DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN

SUNRISE SENIOR LIVING
400 NORTH WASHINGTON STREET

AREA TABULATIONS

TOTAL PARCEL AREA =	±0.7514 AC OR ±32,729 SF	
TOTAL EXISTING IMPERVIOUS AREA =	±0.63 AC OR ±27,225 SF	
TOTAL PROPOSED IMPERVIOUS AREA =	±0.64 AC OR ±27,660 SF	
TOTAL DISTURBED AREA =	±0.9963 AC OR ±43,400 SF	
TAX PARCEL IDENTIFICATION =	064.02–08–05 (±0.1058 AC OR ±4,610 SF)	EXISTING ZONE: CD
	064.02–08–06 (±0.5026 AC OR ±21,895 SF)	EXISTING ZONE: CD
	064.02–08–12 (±0.0665 AC OR ±2,898 SF)	EXISTING ZONE: RM (TO BE REZONED TO CD)
	064.02–08–13 (±0.0764 AC OR ±3,326 SF)	EXISTING ZONE: RM (TO BE REZONED TO CD)
ADDRESS:	400 NORTH WASHINGTON STREET, ALEXANDRIA, VA 22314	

PARKING TABULATION

PARKING REQUIRED

HOME FOR THE ELDERLY = 1.0 SPACE/ 2 UNITS AND 1.0 SPACE FOR 2 GUEST ROOMS

64 UNITS (@ 1.0/ 2 UNITS)	32 SPACES

MEMORY CARE (HOSPITAL RATE) = 1.0 SPACE/ 2 BEDS

36 BEDS (@ 1.0/ 2 BEDS)	18 SPACES
TOTAL PARKING REQUIRED	50 SPACES*

PARKING PROVIDED

STANDARD SPACES	=	46 SPACES
COMPACT SPACES	=	5 SPACES
ADA SPACES	=	3 SPACES
TOTAL PARKING PROVIDED		54 SPACES**

* THERE ARE NO GUEST ROOMS PROPOSED WITH THIS APPLICATION

** 16 ADDITIONAL TENANT ASSISTED PARKING SPACES ARE PROPOSED WITH THIS APPLICATION (14 STANDARD; 2 COMPACT)

LOADING

LOADING REQUIRED: ONE (1) LOADING SPACE / 20,000 SF FLOOR AREA = 75,419 / 20,000 = 4 SPACES

TOTAL LOADING SPACES PROVIDED* 0 SPACES

*A SPECIAL USE PERMIT FOR AMOUNT OF LOADING AND LOCATION IS REQUESTED. 1 LOADING SPACE IS PROPOSED ON PRINCESS STREET.

BICYCLE PARKING

BICYCLE PARKING RATE: HOTEL = 6 RACKS IF > 75 UNITS
91 UNITS @ 6 RACKS IF > 75 UNITS = 6 RACKS (CLASS 1, 2 OR 3)

BICYCLE PARKING REQUIRED = 6 RACKS

BICYCLE PARKING PROVIDED: CLASS 3 (OUTSIDE) = ±4 RACKS
CLASS 1 (INSIDE) = ±2 RACKS

SEE ARCHITECTURE & LANDSCAPE PLANS FOR LOCATION

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.

COMPLETE STREET TABULATION

	NEW	UPGRADED
CROSSWALKS (NUMBER)	N/A	2
STANDARD	N/A	1
HIGH VISIBILITY	N/A	1
CURB RAMPS	2	N/A
SIDEWALKS (LF)	±500	±305
BICYCLE PARKING (NUMBER RACKS)	6	N/A
PUBLIC/VISITOR	2	N/A
PRIVATE/GARAGE	4	N/A
BICYCLE PATHS (LF)	N/A	N/A
PEDESTRIAN SIGNALS	N/A	N/A

DEVELOPMENT TEAM INFORMATION

1. RECORD OWNER:
NATIONAL ASSOCIATION OF PROFESSIONAL INSURANCE AGENTS
400 NORTH WASHINGTON STREET
2ND FLOOR
ALEXANDRIA VA 22314

2. DEVELOPER/CONTRACT PURCHASER:
SUNRISE DEVELOPMENT INC.
7902 WESTPARK DRIVE
MCLEAN, VA 22102
ATTN: MR. JERRY LIANG

3. PLAN PREPARED BY:
WALTER L. PHILLIPS, INC.
207 PARK AVE.
FALLS CHURCH, VA 22046
ATTN: MR. BEN FLOOD, P.E.

4. ARCHITECT:
HEATH ARCHITECTURE LLC
2528 STARBRUSH DRIVE
EAST PETERSBURG, PA, 17520
ATTN: MR. CHARLES HEATH, AIA

5. ARCHITECT:
RUST | ORLING ARCHITECTURE
1215 CAMERON STREET
ALEXANDRIA, VIRGINIA 22314
ATTN: MR. JOHN RUST

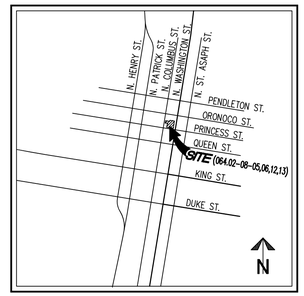
6. LAND USE ATTORNEY:
MCGUIRE WOODS, LLP
1750 TYSONS BLVD, SUITE 1800
MCLEAN, VA 22102
ATTN: MR. KEN WIRE

7. ARCHITECT:
MOSELEY ARCHITECTS
8001 BRADDOCK ROAD #400
FAIRFAX, VIRGINIA 22151
ATTN: MR. EKA RAHARDJO

8. LANDSCAPE ARCHITECT:
LSG INC.
1775 GREENSBORO STATION PL #110
TYSONS, VA 22102
ATTN: MS. CONNIE FAN, ASLA

VICINITY MAP

SCALE: 1"=2000'



PROJECT DESCRIPTION NARRATIVE

THIS APPLICATION PROPOSES REDEVELOPMENT OF THE SUBJECT PROPERTY TO REMOVE THE EXISTING OFFICE BUILDING AND PARKING AREA AND TO CONSTRUCT A 4–STORY BUILDING CONTAINING APPROXIMATELY 91 UNITS DESIGNATED AS "HOME FOR THE ELDERLY" AND A 1–STORY BELOW GRADE PARKING GARAGE. THE APPLICANT PROPOSES TO REZONE THE TWO PROPERTIES ALONG N. COLUMBUS STREET FROM RM TO CD AND CONSOLIDATE PARCELS 064.02–08–05, 064.02–08–06, 064.02–08–12 AND 064.02–08–13 INTO ONE LOT.

REQUESTED SPECIAL USE PERMITS/ZONING MODIFICATIONS/WAIVERS

1. A MASTER PLAN AMENDMENT TO THE BRADDOCK ROAD METRO STATION SMALL AREA PLAN TO CHANGE PARCELS 064.02–08–12 AND 064.02–08–13 FROM ZONE RM TO CD. (CITY OF ALEXANDRIA TO PREPARE APPLICATION)
2. REZONING OF PARCELS 064.02–08–12 AND 064.02–08–13 FROM RM TO CD.
3. A DEVELOPMENT SPECIAL USE PERMIT WITH DEVELOPMENT PRELIMINARY SITE PLAN TO CONSTRUCT AND OPERATE A 4–STORY HOME FOR THE ELDERLY IN THE CD ZONE WITH 91 UNITS AND A ONE–STORY BELOW GRADE PARKING GARAGE [Z.O. 4–503(L)].
4. A SPECIAL USE PERMIT TO INCREASE THE FLOOR AREA RATIO FROM 1.5 TO 2.5 IN THE CD ZONE [Z.O. 4–506(B.1)].
5. A MODIFICATION OF THE ZONE TRANSITION SETBACK FOR COMMERCIAL TO RESIDENTIAL [Z.O. 7–902(A)].
6. A SPECIAL USE PERMIT TO PROVIDE ZERO (0) LOADING SPACES ON SITE. NOTE THAT (1) LOADING SPACE IS PROPOSED ON PRINCESS STREET [Z.O. 8–200(B)].
7. A MODIFICATION TO THE CROWN COVERAGE REQUIREMENT [Z.O. 7–2507(A)].
8. A PERMIT TO DEMOLISH THE EXISTING BUILDING FROM THE OLD AND HISTORIC ALEXANDRIA DISTRICT BOARD OF ARCHITECTURAL REVIEW.
9. A CERTIFICATE OF APPROPRIATENESS FROM THE OLD AND HISTORIC ALEXANDRIA DISTRICT BOARD OF ARCHITECTURAL REVIEW.

BUILDING CODE ANALYSIS

USE GROUP	I–2/S–2
NUMBER OF STORIES	4
TYPE OF CONSTRUCTION	IB
FLOOR AREA PER FLOOR	
1ST FLOOR	22,308 SF
2ND FLOOR	22,702 SF
3RD FLOOR	22,298 SF
4TH FLOOR	11,432 SF
SPRINKLERED	YES

TRIP GENERATION ANALYSIS

PROVIDED BY WELLS AND ASSOCIATES –5/31/17

Old Town Senior Living

Trip Generation Analysis

Use	ITE Land Use Code[1]	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	AM Peak Hour of Generator In	AM Peak Hour of Generator Out	AM Peak Hour of Generator Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	PM Peak Hour of Generator In	PM Peak Hour of Generator Out	PM Peak Hour of Generator Total	ADT
Proposed																
Assisted Living	254	123	Beds	11	6	17	15	7	22	12	15	27	20	23	43	327

Notes 1. Institute of Transportation Engineer's (ITE), Trip Generation Manual, 9th Edition

NOTE: WHILE A TRAFFIC STUDY AND A TRANSPORTATION SCOPING FORM ARE NOT REQUIRED, THE APPLICANT MAY PREPARE A STUDY FOR INFORMATION ONLY.

