PRELIMINARY DEVELOPMENT SPECIAL USE PERMIT

1200 NORTH HENRY STREET

CITY OF ALEXANDRIA, VIRGINIA

AREA TABULATIONS

TOTAL AREA OF TAX PARCELS = 0.8017 AC 34,921 SF TOTAL EXISTING IMPERVIOUS AREA = 0.7604 AC 33,122 SF TOTAL PROPOSED IMPERVIOUS AREA = ________ AC _______ AC ______ SF TOTAL DISTURBED AREA = _____1.28 _____AC ____55,756 _____ SF

ENVIRONMENTAL SITE ASSESSMENT

- AREAS ASSOCIATED WITH SHORES, STREAMS OR WETLANDS LOCATED ON THIS SITE. FURTHER THERE ARE NO WETLANDS PERMITS REQUIRED FOR THIS
- ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER
- 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:
 - NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS: • MONDAY THROUGH FRIDAY FROM 9am TO 6pm AND

ENVIRONMENTAL PERMITS NOTES

ALL REQUIRED PERMITS FROM VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, ENVIRONMENTAL PROTECTION AGENCY, ARMY CORPS OF

THIS PROJECT PROPOSES CONSTRUCTION ACTIVITIES WHICH DISTURB GREATER THAN 1 ACRE, THEREFORE A VPDES PERMIT IS REQUIRED.

ARCHAEOLOGY NOTES

THE APPLICANT/DEVELOPER 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.

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.

ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

GENERAL NOTES

- 1. PRIOR TO THE APPLICATION FOR NEW CERTIFICATE OF OCCUPANCY, THE APPLICANT SHALL SUBMIT A BUILDING PERMIT FOR A CHANGE OF USE. DRAWINGS PREPARED BY A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER SHALL ACCOMPANY THE PERMIT APPLICATION. THE PLANS SHALL SHOW PROPOSED CONDITIONS AND PROVIDE DATA BY THE DESIGN PROFESSIONAL WHICH DETAILS HOW THE PROPOSED USE WILL COMPLY WITH THE CURRENT EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE FOR THE NEW USE IN THE AREA OF STRUCTURAL STRENGTH, MEANS OF EGRESS, PASSIVE AND ACTIVE FIRE PROTECTION, HEATING AND VENTILATING SYSTEMS, HANDICAPPED ACCESSIBILITY AND PLUMBING FACILITIES.
- 2. NEW CONSTRUCTION MUST COMPLY WITH THE CURRENT EDITION OF THE UNIFORM STATEWIDE BUILDING CODE (USBC).
- 3. BEFORE A BUILDING PERMIT CAN BE ISSUED ON ANY PROPOSED FUTURE ALTERATIONS, A CERTIFICATION IS REQUIRED FROM THE OWNER OR OWNER'S AGENT THAT THE BUILDING HAS BEEN INSPECTED BY A LICENSED ASBESTOS INSPECTOR FOR THE PRESENCE OF ASBESTOS.
- 4. A CERTIFICATE OF OCCUPANCY SHALL BE OBTAINED PRIOR TO ANY OCCUPANCY OF THE BUILDING OR PORTION THEREOF.
- 5. REQUIRED EXITS, PARKING, AND ACCESSIBILITY WITHIN THE BUILDING FOR PERSONS WITH DISABILITIES MUST COMPLY WITH USBC CHAPTER 11. HANDICAPPED ACCESSIBLE BATHROOMS SHALL ALSO BE PROVIDED.
- 6. TOILET FACILITIES FOR PERSONS WITH DISABILITIES: LARGER, DETAILED, DIMENSIONED DRAWINGS ARE REQUIRED TO CLARIFY SPACE LAYOUT AND MOUNTING HEIGHTS OF AFFECTED ACCESSORIES. INFORMATION ON DOOR HARDWARE FOR THE TOILET STALL IS REQUIRED (USBC 1109.2.2).
- 7. IF APPLICABLE, ENCLOSED PARKING GARAGES MUST BE VENTILATED IN ACCORDANCE WITH USBC 406.4.2. THE REQUIRED MECHANICAL VENTILATION RATE FOR AIR IS 0.75 CFM PER SQUARE FOOT OF THE FLOOR AREA (USBC 2801.1). IN AREAS WHERE MOTOR VEHICLES OPERATE FOR A PERIOD OF TIME EXCEEDING 10 SECONDS, THE VENTILATION RETURN AIR MUST BE EXHAUSTED. AN EXHAUST SYSTEM MUST BE PROVIDED TO CONNECT DIRECTLY TO THE MOTOR VEHICLE EXHAUST (USBC 2801.1).
- 8. ELECTRICAL WIRING METHODS AND OTHER ELECTRICAL REQUIREMENTS MUST COMPLY WITH NFPA 70, 2008.
- 9. IF APPLICABLE, THE PUBLIC PARKING GARAGE FLOOR MUST COMPLY WITH USBC 406.2.6 AND DRAIN THROUGH OIL SEPARATORS OR TRAPS TO AVOID ACCUMULATION OF EXPLOSIVE VAPORS IN BUILDING DRAINS OR SEWERS AS PROVIDED FOR IN THE PLUMBING CODE (USBC 2901). THIS PARKING GARAGE IS CLASSIFIED AS AN S-2, GROUP 2, PUBLIC GARAGE.
- 10. THIS PROJECT IS LOCATED IN A COMBINED SEWER AREA.
- 11. THIS SITE DOES NOT CONTAIN AREAS PREVIOUSLY MAPPED AS MARINE CLAYS.

		COMPLETE STREETS	INFORMA	TION:
	CODE ANALYCIC.		NEW	UPGRADED
	CODE ANALYSIS:	CROSSWALKS (NUMBER)	1	N/A
USE:	MIXED USE (RES., GARAGE, RETAIL, DAYCARE)	STANDARD	1	N/A
USE GROUP:	R-2, S-2, M, A, B, E	HIGH VISIBILITY	N/A	N/A
TYPE OF CONSTRUCTION:	IIIA OVER IA	CURB RAMPS	2	3
NUMBER OF STORIES:	7 STORIES	SIDEWALKS (LF)	N/A	1,053
FLOOR AREA (GROSS):	139,635 SF	BICYCLE PARKING (NUMBER SPACES)	58	N/A
FLOOR AREA (NET):	123,493 SF	PUBLIC/VISITOR	14	N/A
BUILDING FOOT PRINT AREA:	26,064 SF	PRIVATE/GARAGE	44	N/A
BUILDING HEIGHT:	85.0 FT	BICYCLE PATHS (LF)	N/A	N/A
FIRE SUPRESSION/DETECTION:	FULLY SPRINKLERED, NFPA 13	PEDESTRIAN SIGNALS	N/A	N/A

VICINITY MAP TAX PARCEL NUMBER: 044.03-05-01

PROJECT DESCRIPTION NARRATIVE

THE APPLICANT PROPOSES TO REDEVELOP THE SITE WITH A MIXED USE BUILDING THAT INCLUDES 115 DWELLING UNITS, 17,000 SQUARE FEET OF RETAIL. AND A 10,000 SQUARE FOOT DAY CARE CENTER.

REQUESTED APPLICATIONS AND MODIFICATIONS:

- REZONING FROM OCM(50) TO CRMU—H
- DSUP FOR MULTIFAMILY RESIDENTIAL BUILDING WITH DAY CARE FACILITY AND GROUND FLOOR RETAIL MODIFICATION OF OPEN SPACE PURSUANT TO 11–416
- BONUS DENSITY AND HEIGHT FOR THE PROVISION OF AFFORDABLE HOUSING PURSUANT TO SECTION 7-700
- MODIFICATION OF HEIGHT TO SETBACK RATIO (SECTION 6-403) FOR NORTH FAYETTE STREET

DEVELOPER:

ENCROACHMENT OF CANOPY INTO THE RIGHT—OF—WAY

OWNER/DEVELOPER

INSTRUMENT #: 160015497 PLAN PREPARED BY: R.C. FIELDS & ASSOCIATES, INC.

730 S. WASHINGTON STREET

CONTACT: ANDREA SPRUCH

ALEXANDRIA, VA 22314

(703) 549-6422

1200 N HENRY, LLC

ALEXANDRIA, VA 22313

P. O. BOX 1924

WALSH, COLUCCI, LUBELEY & WALSH, PC 2200 CLARENDON BLVD, SUITE 1300 ARLINGTON, VA 22201 (703) 528-4700 X5413 CONTACT: M. CATHARINE PUSKAR

AVANTI HOLDINGS GROUP, LLC

1605 KING STREET, SUITE 3

ALEXANDRIA, VA 22314

CONTACT: TEDDY KIM

(202) 834-4355

ARCHITECT: DAVIS, CARTER, SCOTT, LTD 8614 WESTWOOD CENTER DRIVE SUITE 800 TYSONS, VA 22182 (703) 556-9275 CONTACT: JASNA BIJELIC

LANDSCAPE ARCHITECT: PARKER RODRIGUEZ, INC. 101 N. UNION STREET SUITE 320 ALEXANDRIA, VA 22314 (703) 548-5010 CONTACT: TRINI RODRIGUEZ

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ZONING TABULATIONS

* 1.	ZONE OF SITE: EXISTING: OCM(50) PROPOSED: CRMU-H							
2.	USE: EXISTING: INDUSTRIAL FLEX PROPOSED: MIXED USE RESIDENTIAL/RETAIL/DAY CARE							
3.	TOTAL SITE AREA: 34,921 SF OR 0.8017 AC MINIMUM LOT AREA: N/A							
* 4.	OPEN SPACE REQUIRED: 40%							
	OPEN SPACE PROVIDED: GROUND LEVEL: <u>5,825 SQ. FT. OR 16.6%</u> ABOVE GRADE: <u>5,780 SQ. FT. OR 16.5%</u>							
	TOTAL OPEN SPACE PROVIDED: 11,605 SQ. FT. OR 33.2% *ALL OPEN SPACE IS USABLE SPACE							
5.	NUMBER OF DWELLING UNITS: ALLOWED: N/A PROPOSED: 115 MARKET RATE: 1 BEDROOM: 80 2 BEDROOM: 24 AFFORDABLE UNITS: 1 BEDROOM: 9 2 BEDROOM: 2							
6.	UNITS PER ACRE: ALLOWED: N/A PROPOSED: 143							
7.	FLOOR AREA: ALLOWED: N/A PROPOSED: GROSS NET RESIDENTIAL 111,568 SF 96,493 SF							

			TOTAL	129,253 SF	113,493 SF
			GARAGE	59,000 SF	N/A
			DAY CARE EX SECTION 1-4	CLUSION - 10 00(B)(3)(f)	,000 SF PER
*8. FLOOR AREA RATIO:	PERMITTED	2.5 WITH SUP			
	BONUS	30% PER SEC	TION 7-700 F	OR RESIDENTIAL	

113,493 / 34,921 = 3.25

17.685 SF 17.000 SF

0.5625

9. AVERAGE FINISHED GRADE: 47.15

10. BUILDING HEI	GHT: PERMITTED	: <u>70 FT</u>	PROPOSE	ED: <u>85.0 FT</u>
11. YARDS: REC	UIRED: N/A	PROPOSED:	YARD NORTH	MINIMUM N/A
			EAST	0.0'
			0011711	o = '

RESIDENTIAL (ADU)

12. FRONTAGE: REQUIRED: N/A PROPOSED: 468 FT (N HENRY ST), 106 FT (N FAYETTE ST)

٥.	PARKING: REQUIRED: RESIDENTIAL (MARKET	KAIL)	
	NUMBER	R OF BEDROOMS:	128
	PARKING	RATIO:	0.68
	0	.8* - [0.8* X (0.10**+0.05***)]	

*RATIO FOR BRADDOCK RD METRO WALKSHED (0.8 SPACES/BR) **CREDIT FOR WALKSCORE OF 90-100 (10%) ***CREDIT FOR LOCATION ON 4 BUS ROUTES (5%)

0.68 SPACES/BR = 0.68 X 128: 88 SPACES

NUMBER OF UNITS: PARKING RATIO: $0.75 - [0.75 \times (0.10* + 0.10** + 0.05***)]$ *CREDIT FOR BRADDOCK RD METRO WALKSHED (10%) **CREDIT FOR WALKSCORE OF 90-100 (10%)

***CREDIT FOR LOCATION ON 4 BUS ROUTES (5%)

0.5625 SPACES/UNIT = 0.5625 X 11:7 SPACES TOTAL RESIDENTIAL PARKING REQUIRED: 88 + 7: 95 SPACES

RETAIL AND DAY CARE MIN. 0.25 SPACE/1,000 SF (27,000/1,000*0.25): 7 SPACES MINIMUM MAX. 3 SPACE/1,000 SF (27,000/1,000*3): 81 SPACES MAXIMUM

TOTAL RETAIL PARKING REQUIRED: 7 SPACES TO 81 SPACES TOTAL PARKING REQUIRED MINIMUM: 102 SPACES TOTAL PARKING REQUIRED MAXIMUM: 176 SPACES

PROVIDED: RESIDENTIAL: 46 SPACES COMPACT (8'X16') STANDARD (9'X18.5') 47 SPACES 4 SPACES 97 SPACES TOTAL RESIDENTIAL PARKING PROVIDED:

> RETAIL/DAY CARE: COMPACT (8'X16') 6 SPACES STANDARD (9'X18.5') 18 SPACES 2 SPACES **ACCESSIBLE** TOTAL RETAIL/DAYCARE PARKING PROVIDED: 26 SPACES

FLEX PARKING: 6 SPACES COMPACT (8'X16') STANDARD (9'X18.5') 8 SPACES TOTAL RETAIL/DAYCARE PARKING PROVIDED: 14 SPACES

	TOTAL PARKING F	PROVIDED IN GAR	AGE:		137 SPACES
14. LOADING SPACES:	REQUIRED:	1	PROPOSED:	1	

PROPOSED: 3,043 VPD (PER ITE STANDARDS) 15. TRIP GENERATION: EXISTING: 1,943 VPD 16. BICYCLE SPACES: REQUIRED: 48 PROPOSED: <u>58</u>

* SEE REQUESTED APPLICATIONS/MODIFICATIONS FOR DETAILED INFORMATION (THIS SHEET)

ANDREA SPRUCH

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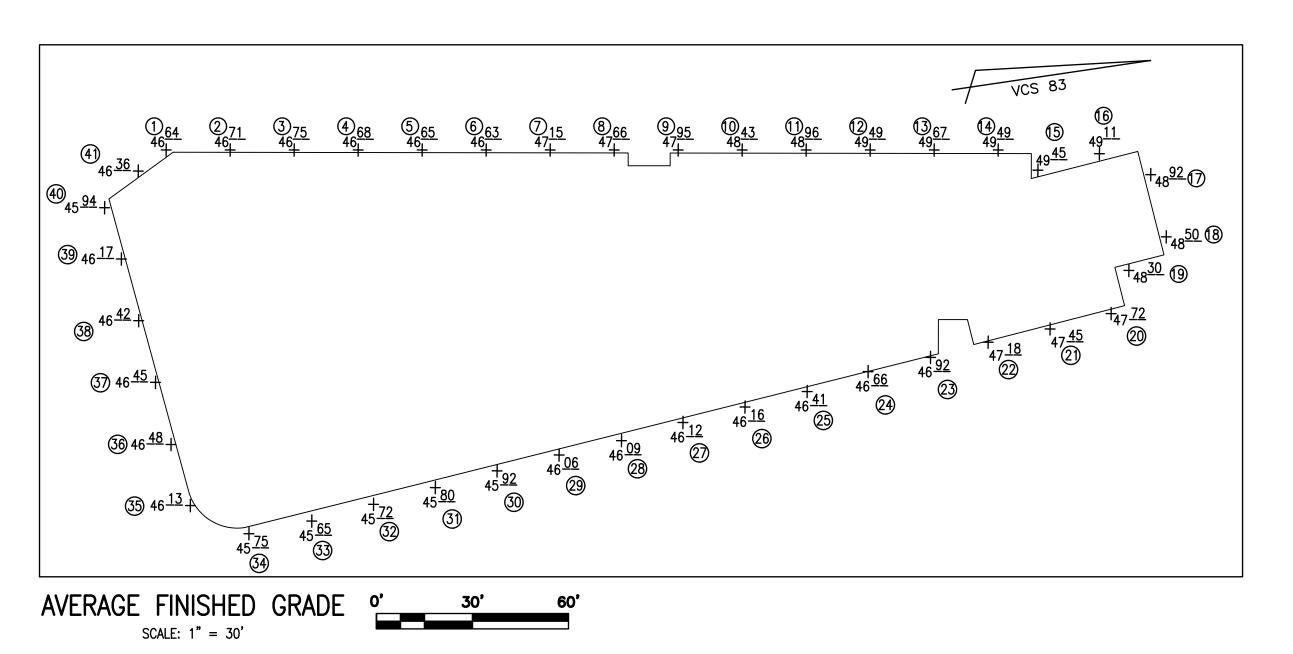
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APPROVED 2017-0020 SPECIAL USE PERMIT NO. DEPARTMENT OF PLANNING & ZONING DATE RECORDED DEED BOOK NO. DATE

RCF FILE: 17-181 SHEET: 1

OF 13



1200 NORTH	HENRY STREET
SPOT	ELEVATION
1	46.64
2	46.71
3	46.75
4	46.68
5	46.65
6	46.63
7	47.15
8	47.66
9	47.95
10	48.83
11	48.96
12	49.49
13	49.67
14	49.49
15	49.45
16	49.11
17	48.92
18	48.50
19	48.30
20	47.72
21	47.45
22	47.18
23	46.92
24	46.66
25	46.41
26	46.16
27	46.12
28	46.09
29	46.06
30	45.92
31	45.80
32	45.72
33	45.65
34	45.75
35	46.13
36	46.48
37	46.45
38	46.42
39	46.17
40	45.94
41	46.36
Average	e: 47.15

SECTION 6-403 COMPLIANCE NOTE:

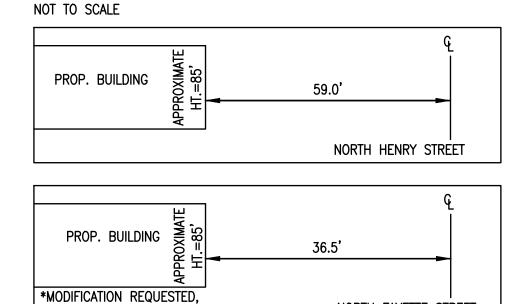
SECTION 6-403 STATES "IN ALL HEIGHT DISTRICTS, THE ALLOWABLE HEIGHT OF A BUILDING AT ANY POINT SHALL NOT EXCEED TWICE THE DISTANCE FROM THE FACE OF THE BUILDING AT THAT POINT TO THE CENTERLINE OF THE STREET FACING SUCH BUILDING." SEE DETAILS BELOW FOR SECTION SHOWING COMPLIANCE.

NORTH FAYETTE STREET

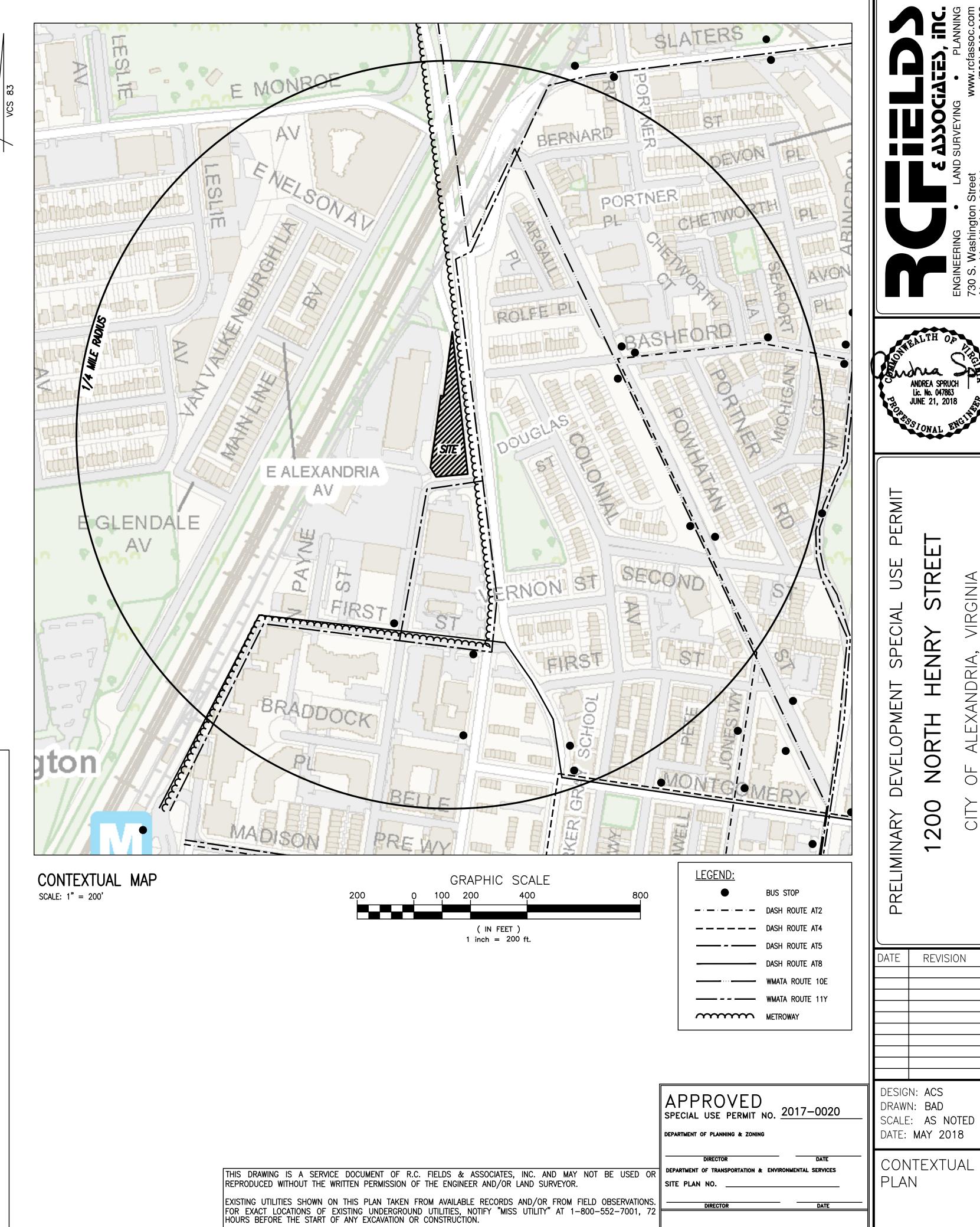
*ALL OPEN SPACE IS USABLE SPACE

SECTION 6-403 DETAILS:

