US # 70 or # 80 sieve (ASTM D4751). The geotextile AOS selection is based on the percent passing the No. 200 sieve in "A" Soil subgrade, using FHWA or AASHTO selection criteria.	
Impermeable Liner	Use a thirty mil (minimum) PVC Geomembrane liner covered by 8 to 12 oz./sq. yd.2 non-woven geotextile. NOTE: THIS IS USED ONLY FOR KARST REGIONS.	
Observation Well	Use a perforated 4 to 6 inch vertical PVC pipe (AASHTO M 252) with a lockable cap, installed flush with the surface.	

MATERIAL NOTE: SEE LANDSCAPE PLAN SHEETS L1.21 & L2.01 FOR PAVER MATERIAL SELECTION.

Table 7.4. Permeable Pavement Design Criteria

Level 1 Design	Level 2 Design
Tv = (1)(Rv)(A) / 12 – the volume reduced by an upstream BMP [1]	Tv = (1.1)(Rv)(A) / 12
Soil infiltration is less than 0.5 in./hr.	Soil infiltration rate must exceed 0.5 in./hr to remove underdrain requirement, or use a drawdown design in accordance with **Section 6**.
Underdrain required	1. No underdrain; ***OR*** 2. If an underdrain is used, provide a 12-inch (minimum) stone reservoir infiltration sump below the underdrain invert that meets the drawdown requirements of Section 6; ***OR*** 3. The Tv stone reservoir volume has at least a 48-hour drain time, as regulated by a control structure.
CDA[1] = The permeable pavement area plus upgradient parking, as long as the ratio of external contributing area to permeable pavement does not exceed 2.5:1.	• CDA = The permeable pavement area; ***OR*** • If option 3 above is used, CDA ratio may be 2.5:1.

[1] The contributing drainage area to the permeable pavements should be limited to paved surfaces in order to avoid sediment wash-on. When pervious areas are conveyed to permeable pavement, sediment source controls and/or pre-treatment must be provided strip or sump should be used. The pre-treatment may qualify for a runoff reduction credit if designed accordingly.

CONSTRUCTION NOTES:

THE PERMEABLE PAVEMENT HAS BEEN DESIGNED IN ACCORDANCE WITH VIRGINIA DEQ/DCR STORMWATER DESIGN SPECIFICATION No. 7, VERSION 2.0 DATED JAN. 1, 2013 AND FAIRFAX COUNTY PFM SECTION 6-1304. THE CONTRACTOR SHALL CONSTRUCT THE PERMEABLE PAVEMENT FACILITY IN ACCORDANCE WITH THESE SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE MATERIAL DELIVERY TICKETS AND CERTIFICATIONS AND A SIGNED CERTIFICATION THAT THE FACILITY WAS CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND THE SPECIFICATIONS REFERENCED ABOVE. REFER TO SHEET C-0714 FOR VIRGINIA DEQ/DCR CONSTRUCTION SEQUENCE AND CONSTRUCTION INSPECTION RECOMMENDATIONS.

MAINTENANCE NOTES:

THE OWNER SHOULD BE AWARE THAT A MAINTENANCE AGREEMENT IS REQUIRED TO BE EXECUTED AND RECORDED IN LAND RECORDS BETWEEN THE OWNER AND THE LOCAL JURISDICTION. THE OWNER SHOULD MAKE HIMSELF FULLY AWARE OF ALL CONSTRUCTION, INSPECTION AND MAINTENANCE OBLIGATIONS CONTAINED IN THE AGREEMENT AND THE SPECIFICATIONS REFERENCED ABOVE. REFER TO SHEET C-0714 FOR VIRGINIA DEQ/DCR MAINTENANCE AND MAINTENANCE INSPECTION RECOMMENDATIONS.

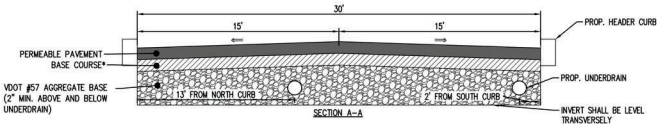
NOTE:

1. PERMEABLE PAVEMENT FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED
2. IF BEDROCK IS ENCOUNTERED, THE EXCAVATION FOR THE FACILITY SHALL EXTEND A MINIMUM OF 2' DOWN BELOW THE BMP SYSTEM INTO UNDERLYING BEDROCK.
3. A CONCRETE EDGE RESTRAINT SHALL BE PLACED AROUND ANY STREETLIGHTS AND POLE BASES WITHIN AREAS OF PERMEABLE PAVEMENT.

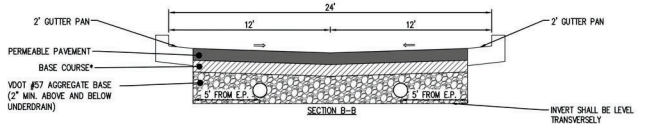
LEGEND

PERMEABLE PAVEMENT LEVEL 2

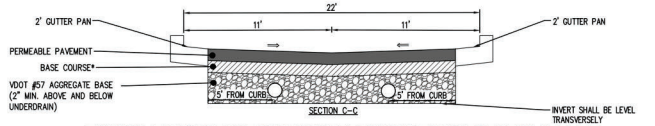
20 0 10 20 40 80
(IN FEET)
1 INCH = 20'



SECTION A–A



SECTION B–B

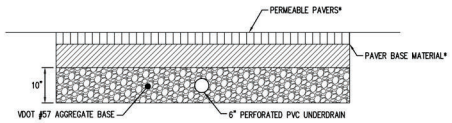


SECTION C–C

TYPICAL TRANSVERSE SECTIONS PERMEABLE PAVEMENT IN STREET

N.T.S.

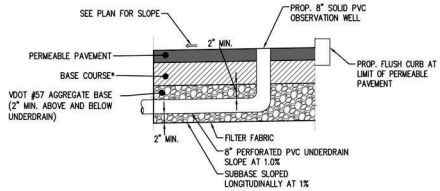
* PER PROJECT GEOTECHNICAL ENGINEER RECOMMENDATIONS



PERMEABLE PAVER WALK DETAIL

N.T.S.

* REFER TO LANDSCAPE ARCHITECTURE PLANS



TYPICAL LONGITUDINAL SECTION PERMEABLE PAVEMENT IN STREET

N.T.S.

NOTE: THE UNDERDRAINS IN THE PERMEABLE PAVEMENT LEVEL 2 SHALL BE CONVEYED TO A DRAIN BASIN CONTAINING A WEIR WALL WITH ORIFICE. THE ORIFICE SHALL BE DESIGNED TO RELEASE THE 1" WATER QUALITY STORM VOLUME OVER 48 HOURS IN ACCORDANCE WITH THE "SLOW DRAW DOWN" PARAGRAPH IN SECTION 6.4 INTERNAL GEOMETRY AND DRAWDOWN SECTION OF DEQ DESIGN SPECIFICATION NO. 7.

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: [DRAWN] | CHECKED: [PTTSC] AVBP

DATE	PLAN STATUS	DATE	DESCRIPTION
08/02/21	FSP SUB #1	05/20/22	FSP SUB #3
12/22/21	FSP SUB #2	10/19/22	FSP SUB #4

AARON M. VIRGIN LIC. No.041851 4/28/2023 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PERMEABLE PAVEMENT PLAN & DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro1\05073\dwg\Engineering\Site Plan\05073C-0716.dwg

SHEET: C-0716

3rd Party Construction Inspection Checklist and Certification: Permeable Pavement
DEQ Spec. No. 7 & PFM 6-1304

Project Name _____ Construction Firm _____
Co. Plan Number _____ 3rd Party Inspection Firm _____
Site Address _____ 3rd Party Inspector's Name _____
Latitude / Longitude _____ °N _____ °W Contact Info / Phone Number _____
BMP ID Number as shown on plan and general location on the site _____

- A certification is required for all SWM/BMP facilities under PFM 6-1300 et. seq.
- A Virginia licensed professional engineer or licensed professional meeting the exemption requirements of the Code of Virginia §54.1-401 must sign the certification at the end of this checklist.

Instructions:

- Check each item as complete, or write in "N/A" for those items that are not applicable.
- Fill in blanks for requested information on dimensions, materials, etc.
- Provide one or more photos for applicable items; checkboxes indicate items that require photos.

Pre-Installation Meeting and Site Preparation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Pre-Installation Meeting with contractor designated to install the facility (not required for individual lots) A copy of checklist and sediment schedule for interim inspections and sign-offs has been discussed	
☐		Contributing drainage areas are stabilized and not eroding.	
☐	☐	Stormwater runoff is diverted around the excavation area to a stabilized conveyance.	

Excavation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Horizontal location of BMP is in accordance with the approved plans.	
☐		Subgrade surface free of rocks, roots, and large voids. (Voids may be filled with base aggregate.)	
☐		For level 2 permeable pavement: Excavation bottom is scarified.	
☐		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device, and the design consultant has been notified.	
☐	☐	Excavation of facility has achieved proper elevations and grade per approved plans.	

Filter Layer and Underdrain Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		All aggregates (stone, sand, etc., as required) are clean, washed, and conform to specifications.	
☐	☐	Perforated underdrain size and spacing per approved plans. Pipe Diameter_____ inches Material_____ Pipe Spacing_____ ft. Slope_____ % Perforation Size/Spacing_____ ft.	
☐		Filter layer and bridge reservoir layer aggregates spread (not dumped) to avoid aggregate segregation per approved plans. Depth of filter layer _____ ft.	
☐	☐	Impermeable liner (when required) is placed in accordance with manufacturer specifications, per approved plans.	
☐		Underdrain, observation well(s), and underdrain fittings (45° wyes, cap at upstream end, etc.) installed per approved plans. Number of Observation Wells_____	

Stone Reservoir Aggregate Placement

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐		Sides covered with geotextile with no tears, holes, or excessive wrinkles.	
☐	☐	Stone reservoir layer aggregate placement, compaction, and thickness, are per approved plans. Depth of reservoir layer aggregate _____ inches	

Bedding Layer and Pavement Installation

CHECK	PHOTO	DESCRIPTION	DATE OF INSPECTION / COMMENTS
☐	☐	Pre-treatment structures (when required) are installed per approved plans. Type of pretreatment _____	
☐		Concentrated flow is not being discharged directly onto the permeable pavement.	
☐		Pavement surface is even and runoff spreads evenly across surface.	
☐		Flow reduction orifice or cap placed on the end of the pavement underdrain per approved plans.	
☐	☐	Permeable pavement block systems which require edge restraints are installed flush with the paver blocks per approved plans. Size of Edge Restraints_____ Type of Edge Restraints_____	
☐		Aggregate layer for the installation of the underdrain system is per approved plans. Depth of aggregate layer_____ ft. Size of aggregate layer_____	
☐		Signs installed per PFM 6-1304.3B	
☐		For porous asphalt and pervious concrete pavement, the full permeability of paved surface has been properly tested (clean water applied at a min. rate of 8 gpm over the entire surface), and all water infiltrated directly without puddle formation or surface runoff.	
☐	☐	Provide a photo of the BMP facility after completion of construction.	

Final Certification

I do hereby certify that this as-built information for the stormwater management/BMP facility was inspected by me (or by an individual under my responsible charge) and conforms to the approved plans, except as indicated.

Signature:_____ Date:_____

License Number (Seal):_____

("Certify" means to state or declare a professional opinion based on sufficient and appropriate onsite inspections and material tests conducted during construction)

SECTION 8: CONSTRUCTION

Experience has shown that proper installation is absolutely critical to the effective operation of a permeable pavement system.

8.1 Necessary Erosion & Sediment Controls

- All permeable pavement areas should be fully protected from sediment intrusion by silt fence or construction fencing, particularly if they are intended to infiltrate runoff.
- Permeable pavement areas should remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment. Permeable pavement areas should be clearly marked on all construction documents and grading plans. To prevent soil compaction, heavy vehicular and foot traffic should be kept out of permeable pavement areas during and immediately after construction.
- During construction, care should be taken to avoid tracking sediments onto any permeable pavement surface to avoid clogging.
- Any area of the site intended ultimately to be a permeable pavement area should generally not be used as the site of a temporary sediment basin. Where locating a sediment basin on an area intended for permeable pavement is unavoidable, the invert of the sediment basin must be a minimum of 2 feet above the final design elevation of the bottom of the aggregate reservoir course. All sediment deposits in the excavated area should be carefully removed prior to installing the sub-base, base and surface materials.

8.2. Permeable Pavement Construction Sequence

The following is a typical construction sequence to properly install permeable pavement, which may need to be modified to depending on whether Porous Asphalt (PA), Pervious Concrete (PC) or Interlocking Paver (IP) designs are employed.

Step 1. Construction of the permeable pavement shall only begin after the entire contributing drainage area has been stabilized. The proposed site should be checked for existing utilities prior to any excavation. Do not install the system in rain or snow, and do not install frozen aggregate materials.

Step 2. As noted above, temporary erosion and sediment (E&S) controls are needed during installation to divert stormwater away from the permeable pavement area until it is completed. Special protection measures such as erosion control fabrics may be needed to protect vulnerable side slopes from erosion during the excavation process. The proposed permeable pavement area must be kept free from sediment during the entire construction process. Construction materials that are contaminated by sediments must be removed and replaced with clean materials.

Step 3. Where possible, excavators or backhoes should work from the sides to excavate the reservoir layer to its appropriate design depth and dimensions. For micro-scale and small-scale pavement applications, excavating equipment should have arms with adequate extension so they do not have to work inside the footprint of the permeable pavement area (to avoid compaction). Contractors can use a cell construction approach, whereby the proposed permeable pavement area is split into 500 to 1000 sq. ft. temporary cells with a 10 to 15 foot earth bridge in between, so that cells can be excavated from the side. Excavated material should be placed away from the open excavation so as to not jeopardize the stability of the side walls.

Step 4. The native soils along the bottom and sides of the permeable pavement system should be scarified or tilled to a depth of 3 to 4 inches prior to the placement of the filter layer or filter fabric. In large scale paving applications with weak soils, the soil subgrade may need to be compacted to 95% of the Standard Proctor Density to achieve the desired load-bearing capacity. (NOTE: This effectively eliminates the infiltration function of the installation, and it must be addressed during hydrologic design.)

Step 5. The filter layer should be installed on the bottom of the reservoir layer and, where appropriate, filter fabric can be placed on the sides.

Step 6. Provide a minimum of 2 inches of aggregate above and below the underdrains. The underdrains should slope down towards the outlet at a grade of 0.5% or steeper. The up-gradient end of underdrains in the reservoir layer should be capped. Where an underdrain pipe is connected to a structure, there should be no perforations within 1 foot of the structure. Ensure that there are no perforations in clean-outs and observation wells within 1 foot of the surface.

Step 7. Spread 6-inch lifts of the appropriate clean, washed stone aggregate. Place at least 4 inches of additional aggregate above the underdrain, and then compact it using a vibratory roller in static mode until there is no visible movement of the aggregate. Do not crush the aggregate with the roller.

Step 8. Install over-drain if required and connect into outlet conveyance system.

Step 9. Install the desired depth of the bedding layer, depending on the type of pavement, as follows:

- **Pervious Concrete:** No bedding layer is used.
- **Porous Asphalt:** The bedding layer for porous asphalt pavement consists of 1 to 2 inches of clean, washed ASTM D 448 No.57 stone. The filter course must be leveled and pressed (choked) into the reservoir base with at least four (4) passes of a 10-ton steel drum static roller.
- **Interlocking Pavers:** The bedding layer for open-jointed pavement blocks should consist of 2 inches of washed ASTM D 448 No.8 stone.

Step 10. Install paving materials in accordance with manufacturer or industry specifications for the particular type of pavement.

- **Installation of Porous Asphalt.** The following has been excerpted from various documents, most notably Jackson (2007).
  1. Install porous asphalt pavement similarly to regular asphalt pavement. The pavement should be laid in a single lift over the filter course. The laying temperature should be between 230°F and 260°F, with a minimum air temperature of 50°F, to ensure that the surface does not stiffen before compaction.
  2. Complete compaction of the surface course when the surface is cool enough to resist a 10-ton roller. One or two passes of the roller are required for proper compaction. More rolling could cause a reduction in the porosity of the pavement.
  3. The mixing plant must provide certification of the aggregate mix, abrasion loss factor, and asphalt content in the mix. Test the asphalt mix for its resistance to stripping by water using ASTM 1664. If the estimated coating area is not above 95%, additional anti-stripping agents must be added to the mix.
  4. Transport the mix to the site in a clean vehicle with smooth dump beds sprayed with a non-petroleum release agent. Cover the mix during transportation to control cooling.
  5. Test the full permeability of the pavement surface by application of clean water at a rate of at least five gallons per minute over the entire surface. All water must infiltrate directly, without puddle formation or surface runoff.
  6. Inspect the facility 18 to 30 hours after a significant rainfall (greater than 1/2 inch) or artificial flooding, to determine that the facility is draining properly.
- **Installation of Pervious Concrete.** The basic installation sequence for pervious concrete is outlined by the American Concrete Institute (2008). It is strongly recommended that concrete installers successfully complete a recognized pervious concrete installers training program, such as the Pervious Concrete Contractor Certification Program offered by the NRMCA. The basic installation procedure is as follows:
  1. Drive the concrete truck as close to the project site as possible.
  2. Water the underlying aggregate (reservoir layer) before the concrete is placed, so that the aggregate does not draw moisture from the freshly laid pervious concrete.
  3. After the concrete is placed, approximately 3/8 to 1/2-inch is struck off, using a vibratory screed. This is to allow for compaction of the concrete pavement.
  4. Compact the pavement with a steel pipe roller. Care should be taken so that over-compaction does not occur.
  5. Cut joints for the concrete to a depth of 1/4 inch.
  6. The curing process is very important for pervious concrete. Cover the pavement with plastic sheeting within 20 minutes of the strike-off, and keep it covered for at least seven (7) days. Do not allow traffic on the pavement during this time period.

  Installation of Interlocking Pavers. The basic installation process is described in greater detail by Smith (2006). The basic installation process is described in greater detail by Smith (Smith 2011). Permeable paver job foremen should successfully complete the PICP Installer Technician Course training program offered by the Interlocking Concrete Pavement Institute. The following installation method also applies to clay paving units. Contact manufacturers of composite units for installation specifications.
  1. Moisten, place and level the No. 2 stone sub-base and compact it in minimum 12-inch thick lifts with four passes of a 10-ton steel drum static roller until there is no visible movement. The first two passes are in vibratory mode with the final two passes in static mode. The filter aggregate should be moist to facilitate movement into the reservoir course.
  2. Place edge restraints before the base layer, bedding and pavers are installed. Permeable interlocking pavement systems require edge restraints to prevent vehicle loads from moving the pavers. Edge restraints may be standard concrete curbs or curb and gutters.,

3. Moisten, place and level the No. 57 base stone in a single lift (4 inches thick). Compact it into the reservoir course beneath with at least four (4) passes of a 10-ton steel drum static roller until there is no visible movement. The first two passes are in vibratory mode, with the final two passes in static mode.
4. Place and screed the bedding course material (typically No. 8 stone, 2 inches thick).
5. Pavers may be placed by hand or with mechanical installers.
6. Fill gaps at the edge of the paved areas with cut pavers or edge units. When cut pavers are needed, cut the pavers with a paver splitter or masonry saw. Cut pavers no smaller than one-third (1/3) of the full unit size, if subject to tire movement.
7. Fill the joints and openings with stone. Joint openings must be filled with No. 8, 89 or 9 stone per the paver manufacturer's recommendation. Sweep and remove excess stones from the paver surface.
8. Compact and seat the pavers into the bedding course with a minimum low-amplitude 5,000 lbf, 75- to 95-Hz plate compactor. Do not compact within 6 feet of the unrestrained edges of the pavers.
9. Thoroughly sweep the surface after construction to remove all excess aggregate.
10. Inspect the area for settlement. Any paving units that settle must be reset and re-inspected.
11. The contractor should return to the site within 6 months to top up the paver joints with stones.

8.3. Construction Inspection

Inspections before, during and after construction are needed to ensure that permeable pavement is built in accordance with these specifications. Use a detailed inspection checklist that requires sign-offs by qualified individuals at critical stages of construction and to ensure that the contractor's interpretation of the plan is consistent with the designer's intent. The basic elements of a permeable pavement construction checklist are provided at the end of this design specification.

Once the final construction inspection has been completed, log the GPS coordinates for each facility and submit them for entry into the local BMP maintenance tracking database.

It may be advisable to divert the runoff from the first few runoff-producing storms away from larger permeable pavement applications, particularly when up-gradient conventional asphalt areas drain to the permeable pavement. This can help reduce the input of fine particles that are often produced shortly after conventional asphalt is laid down.

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

The Virginia Stormwater Management Regulations (9 VAC 25-870) specify the circumstances under which a maintenance agreement must be executed between the owner and the VSMP authority, and sets forth inspection requirements, compliance procedures if maintenance is

neglected, notification to the local program upon transfer of ownership, and right-of-entry for local program personnel.

- The regulations require that all post-construction BMPs, including Permeable Pavement installations, must be covered by a long term maintenance agreement and drainage easement to allow inspection and maintenance.
- The maintenance agreements should note which conventional parking lot maintenance tasks must be *avoided* (see **Section 9.2** below). Signs should be posted on larger parking lots to indicate their stormwater function and special maintenance requirements. When micro-scale or small-scale permeable pavement are installed on private residential lots, homeowners should be provided a simple document that explains the purpose of the Permeable Pavement and outlines (1) the routine maintenance needs, (2) the long-term maintenance plan, and (3) the basic parameters of the deed restriction, drainage easement or other mechanism enforceable by the VSMP Authority to help ensure that the permeable pavement system is maintained and functioning.
- The mechanism should, if possible, grant authority for the VSMP authority to access the property for inspection or corrective action.

9.2. Maintenance Tasks

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. Most installations work reasonably well year after year with little or no maintenance, whereas some have problems right from the start.

The following tasks **must be avoided** on all permeable pavements:

- sanding
- re-sealing
- re-surfacing
- power washing
- storage of snow piles containing sand
- storage of mulch or soil materials
- construction staging on unprotected pavement

A preventative maintenance task for large-scale applications involves regenerative air vacuum sweeping on a frequency consistent with the use and loadings encountered in the parking lot. Many consider an annual, dry-weather sweeping in the spring months to be important. The contractor performing should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Vacuum settings for large-scale interlocking paver applications should be calibrated so they *do not* pick up the small stones between pavement blocks.

Table 7.8. Recommended Maintenance Tasks for Permeable Pavement Practices

Maintenance Task	Frequency[1]
• For the first 6 months following construction, the practice and contributing drainage area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.	After installation

Conduct any needed repairs or stabilization.	
• Mow grass in grid paver applications	At least 1 time every 1-2 months during the growing season
• Stabilize the CDA to prevent erosion • Remove any soil or sediment deposited on pavement. • Replace or repair any necessary pavement surface areas that are degenerating or spalling	As needed
• Vacuum pavement with a standard street sweeper to prevent clogging	2-4 times per year (depending on use)
• Conduct a maintenance inspection • Spot weeding of grass applications	Annually
• Remove any accumulated sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Conduct maintenance using a regenerative street sweeper • Replace any necessary joint material	If clogged

[1] Required frequency of maintenance will depend on pavement use, traffic loads, and surrounding land use.

9.3. Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each permeable pavement site, particularly at large-scale applications.

Maintenance of permeable pavement is driven by annual inspections that evaluate the condition and performance of the practice. Any permeable pavement installation that captures external drainage area (run-on) should be inspected more frequently during the first year (four seasons) to ensure that there are no unexpected loads of sediment or pavement particulates from the contributing area. If so, the property owner should assess ways to limit the contributions, or the maintenance schedule should be adjusted to ensure the pavement does not become clogged.

The following are suggested routine annual maintenance inspection points for permeable pavements:

- The drawdown rate should be measured at the observation well for three (3) days following a storm event in excess of 1/2-inch in depth. If standing water is still observed in the well after three days, this is a clear sign that clogging is a problem.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Then, test sections by pouring water from a five gallon bucket to ensure they work.
- Inspect the structural integrity of the pavement surface, looking for signs of surface deterioration, such as slumping, cracking, spalling or broken pavers. Replace or repair affected areas, as necessary.
- Check inlets, pretreatment cells and any flow diversion structures for sediment buildup and structural damage. Note if any sediment needs to be removed.
- Inspect the condition of the observation well and make sure it is still capped.

- Generally inspect any contributing drainage area for any controllable sources of sediment or erosion.

An example maintenance inspection checklist for permeable pavement can be accessed in **Appendix 9-C** of **Chapter 9** of the *Virginia Stormwater Management Handbook* (2nd edition, 2013). Based on inspection results, specific maintenance tasks will be triggered and scheduled to keep the facility in operating condition.

SECTION 10: COMMUNITY & ENVIRONMENTAL CONCERNS

Compliance with the Americans with Disabilities Act (ADA). Porous concrete and porous asphalt are generally considered to be ADA compliant. Most localities also consider interlocking concrete pavers to be complaint, if designers ensure that surface openings between pavers do not exceed 1/2 inch. However, some forms of interlocking pavers may not be suitable for handicapped parking spaces. Interlocking concrete pavers interspersed with other hardscape features (e.g., concrete walkways) *can* be used in creative designs to address ADA issues.

Groundwater Protection. While well-drained soils enhance the ability of permeable pavement to reduce stormwater runoff volumes, they may also increase the risk that stormwater pollutants might migrate into groundwater aquifers. Designers should avoid the use of infiltration-based permeable pavement in areas known to provide groundwater recharge to aquifers used for water supply. In these source water protection areas, designers should include liners and underdrains in large-scale permeable pavement applications (i.e., when the proposed surface area exceeds 10,000 square feet).

Stormwater Hotspots. Designers should also certify that the proposed permeable pavement area will not accept any runoff from a severe stormwater hotspot. Stormwater hotspots are operations or activities that are known to produce higher concentrations of stormwater pollutants and/or have a greater risk of spills, leaks or illicit discharges. Examples include certain industrial activities, gas stations, public works areas, petroleum storage areas (for a complete list of hotspots where infiltration is restricted or prohibited, see Stormwater Design Specification No. 8: Infiltration). For potential hotspots, restricted infiltration means that a minimum of 50% of the total T_r must be treated by a filtering or bioretention practice prior to the permeable pavement system. For known severe hotspots, the risk of groundwater contamination from spills, leaks or discharges is so great that infiltration of stormwater or snowmelt through permeable pavement is *prohibited.*

Underground Injection Control Permits. The Safe Drinking Water Act regulates the infiltration of stormwater in certain situations pursuant to the Underground Injection Control (UIC) Program, which is administered either by the EPA or a delegated state groundwater protection agency. In general, the EPA (2008) has determined that permeable pavement installations are not classified as Class V injection wells, since they are always wider than they are deep. There may be an exception in karst terrain if the discharge from permeable pavement is directed to an improved sinkhole, although this would be uncommon. More guidance on stormwater design in

NOTES:
1. THIS SHEET PROVIDES SOME GENERAL RECOMMENDATIONS FROM THE VIRGINIA DEQ THAT SHALL BE FOLLOWED FOR PROPER CONSTRUCTION OF THE PERMEABLE PAVEMENT.
2. THIS SHEET ALSO PROVIDES A COPY OF THE THIRD PARTY INSPECTION CHECKLIST THAT SHALL BE COMPLETED.
3. THIS SHEET ALSO PROVIDES SOME GENERAL RECOMMENDATIONS FOR MAINTENANCE AND MAINTENANCE INSPECTIONS OF THESE FACILITIES. NOTE THAT THE PROPERTY OWNER IS REQUIRED TO EXECUTE A STORMWATER MANAGEMENT FACILITY MAINTENANCE AGREEMENT WITH THE CITY WHICH CONTAINS FURTHER CONSTRUCTION, MAINTENANCE, AND INSPECTION REQUIREMENTS

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE DATE: 04/21/2023 DRAWN: CHECKED: JWP/TSC; AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
02/25/22	FSP SUB #3
10/19/22	FSP SUB #4

PROFESSIONAL ENGINEER — AARON M. VIRGIN, LIC. No.041851 — 4/25/2023

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PERMEABLE PAVEMENT CONSTRUCTION & MAINTENANCE SPECIFICATIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Hydrograph Report

1

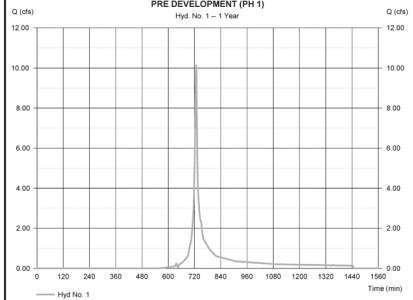
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 1

PRE DEVELOPMENT (PH 1)

Hydrograph type	= SCS Runoff	Peak discharge	= 10.14 cfs
Storm frequency	= 1 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 27,943 cuft
Drainage area	= 6.420 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(1.470 x 98) + (4.950 x 80)] / 6.420



Hydrograph Report

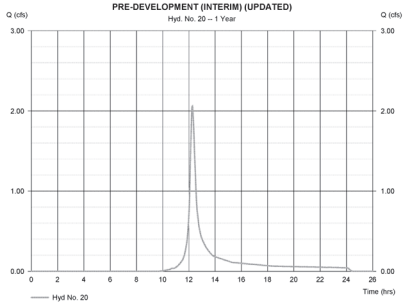
2

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 20

PRE-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.063 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 8,555 cuft
Drainage area	= 2.140 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORDAA Type C 24hr 1 Min interval.cds		



Hydrograph Report

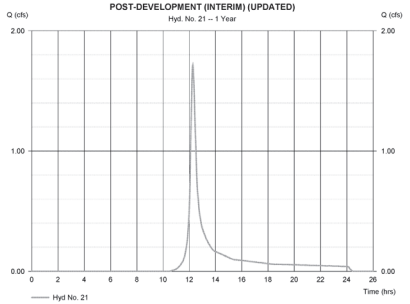
3

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 21

POST-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.714 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 7,229 cuft
Drainage area	= 2.140 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORDAA Type C 24hr 1 Min interval.cds		



Hydrograph Report

4

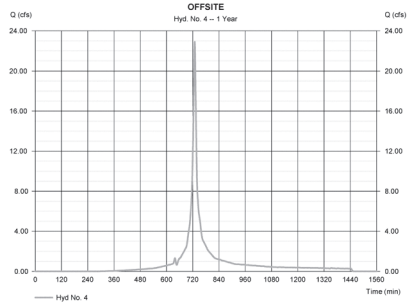
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 4

OFFSITE

Hydrograph type	= SCS Runoff	Peak discharge	= 22.90 cfs
Storm frequency	= 1 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 73,509 cuft
Drainage area	= 11.030 ac	Curve number	= 93*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(7.680 x 98) + (3.350 x 80)] / 11.030



Hydrograph Report

5

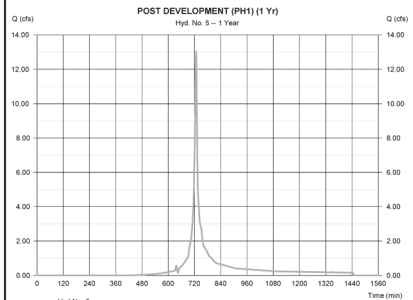
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 5

POST DEVELOPMENT (PH1) (1 Yr)

Hydrograph type	= SCS Runoff	Peak discharge	= 13.04 cfs
Storm frequency	= 1 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 36,225 cuft
Drainage area	= 6.420 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(4.590 x 98) + (1.830 x 80)] / 6.420



Hydrograph Report

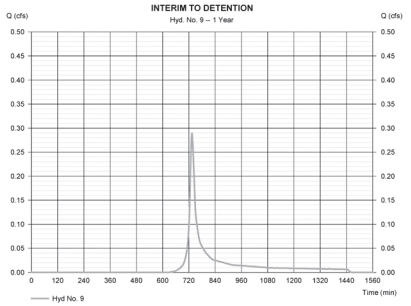
2

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 9

INTERIM TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 0.289 cfs
Storm frequency	= 1 yrs	Time to peak	= 734 min
Time interval	= 1 min	Hyd. volume	= 1,129 cuft
Drainage area	= 0.330 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 16.60 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORDAA Type C 24hr 1 Min interval.cds		



Hydrograph Report

3

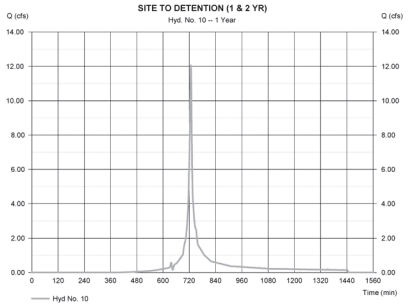
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 10

SITE TO DETENTION (1 & 2 YR)

Hydrograph type	= SCS Runoff	Peak discharge	= 12.06 cfs
Storm frequency	= 1 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 33,694 cuft
Drainage area	= 5.680 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(4.480 x 98) + (1.200 x 80)] / 5.680



Hydrograph Report

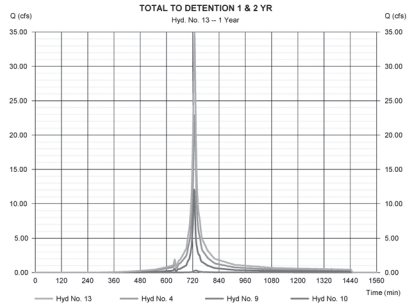
1

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 13

TOTAL TO DETENTION 1 & 2 YR

Hydrograph type	= Combine	Peak discharge	= 34.87 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 108,331 cuft
Inflow hyds.	= 4, 9, 10	Contrib. drain. area	= 17.040 ac



ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 20' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PRINTED: AVBP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

PLAN STATUS

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

PROFESSIONAL ENGINEER — AARON M. VINSON — LIC. No.041651 — 4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

HYDROGRAPH REPORTS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0718.dwg

SHEET: C-0718

Hydrograph Report

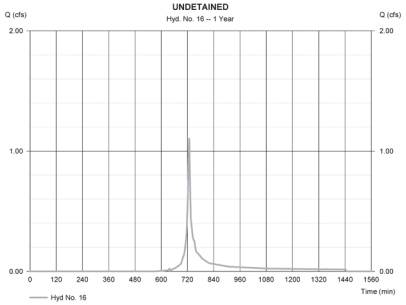
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 16

UNDETAINED

Hydrograph type	= SCS Runoff	Peak discharge	= 1.106 cfs
Storm frequency	= 1 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 3,051 cuft
Drainage area	= 0.740 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.56 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(0.110 x 98) + (0.630 x 80)] / 0.740



Hydrograph Report

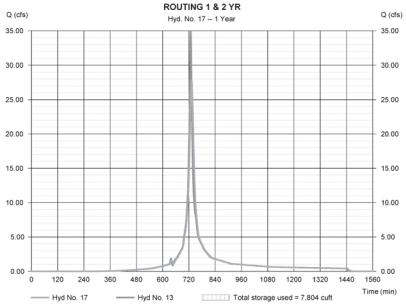
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Monday, 04 / 26 / 2021

Hyd. No. 17

ROUTING 1 & 2 YR

Hydrograph type	= Reservoir	Peak discharge	= 27.79 cfs
Storm frequency	= 1 yrs	Time to peak	= 732 min
Time interval	= 1 min	Hyd. volume	= 108,331 cuft
Inflow hyd. No.	= 13 - TOTAL TO DETENTION POND	Max. Elevation	= 228.95 ft
Reservoir name	= MC - 4500	Max. Storage	= 7,804 cuft

Storage Indication method used.