ZONING TABULATIONS

ZONING:	EXISTING ZONE: CD/RM; PROPOSED ZONE: CD
MASTER PLAN:	OLD TOWN SMALL AREA PLAN & BRADDOCK METRO NEIGHBORHOOD PLAN
SITE AREA (SQ. FT) (ACRES):	±0.75 AC OR ±32,729 SF
USE:	EXISTING: OFFICE & PARKING LOT PROPOSED: HOME FOR THE ELDERLY

	PERMITTED/REQUIRED		PROVIDED
ZONE	CD	RM*	CD
FAR	MAX 2.5**	MAX 1.5	±2.30 (75,419 SF/32,729 SF)
UNIT BREAKDOWN	N/A	–	±91 UNITS (TOTAL)
ASSISTED LIVING	N/A	–	±64 UNITS
MEMORY CARE	N/A	–	±36 BEDS
GROSS FLOOR AREA (SF)	N/A	N/A	±108,504 SF
ELDERLY CARE	N/A	N/A	±78,740 SF
GARAGE	N/A	N/A	±29,764 SF
FLOOR AREA (SF)	N/A	N/A	±75,419 SF
ELDERLY CARE	N/A	N/A	±75,419 SF
GARAGE	N/A	N/A	±0 SF
LOT AREA (SF)	N/A	MIN. 1,452 SF	±32,729 SF
SETBACKS (FT)			
FRONT - N WASHINGTON ST	N/A	0 FT	±0.17 FT
FRONT - PRINCESS ST	N/A	0 FT	±0.17 FT
FRONT - COLUMBUS ST	N/A	0 FT	±0.17 FT
REAR	N/A	16 FT (W/ 1:2 SETBACK RATIO)	N/A
SIDE - N WASHINGTON ST	N/A	5 FT	±6.10 FT
SIDE - PRINCESS ST	N/A	5 FT	±4.90 FT
SIDE - COLUMBUS ST	N/A	5 FT	±8.50 FT (N); ±11.60 FT (S)
FRONTAGE			
N WASHINGTON ST	N/A	MIN. 18 FT	±211.07 FT
PRINCESS ST	N/A	MIN. 18 FT	±103.42 FT
COLUMBUS ST	N/A	MIN. 18 FT	±63.51 FT
OPEN SPACE (SF)	N/A	35% OF LOT AREA & ≤300 SF/LOT	±27.9% (±9,150 SF)
GROUND LEVEL	–	–	±23.8% (±7,800 SF)
ROOFTOP	–	–	±4.1% (±1,350 SF)
AVERAGE FINISHED GRADE	–	–	±44.30 FT
HEIGHT (FT)	MAX 50 FT	MAX 45 FT***	±50 FT
GARAGE VEHICLE PARKING			
STANDARD	46	46	46 (90.2%)
COMPACT	75% MAX	75% MAX	5 (9.8%)
ADA	2	2	3
TENANT ASSISTED	N/A	N/A	16
TOTAL	48	48	70****
TRIP GENERATION	–	–	±327 VPD*****
LOADING SPACES	4 SPACES	N/A	0 SPACES******
BIKE PARKING (CLASS I, II OR III)	6 RACKS	6 RACKS	6 RACKS
CLASS I (INDOOR)	–	–	2 RACKS
CLASS III (OUTDOOR)	–	–	4 RACKS

NOTES:

* THE TWO EXISTING RM PARCELS ON COLUMBUS STREET ARE PROPOSED TO BE REZONED TO CD.

** A SPECIAL USE PERMIT IS BEING REQUESTED TO PERMIT A 2.5 FAR IN THE CD ZONE.

*** PER SECTION 3–1106, THE MAXIMUM PERMITTED HEIGHT OF A STRUCTURE IS 35 FT, PROVIDED HOWEVER THAT THE MAXIMUM HEIGHT MAY BE INCREASED TO AN AMOUNT NOT TO EXCEED 45 FT IF THE RIDGE LINE OF THE ROOF IS PARALLEL TO THE STREET AND THE SLOPE OF THE ROOF IS COMPATIBLE WITH NEIGHBORING BUILDINGS.

**** TOTAL PARKING INCLUDES 54 SPACES PLUS AN ADDITIONAL 16 TENANT ASSISTED PARKING SPACES (SEE SHEET A1.2)

***** AVERAGE DAILY TRAFFIC PROVIDED BY WELLS AND ASSOCIATES AND UTILIZES "INSTITUTE OF TRANSPORTATION ENGINEERS: TRIP GENERATION – ASSISTED LIVING". SEE ANALYSIS (THIS SHEET)

****** A SPECIAL USE PERMIT FOR LOADING AMOUNT AND LOCATION REQUESTED. ONE (1) LOADING SPACE PROPOSED ON PRINCESS ST

PLAN SHEET KEY

NOT APPLICABLE

SHEET INDEX

CIVIL

P-0101 COVER SHEET
P-0201 NOTES AND TABULATIONS
P-0301 SITE CONTEXT PLAN
P-0302 EXISTING CONDITIONS PLAN AND AS-BUILT DATA
P-0401 PRELIMINARY LAYOUT PLAN
P-0402 PRELIMINARY GEOMETRIC PLAN
P-0403 PRELIMINARY OPEN SPACE PLAN
P-0404 PRELIMINARY SITE SECTIONS
P-0405 PRELIMINARY SUBDIVISION PLAT
P-0501 PRELIMINARY GRADING PLAN
P-0502 AVERAGE FINISHED GRADE
P-0701 PRELIMINARY OUTFALL ANALYSIS
P-0702 PRELIMINARY STORMWATER MANAGEMENT COMPUTATIONS AND DETAILS
P-0703 PRELIMINARY STORMWATER MANAGEMENT COMPUTATIONS AND DETAILS
P-0704 COMBINED SEWER MITIGATION PLAN
P-0901 PRELIMINARY SANITARY SEWER OUTFALL ANALYSIS
P-1101 PRELIMINARY VEHICLE MOVEMENT PLAN
P-1102 PRELIMINARY GARBAGE TRUCK MOVEMENT PLAN
P-1103 PRELIMINARY GARAGE VEHICLE MOVEMENT PLAN
P-1104 PRELIMINARY GARAGE VEHICLE MOVEMENT PLAN
P-1105 PRELIMINARY SIGHT DISTANCE PLAN AND PROFILE
P-1201 EXISTING VEGETATION SURVEY & TREE PRESERVATION PLAN
P-1202 TREE PRESERVATION NOTES & DETAILS
P-1301 PRELIMINARY FIRE SERVICE PLAN
P-1501 CORRESPONDENCE

ARCHITECTURE

A1.1 ARCHITECTURAL SITE PLAN / GROUND FLOOR PLAN
A1.2 FLOOR PLANS
A1.3 FLOOR PLANS
A1.4 FLOOR PLANS
A1.5 FAR DIAGRAMS
A2.1 EXTERIOR ELEVATIONS
A3.1 BUILDING SECTIONS
A3.2 TRANSITION ZONE DIAGRAMS

LANDSCAPE ARCHITECTURE

L101 REFERENCE PLAN
L102 PAVING PLAN
L103 LIGHTING PLAN
L301 SITE SECTIONS
L302 SITE SECTIONS
L303 CONSTRUCTION DETAILS
L304 CONSTRUCTION DETAILS
L305 CONSTRUCTION DETAILS
L401 PLANTING PLAN
L411 PLANTING DETAILS AND PLANT SCHEDULE

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: AS NOTED | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT
WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

COVER SHEET

APPROVED
SPECIAL USE PERMIT NO. 2016–0041
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

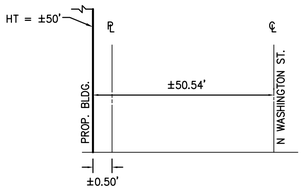
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

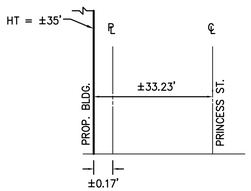
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

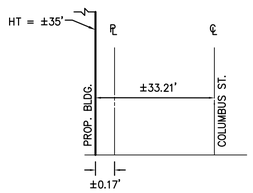
INSTRUMENT NO. DEED BOOK NO. PAGE NO.



SECTION A-A
NOT TO SCALE



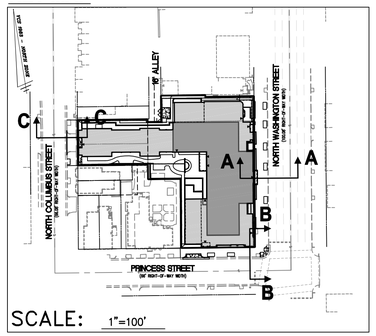
SECTION B-B
NOT TO SCALE



SECTION C-C
NOT TO SCALE

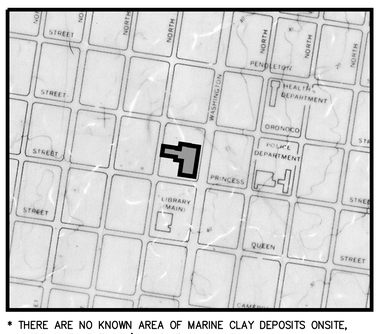
NOTE:
SECTIONS PROVIDED TO SHOW COMPLIANCE WITH SECTION 6-403 OF THE ZONING ORDINANCE

KEY MAP



SCALE: 1"=100'

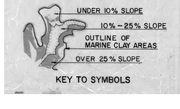
MARINE CLAY SOILS MAP



SCALE: 1"=500'

N

LIMITS OF SITE



* THERE ARE NO KNOWN AREA OF MARINE CLAY DEPOSITS ONSITE, ACCORDING TO THE CITY'S MARINE CLAY MAP

RESOURCE PROTECTION AREA NOTES

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 NOTES

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

THERE IS NO OBSERVABLE, HISTORICAL OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY.