SEE COVER SHEET



*							- VCS 83	
-BUILDING OVERHANG		N FAYETTE ST	TREET (EXTENSION) REET, BY OTHERS)			OPEN SPACE: 3,250 SF		
13.0' OPEN SPACE: 100 SF	PROPOSED 7-STORY MIXED USE RETAIL/RESIDENTIAL BUILDING WITH UNDERGROUND GARAGE FF=46.00	ABOVE GRADE OPEN SPACE: 5,780 SF	OPEN SPACE: 1,600 SF OPEN SPACE: 75 SF-	OPEN SPACE 175 S	12.3			
	BUILDING OVERHANG		NORTH HEN WIDTH VARIES ~	RY STRUE 1				



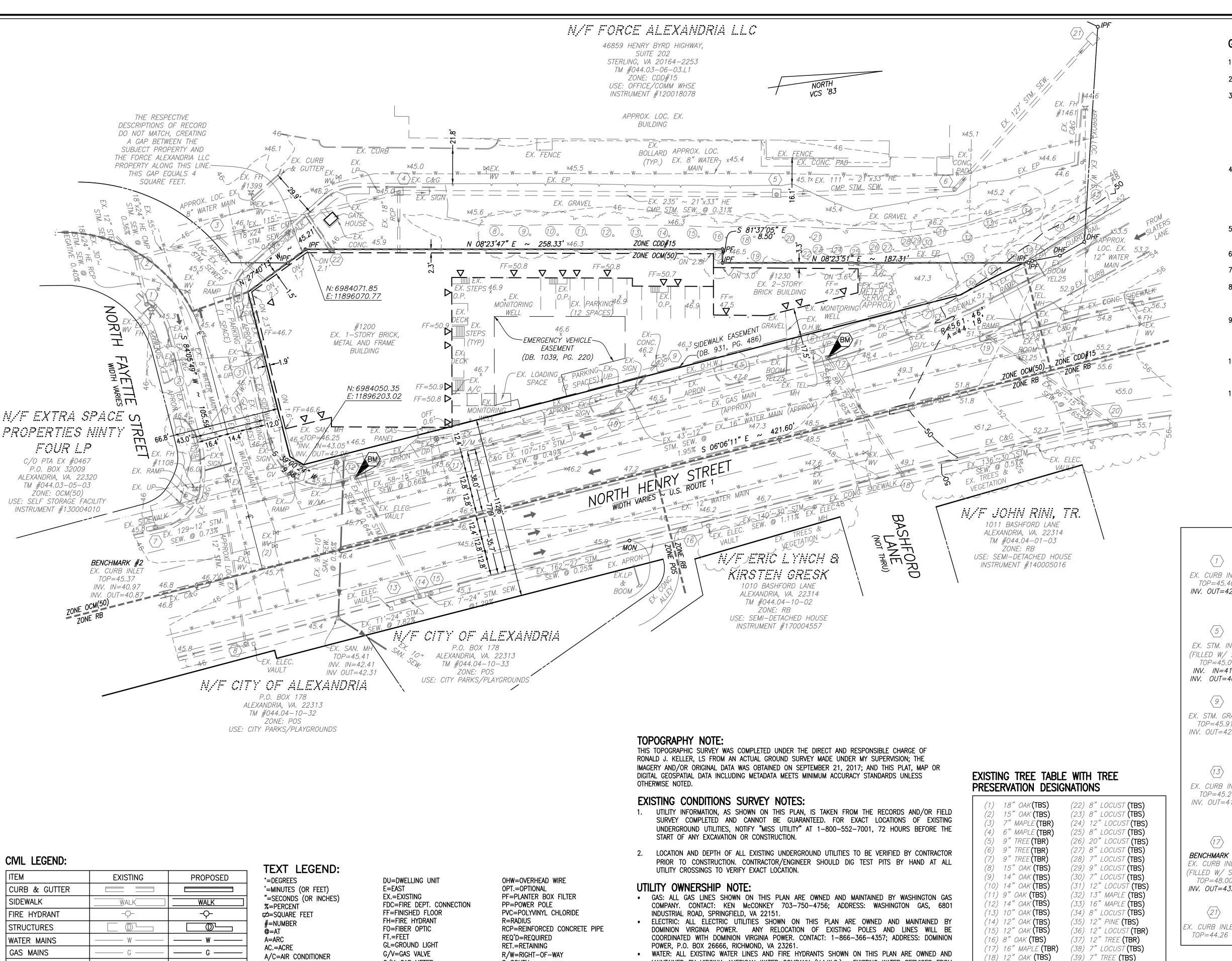
LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF

DEED BOOK NO.

INSTRUMENT NO.

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CIVIL LEGEND:		
ITEM	EXISTING	PROPOSED
CURB & GUTTER		
SIDEWALK	WALK_	WALK
FIRE HYDRANT	-	-
STRUCTURES		
WATER MAINS	——— W ———	w
GAS MAINS	G	G
TELEPHONE LINES	—— Т ——	т
STORM SEWER	= = =	
SANITARY SEWER		S
PAVING		
FENCES	X	x
POWER LINES	———E———	——Е—
SPOT ELEVATIONS	+ 124.5	+ 124 5
CONTOURS	<u> </u>	124 —
BUILDING ENTRANCES	∇	▼
UTILITY POLE	д	b
LIGHT POLE	\$	\$

A/C=AIR CONDITIONER AD=AREA DRAIN APPROX.=APPROXIMATE(LY) B.C.=BACK OF CURB BF=BASEMENT FLOOR BLDG.=BUILDING BOL.=BOLLARD BW=BOTTOM OF WALL CATV=CABLE TV UTILITY CL=CLASS C/L=CENTERLINE CLR=CLEARANCE COL=COLUMN CMP=CORRUGATED METAL PIPE C.I.=CURB INLET C.O.=CLEAN OUT C&G=CURB & GUTTER DI=DROP INLET D.S.=DOWNSPOUT

G/V=GAS VALVE G/M=GAS METER H.C.=HEADER CURB HDCP.=HANDICAP HDPE=HIGH DENSITY POLYETHYLENE HVAC=HEATING, VENTILATION, AIR CONDITIONING IPF=IRON PIPE FOUND IPS=IRON PIPE SET INV.=INVERT LOC.=LOCATION LP=LIGHT POLE MAX.=MAXIMUM MH=MANHOLE MIN.=MINIMUM

MISC.=MISCELLANEOUS

MPH=MILES PER HOUR

NTS=NOT TO SCALE

N=NORTH

NAD=NORTH AMERICAN DATUM

R/W=RIGHT-OF-WAY S=SOUTH SAN.=SANITARY SQ.=SQUARE SQ.FT.=SQUARE FEET STM.=STORM TBR=TO BE REMOVED TBS=TO BE SAVED TW=TOP OF WALL TYP=TYPICAL UP=UTILITY POLE VCS=VIRGINIA COORDINATE SYSTEM VERT=VERTICAL W=WFST W.S.E.=WATER SURFACE ELEVATION WM=WATER MAIN W/V=WATER VALVE W/M=WATER METER W.W.=WINDOW WELL

- WATER: ALL EXISTING WATER LINES AND FIRE HYDRANTS SHOWN ON THIS PLAN ARE OWNED AND MAINTAINED BY VIRGINIA AMERICAN WATER COMPANY (V.A.W.C.). EXISTING WATER SERVICES FROM METERS TO THE EXISTING BUILDINGS ARE OWNED AND MAINTAINED BY THE PROPERTY OWNER. THE PROPOSED WATER SERVICE FROM METER TO THE PROPOSED BUILDING WILL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER. CONTACT: NETWORK SUPERVISOR FOR THE SOUTHEAST REGION HAO (STEVEN) CHEN 703-706-3889; ADDRESS: VIRGINIA AMERICAN WATER COMPANY, 2223
- DUKE STREET, ALEXANDRIA, VA 22314. • SANITARY SEWER: ALL EXISTING AND PROPOSED SANITARY SEWER MAINS SHOWN ON THIS PLAN ARE OWNED AND MAINTAINED BY THE CITY OF ALEXANDRIA. THE PROPOSED SANITARY LATERAL WILL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER. CONTACT: PUBLIC WORKS SERVICES 2900 BUSINESS CENTER DRIVE, ALEXANDRIA, VA. TELEPHONE: 703-746-4357.
- STORM SEWER: ALL EXISTING AND PROPOSED STORM SEWER LOCATED IN THE PUBLIC RIGHT-OF-WAY SHOWN ON THIS PLAN IS OWNED AND MAINTAINED BY THE CITY OF ALEXANDRIA. ANY PROPOSED ON-SITE STORM SEWER WILL BE MAINTAINED BY THE PROPERTY OWNER. CONTACT: PUBLIC WORKS SERVICES, 2900 BUSINESS CENTER DRIVE, ALEXANDRIA, VA. TELEPHONE: 703-746-4357.
- TELEPHONE: ALL TELEPHONE LINES ARE OWNED BY VERIZON. CONTACT: SECTION MANAGER MIKE TYSINGER 804-772-6625; ADDRESS: VERIZON VIRGINIA, INC., 3011 HUNGARY SPRING ROAD, 2ND FLOOR, RICHMOND, VA 23228.

GENERAL NOTES:

#044.03-05-01

1200 N HENRY, LLC PO BOX 1924 ALEXANDRIA, VA 22313 INSTRUMENT #160015497

> AVANTI HOLDINGS GROUP, LLC 1605 KING STREET, SUITE 3 ALEXANDRIA, VA 22314

TOPOGRAPHIC SURVEY WAS RUN BY THIS FIRM. VERTICAL DATUM USED = NAVD '88 PER CITY OF ALEXANDRIA MONUMENT #600. ELEVATION = 46.05'.

BOUNDARY REFERENCED TO VIRGINIA COORDINATE SYSTEM, 1983. MONUMENTS USED: CITY OF ALEXANDRIA GPS #600. N = 6,984,243.75 E = 11,896,279.33 CITY OF ALEXANDRIA GPS #601. N = 6,983,459.024 E = 11,896,257.24

- 5. A TITLE REPORT WAS FURNISHED BY CHICAGO TITLE INSURANCE COMPANY, FILE NO. VA15-0157, DATED 10/6/2016.
- 6. PLAT SUBJECT TO RESTRICTIONS OF RECORD.
- TOTAL SITE AREA = 34,921 S.F. OR 0.8017 AC.
- THERE ARE NO RESOURCE PROTECTION AREAS (RPA'S), TIDAL WETLANDS, SHORES, TRIBUTARY STREAMS, FLOOD PLAINS, OR BUFFER AREAS FOR SHORES, WETLANDS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS OR HIGHLY ERODIBLE/PERMEABLE SOILS LOCATED ON THIS SITE.
- NO KNOWN CONTAMINATED AREAS, CONTAMINATED SOILS OR ENVIRONMENTAL ISSUES ASSOCIATED WITH THIS SITE. THE SITE IS NOT KNOWN TO HAVE UNDERGROUND STORAGE TANKS, BE LOCATED WITHIN 1,000 FEET OF A FORMER SANITARY LANDFILL, DUMP, OR DISPOSAL AREA, OR CONTAIN AREAS WITH THE POTENTIAL OF GENERATING COMBUSTIBLE GASES.
- THE "GENERALIZED ALEXANDRIA SOILS MAP" IDENTIFIES THE SOILS FOR THIS SITE AS KEYPORT SILT LOAM. THE KEYPORT SILT LOAM OCCURS IN THE LOW, SMOOTH TERRACES ALONG THE POTOMAC RIVER. IT IS GENTLY UNDULATING WITH FAIRLY WELL ESTABLISHED DRAINAGE.
- 11. THIS SITE IS NOT IN AN AREA KNOWN TO CONTAIN MARINE CLAYS.

EXISTING STORM SEWER SCHEDULE

1	2	3	4
EX. CURB INLET TOP=45.40 INV. OUT=42.40	EX. STM. MH TOP=45.72 INV. IN=42.52 (E) INV. IN=42.42 (S) INV. OUT=42.32	EX. STM. MH TOP=46.08 INV. IN=42.03 (S) INV. IN=42.13 (E) INV. OUT=41.93	EX. CURB INLET TOP=44.96 INV. IN=41.86 (S INV. IN=41.86 (18' INV. OUT=41.76
EX. STM. INLET (FILLED W/ SILT) TOP=45.04 INV. IN=41.04 INV. OUT=40.94	EX. STM. MH (FILLED W/SILT & WATER) TOP=45.17 4.85 DOWN TO BOTTOM OF STRUCTURE	Z7 EX. CURB INLET TOP=45.91 INV. OUT=41.91	\(\lambda\) EX. CURB INLET TOP=45.66 INV. OUT=41.96
9 EX. STM. GRATE TOP=45.91 INV. OUT=42.86	\$\langle 10 \rangle\$ EX. CURB INLET TOP=46.32 INV. IN=42.02 INV. OUT=41.87	\(\sqrt{11}\) EX. CURB INLET TOP=45.65 INV. IN=41.35 INV. OUT=41.25	BENCHMARK #2 EX. CURB INLET TOP=45.37 INV. IN=40.97 INV. OUT=40.87
\(\square\) \(\frac{13}{3}\) EX. CURB INLET \(TOP=45.24\) INV. OUT=41.19	EX. CURB INLET TOP=45.23 INV. IN=40.33 INV. OUT=40.28	\(\sqrt{15}\) EX. CURB INLET TOP=45.24 INV. IN=40.19 INV. OUT=39.94	(16) EX. CURB INLET TOP=46.19 INV. IN=39.54 INV. OUT=39.34
ATA BENCHMARK #1 EX. CURB INLET (FILLED W/ SILT) TOP=48.00 INV. OUT=43.20	\(\sqrt{18}\) \(EX.\) STM. MH \(TOP=48.94\) \(INV.\) IN=38.74 (15", W) \(INV.\) IN=37.79 (30", S) \(INV.\) OUT=37.49	(19) EX. CURB INLET TOP=52.05 INV. OUT=45.85	EX. CURB INLET TOP=54.71 INV. IN=36.71 (30", INV. IN=38.51 (15", INV. OUT=36.61
(21) EX. CURB INLET	(22) EX. DRAIN		

	GRAF	PHIC	SCALE	
0'	15'	30'		60'
	1'	" = 3	30'	

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TOP=55.51

DEPARTMENT OF PLANNING & ZONING (TBS)=TO BE SAVED; (TBR)=TO BE REMOVED

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(19) 7" LOCUST **(TBS)**

(20) 10" OAK (TBS)

(21) 9" OAK **(TBS)**

(40) 6" LOCUST **(TBS)**

(41) 8" LOCUST (TBS)

(42) 7" LOCUST **(TBS)**

SITE PLAN NO. CHAIRMAN, PLANNING COMMISSION DATE RECORDED

DEED BOOK NO.

SPECIAL USE PERMIT NO. 2017-0020

APPROVED

ANDREA SPRUCH Lic. No. 047863

RMIT

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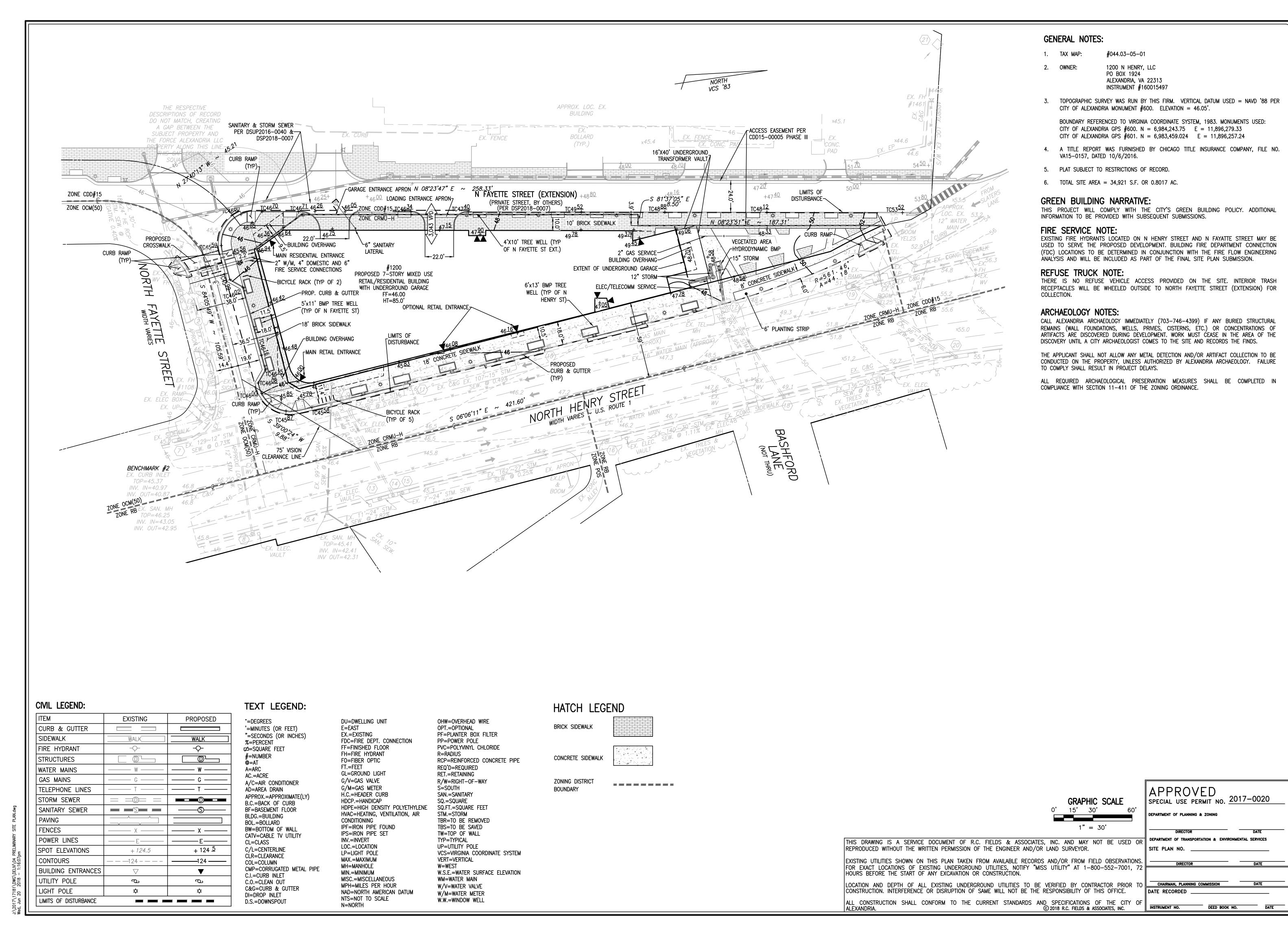
REVISION

DESIGN: ACS DRAWN: **BAD** SCALE: 1"=30' DATE: MAY 2018

EXISTING CONDITIONS

OF 1

LIMITS OF DISTURBANCE



GINEERING LAND SURVEYING PLANN

ANDREA SPRUCH
Lic. No. 047863
JUNE 21, 2018

ENT SPECIAL USE PERMIT

HENRY STREET

1200 NORTH HENRY
CITY OF ALEXANDRIA, VIR

OPMI

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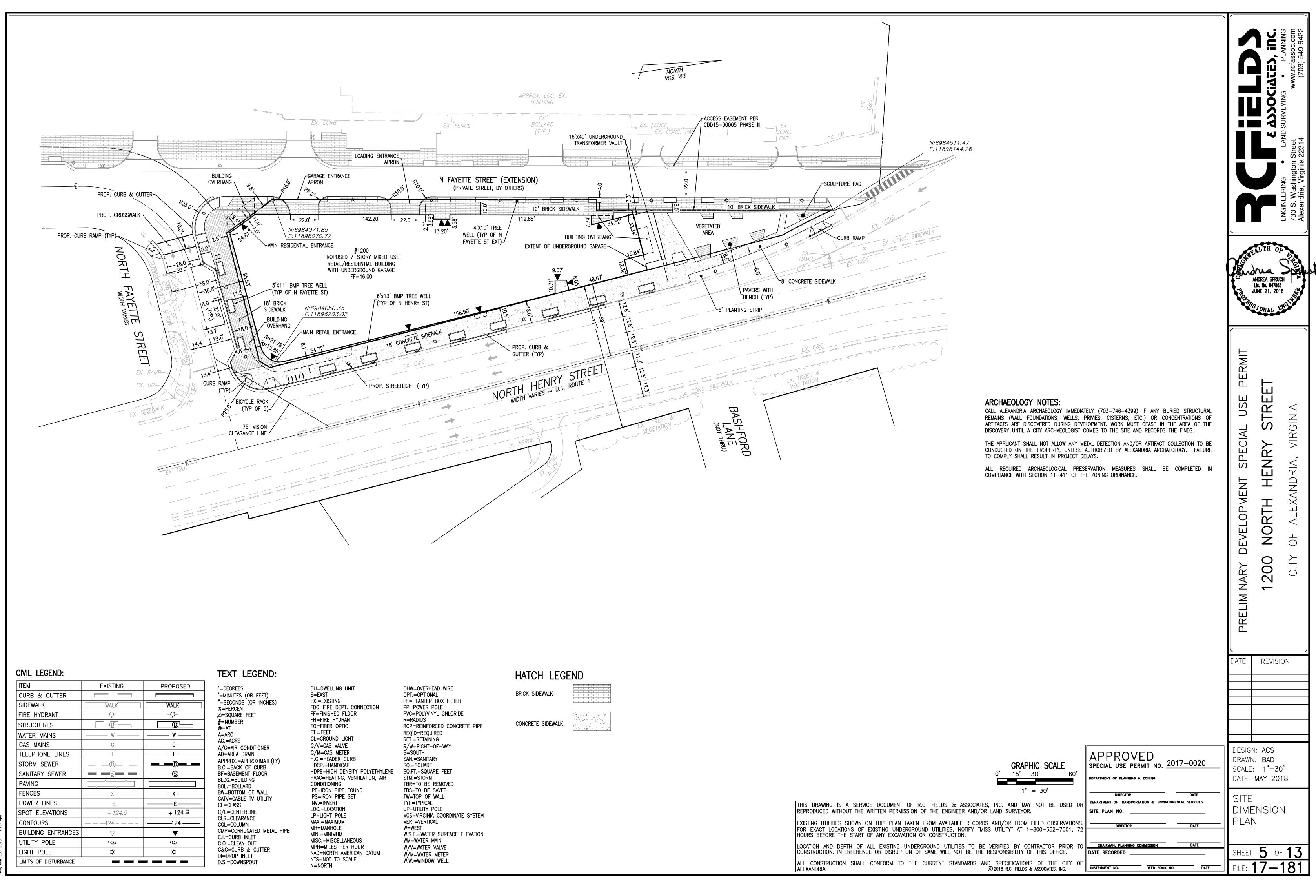
E REVISION

DESIGN: ACS
DRAWN: BAD
SCALE: 1"=30"