Hydrograph Report

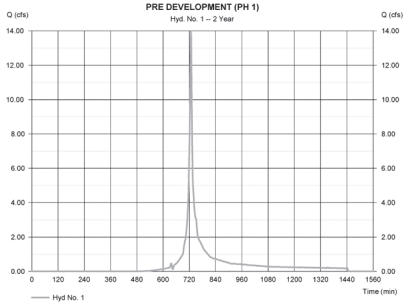
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 1

PRE DEVELOPMENT (PH 1)

Hydrograph type	= SCS Runoff	Peak discharge	= 13.94 cfs
Storm frequency	= 2 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 38,427 cuft
Drainage area	= 6.420 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(1.470 x 98) + (4.950 x 80)] / 6.420



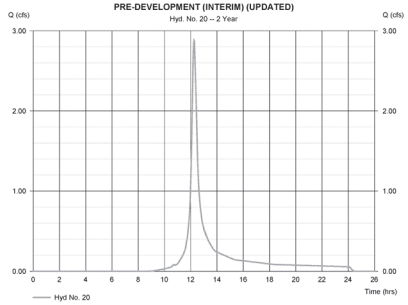
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 20

PRE-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.884 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 11,866 cuft
Drainage area	= 2.140 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C 24hr 1 Min interval.cds		



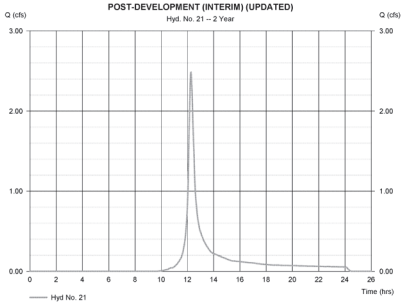
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 21

POST-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.482 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 10,297 cuft
Drainage area	= 2.140 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C 24hr 1 Min interval.cds		



Hydrograph Report

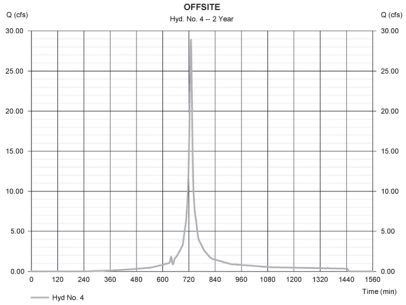
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 4

OFFSITE

Hydrograph type	= SCS Runoff	Peak discharge	= 28.91 cfs
Storm frequency	= 2 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 94,084 cuft
Drainage area	= 11.030 ac	Curve number	= 93*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(7.680 x 98) + (3.350 x 80)] / 11.030



Hydrograph Report

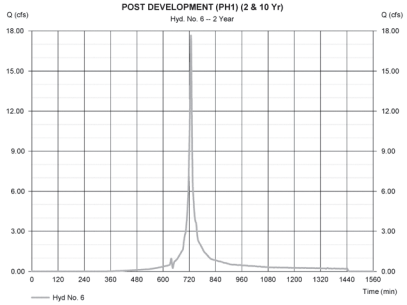
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 6

POST DEVELOPMENT (PH1) (2 & 10 Yr)

Hydrograph type	= SCS Runoff	Peak discharge	= 17.66 cfs
Storm frequency	= 2 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 49,896 cuft
Drainage area	= 6.420 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(4.590 x 98) + (1.830 x 80)] / 6.420



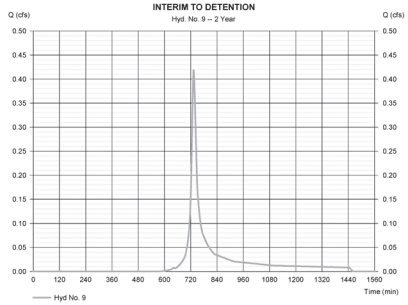
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 9

INTERIM TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 0.418 cfs
Storm frequency	= 2 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 1,608 cuft
Drainage area	= 0.330 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 16.60 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C 24hr 1 Min interval.cds		



ESI Peer Review

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | [PRTTSC] | AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

COMMONWEALTH OF VIRGINIA — AARON M. VINSON — LIC. No.041851 — 4/21/2023 — PROFESSIONAL ENGINEER

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

HYDROGRAPH REPORTS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0718.dwg

SHEET: C-0719

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 10

SITE TO DETENTION (1 & 2 YR)

Hydrograph type	= SCS Runoff	Peak discharge	= 15.62 cfs
Storm frequency	= 2 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 44,145 cuft
Drainage area	= 5.680 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C Rainfall 1 Min interval.cds		

* Composite (Area/CN) = [(4.480 x 98) + (1.200 x 80)] / 5.680

SITE TO DETENTION (1 & 2 YR)
Hyd. No. 10 -- 2 Year
Q (cfs) / Time (min)
Hyd No. 10

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 13

TOTAL TO DETENTION 1 & 2 YR

Hydrograph type	= Combine	Peak discharge	= 44.47 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 139,836 cuft
Inflow hyds.	= 4, 9, 10	Contrib. drain. area	= 17.040 ac

TOTAL TO DETENTION 1 & 2 YR
Hyd. No. 13 -- 2 Year
Q (cfs) / Time (min)
Hyd No. 13 — Hyd No. 4 — Hyd No. 9 — Hyd No. 10

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 16

UNDETAINED

Hydrograph type	= SCS Runoff	Peak discharge	= 1.536 cfs
Storm frequency	= 2 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 4,231 cuft
Drainage area	= 0.740 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.10 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C Rainfall 1 Min interval.cds		

* Composite (Area/CN) = [(0.110 x 98) + (0.630 x 80)] / 0.740

UNDETAINED
Hyd. No. 16 -- 2 Year
Q (cfs) / Time (min)
Hyd No. 16

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Monday, 04 / 26 / 2021

Hyd. No. 17

ROUTING 1 & 2 YR

Hydrograph type	= Reservoir	Peak discharge	= 40.25 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 1 min	Hyd. volume	= 139,836 cuft
Inflow hyd. No.	= 13 - TOTAL TO DETENTION 1 & 2 YR	Max. Elevation	= 229.70 ft
Reservoir name	= MC - 4500	Max. Storage	= 9,690 cuft

Storage Indication method used.

ROUTING 1 & 2 YR
Hyd. No. 17 -- 2 Year
Q (cfs) / Time (min)
Hyd No. 17 — Hyd No. 13 — Total storage used = 9,690 cuft

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 1

PRE DEVELOPMENT (PH 1)

Hydrograph type	= SCS Runoff	Peak discharge	= 26.13 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 73,340 cuft
Drainage area	= 6.420 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C Rainfall 1 Min interval.cds		

* Composite (Area/CN) = [(1.470 x 98) + (4.950 x 80)] / 6.420

PRE DEVELOPMENT (PH 1)
Hyd. No. 1 -- 10 Year
Q (cfs) / Time (min)
Hyd No. 1

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 20

PRE-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 5.567 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 22,977 cuft
Drainage area	= 2.140 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C Rainfall 1 Min interval.cds		

PRE-DEVELOPMENT (INTERIM) (UPDATED)
Hyd. No. 20 -- 10 Year
Q (cfs) / Time (hrs)
Hyd No. 20

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 21

POST-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 5.075 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 20,854 cuft
Drainage area	= 2.140 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C Rainfall 1 Min interval.cds		

POST-DEVELOPMENT (INTERIM) (UPDATED)
Hyd. No. 21 -- 10 Year
Q (cfs) / Time (hrs)
Hyd No. 21

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 4

OFFSITE

Hydrograph type	= SCS Runoff	Peak discharge	= 47.24 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 158,651 cuft
Drainage area	= 11.030 ac	Curve number	= 93*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SINDAA Type C Rainfall 1 Min interval.cds		

* Composite (Area/CN) = [(7.680 x 98) + (3.350 x 80)] / 11.030

OFFSITE
Hyd. No. 4 -- 10 Year
Q (cfs) / Time (min)
Hyd No. 4

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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PRTTSC: | AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
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05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

AARON M. VIRGIN LIC. No.041651 4/21/2023

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

HYDROGRAPH REPORTS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0718.dwg

SHEET: C-0720

Hydrograph Report

1

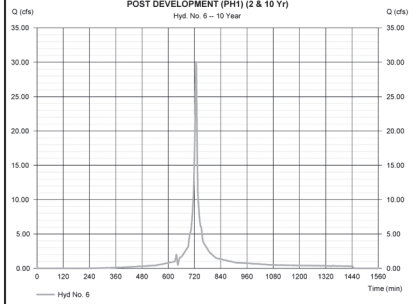
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 6

POST DEVELOPMENT (PH1) (2 & 10 Yr)

Hydrograph type	= SCS Runoff	Peak discharge	= 30.05 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 87,605 cuft
Drainage area	= 6.420 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(4.590 x 98) + (1.830 x 80)] / 6.420



Hydrograph Report

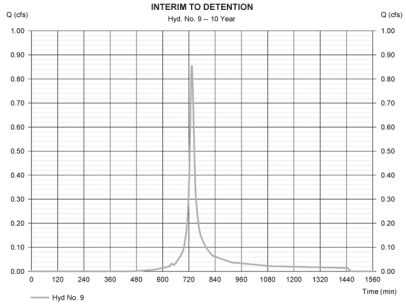
2

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 9

INTERIM TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 0.855 cfs
Storm frequency	= 10 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 3,256 cuft
Drainage area	= 0.330 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 16.60 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORAA Type C 24hr 1 Min interval.cds		



Hydrograph Report

1

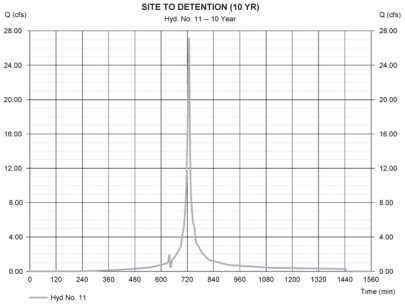
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 11

SITE TO DETENTION (10 YR)

Hydrograph type	= SCS Runoff	Peak discharge	= 27.10 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 79,722 cuft
Drainage area	= 5.680 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(4.480 x 98) + (1.200 x 80)] / 5.680



Hydrograph Report

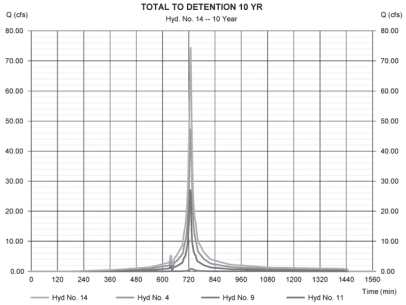
1

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 14

TOTAL TO DETENTION 10 YR

Hydrograph type	= Combine	Peak discharge	= 74.31 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 241,630 cuft
Inflow hyds.	= 4, 9, 11	Contrib. drain. area	= 17.040 ac



Hydrograph Report

1

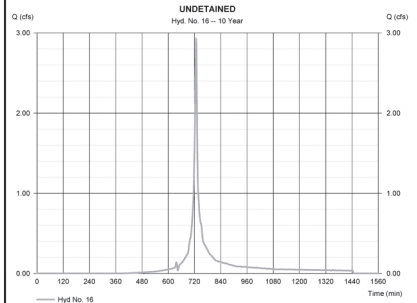
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 16

UNDETAINED

Hydrograph type	= SCS Runoff	Peak discharge	= 2.932 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 8,194 cuft
Drainage area	= 0.740 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.76 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(0.110 x 98) + (0.630 x 80)] / 0.740



Hydrograph Report

1

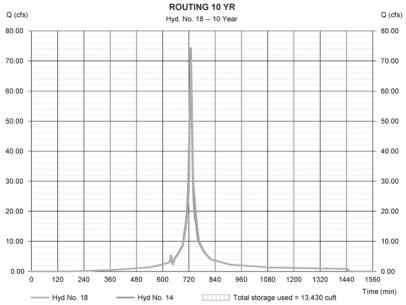
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Monday, 04 / 26 / 2021

Hyd. No. 18

ROUTING 10 YR

Hydrograph type	= Reservoir	Peak discharge	= 70.30 cfs
Storm frequency	= 10 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 241,629 cuft
Inflow hyd. No.	= 14 - TOTAL TO DETENTION 10 YR	Max. Elevation	= 231.20 ft
Reservoir name	= MC - 4500	Max. Storage	= 13,430 cuft

Storage Indication method used.



Hydrograph Report

1

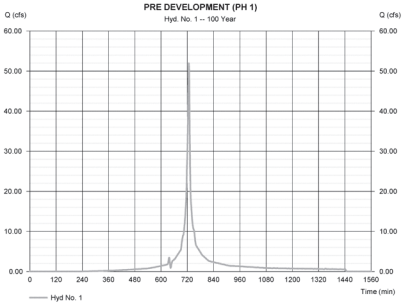
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 1

PRE DEVELOPMENT (PH 1)

Hydrograph type	= SCS Runoff	Peak discharge	= 51.96 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 151,567 cuft
Drainage area	= 6.420 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(1.470 x 98) + (4.950 x 80)] / 6.420



Hydrograph Report

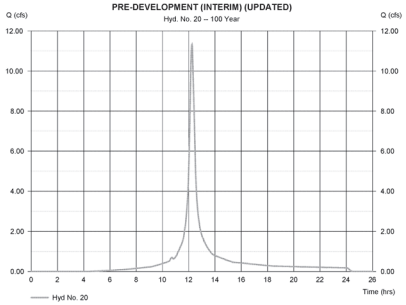
1

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 20

PRE-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 11.33 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 48,067 cuft
Drainage area	= 2.140 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHORAA Type C 24hr 1 Min interval.cds		



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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | [PRTTSC] AWP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

PLAN STATUS

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

HYDROGRAPH REPORTS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0718.dwg

SHEET: C-0721

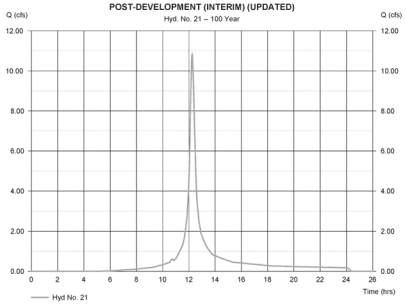
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 — Wednesday, 11 / 17 / 2021

Hyd. No. 21

POST-DEVELOPMENT (INTERIM) (UPDATED)

Hydrograph type	= SCS Runoff	Peak discharge	= 10.80 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 45,301 cuft
Drainage area	= 2.140 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.00 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SitePlanDAA Type C 24hr 1 Min interval.cds		



Hydrograph Report

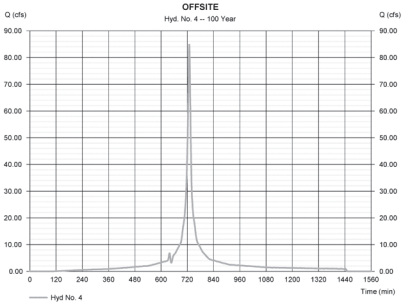
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 4

OFFSITE

Hydrograph type	= SCS Runoff	Peak discharge	= 84.84 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 295,527 cuft
Drainage area	= 11.030 ac	Curve number	= 93*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SitePlanDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(7.690 x 98) + (3.350 x 80)] / 11.030



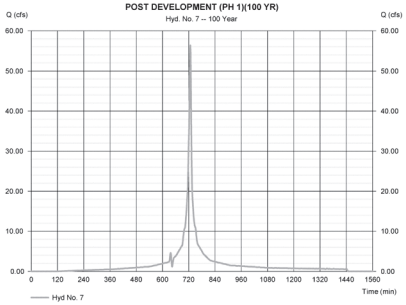
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 7

POST DEVELOPMENT (PH 1)(100 YR)

Hydrograph type	= SCS Runoff	Peak discharge	= 56.38 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 174,511 cuft
Drainage area	= 6.420 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SitePlanDAA Type C 24hr 1 Min interval.cds		



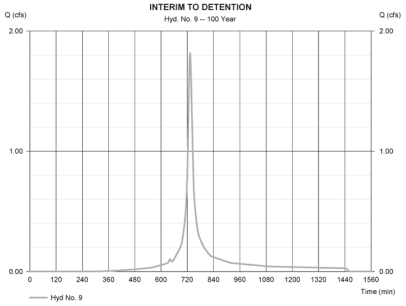
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 9

INTERIM TO DETENTION

Hydrograph type	= SCS Runoff	Peak discharge	= 1.816 cfs
Storm frequency	= 100 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 7,073 cuft
Drainage area	= 0.330 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 16.60 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SitePlanDAA Type C 24hr 1 Min interval.cds		



Hydrograph Report

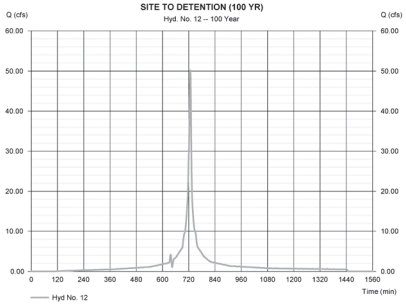
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 12

SITE TO DETENTION (100 YR)

Hydrograph type	= SCS Runoff	Peak discharge	= 50.23 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 156,940 cuft
Drainage area	= 5.680 ac	Curve number	= 93*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SitePlanDAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(4.480 x 98) + (1.200 x 80)] / 5.680



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SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PLAN STATUS: | AWP | [PTTSC]

DATE	DESCRIPTION
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12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VINSON — LIC. No.041851 — 4/21/2023 — PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

HYDROGRAPH REPORTS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
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DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0718.dwg

SHEET: C-0722

Hydrograph Report

1

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

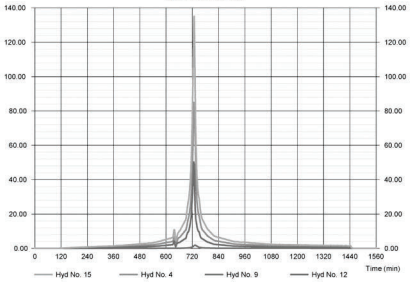
Hyd. No. 15

TOTAL TO DETENTION 100 YR

Hydrograph type	= Combine	Peak discharge	= 135.14 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 459,539 cuft
Inflow hyds.	= 4, 9, 12	Contrib. drain. area	= 17.040 ac

TOTAL TO DETENTION 100 YR

Hyd. No. 15 -- 100 Year



Hydrograph Report

2

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Sunday, 04 / 25 / 2021

Hyd. No. 16

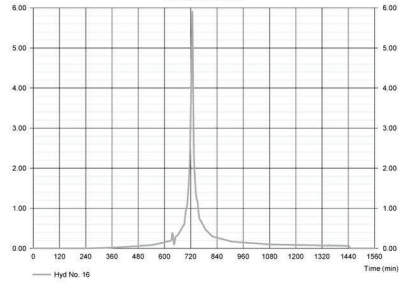
UNDETAINED

Hydrograph type	= SCS Runoff	Peak discharge	= 5.909 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 17,141 cuft
Drainage area	= 0.740 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.22 in	Distribution	= Custom
Storm duration	= Q:\Engineering\Hydraflow Outputs\SHADAA Type C 24hr 1 Min interval.cds		

* Composite (Area/CN) = [(0.110 x 98) + (0.630 x 80)] / 0.740

UNDETAINED

Hyd. No. 16 -- 100 Year



Hydrograph Report

1

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Monday, 04 / 26 / 2021

Hyd. No. 19

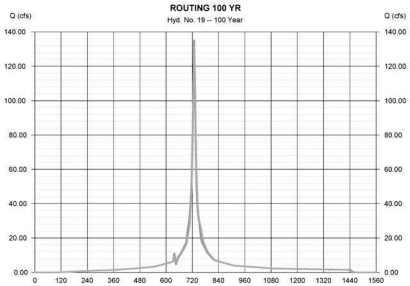
ROUTING 100 YR

Hydrograph type	= Reservoir	Peak discharge	= 131.17 cfs
Storm frequency	= 100 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 459,539 cuft
Inflow hyd. No.	= 15 - TOTAL TO DETENTION 100 YR	Max. Elevation	= 234.68 ft
Reservoir name	= MC - 4500	Max. Storage	= 19,870 cuft

Storage Indication method used.

ROUTING 100 YR

Hyd. No. 19 -- 100 Year



DETENTION FACILITY DATA

Pond Report

2

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 — Monday, 04 / 26 / 2021

Pond No. 1 - MC - 4500

Pond Data

UG Chambers -Invert elev. = 229.00 ft, Rise x Span = 4.65 x 7.74 ft, Barrel Len = 4.03 ft, No. Barrels = 82, Slope = 0.00%, Headers = No
Encasement -Invert elev. = 222.50 ft, Width = 9.08 ft, Height = 12.29 ft, Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	222.50	n/a	0	0
1.22	223.72	n/a	1,465	1,465
2.44	224.94	n/a	1,465	2,929
3.66	226.16	n/a	1,465	4,394
4.88	227.38	n/a	1,465	5,858
6.10	228.60	n/a	1,465	7,323
7.32	229.82	n/a	2,836	9,959
8.54	231.04	n/a	3,126	13,084
9.76	232.26	n/a	2,895	15,979
10.98	233.48	n/a	2,402	18,381
12.20	234.70	n/a	1,508	19,889

Culvert / Orifice Structures

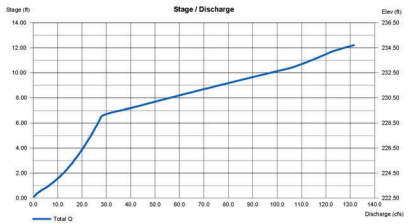
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 42.00	10.00	7.80	0.00
Span (in)	= 42.00	40.00	98.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 222.36	222.50	229.05	0.00
Length (ft)	= 109.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 2.00	8.00	0.00	0.00
Crest El. (ft)	= 229.95	234.15	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	Rect	---	---
Multi-Stage	= Yes	Yes	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Discharge



ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: [ ] CHECKED: [PTT/SC] AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. No.041851 — PROFESSIONAL ENGINEER — 6/21/2023

REVISION APPROVED BY:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

HYDROGRAPH & POND REPORTS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0718.dwg

SHEET: C-0723

HYDRAULIC GRADE LINE COMPUTATIONS

Inlet Station	Structure Type (M,I)	Outlet Water Surface Elevation	D_o (in)	Q_o	L_o	S_o	H_o	Junction Loss V_o	H_o	D_i (in)	Q	V_o	$V_o^2/2g$	H_i	Angle (°)	H_{corr}	Hi	1.3Hi	SUM	Final Hi	Inlet Water Surface Elevation	rim/ throat elevation	Difference	Fix?
1*	*	2*	3*	4*	5*	6	7	8	9	*	10*	11	12		13	14*	15	16	17	18	19	20	*		
1	M	223.17	27	70.56	98	0.030	2.90	17.75	1.22	42	70.56	7.33	517.48	0.84	0.29	0	0.00	1.51	---	0.76	3.66	226.83	225.95	---	FIX
2	I	226.83	42	70.56	71	0.007	0.46	7.33	0.21	42	70.30	7.31	513.68	0.83	0.29	0	0.00	0.50	0.65	0.32	0.79	227.61	228.38	0.77	FIX
16	I	237.48	21	7.29	13	0.001	0.01	3.03	0.04	18	7.21	4.08	29.39	0.26	0.09	0	0.00	0.13	0.16	0.08	0.10	237.58	243.86	6.28	OK
17	I	237.58	18	7.21	26	0.005	0.12	4.08	0.06	18	5.81	3.29	19.10	0.17	0.06	90	0.12	0.24	0.31	0.16	0.28	237.85	243.78	5.93	OK
18	M	237.85	18	5.81	117	0.003	0.36	3.29	0.04	12	2.05	2.61	5.35	0.11	0.04	60	0.06	0.14	---	0.07	0.43	238.28	245.82	7.54	OK
20	I	238.28	12	0.61	73	0.000	0.02	0.77	0.00	#N/A	#N/A	---	---	---	---	---	---	0.00	0.00	0.00	0.02	238.30	246.70	8.40	OK
21	M	238.28	18	1.41	150	0.000	0.03	0.80	0.00	18	1.41	0.80	1.12	0.01	0.00		---	0.01	---	0.00	0.03	238.31	247.94	9.63	OK
6	M	237.09	42	66.35	17	0.006	0.10	6.90	0.18	42	66.35	6.90	457.53	0.74	0.26	80	0.49	0.93	---	0.47	0.56	237.65	242.58	4.93	OK
7	M	237.65	42	66.35	63	0.006	0.36	6.90	0.18	42	64.10	6.66	427.11	0.69	0.24	70	0.42	0.85	---	0.42	0.79	238.44	244.18	5.74	OK
23	M	238.44	18	1.92	43	0.000	0.01	1.08	0.00	18	1.92	1.08	2.08	0.02	0.01	70	0.01	0.01	---	0.01	0.03	238.47	245.30	6.83	OK
24	I	238.47	18	1.92	15	0.000	0.00	1.08	0.00	18	1.12	0.64	0.71	0.01	0.00	0	0.00	0.01	0.01	0.00	0.01	238.48	244.60	6.12	OK
25	I	238.48	18	1.12	49	0.000	0.01	0.64	0.00	#N/A	#N/A	---	---	---	---	---	---	0.00	0.00	0.00	0.01	238.48	245.34	6.86	OK
8	M	238.44	42	64.10	27	0.005	0.15	6.66	0.17	42	63.15	6.56	414.48	0.67	0.23	90	0.47	0.87	---	0.44	0.58	239.02	244.27	5.25	OK
9	M	239.02	42	63.15	121	0.005	0.63	6.56	0.17	42	61.50	6.39	393.09	0.63	0.22	90	0.44	0.83	---	0.42	1.05	240.08	246.44	6.36	OK
26	M	240.08	21	10.41	44	0.002	0.09	4.33	0.07	18	2.69	1.52	4.09	0.04	0.01	0	0.00	0.09	---	0.04	0.14	240.21	247.00	6.79	OK
27	I	240.21	18	5.95	35	0.003	0.11	3.37	0.04	18	5.80	3.28	19.05	0.17	0.06	80	0.11	0.21	0.28	0.14	0.25	240.46	246.75	6.29	OK
28	M	240.46	18	5.80	38	0.003	0.12	3.28	0.04	18	4.67	2.64	12.34	0.11	0.04	80	0.07	0.15	---	0.08	0.19	240.65	247.92	7.27	OK
29	I	240.65	18	4.67	15	0.002	0.03	2.64	0.03	18	4.37	2.47	10.79	0.09	0.03	0	0.00	0.06	0.09	0.04	0.07	240.72	247.73	7.01	OK
30	I	240.72	18	4.37	48	0.002	0.08	2.47	0.02	15	1.65	1.34	2.21	0.03	0.01	30	0.01	0.04	0.05	0.03	0.11	240.83	248.49	7.66	OK
32	M	240.21	18	2.69	159	0.001	0.10	1.52	0.01	18	2.69	1.52	4.09	0.04	0.01	90	0.03	0.05	---	0.02	0.13	240.34	248.98	8.64	OK
33	I	240.34	18	2.69	58	0.001	0.04	1.52	0.01	18	2.22	1.26	2.80	0.02	0.01	0	0.00	0.02	0.02	0.01	0.05	240.39	249.22	8.83	OK
34	M	240.39	18	2.22	40	0.000	0.02	1.26	0.01	15	2.22	1.81	4.03	0.05	0.02	30	0.01	0.04	---	0.02	0.04	240.43	250.00	9.57	OK
36	I	240.21	18	1.78	7	0.000	0.00	1.01	0.00	0	1.62	#N/A	---	---	---	---	---	0.00	0.01	0.00	0.00	240.22	246.75	6.53	OK
10	M	240.08	42	61.50	67	0.005	0.33	6.39	0.16	42	57.81	6.01	347.33	0.56	0.20	0	0.00	0.35	---	0.18	0.51	240.59	247.08	6.49	OK
40	I	240.59	18	3.13	35	0.001	0.03	1.77	0.01	18	2.99	1.69	5.06	0.04	0.02	80	0.03	0.06	0.07	0.04	0.07	240.65	246.83	6.18	OK
41	M	240.65	18	2.99	38	0.001	0.03	1.69	0.01	18	2.58	1.46	3.78	0.03	0.01	80	0.02	0.04	---	0.02	0.05	240.71	248.09	7.38	OK
42	I	240.71	18	2.58	14	0.001	0.01	1.46	0.01	18	1.87	1.06	1.98	0.02	0.01	0	0.00	0.01	0.02	0.01	0.02	240.72	247.81	7.09	OK
43	M	240.72	18	1.87	39	0.000	0.01	1.06	0.00	15	1.87	1.53	2.85	0.04	0.01	20	0.01	0.02	---	0.01	0.02	240.75	248.33	7.58	OK
45	I	240.59	18	0.56	7	0.000	0.00	0.32	0.00	0	0.26	#N/A	---	---	---	---	---	0.00	0.00	0.00	0.00	240.59	246.83	6.24	OK
11	M	240.59	42	57.81	189	0.004	0.83	6.01	0.14	42	53.70	5.58	299.73	0.48	0.17	0	0.00	0.31	---	0.15	0.98	241.57	246.85	5.28	OK
46	I	241.57	18	3.27	27	0.001	0.03	1.85	0.01	18	2.99	1.69	5.07	0.04	0.02	70	0.03	0.06	0.07	0.04	0.06	241.63	246.78	5.15	OK
47	M	241.63	18	2.99	21	0.001	0.02	1.69	0.01	18	2.58	1.46	3.77	0.03	0.01	70	0.02	0.04	---	0.02	0.04	241.67	247.70	6.03	OK
48	I	241.67	18	2.58	14	0.001	0.01	1.46	0.01	18	2.22	1.26	2.80	0.02	0.01	0	0.00	0.02	0.02	0.01	0.02	241.69	247.42	5.73	OK
49	I	241.69	18	2.22	49	0.000	0.02	1.26	0.01	15	1.32	1.07	1.41	0.02	0.01	40	0.01	0.02	0.02	0.01	0.03	241.73	248.58	6.85	OK
51	I	241.57	18	0.84	7	0.000	0.00	0.48	0.00	0	0.44	#N/A	---	---	---	---	---	0.00	0.00	0.00	0.00	241.57	246.62	5.05	OK
12	M	241.57	42	53.70	76	0.004	0.29	5.58	0.12	30	27.04	5.51	148.94	0.47	0.16	90	0.33	0.62	---	0.31	0.60	242.17	247.36	5.19	OK
3593	M	242.17	30	27.01	28	0.003	0.07	5.50	0.12	30	27.01	5.50	148.60	0.47	0.16	15	0.05	0.33	---	0.16	0.24	242.40	247.43	5.03	OK
53	M	242.40	30	27.01	26	0.003	0.07	5.50	0.12	30	25.02	5.10	127.53	0.40	0.14	0	0.00	0.26	---	0.13	0.20	242.60	247.37	4.77	OK
54	I	242.60	18	1.99	18	0.000	0.01	1.13	0.00	#N/A	#N/A	---	---	---	---	---	---	0.00	0.01	0.00	0.01	242.61	246.84	4.23	OK
3454	M	242.60	30	25.02	180	0.002	0.40	5.10	0.10	18	8.69	4.92	42.78	0.38	0.13		---	0.23	---	0.12	0.52	243.12	248.32	5.20	OK
55	I	243.12	18	8.69	10	0.007	0.07	4.92	0.09	18	5.46	3.09	16.84	0.15	0.05	0	0.00	0.15	0.19	0.09	0.16	243.28	248.03	4.75	OK
56	I	243.28	18	0.05	28	0.000	0.00	0.03	0.00	18	5.31	3.01	15.98	0.14	0.05	30	0.04	0.09	0.12	0.06	0.06	243.34	248.50	5.16	OK
57	I	243.34	18	5.31	86	0.003	0.22	3.01	0.04	18	3.81	2.16	8.21	0.07	0.03	0	0.00	0.06	0.08	0.04	0.26	243.60	246.92	3.32	OK
58	I	243.60	18	3.81	27	0.001	0.04	2.16	0.02	#N/A	#N/A	---	---	---	---	0	#####	0.02	0.02	0.01	0.05	243.65	246.5	2.85	OK
12A	M	242.17	30	26.69	7	0.003	0.02	5.44	0.11	18	2.65	1.50	3.98	0.03	0.01	90	0.02	0.15	---	0.08	0.09	242.26	247.35	5.09	OK
13	M	242.26	18	2.65	17	0.001	0.01	1.50	0.01	18	1.32	0.74	0.98	0.01	0.00	0	0.00	0.01	---	0.01	0.02	242.28	247.30	5.02	OK
52	I	242.28	18	1.34	10	0.000	0.00	0.76	0.00	#N/A	#N/A	---	---	---	---	---	---	0.00	0.00	0.00	0.00	242.28	246.84	4.56	OK
13A	M	242.28	18	1.32	74	0.000	0.01	0.74	0.00	18	0.49	0.28	0.14	0.00	0.00	0	0.00	0.00	---	0.00	0.01	242.29	247.58	5.29	OK
13B	I	242.29	18	0.82	10	0.000	0.00	0.47	0.00	#N/A	#N/A	---	---	---	---	---	---	0.00	0.00	0.00	0.00	242.29	247.23	4.94	OK
14	M	242.29	18	0.49	97	0.000	0.00	0.28	0.00	18	0.49	0.28	0.14	0.00	0.00	90	0.00	0.00	---	0.00	0.00	242.29	248.05	5.76	OK
15	I	242.29	18	0.49	9	0.000	0.00	0.28	0.00	#N/A	#N/A	---	---	---	---	---	---	0.00	0.00	0.00	0.00	242.29	247.75	5.46	OK
37	M	240.08	18	9.46	97	0.008	0.79	5.35	0.11	18	6.01	3.40	20.44	0.18	0.06	0	0.00	0.17	---	0.09	0.87	240.95	245.78	4.83	OK
37A	I	240.95	18	1.73	10	0.000	0.00	0.98	0.00	0	0.34	#N/A	---	---	---	---	---	0.00	0.00	0.00	0.01	240.95	245.50	4.55	OK
37B	I	240.95	18	1.72	32	0.000	0.01	0.97	0.00	0	0.39	#N/A	---	---	---	---	---	0.00	0.00	0.00	0.01	240.96	245.50	4.54	OK
38	M	240.95	18	6.01	38	0.003	0.12	3.40	0.04	18	6.01	3.40	20.44	0.18	0.06	0	0.00	0.11	---	0.05	0.18	241.13	246.23	5.10	OK
39A	I	241.13	18	6.01	122	0.003	0.40	3.40	0.04	18	2.18	1.23	2.68	0.02	0.01	90	0.02	0.07	0.09	0.05	0.44	241.57	245.92	4.35	OK
39B	I	241.57	18	2.18	36	0.000	0.02	1.23	0.01	8	0.20	0.57	0.11	0.00	0.00		---	0.01	0.01	0.00	0.02	241.59	245.92	4.33	OK