UTILITY CONTACTS

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

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

WATER:
VIRGINIA AMERICAN WATER COMPANY
C/O HAO (STEVE) CHEN
2223 DUKE STREET
ALEXANDRIA, VA 22314
(703) 706-3889

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

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

COMBINED SEWER NARRATIVE

STORMWATER RUNOFF FROM THE SITE CURRENTLY FLOWS PRIMARILY SOUTH AND EAST, WITH A SMALL PORTION FLOWING WEST TOWARD NORTH COLUMBUS STREET, ALL OF WHICH ULTIMATELY DISCHARGES INTO THE COMBINED SEWER SYSTEM. THIS DEVELOPMENT IS SUBJECT TO THE COMBINED SEWER SYSTEM MANAGEMENT POLICY PER MEMO TO INDUSTRY 07-14.

THE APPLICANT MET WITH STAFF ON DECEMBER 28, 2016 AND FEBRUARY 9, 2017 TO DISCUSS THE PROPOSED STORMWATER SEPARATION STRATEGY AND MITIGATION PLAN. MEETING MINUTES DATED FEBRUARY 9, 2017 WERE ISSUED TO STAFF DETAILING THE OUTCOME OF THOSE DISCUSSIONS. SEE MEETING NOTES ON SHEET P-1501 FOR ADDITIONAL INFORMATION.

AN ANALYSIS OF THE EXISTING STORM SEWER INFRASTRUCTURE HAS FOUND THAT A CONNECTION TO AN EXISTING SEPARATED SEWER FACILITY WITHIN THE LIMITS OF GRAVITY FLOW FROM THE PROPOSED DEVELOPMENT IS NOT FEASIBLE. THE POSSIBILITY OF RETAINING 50% OF THE GENERATED STORMWATER RUNOFF FROM A 1" RAINFALL DEPTH ON SITE WAS EXPLORED AND WHILE THE ENTIRE 50% DOES NOT APPEAR FEASIBLE DUE TO THE PROPOSED SITE LAYOUT AND ANTICIPATED SOIL CONDITIONS, THE APPLICANT MAY CONSTRUCT A RUNOFF REDUCTION FACILITY ONSITE IN THE FORM OF AN EXTENSIVE GREEN ROOF WITH THE HOPE THAT IT PROVIDES ±18% OF THE RUNOFF REDUCTION GOALS.

THERE IS ONE STORMWATER OUTFALL PROPOSED FOR THIS DEVELOPMENT, WHICH DRAINS SOUTHEAST DIRECTLY INTO THE EXISTING COMBINED SEWER SYSTEM LOCATED WITHIN PRINCESS STREET.

AN ANALYSIS OF THE EXISTING SANITARY SEWER INFRASTRUCTURE HAS FOUND THAT THERE ARE NO INSTANCES IN WHICH A CONNECTION TO A SEPARATE SANITARY SEWER IN PROXIMITY TO THE SITE IS FEASIBLE. THE APPLICANT PROPOSES OFF-SITE SEPARATION OF SANITARY SEWER FURTHER EAST ON PRINCESS STREET IN PLACE OF PROVIDING PAYMENT OF THE FEE IN LIEU SHOULD SANITARY FLOW FROM THE PROPOSED DEVELOPMENT CONNECT TO THE EXISTING COMBINED SEWER NETWORK. SEE SHEET P-0704 FOR COMBINED SEWER MITIGATION PLAN.

STORMWATER MANAGEMENT & BEST MANAGEMENT PRACTICES NARRATIVE

THE ENTIRE SITE DRAINS INTO A COMBINED SEWER SYSTEM WHICH RUNS EAST WITHIN PRINCESS STREET. THERE IS A SMALL INCREASE IN IMPERVIOUS AREA FROM THE PRE TO POST-DEVELOPMENT. THE PROPOSED EXTENSIVE GREEN ROOF SYSTEM IS DESIGNED TO PROVIDE ENOUGH RUNOFF REDUCTION THAT IT WILL SATISFY THE SITE'S WATER QUANTITY CONTROL REQUIREMENTS WITH AN OVERALL DECREASE IN THE SITE'S CURVE NUMBER TO ENSURE POST-DEVELOPMENT PEAK RUNOFF IS LESS THAN PRE-DEVELOPMENT PEAK RUNOFF.

THE REQUIREMENTS OF CHANNEL PROTECTION AND FLOOD PROTECTION SHALL BE MET WITHIN THEIR RESPECTIVE LIMITS OF ANALYSIS. SEE P-0701 FOR PRELIMINARY OUTFALL ANALYSIS.

THE WATER QUALITY REQUIREMENTS OF THE ZONING ORDINANCE SHALL BE MET THROUGH THE USE OF AN THE EXTENSIVE GREEN ROOF FACILITY AND A HYDRODYNAMIC SEPARATOR. ANY PORTION OF THE WATER QUALITY VOLUME (WQV) NOT TREATED SHALL BE MITIGATED FOR BY CONTRIBUTING TO THE WATER QUALITY EQUIVALENCY FUND. SEE SHEET P-0703 FOR WQV CALCULATIONS.

GREEN BUILDING NARRATIVE

THE BUILDING WILL BE DESIGNED WITH ENVIRONMENTALLY CONSCIOUS STRATEGIES AND IN ACCORDANCE WITH THE CITY'S GREEN BUILDING POLICY. MEASURES COULD INCLUDE THE STORAGE OF RECYCLABLE MATERIALS, ULTRALOW-FLOW PLUMBING FIXTURES, LOW-EMITTING MATERIALS, ENERGY STAR APPLIANCES, THERMAL ROOF INSULATION, MECHANICAL VENTILATION, AND ENERGY EFFICIENT INTERIOR LIGHTING. AN EXTENSIVE GREEN ROOF FACILITY HAS BEEN PROPOSED AND DESIGNED TO MEET THE CITY'S WATER QUALITY AND QUANTITY CONTROL REQUIREMENTS. EXACT GREEN BUILDING TECHNIQUES WILL BE FURTHER EXPLORED AND DETAILED AS THE BUILDING EVOLVES THROUGHOUT THE DESIGN PROCESS.

GEOTECHNICAL REPORT NOTE

A SITE SPECIFIC GEOTECHNICAL REPORT SHALL BE PREPARED FOR THIS PROPERTY AND SHALL BE PROVIDED UNDER SEPARATE COVER AT TIME OF BUILDING PERMIT.

SANITARY SEWER OUTFALL NARRATIVE

THE SUBJECT SITE IS CURRENTLY SERVED BY A COMBINED SEWER SYSTEM ACCORDING TO THE CITY OF ALEXANDRIA GIS SEWER VIEWER. THE SANITARY FLOW FROM THIS DEVELOPMENT SHALL CONNECT TO THE EXISTING COMBINED SEWER NETWORK AND THE CALCULATED FEE IN LIEU SHALL BE PAID BY THE APPLICANT OR OFFSITE SANITARY SEWER SEPARATION WILL BE CONSTRUCTED. THEREFORE, THE REQUIREMENTS FOR SANITARY SEWER SEPARATION PER MEMO TO INDUSTRY NO. 07-14 ARE MET.

IT IS ANTICIPATED THAT THE SANITARY FLOW RESULTING FROM THIS DEVELOPMENT OF AN ELDERLY CARE FACILITY WILL BE APPROXIMATELY 300 GPD x 91 UNITS x 4 = 109,200 GPD WHICH EXCEEDS 10,000 GPD. A PRELIMINARY STUDY OF THE DOWNSTREAM SEWER SYSTEM HAS BEEN COMPLETED AND INCLUDED ON SHEET P-0901 TO ENSURE THE ADEQUACY OF THE OUTFALL IN ACCORDANCE WITH MEMO TO INDUSTRY NO. 06-14.

CITY STANDARD NOTES

1. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, DIVISION OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS AND CONTAINERS ARE ENCOUNTERED AT THE SITE. 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.

2. ALL WELLS TO BE DEMOLISHED ON THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH STATE WELL REGULATION. CONTACT JOE FIANDER AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4400 AND THE ALEXANDRIA ENVIRONMENTAL HEALTH DIVISION AT 703-746-4400.

3. 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 SITE ASSESSMENT

1. THERE ARE NO TIDAL WETLANDS, RPA'S, TIDAL SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIABLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS, OR WETLANDS LOCATED ON THIS SITE. FURTHER, THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS OR AREAS OF SOIL OR GROUNDWATER CONTAMINATION ON THE SITE.

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. 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 RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.

3. ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWCB) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIALIST AND COORDINATE WITH TEH ALEXANDRIA HEALTH DEPARTMENT AT 703-838-4400 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 7 AM TO 6 PM, AND
- SATURDAYS FROM 9 AM TO 6 PM.
- NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS

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

ENVIRONMENTAL NOTES

1. THERE ARE NO KNOWN AREAS OF MARINE CLAY DEPOSITS ONSITE, ACCORDING TO THE CITY MARINE CLAYS MAP. (SEE P-0201)

2. THIS SITE IS WITHIN A COMBINED SEWER AREA.

3. ACCORDING TO A PHASE 1 ENVIRONMENTAL SITE ASSESSMENT, PREPARED BY GEOCONCEPTS DATED 10/26/16, THERE WAS NO OBSERVABLE CONTAMINATION FOUND ON-SITE. THE REPORT DOES NOTE TWO MODERATE THREATS OF CONTAMINATION AND SUGGESTS ADDITIONAL SUBSURFACE EXPLORATION.

MASTER LEGEND

PROPOSED	DESCRIPTION	EXISTING
EP	EDGE OF PAVEMENT	EP.
MH	MANHOLE	MH
WV	WATER VALVE	WV
WM	WATER METER	WM
GM	GAS METER	GM
GV	GAS VALVE	GV
RD	ROOF DRAIN	RD
TCB	TRAFFIC CONTROL BOX	TCB
LP	LIGHT POLE	LP
TRLP	LIGHT POLE WITH SIGNALS	TRLP
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.
	CURB & GUTTER	
CG-2	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
CG-6R CG-6		
	SANITARY SEWER	S
SL	SANITARY LATERAL	SL
C.O.	CLEAN OUT	C.O.
	STORM SEWER	
	COMBINED SEWER	
	FLOW DIRECTION	
W	WATER MAIN	W
	FIRE HYDRANT	
	PLUG	
	OVERHEAD WIRES	
	UTILITY POLE	
T	COMMUNICATION	T
G	GAS MAIN	G
E	UNDERGROUND ELECTRIC	E
	TRANSFORMER	
	HANDICAP RAMP	
	GUARDRAIL	
	FENCE	
	HANDRAIL	
	TRAFFIC FLOW	
	TEST PIT	
	COLONIAL LIGHT	
	COBRA HEAD LIGHT	
	NOSTALGIA LIGHT	
	DOOR	
	TREES	
	LIMITS OF CLEARING AND GRADING	
40 44	CONTOURS	40 44
+44 50	SPOT ELEVATION	+44 50
	DRAINAGE FLOW DIRECTION	
	SITE PROPERTY LINE	
	ZONE TRANSITION LINE	
	SMALL AREA PLAN LINE	
	BELOW GRADE GARAGE	
	3-STORY BUILDING	
	4-STORY BUILDING	
	BRICK (RUNNING BOND PATTERN) (SEE LANDSCAPE PLANS)	
	CONCRETE	

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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SCALE: AS NOTED | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

NOTES AND TABULATIONS

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

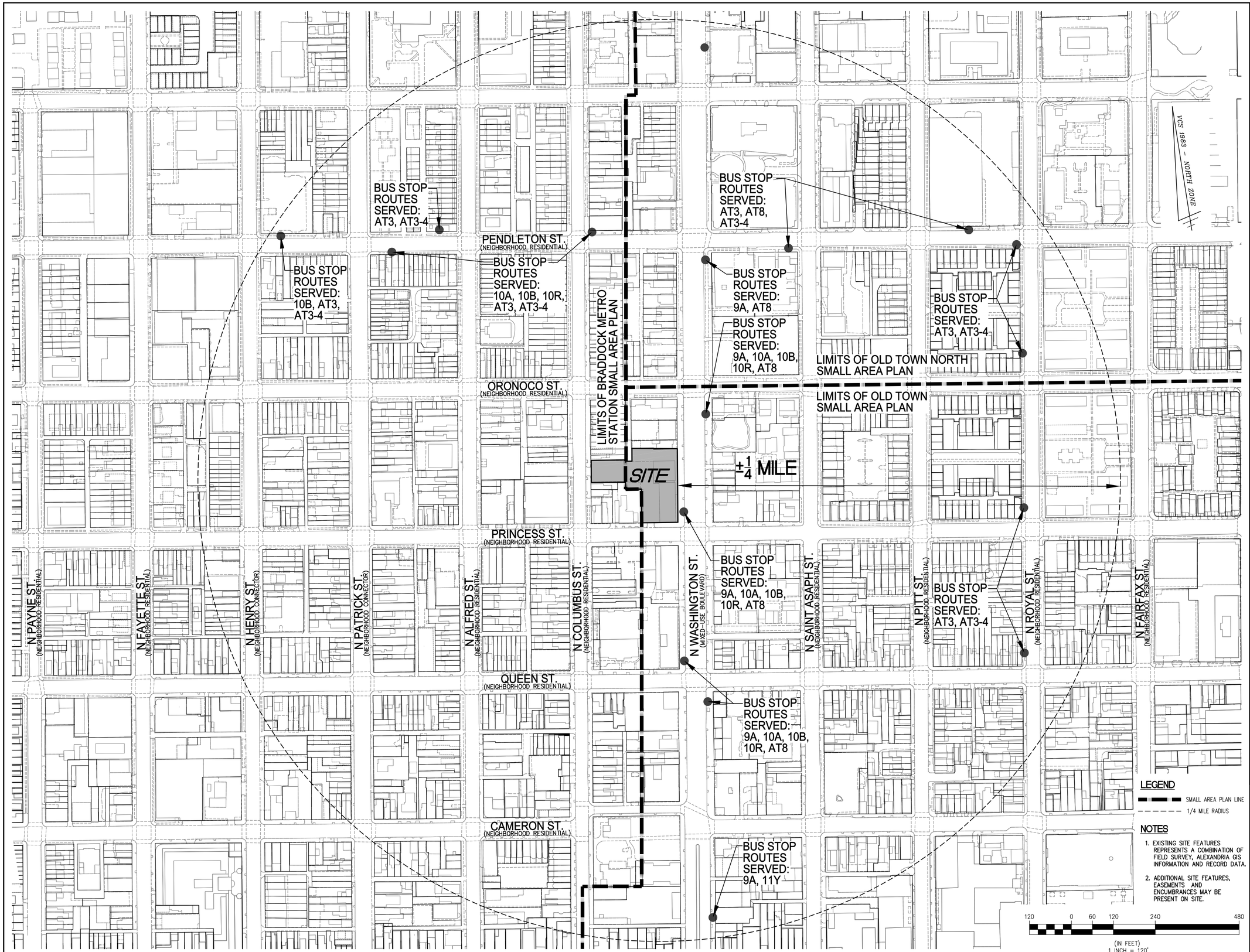
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



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SCALE: 1" = 120' | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 8/24/17 PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SITE CONTEXT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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: P-0301

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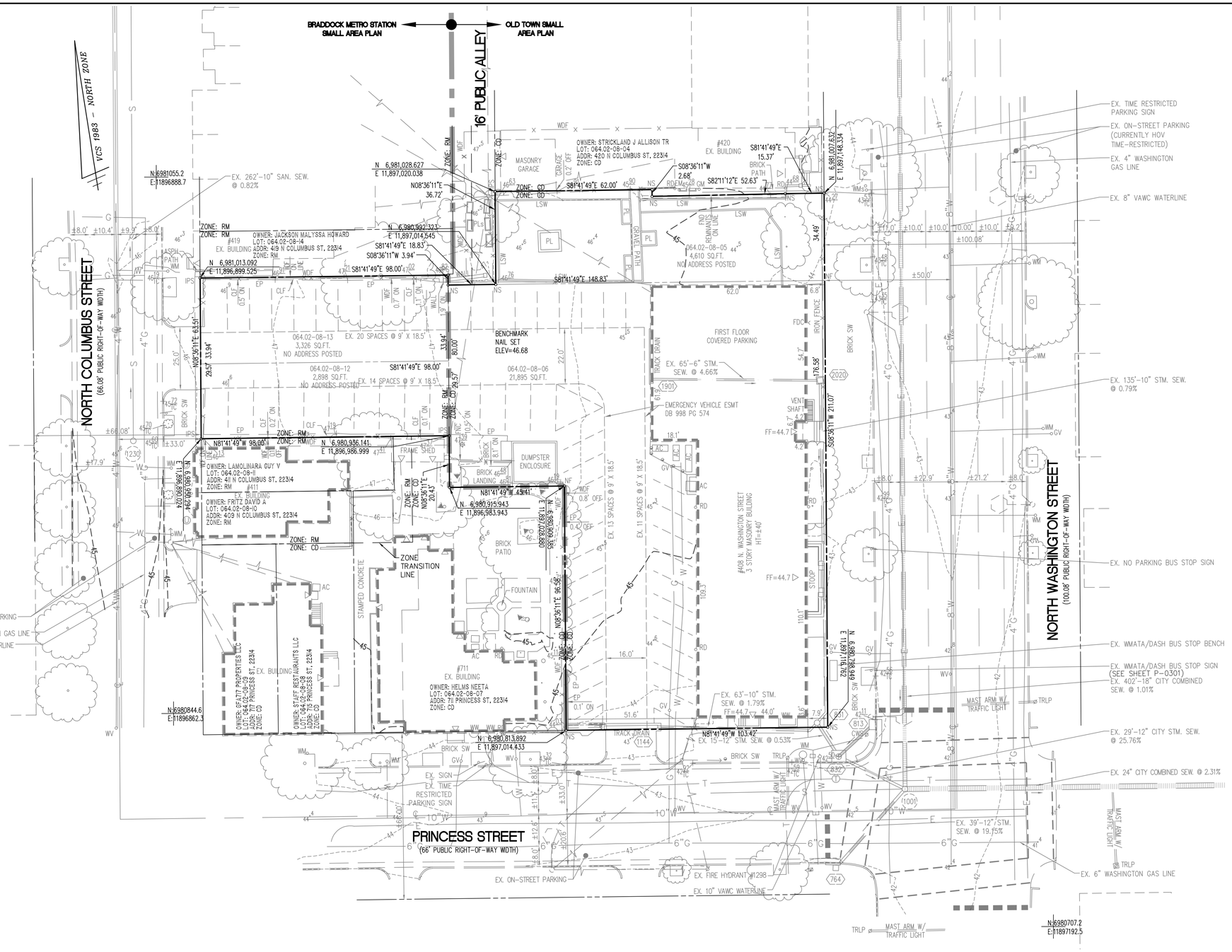