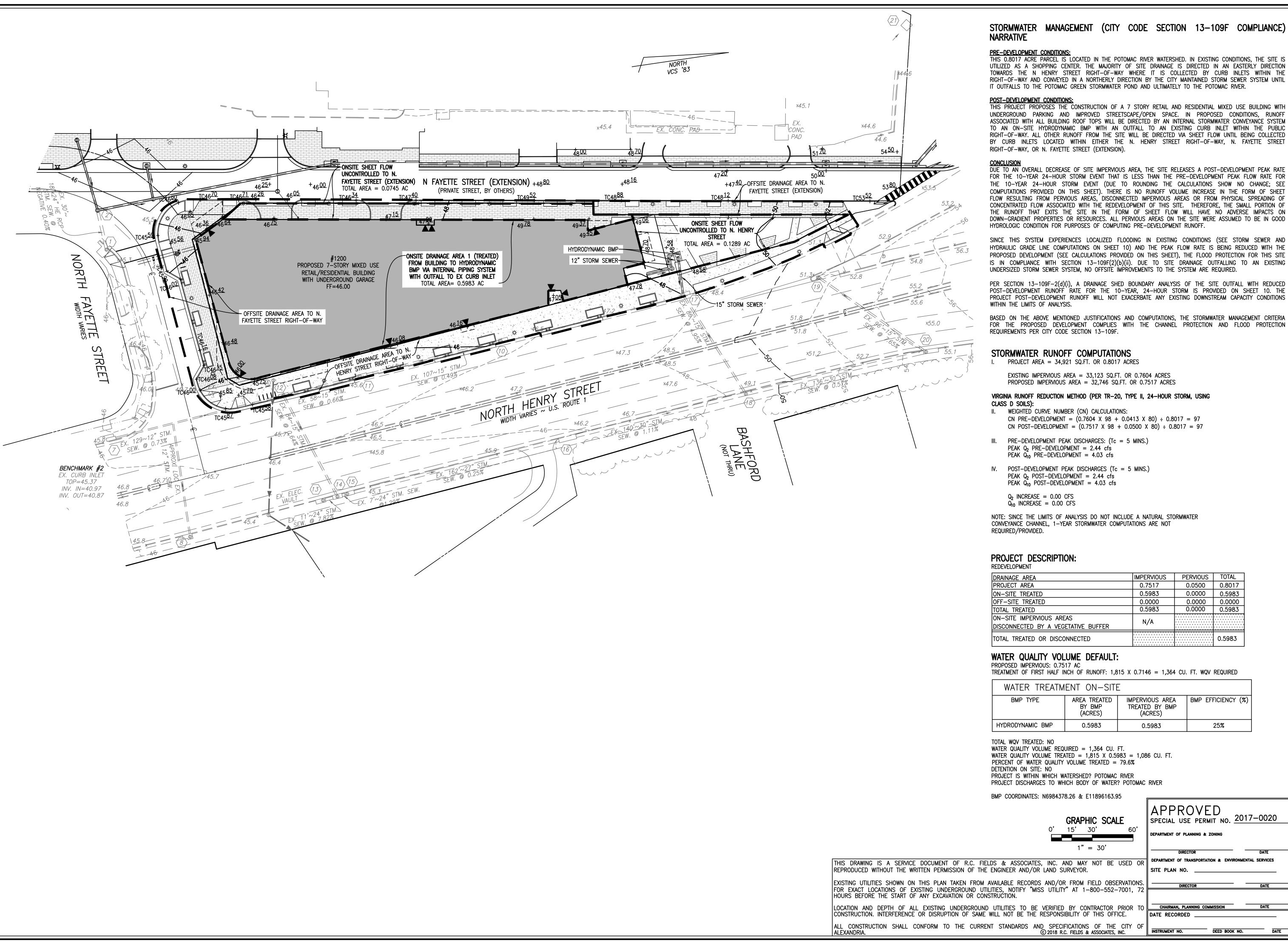
PRELIMINARY SITE PLAN

DATE: **MAY 2018**

SHEET 4 OF 13



J:\2017\17181\DWG\DELIV\05 SITE DIMENSION PLAN.dwg



STORMWATER MANAGEMENT (CITY CODE SECTION 13-109F COMPLIANCE)

UTILIZED AS A SHOPPING CENTER. THE MAJORITY OF SITE DRAINAGE IS DIRECTED IN AN EASTERLY DIRECTION TOWARDS THE N HENRY STREET RIGHT-OF-WAY WHERE IT IS COLLECTED BY CURB INLETS WITHIN THE RIGHT-OF-WAY AND CONVEYED IN A NORTHERLY DIRECTION BY THE CITY MAINTAINED STORM SEWER SYSTEM UNTIL

UNDERGROUND PARKING AND IMPROVED STREETSCAPE/OPEN SPACE. IN PROPOSED CONDITIONS, RUNOFF ASSOCIATED WITH ALL BUILDING ROOF TOPS WILL BE DIRECTED BY AN INTERNAL STORMWATER CONVEYANCE SYSTEM TO AN ON-SITE HYDRODYNAMIC BMP WITH AN OUTFALL TO AN EXISTING CURB INLET WITHIN THE PUBLIC RIGHT-OF-WAY. ALL OTHER RUNOFF FROM THE SITE WILL BE DIRECTED VIA SHEET FLOW UNTIL BEING COLLECTED BY CURB INLETS LOCATED WITHIN EITHER THE N. HENRY STREET RIGHT-OF-WAY, N. FAYETTE STREET

DUE TO AN OVERALL DECREASE OF SITE IMPERVIOUS AREA, THE SITE RELEASES A POST-DEVELOPMENT PEAK RATE FOR THE 10-YEAR 24-HOUR STORM EVENT THAT IS LESS THAN THE PRE-DEVELOPMENT PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT (DUE TO ROUNDING THE CALCULATIONS SHOW NO CHANGE; SEE COMPUTATIONS PROVIDED ON THIS SHEET). THERE IS NO RUNOFF VOLUME INCREASE IN THE FORM OF SHEET FLOW RESULTING FROM PERVIOUS AREAS, DISCONNECTED IMPERVIOUS AREAS OR FROM PHYSICAL SPREADING OF CONCENTRATED FLOW ASSOCIATED WITH THE REDEVELOPMENT OF THIS SITE. THEREFORE, THE SMALL PORTION OF THE RUNOFF THAT EXITS THE SITE IN THE FORM OF SHEET FLOW WILL HAVE NO ADVERSE IMPACTS ON DOWN-GRADIENT PROPERTIES OR RESOURCES. ALL PERVIOUS AREAS ON THE SITE WERE ASSUMED TO BE IN GOOD

SINCE THIS SYSTEM EXPERIENCES LOCALIZED FLOODING IN EXISTING CONDITIONS (SEE STORM SEWER AND HYDRAULIC GRADE LINE COMPUTATIONS ON SHEET 10) AND THE PEAK FLOW RATE IS BEING REDUCED WITH THE PROPOSED DEVELOPMENT (SEE CALCULATIONS PROVIDED ON THIS SHEET), THE FLOOD PROTECTION FOR THIS SITE IS IN COMPLIANCE WITH SECTION 13-109F(2)(b)(ii). DUE TO SITE DRAINAGE OUTFALLING TO AN EXISTING

PER SECTION 13-109F-2(d)(i), A DRAINAGE SHED BOUNDARY ANALYSIS OF THE SITE OUTFALL WITH REDUCED POST-DEVELOPMENT RUNOFF RATE FOR THE 10-YEAR. 24-HOUR STORM IS PROVIDED ON SHEET 10. THE PROJECT POST-DEVELOPMENT RUNOFF WILL NOT EXACERBATE ANY EXISTING DOWNSTREAM CAPACITY CONDITIONS

FOR THE PROPOSED DEVELOPMENT COMPLIES WITH THE CHANNEL PROTECTION AND FLOOD PROTECTION

DRAINAGE AREA	IMPERVIOUS	PERVIOUS	TOTAL
PROJECT AREA	0.7517	0.0500	0.8017
ON-SITE TREATED	0.5983	0.0000	0.5983
OFF-SITE TREATED	0.0000	0.0000	0.0000
TOTAL TREATED	0.5983	0.0000	0.5983
ON-SITE IMPERVIOUS AREAS	N/A		
DISCONNECTED BY A VEGETATIVE BUFFER	IN/A		
TOTAL TREATED OR DISCONNECTED			0.5983

WATER TREATM	ENT ON-SITE	=	
BMP TYPE	AREA TREATED BY BMP (ACRES)	IMPERVIOUS AREA TREATED BY BMP (ACRES)	BMP EFFICIENCY (%)
HYDRODYNAMIC BMP	0.5983	0.5983	25%



DESIGN: ACS DRAWN: BAD SCALE: 1"=30" DATE: MAY 2018

ANDREA SPRUCH

Lic. No. 047863

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REVISION

STORMWATER MANAGEMENT

1200 N. Henry Street

Project:

R.C. Fields & Associates

Water Quality:

Engineer:

Calculation Method: 1 in. First Flush Rainfall Data Area: Arlington, VA Report Date: 5/7/2018

Project Data:

Total Area: 0.60 acres Impervious Area: 0.60 acres Pipe Size: 12 HDPE **Treatment Flow Limit:** 5.55 cfs WQ Flow: 0.89 cfs

CrystalStream Summary:

This HLR: 16.61 gpm/sf Max HLR:

Special Note: All CrystalStream Technologies water quality devices offer <u>no</u> restrictions to storm water flow and are able to pass through all flows that are delivered to them.

Project Specific Data – Alexandria, VA

Water Quality Vault Specifications for 1200 N. Henry Street CST-1 Model 646

31.00 gpm/sf

This unit drains 0.60 acres, with a 25-year flow of 4.34 cfs. The target design flow for the Model 646 as configured is 6.00 cfs (for an internal vertical exit velocity of 1 fps). The resultant internal vertical exit velocity of a 4.34 cfs inflow is 0.72 fps, which is within the range of the speed needed to restrict sediment export during this studied storm. Maximum design flows can vary based on site hydrology and pollutant characteristics.

The internal velocity at the 1" water quality (first flush) storm peak flow of 0.89 cfs (see calculation below) is 0.15 fps. During this peak, the scour velocity of 0.15 fps (0.05 m/s) for 8 micron particles is not exceeded, and all lesser storms will have lower velocities. This unit meets local standards during this peak event, and will exceed them at other times. Regularly scheduled maintenance will assure low exposure to high peak flows.

Calculation for Peak Discharge of Water Quality Storm

1"- 24 hour peak flow (Modified SCS Method, after Pitt)

Assumptions:

A = 0.60 acres of drainage area = 26,062 sf. CN = 98, $T_c = 5$ min. = 0.08 hr. I_a read from TR-55 Table 4-1 for 98 = 0.041 I_a / P = 0.041 (See SCS Type II Unit Peak Discharge, read Q_u at 0.08 hr and I_a/P) $Q_u = 1000 \text{ csm}$

%I = 0.60 ac. Impervious / 0.60 ac. Total X (100) = 100% $R_v = .009 (I) + .05 = .009 (100) + .05 = 0.95$ $WQ_{B} = 1" * 0.95 = 0.950 in./ac.$

WQ Flow Calculation:

A = 0.60 ac. / 640 ac. / sq. mi. = 0.00093 sq. mi. $Q_p = Q_u^* A^* WQ_B = 1000 \text{ csm / in. } *0.00093 \text{ sq. mi. } *0.950 \text{ in / ac.}$

HLR Design Criterion (Per Figure 1 Chart)

Model 646 - Target HLR = 26.00 This Project HLR = 16.61 OK [HLR = (0.89 cfs * 448.8 gpm/cfs)/24 sf = 16.61 gpm/sf]

General Specifications (See detail sheet)

The spill protection capacity, under normal conditions, where the ambient water level in the front portion of the vault can be replaced with spill material is 586 gallons. In an artificial or emergency situation where the downstream pipe is blocked, the maximum spill storage capacity, above the trapped ambient water, is 440 gallons. This volume does not include storage in the upstream piping system.

This unit is not subject to traffic loadings and is constructed with 5,000 psi, 6" reinforced concrete walls and floor.

The 0.50 ft. riser/lid combination above the unit is constructed in the same manner as the walls.

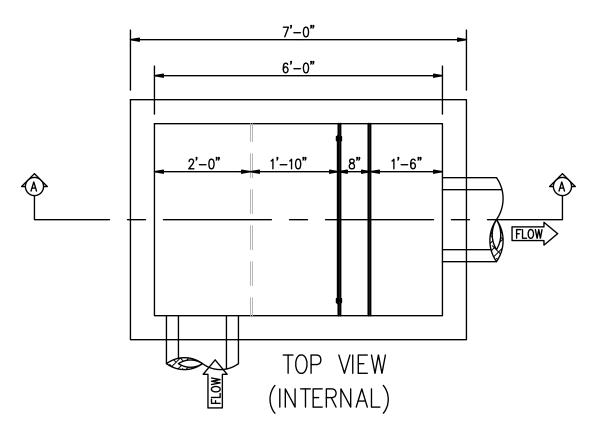
A 3' x 3' aluminum hatch and a 24" manhole in the reinforced concrete lid provide easy access for cleaning.

A separate oil chamber is provided with an adjustable weir. This weir will be set at the approximate 6 month, 30 minute storm intensity, so that oil should be pushed over the skimmer at least once during two clean out cycle periods. The weir will be adjusted based on actual field results.

The exit pipe, when evaluated as a submerged circular orifice under inlet control will flow a maximum of 5.55 cfs with the water level in the vault at the top of the oil reservoir. This is sufficient to pass the 100+ year flow coming to the unit as configured.

CrystalStream Technologies Principal Engineer

Manufactured by: Practical Best Management — 1—800—748—6945 www.crystalstream.com



Ship hatch, frame, manhole ring and cover cast flush into lid. Lid

elevation may be slightly above surrounding grade to provide positive

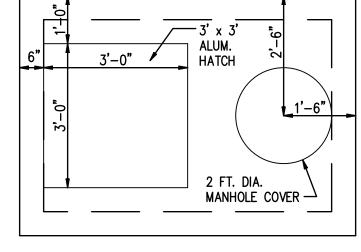
—® _{SEAM}

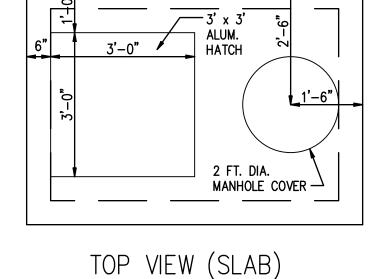
— 6" THICK CONC.

TOP W/ HATCH AND

MANHÓLE ACCESS

2 FT. DIA. MANHOLE COVER —





UST BE REVIEWING CFS. MUST RATE (OR SUBSTITUTIONS N E ENGINEER AND THE

TystalStrectic is copyrighted T, inc. It is prow amed hereon. Design Named Hereon.

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APPROVED

DEPARTMENT OF PLANNING & ZONING

CHAIRMAN, PLANNING COMMISSION

SITE PLAN NO.

DATE RECORDED

INSTRUMENT NO.

SPECIAL USE PERMIT NO. 2017-0020

DEED BOOK NO.

Hen \dot{z}

LEGEND 1 EXPANDED ALUMINUM BASKET W/ 1/4" MESH LINING. 1'-6" H x 1'-6" \dot{L} x $\dot{4}$ '-0" W. Upfit 3'-9" FROM SUMP

3 2ND INTERNAL BAFFLE W/ 1" HOLES DRILLED AT 1 1/4" O.C., 4'-0" H.

1. ALL PIPES SHALL BE CONSTRUCTED TO BE FLUSH WITH

2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL PIPES AND STRUCTURES BETWEEN AND AROUND THE

3. ALL VAULT LIFTING CONNECTIONS SHALL BE LOCATED

4. CONCRETE VAULT PRE-CASTER IS RESPONSIBLE FOR

THE STRUCTURAL INTEGRITY OF THE CONCRETE VAULTS. WALL AND SLAB THICKNESSES SHALL BE ALTERED

THE INSIDE WALLS.

ACCORDINGLY.

WATER QUALITY VAULTS.

ON THE OUTSIDE OF THE VAULT WALLS.

4) SPILL PROTECTION RESERVOIR 4'-0" H. WITH A 0'-11" FRONT CUT.

5 3/4"COCONUT FIBER FILTER IN ALUMINUM FRAME 1'-8" LONG.

6 1/4"ALUMINUM PLATE, 9" H., 3'-6" WIDE.

CST-1

evice A0-

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OPMENT RELIMINARY

DATE | REVISION

ANDREA SPRUCH Lic. No. 047863

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DESIGN: ACS DRAWN: **BAD**

SCALE: AS NOTED

DATE: **MAY 2018**

ON-SITE BMP DESIGN AND DETAILS

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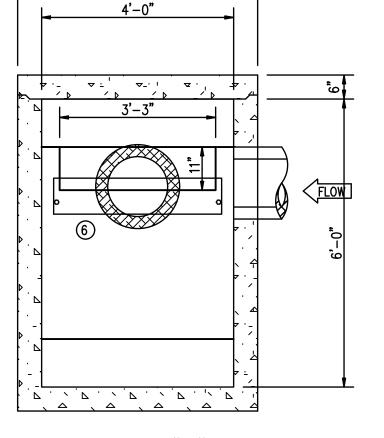
1 INFLOW PIPE — OUTFLOW PIPE 12" HDPE 15" HDPE INVERT IN INVERT OUT 3 **45.70 45.70 45.70 45.70** 45.50 6 INCH THICK WALLS --6' L x 4' W x 6' H SUMP PRECAST CONCRETE BOX 41.95 \ ∟® SECTION "A"

drainage away from the device.

TOP = 48.45 -

JURISDICTION: Alexandria, VA

(SEE ELEV. NOTE)



SECTION "B"

CRYSTALSTREAM "CRYSTALCLEAN" WATER QUALITY VAULT MODEL "646"

LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

- 2" DOUBLE SHREDDED HARDWOOD MULCH

└-9" VDOT #57 STONE

- COPING CURB

SIDEWALK

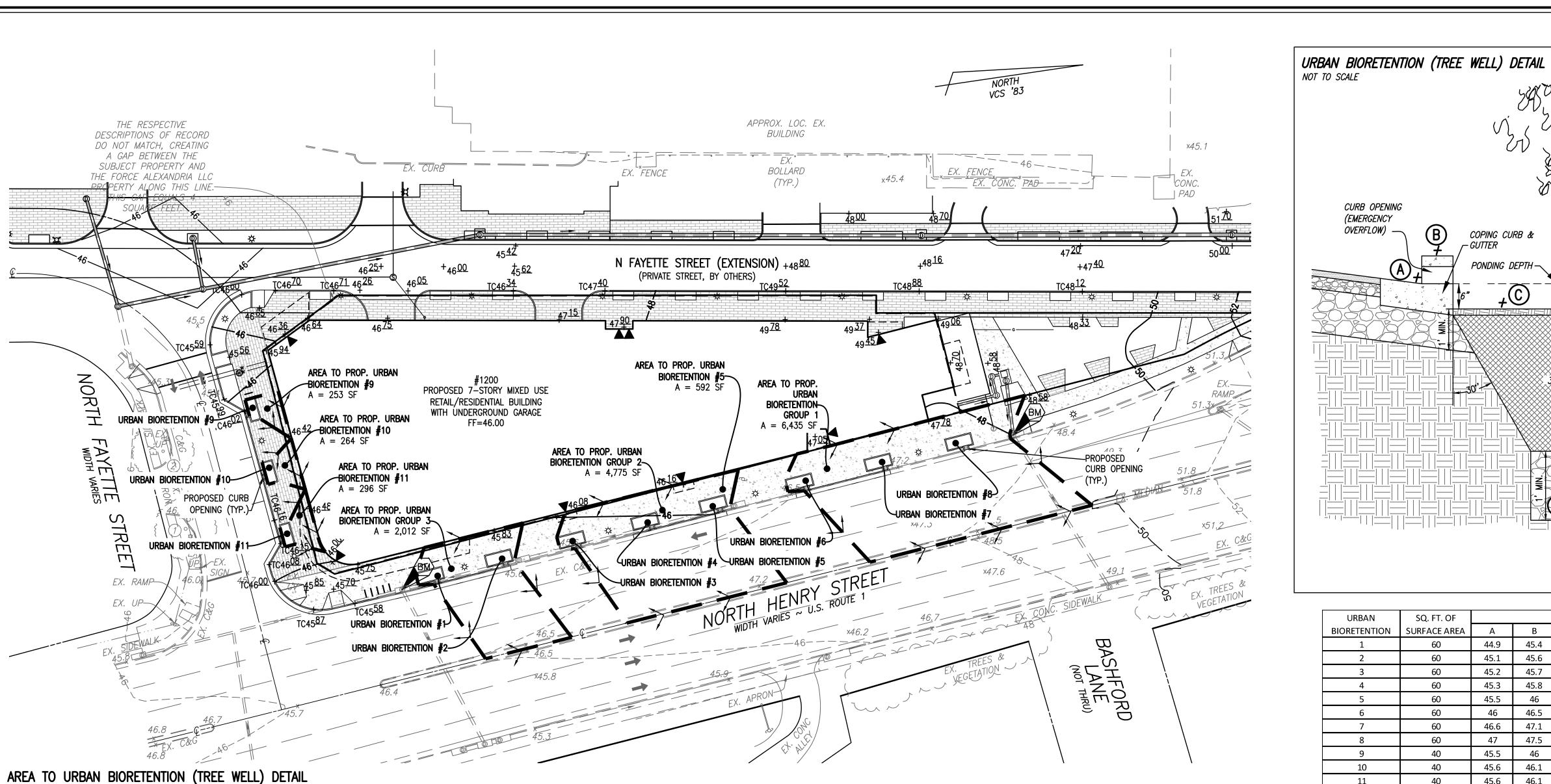
DEVELOPMENT

PRELIMINARY

DATE: **MAY 2018**

OFF-SITE BMP DESIGN AND DETAILS

SHEET **8** OF **13**



ELEVATIONS URBAN SQ. FT. OF **BIORETENTION** SURFACE AREA NORTH 11896207.29 6984165.35 11896203.30 60 6984201.78 4 44.8 11896199.49 5 6984235.60 11896196.67 11896192.07 46.1 42.4 11896187.87 47.5 46.5 42.8 47.7 6984356.38 11896184.40 45.6 46.1 45.1 41.4 46.3 6984026.70 11896150.44 45.6 46.1 45.1 41.4 46.3 6984030.95 40 11896181.67

WATER QUALITY VOLUME

SCALE: 1" = 30'

CALCULATIONS FOR GROU	JP 1:
Contributing Drainage	Area
Roadway to be Treated	4,425 SF
Sidewalk to be Treated	2,030 SF
Contributing Drainage Area	6,455 SF
Treatment Volume Required	268.96 CF
Water Quality Sizing Com	putations
Min. Surface Area (Gross)	537.92 SF
Infiltration Ponding	0.00 FT
Min. Surface Area (Net)	537.92 SF
Fill Time	1 HR
Infiltration	0.0000 FT/HI
Depth of Soil	3.00 FT
Ponding Depth	0.50 FT
Lanscape Sizing Compu	tations
Type of Practice	Tree Wells
Tree Spacing	40 FT
Number of Practices Proposed	3
Surface Area per Practice	179.31 SF
Width of Practice	5.00 FT
Min. Length of Practice	35.86 FT
Length of Practice	12.00 FT
Depth of Soil	2.50 FT
Soil Volume Provided	150.00 CF
Additional Soil Volume Required	300.00 CF