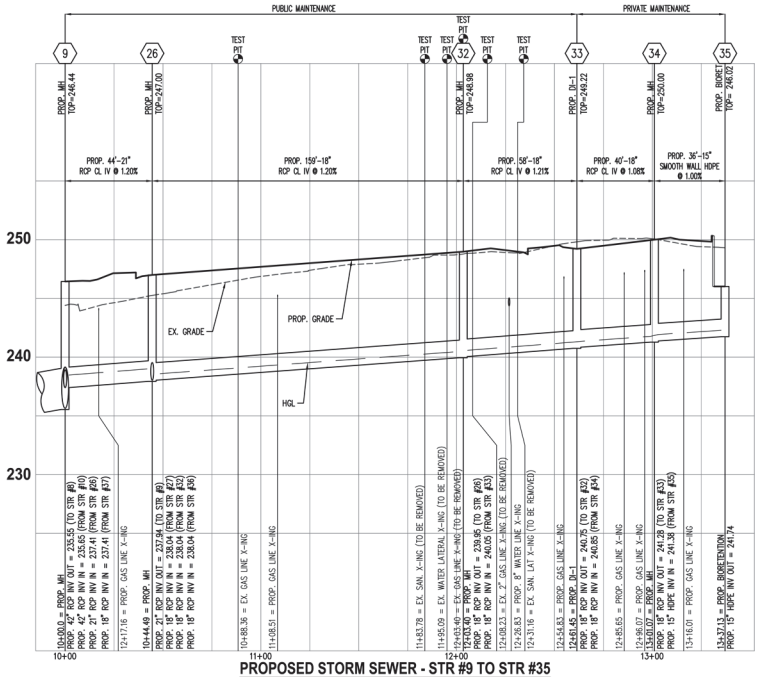
STORM SEWER INLET COMPUTATIONS

INLET NUMBER	INLET TYPE	INLET LENGTH (FT.)	STATION	DRAINAGE AREA (AC.)	C	CA	Σ CA	intensity	Q INCR. (CFS)	Q_o CARRYOVER (CFS)	Q_t GUTTER FLOW	S_o GUTTER SLOPE (FT/FT)	S_x CROSS SLOPE (FT/FT)	T, (SPREAD)	W (FT)	WT	Sw (FT/FT)	Sw/Sx	Eo (App. 9C-3)	a = T/(WSx) + LOCAL DEPRESSION	Sw' w=(1/2W)	Sw= Sx + S' w(Eo) (FT/FT)	COMPUTED LENGTH, Lt, (FT) (App. 9C-17)	L, SPECIFIED LENGTH (FT)	L/Lt	E (App. 9C-18)	Q_i INTERCEPTED (CFS)	Q_o CARRYOVER (CFS)	SAG INLETS ONLY d (FT)	h (FT)	dh	T, SPREAD @ SAG (FT)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
16	DI-3B	16	0+00	0.34	0.55	0.19	0.19	9.02	1.69	0.00	1.69	0.01	0.01	9.86	2.00	0.20	0.08	8.33	0.69	3.76	0.16	0.12	10.13	16	1.58	1	1.69	0.00	-	-	-	-
17	DI-3B	16	0+00	0.209	0.83	0.17	0.17	9.02	1.56	0.00	1.56	0.01	0.01	9.39	2.00	0.21	0.08	8.33	0.69	3.76	0.16	0.12	9.81	16	1.63	1	1.56	0.00	-	-	-	-
30	DI-3B	16	0+00	0.39	0.506	0.20	0.20	9.02	1.78	0.00	1.78	0.01	0.02	6.72	2.00	0.34	0.08	4.00	0.77	3.50	0.15	0.13	9.39	16	1.70	1	1.78	0.00	-	-	-	-
27	DI-3B	16	0+00	0.19	0.745	0.14	0.14	9.02	1.28	0.00	1.28	0.01	0.02	5.55	2.00	0.36	0.08	4.00	0.84	3.50	0.15	0.14	7.81	16	2.05	1	1.28	0.00	-	-	-	-
37A	DI-3C	12	0+00	0.24	0.80	0.19	0.19	9.02	1.73	1.60	0.02	0.01	0.02	6.21	2.00	0.32	0.08	4.00	0.00	-	-	-	-	12	-	-	1.73	0.00	0.13	0.46	0.2882	6.35
37B	DI-3C	12	0+00	0.24	0.80	0.19	0.19	9.02	1.72	1.72	0.02	0.01	0.02	6.19	2.00	0.32	0.08	4.00	0.77	3.50	0.15	0.13	9.39	16	-	-	1.72	0.00	0.13	0.46	0.2882	6.35
39A	DI-3C	14	0+00	0.84	0.506	0.43	0.43	9.02	3.83	0.00	3.83	0.02	0.02	11.98	2.00	0.17	0.08	4.17	-	-	-	-	-	14	-	-	3.83	0.00	0.26	0.46	0.5742	13.15
39B	DI-3C	14	0+00	0.46	0.524	0.24	0.24	9.02	2.18	0.00	2.18	0.02	0.02	6.65	2.00	0.30	0.08	4.00	-	-	-	-	-	14	-	-	2.18	0.00	0.14	0.46	0.3035	6.66
45	DI-3B	16	0+00	0.08	0.778	0.06	0.06	9.02	0.56	0.00	0.56	0.02	0.02	2.97	2.00	0.78	0.08	4.00	1.00	3.50	0.15	0.17	5.32	16	3.01	1	0.54	0.00	-	-	-	-
40	DI-3B	16	0+00	0.08	0.755	0.06	0.06	9.02	0.54	0.00	0.54	0.02	0.02	2.46	2.00	0.81	0.08	4.00	1.00	3.50	0.15	0.17	5.25	16	3.05	1	0.54	0.00	-	-	-	-
46	DI-3C	14	0+00	0.11	0.692	0.08	0.08	9.02	0.69	0.00	0.69	0.02	0.02	3.09	2.00	0.65	0.08	4.00	-	-	-	-	-	14	-	-	0.69	0.00	0.07	0.46	0.1419	3.13
51	DI-3C	14	0+00	0.12	0.777	0.09	0.09	9.02	0.84	0.00	0.84	0.02	0.02	3.72	2.00	0.54	0.08	4.00	-	-	-	-	-	14	-	-	0.84	0.00	0.07	0.46	0.1616	3.56
52	DI-3C	16	0+00	0.19	0.78	0.15	0.15	9.02	1.34	0.00	1.34	0.01	0.03	6.67	2.00	0.30	0.08	3.33	-	-	-	-	-	16	-	-	1.34	0.00	0.09	0.46	0.2009	3.68
13B	DI-3B	16	0+00	0.11	0.83	0.09	0.09	9.02	0.82	0.00	0.82	0.01	0.03	4.65	2.00	0.43	0.08	2.87	0.96	3.50	0.14	0.16	4.74	16	3.38	1	0.82	0.00	-	-	-	-
15	DI-3B	16	0+00	0.07	0.78	0.05	0.05	9.02	0.49	0.00	0.49	0.01	0.03	3.41	2.00	0.59	0.08	2.87	0.96	3.50	0.14	0.16	3.68	16	4.35	1	0.49	0.00	-	-	-	-
54	DI-3C	16	0+00	0.29	0.76	0.22	0.22	9.02	1.99	0.00	1.99	0.02	0.05	4.36	2.00	0.46	0.08	1.71	-	-	-	-	-	16	-	-	1.99	0.00	0.12	0.46	0.262	2.46
55	DI-3B	16	0+00	0.57	0.63	0.36	0.36	9.02	3.24	0.00	3.24	0.01	0.03	9.67	2.00	0.21	0.08	4.00	2.98	0.89	3.28	0.14	0.15	10.67	16	1.50	1	3.24	0.00	-	-	-
57	DI-3B	10	0+00	0.24	0.70	0.17	0.17	9.02	1.51	0.00	1.51	0.02	0.02	5.98	2.00	0.33	0.08	3.87	0.84	3.48	0.15	0.14	8.78	10	1.14	1	1.51	0.00	-	-	-	-
58	DI-3C	14	0+00	1.03	0.41	0.42	0.42	9.02	3.81	0.00	3.81	0.02	0.02	9.68	2.00	0.21	0.08	4.17	0.00	-	-	-	-	14	-	-	3.81	0.00	0.20	0.46	0.441	10.10

NOTE:
DRAINAGE AREAS TO CURBSIDE BIORETENTION AND PERMEABLE PAVEMENT ARE INCLUDED IN THE DRAINAGE AREAS TO DOWNSTREAM CURB INLET FOR THE PURPOSES OF THE INLET COMPUTATIONS.

STORM SEWER COMPUTATIONS

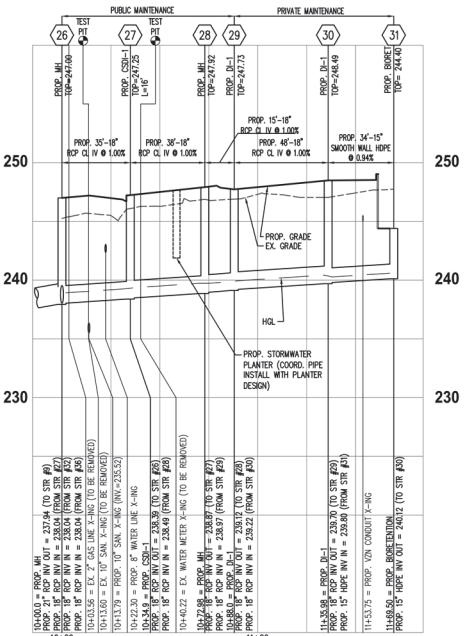
FROM POINT	TO POINT	AREA "A" ACRES	C FACTOR C	CA INCRE-MENT	CA ACCUM-ULATED	INLET TIME MIN	RAIN FALL INHR	RUNOFF C INCRE-MENT C.F.S.	RUNOFF Q10 C.F.S.	INVERT ELEVS. UPPER END	INVERT ELEVS. LOWER END	LENGTH FT.	SLOPE FT./FT.	MANNING'S 'n'	DIA. IN.	AREA SF.	CAPA-CITY C.F.S.	VEL. F.P.S.	FLOW TIME SEC.	NORMAL DEPTH IN.
58	57	1.03	0.41	0.42	0.42	5.00	9.02	3.81	3.81	242.98	242.40	27	0.0215	0.015	18	1.76625	13.29	6.52	4.14	6.57
SP 16A	SP16B	0.01	0.55	0.01	0.01	5.00	9.02	0.05	0.05	0.00	0.00	0	#DIV/0!	0.013	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0.00
SP 16B	SP 16C	0.06	0.82	0.05	0.05	5.00	9.02	0.44	0.49	0.00	0.00	0	#DIV/0!	0.013	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0.00
SP 16C	57	0.04	0.79	0.03	0.09	5.00	9.02	0.29	0.78	242.90	242.40	65	0.0029	0.013	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0.00
57	56	0.13	0.62	0.08	0.59	5.00	9.02	0.73	5.31	242.30	241.75	86	0.0064	0.015	18	1.76625	7.25	4.51	19.08	11.39
56	55	0.04	0.39	0.02	0.60	5.00	9.02	0.14	5.46	241.65	241.37	28	0.0100	0.015	18	1.76625	9.07	5.39	5.19	10.02
55	3454	0.57	0.63	0.36	0.96	5.00	9.02	3.24	8.69	241.27	241.17	10	0.0100	0.015	18	1.76625	9.07	5.88	1.70	14.04
3454	53	3.62	0.50	1.81	2.77	5.00	9.02	16.33	25.02	241.07	239.80	180	0.0071	0.015	30	4.90625	29.82	6.83	26.36	20.97
54	53	0.29	0.76	0.22	0.22	5.00	9.02	1.99	1.99	240.08	239.90	18	0.0100	0.015	18	1.76625	9.07	4.13	4.36	5.71
53	3593	0.00	0.00	0.00	2.99	5.00	9.02	0.00	27.01	239.80	239.61	26	0.0073	0.015	30	4.90625	30.32	7.01	3.71	21.97
3593	12	0.00	0.00	0.00	2.99	5.00	9.02	0.00	27.01	238.18	237.62	28	0.0200	0.015	30	4.90625	50.16	10.45	2.68	15.63
15	14	0.07	0.78	0.05	0.05	5.00	9.02	0.49	0.49	242.75	242.61	9	0.0156	0.015	18	1.76625	11.31	3.22	2.80	2.55
14	13A	0.00	0.00	0.00	0.05	5.00	9.02	0.00	0.49	242.51	241.05	97	0.0151	0.015	18	1.76625	11.13	3.18	30.51	2.57
13B	13A	0.11	0.83	0.09	0.09	5.00	9.02	0.82	0.82	241.25	241.05	10	0.0200	0.015	18	1.76625	12.83	4.09	2.44	3.08
13A	13	0.00	0.00	0.00	0.15	5.00	9.02	0.00	1.32	240.95	239.64	74	0.0150	0.015	18	1.76625	11.11	4.24	17.44	4.17
52	13	0.19	0.78	0.15	0.15	5.00	9.02	1.34	1.34	240.04	239.84	10	0.0200	0.015	18	1.76625	12.83	4.72	2.12	3.91
13	12A	0.00	0.00	0.00	0.29	5.00	9.02	0.00	2.65	239.74	239.35	17	0.0229	0.015	18	1.76625	13.74	6.04	2.82	5.34
EX 3585	12A	5.33	0.50	2.67	2.67	5.00	9.02	24.04	24.04	239.79	239.35	31	0.0142	0.015	30	4.90625	42.26	8.92	3.48	16.16
12A	12	0.00	0.00	0.00	2.96	5.00	9.02	0.00	26.69	239.25	239.18	7	0.0100	0.015	30	4.90625	35.47	7.97	0.88	19.36
12	11	0.00	0.00	0.00	5.95	5.00	9.02	0.00	53.70	237.52	237.14	76	0.0050	0.013	42	9.61625	71.07	8.14	9.33	27.21
50	49	0.18	0.81	0.15	0.15	5.00	9.02	1.32	1.32



PROPOSED STORM SEWER - STR #9 TO STR #35

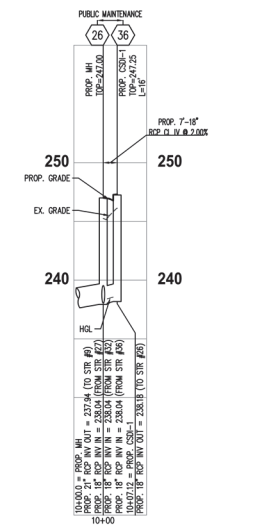
SCALE: HOR. 1" = 30'
VERT. 1" = 5'

NOTE:
PORTIONS OF EX. GAS LINE TO REMAIN LOCATED NEAR THIS STORM RUN. CONTRACTOR SHALL CONFIRM EXISTING CONDITIONS AND EXERCISE CAUTION.



PROPOSED STORM SEWER - STR #26 TO STR #31

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED STORM SEWER - STR #26 TO STR #36

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

ESI Peer Review

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SCALE: HOR. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PRINTED: | AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PROFESSIONAL ENGINEER
AARON M. VIRGIN
LIC. No.041651
4/21/2023

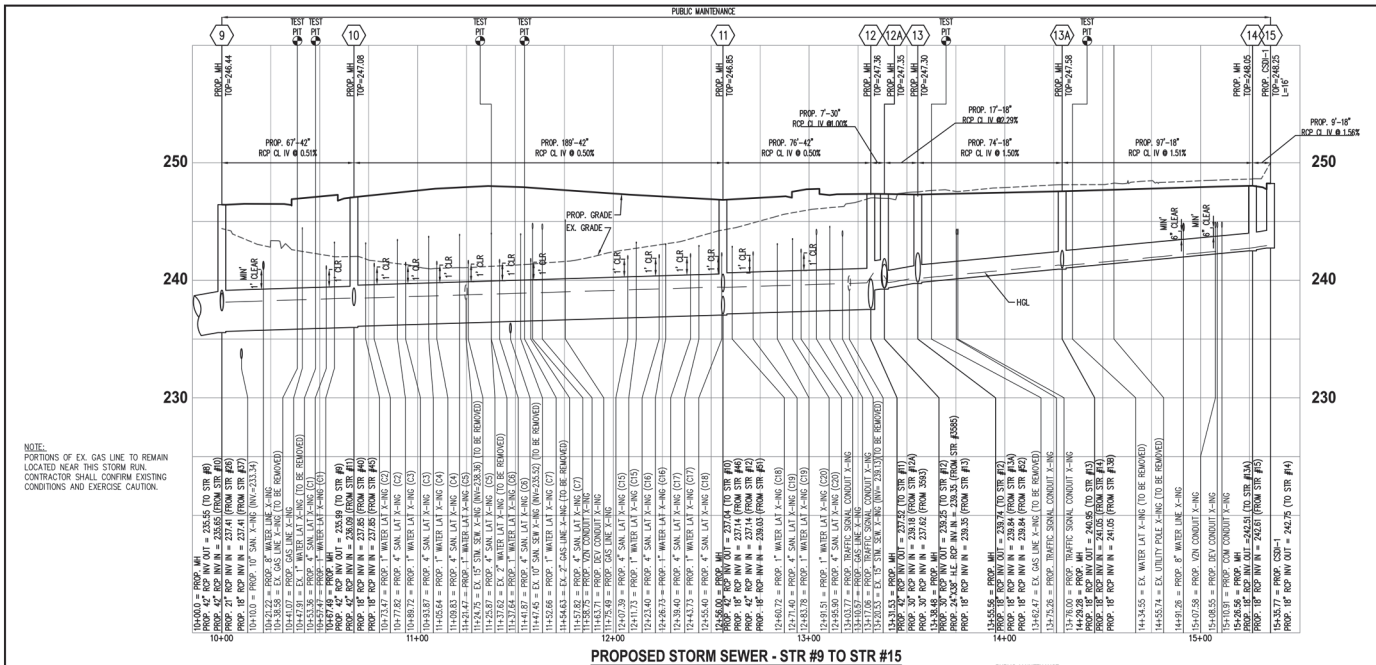
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STORM SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

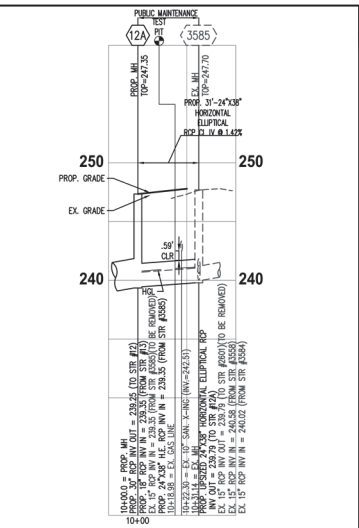
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0801.dwg

SHEET: C-0802



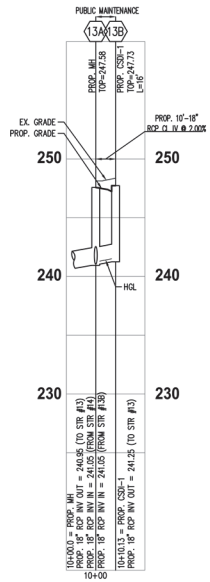
PROPOSED STORM SEWER - STR #9 TO STR #15

NOTE:
PORTIONS OF EX. GAS LINE TO REMAIN LOCATED NEAR THIS STORM RUN. CONTRACTOR SHALL CONFIRM EXISTING CONDITIONS AND EXERCISE CAUTION.



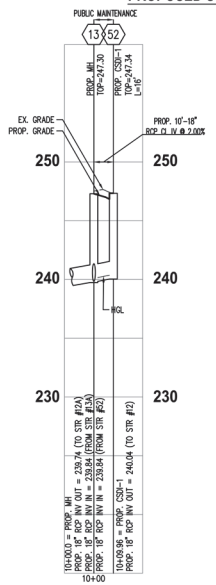
PROPOSED STORM SEWER - STR #3585 TO STR #12A

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



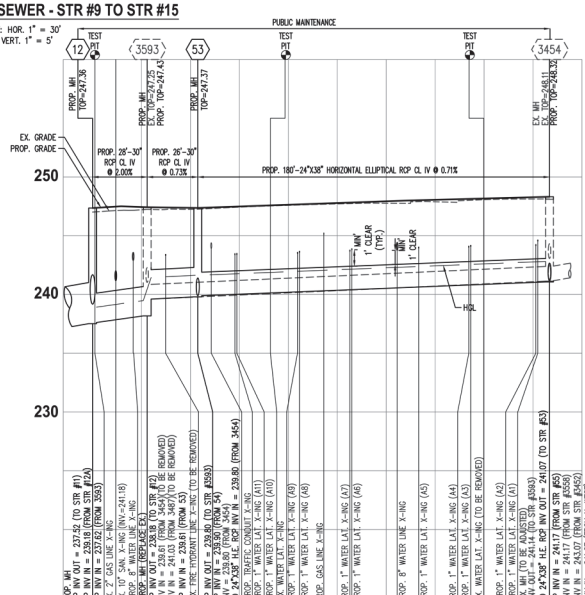
PROPOSED STORM SEWER - STR #13A TO STR #13B

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



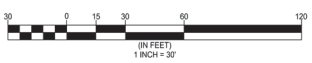
PROPOSED STORM SEWER - STR #13 TO STR #52

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED STORM SEWER - STR #12 TO EX 3454

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



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SCALE: HOR. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: [ ] CHECKED: [pmtttc] AVBP

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STORM SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

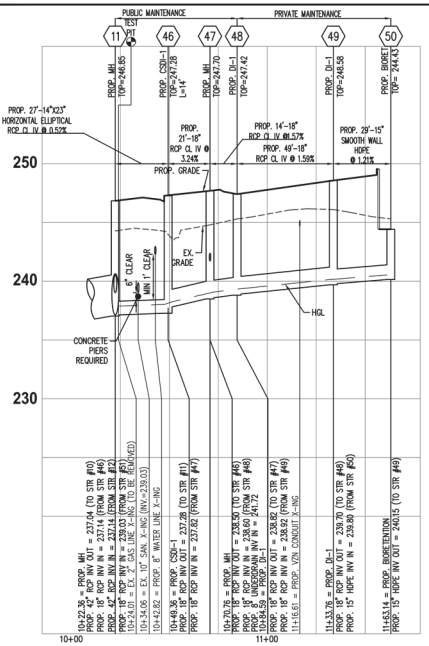
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

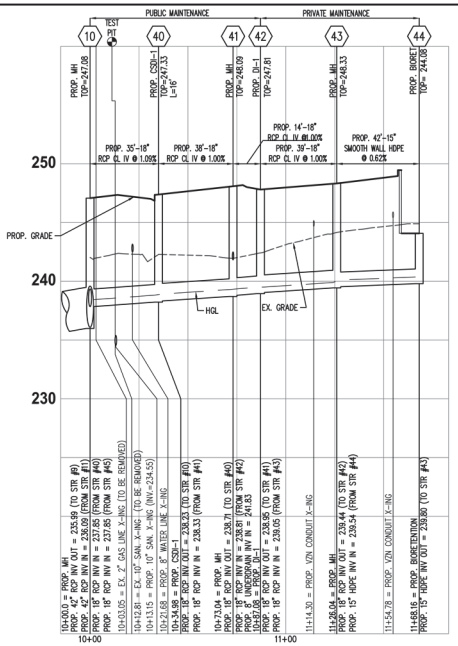
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\[05073\dwg\Engineering\Site Plan\05073C-0801.dwg

SHEET: C-0803



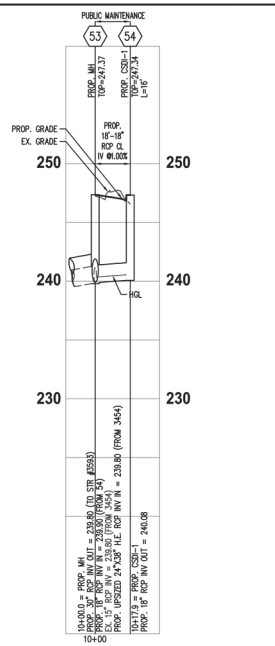
PROPOSED STORM SEWER - STR #11 TO STR #50

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



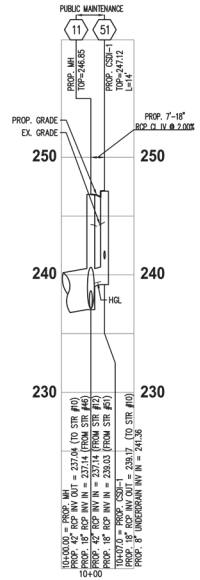
PROPOSED STORM SEWER - STR #10 TO STR #44

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



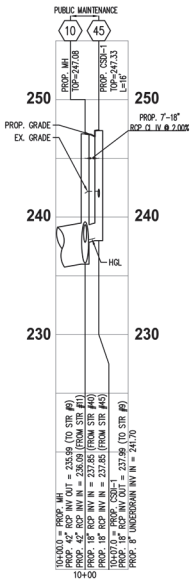
PROPOSED STORM SEWER - STR #53 TO STR #54

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



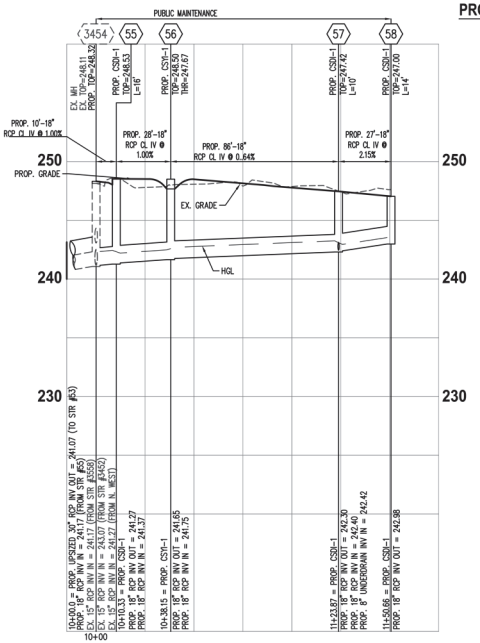
PROPOSED STORM SEWER - STR #11 TO STR #51

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED STORM SEWER - STR #10 TO STR #45

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED STORM SEWER - EX 3454 TO STR #57

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

ESI Peer Review

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SCALE: HOR. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: [ ] CHECKED: [PTT/SC] AVB/P

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
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DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PROFESSIONAL ENGINEER — COMMONWEALTH OF VIRGINIA — JASON M. VIRGIN — LIC. No.041651 — 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STORM SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

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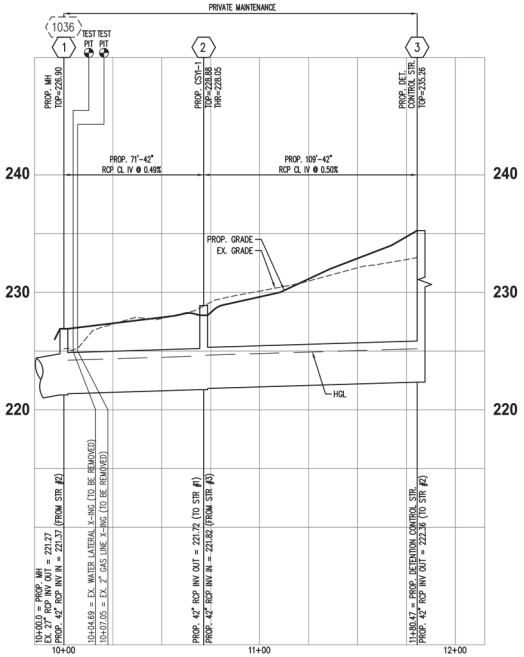
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

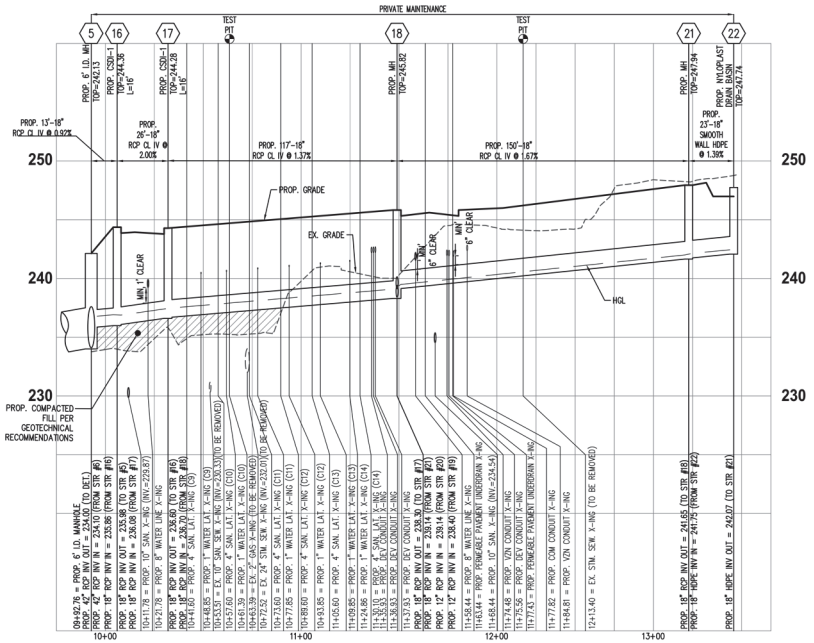
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\J05073\dwg\Engineering\Site Plan\05073C-0801.dwg

SHEET: C-0804



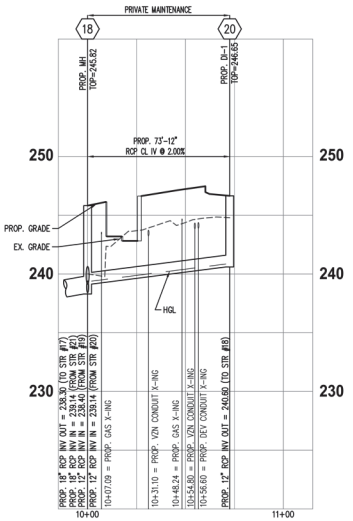
PROPOSED STORM SEWER - STR #1 TO STR #3

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



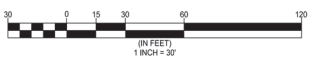
PROPOSED STORM SEWER - STR #5 TO STR #22

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED STORM SEWER - STR #18 TO STR #20

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: HOR. 1" = 30'
VERT. 1" = 5'
DATE: 04/21/2023
DRAWN: | CHECKED:
[pmtttsc] | AVBP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PROFESSIONAL ENGINEER
AARON M. VIRGIN
LIC. No.041851
6/21/2023

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STORM SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