NOTES

1. THE PROPERTY SHOWN HEREON IS DESIGNATED BY THE CITY OF ALEXANDRIA, VIRGINIA, AS MAP-BLOCK-LOT NUMBERS:
   A) 064.02-08-05, ZONED CD - RECORD ADDRESS 418 N. WASHINGTON STREET
   B) 064.02-08-06, ZONED CD - RECORD ADDRESS 400 N. WASHINGTON STREET
   C) 064.02-08-12, ZONED RM - RECORD ADDRESS 413 N. COLUMBUS STREET
   D) 064.02-08-13, ZONED RM - RECORD ADDRESS 417 N. COLUMBUS STREET
2. THE PROPERTY IS NOW IN THE NAME OF NATIONAL ASSOCIATION OF PROFESSIONAL INSURANCE AGENTS, AS RECORDED IN INSTRUMENT NUMBER 000018229 AMONG THE LAND RECORDS OF THE CITY OF ALEXANDRIA, VIRGINA.
3. THIS PLAT 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 ARE NO GUARANTEES, EITHER EXPRESS OR IMPLIED, 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. WATER AND GAS LINES SIZES ARE FROM RECORD INFORMATION.
4. TOTAL AREA OF THE PROPERTY IS 32,729 SQUARE FEET OR 0.7514 ACRES.
5. THIS PLAT IS BASED ON A FIELD SURVEY BY THIS FIRM, COMPLETED ON 10/18/2016.
6. THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR THE CITY OF ALEXANDRIA, VIRGINIA, MAP NUMBER 5155190041E, REVISED DATE JUNE 16, 2011, DESIGNATES THE PROPERTY AS BEING IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
7. EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS, SHOWN AND/OR NOTED, TAKEN FROM THE TITLE COMMITMENT PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NUMBER NCS-815787-DC72, EFFECTIVE DATE SEPTEMBER 26, 2016.
8. THE SITE SHOWN HEREON IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 AS COMPUTED FROM A FIELD RUN VERTICAL CONTROL SURVEY AND IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983, [NAD 83(2011) (EPOCH:2010.0000)] AS COMPUTED FROM A FIELD RUN BOUNDARY AND HORIZONTAL CONTROL SURVEY THAT TIES THIS SUBDIVISION BOUNDARY AND THE BENCHMARK(S) SHOWN TO NOAA/NGS MONUMENT PID NUMBER DH4144; LWXI STERLING CORS ARP. THE COMBINED FACTOR APPLIED TO THE FIELD DISTANCES TO DERIVE THE REFERENCED COORDINATES IS 0.99995681. THE FOOT DEFINITION USED FOR CONVERSION OF THE MONUMENT COORDINATES AND IN THE PERFORMANCE OF THIS SURVEY IS THE U.S. SURVEY FOOT. CONTOUR INTERVAL IS ONE FOOT.
9. THIS SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF, DAVID N. ISHERWOOD, L.S., FROM AN ACTUAL [X] GROUND OR [ ] AIRBORNE SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON OCTOBER 18, 2016; AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
10. THIS SURVEY WAS PERFORMED AT THE REQUEST OF SUNRISE SENIOR LIVING.

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

STORM AS-BUILT DATA

SD 1901	
TRACK DRAIN TOP =	45.28
8"PVC OUT (SD 2020)=	44.33
SD 2020	
GRATE INLET TOP =	43.50
8"PVC IN (SD 1901)=	41.30
10"RCP OUT (SD 831)=	40.35
SD 831	
MANHOLE TOP =	42.93
10"RCP IN (SD 1144)=	39.33
10"RCP IN (SD 2020)=	39.28
12"RCP OUT (SD 832)=	39.23
SD 832	
CURB INLET TOP =	42.50
12"RCP IN (SD 831)=	39.15
INV IN (SD 813)=	39.15
INVERT OUT INACCESSIBLE	
CENTERLINE INVERT =	37.0
SD 1144	
TRACK DRAIN TOP =	43.46
10"RCP OUT (SD 831)=	40.46
SD 813	
CURB INLET TOP =	42.6
INVERT INACCESSIBLE	
SD 764	
CURB INLET TOP =	42.4
INVERTS INACCESSIBLE	
CENTERLINE INVERT =	37.0

SANITARY AS-BUILT DATA

SMH 2041 (COMBINED)	
MANHOLE TOP =	32.52
24" INV IN (SMH 1001)=	21.48
INV IN (NORTH)=	22.67
INV IN (SOUTH)=	23.54
INV IN (SOUTH)=	25.04
INV IN (EAST)=	25.10
INV IN (NORTH WEST)=	23.52
INV IN (NORTH EAST)=	23.54
INV OUT (SMH 2042)=	21.12
SMH 2042 (COMBINED)	
MANHOLE TOP =	20.79
INV IN (SMH 2041)=	13.74
INV IN (NORTH WEST)=	15.61
INV IN (NORTH)=	14.19
INV OUT (EAST)=	13.54
SMH 2044 (COMBINED)	
MANHOLE TOP =	13.58
INV IN (WEST)=	5.80
INV OUT (EAST)=	5.78
SMH 1208	
MANHOLE TOP =	44.94
10"INV IN (SOUTH)=	35.80
10"INV IN (EAST)=	35.32
10"INV OUT (WEST)=	35.31
SMH 1230	
MANHOLE TOP =	45.51
BACK OF TROUGH INVERT =	38.78
10"INV OUT (SMH 1914)=	38.71
SMH 1914 (COMBINED)	
MANHOLE TOP =	45.63
10"INV INV (SMH 1230)=	36.55
SMH 1995 (COMBINED)	
MANHOLE TOP =	44.78
12"RCP IN (STM) (N.WEST)=	33.94
10"INV IN (NORTH)=	33.88
18"INV OUT (SMH 1001)=	33.62
SMH 1001 (COMBINED)	
MANHOLE TOP =	42.39
18"INV IN (SMH 1995)=	29.57
INV IN (WEST)=	29.53
24"INV OUT (EAST)=	29.37
STORM INVERTS INACCESSIBLE	
* SMH 5636 (COMBINED)	
MANHOLE TOP =	45.85
10"INV IN (NORTH)=	36.10
15"INV IN (SMH 1914)=	35.50
15"INV OUT (SMH 1995)=	35.20
* SMH 4958 (COMBINED)	
MANHOLE TOP =	28.00
24" INV IN (SMH 2041)=	18.76
24" INV OUT (SMH 2042)=	18.76
* SMH 5526 (COMBINED)	
MANHOLE TOP =	19.60
INVERTS UNAVAILABLE	

* FROM CITY OF ALEXANDRIA GIS

NOTES

1. EXISTING SITE FEATURES FROM A FIELD SURVEY PERFORMED BY WALTER L. PHILLIPS, INC.
2. ADDITIONAL SITE FEATURES, EASEMENTS AND ENCUMBRANCES MAY BE PRESENT ON SITE.

WALTER L. PHILLIPS INCORPORATED
ESTABLISHED 1945
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SCALE: 1" = 20' | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS		
DATE	DESCRIPTION	DATE
02/17/17	CONCEPT 2 SUBMISSION	07/28/17
06/02/17	DSUP SUBMISSION	08/24/17