WATER QUALITY VOLUME CALCULATIONS FOR GROUP 2:

Contributing Drainage Area			
Roadway to be Treated	3,187 SF		
Sidewalk to be Treated	1,588 SF		
Contributing Drainage Area	4,775 SF		
Treatment Volume Required	198.96 CF		
Water Quality Sizing Com	putations		
Min. Surface Area (Gross)	397.92 SF		
Infiltration Ponding	0.00 FT		
Min. Surface Area (Net)	397.92 SF		
Fill Time	1 HR		
Infiltration	0.0000 FT/HR		
Depth of Soil	3.00 FT		
Ponding Depth	0.50 FT		
Lanscape Sizing Compu	tations		
Type of Practice	Tree Wells		
Tree Spacing	35 FT		
Number of Practices Proposed	3		
Surface Area per Practice	132.64 SF		
Width of Practice	5.00 FT		
Min. Length of Practice	26.53 FT		
Length of Practice	12.00 FT		
Depth of Soil	3.00 FT		
Soil Volume Provided	180.00 CF		
Additional Soil Volume Required	270.00 CF		

WATER QUALITY VOLUME

CALCULATIONS FOR GRO	UP 3:
Contributing Drainage	e Area
Roadway to be Treated	1,701 SF
Sidewalk to be Treated	870 SF
Contributing Drainage Area	2,571 SF
Treatment Volume Required	107.13 CF
Water Quality Sizing Com	putations
Min. Surface Area (Gross)	214.25 SF
Infiltration Ponding	0.00 FT
Min. Surface Area (Net)	214.25 SF
Fill Time	1 HR
Infiltration	0.0000 FT/HR
Depth of Soil	3.00 FT
Ponding Depth	0.50 FT
Lanscape Sizing Compu	tations
Type of Practice	Tree Wells
Tree Spacing	35 FT
Number of Practices Proposed	2
Surface Area per Practice	107.13 SF
Width of Practice	5.00 FT
Min. Length of Practice	21.43 FT
Length of Practice	12.00 FT
Depth of Soil	3.00 FT
Soil Volume Provided	180.00 CF
Additional Soil Volume Required	270.00 CF

WATER QUALITY VOLUME CALCULATIONS FOR BOX 9:

Contributing Drainage Area			
Roadway to be Treated	0 SF		
Sidewalk to be Treated	253 SF		
Contributing Drainage Area	253 SF		
Treatment Volume Required	10.54 CF		
Water Quality Sizing Com	outations		
Min. Surface Area (Gross)	21.08 SF		
Infiltration Ponding	0.00 FT		
Min. Surface Area (Net)	21.08 SF		
Fill Time	1 HR		
Infiltration	0.0000 FT/HR		
Depth of Soil	3.00 FT		
Ponding Depth	0.50 FT		
Lanscape Sizing Compu	tations		
Type of Practice	Tree Wells		
Tree Spacing	32 FT		
Number of Practices Proposed	1		
Surface Area per Practice	21.08 SF		
Width of Practice	4.00 FT		
Min. Length of Practice	5.27 FT		
Length of Practice	10.00 FT		
Depth of Soil	3.00 FT		
Soil Volume Provided	120.00 CF		
Additional Soil Volume Required	330.00 CF		

WATER QUALITY VOLUME CALCULATIONS FOR BOX 10:

Contributing Drainage	Area
Roadway to be Treated	0 SF
Sidewalk to be Treated	264 SF
Contributing Drainage Area	264 SF
Treatment Volume Required	11.00 CF
Water Quality Sizing Comp	outations
Min. Surface Area (Gross)	22.00 SF
Infiltration Ponding	0.00 FT
Min. Surface Area (Net)	22.00 SF
Fill Time	1 HR
Infiltration	0.0000 FT/HF
Depth of Soil	3.00 FT
Ponding Depth	0.50 FT
Lanscape Sizing Comput	tations
Type of Practice	Tree Wells
Tree Spacing	32 FT
Number of Practices Proposed	1
Surface Area per Practice	22.00 SF
Width of Practice	4.00 FT
Min. Length of Practice	5.50 FT
Length of Practice	10.00 FT
Depth of Soil	3.00 FT
Soil Volume Provided	120.00 CF
Additional Soil Volume Required	330.00 CF

WATER QUALITY VOLUME CALCULATIONS FOR BOX 11:

CURB OPENING

COPING CURB &

– GUTTER

(EMERGENCY OVERFLOW) -

Contributing Drainage Area			
Roadway to be Treated	0 SF		
Sidewalk to be Treated	295 SF		
Contributing Drainage Area	295 SF		
Treatment Volume Required	12.29 CF		
Water Quality Sizing Comp	outations		
Min. Surface Area (Gross)	24.58 SF		
Infiltration Ponding	0.00 FT		
Min. Surface Area (Net)	24.58 SF		
Fill Time	1 HR		
Infiltration	0.0000 FT/HR		
Depth of Soil	3.00 FT		
Ponding Depth	0.50 FT		
Lanscape Sizing Comput	tations		
Type of Practice	Tree Wells		
Tree Spacing	32 FT		
Number of Practices Proposed	1		
Surface Area per Practice	24.58 SF		
Width of Practice	4.00 FT		
Min. Length of Practice	6.15 FT		
Length of Practice	10.00 FT		
Depth of Soil	3.00 FT		
Soil Volume Provided	120.00 CF		
Additional Soil Volume Required	330.00 CF		

GRAPHIC SCALE 0' 15' 30' 1" = 30'

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INSTRUMENT NO. DEED BOOK NO. DATE

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CLEAR ALL

data input cells constant values calculation cells final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) $ o $	1.28
Maximum reduction required:	20%
The site's net increase in impervious cover (acres) is:	0
Doct Development TD Lord Deduction for Cite (Ib (m))	0.22

BMP Design Specifications List: 2013 Draft Stds & Specs Linear project? No Land cover areas entered correctly? Total disturbed area entered? ✓ Total disturbed area > Post-Development area!

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) undisturbed					0.00
forest/open space					0.00
Managed Turf (acres) disturbed, graded					0.04
for yards or other turf to be				0.04	0.04
Impervious Cover (acres)				0.76	0.76
					0.80

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) undisturbed,					0.00
protected forest/open space or reforested					0.00
Managed Turf (acres) disturbed, graded					0.05
for yards or other turf to be				0.05	0.03
Impervious Cover (acres)				0.75	0.75
Area Check	OK.	OK.	OK.	OK.	0.80

Constants Annual Rainfall (inches) Target Rainfall Event (inches) 1.00 Total Phosphorus (TP) EMC (mg/L) 0.26 1.86 Total Nitrogen (TN) EMC (mg/L)

Target TP Load (lb/acre/yr)

j (unitless correction factor)

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								
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)	0.04	0.04						
Weighted Rv(turf)	0.25	0.25						
% Managed Turf	5%	5%						
Impervious Cover (acres)	0.76	0.76						
Rv(impervious)	0.95	0.95						
% Impervious	95%	95%						
Total Site Area (acres)	0.80	0.80						

0.41 0.90

Site Rv	0.91	0.91
Treatment Volume an	d Nutrient L	oad
Pre-ReDevelopment Treatment Volume (acre-ft)	0.0611	0.0611
Pre-ReDevelopment Treatment Volume (cubic feet)	2,660	2,660
Pre-ReDevelopment TP Load (lb/yr)	1.67	1.67
Pre-ReDevelopment TP Load per acre (Ib/acre/yr)	2.08	2.08
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment	0.33	

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.

pervious land 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 requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Land Cover Summar	y-Post (Final)	Land Cover Sum	mary-Post	Land Cover Summo	Land Cover Summary-Post			
Post ReDev. & Nev	v Impervious	Post-ReDeve	opment	Post-Development New	v Impervious			
Forest/Open Space Cover (acres)	0.00	Forest/Open Space Cover (acres)	0.00					
Weighted Rv(forest)	0.00	Weighted Rv(forest)	0.00					
% Forest	0%	% Forest	0%					
Managed Turf Cover (acres)	0.05	Managed Turf Cover (acres)	0.05					
Weighted Rv (turf)	0.25	Weighted Rv (turf)	0.25					
% Managed Turf	6%	% Managed Turf	6%					
Impervious Cover (acres)	0.75	ReDev. Impervious Cover (acres)	0.75	New Impervious Cover (acres)	0.00			
Rv(impervious)	0.95	Rv(impervious)	0.95	Rv(impervious)				
% Impervious	94%	% Impervious	94%					
Final Site Area (acres)	0.80	Total ReDev. Site Area (acres)	0.80					
Final Post Dev Site Rv	0.91	Re Dev Site Rv	0.91					

LAND COVER SUMMARY -- POST DEVELOPMENT

	Treatment Volume and Nutrient Load										
Final Post- Development Treatment Volume (acre-ft)	0.0606	Post-ReDevelopment Treatment Volume (acre-ft)	0.0606	Post-Development Treatment Volume (acre-ft)							
Final Post- Development Treatment Volume (cubic feet)	2,638	Post-ReDevelopment Treatment Volume (cubic feet)	2,638	Post-Development Treatment Volume (cubic feet)							
Final Post- Development TP Load (lb/yr)	1.66	Post-ReDevelopment Load (TP) (lb/yr)*	1.66	Post-Development TP Load (lb/yr)							
Final Post-Development TP Load per acre (lb/acre/yr)	2.07	Post-ReDevelopment TP Load per acre (lb/acre/yr)	2.07								
		Max. Reduction Require	30%								

P Load Reduction Required for Redeveloped Area (lb/yr)	0.32	TP Load Reduction Required for New Impervious Area (lb/yr)	0

Post-Development Requirement for Site Area TP Load Reduction Required (lb/yr) 0.32

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (Ib/yr)	11.95
--------------------------------------	-------

Final Post-Development TN Load	
(Post-ReDevelopment & New	11.86
Impervious) (lb/yr)	

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)					0.00	0.00
Impervious Cover (acres)				0.60	0.60	0.95
				Total	0.60	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr Post Development Treatment Volume in D.A. A (ft³)

()	1.30
3)	2,063

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft ³)	Runoff Reduction (ft ³)	Remaining Runoff Volume (ft ³)	Total BMP Treatment Volume (ft ³)	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
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-	0		0.60	0	0	2,063	2,063	25	0.00	1.29	0.32	0.97	

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.60	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.60	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	
Site Treatment Volume (ft ³)	2,638					
	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft ³)	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	1.30	0.00	0.00	0.00	0.00	1.30
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.32	0.00	0.00	0.00	0.00	0.32
TP LOAD REMAINING (lb/yr)	0.97	0.00	0.00	0.00	0.00	0.97
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
Total Phosphorus						
FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	1.66	7				
TP LOAD REDUCTION REQUIRED (lb/yr)	0.32					
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.32					
TP LOAD REMAINING (lb/yr):	1.33					
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00	**				
**No fur	ther TP load re	eduction required				
Total Nitrogen (For Information Purposes)						
POST-DEVELOPMENT LOAD (lb/yr)	11.86	1				
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00					
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	11.86					

STORM WATER QUALITY NARRATIVE (CITY CODE SECTION 13-109E COMPLIANCE):

THE PROPOSED REDEVELOPMENT (APPROXIMATELY 1.28 ACRES OF DISTURBANCE) GENERATES A NET DECREASE OF IMPERVIOUS AREA FROM PRE-DEVELOPMENT CONDITIONS. PER CITY CODE SECTION 13-109E-(5)(a), DEVELOPMENT OF PRIOR DEVELOPED LANDS RESULTING IN NO NET INCREASE IN IMPERVIOUS AREA AND DISTURBING GREATER THAN 1 ACRE MUST RESULT IN A 20% DECREASE IN PHOSPHORUS LOADING FROM THE PRE-DEVELOPMENT TOTAL PHOSPHORUS LOAD.

THE VIRGINIA RUNOFF REDUCTION METHOD WAS UTILIZED TO DETERMINE THE STORM WATER QUALITY MANAGEMENT PERFORMANCE REQUIREMENTS FOR THIS PROJECT. A MANUFACTURED TREATMENT DEVICE (HYDRODYNAMIC FACILITY) IS PROPOSED WITH THIS DEVELOPMENT TO TREAT THE MAJORITY OF RUNOFF FROM THE ROOF OF THE PROPOSED BUILDING. THE REQUIRED REDUCTION IN TOTAL PHOSPHOROUS IS 0.32 LB AND THE REDUCTION ACHIEVED (0.32 LB) MEETS THE REQUIRED 20% REDUCTION (SEE SPREADSHEET ON THIS SHEET). THEREFORE, THE WATER QUALITY MANAGEMENT PERFORMANCE REQUIREMENTS FOR THE PROPOSED DEVELOPMENT PER CITY CODE SECTION 13-109E-(5)(a) HAVE BEEN MET.

A CONTRIBUTION TO THE ALEXANDRIA WATER QUALITY IMPROVEMENT FUND WILL BE MADE FOR THAT PORTION OF THE WATER QUALITY VOLUME NOT TREATED IN COMPLIANCE WITH CITY CODE SECTION 13-109E-(9) AND SECTION 13-110.

> APPROVED SPECIAL USE PERMIT NO. 2017-0020 DEPARTMENT OF PLANNING & ZONING

> > CHAIRMAN, PLANNING COMMISSION

INSTRUMENT NO.

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DEED BOOK NO.

STORMWATER DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES QUALITY COMPUTATIONS

PERMIT

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DATE | REVISION

DESIGN: ACS

DRAWN: **BAD**

SCALE: **AS NOTED** DATE: **MAY 2018**

HR.

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THIS DRAWING IS A SERVICE DOCUMENT OF R.C. FIELDS & ASSOCIATES, INC. AND MAY NOT BE USED OR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER AND/OR LAND SURVEYOR. SITE PLAN NO. _____ EXISTING UTILITIES SHOWN ON THIS PLAN TAKEN FROM AVAILABLE RECORDS AND/OR FROM FIELD OBSERVATIONS. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE. DATE RECORDED

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF

PRE-DEVELOPMENT CONDITIONS:

THE 0.80 ACRE SITE IS LOCATED IN THE POTOMAC RIVER WATERSHED. IN EXISTING CONDITIONS, THE SITE CONSISTS OF A RETAIL CENTER WITH ASSOCIATED PARKING AND VERY LITTLE LANDSCAPED OPEN SPACE. THE PROJECT SITE HAS TWO OUTFALL POINTS.

OUTFALL #1: THE MAJORITY OF THE PROJECT SITE DRAINS TO THE EXISTING STORM SYSTEM IN THE NORTH HENRY STREET RIGHT-OF-WAY. RUNOFF FROM A PORTION OF THE BUILDING AND THE MAJORITY OF THE SURFACE PARKING IS COLLECTED IN AN UNDERGROUND STORM SEWER SYSTEM THAT CONNECTS TO THE CITY MAINTAINED STORM SEWER SYSTEM LOCATED IN THE NORTH HENRY STREET RIGHT-OF-WAY. DRAINAGE IS CONVEYED EAST INTO THE CITY STORM SEWER WHERE IT IS CONVEYED NORTH BY A 30" STORM SEWER, INTO A 48" STORM SEWER, AND EVENTUALLY OUTFALLS TO THE POTOMAC RIVER.

OUTFALL #2: THE REMAINDER OF THE RUNOFF FROM THE PROJECT SITE IS CONVEYED BY PIPED DOWNSPOUTS TO THE EXISTING CITY STORM SEWER IN NORTH FAYETTE STREET RIGHT—OF—WAY. ONCE WITHIN THE CITY STORM SEWER, IT IS CONVEYED NORTH TO A POINT WHERE IT JOINS WITH THE RUNOFF FROM OUTFALL #1. AT THIS POINT, THE TWO FLOW REGIMES COMBINE AND CONTINUE NORTH WITHIN A 48" STORM SEWER AND EVENTUALLY OUTFALL TO THE POTOMAC RIVER.

POST-DEVELOPMENT CONDITIONS:

THE REDEVELOPMENT OF THE PROJECT PROPOSES A MIXED USE BUILDING WITH IMPROVED STREETSCAPE/OPEN SPACE. OVERALL IMPERVIOUS AREA WILL DECREASE WITH THE PROPOSED CONSTRUCTION AND THERE WILL BE ONE OUTFALL POINT (OUTFALL #1).

AS IN EXISTING CONDITIONS, RUNOFF FROM THE PROPOSED BUILDING IS COLLECTED IN AN UNDERGROUND STORM SEWER SYSTEM THAT CONNECTS TO THE CITY MAINTAINED STORM SEWER SYSTEM LOCATED IN THE NORTH HENRY STREET RIGHT-OF-WAY. THE OPEN SPACE ON-SITE WILL SHEETFLOW TO THE NORTH HENRY STREET RIGHT-OF-WAY AND BE COLLECTED BY THE EXISTING STORM SYSTEM IN PLACE. DRAINAGE IS CONVEYED EAST AND NORTH WHERE IT IS CONVEYED WITHIN A 30" AND 48" STORM PIPES AND EVENTUALLY OUTFALL TO THE POTOMAC RIVER.

CONCLUSIO

THE POINT OF OUTFALL FOR OUTFALL #1 IS AN EXISTING CURB INLET (LABELED EXISTING STRUCTURE 1 ON THIS SHEET) LOCATED EAST OF THE PROPERTY WITHIN NORTH HENRY STREET. THE DRAINAGE AREA TO THE OUTFALL POINT IS 1.22 ACRES. THE POINT OF CONFLUENCE IS WHERE THIS RECEIVING PIPE IS JOINED BY ANOTHER WATERSHED THAT IS AT LEAST 90% OF THE FIRST DRAINAGE AREA AT THE OUTFALL POINT. FOR OUTFALL #1, THE POINT OF CONFLUENCE IS AN EXISTING MANHOLE (LABELED AS EXISTING STRUCTURE 2) WITH A DRAINAGE AREA OF 6.62 ACRES (543% OF THE FIRST DRAINAGE AREA). THE LIMITS OF ANALYSIS INCLUDES ANALYZING THE OUTFALL SYSTEM 150' DOWNSTREAM OF THE POINT OF CONFLUENCE (ENDING AT THE EXISTING INLET LABELED AS EXISTING 4 ON THIS SHEET).

COMPUTATIONS SHOWN ON THIS SHEET DEMONSTRATE THAT THE EXISTING SYSTEM EXPERIENCES LOCALIZED FLOODING IN EXISTING CONDITIONS. THE PEAK FLOW RATE IS BEING REDUCED WITH THE PROPOSED DEVELOPMENT AS SHOWN ON SHEET 6. THE FLOOD PROTECTION FOR THIS SITE IS THEREFORE IN COMPLIANCE WITH SECTION 13-109F(2)(b)(ii). DUE TO SITE DRAINAGE OUTFALLING TO AN EXISTING UNDERSIZED MANMADE STORM SEWER SYSTEM, NO OFFSITE IMPROVEMENTS TO THE SYSTEM ARE REQUIRED.

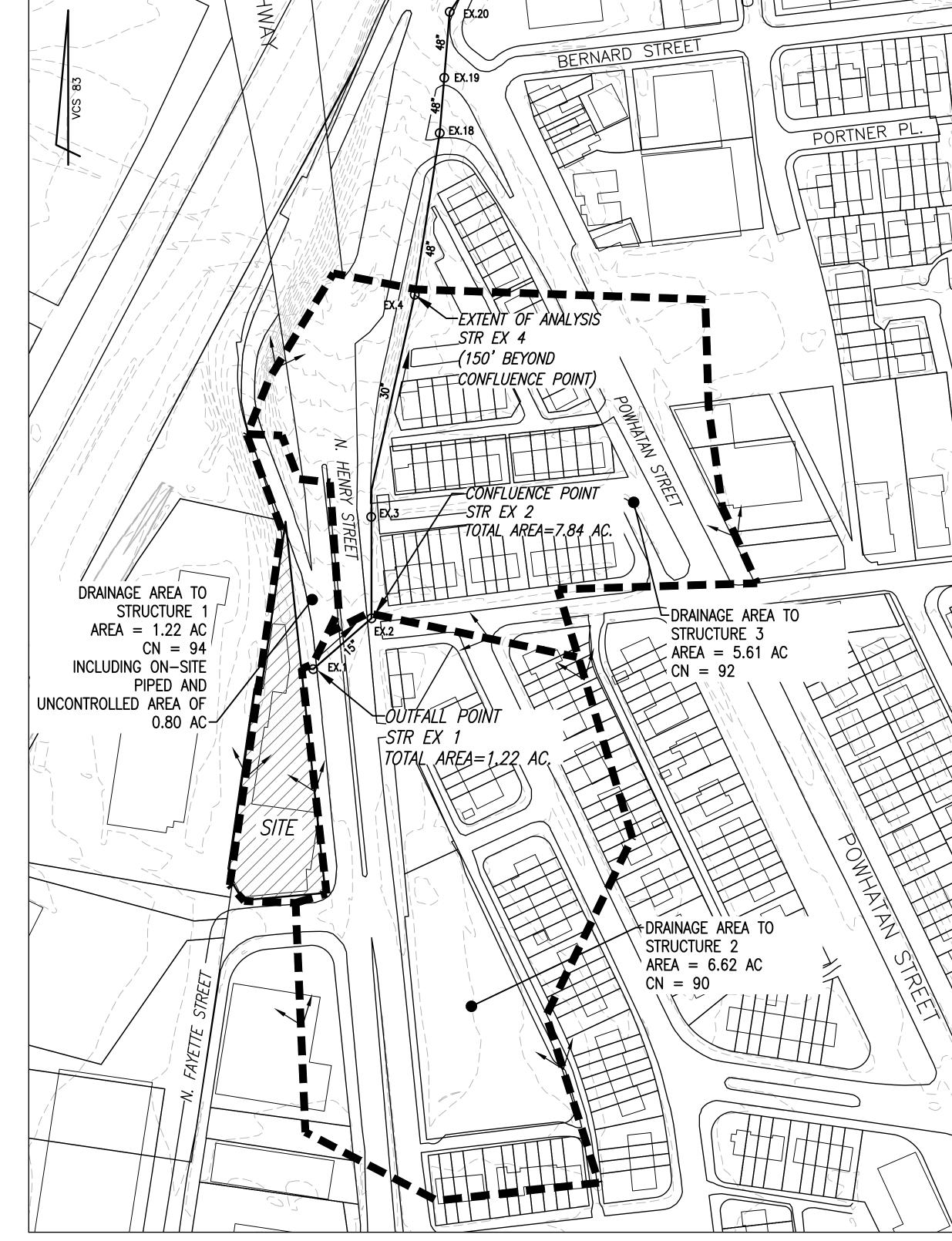
PER THE LIMITS OF ANALYSIS PER CITY CODE SECTION 13-109F-2(d)(i) AND REDUCED POST-DEVELOPMENT RUNOFF RATE FOR THE 10-YEAR, 24-HOUR STORM, THE PROJECT POST-DEVELOPMENT RUNOFF WILL NOT EXACERBATE ANY EXISTING DOWNSTREAM CAPACITY CONDITIONS.