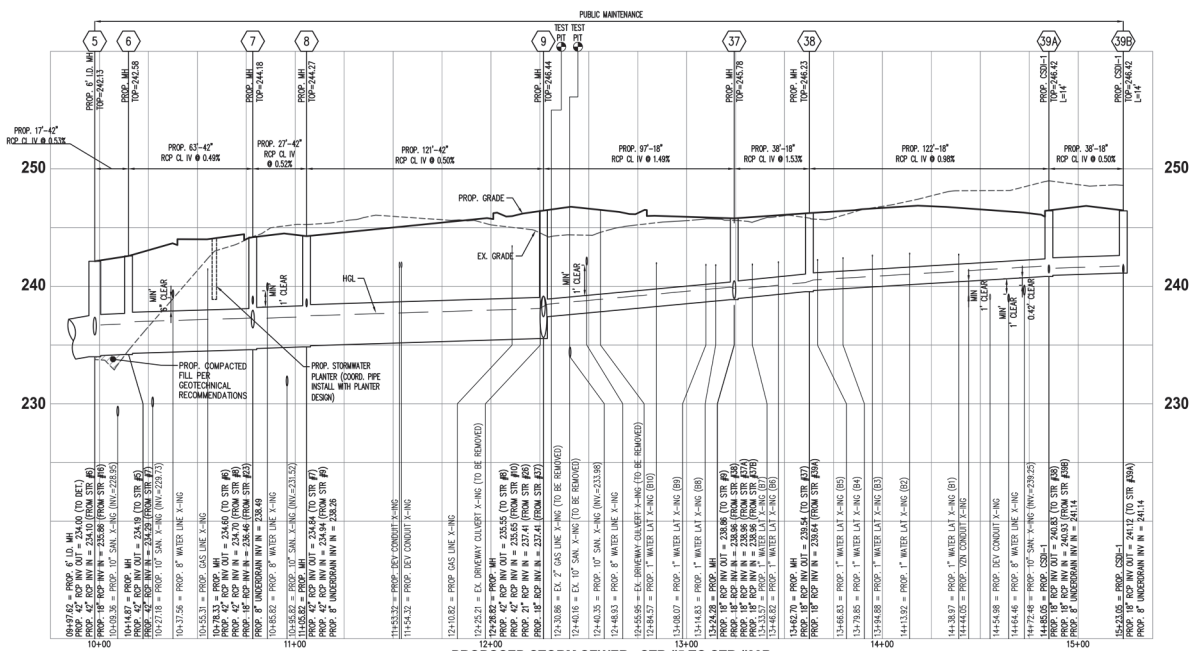
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

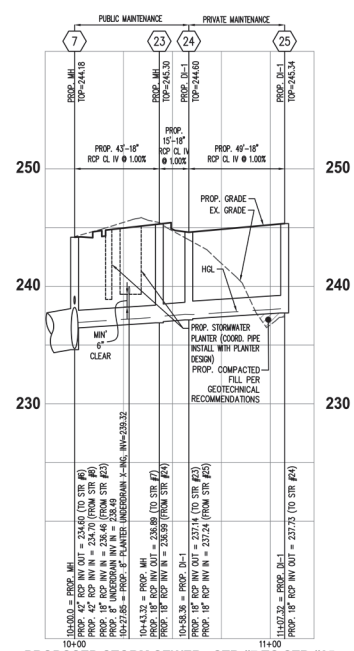
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0801.dwg

SHEET: C-0805



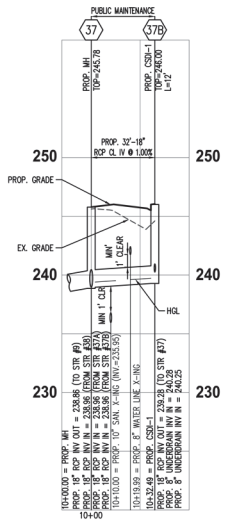
PROPOSED STORM SEWER - STR #5 TO STR #39B

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



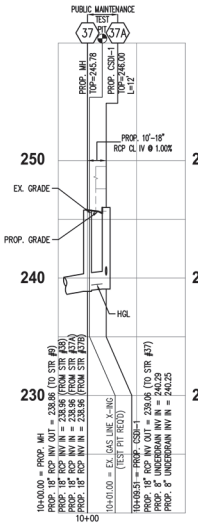
PROPOSED STORM SEWER - STR #7 TO STR #25

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED STORM SEWER - STR #37B TO STR #37

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED STORM SEWER - STR #37A TO STR #37

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

ESI Peer Review

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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: HOR. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: | CHECKED: | [PRTTSC]: AWP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

PROFESSIONAL ENGINEER — AARON M. VIRGIN LIC. No.041651 — 4/21/2023

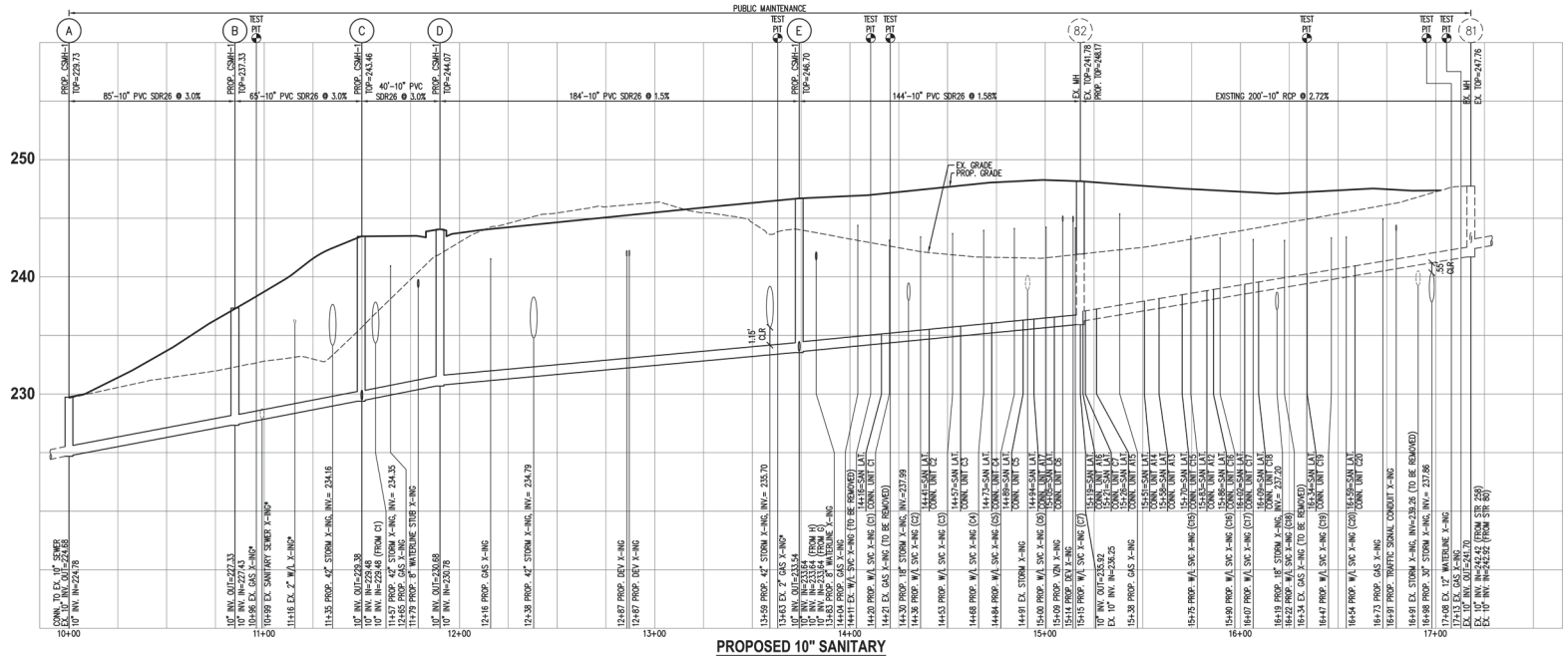
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

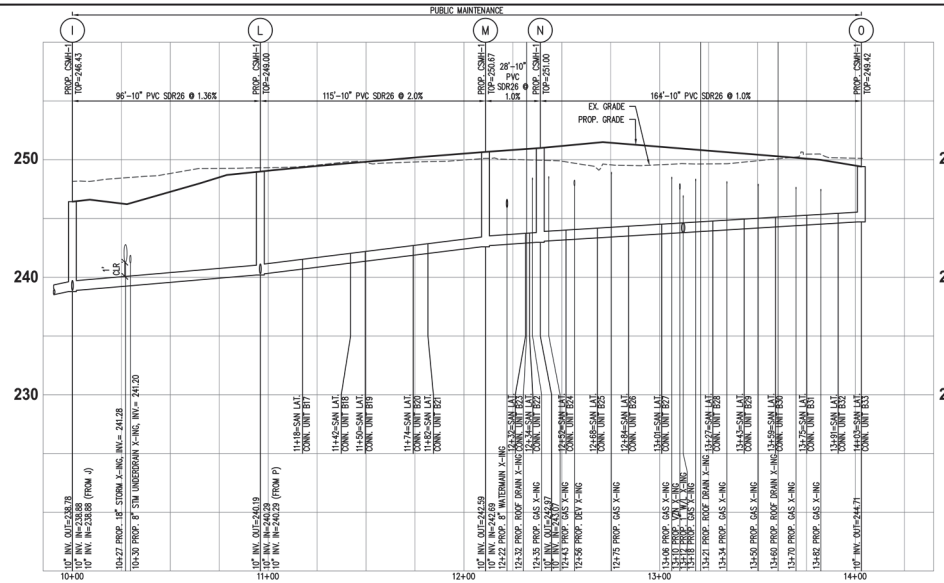
STORM SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\J05073\dwg\Engineering\Site Plan\J05073C-0801.dwg

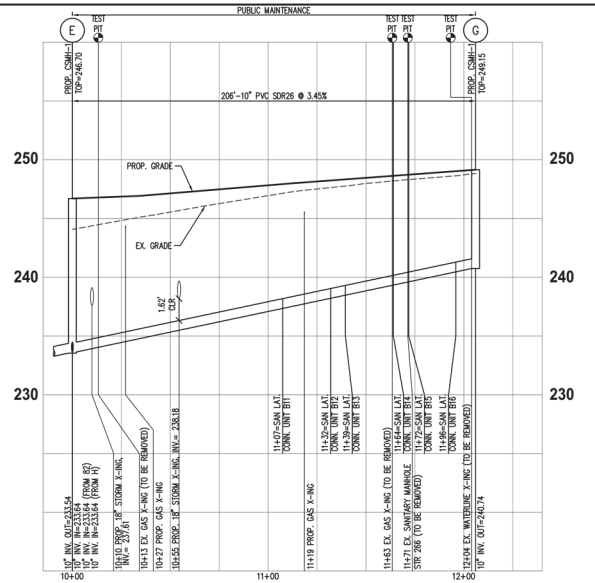
SHEET: C-0806


PUBLIC MAINTENANCE
A
B
C
D
E
82
81
PROP. CSMH
TOP=229.73
TOP=237.33
TOP=243.46
TOP=244.07
TOP=246.70
TOP=247.78
TOP=268.17
TOP=247.76
85'–10" PVC SDR26 @ 3.0%
65'–10" PVC SDR26 @ 3.0%
40'–10" PVC SDR26 @ 3.0%
184'–10" PVC SDR26 @ 1.5%
144'–10" PVC SDR26 @ 1.58%
EXISTING 200'–10" RCP @ 2.72%
EX. MH
PROP. MH
EX. GRADE
PROP. GRADE
1.05' CLR
CONN. TO EX. 10" SEWER
EX. 10" INV. OUT=224.68
10" INV. IN=224.78
10" INV. OUT=227.33
10" INV. IN=227.43
10+98 EX. GAS X-ING
10+99 EX. SANITARY SEWER X-ING*
11+16 EX. 2" W/L X-ING*
11+35 PROP. 42" STORM X-ING, INV.= 234.16
10" INV. OUT=229.38
10" INV. IN=229.48 (FROM C1)
11+57 PROP. 42" STORM X-ING, INV.= 234.35
12+65 PROP. GAS X-ING
11+79 PROP. 8" WATERLINE STUB X-ING
10" INV. OUT=230.88
10" INV. IN=230.78
12+16 PROP. GAS X-ING
12+38 PROP. 42" STORM X-ING, INV.= 234.79
12+67 PROP. DEV X-ING
12+87 PROP. DEV X-ING
13+59 PROP. 42" STORM X-ING, INV.= 235.70
13+63 EX. 2" GAS X-ING*
10" INV. OUT=231.54
10" INV. IN=233.64 (FROM A)
10" INV. IN=233.64 (FROM B)
13+83 PROP. 8" WATERLINE X-ING
14+04 PROP. GAS X-ING
14+11 EX. W/L, SWC X-ING (TO BE REMOVED)
14+20 PROP. W/L, SWC X-ING (C1)
14+21 EX. GAS X-ING (TO BE REMOVED)
14+30 PROP. 18" STORM X-ING, INV.=237.99
14+36 PROP. W/L, SWC X-ING (C2)
14+53 PROP. W/L, SWC X-ING (C3)
14+68 PROP. W/L, SWC X-ING (C4)
14+84 PROP. W/L, SWC X-ING (C5)
14+91 EX. STORM X-ING
15+00 PROP. W/L, SWC X-ING (C6)
15+09 PROP. VZN X-ING
15+14 PROP. DEV X-ING
15+15 PROP. W/L, SWC X-ING (C7)
10" INV. OUT=235.92
EX. 10" INV. IN=236.25
15+38 PROP. GAS X-ING
14+11 EX. STORM X-ING
14+11 EX. GAS X-ING
14+11 EX. 10" SEWER X-ING
14+11 EX. 8" WATER X-ING
14+11 EX. 8" GAS



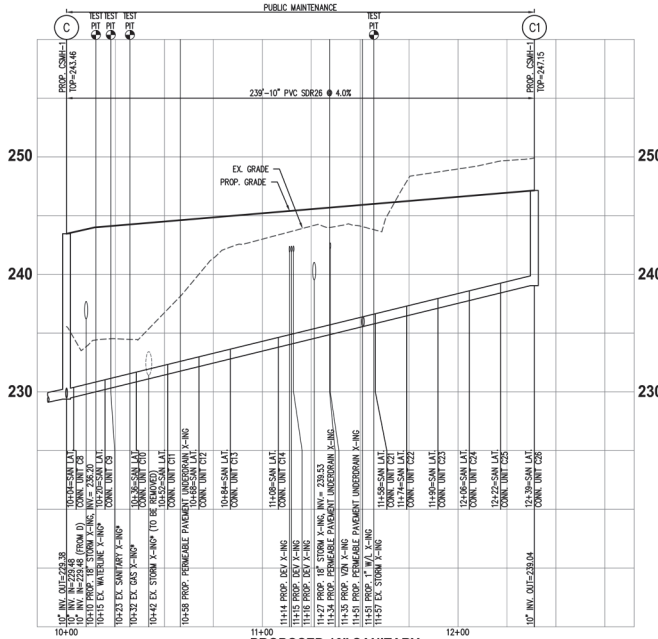
PROPOSED 10" SANITARY

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



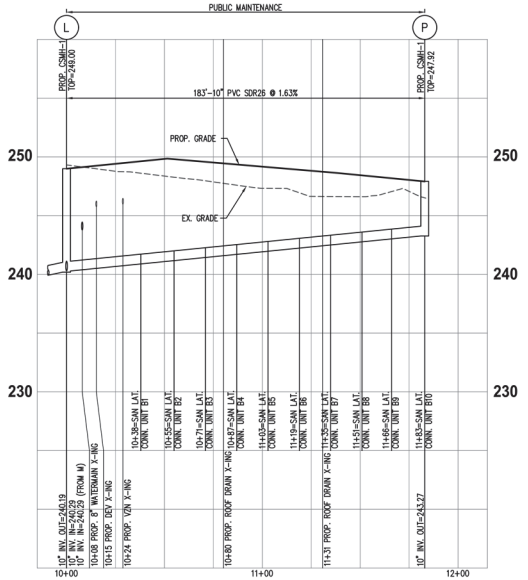
PROPOSED 10" SANITARY

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED 10" SANITARY

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED 10" SANITARY

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

NOTE:
* EXISTING ACCESS AND UTILITIES TO LOT 14 TO REMAIN FUNCTIONAL UNTIL PROPOSED ACCESS AND UTILITIES ARE CONSTRUCTED AND MADE AVAILABLE FOR LOT 14.

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

ESI
Peer Review

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SCALE: HOR. 1" = 30'
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DATE: 04/21/2023
DRAWN: | CHECKED:
permits: AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA
AARON M. VIRGIN
LIC. No.041851
PROFESSIONAL ENGINEER
4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SANITARY SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

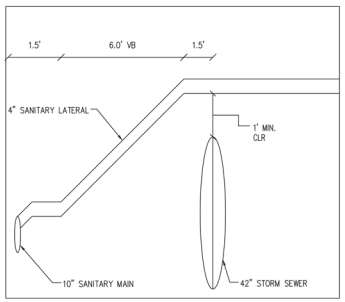
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0901.dwg

SHEET: C-0902

BLD	FROM	TO	STA	INV @ MAIN	LAT SIZE	LAT LENGTH TO CO	MIN. LAT SLOPE	INV @ CO	PROP GAR	PUMP REQ'D	VERTICAL BEND
A1	K	J	00+09	241.43	4 IN	5	1.04%	242.32	249.84	NO	YES
A2	K	J	00+25	241.56	4 IN	5	1.04%	242.44	250.16	NO	YES
A3	K	J	00+41	241.68	4 IN	5	1.04%	242.57	250.52	NO	YES
A4	K	J	00+57	241.81	4 IN	5	1.04%	242.70	250.63	NO	YES
A5	K	J	00+74	241.95	4 IN	5	1.04%	242.84	250.44	NO	YES
A6	K	J	01+04	242.19	4 IN	5	1.04%	243.07	250.09	NO	YES
A7	K	J	01+21	242.33	4 IN	5	1.04%	243.22	249.86	NO	YES
A8	K	J	01+37	242.46	4 IN	5	1.04%	243.34	249.67	NO	YES
A9	K	J	01+53	242.59	4 IN	5	1.04%	243.47	249.50	NO	YES
A10	K	J	01+69	242.71	4 IN	5	1.04%	243.60	249.29	NO	
A11	K	J	01+84	242.83	4 IN	5	1.04%	243.72	249.12	NO	
A12	81	82	00+66	238.06	4 IN	36	1.04%	239.27	250.02	NO	YES
A13	81	82	00+42	237.39	4 IN	36	1.04%	238.60	250.23	NO	YES
A14	81	82	00+34	237.19	4 IN	36	1.04%	238.40	250.41	NO	YES
A15	81	82	00+10	236.52	4 IN	36	1.04%	237.73	250.66	NO	YES
A16	81	82	00+03	236.33	4 IN	36	1.04%	237.54	250.55	NO	YES
A17	82	E	01+22	235.56	4 IN	35	1.04%	236.76	250.20	NO	YES
A18	J	I	02+05	241.00	4 IN	27	1.04%	242.12	250.66	NO	YES
A19	J	I	01+75	240.69	4 IN	26	1.04%	241.80	250.87	NO	YES
A20	J	I	01+68	240.62	4 IN	26	1.04%	241.73	251.05	NO	YES
A21	J	I	01+43	240.36	4 IN	26	1.04%	241.47	251.30	NO	YES
A22	J	I	01+36	240.29	4 IN	26	1.04%	241.39	251.19	NO	YES
A23	J	I	01+11	240.03	4 IN	26	1.04%	241.14	250.83	NO	YES
A24	I	H	00+76	238.59	4 IN	28	1.04%	239.72	250.43	NO	YES
A25	I	H	00+50	237.86	4 IN	31	1.04%	239.01	250.65	NO	YES
A26	I	H	00+45	237.77	4 IN	31	1.04%	238.93	250.45	NO	YES
A27	I	H	00+29	237.53	4 IN	33	1.04%	238.71	250.25	NO	YES
A28	I	H	00+13	237.30	4 IN	34	1.04%	238.49	250.01	NO	YES
A29	H	E	01+16	236.83	4 IN	35	1.04%	238.03	249.81	NO	YES
A30	H	E	01+00	236.39	4 IN	35	1.04%	237.59	249.57	NO	YES
A31	H	E	00+84	235.95	4 IN	35	1.04%	237.15	249.34	NO	YES
A32	H	E	00+68	235.51	4 IN	35	1.04%	236.71	249.13	NO	YES
A33	H	E	00+43	234.83	4 IN	35	1.04%	236.03	248.91	NO	YES
B1	P	L	00+38	241.24	4 IN	8	1.04%	242.15	250.66	NO	YES
B2	P	L	00+55	241.18	4 IN	8	1.04%	242.10	250.74	NO	YES
B3	P	L	00+71	241.45	4 IN	8	1.04%	242.36	250.52	NO	YES
B4	P	L	00+87	241.71	4 IN	7	1.04%	242.62	250.32	NO	YES
B5	P	L	01+03	241.97	4 IN	7	1.04%	242.88	250.08	NO	YES
B6	P	L	01+19	242.23	4 IN	7	1.04%	243.14	249.84	NO	YES
B7	P	L	01+35	242.49	4 IN	7	1.04%	243.40	249.64	NO	YES
B8	P	L	01+51	242.75	4 IN	7	1.04%	243.66	249.40	NO	
B9	P	L	01+66	242.99	4 IN	7	1.04%	243.90	249.13	NO	
B10	P	L	01+83	243.28	4 IN	7	1.04%	244.18	248.89	NO	
B11	G	E	01+07	237.34	4 IN	34	1.04%	238.53	249.82	NO	YES
B12	G	E	01+32	238.19	4 IN	34	1.04%	239.37	250.04	NO	YES
B13	G	E	01+39	238.45	4 IN	34	1.04%	239.63	250.27	NO	YES
B14	G	E	01+64	239.29	4 IN	33	1.04%	240.47	250.49	NO	YES
B15	G	E	01+72	239.56	4 IN	33	1.04%	240.74	250.70	NO	YES
B16	G	E	01+96	240.39	4 IN	33	1.04%	241.57	250.96	NO	YES
B17	M	L	00+22	240.73	4 IN	27	1.04%	241.84	250.63	NO	YES
B18	M	L	00+46	241.22	4 IN	26	1.04%	242.33	250.85	NO	YES
B19	M	L	00+54	241.37	4 IN	26	1.04%	242.48	251.08	NO	YES
B20	M	L	00+78	241.86	4 IN	26	1.04%	242.97	251.30	NO	YES
B21	M	L	00+86	242.01	4 IN	26	1.04%	243.12	251.51	NO	YES
B22	N	M	00+23	242.92	4 IN	25	1.04%	244.01	251.77	NO	YES
B23	N	M	00+21	242.90	4 IN	15	1.04%	243.89	251.88	NO	YES
B24	O	N	00+13	243.20	4 IN	5	1.04%	244.09	252.18	NO	YES
B25	O	N	00+29	243.36	4 IN	5	1.04%	244.25	252.52	NO	YES
B26	O	N	00+45	243.52	4 IN	5	1.04%	244.41	252.41	NO	YES
B27	O	N	00+62	243.69	4 IN	5	1.04%	244.57	252.19	NO	YES
B28	O	N	00+88	243.95	4 IN	5	1.04%	244.84	251.77	NO	YES
B29	O	N	01+04	244.11	4 IN	5	1.04%	245.00	251.51	NO	YES
B30	O	N	01+20	244.27	4 IN	5	1.04%	245.16	251.27	NO	YES
B31	O	N	01+36	244.43	4 IN	5	1.04%	245.32	251.00	NO	
B32	O	N	01+52	244.59	4 IN	5	1.04%	245.48	250.66	NO	
B33	O	N	01+64	244.71	4 IN	5	1.04%	245.60	250.36	NO	

BLD	FROM	TO	STA	INV @ MAIN	LAT SIZE	LAT LENGTH TO CO	MIN. LAT SLOPE	INV @ CO	PROP GAR	PUMP REQ'D	VERTICAL BEND	REQ. LAT. INV. @ ADJ. STM X-ING
C1	82	E	00+43	234.33	4 IN	33	1.04%	235.51	246.13	NO	YES *	240.92
C2	82	E	00+68	234.71	4 IN	33	1.04%	235.89	246.25	NO	YES *	241.14
C3	82	E	00+84	234.97	4 IN	33	1.04%	236.15	246.49	NO	YES *	241.22
C4	82	E	01+00	235.22	4 IN	33	1.04%	236.40	246.73	NO	YES *	241.30
C5	82	E	01+16	235.48	4 IN	33	1.04%	236.65	246.97	NO	YES *	241.38
C6	82	E	01+32	235.73	4 IN	33	1.04%	236.90	247.21	NO	YES *	241.46
C7	81	82	00+04	236.37	4 IN	32	1.04%	237.53	247.67	NO	YES *	241.54
C8	C1	C	00+04	229.63	4 IN	30	1.04%	230.77	245.73	NO	YES	
C9	C1	C	00+20	230.27	4 IN	30	1.04%	231.41	245.95	NO	YES	
C10	C1	C	00+36	230.91	4 IN	30	1.04%	232.05	246.21	NO	YES	
C11	C1	C	00+52	231.55	4 IN	30	1.04%	232.69	246.43	NO	YES	
C12	C1	C	00+68	232.19	4 IN	30	1.04%	233.33	246.69	NO	YES	
C13	C1	C	00+84	232.83	4 IN	30	1.04%	233.97	246.91	NO	YES	
C14	C1	C	01+08	233.81	4 IN	30	1.04%	234.95	247.20	NO	YES	
C15	81	82	00+54	237.72	4 IN	32	1.04%	238.88	248.27	NO	YES *	241.79
C16	81	82	00+70	238.15	4 IN	32	1.04%	239.32	248.29	NO	YES *	241.87
C17	81	82	00+86	238.59	4 IN	32	1.04%	239.75	248.55	NO	YES *	241.95
C18	81	82	01+02	239.02	4 IN	32	1.04%	240.19	248.77	NO	YES *	242.03
C19	81	82	01+18	239.46	4 IN	32	1.04%	240.62	249.01	NO	YES *	242.11
C20	81	82	01+42	240.13	4 IN	32	1.04%	241.29	249.27	NO	YES *	242.34
C21	C1	C	01+58	235.79	4 IN	30	1.04%	236.93	248.07	NO	YES	
C22	C1	C	01+74	236.43	4 IN	30	1.04%	237.57	248.29	NO	YES	
C23	C1	C	01+90	237.07	4 IN	30	1.04%	238.21	248.55	NO	YES	
C24	C1	C	02+06	237.71	4 IN	30	1.04%	238.85	248.77	NO	YES	
C25	C1	C	02+22	238.35	4 IN	30	1.04%	239.49	249.01	NO	YES	
C26	C1	C	02+39	239.04	4 IN	33	1.04%	240.21	249.27	NO	YES	

* SANITARY SEWER LATERAL REQUIRES VERTICAL BEND BEGINNING 1.5 FT FROM CONNECTION TO 10" SANITARY SEWER MAIN TO CROSS OVER ADJACENT PROP. 42" STORM SEWER WITH A MINIMUM CLEARANCE OF 1 FOOT. SEE TABLE ABOVE FOR REQUIRED SANITARY LATERAL INVERT AT ADJACENT STORM SEWER CROSSING.



SANITARY LATERAL DETAIL
NOT TO SCALE

NOTE

1. CONTRACTOR TO REVIEW SANITARY LATERAL SCHEDULE AND COORDINATE CONNECTIONS TO SEWER MAIN AND CLEANOUTS WITH PLUMBER PRIOR TO CONSTRUCTION. LATERAL SLOPES SHOWN ARE THE MINIMUM ALLOWED (1.04%). SLOPES MAY NEED TO BE ADJUSTED TO ACCOMMODATE CROSSINGS AND CLEANOUT LOCATIONS.

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | [PITTSC] AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

MARSH W. VIRGIN LIC. No.041851 4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

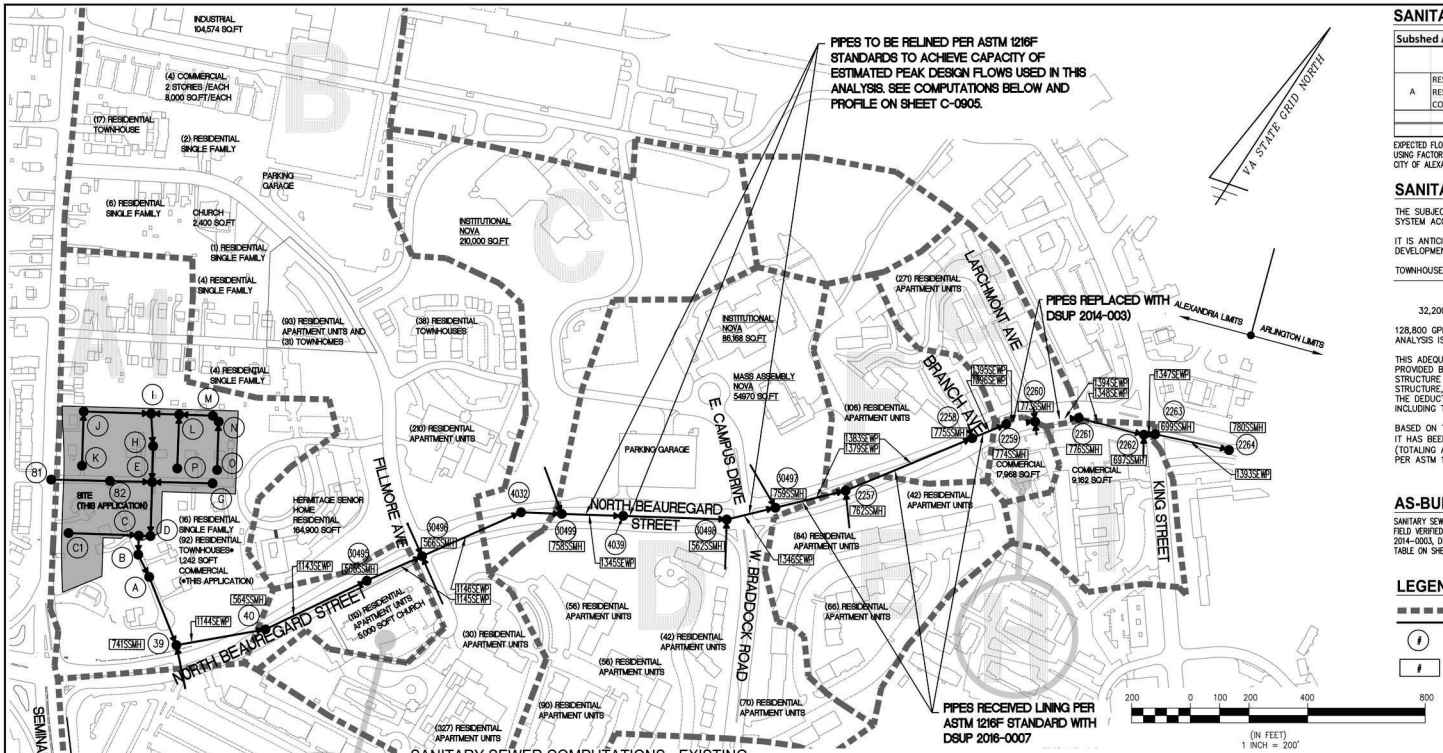
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SANITARY LATERAL SCHEDULE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-0903

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-0901.dwg



SANITARY SEWER DESIGN FLOWS

Subshed A1

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
A	RESIDENTIAL (SF)	350	16	5,600
	RESIDENTIAL (TH)	350	92	32,200
	COMMERCIAL	200	1.242	248
				38,048
			TOTAL SUBSHED A1 =	38,048

EXPECTED FLOWS FROM DEVELOPMENT DISCHARGED INTO UPSTREAM END OF SEWER CALCULATED USING FACTORS DESCRIBED IN MTI 06-14. ALL OTHER DOWNSTREAM FLOW DATA PROVIDED BY CITY OF ALEXANDRIA.

SANITARY SEWER OUTFALL NARRATIVE

THE SUBJECT SITE IS CURRENTLY SERVED BY A SEPARATE SANITARY SEWER SYSTEM ACCORDING TO THE CITY OF ALEXANDRIA GIS SEWER VIEWER.

IT IS ANTICIPATED THAT THE SANITARY FLOW RESULTING FROM THIS DEVELOPMENT WILL BE APPROXIMATELY:

TOWNHOUSE: 350 GPD x 92 UNITS = 32,200 GPD

TOTAL = 32,200 GPD

32,200 GPD x 4 (PEAK FACTOR) = 128,800 GPD

128,800 GPD EXCEEDS 10,000 GPD, THEREFORE A SANITARY SEWER OUTFALL ANALYSIS IS REQUIRED AND PROVIDED ON THIS SHEET.

THIS ADEQUATE OUTFALL ANALYSIS WAS PREPARED USING FLOW DATA PROVIDED BY THE CITY OF ALEXANDRIA. THE MODELED FLOW ENTERING STRUCTURE 741 INCLUDES THE FLOW DATA PROVIDED BY THE CITY AT THAT STRUCTURE, AS WELL AS THE DELTA IN EXPECTED FLOW BY FACTORING IN THE DEDUCTIONS FOR THE EXISTING HOMES TO BE DEMOLISHED AND INCLUDING THE ADDITIONS OF THE PROPOSED TOWNHOMES.

BASED ON THE ANALYSIS CONDUCTED OF THE DOWNSTREAM SEWER SYSTEM, IT HAS BEEN DETERMINED THAT THREE (3) RUNS OF 12" RCP SEWER (TOTALING APPROXIMATELY 732 LINEAR FEET) ARE PROPOSED TO BE LINED PER ASTM 1216F TO ACHIEVE CAPACITY OF THE EXPECTED PEAK FLOWS.

AS-BUILT NOTE

SANITARY SEWER INVERTS AND SIZES ALONG OUTFALL ANALYSIS PATH FIELD VERIFIED BY WALTER L. PHILLIPS INC. IN PREPARATION OF DSP 2014-0003, DSUP 2016-0007, AND DSUP 2019-0017. SEE AS-BUILT TABLE ON SHEET C-0307 FOR INFORMATION.