DATE	DESCRIPTION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

EXISTING CONDITIONS PLAN AND AS-BUILT DATA

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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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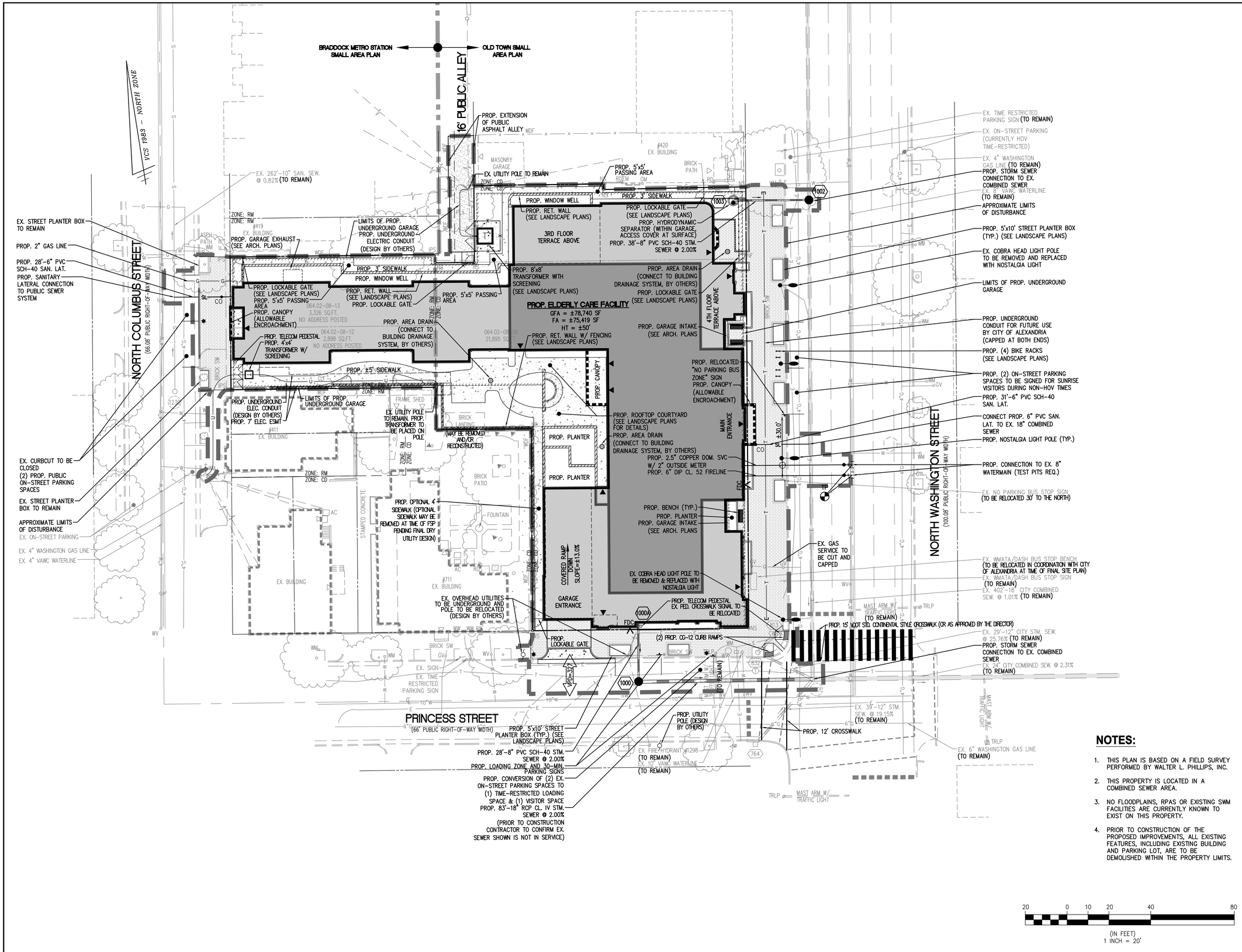

NOTES:

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY WALTER L. PHILLIPS, INC.
2. THIS PROPERTY IS LOCATED IN A COMBINED SEWER AREA.
3. NO FLOODPLAINS, RPAS OR EXISTING SWM FACILITIES ARE CURRENTLY KNOWN TO EXIST ON THIS PROPERTY.
4. PRIOR TO CONSTRUCTION OF THE PROPOSED IMPROVEMENTS, ALL EXISTING FEATURES, INCLUDING EXISTING BUILDING AND PARKING LOT, ARE TO BE DEMOLISHED WITHIN THE PROPERTY LIMITS.

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

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SCALE: 1" = 20' | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS		
DATE	DESCRIPTION	DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION	07/28/17	DSUP SUBMISSION 2
06/02/17	DSUP SUBMISSION	08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No. 041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY					
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY LAYOUT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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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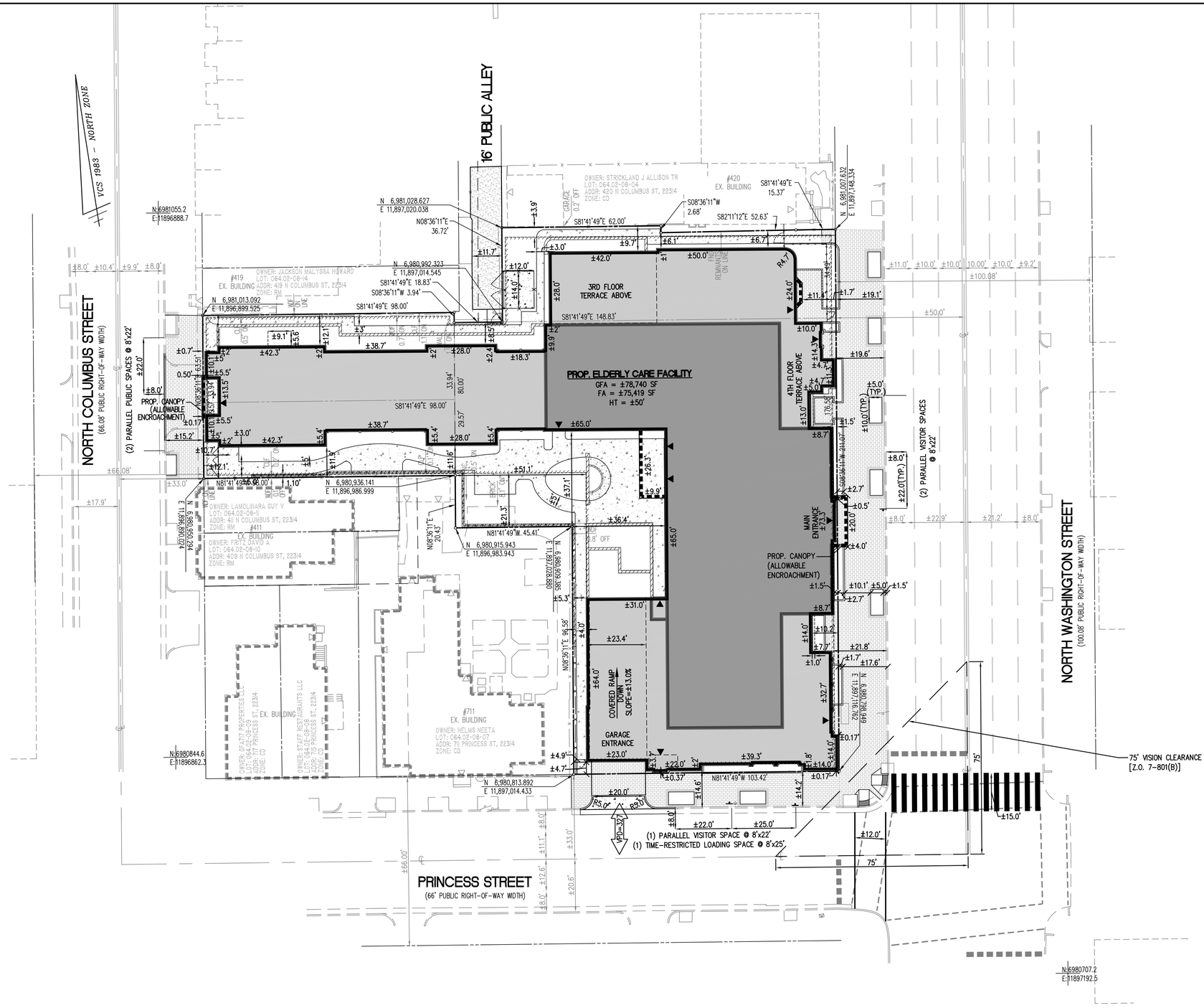

NOTES:

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20 0 10 20 40 80

(IN FEET)
1 INCH = 20'

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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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PLAN STATUS

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
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8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