STORM SEWER OUTFALL COMPUTATIONS

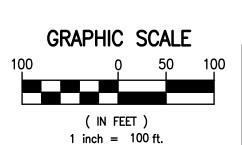
STF	UCTURE		4	<u>α</u>	I				o _C					7		_	
FROM	<u>و</u>	INC. DRAINAGE AREA (AC)	ACCUM. DRAINAGE ARE, (AC)	CURVE NUMBEI (CN)	RAINFALL DEPT (IN)	T _c (MINUTES)	INCREMENTAL "Q" (CFS)	ACCUMULATED "Q" (CFS)	PIPE DIAMETER (IN)	SLOPE (%)	"u"	MAXIMUM "Q" (CFS)	MAXIMUM VELOCITY (FPS	LENGTH OF RUN (FT)	UPPER INVERT	LOWER INVERT	FALL (FT)
SIT	Ξ 1	1.22	1.22	94	5.20	5	5.95	5.95	15	1.88%	0.013	8.85	7.23	96	45.00	43.20	1.80
1	2	6.62	7.84	90	5.20	5	30.45	36.40	15	3.28%	0.013	11.70	9.56	136	43.20	38.74	4.46
2	3	2.25	10.09	92	5.20	5	10.69	47.09	30	0.57%	0.013	31.06	6.35	136	37.49	36.71	0.78
3	4	3.36	13.45	92	5.20	5	15.96	63.05	30	0.76%	0.013	35.79	7.31	310	36.61	34.25	2.36

STORM SEWER OUTFALL HGL COMPUTATIONS

	OUT! ET											JUNCTIO	ON LOSS							F.T	RIM/	FDEE
INLET ID	OUTLET	Do (in)	Qo	Lo	S _{fo %}	H_{f}	Va	ш	0	V	Q:*V:	V _i ² /2a	ы	ANGLE	ы	ш	1.3	0.5	FINAL H	INLET WSE	THROAT	FREE BOARD
	WSE						Vo	по	V i	v _i	Q _i "V _i	v _i /2g	пі	ANGLE	ПД	Πt	H _t	H _t		WSE	ELEV	BUARD
4	36.25	30.00	63.05	310.00	0.148%	0.4591	7.30	0.207	47.09	6.33	298.08	0.62	0.22	0.00	0.000	0.42	-	0.21	0.67	36.92	56.00	19.08
3	38.71	30.00	47.09	136.00	0.083%	0.1124	6.33	0.156	36.40	9.56	347.98	1.42	0.50	0.00	0.000	0.65	-	0.33	0.44	39.15	54.71	15.56
2	39.74	15.00	36.40	136.00	1.988%	2.7039	9.56	0.355	5.95	7.24	43.08	0.81	0.28	45.00	0.250	0.64	-	0.32	3.02	42.76	48.94	6.18
1	44 20	15.00	5.95	96.00	0.046%	0.0442	7.24	0.203	5.95	7.24	43.08	0.81	0.28	45.00	0.250	0.74	_	0.37	0.41	44.61	47.50	2.89



OUTFALL MAP
SCALE: 1" = 100'



NOTE: STORM SEWER OUTFALL INFORMATION PROVIDED BY FIELD SURVEY AND CITY GIS DATA.

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ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.

APPROVED
SPECIAL USE PERMIT NO. 2017-0020

DEPARTMENT OF PLANNING & ZONING

DIRECTOR

DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO.

DIRECTOR

DATE

TO

CHAIRMAN, PLANNING COMMISSION

DATE

DEED BOOK NO.

INSTRUMENT NO.

STORMWATER OUTFALL ANALYSIS

DESIGN: ACS

DRAWN: BAD

SCALE: AS NOTED DATE: MAY 2018

ANDREA SPRUCH

Lic. No. 047863

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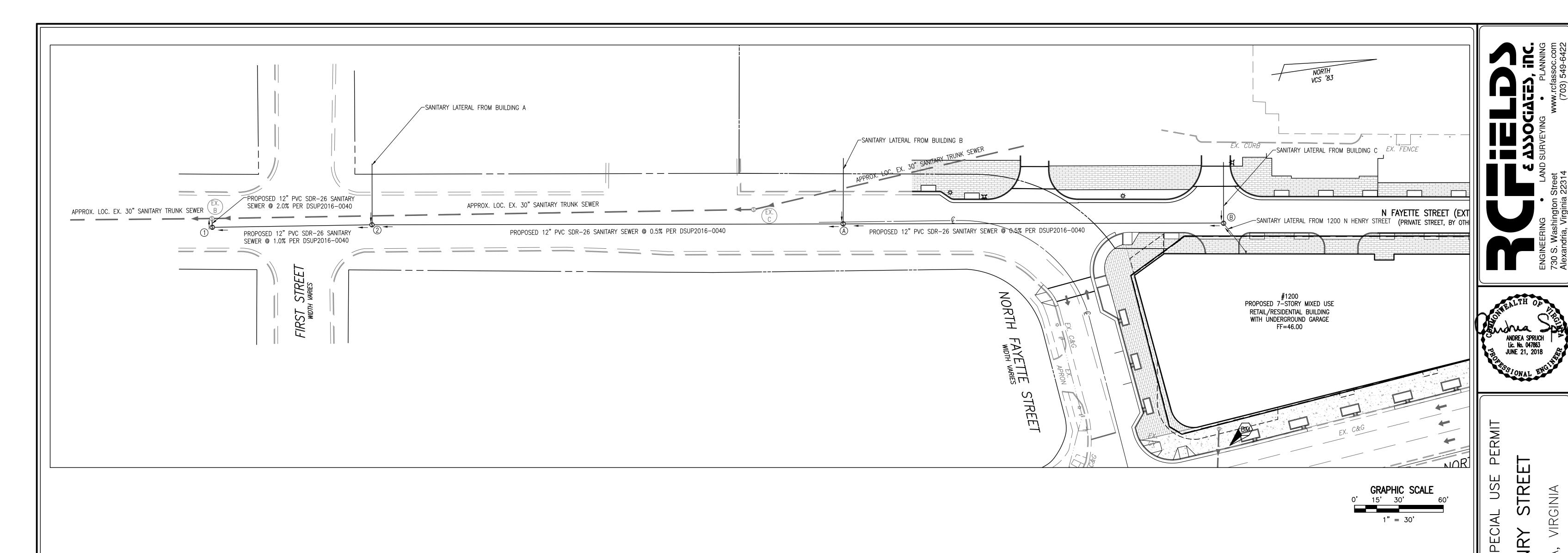
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SHEET 10 OF 13
FILE: 17—181

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	EXISTING CONDITION							
BLD#	NAME	USE	DESIGN FLOW	UNIT	SIZE	GAL/DAY	CFS	PEAK CFS (X4)
C	BRADDOCK GATEWAY PHASE III	RETAIL	200	SF	8,242	1,648	0.003	0.010
C	BRADDOCK GATEWAY PHASE III	MULTI-FAMILY	300	UNIT	370	111,000	0.172	0.687
В	BRADDOCK GATEWAY PHASE II	RETAIL	200	SF	8,169	1,634	0.003	0.010
В	BRADDOCK GATEWAY PHASE II	MULTI-FAMILY	300	UNIT	258	77,400	0.120	0.479
Α	BRADDOCK GATEWAY PHASE I	RETAIL	200	SF	1,500	300	0.000	0.002
Α	BRADDOCK GATEWAY PHASE I	MULTI-FAMILY	300	UNIT	270	81,000	0.125	0.501
					TOTAL	272,982	0.422	1.690
	PROPOSED CONDITION							
1200	1200 N HENRY	RETAIL	200	SF	28,500	5,700	0.009	0.035
1200	1200 N HENRY	MULTI-FAMILY	300	unit	115	34,500	0.053	0.214
					TOTAL	40,200	0.062	0.249

	,)	ADEQUA	TE	SA	NI ⁻	ΓAR	Υ (רטכ	ΓFA	LL	CON	ИPU	TA	TION	IS	
STRUG W	O P	BUILDING FLOW INCLUDED	INCREMENTAL "Q" (CFS)	ACCUMULATED "Q" (CFS)	PIPE DIAMETER (IN)	SLOPE (%)	"n"	FULL FLOW "Q" (CFS)	FULL FLOW VELOCITY (FPS)	LENGTH OF RUN (FT)	UPPER INVERT	LOWER INVERT	FALL (FT)	ACTUAL VELOCITY (FPS)	ACTUAL DEPTH (FT)	GRAVITY FLOW
В	Α	1200, BUILDING C	0.95	0.95	12	0.50%	0.010	3.41	4.17	255.45	30.80	29.53	1.27	3.600	0.360	YES
Α	2	BUILDING B	0.49	1.44	12	0.50%	0.010	3.42	4.18	327.44	29.28	27.64	1.64	4.090	0.470	YES
2	1	BUILDING A	0.50	1.94	12	1.00%	0.010	4.84	5.92	110.88	27.39	26.28	1.11	5.780	0.470	YES
1	EX B	-	0.00	1.94	12	2.00%	0.010	6.84	8.36	6.00	26.03	25.91	0.12	7.480	0.390	YES

SANITARY HGL COMPUTATIONS

	OUT! ET											JUNCTI	ON LOSS							INICT	RIM/	FDFF
INLET ID	OUTLET WSE	Do (in)	Q_{o}	L ₀	S _{fo %}	H _f	V-	- 11			Q;*V;	V 212-		ANGLE	- 11	- 11	1.3	0.5	FINAL H	INLET WSE	THROAT	FREE
	WSE						Vo	Ho	Q _i	V _i	Q _i v _i	V _i ²/2g	Hi	ANGLE	ПД	Πt	Ht	Ht		WSE	ELEV	BOARD
1	26.71	12	1.94	6.00	0.199%	0.0119	7.48	0.217	1.94	5.78	11.21	0.52	0.18	90.00	0.360	0.76	-	0.38	0.39	27.10	46.00	18.90
2	27.10	12	1.94	110.88	0.199%	0.2207	5.78	0.130	1.44	4.09	5.89	0.26	0.09	0.00	0.000	0.22	-	0.11	0.33	27.43	47.23	19.80
Α	28.44	12	1.44	327.44	0.018%	0.0596	4.09	0.065	0.96	3.60	3.46	0.20	0.07	0.00	0.000	0.14	=	0.07	0.13	28.57	45.02	16.45
В	30.33	12	0.95	255 45	0.001%	0.0025	3 60	0.050	0.96	3 60	3 46	0.20	0.07	0.00	0.000	0.12	-	0.06	0.06	30.39	46 25	15.86

SANITARY SEWER OUTFALL CALCULATIONS:

THE AVERAGE DAY AND PEAK HOUR WASTEWATER DISCHARGE FLOW CALCULATIONS WERE COMPUTED USING THE METHOD PROVIDED BY THE CITY OF ALEXANDRIA IN MEMORANDUM TO INDUSTRY NO. 06-14. THE

STREET). SANITARY FLOW IS THEN CONVEYED SOUTH THROUGH A CITY OF ALEXANDRIA 12" SANITARY SEWER AND CONTINUE THROUGH STRUCTURES A, 2, AND 1 BEFORE ULTIMATELY CONNECTING INTO AN EXISTING 30" SANITARY TRUNK SEWER AT AN EXISTING SANITARY MANHOLE, EX B. PER MEMORANDUM TO INDUSTRY NO. 06-14, THE LIMITS OF ANALYSIS FOR THE SANITARY SEWER ADEQUATE OUTFALL IS AT A POINT WHERE THE DOWNSTREAM SEWER HAS A MINIMUM DIAMETER OF 24". THEREFORE, THE SANITARY SEWER ANALYSIS CONCLUDES AT STRUCTURE EX B. THE SANITARY SEWER FROM B TO EXISTING B WILL BE INSTALLED AS PART OF DSUP2016-0040 AND THE SIZES WITH INVERTS ARE BASED ON THE DESIGN PLANS ASSOCIATED

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APPROVED SPECIAL USE PERMIT NO. 2017-0020	
DEPARTMENT OF PLANNING & ZONING	

SITE PLAN NO.

CHAIRMAN, PLANNING COMMISSION DATE RECORDED DEED BOOK NO. SANITARY OUTFALL ANALYSIS

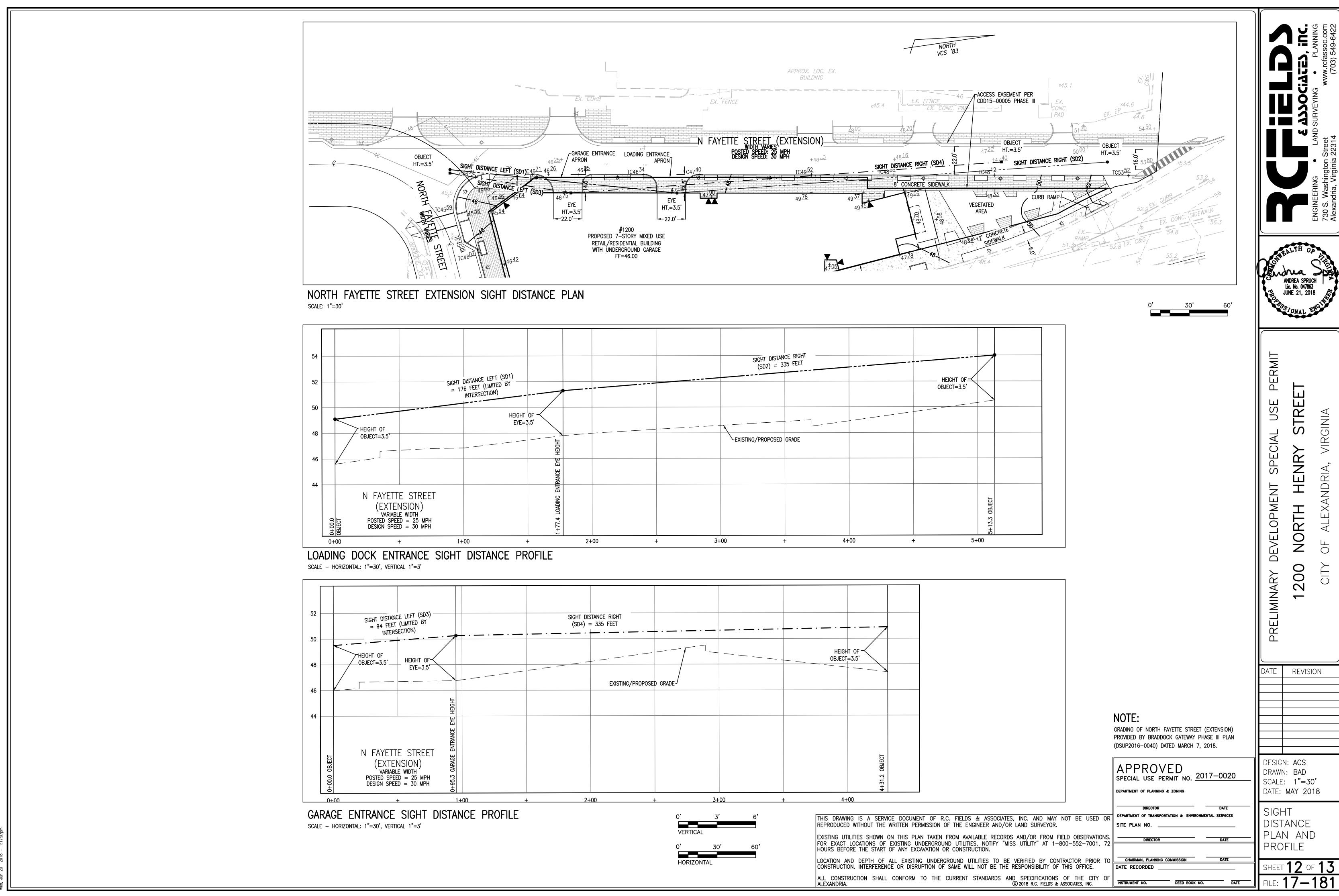
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SCALE: **AS NOTED**

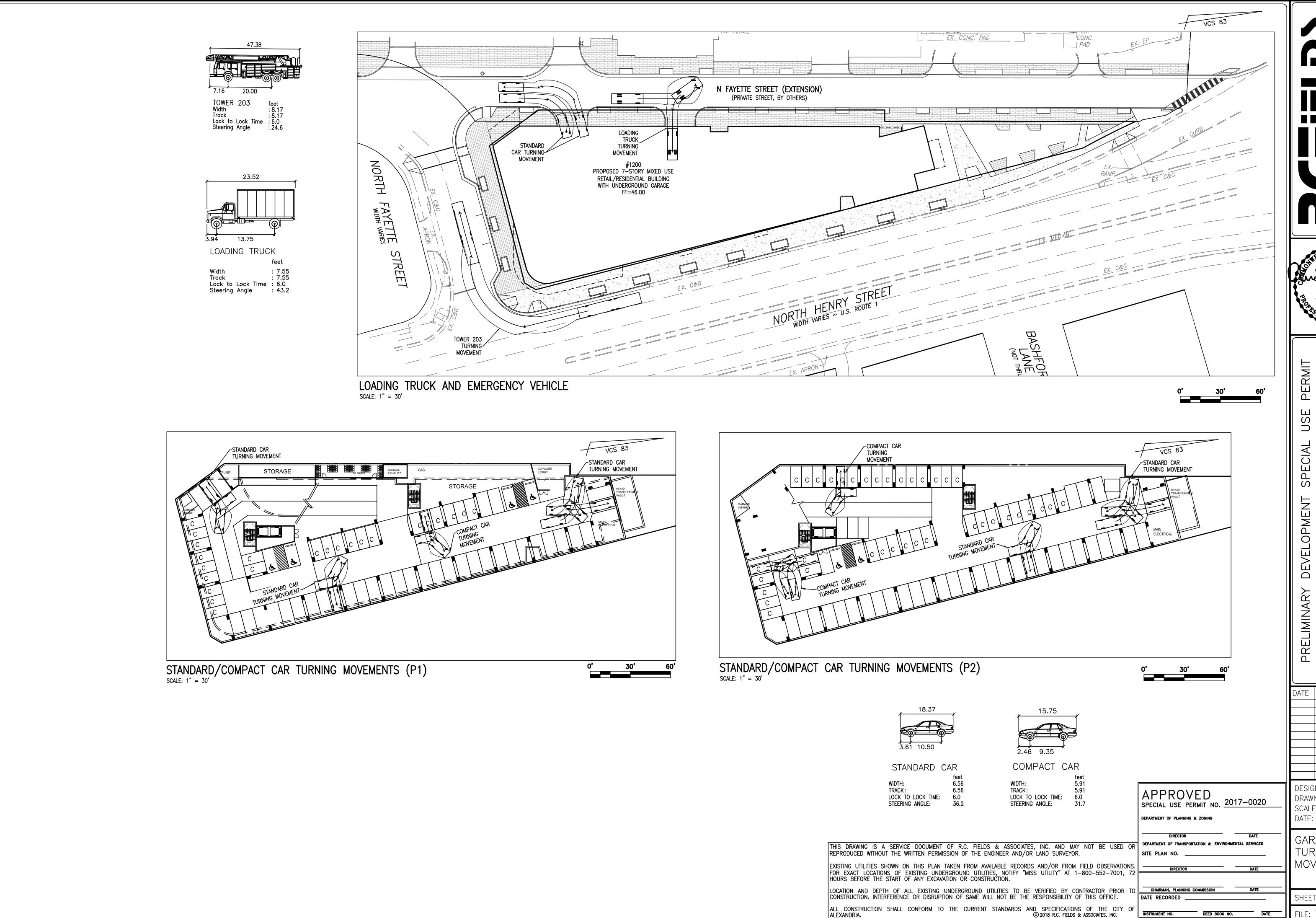
DATE: **MAY 2018**

OPMI

PROPOSED USE FOR THIS PROJECT WILL BE RETAIL AND MULTI-FAMILY. THE AVERAGE DAILY FLOW IS DESCRIBED BELOW: RETAIL: 200 GPD/1000 SF = 200 GPD/1000 SF X 28,500 SF = 5,700 GPD MULTI-FAMILY: 300 GPD/UNIT: 300 GPD/UNIT X 115 UNITS = 34,500 GPD TO ACCOUNT FOR THE DAILY PEAK PERIOD, THE ABOVE FLOW IS MULTIPLIED BY A FACTOR OF 4: DATE | REVISION 5,700 GPD X 4 = 22,800 GPD34,500 CFS X 4 = 138,000 CFSTOTAL PEAK FLOW = 160,800 GPD OR 0.25 CFS SANITARY SEWER OUTFALL NOTE: THIS PROJECT IS ANTICIPATED TO GENERATE AN INCREASE IN EXCESS OF 10,000 GPD IN SANITARY WASTE OUTFLOW. A FLOW OF APPROXIMATELY 40,200 GPD IS EXPECTED FOR THIS DEVELOPMENT RESULTING IN A PEAK FLOW OF 160,800 GPD. THEREFORE, THE PROJECT IS SUBJECT TO A SANITARY SEWER OUTFALL ANALYSIS. THIS SANITARY SEWER OUTFALL ANALYSIS SHOWS ADEQUACY OF SANITARY SEWER OUTFALL IN ACCORDANCE WITH MEMO TO INDUSTRY 06-14. THIS PROJECT WILL CONNECT TO A CITY OF ALEXANDRA 12" SANITARY SEWER AT STRUCTURE B (PROPOSED PER DSUP2016-0040), ADJACENT TO THIS SITE WITHIN NORTH FAYETTE STREET EXTENSION (A PRIVATE DESIGN: ACS