LEGEND

- SANITARY SEWER WATERSHED BOUNDARIES
- SANITARY SEWER PIPES
- (#) WALTER L. PHILLIPS, MANHOLE #
- # CITY OF ALEXANDRIA GIS FACILITY ID #

SANITARY SEWER COMPUTATIONS - EXISTING

FROM	TO	INCREMENTAL CONTRIBUTING	MODELED FLOW FROM CITY (GPM)	INCREMENTAL FLOW (GPD)	CUMULATIVE (GPD)	PEAK FLOW FACTOR	CUMULATIVE PEAK FLOW (GPD)	CUMULATIVE PEAK FLOW (CFS)	INVERTS UPPER END	INVERTS LOWER END	PIPE SIZE (IN)	AREA (SF)	PIPE LENGTH (FT)	PIPE SLOPE (FT/FT)	MANNINGS n	MATERIAL	SOURCE	MAX CAPACITY (CFS)	CAPACITY (CFS)	VELOCITY AT PEAK (FPS)	FLOW DEPTH (IN)
O	N	11 TH units	-	3,850	3,850	4	15,400	0.024	244.71	243.07	10	0.55	164	0.0100	0.010	PVC	PROPOSED	3.03	2.83	1.59	0.65
N	M	-	-	0	3,850	4	15,400	0.024	242.97	242.69	10	0.55	28	0.0100	0.010	PVC	PROPOSED	3.03	2.83	1.59	0.65
M	L	6 TH units	-	2,100	5,950	4	23,800	0.037	242.59	240.29	10	0.55	115	0.0200	0.010	PVC	PROPOSED	3.03	4.00	2.30	0.68
P	L	10 TH units	-	3,500	3,500	4	14,000	0.022	243.27	240.29	10	0.55	183	0.0163	0.010	PVC	PROPOSED	3.03	3.61	1.81	0.56
L	I	-	-	0	9,450	4	37,800	0.058	240.19	238.88	10	0.55	96	0.0136	0.010	PVC	PROPOSED	4.29	3.31	2.31	0.92
K	J	11 TH units	-	3,850	3,850	4	15,400	0.024	242.83	241.36	10	0.55	184	0.0080	0.010	PVC	PROPOSED	2.71	2.53	1.47	0.68
J	I	6 TH units	-	2,100	5,950	4	23,800	0.037	241.26	238.88	10	0.55	230	0.0103	0.010	PVC	PROPOSED	2.71	2.88	1.83	0.79
I	H	5 TH units	-	1,750	17,150	4	68,600	0.106	238.78	237.10	10	0.55	111	0.0151	0.010	PVC	PROPOSED	4.29	3.48	2.88	1.20
H	E	5 TH units	-	1,750	18,900	4	75,600	0.117	237.00	233.64	10	0.55	122	0.0275	0.010	PVC	PROPOSED	4.29	4.70	3.65	1.09
G	E	6 TH units	-	2,100	2,100	4	8,400	0.013	240.74	233.64	10	0.55	206	0.0345	0.010	PVC	PROPOSED	5.25	5.26	1.91	0.38
81	82	City Flow Data + 12 TH	-	10,048	10,048	4	40,192	0.062	241.70	236.25	10	0.55	200	0.0272	0.010	PVC	AS-BUILT	5.00	4.67	3.01	0.81
82	E	7 TH units	-	2,450	12,498	4	49,992	0.077	235.92	233.64	10	0.55	144	0.0158	0.010	PVC	PROPOSED	2.94	3.56	2.66	1.02
E	D	-	-	0	33,498	4	133,992	0.207	233.54	230.78	10	0.55	184	0.0150	0.010	PVC	PROPOSED	4.29	3.47	3.52	1.65
D	C	-	-	0	33,498	4	133,992	0.207	230.68	229.48	10	0.55	40	0.0300	0.010	PVC	PROPOSED	5.25	4.90	4.48	1.40
C1	C	13 TH units	-	4,550	4,550	4	18,200	0.028	239.04	229.48	10	0.55	239	0.0400	0.010	PVC	PROPOSED	6.06	5.66	2.68	0.51
C	B	-	-	0	38,048	4	152,192	0.235	229.38	227.43	10	0.55	65	0.0300	0.010	PVC	PROPOSED	5.25	4.90	4.65	1.49
B	A	-	-	0	38,048	4	152,192	0.235	227.33	224.78	10	0.55	85	0.0300	0.010	PVC	PROPOSED	5.25	4.90	4.65	1.49
A	741	-	-	0	38,048	4	152,192	0.235	224.68	216.41	10	0.55	250	0.0331	0.015	RCP	AS-BUILT	3.68	3.43	3.62	1.77
741 (2)	564	*(City Flow Data)*	1615		2,456,792	1	2,456,792	3.801	216.18	205.05	10	0.55	308	0.0361	0.015	RCP	AS-BUILT	3.84	3.59	7.52	8.74
564	565	*(City Flow Data)*	1618		2,461,112	1	2,461,112	3.808	204.98	190.88	10	0.55	383	0.0368	0.015	RCP	AS-BUILT	3.88	3.62	6.99	9.90
565	566	*(City Flow Data)*	1621		2,465,432	1	2,465,432	3.815	190.82	182.40	10	0.55	206	0.0409	0.015	RCP	AS-BUILT	4.09	3.82	8.05	8.12
566	4032	*(City Flow Data)*	2318		3,469,112	1	3,469,112	5.367	181.31	171.48	12	0.79	367	0.0268	0.015	RCP	AS-BUILT	5.44	5.03	7.28	10.66
4032	758	*(City Flow Data)*	2318		3,469,112	1	3,469,112	5.367	171.28	167.50	12	0.79	139	0.0272	0.015	RCP	AS-BUILT	5.48	5.07	7.36	10.51
758	4039	*(City Flow Data)*	2325		3,479,192	1	3,479,192	5.383	167.46	162.35	12	0.79	209	0.0244	0.015	RCP	AS-BUILT	5.19	4.80		
4039	562	*(City Flow Data)*	2325		3,479,192	1	3,479,192	5.383	162.27	153.36	12	0.79	353	0.0252	0.015	RCP	AS-BUILT	5.27	4.88		
562	759	*(City Flow Data)*	2429		3,628,952	1	3,628,952	5.615	153.29	149.39	12	0.79	170	0.0229	0.015	RCP	AS-BUILT	5.02	4.65		
759 (3)	762	*(City Flow Data)*	2533		3,778,712	1	3,778,712	5.846	148.37	143.80	11.44 (3)(4)	0.71	246	0.0186	0.010	LINED RCP	AS-BUILT	5.92	5.53	8.85	9.98
762 (3)	775	*(City Flow Data)*	2622		3,906,872	1	3,906,872	6.045	143.75	132.32	11.44 (3)(4)	0.71	467	0.0245	0.010	LINED RCP	AS-BUILT	6.80	6.34	10.19	8.86
775 (3)	774	*(City Flow Data)*	2676		3,984,632	1	3,984,632	6.165	132.12	128.40	11.44 (3)(4)	0.71	125	0.0298	0.010	LINED RCP	AS-BUILT	7.50	7.00	11.14	8.28
774	773	*(City Flow Data)*	2695		4,011,992	1	4,011,992	6.207	128.34	126.78	18 (5)	1.77	99	0.0158	0.010	PVC	AS-BUILT	18.46	17.08	8.94	7.48
773	776	*(City Flow Data)*	2901		4,308,632	1	4,308,632	6.666	126.31	123.37	18 (5)	1.77	149	0.0197	0.010	PVC	AS-BUILT	20.61	19.11	9.89	7.31
776	697	*(City Flow Data)*	3080		4,566,392	1	4,566,392	7.065	123.27	119.53	15	1.23	229	0.0163	0.015	RCP	AS-BUILT	7.69	7.12	6.66	12.09
697	699	*(City Flow Data)*	3545		5,235,992	1	5,235,992	8.101	119.27	118.58	15	1.23	38	0.0182	0.015	RCP	AS-BUILT	8.12	7.51	6.90	13.68
699	780	*(City Flow Data)*	3545		5,235,992	1	5,235,992	8.101	118.56	113.52	18	1.77	257	0.0196	0.015	RCP	AS-BUILT	13.21	12.70	7.66	10.40

SEE COMPUTATIONS BELOW FOR PROPOSED RELINING

MAX CAPACITY CALCULATED VIA FLOWMASTER MODELING SOFTWARE

Notes:

(1) Includes flows from upstream single family homes offsite and also 19 townhouses proposed with this development.
(2) Existing flow data provided by City of Alexandria with additional increase in flows from development site in subshed A1
(3) Includes completion of improvements shown on DSUP 2016-0007 to line pipes. Assumes liner thickness of 0.28" for a total diameter reduction of 0.56" on a 12" diameter pipe.
(4) According to the City, an unknown manhole was discovered between structures 762 and 775 and also received lining per DSUP 2016-0007. This structure was not located but exists somewhere along the 467' of pipe. For purposes of this analysis, it is assumed that the size and slope of this sewer line are consistent and analyzed from the known up and downstream structures.
(5) Includes completion of replacement of 2 pipes as shown on DSUP 2016-0007
(6) Ultimate build out of surrounding area has not been assumed in this analysis

SANITARY SEWER COMPUTATIONS - PROPOSED PIPE LINING

THE COMPUTATIONS BELOW INDICATE THE RESULTANT CAPACITY OF THE PROPOSED RELINING PER ASTM 1216F OF THE THREE (3) RUNS OF 12" RCP SEWER BETWEEN STRUCTURES 758-4039, 4039-562, AND 562-759. SEE SHEET C-0905 FOR PROFILES.

FROM	TO	INCREMENTAL CONTRIBUTING	MODELED FLOW FROM CITY (GPM)	INCREMENTAL FLOW (GPD)	CUMULATIVE (GPD)	PEAK FLOW FACTOR	CUMULATIVE PEAK FLOW (GPD)	CUMULATIVE PEAK FLOW (CFS)	INVERTS UPPER END	INVERTS LOWER END	PIPE SIZE (IN)	AREA (SF)	PIPE LENGTH (FT)	PIPE SLOPE (FT/FT)	MANNINGS n	MATERIAL	SOURCE	MAX CAPACITY (CFS)	CAPACITY (CFS)	VELOCITY AT PEAK (FPS)	FLOW DEPTH (IN)
758	4039	*(City Flow Data)*	2325		3,479,192	1	3,479,192	5.383	167.46	162.35	11.44	0.71	209	0.0244	0.010	LINED RCP	AS-BUILT	6.78	6.34	10.04	8.04
4039	562	*(City Flow Data)*	2325		3,479,192	1	3,479,192	5.383	162.27	153.36	11.44	0.71	353	0.0252	0.010	LINED RCP	AS-BUILT	6.90	6.44	10.17	7.95
562	759	*(City Flow Data)*	2429		3,628,952	1	3,628,952	5.615	153.29	149.39	11.44	0.71	170	0.0229	0.010	LINED RCP	AS-BUILT	6.57	6.14	9.83	8.54

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: 1" = 200' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PT/TSC, AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/25/22	FSP SUB #3
10/19/22	FSP SUB #4

AARON M. VINCENT LIC. No.041851 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

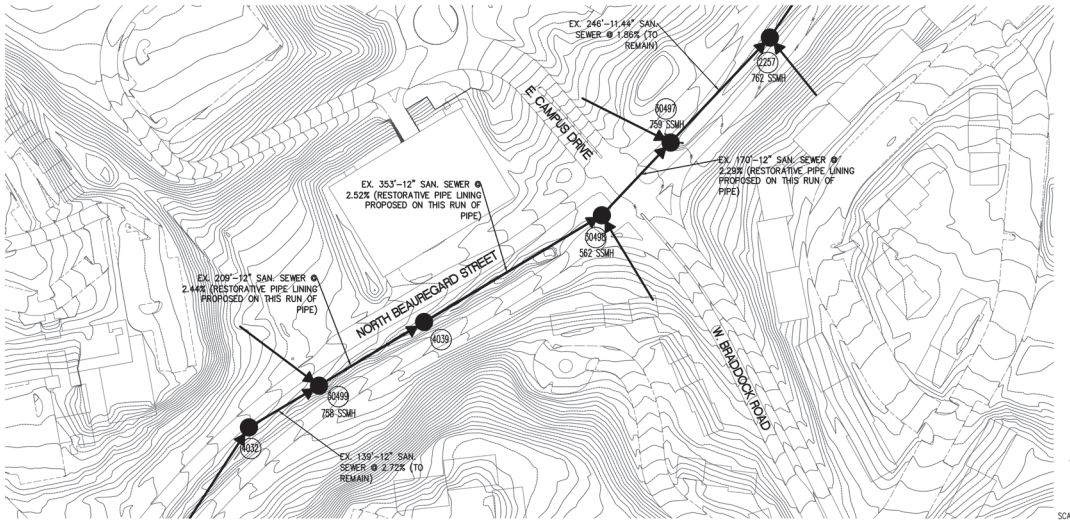
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

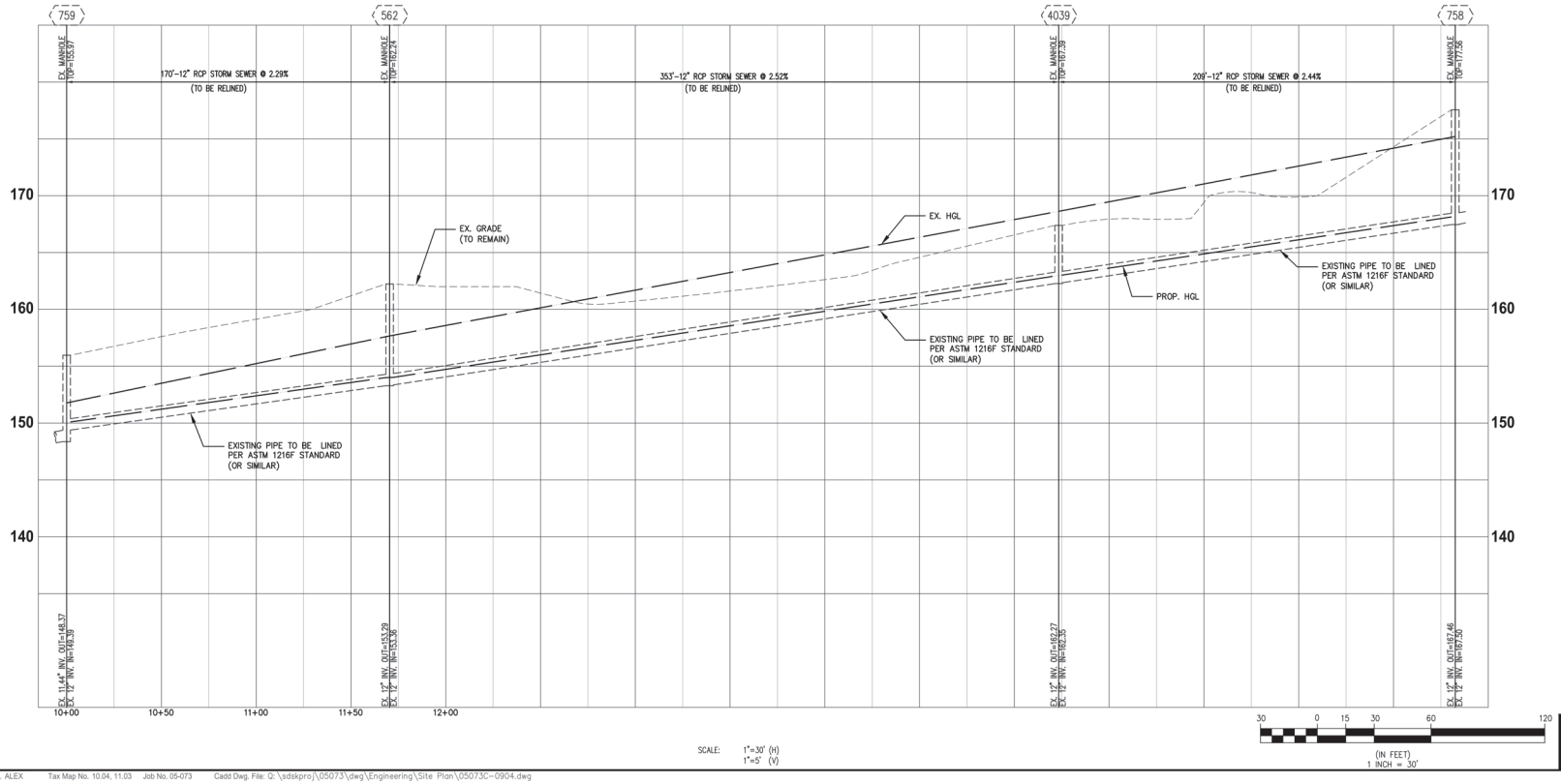
SANITARY SEWER OUTFALL ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-0904

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskpro\\05073\dwg\Engineering\Site Plan\05073C-0904.dwg





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SCALE: AS NOTED | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM | SSC | AWP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/25/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

AARON M. VINSON
LIC. No.0416051
6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

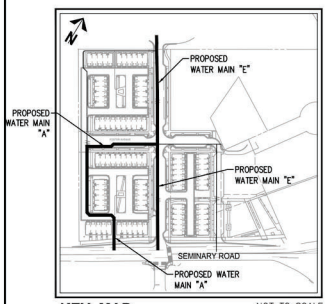
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

OFFSITE SANITARY SEWER PROFILES

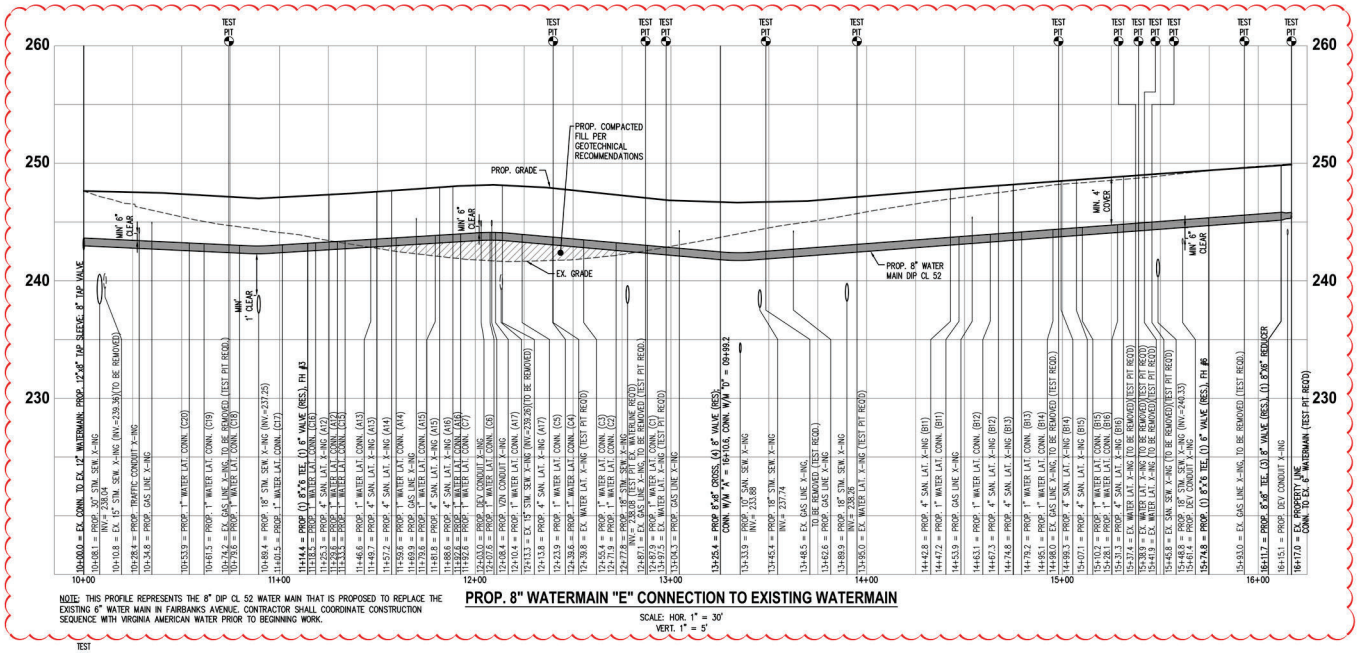
APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-0905

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-0904.dwg



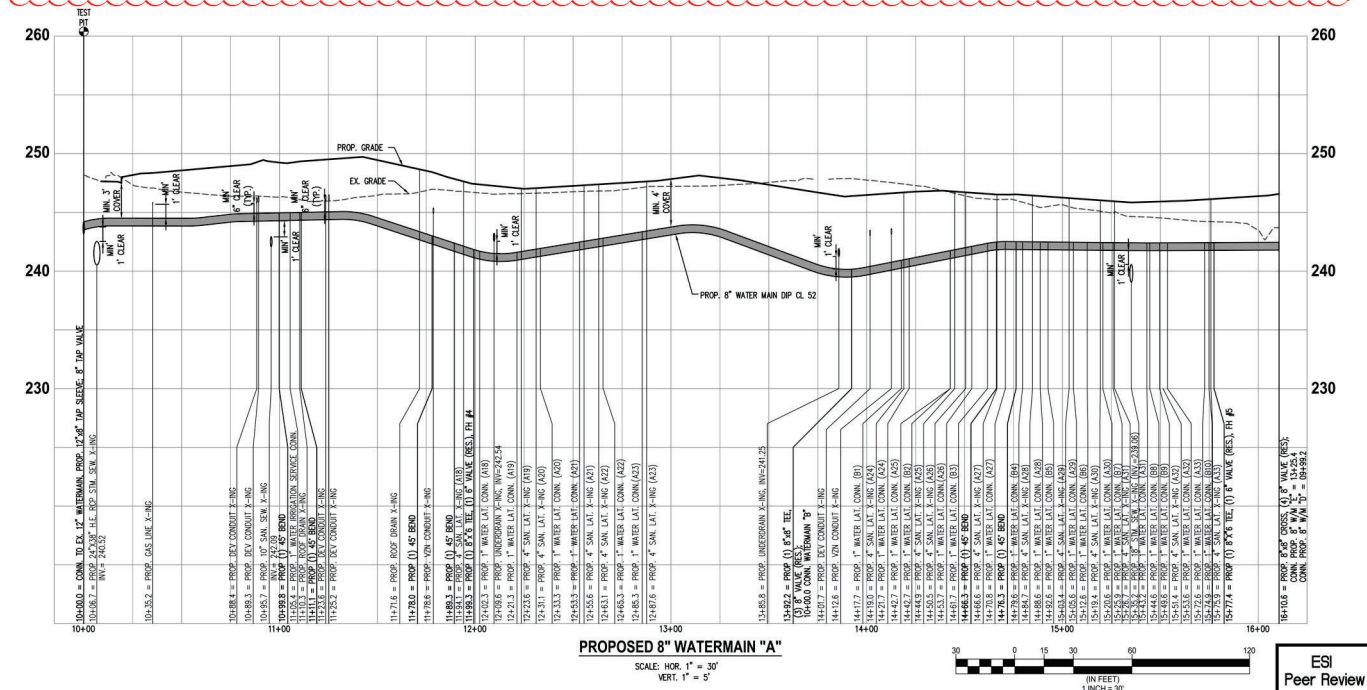
KEY MAP NOT TO SCALE



NOTE: THIS PROFILE REPRESENTS THE 8" DIP CL 52 WATER MAIN THAT IS PROPOSED TO REPLACE THE EXISTING 6" WATER MAIN IN FAIRBANKS AVENUE. CONTRACTOR SHALL COORDINATE CONSTRUCTION SEQUENCE WITH VIRGINIA AMERICAN WATER PRIOR TO BEGINNING WORK.

PROP. 8" WATERMAIN "E" CONNECTION TO EXISTING WATERMAIN

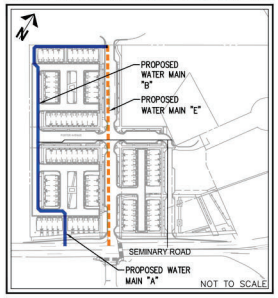
SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED 8" WATERMAIN "A"

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

VAWC CONSTRUCTION SEQUENCING



NOT TO SCALE

CONTRACTOR SHALL CONFIRM CONSTRUCTION SEQUENCE WITH VIRGINIA AMERICAN WATER PRIOR TO BEGINNING WORK.

IN ORDER TO MAINTAIN EXISTING WATER SERVICES TO THE EXTENT POSSIBLE, THE ANTICIPATED CONSTRUCTION SEQUENCE PROPOSED BY VAWC IS AS FOLLOWS:

1. INSTALL WATER MAINS "A" & "B" BETWEEN SEMINARY ROAD AND THE NORTHERN PORTION OF FAIRBANKS AVENUE [SOLID LINE]. COMPLETE PRESSURE TEST AND DISINFECTION.
2. COORDINATE SHUTDOWN OF EXISTING 6" WATER MAIN WITH 5000 FAIRBANKS AVENUE. MAKE CONNECTION.
3. REMOVE EXISTING 6" WATER MAIN AND INSTALL WATER MAIN "E" WITHIN FAIRBANKS AVENUE WITH CONNECTION TO SEMINARY ROAD [DASHED LINE].

(IN FEET)
1 INCH = 30'

ESI Peer Review

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SCALE: HOR. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: [ ] CHECKED: [PITTS] AVBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

WATER LINE PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

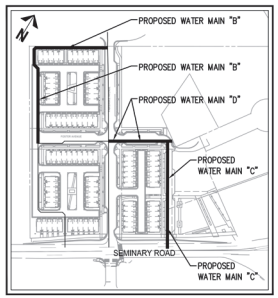
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

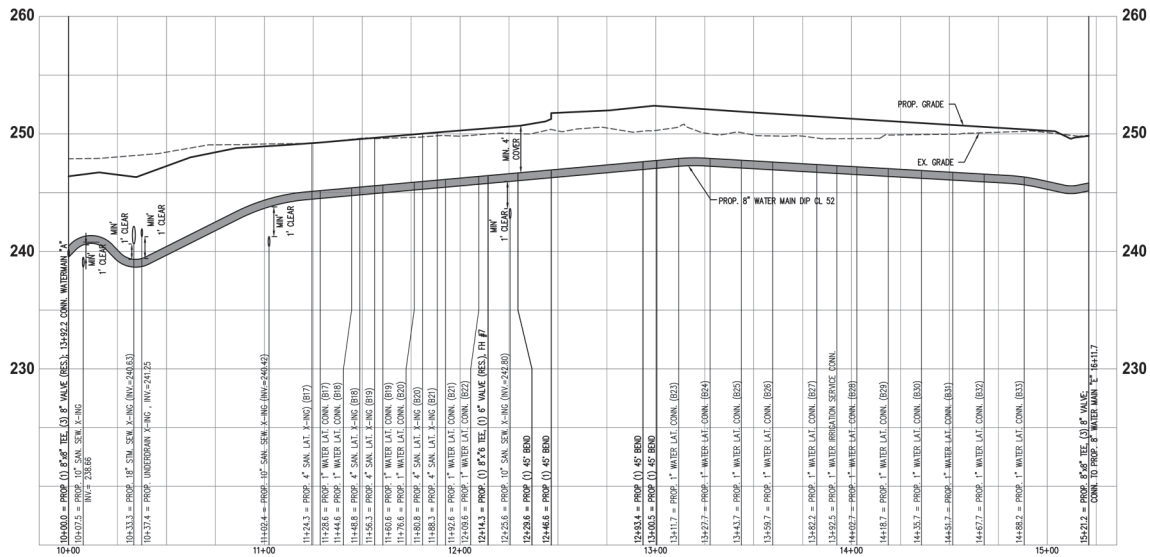
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-1001.dwg

SHEET: C-1001



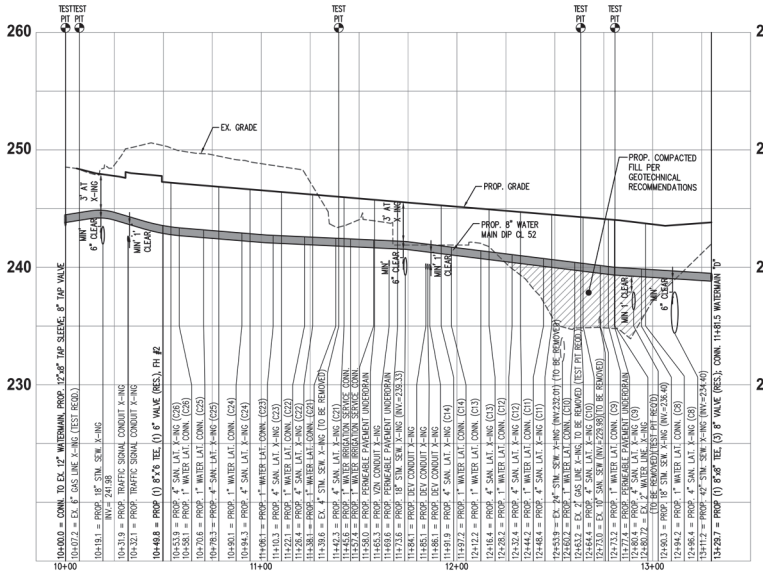
KEY MAP

NOT TO SCALE



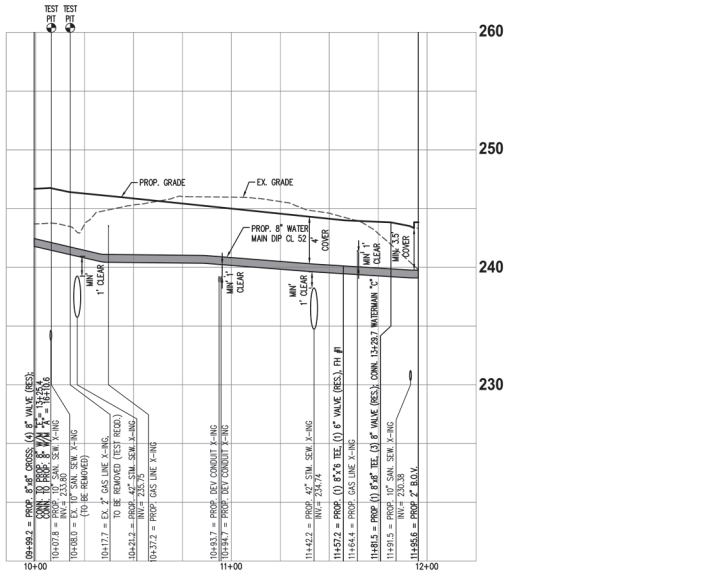
PROPOSED 8" WATERMAIN "B"

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED 8" WATERMAIN "C"

SCALE: HOR. 1" = 30'
VERT. 1" = 5'



PROPOSED WATERMAIN "D"

SCALE: HOR. 1" = 30'
VERT. 1" = 5'

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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SCALE: HOR. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PRT'TSC: | AVBP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/23	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

AARON W. VIRGIN
LIC. No.041851
4/21/2023
PROFESSIONAL ENGINEER

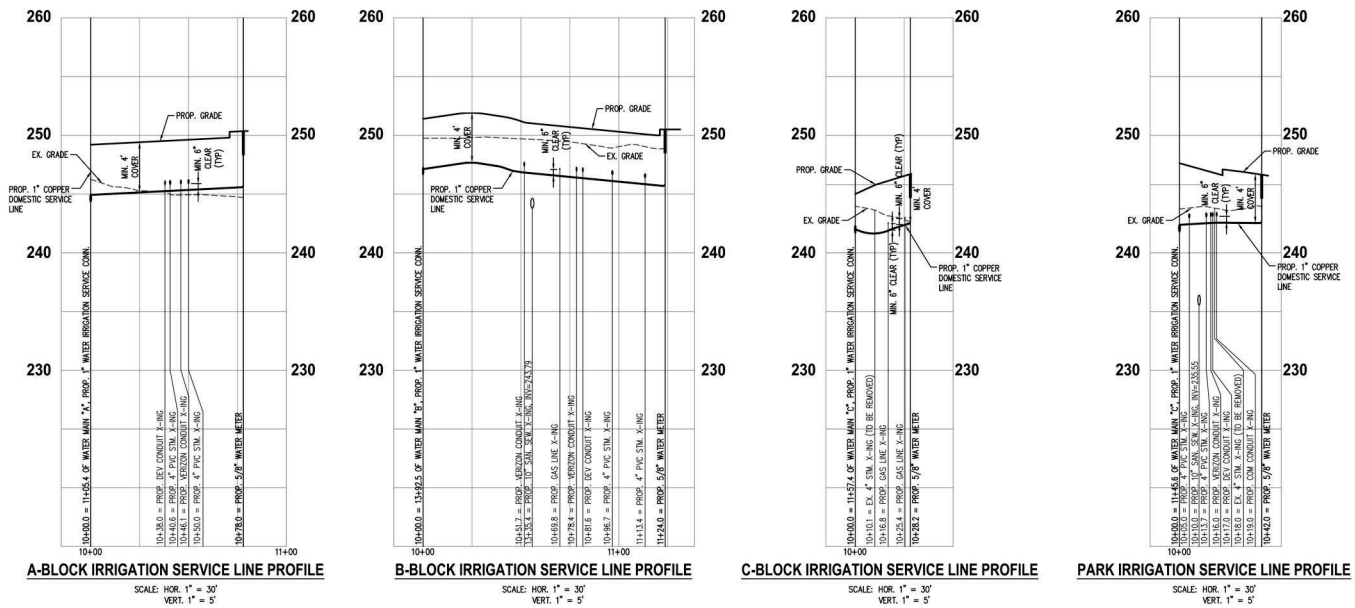
UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

WATER LINE PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\\05073\dwg\Engineering\Site Plan\05073C-1001.dwg

SHEET: C-1002



ESI Peer Review

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SCALE: HOR. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | TSC: | AVB:

DATE	DESCRIPTION	DATE	DESCRIPTION
08/02/21	FSP SUB #1	05/25/22	FSP SUB #3
12/22/21	FSP SUB #2	10/19/22	FSP SUB #4

PLAN STATUS

MARION M. VIRGIN Lic. No.041851 6/21/2023 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