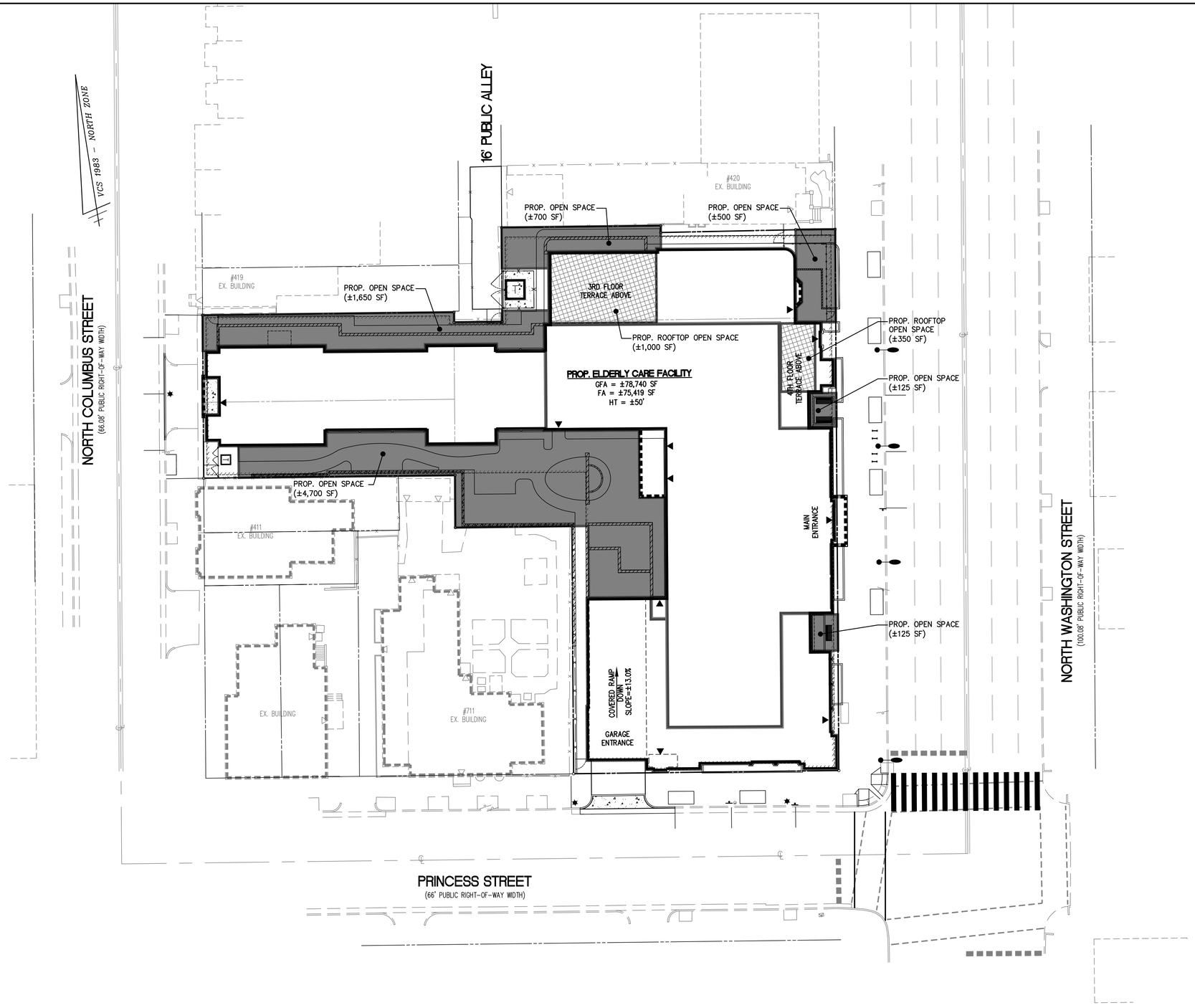
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY GEOMETRIC PLAN

File No. ALEX Tax Map No. 064.02 Job No. 16-101 Cadd Dwg. File: Q:\sdskproj\16101\dwg\Planning\DSUP\16101P-0402.dwg

SHEET: P-0402



LEGEND

GROUND LEVEL OPEN SPACE

ROOFTOP OPEN SPACE

OPEN SPACE AREA TABULATIONS

REQUIRED
PARCEL AREA = ±32,729 SF (±0.75 AC)
GROUND OPEN SPACE REQUIRED = 0 SF

PROVIDED
GROUND OPEN SPACE PROVIDED = ±7,800 SF (±0.18 AC) [23.8% OF TOTAL SITE]
ROOFTOP OPEN SPACE PROVIDED = ±1,350 SF (±0.03 AC) [4.1% OF TOTAL SITE]

TOTAL OPEN SPACE PROVIDED = ±9,150 SF (±0.21 AC) [27.9% OF TOTAL SITE]

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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PLAN STATUS

DATE	DESCRIPTION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

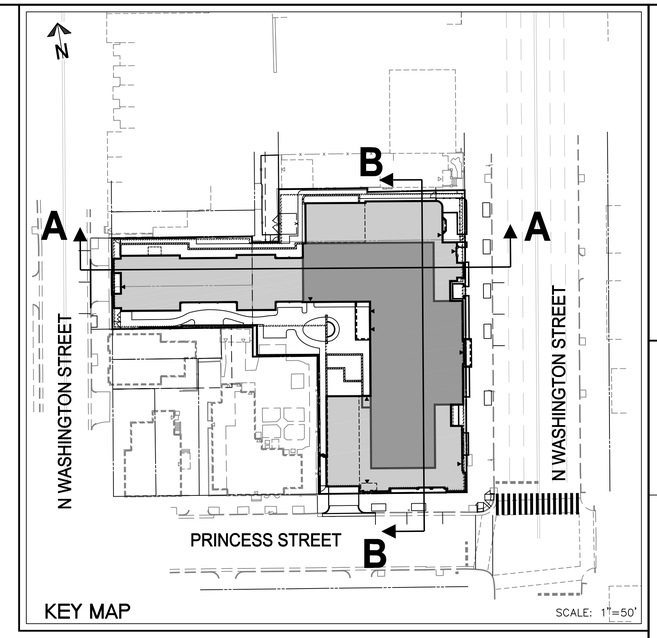
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

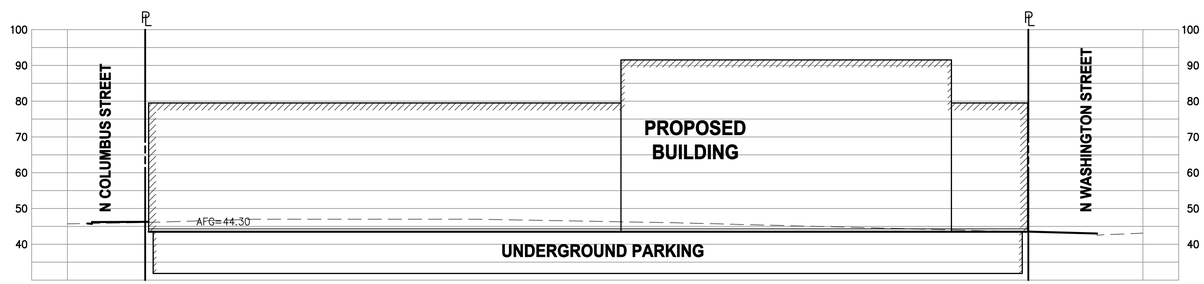
SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY OPEN SPACE PLAN

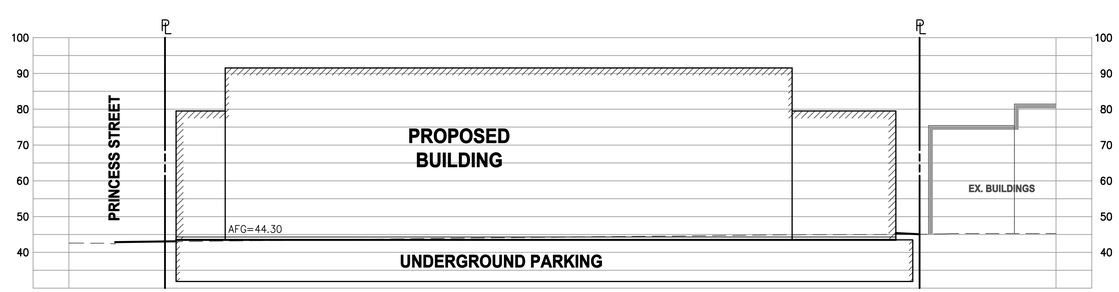
APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 064.02 Job No. 16-101 Cadd Dwg. File: Q:\sdskproj\16101\dwg\Planning\DSUP\16101P-0403.dwg





SECTION A-A
SCALE: 1"=20'



SECTION B-B
SCALE: 1"=20'

NOTE

1. BUILDING SECTIONS ARE DIAGRAMMATIC. SEE ARCHITECTURAL PLAN SHEETS A2.1 AND A3.1 FOR FOR ADDITIONAL DETAILS OF BUILDING DESIGN.

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

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8/24/17
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DESCRIPTION	DATE
DSUP SUBMISSION 2	
DSUP SUBMISSION 3	

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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY SITE SECTIONS

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
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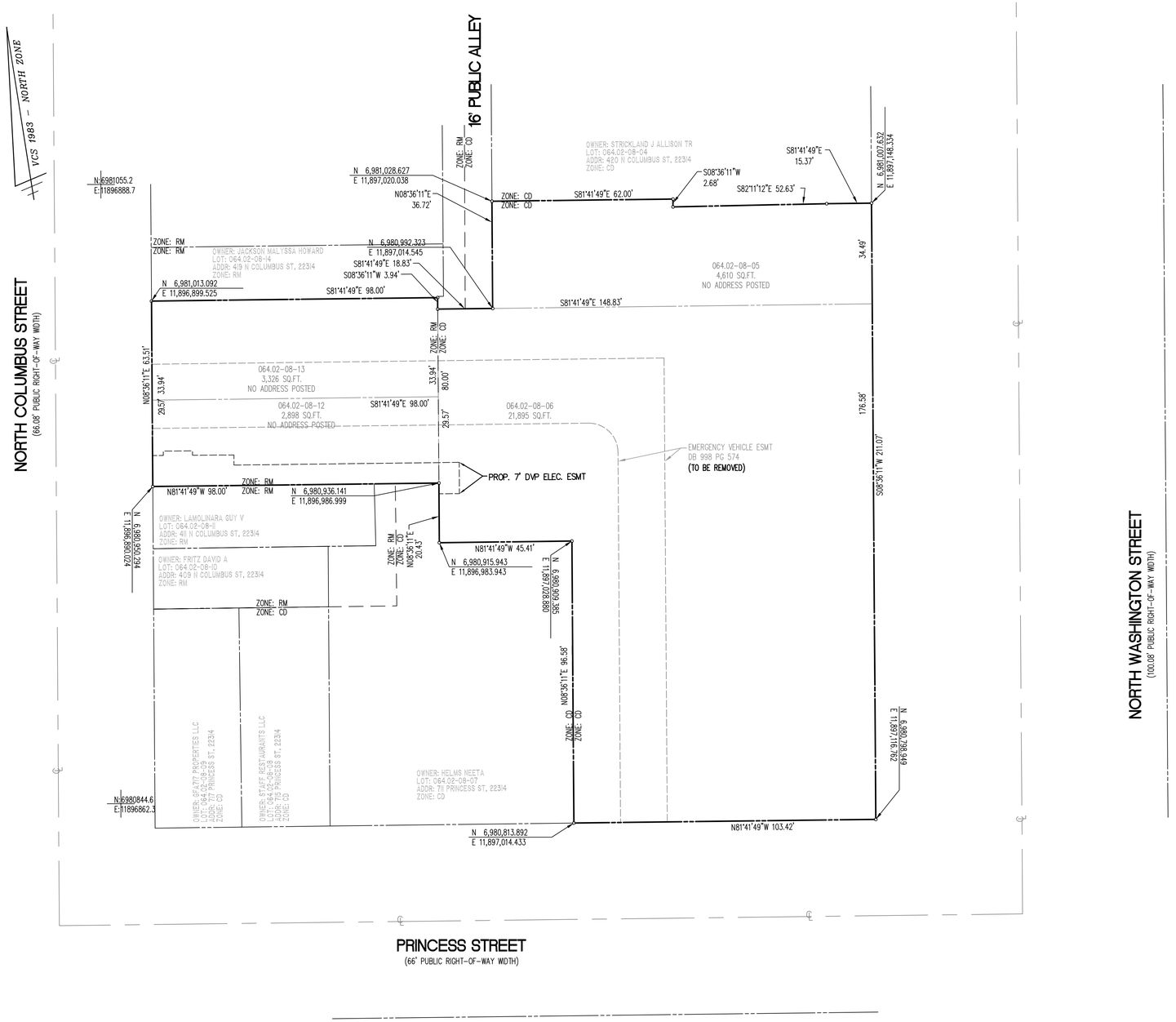