J:\2017\17181\DWG\DELIV\12 SIGHT DISTANCE PLAN AND PROFILE.dwg



ENGINEERING • LAND SURVEYING • PLANNING 1709) EAG 6405



200 NORTH HENRY STREET
CITY OF ALEXANDRIA, VIRGINIA

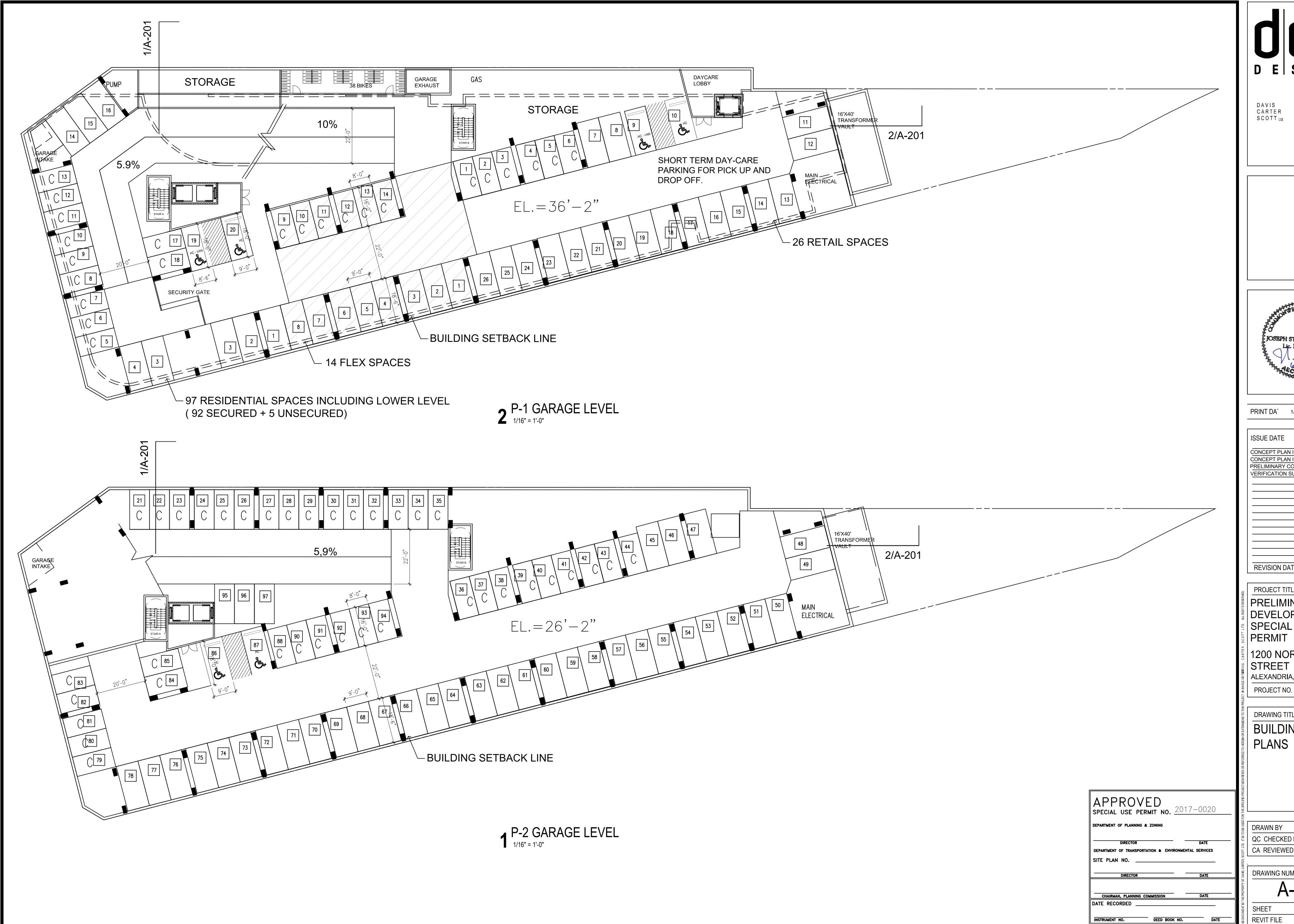
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DESIGN: ACS
DRAWN: BAD
SCALE: AS NOTED
DATE: MAY 2018

GARAGE TURNING MOVEMENTS

SHEET 13 OF 13



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REVISION DATE

PROJECT TITLE

PRELIMINARY DEVELOPMENT SPECIAL USE PERMIT

1200 NORTH HENRY STREET

ALEXANDRIA, VA

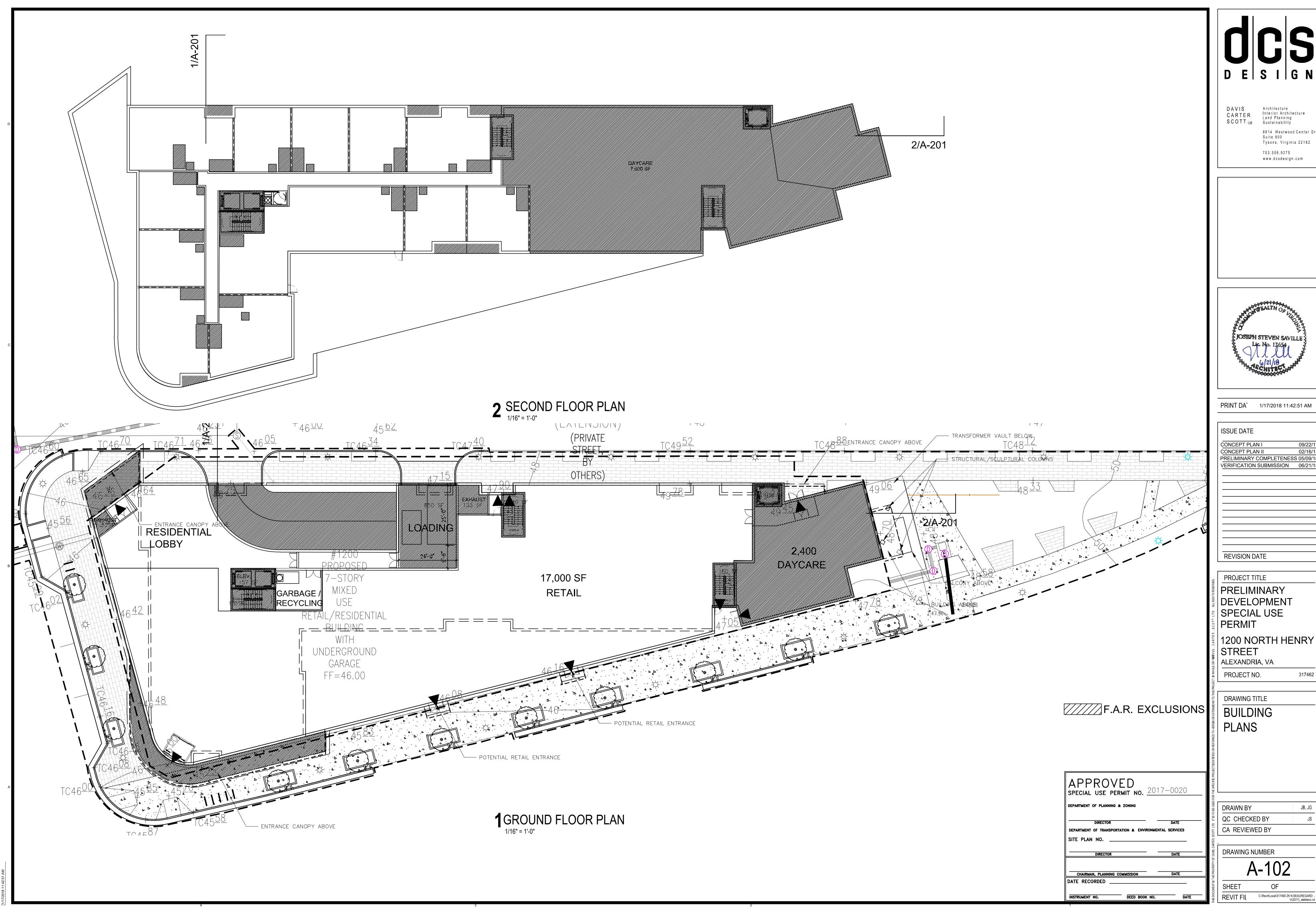
DRAWING TITLE

BUILDING **PLANS**

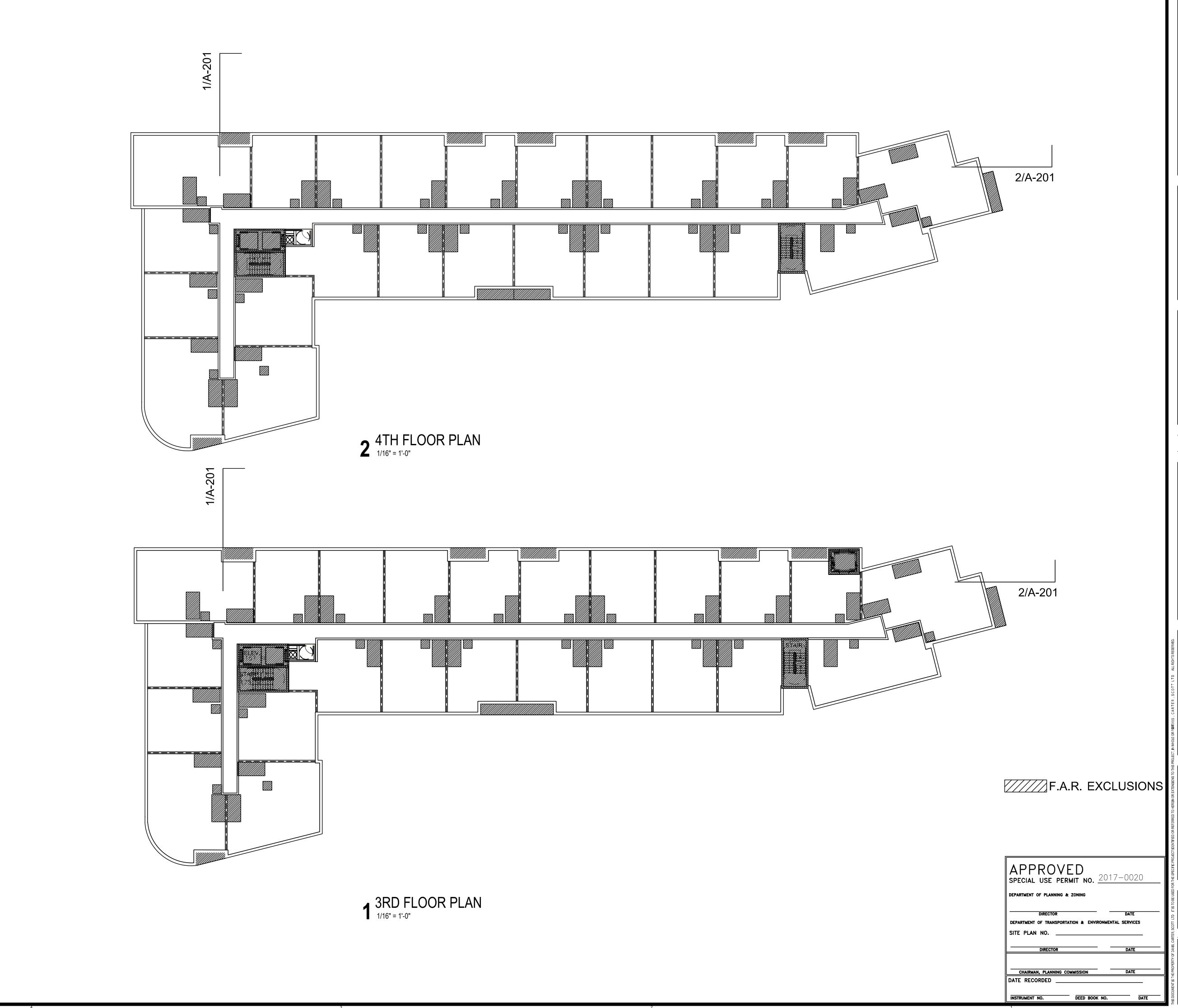
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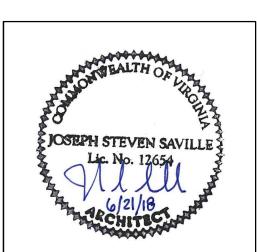
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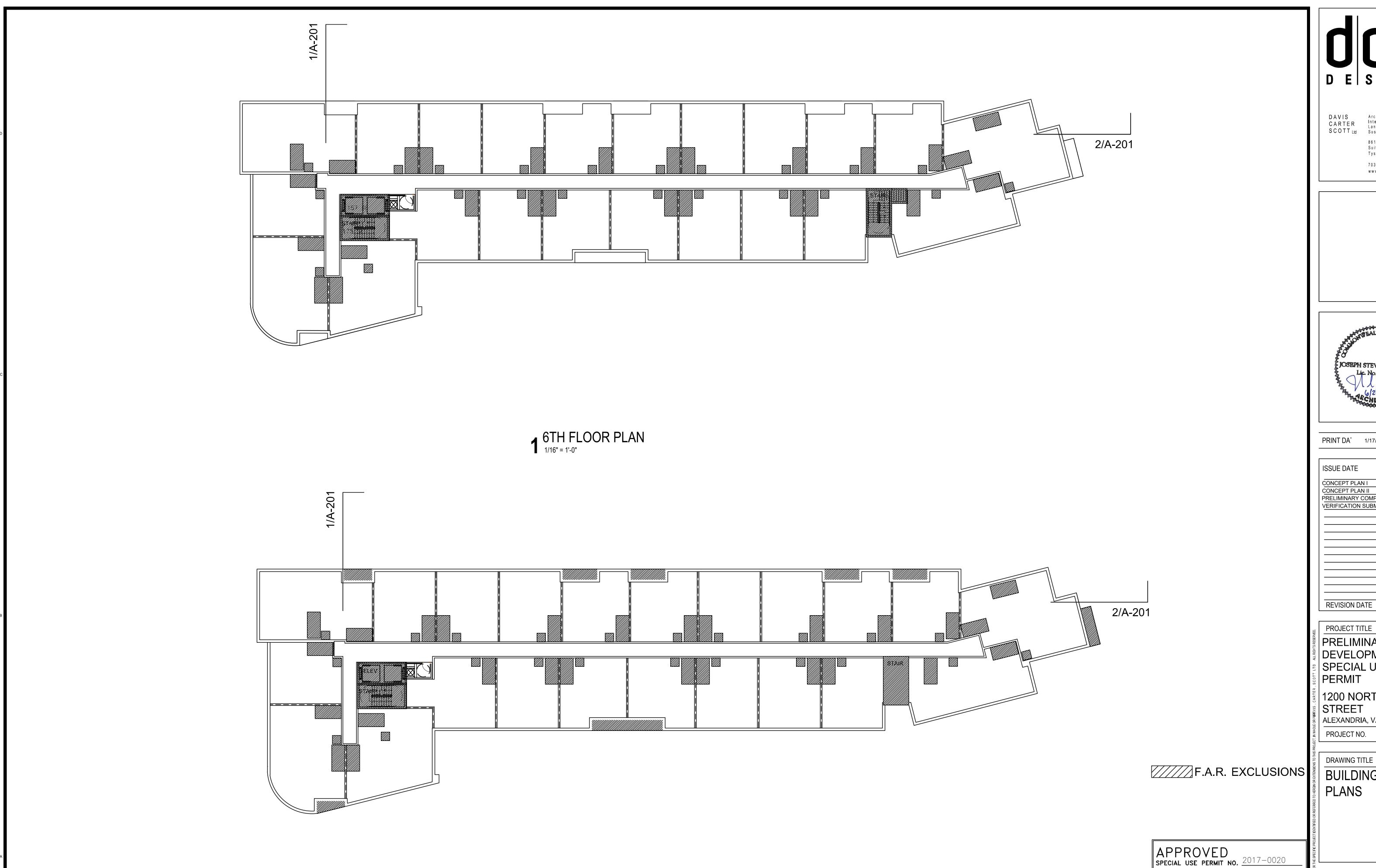
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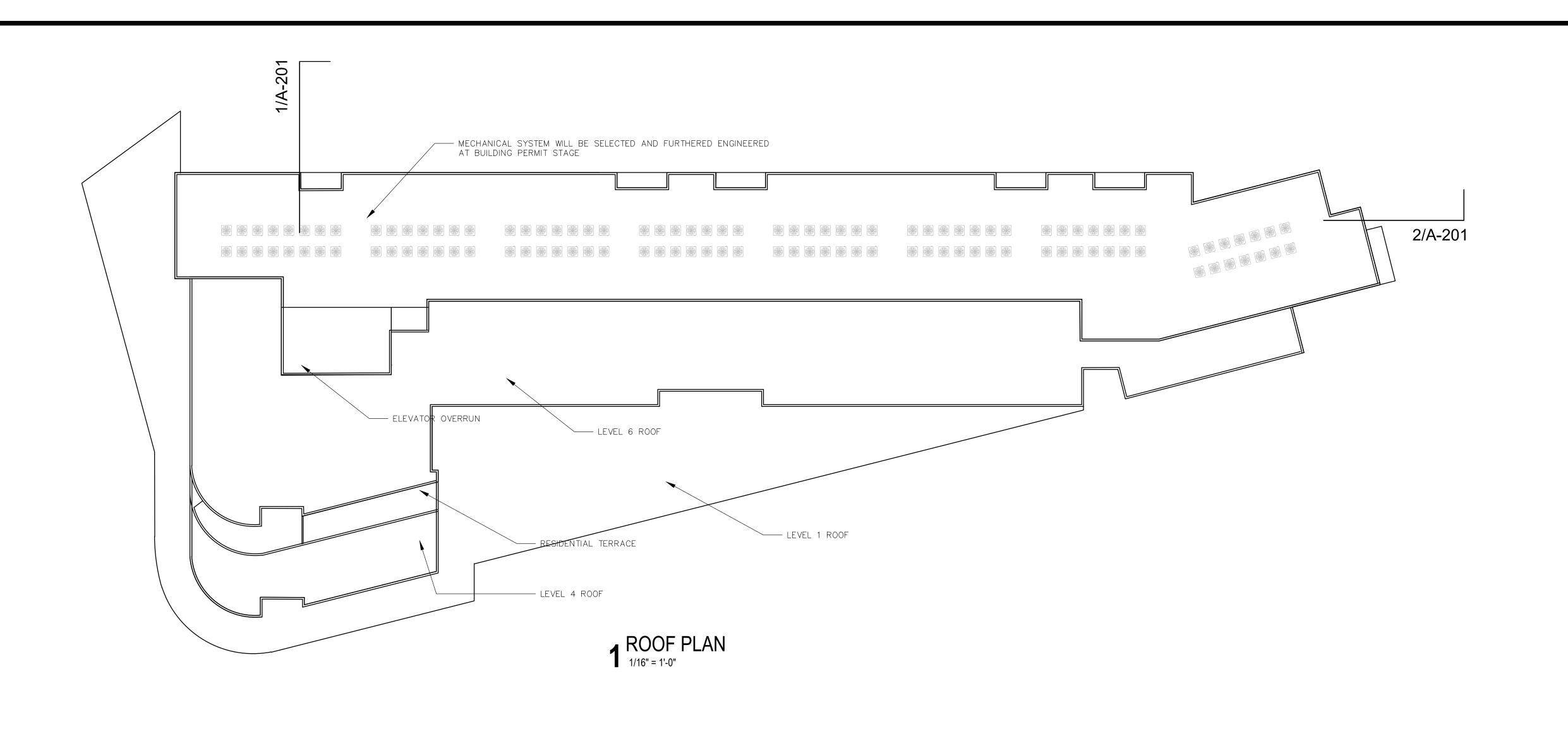
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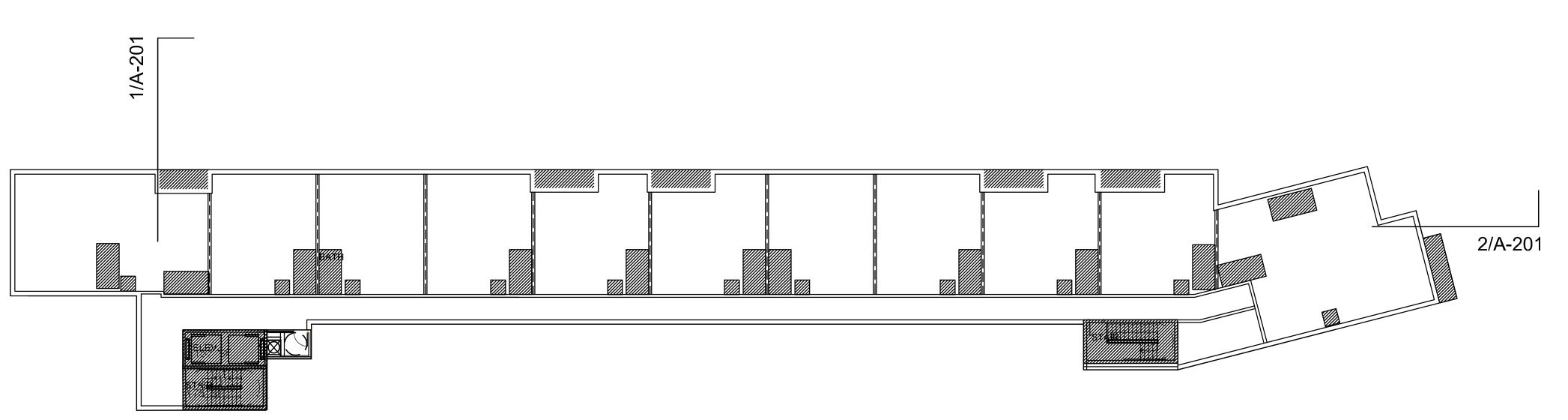
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1 5TH FLOOR PLAN 1/16" = 1'-0"