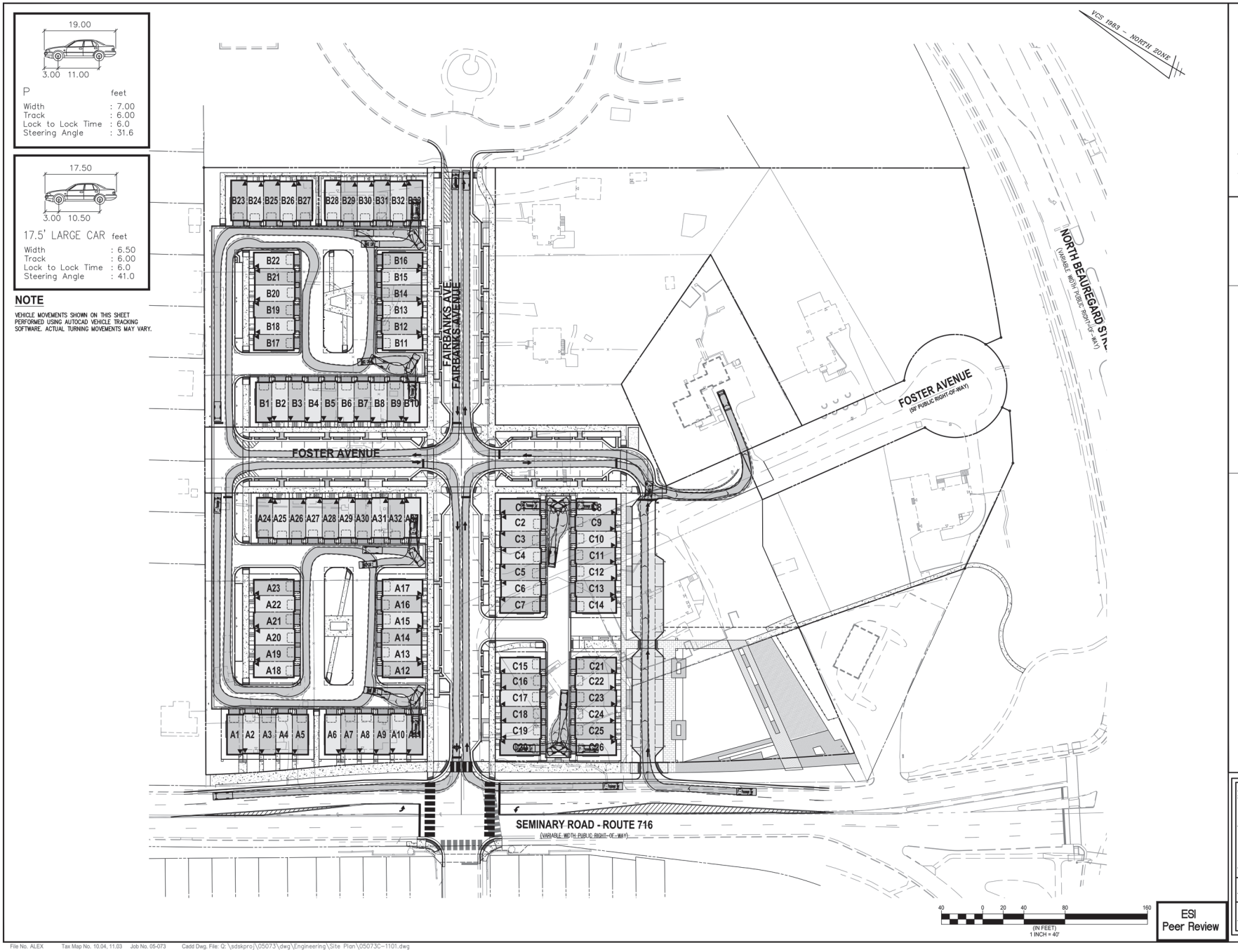
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

WATER LINE PROFILES

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-1001.dwg

SHEET: C-1003



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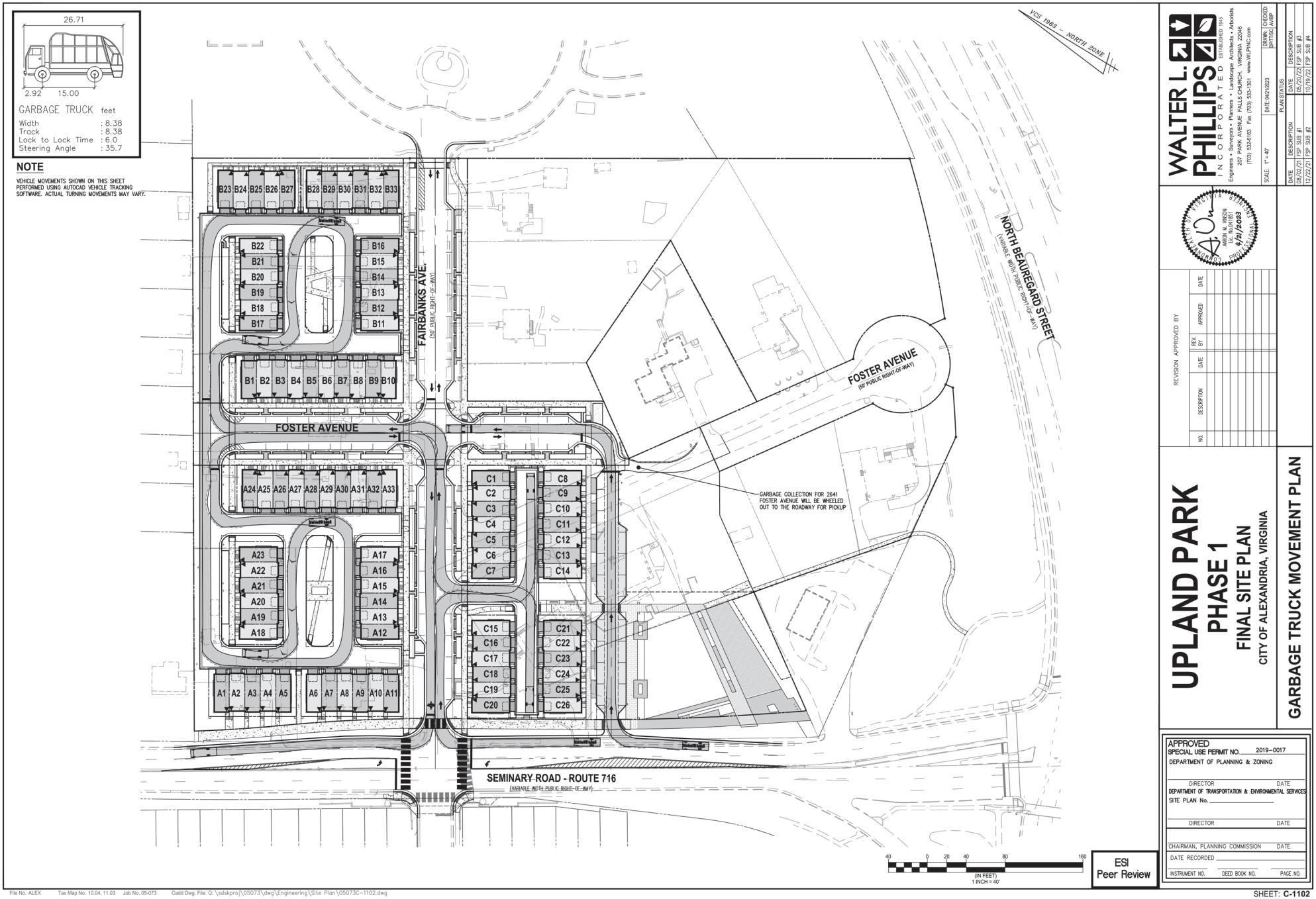
SHEET: C-1101



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SCALE: 1" = 40' | DATE: 04/21/2023 | DRAWN: [illegible] | CHECKED: [illegible] | PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

MARION M. VIRGIN
LIC. No.041851
6/21/2023

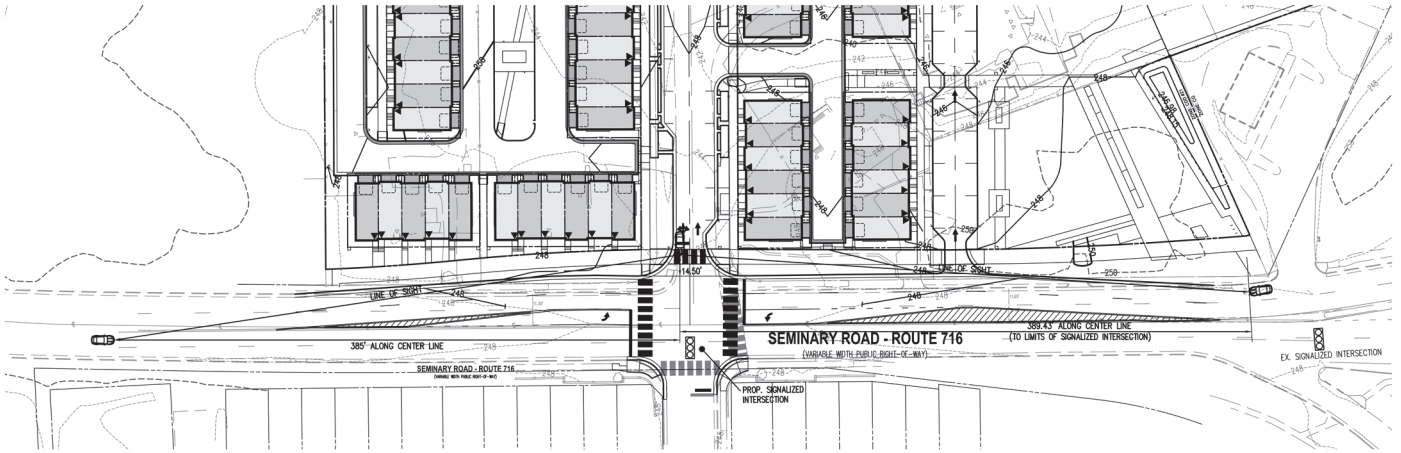
UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

GARBAGE TRUCK MOVEMENT PLAN

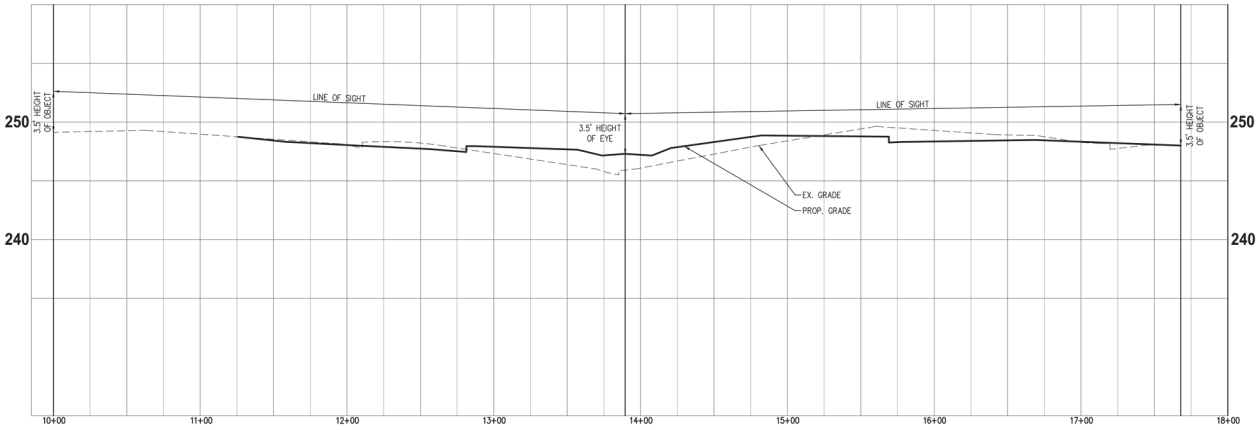
APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-1102.dwg

SHEET: C-1102



PLAN VIEW
POSTED SPEED: 35 MPH
DESIGN SPEED: 40 MPH
SCALE: 1"=40'



PROFILE VIEW
POSTED SPEED: 35 MPH
DESIGN SPEED: 40 MPH
SCALE: 1"=40' (H)
1"=5' (V)

NOTES

1. EXISTING SITE FEATURES REPRESENTS A COMBINATION OF FIELD SURVEY, ALEXANDRIA GIS INFORMATION AND RECORD DATA.
2. ADDITIONAL SITE FEATURES, EASEMENTS AND ENCUMBRANCES MAY BE PRESENT ON SITE.

40 0 20 40 80 160
(IN FEET)
1 INCH = 40'

ESI
Peer Review

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SCALE: HOR. 1" = 40'
VERT. 1" = 5'
DATE: 04/21/2023
DRAWN: | CHECKED: | APPROVED:

DATE	DESCRIPTION
09/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

AARON M. VINSON
LIC. No.041851
6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

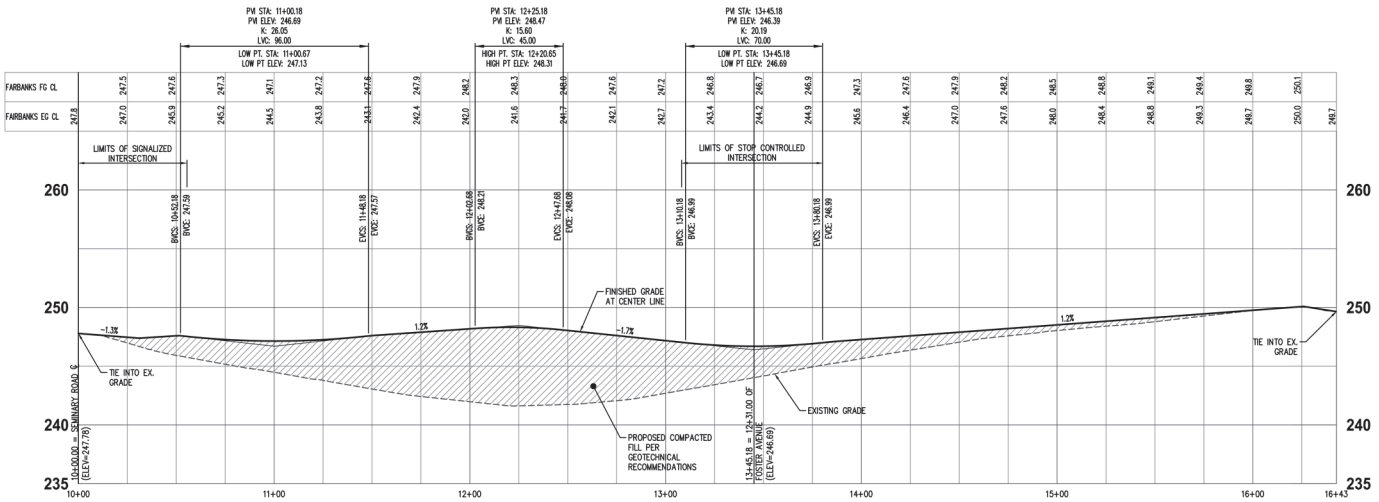
UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SITE DISTANCE PLAN AND PROFILE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

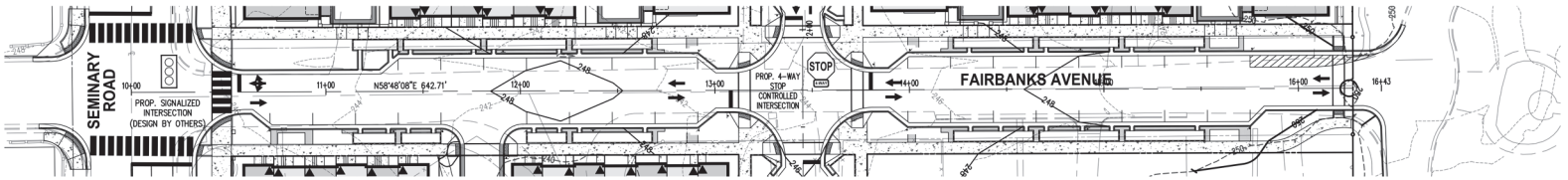
File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskproj\05073\dwg\Engineering\Site Plan\05073C-1103.dwg

SHEET: C-1103



FAIRBANKS AVENUE

POSTED SPEED: 25 MPH
DESIGN SPEED: 25 MPH
SCALE: 1"=30'



NOTES:

1. SEE SHEETS C-0501 – C-0505 FOR GRADING PLAN.
2. SEE SHEET C-0203 FOR PRELIMINARY PAVEMENT SECTION. CONTRACTOR TO CONFIRM PAVEMENT SECTION WITH GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

ESI Peer Review

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SCALE: HORZ. 1" = 30' VERT. 1" = 5' | DATE: 04/21/2023 | DRAWN: | CHECKED: | PRINTED: | AWP

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

PLAN STATUS

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

AARON M. VIRGIN
LIC. No.041651
4/21/2023

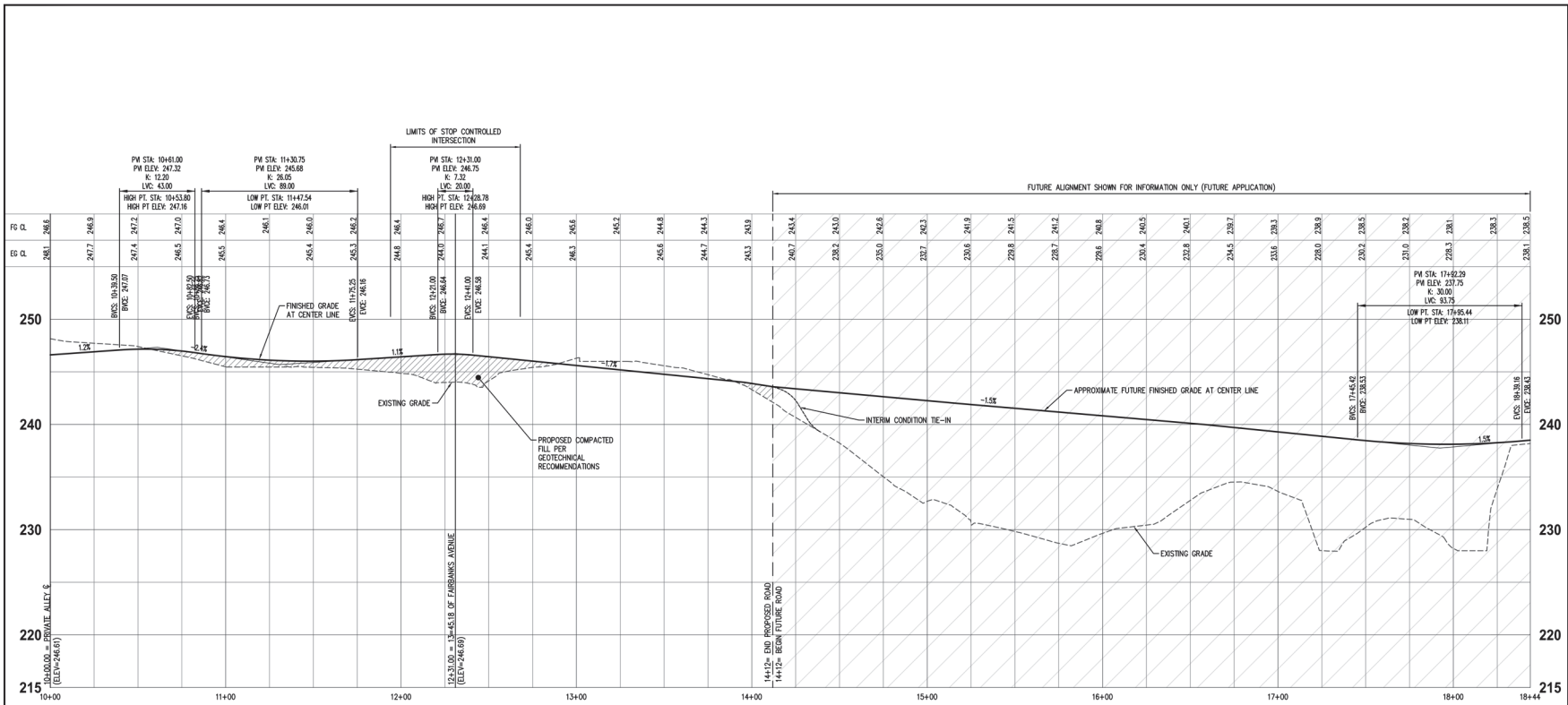
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STREET PROFILE - PROPOSED FAIRBANKS AVE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

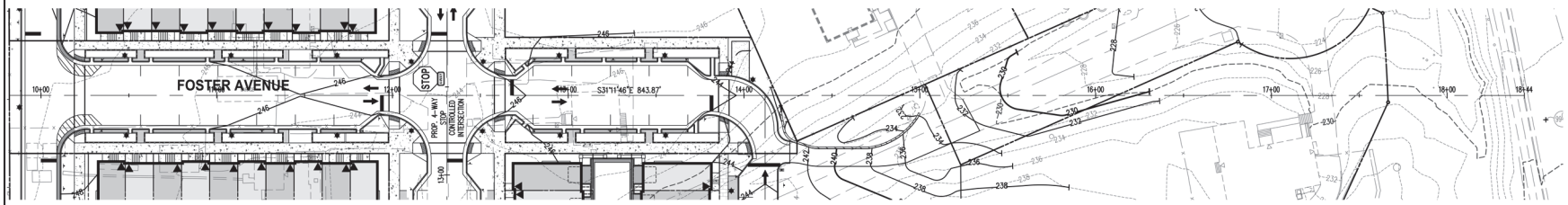
SHEET: C-1104

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-1104.dwg



FOSTER AVENUE

POSTED SPEED: 25 MPH
DESIGN SPEED: 25 MPH
SCALE: 1"=30'



VCS 1983 – NORTH ZONE

NOTES:

1. SEE SHEETS C-0501 – C-0505 FOR GRADING PLAN.
2. SEE SHEET C-0203 FOR PRELIMINARY PAVEMENT SECTION. CONTRACTOR TO CONFIRM PAVEMENT SECTION WITH GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

ESI Peer Review

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SCALE: HORZ. 1" = 30' VERT. 1" = 5'
DATE: 04/21/2023
DRAWN: [ ] CHECKED: [PITTS] [ ] WBP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

COMMONWEALTH OF VIRGINIA — AARON M. VIRGIN — LIC. No.041651 — PROFESSIONAL ENGINEER — 6/21/2023

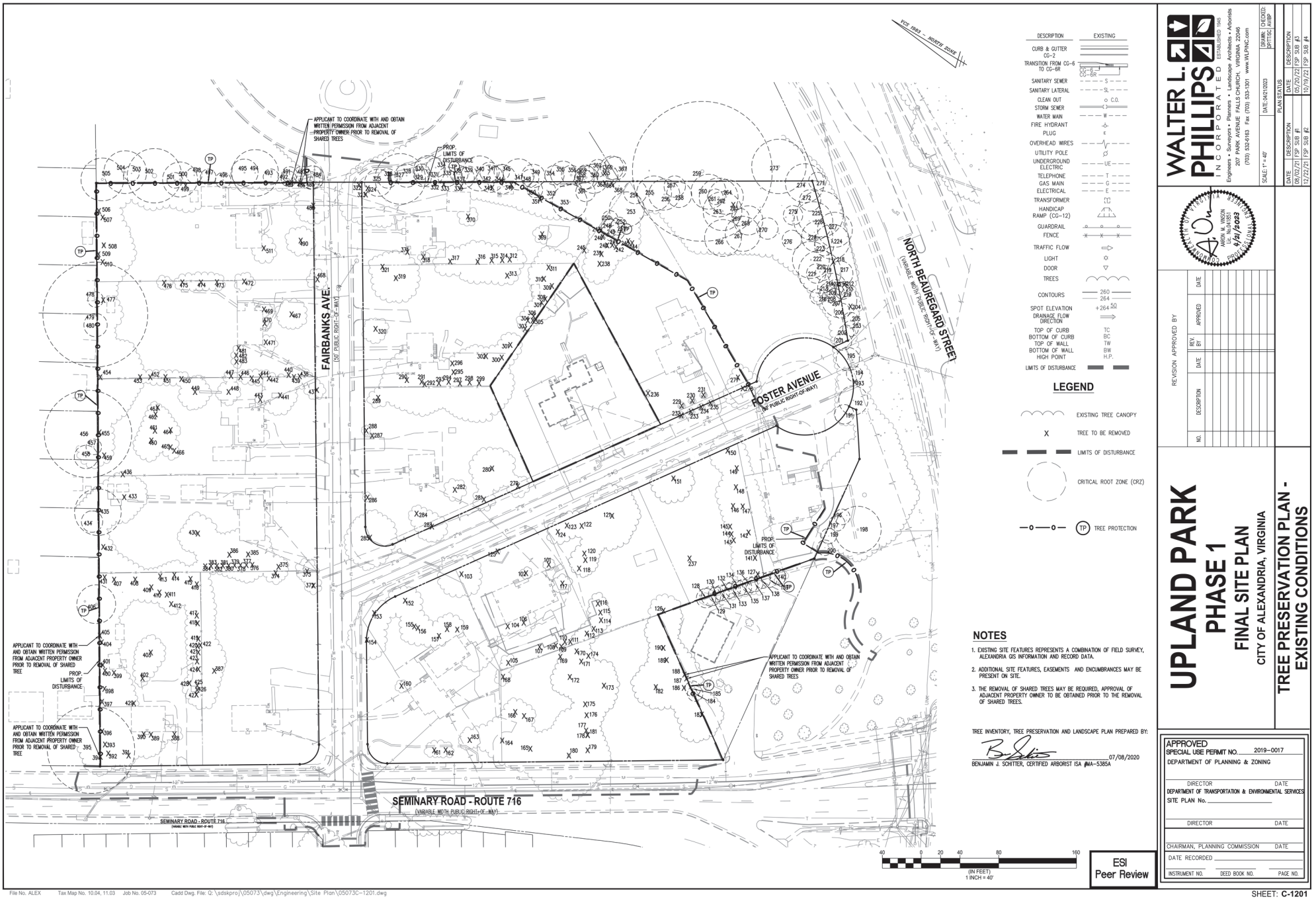
UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

STREET PROFILE - PROPOSED FOSTER AVE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-1105

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskpro\05073\dwg\Engineering\Site Plan\05073C-1104.dwg



DESCRIPTION	EXISTING
CURB & GUTTER CG-2	
TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
SANITARY SEWER	S
SANITARY LATERAL	SL
CLEAN OUT	C.O.
STORM SEWER	
WATER MAIN	W
FIRE HYDRANT	
PLUG	
OVERHEAD WIRES	
UTILITY POLE	
UNDERGROUND ELECTRIC	UE
TELEPHONE	T
GAS MAIN	G
ELECTRICAL	E
TRANSFORMER	
HANDICAP RAMP (CG-12)	
GUARDRAIL	
FENCE	
TRAFFIC FLOW	
LIGHT	
DOOR	
TREES	
CONTOURS	260 264
SPOT ELEVATION	+264.50
DRAINAGE FLOW DIRECTION	
TOP OF CURB	TC
BOTTOM OF CURB	BC
TOP OF WALL	TW
BOTTOM OF WALL	BW
HIGH POINT	H.P.
LIMITS OF DISTURBANCE	

LEGEND

- EXISTING TREE CANOPY
- X TREE TO BE REMOVED
- LIMITS OF DISTURBANCE
- CRITICAL ROOT ZONE (CRZ)
- TP TREE PROTECTION

NOTES

1. EXISTING SITE FEATURES REPRESENTS A COMBINATION OF FIELD SURVEY, ALEXANDRIA GIS INFORMATION AND RECORD DATA.
2. ADDITIONAL SITE FEATURES, EASEMENTS AND ENCUMBRANCES MAY BE PRESENT ON SITE.
3. THE REMOVAL OF SHARED TREES MAY BE REQUIRED, APPROVAL OF ADJACENT PROPERTY OWNER TO BE OBTAINED PRIOR TO THE REMOVAL OF SHARED TREES.

TREE INVENTORY, TREE PRESERVATION AND LANDSCAPE PLAN PREPARED BY:

BENJAMIN J. SCHITTER, CERTIFIED ARBORIST ISA #MA-5385A 07/08/2020

40 0 20 40 80 160
(IN FEET)
1 INCH = 40'

ESI Peer Review

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SCALE: 1" = 40' | DATE: 04/21/2023 | DRWN: | CHCKD: | PPTTBC | AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/25/22	FSP SUB #3
10/19/22	FSP SUB #4

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

TREE PRESERVATION PLAN - EXISTING CONDITIONS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET: C-1201

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-1201.dwg

Alexandria		Tree Inventory						
Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition (%)	Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A 8(05-073) 07/08/2020								
101	Juniperus virginiana	Eastern redcedar	5"	8'	75%	66%	X	
102	Prunus serotina	Black cherry	5"	8'	55%	66%	X	
103	Prunus serotina	Black cherry	30"	45'	55%	59%	X	
104	Morus alba	White mulberry	10"	10'	30%	66%	X	
105	Juniperus virginiana	Eastern redcedar	4"	8'	75%	56%	X	
106	Hibiscus syriacus	Rose-of-sharon	10"	10'	0%	59%	X	
107	Cedrus deodara	Deodar cedar	5"	8'	50%	63%	X	
108	Juniperus virginiana	Eastern redcedar	6"	8'	75%	50%	X	
109	Juniperus virginiana	Eastern redcedar	6"	8'	75%	50%	X	
110	Juniperus virginiana	Eastern redcedar	6"	8'	75%	50%	X	
111	Juniperus virginiana	Eastern redcedar	6"	8'	75%	50%	X	
112	Lagerstroemia indica	Crape Myrtle	10"	10'	78%	63%	X	
113	Lagerstroemia indica	Crape Myrtle	10"	10'	78%	63%	X	
114	Lagerstroemia indica	Crape Myrtle	8"	8'	78%	63%	X	
115	Lagerstroemia indica	Crape Myrtle	6"	8'	78%	63%	X	
116	Lagerstroemia indica	Crape Myrtle	10"	10'	78%	63%	X	
117	Acer palmatum	Japanese maple	5"	8'	80%	69%	X	
118	Quercus phellos	Willow oak	4"	8'	75%	69%	X	
119	Morus alba	White mulberry	12"	12'	30%	63%	X	
120	Pyrus calleryana	Callery pear	3"	8'	20%	63%	X	
121	Quercus phellos	Willow oak	3"	8'	75%	66%	X	
122	Morus alba	White mulberry	4"	8'	30%	63%	X	
123	Ailanthus altissima	Tree-of-heaven	8"	8'	25%	66%	X	
124	Taxus spp.	Yew	12"	12'	40%	63%	X	
125	Dead	Dead	30"	0'	0%	0%	X	
126	Morus alba	White mulberry	18"	18'	30%	50%	X	
127	Prunus serotina	Black cherry	15"	15'	55%	56%	X	multi-stem
128	Juniperus virginiana	Eastern redcedar	10"	10'	75%	59%		
129	Juniperus virginiana	Eastern redcedar	10"	10'	75%	59%		
130	Juniperus virginiana	Eastern redcedar	6"	8'	75%	59%		
131	Juniperus virginiana	Eastern redcedar	5"	8'	75%	56%		
132	Juniperus virginiana	Eastern redcedar	8"	8'	75%	56%		
133	Juniperus virginiana	Eastern redcedar	8"	8'	75%	56%		
134	Juniperus virginiana	Eastern redcedar	8"	8'	75%	56%		
135	Juniperus virginiana	Eastern redcedar	6"	8'	75%	56%		
136	Juniperus virginiana	Eastern redcedar	5"	8'	75%	56%		
137	Juniperus virginiana	Eastern redcedar	5"	8'	75%	56%		
138	Juniperus virginiana	Eastern redcedar	5"	8'	75%	56%		
139	Juniperus virginiana	Eastern redcedar	8"	8'	75%	50%		
140	Juniperus virginiana	Eastern redcedar	8"	8'	75%	50%		
141	Prunus serotina	Black cherry	18"	18'	55%	53%	X	
142	Prunus serotina	Black cherry	15"	15'	55%	53%	X	
143	Prunus serotina	Black cherry	6"	8'	55%	63%	X	
144	Pyrus calleryana	Callery pear	6"	8'	20%	63%	X	
145	Morus alba	White mulberry	4"	8'	30%	63%	X	
146	Morus alba	White mulberry	8"	8'	30%	63%	X	
147	Morus alba	White mulberry	15"	15'	30%	50%	X	
148	Prunus serotina	Black cherry	15"	15'	55%	50%	X	
149	Prunus serotina	Black cherry	10"	10'	55%	50%	X	
150	Prunus serotina	Black cherry	15"	15'	55%	66%	X	
151	Prunus serotina	Black cherry	14"	14'	55%	69%	X	
152	Juglans nigra	Black walnut	20"	20'	68%	66%	X	
153	Juglans nigra	Black walnut	10"	10'	68%	50%	X	
154	Liriodendron tulipifera	Yellow-poplar	26"	26'	70%	66%	X	
155	Juniperus virginiana	Eastern redcedar	15"	15'	75%	63%	X	
156	Juniperus virginiana	Eastern redcedar	15"	15'	75%	63%	X	
157	Juniperus virginiana	Eastern redcedar	10"	10'	75%	50%	X	
158	Juniperus virginiana	Eastern redcedar	15"	15'	75%	50%	X	
159	Morus alba	White mulberry	15"	15'	30%	63%	X	
160	Lonicera japonica	Japanese honeysuckle	5"	8'	0%	63%	X	
161	Juniperus virginiana	Eastern redcedar	3"	8'	75%	66%	X	
162	Ailanthus altissima	Tree-of-heaven	4"	8'	25%	66%	X	
163	Lagerstroemia indica	Crape Myrtle	10"	10'	78%	63%	X	
164	Quercus phellos	Willow oak	37"	56'	75%	66%	X	
165	Pinus virginiana	Virginia pine	18"	18'	50%	59%	X	
166	Quercus alba	White oak	8"	8'	88%	59%	X	
167	Diospyros virginiana	Common persimmon	7"	8'	70%	56%	X	
168	Pyrus calleryana	Callery pear	6"	8'	20%	66%	X	
169	Pyrus calleryana	Callery pear	4"	8'	20%	63%	X	
170	Pyrus calleryana	Callery pear	10"	10'	20%	59%	X	
171	Prunus serotina	Black cherry	10"	10'	55%	56%	X	
172	Acer rubrum	Red maple	20"	20'	70%	63%	X	
173	Robinia pseudoacacia	Black locust	21"	21'	55%	53%	X	
174	Morus alba	White mulberry	4"	8'	30%	59%	X	
175	Juniperus virginiana	Eastern redcedar	9"	9'	75%	50%	X	
176	Juniperus virginiana	Eastern redcedar	13"	13'	75%	63%	X	
177	Juniperus virginiana	Eastern redcedar	10"	10'	75%	63%	X	
178	Juniperus virginiana	Eastern redcedar	6"	8'	75%	59%	X	
179	Juniperus virginiana	Eastern redcedar	12"	12'	75%	59%	X	
180	Quercus phellos	Willow oak	4"	8'	75%	66%	X	twin

Alexandria		Tree Inventory						
Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition (%)	Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A 8(05-073) 07/08/2020								
181	Quercus palustris	Pin oak	7"	8'	70%	53%	X	
182	Morus alba	White mulberry	30"	45'	30%	56%	X	
183	Morus alba	White mulberry	15"	15'	30%	63%	X	
184	Pyrus calleryana	Callery pear	8"	8'	20%	63%		
185	Pyrus calleryana	Callery pear	8"	8'	20%	63%		
186	Robinia pseudoacacia	Black locust	9"	9'	55%	59%	X	
187	Robinia pseudoacacia	Black locust	13"	13'	55%	59%	X	
188	Robinia pseudoacacia	Black locust	13"	13'	55%	50%	X	
189	Robinia pseudoacacia	Black locust	13"	13'	55%	53%	X	
190	Robinia pseudoacacia	Black locust	13"	13'	55%	63%	X	
191	Prunus serotina	Black cherry	10"	10'	55%	56%		
192	Ulmus spp.	Elm	15"	15'	60%	63%		
193	Dead	Dead	18"	0'	0%	0%	X	
194	Morus alba	White mulberry	8"	8'	30%	63%		
195	Ulmus spp.	Elm	12"	12'	60%	50%		
196	Juniperus virginiana	Eastern redcedar	8"	8'	75%	63%		
197	Juniperus virginiana	Eastern redcedar	4"	8'	75%	63%		
198	Quercus phellos	Willow oak	24"	24'	75%	66%		
199	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%		
200	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%		
201	Morus alba	White mulberry	9"	9'	30%	63%		
202	Ailanthus altissima	Tree-of-heaven	8"	8'	25%	56%		
203	Ulmus spp.	Elm	8"	8'	60%	50%		
204	Dead	Dead	10"	0'	0%	10%	X	
205	Ulmus spp.	Elm	8"	8'	60%	63%		
206	Ulmus spp.	Elm	8"	8'	60%	63%		
207	Ailanthus altissima	Tree-of-heaven	18"	18'	25%	56%		twin
208	Ailanthus altissima	Tree-of-heaven	6"	8'	25%	50%		
209	Ailanthus altissima	Tree-of-heaven	9"	9'	25%	50%		
210	Ailanthus altissima	Tree-of-heaven	6"	8'	25%	41%		
211	Ailanthus altissima	Tree-of-heaven	6"	8'	25%	50%		
212	Dead	Dead	6"	0'	0%	0%	X	
213	Acer platanoides	Norway maple	8"	8'	55%	59%		
214	Ailanthus altissima	Tree-of-heaven	15"	15'	25%	59%		
215	Acer platanoides	Norway maple	6"	8'	55%	63%		
216	Prunus serotina	Black cherry	7"	8'	55%	63%		
217	Robinia pseudoacacia	Black locust	13"	13'	55%	63%		
218	Dead	Dead	18"	0'	0%	0%	X	
219	Ailanthus altissima	Tree-of-heaven	6"	8'	25%	53%		
220	Ailanthus altissima	Tree-of-heaven	22"	22'	25%	59%		twin
221	Ailanthus altissima	Tree-of-heaven	10"	10'	25%	56%		
222	Ailanthus altissima	Tree-of-heaven	19"	19'	25%	63%		
223	Robinia pseudoacacia	Black locust	10"	10'	55%	56%		
224	Robinia pseudoacacia	Black locust	18"	18'	55%	50%		
225	Robinia pseudoacacia	Black locust	24"	24'	55%	63%		
226	Robinia pseudoacacia	Black locust	20"	20'	55%	63%		
227	Robinia pseudoacacia	Black locust	18"	18'	55%	56%		
228	Ulmus spp.	Elm	16"	16'	60%	50%		
229	Lagerstroemia indica	Crape Myrtle	4"	8'	78%	59%	X	
230	Lagerstroemia indica	Crape Myrtle	4"	8'	78%	59%	X	
231	Lagerstroemia indica	Crape Myrtle	4"	8'	78%	59%	X	
232	Lagerstroemia indica	Crape Myrtle	4"	8'	78%	59%	X	
233	Lagerstroemia indica	Crape Myrtle	4"	8'	78%	59%	X	
234	Lagerstroemia indica	Crape Myrtle	4"	8'	78%	59%	X	
235	Lagerstroemia indica	Crape Myrtle	4"	8'	78%	59%	X	
236	Pyrus calleryana	Callery pear	4"	8'	20%	66%	X	
237	Acer platanoides	Norway maple	4"	8'	55%	66%	X	
238	Ulmus spp.	Elm	20"	20'	60%	66%	X	
239	Pinus virginiana	Virginia pine	18"	18'	50%	63%	X	
240	Pinus virginiana	Virginia pine	15"	15'	50%	63%	X	
241	Pinus virginiana	Virginia pine	13"	13'	50%	63%	X	
242	Dead	Dead	8"	0'	0%	0%	X	
243	Pinus virginiana	Virginia pine	13"	13'	50%	66%	X	
244	Quercus phellos	Willow oak	10"	10'	75%	66%	X	
245	Juniperus virginiana	Eastern redcedar	6"	8'	75%	69%	X	
246	Dead	Dead	5"	0'	0%	0%	X	
247	Quercus rubra	Northern red oak	6"	8'	75%	41%	X	
248	Pinus virginiana	Virginia pine	9"	9'	50%	63%		
249	Pinus virginiana	Virginia pine	12"	12'	50%	63%		
250	Pinus virginiana	Virginia pine	6"	8'	50%	59%		
251	Pinus virginiana	Virginia pine	5"	8'	50%	59%		
252	Pinus virginiana	Virginia pine	7"	8'	50%	59%		
253	Pinus virginiana	Virginia pine	18"	18'	50%	66%		
254	Quercus prinus	Chestnut oak	12"	12'	75%	63%		
255	Quercus prinus	Chestnut oak	18"	18'	75%	50%		
256	Quercus prinus	Chestnut oak	16"	16'	75%	56%		
257	Quercus prinus	Chestnut oak	11"	11'	75%	63%		
258	Quercus prinus	Chestnut oak	13"	13'	75%	63%		
259	Quercus alba	White oak	48"	72'	88%	59%		
260	Quercus prinus	Chestnut oak	18"	18'	75%	63%		

Alexandria		Tree Inventory						
Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition (%)	Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A 8(05-073) 07/08/2020								
261	Quercus prinus	Chestnut oak	5"	8'	75%	50%		
262	Quercus prinus	Chestnut oak	20"	20'	75%	50%		
263	Quercus alba	White oak	20"	20'	88%	53%		
264	Quercus prinus	Chestnut oak	18"	18'	75%	56%		
265	Dead	Dead	15"	0'	0%	0%	X	
266	Ulmus spp.	Elm	19"	19'	60%	66%		
267	Morus alba	White mulberry	18"	18'	30%	59%		
268	Ailanthus altissima	Tree-of-heaven	15"	15'	25%	50%		
269	Morus alba	White mulberry	9"	9'	30%	56%		
270	Ailanthus altissima	Tree-of-heaven	11"	11'	25%	63%		
271	Acer platanoides	Norway maple	9"	9'	55%	63%		
272	Ulmus spp.	Elm	11"	11'	60%	63%		
273	Nyssa sylvatica	Blackgum	28"	28'	80%	66%		
274	Morus alba	White mulberry	20"	20'	30%	66%		
275	Ailanthus altissima	Tree-of-heaven	10"	10'	25%	63%		
276	Ailanthus altissima	Tree-of-heaven	10"	10'	25%	63%		
277	Picea abies	Norway spruce	10"	10'	55%	66%	X	
278	Picea abies	Norway spruce	18"	18'	55%	50%	X	
279	Pyrus calleryana	Callery pear	6"	8'	20%	69%	X	
280	Magnolia x soulangiana	Saucer magnolia	20"	20'	70%	69%	X	
281	Prunus serotina	Black cherry	9"	9'	55%	66%	X	
282	Dead	Dead	9"	0'	0%	0%	X	
283	Prunus spp.	Ornamental Cherry	18"	18'	55%	63%	X	
284	Prunus serotina	Black cherry	8"	8'	55%	69%	X	
285	Pyrus calleryana	Callery pear	16"	16'	20%	63%	X	
286	Prunus serotina	Black cherry	3"	8'	55%	66%	X	
287	Prunus serotina	Black cherry	3"	8'	55%	66%	X	
288	Prunus serotina	Black cherry	6"	8'	55%	66%	X	
289	Pyrus calleryana	Callery pear	8"	8'	20%	69%	X	
290	Acer rubrum	Red maple	25"	25'	70%	59%	X	
291	Cedrus deodara	Deodar cedar	28"	28'	50%	63%	X	
292	Cedrus deodara	Deodar cedar	24"	24'	50%	66%	X	
293	Ilex opaca	American holly	4"	8'	73%	66%	X	
294	Ilex opaca	American holly	6"	8'	73%	63%	X	
295	Ilex opaca	American holly	8"	8'	73%	63%	X	
296	Prunus serotina	Black cherry	3"	8'	55%	63%	X	
297	Pinus strobus	Eastern white pine	20"	20'	55%	66%	X	
298	Pinus strobus	Eastern white pine	10"	10'	55%	66%	X	
299	Pinus strobus	Eastern white pine	26"	26'	55%	66%	X	
300	Magnolia grandiflora	Southern magnolia	16"	16'	70%	66%	X	
301	Magnolia grandiflora	Southern magnolia	10"	10'	70%	66%	X	
302	Quercus phellos	Willow oak	5"	8'	75%	69%	X	
303	Juniperus virginiana	Eastern redcedar	5"	8'	75%	69%	X	
304	Ilex opaca	American holly	8"	8'	73%	63%	X	
305	Ilex opaca	American holly	5"	8'	73%	63%	X	
306	Ilex opaca	American holly	6"	8'	73%	63%	X	
307	Ilex opaca	American holly	8"	8'	73%	66%	X	
308	Ilex opaca	American holly	8"	8'	73%	66%	X	
309	Ilex opaca	American holly	9"	9'	73%	69%	X	
310	Pinus strobus	Eastern white pine	8"	8'	55%	66%	X	
311	Magnolia grandiflora	Southern magnolia	14"	14'	70%	63%	X	
312	Juniperus virginiana	Eastern redcedar	8"	8'	75%	59%	X	
313	Ilex opaca	American holly	6"	8'	73%	66%	X	
314	Juniperus virginiana	Eastern redcedar	10"	10'	75%	63%	X	
315	Juniperus virginiana	Eastern redcedar	8"	8'	75%	66%	X	
316	Ilex opaca	American holly	16"	16'	73%	66%	X	
317	Juniperus virginiana	Eastern redcedar	12"	12'	75%	66%	X	
318	Ailanthus altissima	Tree-of-heaven	4"	8'	25%	66%	X	
319	Pinus strobus	Eastern white pine	24"	24'	55%	59%	X	
320	Acer saccharinum	Silver maple	10"	10'	45%	53%	X	
321	Quercus phellos	Willow oak	5"	8'	75%	66%	X	
322	Quercus phellos	Willow oak	9"	9'	75%	66%	X	
323	Dead	Dead	20"	0'	0%	0%	X	
324	Carya glabra	Pignut hickory	3"	8'	75%	63%	X	
325	Quercus prinus	Chestnut oak	14"	14'	75%	47%		
326	Quercus alba	White oak	10"	10'	88%	63%		
327	Quercus alba	White oak	26"	26'	88%	63%		
328	Quercus rubra	Northern red oak	12"	12'	75%	50%		
329	Carya glabra	Pignut hickory	9"	9'	75%	63%		
330	Quercus alba	White oak	8"	8'	88%	50%		
331	Quercus rubra	Northern red oak	16"	16'	75%	38%		
332	Pinus virginiana	Virginia pine	11"	11'	50%	59%	X	
333	Pinus virginiana	Virginia pine	13"	13'	50%	59%	X	
334	Quercus alba	White oak	10"	10'	88%	66%		
335	Quercus alba	White oak	10"	10'	88%	66%		
336	Carya glabra	Pignut hickory	12"	12'	75%	63%	X	
337	Quercus prinus	Chestnut oak	11"	11'	75%	63%		
338	Quercus prinus	Chestnut oak	9"	9'	75%	63%		
339	Quercus prinus	Chestnut oak	6"	8'	75%	63%		
340	Quercus alba	White oak	18"	18'	88%	63%		

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PERMIT SUBMITTED: | AWP

PLAN STATUS

DATE	DESCRIPTION
09/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/25/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VINSON — LIC. No.041851 — PROFESSIONAL ENGINEER — 6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING TREE INVENTORY

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-1201.dwg

SHEET: C-1202

Alexandria		Tree Inventory							
Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition (%)	Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #(05-073) 07/08/2020								
341	Quercus alba	White oak	10"	10'	88%	59%		
342	Quercus alba	White oak	14"	14'	88%	66%		
343	Pinus strobus	Eastern white pine	18"	18'	55%	63%	X	
344	Quercus prinus	Chestnut oak	15"	15'	75%	63%		
345	Quercus rubra	Northern red oak	8"	8'	75%	63%		
346	Carya glabra	Pignut hickory	14"	14'	75%	63%	X	twin
347	Quercus alba	White oak	16"	16'	88%	66%		
348	Nyssa sylvatica	Blackgum	9"	9'	80%	63%		
349	Liriodendron tulipifera	Yellow-poplar	12"	12'	70%	69%		
350	Robinia pseudoacacia	Black locust	5"	8'	55%	66%		
351	Pinus virginiana	Virginia pine	15"	15'	50%	63%	X	
352	Quercus marilandica	Blackjack oak	9"	9'	75%	56%		
353	Pinus virginiana	Virginia pine	18"	18'	50%	63%		
354	Quercus prinus	Chestnut oak	10"	10'	75%	56%		
355	Quercus prinus	Chestnut oak	13"	13'	75%	56%		
356	Quercus prinus	Chestnut oak	10"	10'	75%	56%		
357	Quercus prinus	Chestnut oak	10"	10'	75%	56%		
358	Quercus prinus	Chestnut oak	12"	12'	75%	56%		
359	Quercus prinus	Chestnut oak	9"	9'	75%	56%		
360	Quercus prinus	Chestnut oak	15"	15'	75%	56%		twin
361	Pinus virginiana	Virginia pine	10"	10'	50%	59%		
362	Quercus prinus	Chestnut oak	9"	9'	75%	63%		
363	Dead	Dead	14"	0'	0%	0%	X	
364	Dead	Dead	14"	0'	0%	0%	X	
365	Quercus prinus	Chestnut oak	11"	11'	75%	50%		
366	Quercus prinus	Chestnut oak	12"	12'	75%	63%		
367	Quercus prinus	Chestnut oak	12"	12'	75%	63%		
368	Dead	Dead	10"	0'	0%	63%		
369	Prunus spp.	Ornamental Cherry	4"	8'	55%	69%	X	
370	Juniperus virginiana	Eastern redcedar	12"	12'	75%	66%	X	
371	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
372	Prunus spp.	Ornamental Cherry	8"	8'	55%	56%	X	
373	Morus alba	White mulberry	13"	13'	30%	63%	X	
374	Pyrus calleryana	Callery pear	6"	8'	20%	66%	X	
375	Lagerstroemia indica	Crape Myrtle	10"	10'	78%	66%	X	
376	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
377	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
378	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
379	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
380	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
381	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
382	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
383	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
384	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
385	Quercus palustris	Pin oak	30"	45'	70%	63%	X	
386	Quercus phellos	Willow oak	20"	20'	75%	66%	X	
387	Morus alba	White mulberry	12"	12'	30%	50%	X	
388	Quercus palustris	Pin oak	4"	8'	70%	66%	X	
389	Thuja occidentalis	Northern white-cedar	14"	14'	60%	59%	X	
390	Thuja occidentalis	Northern white-cedar	12"	12'	60%	59%	X	
391	Diospyros virginiana	Common persimmon	9"	9'	70%	63%	X	
392	Gleditsia triacanthos	Honeylocust	11"	11'	55%	53%	X	
393	Quercus phellos	Willow oak	6"	8'	75%	66%	X	
394	Quercus prinus	Chestnut oak	14"	14'	75%	63%	X	
395	Quercus phellos	Willow oak	30"	45'	75%	59%		twin
396	Quercus phellos	Willow oak	30"	45'	75%	66%	X	
397	Dead	Dead	36"	0'	0%	0%	X	
398	Ulmus spp.	Elm	7"	8'	60%	63%	X	
399	Quercus phellos	Willow oak	12"	12'	75%	66%	X	
400	Ulmus spp.	Elm	9"	9'	60%	66%	X	
401	Ulmus spp.	Elm	9"	9'	60%	66%	X	
402	Ilex opaca	American holly	8"	8'	73%	66%	X	
403	Acer rubrum	Red maple	21"	21'	70%	69%	X	
404	Robinia pseudoacacia	Black locust	18"	18'	55%	50%	X	
405	Quercus phellos	Willow oak	16"	16'	75%	63%	X	
406	Quercus alba	White oak	20"	20'	88%	66%		co-dom
407	Quercus phellos	Willow oak	20"	20'	75%	63%	X	
408	Quercus phellos	Willow oak	10"	10'	75%	63%	X	
409	Quercus alba	White oak	9"	9'	88%	66%	X	
410	Pyrus calleryana	Callery pear	5"	8'	20%	66%	X	
411	Pyrus calleryana	Callery pear	11"	11'	20%	66%	X	
412	Morus alba	White mulberry	8"	8'	30%	53%	X	
413	Robinia pseudoacacia	Black locust	7"	8'	55%	63%	X	
414	Ulmus spp.	Elm	6"	8'	60%	63%	X	
415	Ulmus spp.	Elm	15"	15'	60%	66%	X	
416	Dead	Dead	15"	0'	0%	0%	X	
417	Juniperus virginiana	Eastern redcedar	9"	9'	75%	63%	X	
418	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
419	Juniperus virginiana	Eastern redcedar	13"	13'	75%	63%	X	
420	Juniperus virginiana	Eastern redcedar	10"	10'	75%	63%	X	

Alexandria		Tree Inventory							
Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition (%)	Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #(05-073) 07/08/2020								
421	Juniperus virginiana	Eastern redcedar	12"	12'	75%	63%	X	
422	Ulmus spp.	Elm	10"	10'	60%	66%	X	
423	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
424	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
425	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
426	Juniperus virginiana	Eastern redcedar	6"	8'	75%	63%	X	
427	Pyrus calleryana	Callery pear	6"	8'	20%	66%	X	
428	Quercus phellos	Willow oak	10"	10'	75%	63%	X	
429	Quercus phellos	Willow oak	6"	8'	75%	66%	X	
430	Quercus phellos	Willow oak	24"	24'	75%	66%	X	
431	Quercus phellos	Willow oak	5"	8'	75%	63%	X	
432	Dead	Dead	9"	0'	0%	0%	X	
433	Quercus phellos	Willow oak	28"	28'	75%	66%	X	
434	Quercus alba	White oak	11"	11'	88%	66%		
435	Quercus alba	White oak	24"	24'	88%	63%		
436	Pinus strobus	Eastern white pine	5"	8'	55%	56%	X	
437	Quercus phellos	Willow oak	16"	16'	75%	59%	X	twin
438	Quercus phellos	Willow oak	16"	16'	75%	66%	X	triple
439	Pyrus calleryana	Callery pear	4"	8'	20%	56%	X	
440	Quercus phellos	Willow oak	6"	8'	75%	66%	X	
441	Prunus serotina	Black cherry	15"	15'	55%	53%	X	twin
442	Quercus palustris	Pin oak	12"	12'	70%	66%	X	
443	Prunus serotina	Black cherry	9"	9'	55%	63%	X	
444	Quercus phellos	Willow oak	6"	8'	75%	59%	X	
445	Pyrus calleryana	Callery pear	6"	8'	20%	63%	X	
446	Robinia pseudoacacia	Black locust	12"	12'	55%	66%	X	
447	prunus serotina	Black cherry	6"	8'	55%	63%	X	
448	Ulmus spp.	Elm	8"	8'	60%	63%	X	twin
449	Prunus serotina	Black cherry	16"	16'	55%	59%	X	twin
450	Ligustrum spp.	Privet	9"	9'	30%	63%	X	
451	Quercus phellos	Willow oak	7"	8'	75%	66%	X	
452	Quercus phellos	Willow oak	7"	8'	75%	66%	X	
453	Carya glabra	Pignut hickory	5"	8'	75%	66%	X	
454	Quercus phellos	Willow oak	48"	72'	75%	66%	X	
455	Pyrus calleryana	Callery pear	5"	8'	20%	66%	X	
456	Quercus palustris	Pin oak	30"	45'	70%	50%		twin
457	Quercus alba	White oak	7"	8'	88%	66%		
458	Quercus alba	White oak	12"	12'	88%	66%		
459	Quercus alba	White oak	4"	8'	88%	63%	X	
460	Quercus alba	White oak	20"	20'	88%	63%	X	
461	Juniperus virginiana	Eastern redcedar	8"	8'	75%	66%	X	
462	Juniperus virginiana	Eastern redcedar	10"	10'	75%	63%	X	
463	Quercus phellos	Willow oak	6"	8'	75%	63%	X	
464	Prunus serotina	Black cherry	12"	12'	55%	47%	X	
465	Prunus serotina	Black cherry	7"	8'	55%	63%	X	
466	Prunus serotina	Black cherry	8"	8'	55%	47%	X	
467	Tilia cordata	Littleleaf linden	20"	20'	73%	69%	X	
468	Ligustrum spp.	Privet	10"	10'	30%	66%	X	
469	Ilex opaca	American holly	14"	14'	73%	63%	X	
470	Ilex opaca	American holly	9"	9'	73%	66%	X	
471	Juniperus virginiana	Eastern redcedar	12"	12'	75%	66%	X	
472	Ligustrum spp.	Privet	6"	8'	30%	66%	X	
473	Acer rubrum	Red maple	10"	10'	70%	56%	X	
474	Morus alba	White mulberry	8"	8'	30%	53%	X	
475	Ailanthus altissima	Tree-of-heaven	15"	15'	25%	63%	X	multi-stem
476	Morus alba	White mulberry	10"	10'	30%	59%	X	
477	Ailanthus altissima	Tree-of-heaven	4"	8'	25%	63%	X	
478	Prunus serotina	Black cherry	4"	8'	55%	53%		
479	Quercus alba	White oak	36"	54'	88%	63%		
480	Quercus alba	White oak	12"	12'	88%	63%		
481	Morus alba	White mulberry	10"	10'	30%	66%	X	
482	Quercus phellos	Willow oak	10"	10'	75%	66%	X	
483	Prunus serotina	Black cherry	6"	8'	55%	66%	X	
484	Quercus rubra	Northern red oak	12"	12'	75%	66%		multi-stem
485	Pinus sylvestris	Scots pine	9"	9'	60%	59%		twin
486	Pinus sylvestris	Scots pine	9"	9'	60%	66%	X	
487	Pinus sylvestris	Scots pine	9"	9'	60%	66%		
488	Juniperus virginiana	Eastern redcedar	15"	15'	75%	66%	X	
489	Quercus alba	White oak	12"	12'	88%	66%	X	
490	Prunus serotina	Black cherry	15"	15'	55%	50%	X	
491	Quercus alba	White oak	8"	8'	88%	66%		
492	Quercus alba	White oak	5"	8'	88%	66%		
493	Pinus sylvestris	Scots pine	5"	8'	60%	63%		
494	Quercus prinus	Chestnut oak	24"	24'	75%	66%		triple trunk
495	Quercus alba	White oak	14"	14'	88%	66%		
496	Ulmus spp.	Elm	5"	8'	60%	50%		
497	Quercus alba	White oak	6"	8'	88%	59%		
498	Quercus prinus	Chestnut oak	8"	8'	75%	63%		
499	Quercus alba	White oak	24"	24'	88%	63%	X	
500	Quercus alba	White oak	18"	18'	88%	53%		

Alexandria		Tree Inventory						
Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition (%)	Removal	Notes
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #(05-073) 07/08/2020								
501	Quercus prinus	Chestnut oak	5"	8'	75%	56%		
502	Quercus rubra	Northern red oak	28"	28'	75%	50%		
503	Carya glabra	Pignut hickory	5"	8'	75%	66%		
504	Quercus alba	White oak	22"	22'	88%	66%		
505	Quercus alba	White oak	22"	22'	88%	63%		
506	Quercus phellos	Willow oak	25"	25'	75%	66%	X	
507	Quercus alba	White oak	18"	18'	88%	66%	X	
508	Quercus phellos	Willow oak	28"	28'	75%	66%	X	
509	Quercus phellos	Willow oak	36"	54'	75%	66%	X	
510	quercus alba	White oak	12"	12'	88%	66%	X	
511	Juniperus virginiana	Eastern redcedar	20"	20'	75%	66%	X	

DBH = Diameter at Breast Height (measured 4.5 feet above ground)

CRZ = Critical Root Zone = 1 foot radius per inch of tree diameter, trees over 30" DBH= 1.5 foot radius per inch of tree diameter

CRZ values for trees with multiple stems were calculated based on methods outlined in the 9th edition of the Guide for Plant Appraisal, published by the I.S.A.

Condition Ratings provided as percentages based on methods outlined in the 9th edition of the Guide for Plant

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PP/TBC | AWP

PLAN STATUS

DATE	DESCRIPTION
08/02/21	FSP SUB #1
12/22/21	FSP SUB #2
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

COMMONWEALTH OF VIRGINIA — AARON M. VINSON — LIC. No.0416511 — 6/21/2023 — PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING TREE INVENTORY

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskproj\05073\dwg\Engineering\Site Plan\05073C-1201.dwg

SHEET: C-1203

LANDSCAPE NOTES

1. ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE AND PENALTIES SHALL BE PREPARED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA AND APPROVED BY THE CITY ARBORIST IN-FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING AND CONSTRUCTION ACTIVITIES.
2. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED / VERIFIED IN FIELD BY CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
3. LOCATION AND METHOD FOR PROTECTION AND PRESERVATION OF EXISTING TREES WILL BE SHOWN ON DEMOLITION, SEDIMENT AND EROSION CONTROL AND LANDSCAPE PLAN SHEETS.
4. IT IS THE CONTRACTORS RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO BE RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COORDINATION WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT MATERIAL THAT DOES NOT SURVIVE STORAGE AND REPLANTING.
5. APPLICANT MUST INCLUDE ON THE PLAN DOCUMENTATION OF COMMUNICATION WITH THE ADJACENT PROPERTY OWNER(S) VERIFYING NOTIFICATION OF AND AGREEMENT WITH CONSTRUCTION IMPACT, POTENTIAL FOR LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREE(S) ON ADJACENT PROPERTIES THAT WILL BE AFFECTED BY THE PROJECT WORK.
6. INCLUDE SPECIFIC CONSTRUCTION STAGING INFORMATION ON THE PLAN THAT INDICATES THE METHODS, AND PROCEDURES TO BE IMPLEMENTED FOR PROTECTION OF EXISTING ON-SITE AND OFF-SITE VEGETATION.
7. PROPOSED PLANTINGS SHALL BE PROVIDED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA.
8. SPECIFICATION FOR ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE CURRENT AND MOST UP TO DATE EDITION OF ANSI-Z60.1, THE AMERICAN STANDARD FOR NURSERY STOCK AS PRODUCED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, WASHINGTON, DC.
9. THE APPLICANT SHALL MAKE SUITABLE ARRANGEMENTS FOR PRE-SELECTION TAGGING, PRE-CONTRACT GROWING, OR IS UNDERTAKING SPECIALIZED PLANTING STOCK DEVELOPMENT WITH A NURSERY OR GROWER THAT IS CONVENIENTLY LOCATED TO THE PROJECT SITE, OR UTILIZING OTHER PROCEDURES THAT WILL ENSURE AVAILABILITY OF SPECIFIED MATERIALS. IN THE EVENT THAT SHORTAGES AND/OR INABILITY TO OBTAIN SPECIFIED PLANTINGS OCCUR, REMEDIAL EFFORTS INCLUDING SPECIES CHANGES, ADDITIONAL PLANTINGS AND MODIFICATION TO THE LANDSCAPE PLAN SHALL BE UNDERTAKEN BY THE APPLICANT. ALL REMEDIAL EFFORTS SHALL WITH PRIOR APPROVAL BY THE CITY, BE PERFORMED TO THE SATISFACTION OF THE DIRECTORS OF PLANNING AND ZONING, RECREATION, PARKS AND CULTURAL ACTIVITIES AND TRANSPORTATION AND ENVIRONMENTAL SERVICES.
10. IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.
11. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.
12. MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED IN PERPETUITY BY THE APPLICANT/OWNER/SUCCESSOR, IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND/OR AS CONDITIONED BY PROJECT APPROVAL.
13. A CERTIFICATION LETTER FOR TREE WELLS, TREE TRENCHES AND PLANTINGS ABOVE STRUCTURE SHALL BE PROVIDED BY THE PROJECT'S LANDSCAPE ARCHITECT. THE LETTER SHALL CERTIFY THAT ALL BELOW GRADE CONSTRUCTION IS IN COMPLIANCE WITH APPROVED DRAWINGS AND SPECIFICATIONS. THE LETTER SHALL BE SUBMITTED TO THE CITY ARBORIST AND APPROVED PRIOR TO APPROVAL OF THE LAST AND FINAL CERTIFICATE OF OCCUPANCY FOR THE PROJECT. THE LETTER SHALL BE SUBMITTED BY THE OWNER/APPLICANT/SUCCESSOR AND SEALED AND DATED AS APPROVED BY THE PROJECT'S LANDSCAPE ARCHITECT.
14. AS-BUILT DRAWINGS FOR THIS LANDSCAPE PLAN AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY, AND SPECIFICATION OF ALL PROJECT ELEMENTS.

A) STANDARD LANDSCAPE PLAN NOTES FOR ALL PLANS REQUIRING APPROVAL:

THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL PROJECTS THAT REQUIRE APPROVAL BY THE CITY AS OUTLINED IN CHAPTER 3 OF THE CITY'S 2019 LANDSCAPE GUIDELINES:

1) THE PROPERTY OWNER AND/OR APPLICANT, SPECIFIER, CONTRACTOR AND INSTALLER OF PLANT MATERIAL ARE RESPONSIBLE FOR UNDERSTANDING AND ADHERING TO THE STANDARDS SET FORTH IN THE MOST RECENT VERSION OF THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND APPLICABLE CONDITIONS OF APPROVAL. ALL QUESTIONS REGARDING APPLICATION OF, OR ADHERENCE TO, THE STANDARDS AND/OR CONDITIONS OF APPROVAL SHALL BE DIRECTED TO THE CITY PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBING ACTIVITY.

2) THE CITY-APPROVED LANDSCAPE PLAN SUBMISSION, INCLUDING PLANT SCHEDULE, NOTES AND DETAILS SHALL BE THE DOCUMENT USED FOR INSTALLATION PURPOSES AND ALL PROCEDURES SET FORTH IN THE LANDSCAPE GUIDELINES MUST BE FOLLOWED.

3) THE CONTRACTOR SHALL NOT INTERFERE WITH ANY TREE PROTECTION MEASURES OR IMPACT ANY EXISTING VEGETATION IDENTIFIED TO BE PRESERVED PER THE APPROVED TREE AND VEGETATION PROTECTION PLAN.

4) ANY CHANGES, ALTERATIONS OR MODIFICATIONS TO THE SITE CONDITIONS THAT AFFECT VEGETATION PROTECTION ZONES WILL REQUIRE AN AMENDMENT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND/OR DETAILS.

5) INSTALLATION OF PLANT MATERIAL MAY ONLY OCCUR DURING THE PLANTING SEASONS IDENTIFIED IN THE LANDSCAPE GUIDELINES.

6) IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.

7) SUBSTITUTIONS TO THE APPROVED PLANT MATERIAL SHALL NOT OCCUR UNTIL WRITTEN APPROVAL IS PROVIDED BY THE CITY.

8) MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED BY THE OWNER, APPLICANT, SUCCESSOR(S) AND/OR ASSIGN(S) IN PERPETUITY AND IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND AS CONDITIONED BY PROJECT APPROVAL, AS APPLICABLE.

B) STANDARD LANDSCAPE PLAN NOTES FOR DEVELOPMENT SITE PLANS:

IN ADDITION TO THE NOTES PROVIDED ABOVE, THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL DSP/DSUP PROJECTS:

1) THE APPROVED METHOD(S) OF PROTECTION MUST BE IN PLACE FOR ALL VEGETATION TO BE PRESERVED ON-SITE AND ADJACENT TO THE PROJECT SITE PURSUANT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND DETAILS PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBANCE. THE APPLICANT SHALL NOTIFY THE PLANNING & ZONING (P&Z) PROJECT MANAGER ONCE THE TREE PROTECTION METHODS ARE IN PLACE. NO DEMOLITION, CONSTRUCTION, OR LAND DISTURBANCE MAY OCCUR UNTIL AN INSPECTION IS PERFORMED BY THE CITY AND WRITTEN CONFIRMATION IS PROVIDED BY THE CITY WHICH VERIFIES CORRECT INSTALLATION OF THE TREE PROTECTION MEASURES.

2) THE APPLICANT MUST CONTACT THE P&Z PROJECT MANAGER PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATION TO SCHEDULE A PRE-INSTALLATION MEETING. THE MEETING SHOULD BE HELD BETWEEN THE APPLICANT'S GENERAL CONTRACTOR, LANDSCAPE CONTRACTOR, LANDSCAPE ARCHITECT, THE P&Z PROJECT MANAGER AND THE CITY ARBORIST (AS APPLICABLE) TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES DURING AND AFTER INSTALLATION.