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DRAWING TITLE

BUILDING **PLANS**

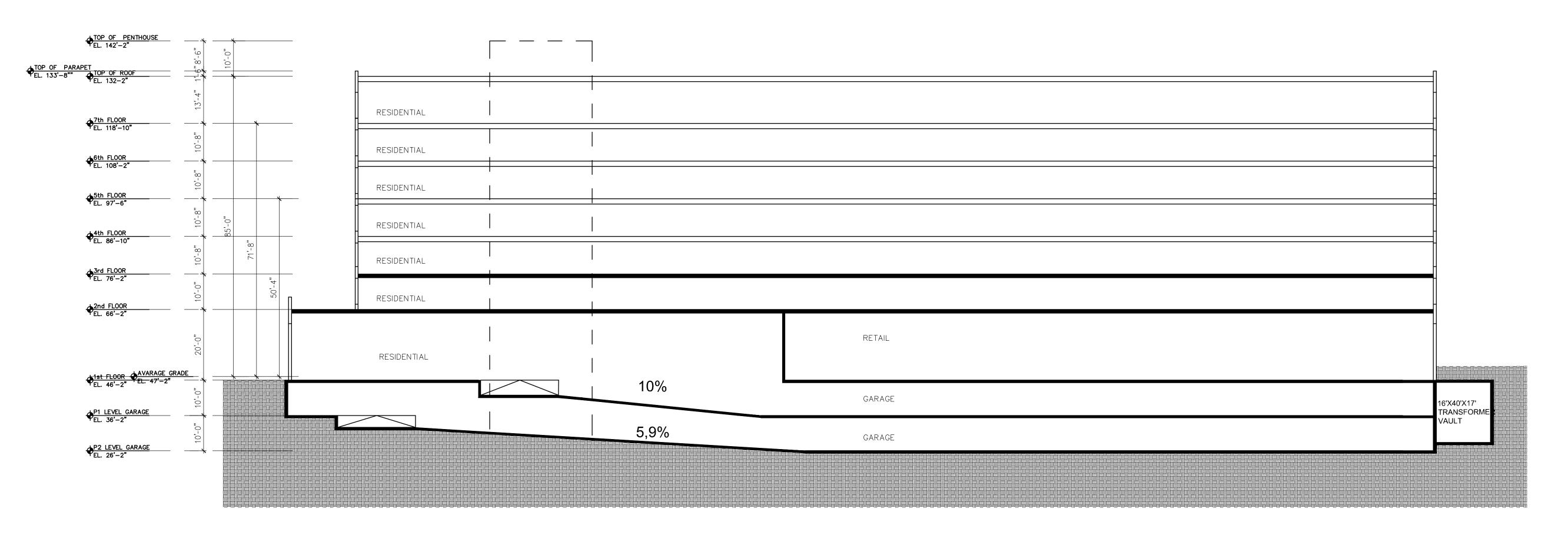
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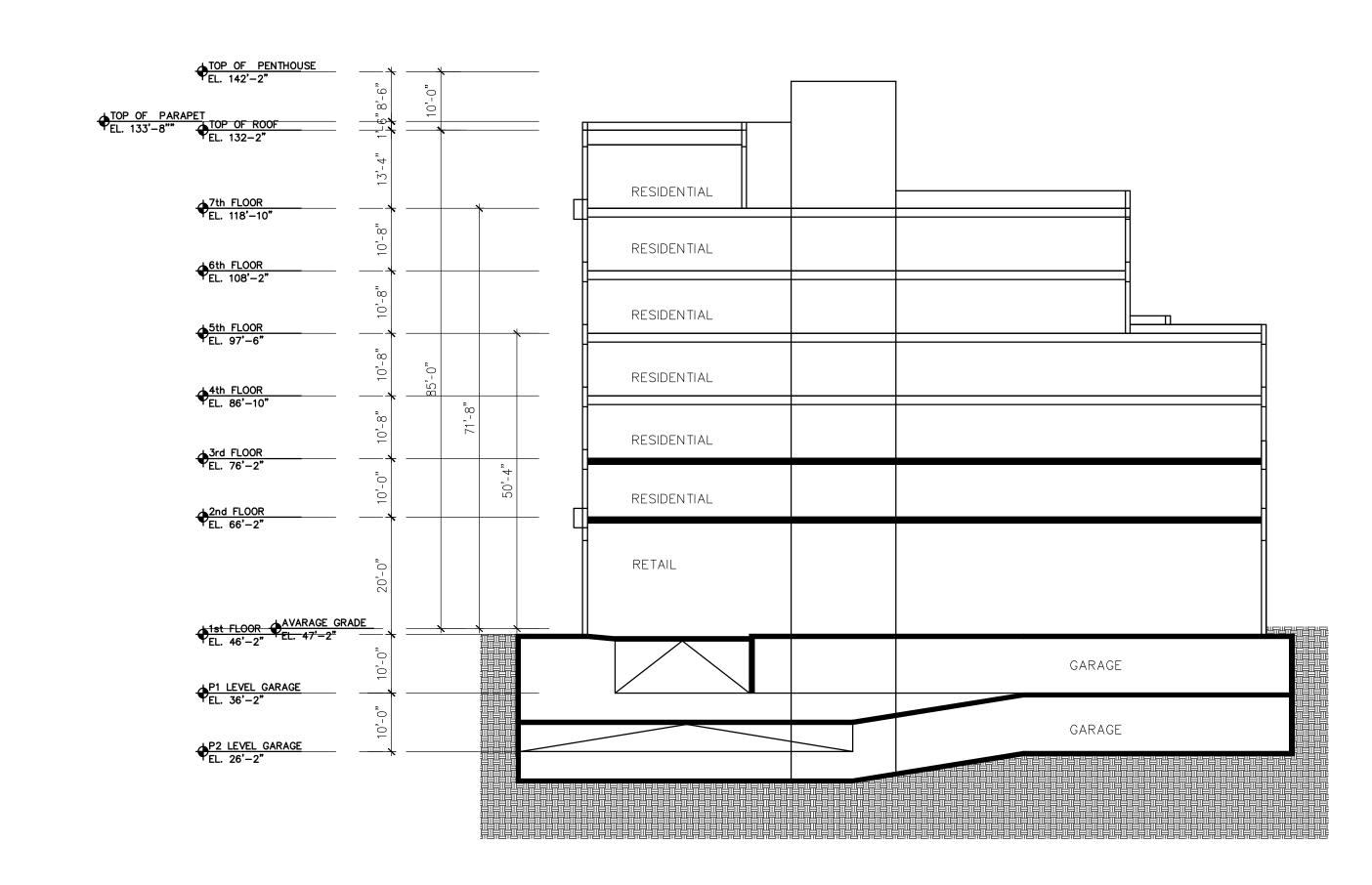
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1 7TH FLOOR PLAN 1/16" = 1'-0"



2 LONGITUDINAL SECTION 1/16" = 1'-0"



1 CROSS SECTION
1/16" = 1'-0"

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CHAIRMAN, PLANNING COMMISSION

DATE

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JOSEPH STEVEN SAVILLE LLC. No. 12654

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BUILDING SECTIONS

SECTIONS

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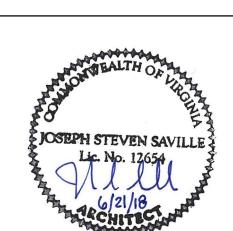
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PERFORATED METAL MESH

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1200 NORTH HENRY STREET

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BUILDING **ELEVATIONS**

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1 NORTH ELEVATION
1/16" = 1'-0"



2 SOUTH ELEVATION
1/16" = 1'-0"

MATERIALS KEY

CONCRETE STRUCTURE - PAINTED

PERFORATED METAL MESH

BRICK TYPE 1

BRICK TYPE 2 BRICK TYPE 3 PORCELAIN TILE TYPE 1 PORCELAIN TILE TYPE 2 FIBER CEMENT PANELS PRECAST / CAST STONE ALUMINUM / FIBERGLASS WINDOW - LOW "E" - CLEAR GLASS ALUMINUM / FIBERGLASS WINDOW - SPANDREL GLASS ARCHITECTURAL RAILING SIGNAGE METAL CANOPY GARAGE DOOR - SECTIONAL DOOR W/ TRANSLUCENT PANELS ARCHITECTURAL LOUVER ALUMINUM STOREFRONT GLAZING SYSTEM LIGHTWEIGHT INSULATED MASONRY CLADDING - NEWBRICK OR SIMILAR TYPE 1 LIGHTWEIGHT INSULATED MASONRY CLADDING - NEWBRICK OR SIMILAR TYPE 2

KEY
2

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BUILDING ELEVATIONS

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■ NORTH EAST - AERIAL VIEW



3 SOUTH WEST - AERIAL VIEW



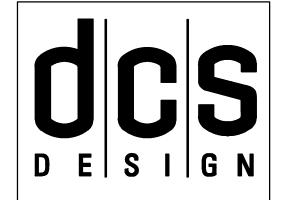
SOUTH EAST - AERIAL VIEW



4 NORTH WEST - AERIAL VIEW







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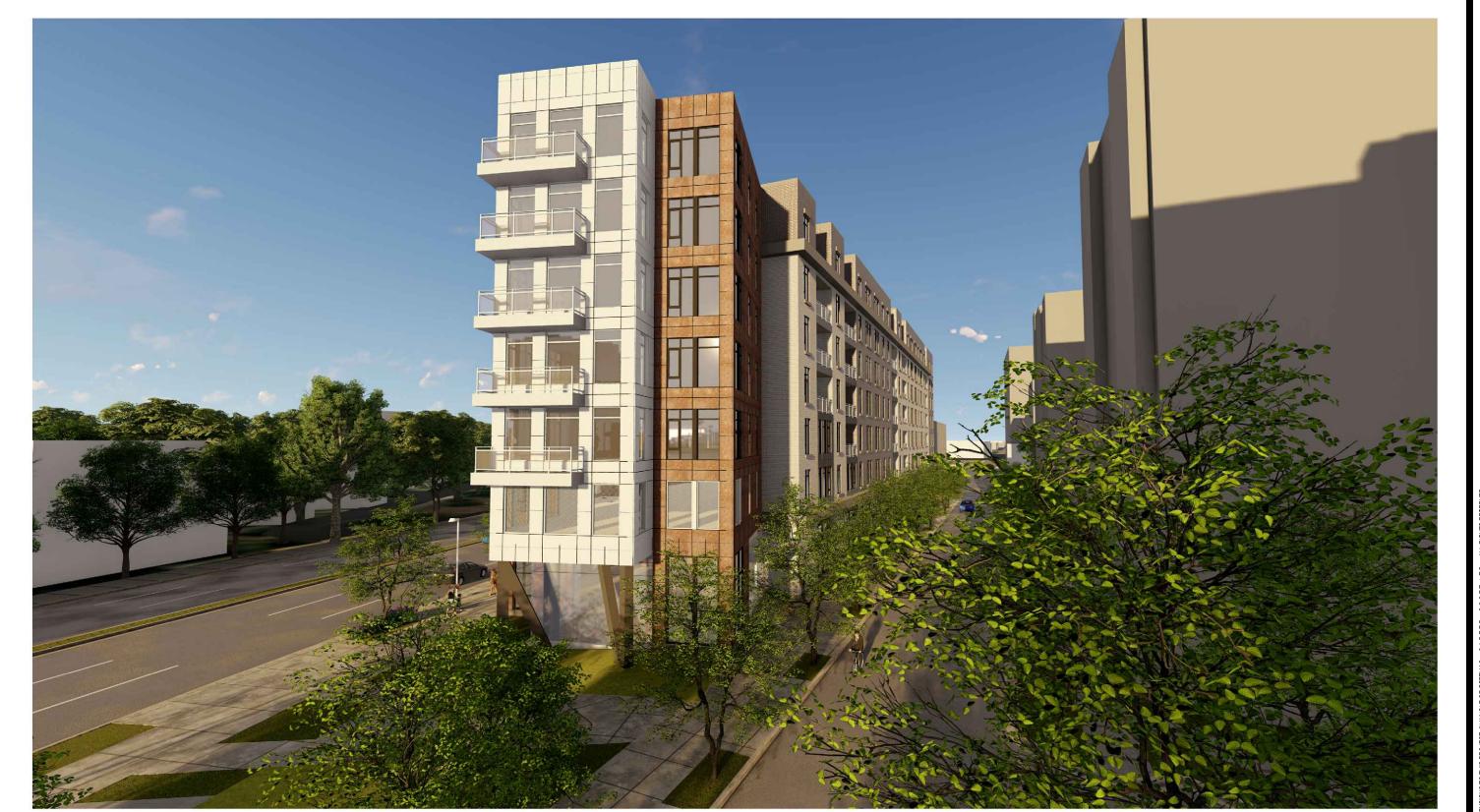




SOUTH EAST - AERIAL VIEW



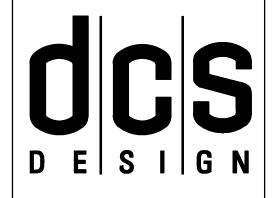
3 SOUTH WEST - AERIAL VIEW



4 NORTH WEST - AERIAL VIEW



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APPROVED SPECIAL USE PERMIT NO. 2017-	-0020	IT IS TO BE USED FOR THE SPECIFIC PROJECT IDENTIFIED
DEPARTMENT OF PLANNING & ZONING		IT IS TO BE USED
DIRECTOR	DATE	
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL	SERVICES	
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ALEXANDRIA, VA PROJECT NO.

DRAWING TITLE BUILDING MASSING

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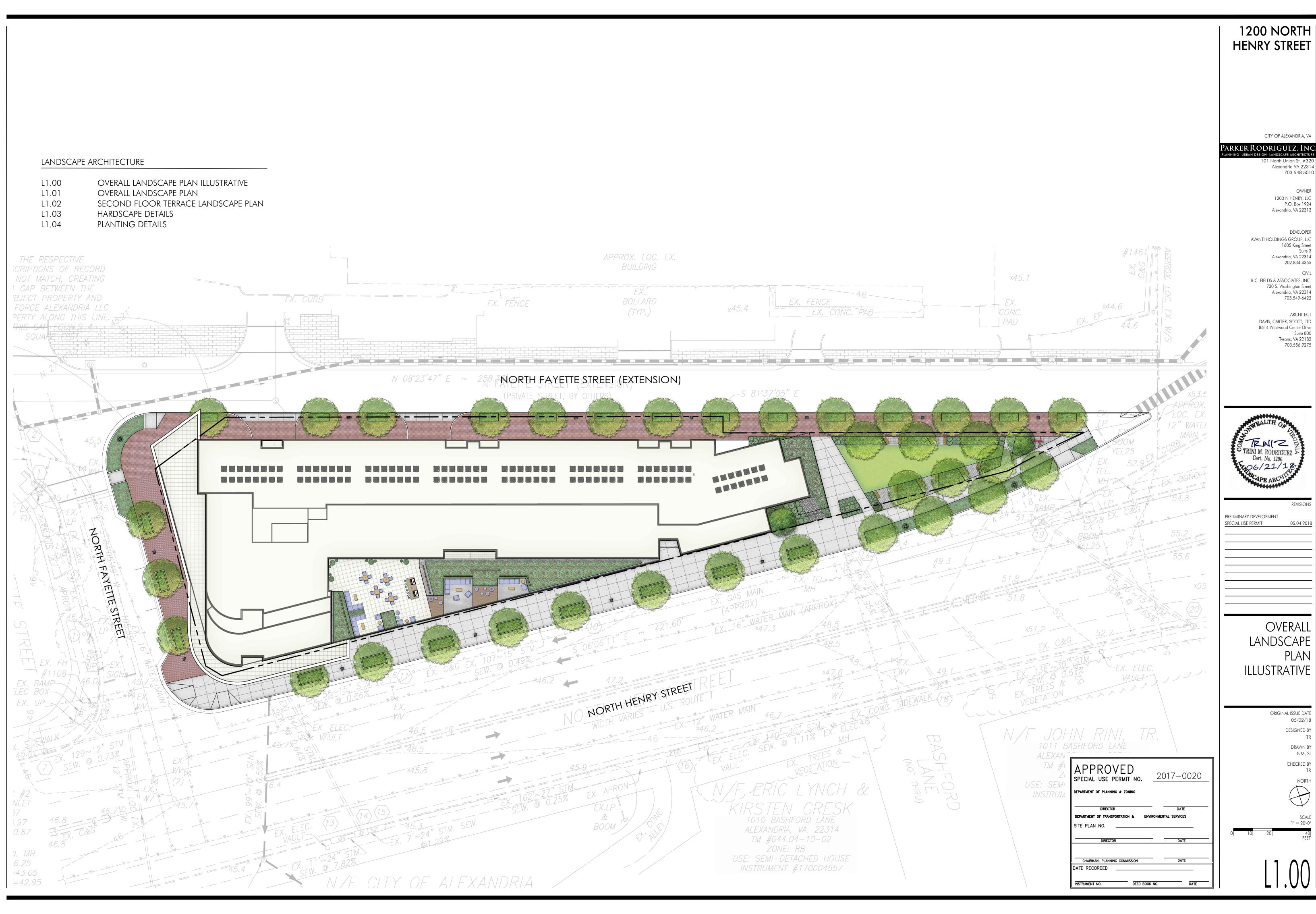
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NORTH EAST - AERIAL VIEW



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DEVELOPER

730 S. Washington Street Alexandria, VA 22314 703.549-6422

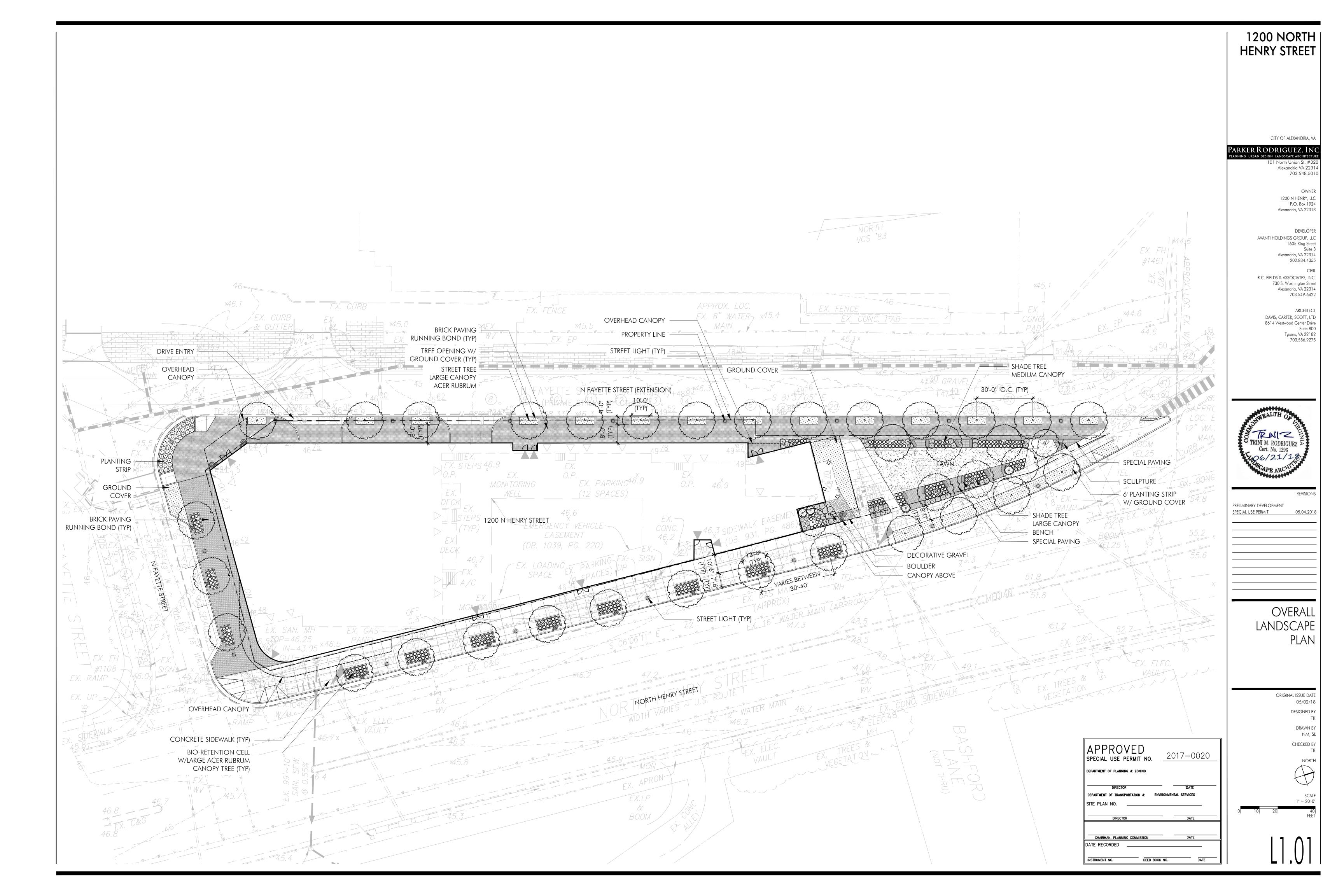
Suite 800 Tysons, VA 22182

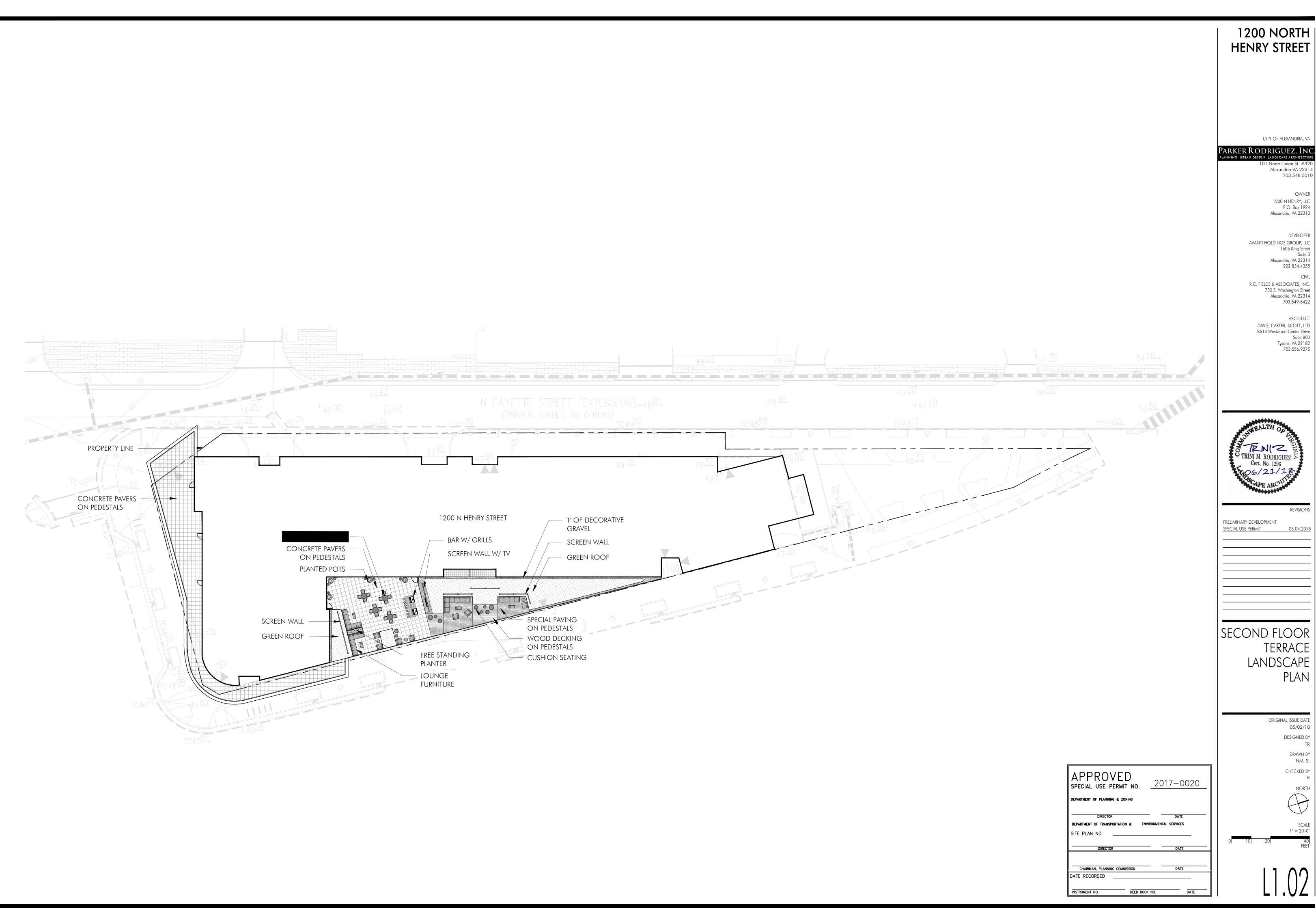


PLAN

05/02/18 DESIGNED BY

DRAWN BY





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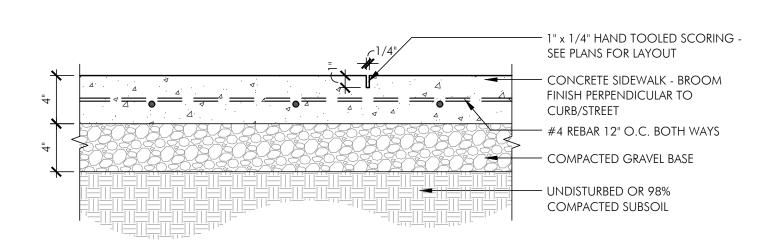
202.834.4355