3) THE FOLLOWING INFORMATION SHALL BE PROVIDED TO THE P&Z PROJECT MANAGER AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO THE LANDSCAPE PRE-INSTALLATION MEETING: 1) A LETTER THAT CERTIFIES THAT THE PROJECT LANDSCAPE ARCHITECT PERFORMED PRE-SELECTION TAGGING FOR ALL TREES PROPOSED WITHIN THE PUBLIC RIGHT OF WAY AND ON PUBLIC LAND PRIOR TO INSTALLATION. THIS LETTER MUST BE SIGNED AND SEALED BY THE PROJECT LANDSCAPE ARCHITECT, AND 2) A COPY OF THE SOIL BULK DENSITY TEST REPORT VERIFYING THAT MAXIMUM COMPRESSION RATES ARE MET.

9) AS-BUILT DRAWINGS FOR THIS LANDSCAPE AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES, THE CITY CODE OF ORDINANCES, AND ALL APPLICABLE PLAN PREPARATION CHECKLISTS. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.

A STANDARD LANDSCAPE PLAN NOTES
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS — CITY OF ALEXANDRIA, VIRGINIA

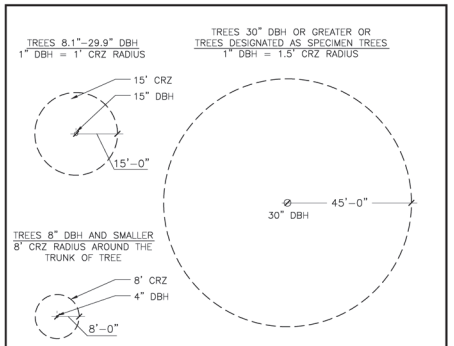
NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: City of Alexandria
Approved by: COA
Date drawn: 01/01/19

STANDARD LANDSCAPE PLAN NOTES

1 OF 1 | LD 016

P-1204 CITY STANDARD LANDSCAPE NOTES DETAIL
Scale: NTS



NOTES:
1. GRAPHICALLY, THE CRITICAL ROOT ZONE (CRZ) IS REPRESENTED AS A CIRCULAR REGION MEASURED OUTWARD FROM A TREE TRUNK REPRESENTING THE AREA OF ROOTS THAT MUST BE MAINTAINED OR PROTECTED FOR THE TREE'S SURVIVAL.
2. PLOT ACCURATE TRUNK LOCATIONS OF ALL TREES GREATER THAN 2" DIAMETER AT 54" ABOVE GRADE AND/OR TREE STANDS WITHIN DEVELOPMENT AREAS ON ALL PLANS FOR THE PROJECT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.
3. PLOT ACCURATE TRUNK LOCATIONS OF OFFSITE TREES WHICH WILL HAVE THEIR CRZ AFFECTED BY DEVELOPMENT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.

A TREE PROTECTION DETAIL FOR DETERMINING CRITICAL ROOT ZONE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS — CITY OF ALEXANDRIA, VIRGINIA

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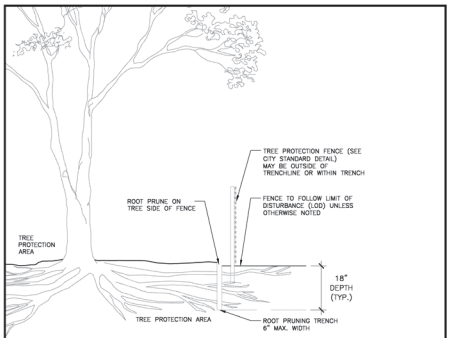
Source: City of Alexandria
Approved by: COA
Date drawn: 01/01/19

CRITICAL ROOT ZONE

1 OF 1 | LD 013



NOTES
1. ROOT PRUNING SHALL BE DONE WITH TRENCHER OR VIBRATORYPLOW TO DEPTH OF 18". ROOTS OVER 1.5" IN DIAMETER SHALL HAVE A CLEAN CUT MADE BY A CLEAN SAW ON THE SURFACE OF THE ROOT, WHICH IS STILL ATTACHED TO THE TREE. DO NOT BREAK OR CHOP. DO NOT PAINT THE CUT ROOT END. IF EXCAVATION IS FOR INSTALLATION OF UNDERGROUND UTILITIES, LEAVE THE ROOT INTACT AND THREAD THE LINES UNDERNEATH.
2. ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING AND SHALL BE APPROVED BY CITY STAFF.
3. ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF AN ISA CERTIFIED ARBORIST. CERTIFICATION SHALL BE PROVIDED TO THE CITY UPON COMPLETION.
4. BACKFILL THE ROOT-PRUNING TRENCH WITH APPROVED LOOSE TOPSOIL MIX AND TOP WITH 3-4" BARK MULCH AND MARK LOCATION FOR FUTURE REFERENCE. SILT FENCE MAY BE INSTALLED IN TRENCH PRIOR TO BACKFILLING AS LONG AS THE TRENCH IS NOT OPEN FOR LONGER THAN 48 HOURS WITHOUT WATERING.
5. ROOT PRUNING WORK SHALL NOT BE DONE WHEN MORE THAN THE TOP 1 INCH OF SOIL IS FROZEN. ROOT PRUNING SHALL NOT BE UNDERTAKEN WHEN THE SOIL IS WET AND CONDITIONS ARE MUDDY.
6. CITY OF ALEXANDRIA STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO TRENCHING AND WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

A ROOT PRUNING
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS — CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: City of Alexandria
Approved by: COA
Date drawn: 01/01/19

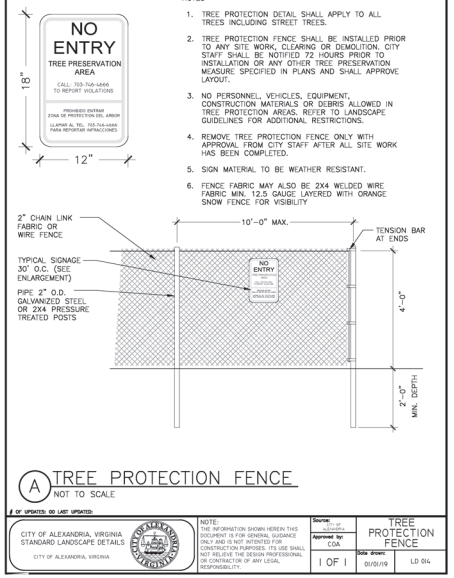
ROOT PRUNING

1 OF 1 | LD 015

Standards and Requirements

Figure 1-A. Required Notes on Drawing Submissions

1. All protection and preservation measures for existing vegetation, including maintenance shall be approved by the City Arborist in-field prior to commencement of any site disturbing activity.
2. Specification for all plantings shall be in accordance with the current and most up to date edition of ANSI-Z60.1, The American Standard for Nursery Stock as produced by the American Association of Nurserymen; Washington, DC.
3. The applicant has made suitable arrangements for pre-selection tagging, pre-contract growing, or is undertaking specialized planting stock development with a nursery or grower that is conveniently located to the project site, other procedures that will ensure availability of specified materials. In the event that shortages and/or inability to obtain specified plantings occurs, remedial efforts including species changes, additional plantings and modification to the landscape plan shall be undertaken by the applicant. All remedial efforts shall, with prior approval by the city, be performed to the satisfaction of the Directors of Planning & Zoning, Recreation, Parks & Cultural Activities and Transportation & Environmental Services.
4. In lieu of more strenuous specifications, all landscape related work shall be installed and maintained in accordance with the current and most up-to-date edition (at time of construction) of Landscape Specification Guidelines as produced by the Landscape Contractors Association of Maryland, District of Columbia and Virginia; Gaithersburg, Maryland.
5. Prior to commencement of landscape installation/planting operations, a pre-installation/construction meeting will be scheduled with the City's Arborist and Landscape Architects to review the scope of installation procedures and processes.
6. Maintenance for this project shall be performed in perpetuity, in compliance with City of Alexandria Landscape Guidelines and/or as conditioned by project approval.
7. A certification letter for tree wells, tree trenches and plantings above structure shall be provided by the project's Landscape Architect. The letter shall certify that all below grade construction is in compliance with approved drawings and specifications. The letter shall be submitted to the City Arborist and approved prior to approval of the last and final Certificate of Occupancy for the project. The letter shall be submitted by the owner/applicant/successor and sealed and dated as approved by the project's Landscape Architect.
8. As-built drawings for this landscape and/or irrigation/water management system will be provided in compliance with City of Alexandria Landscape Guidelines. As-built drawings shall include clear identification of all variation(s) and changes from approved drawings including location, quantity and specification of all project elements.
9. MAINTENANCE OF ALL TREES AND LANDSCAPE MATERIALS SHALL CONFORM TO ACCEPTED INDUSTRY STANDARDS SET FORTH BY THE LANDSCAPE CONTRACTORS ASSOCIATION, AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, THE INTERNATIONAL SOCIETY OF ARBORICULTURE, AND THE AMERICAN NATIONAL STANDARDS INSTITUTE.



A TREE PROTECTION FENCE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS — CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: City of Alexandria
Approved by: COA
Date drawn: 01/01/19

TREE PROTECTION FENCE

1 OF 1 | LD 014

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PP/TSC | AVBP

PLAN STATUS

DATE	DESCRIPTION
09/02/21	FSP SUB #1
12/22/21	FSP SUB #2

DATE	DESCRIPTION
05/20/22	FSP SUB #3
10/19/22	FSP SUB #4

ARON W. VINCON LIC. No.041851 6/21/2023 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

TREE PRESERVATION NOTES & DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

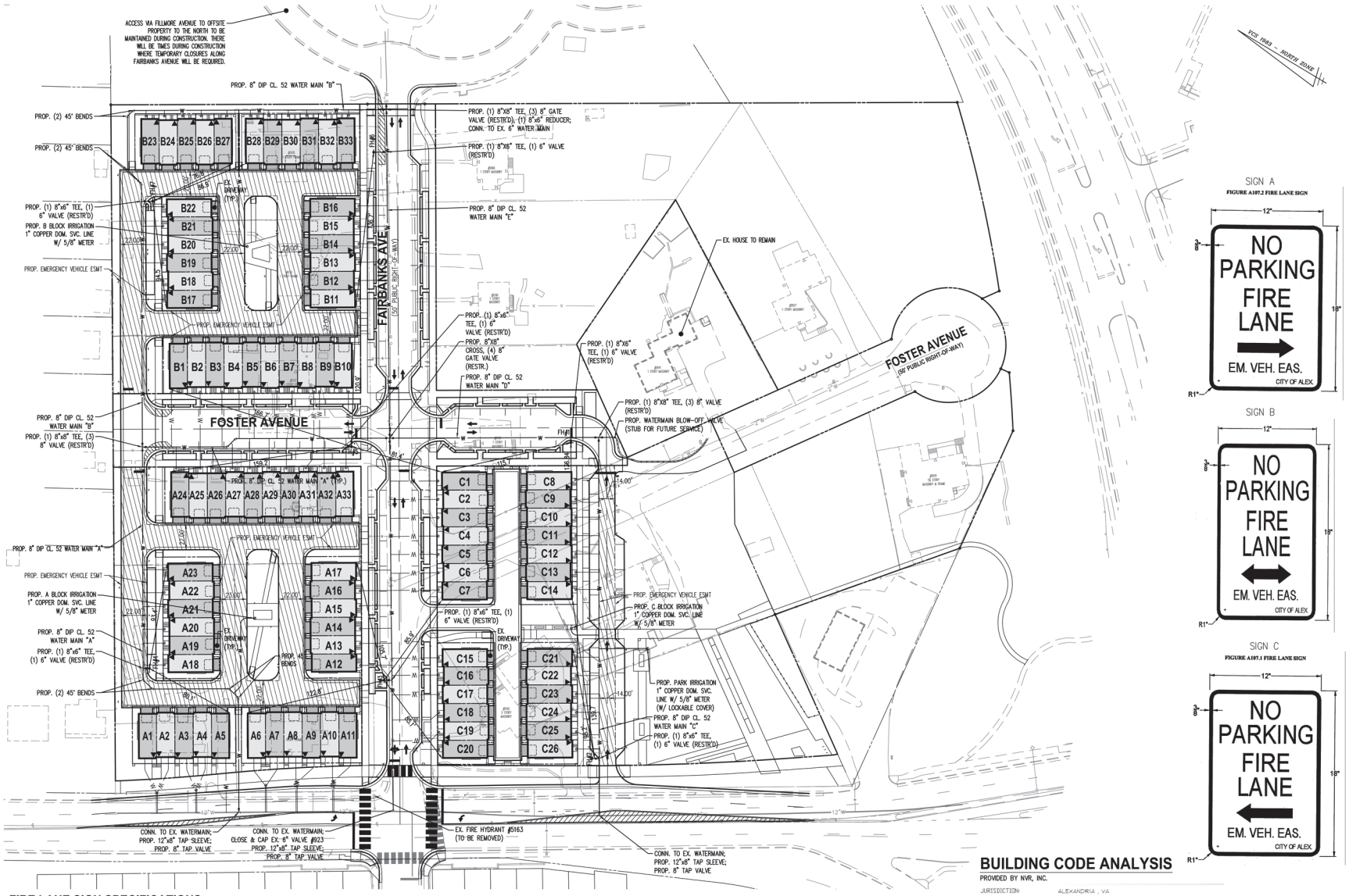
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskproj\05073\dwg\Engineering\Site Plan\05073C-1204.dwg

SHEET: C-1204



SIGN A
FIGURE A107.2 FIRE LANE SIGN

SIGN B

SIGN C
FIGURE A107.1 FIRE LANE SIGN

FIRE LANE SIGN SPECIFICATIONS

A107.2 Sign Specifications. Emergency vehicle easement signs shall be metal construction, 12–inches wide and 18 inches in height. Provide red letters on reflective white background with a 3/8 inch red trim strip around the entire outer edge of the sign. The lettering shall be "NO PARKING," " EMERGENCY VEHICLE EASEMENT," "EM. VEH. EAS.," and "City of Alex." placed as shown in Figure 3. Lettering size shall be as follows: "NO PARKING" – 2 inches, "EMERGENCY VEHICLE EASEMENT" – 2 1/2 inches. EM. VEH. EAS. – 1 Inch, CITY OF ALEX. – 1/2 inch. Directional Arrows – 1 inch by 6 inches solid shaft with solid head 1 1/2 inches wide and 2 inches deep (See Figures A107.1, A107.2, A107.3 for examples). Signs shall be mounted with the bottom of the sign 7 feet above the roadway, and shall be properly attached to a signpost or other approved structure as designated by the Director of Code Enforcement. Posts for signs, when required, shall be metal and securely mounted. Signs shall face in the direction of vehicle travel. In areas where emergency vehicle easements involve two–way traffic, double mounted signs shall be provided. The maximum distance between signs shall be 100 feet. Other special signs or modifications to emergency vehicle easement signs shall be approved by the Director of Code Enforcement.

LEGEND

- FIRE HYDRANT
- FRONT DOOR/MAINTENANCE
- PROP. EMERGENCY VEHICLE ESMT
- CURB DESIGNATION

BUILDING CODE ANALYSIS

PROVIDED BY NVR, INC.

JURISDICTION:	ALEXANDRIA , VA
BUILDING CODES:	2015 VIRGINIA CONSTRUCTION CODE; LOCAL JURISDICTION REQUIREMENTS.
CONSTRUCTION TYPE:	V-B
FIRE SUPPRESSION:	FULLY SPRINKLERED PER VCC 903.3.1.2 AND NFPA 13D
STORIES:	4 / UL ALLOWABLE PER IBC W/ 13D SPRINKLER SYSTEM
USE GROUP:	R3
JOIST SIZE:	11 7/8" FLOOR JOIST
STAIRS DATA:	MAX 8 1/4" RISERS AND 10" MIN. TREADS PER VCC 2015

SQUARE FOOTAGES:

FLOOR:	GROSS SQ. FT.	NET SQ. FT.
FIRST FLOOR =	640 GROSS SF	615 NET SF
SECOND FLOOR =	640 GROSS SF	601 NET SF
THIRD FLOOR =	640 GROSS SF	598 NET SF
FOURTH FLOOR =	640 GROSS SF	443 NET SF
TOTALS =	2560 GROSS SF	2257 NET SF

HEIGHT: 45' MAX

ESI Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

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10/19/22	FSP SUB #4

AARON M. VINSON LIC. No.041851 6/21/2023

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

FIRE SERVICE PLAN

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.
DIRECTOR DATE
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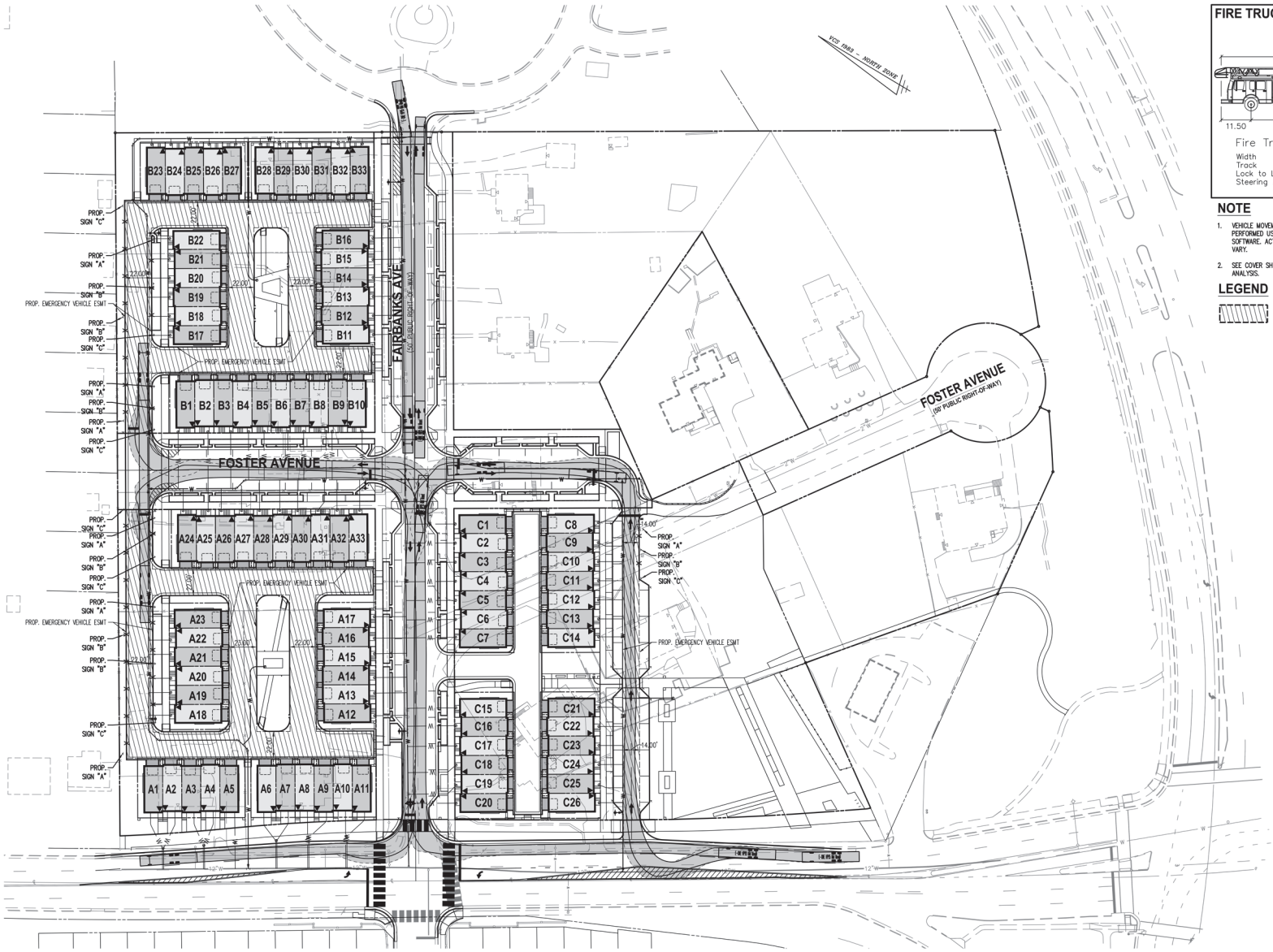
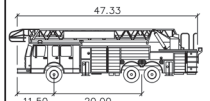
SHEET: C-1301



FIRE TRUCK PROFILE



Fire Truck Alexandria 203

Width	: 8.17
Track	: 8.00
Lock to Lock Time	: 6.00
Steering Angle	: 28.5

NOTE

1. VEHICLE MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTOCAD VEHICLE TRACKING SOFTWARE. ACTUAL TURNING MOVEMENTS MAY VARY.
2. SEE COVER SHEET C-0101 FOR BUILDING CODE ANALYSIS.

LEGEND

PROP. EMERGENCY VEHICLE ESMT

40 0 20 40 80 160
(IN FEET)
1 INCH = 40'

ESI
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UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

FIRE SERVICE PLAN

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DEPARTMENT OF PLANNING & ZONING

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File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q: \sdskpro\\05073\dwg\Engineering\Site Plan\05073C-1301.dwg

SHEET: C-1302

FIRE FLOW ANALYSIS

(PREPARED BY CAPITOL FPE LLC)
SEE APPROVED FIRE FLOW ANALYSIS FOR FULL REPORT

CAPITOL FPE LLC

NEEDED FIRE FLOW
FOR
UPLAND PARK PHASE 1
ALEXANDRIA, VA

Prepared for:

ALEXANDRIA DEVELOPMENT ASSOCIATES, INC

Prepared By:

Capitol FPE, LLC
8230 Boone Blvd, Suite 355
Vienna, VA 22182
(703) 717-5628

June 10, 2021

COMMONWEALTH OF VIRGINIA
ROCK SHI MENG
Lic. No. 0402038573
PROFESSIONAL ENGINEER
6/10/21

8230 Boone Blvd, Suite 355, Vienna, VA 22182 Tel: 703-717-5628 Fax: 703-459-9069 www.capitolfpe.com
HOUSTON, TEXAS | WASHINGTON D.C.

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I. GENERAL

A. Purpose

City of Alexandria, Code of Ordinances requires minimum fire flow that should be available for municipal firefighting. The fire flow requirements for buildings or portions of buildings and facilities to be determined in accordance with ISO Guide for Determination of Needed Fire Flow, 2014.

The purpose of the analysis is to provide the required Needed Fire Flow (NFF) calculations per ISO Guide and determine if the current public water supply is adequate.

B. Summary

Based on the required Needed Fire Water calculations, the public water supply is adequate for supplying the water required for firefighting.

II. APPLICABLE CODES

A. Fire Protection and Life Safety

1. 2015 Virginia Uniform Statewide Building Code – Amended International Building Code (IBC), 2015 Edition.
2. ISO Guide for Determination of Needed Fire Flow, 2014 Edition.
3. City of Alexandria, Code of Ordinances

III. BUILDING DESCRIPTION

A. General

The existing site is located at the intersection of Fairbanks Avenue and Foster Avenue and bounded by Seminary Road on the South. It consists of 92 townhomes in the 1st phase of development. The townhomes are four stories, and three townhouse models are available with exterior variations. However, all three models are the same size. It is anticipated that fire walls will be provided between each townhouse. ISO Guide for Determination of Needed Fire Flow classifies the townhomes as separate buildings.

A public water supply including hydrants is available onsite.

B. Building Construction Type

In accordance with the development preliminary plan, the building construction is classified as Type VB per IBC.

Type V construction consists of building elements of any material permitted by code including combustibles. The fire resistance rating is listed below:

	VB
Building Elements:	Ratings (hr)
Structural Frame	0
Bearing Walls Exterior	0
Bearing Walls Interior	0
Non-Bearing Walls Exterior	Based on building separation
Floor	0
Roof	0

IV. NEEDED FIRE FLOW

A. Construction Factor (C)

To determine the portion of the NFF attributed to the construction and area of the selected building, ISO uses the formula:

$$C = 18F(\sqrt{A})$$

Where

A = effective area
F = Coefficient related to the class of construction:
F = 1.5 for Construction Class 1 (Frame)
F = 1.0 for Construction Class 2 (Joisted Masonry)
F = 0.8 for Construction Class 3 (Non-Combustible)
F = 0.8 for Construction Class 4 (Masonry Non-Combustible)
F = 0.6 for Construction Class 5 (Modified Fire Resistive)
F = 0.6 for Construction Class 6 (Fire Resistive)

The "F" coefficient is determined based on exterior walls, floors, and roof construction material and fire resistance rating. Both buildings have combustible frames, therefore they are classified as Frame (Construction Class 1) in which buildings have combustible floors and roof. The Coefficient related to the class of construction (F) is 1.5.

The effective area includes the total square foot area of the largest floor in the building plus 50% of all other floors for buildings classified as Construction Class 1-4. For buildings classified as Construction Classes 5 or 6, calculate 25% of the area of not exceeding the two other largest floors if all vertical openings in the building are protected. Tally of effective area of the entire building is below:

Floor	Largest Undivided (ft2)	50%
Basement	700	700
1st Floor	640	320
2nd Floor	640	320
3rd Floor	640	320
4th Floor	640	320
Total		1980

The Construction Factor is calculated:

F	A	Construction Factor C
1.5	1980	1201

B. Occupancy Factor (O)

The factors below reflect the influence of the occupancy in the subject building on the need fire flow:

Occupancy Combustibility Class	Occupancy Factor (O)
C-1 (Noncombustible)	0.75
C-2 (Limited Combustibility)	0.85
C-3 (Combustible)	1.00
C-4 (Free Burning)	1.15
C-5 (Rapid Burning)	1.25

Occupancies in the building are considered residential. It is not anticipated that merchandise or materials stored burn freely in the building. So, it is reasonable to classify the Occupancy Factor as C-2 Limited Combustible (**C=0.85**) due to limited combustible.

C. Exposure and Communication Factors (X+P)

The factors developed in this item reflect the influence of adjoining and connected buildings on the needed fire flow.

The townhomes are divided into three lots. Each lot has 4 rows of townhomes. Each lot are separation at least 40 feet from other buildings on all four sides.

The exposure factor is ruled out form adjacent buildings if the subject buildings are rated as habitational. As such, the exposure factor is 0 for the townhouses. The minimum separation distance between rows of townhomes are 22 feet.

However, the exposure factor is ruled out from adjacent buildings if the subject buildings are rated as habitational. As such, the exposure factor is 0 for the townhouses.

D. Calculations

NFF = (C)(O)(1+(X+P))

Construction Factor C	1201
Occupancy Factor O	0.85
Exposure Factor (X+P)	0
NFF	1021

V. CONCLUSION

Hydrant flow test was performed on March 22, 2021. The residual hydrant (#7040) is located at the corner of North Beauregard Street and Seminary Road. The flow recorded is 14406 GPM at residual pressure of 20 PSI. However, the maximum flow is capped at 3500 GPM, as results the final flow is 3500 GPM at 20 PSI.

The maximum calculated NFF is 1021 GPM, and the available public water supply is 3500 GPM. Based on the calculation result of 10219 GPM NFF, the public water supply is adequate for firefighting purposes.

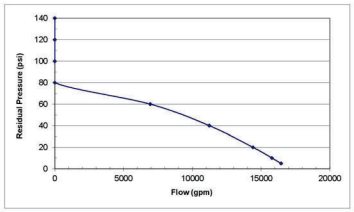
Appendix – Hydrant Flow

Virginia American Water
Fire Hydrant Flow Test Summary

Location:	2000 N Beauregard St			**Contact Person**	
Date:	3/22/2021	**Main Size**	24 inches	Matthew Ganci	
Time:	10:15AM			Project Engineer	
		Flow Hydrant #		Virginia American Water	
Total Flow	**5785** gpm	7038, 7039		2225 Duke St.	
		Residual Hydrant #		Alexandria, VA 22314	
Static pressure	74 psi	**7040**		Office: 703-706-3862	
Residual pressure	64 psi			Email: matthew.ganci@amwater.com	

Calculated Flow gpm	Residual psi
16445	5
15790	10
14406	**20**
11221	40
6950	60
#NUM!	80
#NUM!	100
#NUM!	120
#NUM!	140

Notes:
1. Table calculation is for reference only. Virginia American Water will not guarantee the calculated flow.
2. 3500 gpm is the limit of available fire flow.
3. Individual (Non-public water supply) fire suppression systems shall be designed by the property owner to meet needed fire flow in excess of 3,500 gpm.
4. VAW does not provide hydrant elevations.



REQUEST FOR FIRE FLOW TEST INFORMATION

Requested by	Rock Meng
Phone	(703) 717-5628 Fax
Email	rock@capitolfpe.com
Project Name	Upland Park Phase 1
Request Reason	Need flow information for hydraulic calculations
District	(A) P
Project address	2000 N Beauregard St
Map sheet #	
Flow Hydrant#	7038, 7039 use 4" nozzle w/diffuser
Residual Hydrant #	7040
Main size	24 inches

Note: Before running this flow test, check all surroundings to avoid any potential damage to nearby residents landscaping, grounds, etc.

Flow duration 3-5 minutes

Tester D. Kwapong
Date 3/19/2021
Time 10:15 A
Residual Hyd# 7040 Make Mueller
Residual FH MUST Get at least a 10 lb. drop
Static Pressure (PSI) 78.74
Residual Pressure (PSI) 64

Flow Hydrants	1	2	3	4
Hydrant#	7038	7039		
Hydrant make	Mueller	Mueller		
Nozzle Diameter (inch)	4	4		
Flow reading (PSI)	46	45		
Static Reading (PSI)	71	71		

Engineering Department

Requested by Matthew Ganci Date 3/10/2021

REPORT PREPARED BY CAPITOL FPE LLC & INCLUDED FOR INFORMATION ONLY

ESI
Peer Review

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
Engineers • Surveyors • Planners • Landscape Architects • Arborists
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: NONE | DATE: 04/21/2023 | DRAWN: | CHECKED: | PM: | SC: | AVBP

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08/02/21	FSP SUB #1	10/19/22	FSP SUB #4
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COMMONWEALTH OF VIRGINIA
AARON M. VIRGIN
Lic. No.041851
PROFESSIONAL ENGINEER
6/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

FIRE FLOW ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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WQIF REQUEST LETTER

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945

April 26, 2021
Revised October 18, 2022

Via delivery

Ms. Melanie Mason
Transportation and Environmental Services
City of Alexandria
301 King Street
Alexandria, VA 22314

Re: DSUP#2019-0017 – Upland Park – Phase 1

Dear Ms. Melanie Mason,

This letter and attachments shall serve to request an equivalency option under section 13-110(A)(2) to provide a monetary contribution to the Alexandria Water Quality Improvement Fund in lieu of treating 100% of the impervious area on site.

The subject properties, parcels 010.02-03-11, 010.02-03-12, 010.04-03-13, 010.04-03-14, 010.04-03-15, 010.04-03-16, 010.04-03-17, 010.04-03-18, 010.04-03-19, 010.04-03-20, 010.04-03-21, 010.04-03-22, 010.04-03-23, 010.04-03-24, 010.04-03-25, 011.03-01-01, 011.03-01-02, 011.03-01-03, 011.03-01-04, have a total site area of 366,769 SF (8.42 acres), this phase of development only includes 279,655 sf (6.42 ac). The existing condition of the site features existing single family residential homes, vacant lots, and public streets – Foster and Fairbanks Avenue. The proposed development will demolish the existing single-family homes with the exception of Lot 14, to construct 92 townhomes and public park space during this phase of development.

Below is a summary of site conditions before and after the proposed development for phase 1:

Existing Conditions:		Proposed Conditions:	
Impervious:	64,033 SF (1.47 Ac)	Impervious:	189,050 SF (4.34 Ac)
Pervious:	215,622 SF (4.95 Ac)	Pervious:	90,605 SF (2.08 Ac)
Total Site Area:	279,655 SF (6.42 Ac)	Total Site Area:	279,655 SF (6.42 Ac)

Proposed conditions also include the construction of a series of curbside bioretention, bioretention planters, and permeable pavement. Additionally, a Stormtech ADS detention facility with isolator row is proposed to treat both the collected runoff from the upstream BMP's as well as the other impervious areas of the site. The proposed facilities capture 184,259 SF or 4.23 acres of impervious area under post-development conditions, which represents 97% of the impervious area on the subject property. The remaining untreated impervious area is approximately 4,791 SF (0.11 Ac). The

CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS
ARBORISTS

207 PARK AVENUE
FALLS CHURCH, VA 22046
PHONE: (703) 532-6163
FAX: (703) 533-1301
WWW.WLPINC.COM

impervious area on the property which cannot be treated by the proposed facilities includes the walkways and road area for the southeast portion of Foster Avenue.

The phosphorous removal achieved with the application of these BMP facilities (6.37 lb/yr) exceeds the required 5.92 lb/yr reduction on site.

This request to allow utilization of the equivalency option meets the criteria listed in Section 13-110(D) of the Zoning Ordinance as indicated below:

- The proposed facilities will exceed the phosphorous removal requirement per the stormwater management regulations described in section 13-109(E)5 for re-development
- Properties surrounding the subject site are developed, which precludes the opportunity for offsite water quality treatment facilities.
- The drainage system required to collect and treat the areas which remain untreated would be in conflict with the rest of the infrastructure proposed with this development, and would require construction of private conveyance system and privately maintained BMPs in the Right-of-Way.
- Applicant proposes treatment of 97% of WQVD.
- Applicant proposes contribution to the Water Quality Equivalency Fund of $2 per square feet of untreated impervious area to mitigate, or $9,582.

Considering the information listed above, we feel that this request is justifiable. We appreciate your time and effort in this matter and look forward to your favorable response. Should you have any questions or require additional information, please feel free to contact me.

Sincerely,

Daniel Pietropaoli
Walter L. Phillips, Inc.

ESI
Peer Review

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PROFESSIONAL ENGINEER — COMMONWEALTH OF VIRGINIA — MASON M. VIRGIN — LIC. No.041851 — 4/21/2023

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

UPLAND PARK
PHASE 1
FINAL SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

CORRESPONDENCE

APPROVED
SPECIAL USE PERMIT NO. 2019-0017
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 10.04, 11.03 Job No. 05-073 Cadd Dwg. File: Q:\sdskproj\05073\dwg\Engineering\Site Plan\05073C-1501.dwg

SHEET: C-1501