ARCHITECT



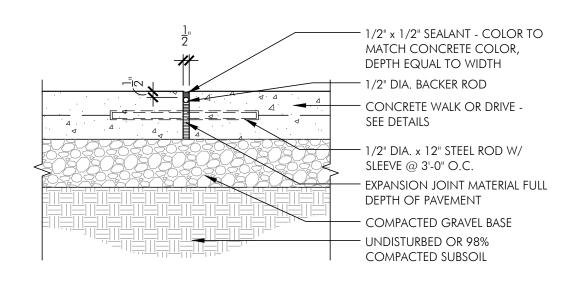
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SCALE 1" = 20'-0"



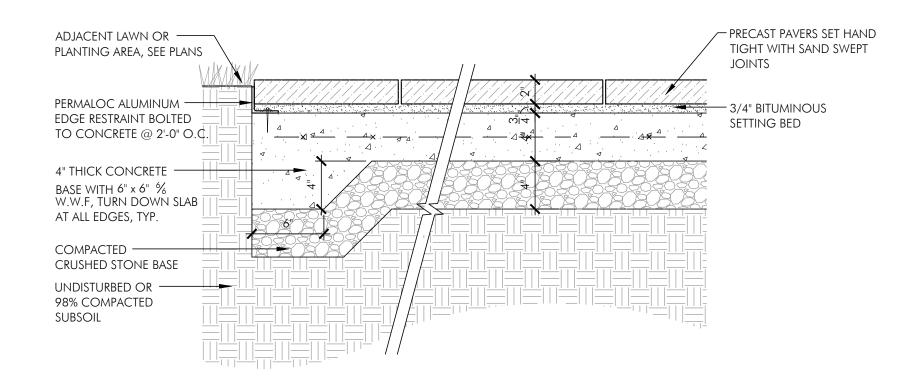
CONCRETE PAVING

SCALE: 1-1/2" = 1'-0"

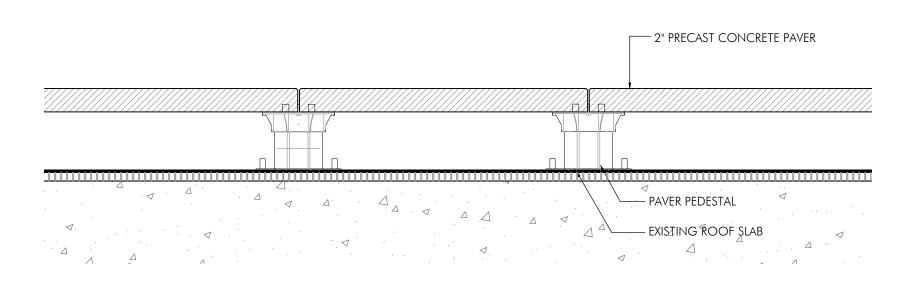


EXPANSION JOINT

SCALE: 1-1/2" = 1'-0"



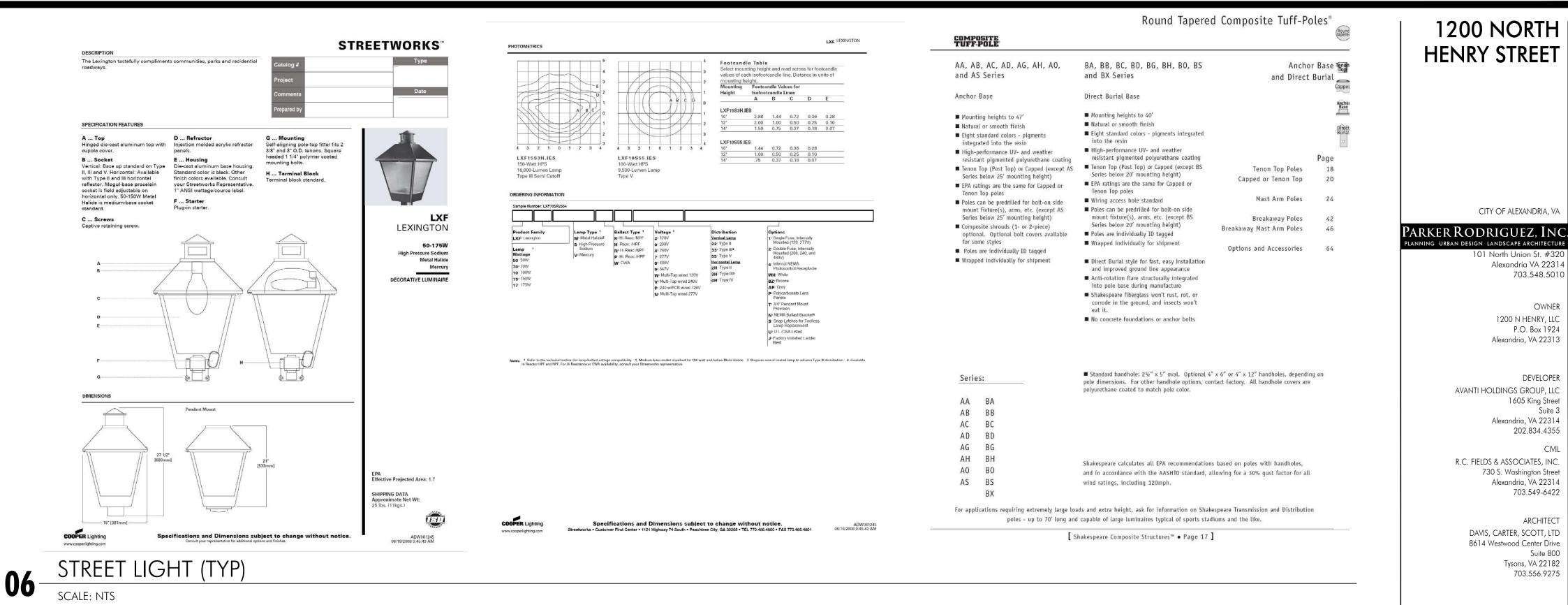
PAVERS ON GRADE

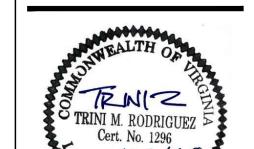


EXISTING ROOF SLAB ---- PAVER PEDESTAL

CONCRETE PAVERS ON PEDESTALS

WOOD DECKING ON PEDESTALS





CITY OF ALEXANDRIA, VA

1 North Union St. #32

Alexandria VA 22314

1200 N HENRY, LLC P.O. Box 1924 Alexandria, VA 22313

AVANTI HOLDINGS GROUP, LLC

R.C. FIELDS & ASSOCIATES, INC.

703.548.5010

OWNER

DEVELOPER

1605 King Street

202.834.4355

ARCHITECT

Suite 800

Tysons, VA 22182 703.556.9275

Alexandria, VA 22314

730 S. Washington Street

DAVIS, CARTER, SCOTT, LTD

8614 Westwood Center Drive

Alexandria, VA 22314 703.549-6422

PRELIMINARY DEVELOPMENT SPECIAL USE PERMIT

HARDSCAPE

ORIGINAL ISSUE DATE 05/02/18 DESIGNED BY DRAWN BY NM, SL CHECKED BY

AS SHOWN

DETAILS

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POTENTIAL PLANT SCHEDULE

KEY QTY.	BOTANICAL NAME	COMMON NAME	SIZE	COND.	COMMENTS
	CANOPY TREES				
AR	Acer rubrum 'October Glory'	October Glory Red Maple	3 1/2"- 4" cal.	B&B	single leader; full branching
GB	Ginko biloba	Ginkgo	2-2 1/2" cal.	B&B	single leader; full branching; males o
GT	Gleditsia triacanthos inermis 'Halka'	Halka Honeylocust	3 1/2"- 4" cal.		single leader; full branching
LS	Liquidambar styraciflua 'Happidaze'	Sweetgum	3 1/2"- 4" cal.		single leader; full branching
PA	Platanus x acerifolia 'Bloodgood	London Planetree	3 1/2"- 4" cal.		single leader; full branching
QP	Quercus phellos	Willow Oak	3 1/2"- 4" cal.		single leader; full branching
	ORNAMENTAL TREES				
AC	Amelanchier canadensis	Serviceberry	10'-12' ht.	B&B	multistem - 3 stems min; full branchir
CC	Cercis canadensis	Eastern Redbud	10'-12' ht.	B&B	single stem; full branching
LI	Lagerstroemia x fauriei 'Muskogee'	Muskogee Crape Myrtle	6'-8' ht.	B&B	specimen, 3-4 stems
MV	Magnolia virginiana	Sweetbay Magnolia	6'-8' ht.	B&B	specimen specimen
	EVED CREW TREES				
IF	EVERGREEN TREES llex x attenuata 'Foster's Holly'	Foster's Holly	8-10' ht.	B&B	heavy; matched; symmetrical
	·				
CA	SHRUBS Clethra alnifolia 'Hummingbird'	Summersweet	18" - 24" ht.	B&B	full branching;
CS	Cornus serecia		18" - 24" ht.		
		Red Twig Dogwood		Cont.	full branching;
DG	Deutzia gracillis 'Nikko'	Slender Deutzia	18" - 24" ht.	Cont.	full branching;
FG	Fothergilla gardenii	Dwarf Fothergilla	24" - 30" ht.	B&B	full branching;
HQ	Hydrangea quercifolia 'Alice'	Oakleaf Hydrangea	36" - 42" ht.	B&B	full branching;
IV	llex verticillata 'Sparkleberry' & 'Apollo'	Winterberry (female and male)	30 - 36" ht.	B&B	full branching;
IT	Itea virginica 'Henry's Garnet'	Virginia Sweetspire	24-30" ht.	Cont.	full branching;
MP	Myrica pensylvanica	Northern Bayberry	30 - 36" ht.	B&B	full branching;
ND	Nandina domestica 'Harbor Dwarf'	Harbor Dwarf Nandina	18" - 24" ht.	Cont.	full branching;
PL	Prunus laurocerasus 'Schipkaensis'	Schipkaensis Cherry Laurel	30 - 36" ht.	B&B	full branching;
RO	Rosa 'Knockout'	Knockout Rose	18"-24" ht.	Cont.	full branching; 24"o.c.
	ORNAMENTAL GRASSES AND HERBAG	CECLIS DEDENINITALS & CDOL	UND COVERS		
43.15					100
ANP	Aster novae-angliae'Purple Dome'	Purple Dome New England Aster	1 gal.	Cont.	18" o.c.
CVM	Coreopsis verticillata 'Moonbeam'	Moonbeam Coreopsis	1 gal.	Cont.	24" o.c.
CAK	Calamagostis acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	1 gal.	Cont.	24" o.c.
OCG	Deshampsia caespitosa 'Goldtau'	Gold Dew Tufted Hair Grass	1 gal.	Cont.	24" o.c.
DCS	Deshampsia caespitosa 'Schottland"	Tufted Hair Grass	1 gal.	Cont.	24" o.c.
DFL	Deshampsia flexuaosa	Wavy Hair Grass	1 gal.	Cont.	24" o.c.
EPM	Echinacea purpurea 'Magnus'	Magnus Purple Coneflower	1 gal.	Cont.	24" o.c.
LMB	Liriope muscari 'Big Blue'	Big Blue Liriope	1 qt.	Cont.	12" o.c.
LSK	Liatris spicata	Gayfeather	1 gal.	Cont.	24" o.c.
MCA	Mulenbergia capillaris	Pink Muhly	1 gal.	Cont.	24" o.c.
MCE	Molinia caerulea	Purple Moor Grass	1 gal.	Cont.	24" o.c.
NTE	Nassella tenuissima	Mexican Feather Grass	1 gal.	Cont.	18" o.c.
VFW	Nepeta 'Walker's Low'	Walker's Low Catmint	1 gal.	Cont.	24" o.c.
PAH	Pennisetum alopecuroides 'Hameln'	Dwarf Fountain Grass	1 gal.	Cont.	24" o.c.
RFF	Rudbeckia fulgida 'Fulgida'	Fulgida Rudbeckia	1 gal.	Cont.	24" o.c.
SAJ	Sedum spectabile 'Autumn Joy'	Autumn Joy Sedum	1 gal.	Cont.	24" o.c.
	BULBS				
	Allium giganteum	Ornamental Onion	bulbs		accent
AGI	zamom gigameom				
	Marciegue Single Compornalla Tringetta Dista-Li-	Vallow Daffodila mixtura	bulba		accont
AGI NAR CRO	Narcissus 'Single Campernelle', 'Tripartite', 'Pistachio' Crocus Autumn Blue	Yellow Daffodils mixture Autumn Blue Crocus: Fall	bulbs bulbs		accent

NOTE: All plant material layouts, selections, sizes and quantities are subject to revision and refinement after the submission of the Preliminary Site Plan and prior to the submission of the Final Site Plan.

CANOPY COVERAGE TABULATION ON GRADE

QTY.	CATEGORY	SIZE	COND.	COMMENTS	CA	NOPY CO	DVERAGE CALCULATION	٧S
					sf coverage	# on grade		TOTAL
	CANOPY TREES							
6	Large Shade Tree	3 1/2"- 4" cal.	B&B	single leader; full branching	1250	6		7,500
1	Medium Shade Tree	3 1/2"- 4" cal.	B&B	single leader; full branching	750	1		750
							Total canopy tree coverage	8,250
	ORNAMENTAL TREES							
0	Small Ornimental	10'-12' ht.	B&B	multistem - 3 stems min; full branching	500	0		0
						Tota	l ornamental tree coverage	0
	SHRUBS							
176	Shrubs	18" - 24" ht.	B&B	full branching;	2	152		304
							Total shrub coverage	304
						7	OTAL CANOPY COVERAGE	8,554

CANOPY COVERAGE TABULATION ON STRUCTURE

QTY.	CATEGORY	SIZE	COND.	COMMENTS	CANOPY	COVERAGE	CALCULATIO	NS
						50% coverage	# on-structure	TOTAL
	CANOPY TREES							
0	Large Shade Tree	3 1/2"- 4" cal.	B&B	single leader; full branching		625	0	0
1	Medium Shade Tree	3 1/2"- 4" cal.	B&B	single leader; full branching		375	1	375
						Total canop	y tree coverage	375
	ORNAMENTAL TREES							
0	Small Ornimental	10'-12' ht.	B&B	multistem - 3 stems min; full branching		250	0	0
						Total ornamenta	l tree coverage	0
	SHRUBS							
38	Shrubs	18" - 24" ht.	B&B	full branching;		1	38	38
						Total	shrub coverage	38
							.	
						TOTAL CANC	DPY COVERAGE	413

CANOPY COVERAGE SUMMARY

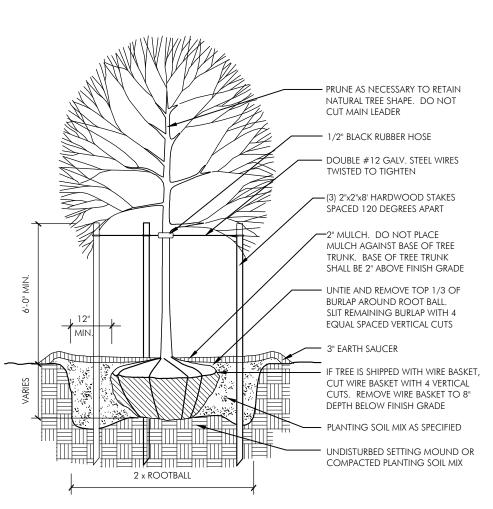
Site Area = 34,921 Sq. Ft.

Landscape Coverage Required (25% of Site Area) = 8,730 Sq. Ft.

Total Area of Existing Trees to Remain = 0 Sq. Ft.

On-site Landscape Coverage Provided = 8,967 Sq. Ft.
Off-site Landscape Coverage Provided = 0 Sq. Ft.

Total Landscape Coverage Provided = 8,967 Sq. Ft.



TYP. SHADE TREE ON GRADE

1. SHRUB SHALL BEAR SAME RELATIONSHIP TO GRADE AS IT DID IN NURSERY.

3. FOR CONTAINER GROWN PLANTS, SPLIT THE ROOT BALL WITH 4 EQUAL SPACED VERTICAL CUTS AND

 2" MULCH. DO NOT PLACE MULCH AGAINST BASE OF SHRUB

UNTIE AND REMOVE TOP 1/3 OF BURLAP AROUND ROOT BALL. SLIT

REMAINING BURLAP WITH 4 EQUAI

COMPACTED PLANTING SOIL MIX

SPACED VERTICAL CUTS

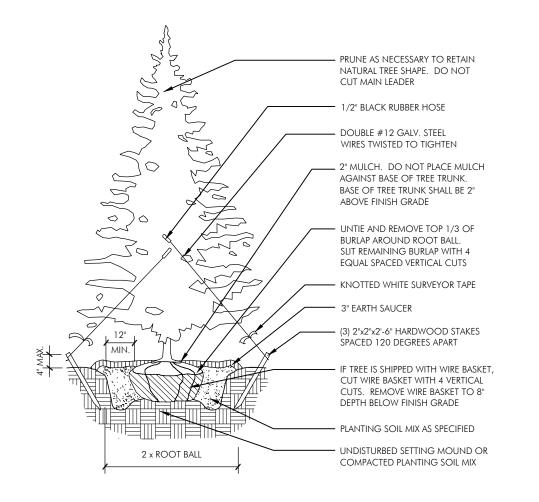
- undisturbed subsoil

PLANTING SOIL MIX AS SPECIFIED

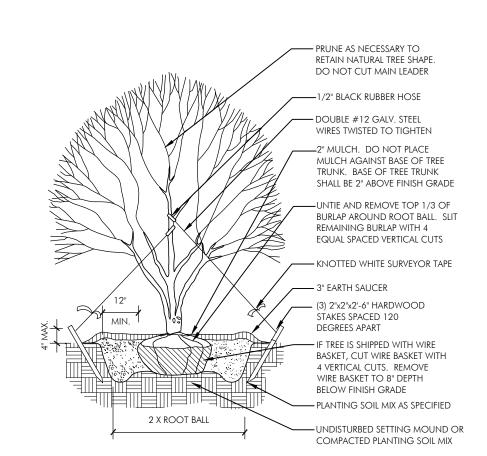
3" EARTH SAUCER

2. PRUNE AS NEEDED TO RETAIN NATURAL SHRUB SHAPE

BUTTERFLY THE ENTIRE ROOT BALL



TYP. EVERGREEN TREE ON GRADE



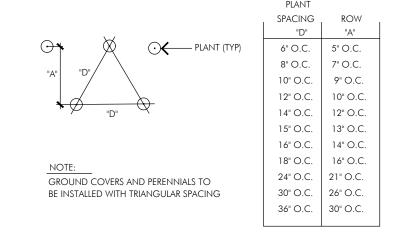
TYP. ORNAMENTAL TREE ON GRADE

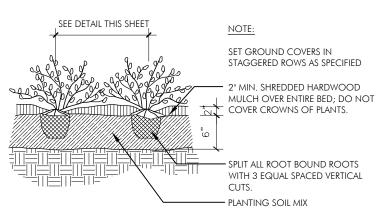
APPROVED

DEPARTMENT OF PLANNING & ZONING

SPECIAL USE PERMIT NO.

DEED BOOK NO.





TYP. SHRUB ON GRADE

TYP. GROUNDCOVER ON GRADE

PLANTING NOTES

- 1. Contractor shall be responsible for becoming familiar with all underground utilities, pipes, and structures. Contractor shall take sole responsibility for any cost incurred due to damage of said utilities.
- 2. Procedures and specifications of work shall conform to the "Landscape
- Specifications Guideline for the Baltimore-Washington Metropolitan Area" (Latest Edition, published jointly by the Landscape Contractors Association of Metropolitan Washington and the American Society of Landscape Architects, Potomac Chapter.
- 3. Size and standards of plant materials shall conform to the latest edition of "USA Standards for Nursery Stock" by the American Association of Nurserymen, Inc. (AAN)
- 4. Final location of plant material shall be subject to the approval of the Landscape Architect. Contractor is to notify Landscape Architect for inspection after layout is complete and before installation.
- 5. No substitutions will be allowed without approval by the Landscape Architect.
- 6. All disturbed areas not planted with trees, shrubs or ground cover shall be sodded lawn unless otherwise noted.
- 7. All materials' specifications shall be in accordance with the industry standard for grading plant material- The American Standard for Nursery Stock (ANSI Z60.1) as produced by the American Association of Nurseryman; Washington, D.C.
- 8. 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 Colimbia and Virginia; Gaithersburg, Maryland; the American Society of Landscape Architects, the International Society of Arboriculture, and the American National Standards Institute.
- 9. Prior to commencement of landscape installation / planting operations, a pre-installation / construction meeting will be scheduled and held with the City's Arborist and Landscape Architects to review plant installation procedures and processes.
- 10. 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.

- 11. Specification for all plantings shall be in accordance with the current and most up to date edition of ANSI-Z60.1, <u>The American Standard for Nursery Stock</u> as produced by the American Association of Nurserymen; Washington, DC.
- 12. 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.
- 13. 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 <u>Landscape Specification Guidelines</u> as produced by the Landscape Contractors Association of Maryland, District of Columbia and Virginia; Gaithersburg, Maryland.
- 14. 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.
- 15. Maintenance for this project shall be performed in perpetuity, in compliance with City of Alexandria Landscape Guidelines and/or as conditioned by project approval.
- 16. 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.
- 17. 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.

TRINI M. RODRIGU Cert. No. 1296 206/21/1 CAPE ARCHI	8
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SPECIAL USE PERMIT

1200 NORTH

CITY OF ALEXANDRIA, V.

Alexandria VA 2231

1200 N HENRY, LLC

Alexandria, VA 22313

AVANTI HOLDINGS GROUP, LL

R.C. FIELDS & ASSOCIATES, INC

703.548.5010

P.O. Box 1924

DEVELOPER

1605 King Stree

Alexandria, VA 22314 202.834.4355

730 S. Washington Street

DAVIS, CARTER, SCOTT, LTD

8614 Westwood Center Drive

Alexandria, VA 22314 703.549-6422

ARCHITEC1

Suite 800

Tysons, VA 22182

703.556.9275

arker Rodriguez, Inc

HENRY STREET

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PLANTING	_

DETAILS

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