AREA TABULATION

EXISTING PARCELS

064.02-08-05.....±0.1058 AC OR ±4,610 SF
064.02-08-06.....±0.5026 AC OR ±21,895 SF
064.02-08-12.....±0.0665 AC OR ±2,898 SF
064.02-08-13.....±0.0764 AC OR ±3,326 SF
TOTAL.....±0.7514 AC OR ±32,729 SF

PROP. SUBDIVISION CONSOLIDATION

TOTAL.....±0.7514 AC OR ±32,729 SF

APPLICANT/DEVELOPER
SUNRISE DEVELOPMENT INC.
7902 WESTPARK DRIVE
MCLEAN, VA 22101
ATTN: JERRY LIANG
(703)-744-1873

RECORD OWNER
NATIONAL ASSOCIATION OF
PROFESSIONAL INSURANCE AGENTS
400 N. WASHINGTON STREET
ALEXANDRIA, VA 22314
(703)-584-4611

TOTAL NUMBER OF BUILDINGS
EXISTING: 1
PROPOSED: 1

ZONING
CURRENT: RM, CD
PROPOSED: CD

NOTES:

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY WALTER L. PHILLIPS, INC.
2. THIS PROPERTY IS LOCATED IN A COMBINED SEWER AREA.
3. NO FLOODPLAINS, RPAS OR EXISTING SWM FACILITIES ARE CURRENTLY KNOWN TO EXIST ON THIS PROPERTY.
4. APPLICANT PROPOSES A CONSOLIDATION OF LOTS 064.02-08-5, 6, 12, & 13.

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I HAVE CAREFULLY SURVEYED THE PROPERTY DELINEATED BY THIS PLAT, AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF; THAT THIS IS A SUBDIVISION OF PART (OR ALL) THE LAND CONVEYED BY _____ TO _____ BY DEED DATED _____ AND RECORDED AMONG THE LAND RECORDS OF _____ IN DEED BOOK _____ AT PAGE _____ AND IS WITHIN THOSE BOUNDARIES; AND THAT ALL REQUIRED MONUMENTS HAVE BEEN INSTALLED AT THE LATER DATE BUT BEFORE COMPLETION OF THE PROJECT.

SUBDIVISION NAME

SUNRISE SENIOR LIVING

RESOURCE PROTECTION AREA NOTES

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 NOTES

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).

FOR INFORMATION ONLY

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY SUBDIVISION PLAT

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

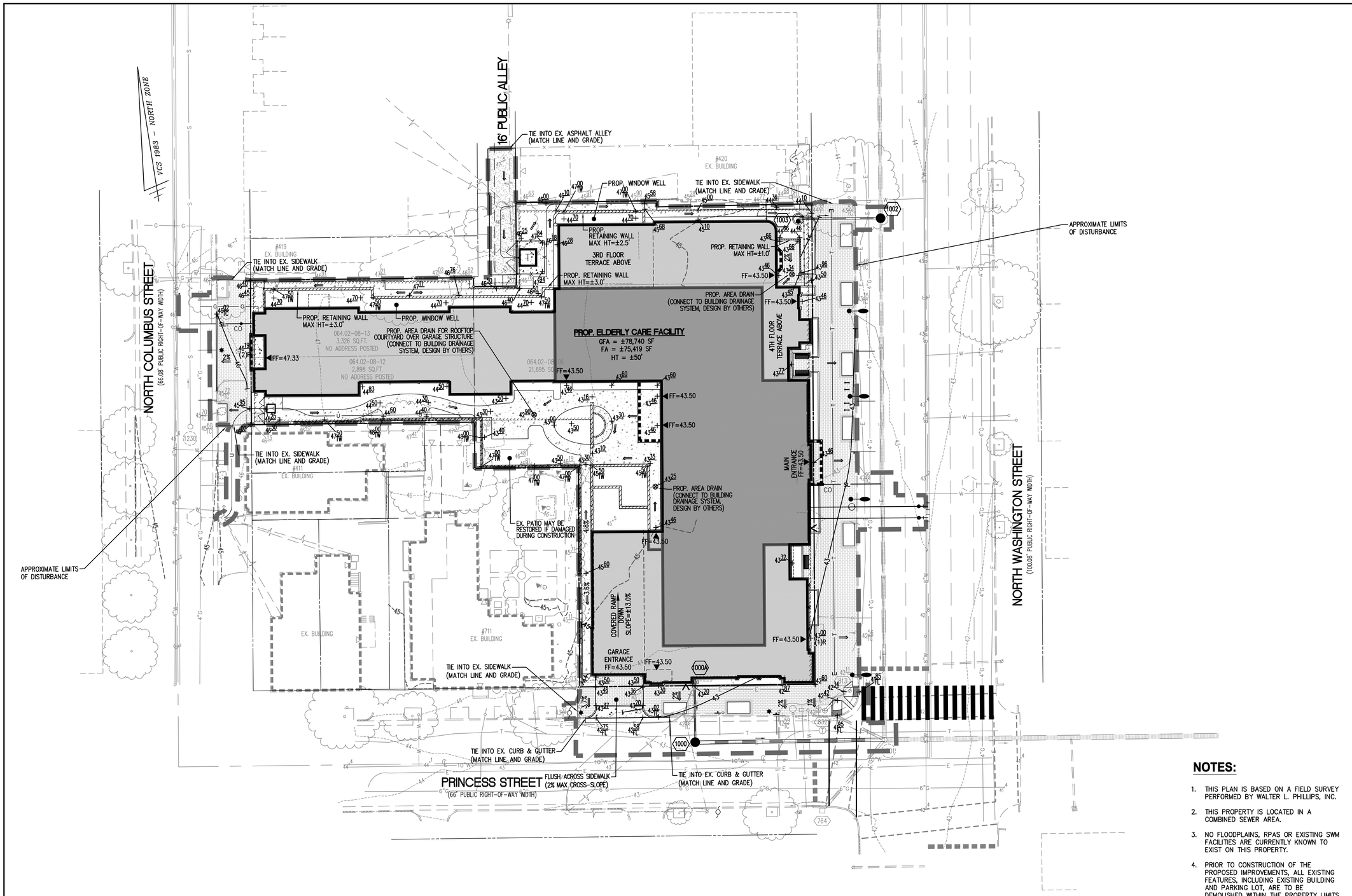
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



NOTES:

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY WALTER L. PHILLIPS, INC.
2. THIS PROPERTY IS LOCATED IN A COMBINED SEWER AREA.
3. NO FLOODPLAINS, RPAS OR EXISTING SWM FACILITIES ARE CURRENTLY KNOWN TO EXIST ON THIS PROPERTY.
4. PRIOR TO CONSTRUCTION OF THE PROPOSED IMPROVEMENTS, ALL EXISTING FEATURES, INCLUDING EXISTING BUILDING AND PARKING LOT, ARE TO BE DEMOLISHED WITHIN THE PROPERTY LIMITS.
5. SEE SHEET P-0101 FOR CITY OF ALEXANDRIA ARCHAEOLOGY NOTES.
6. PROPOSED GRADING IS PRELIMINARY AND SUBJECT TO CHANGE AT TIME OF FINAL SITE PLAN.

20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

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06/02/17	DSUP SUBMISSION

COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 8/24/17 PROFESSIONAL ENGINEER

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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY GRADING PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING
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AVERAGE FINISH GRADE

POINT	ELEVATION	POINT	ELEVATION
1	46.32	27	43.00
2	44.70	28	42.72
3	44.70	29	42.97
4	44.70	30	43.16
5	44.70	31	43.25
6	44.70	32	43.50
7	44.70	33	43.80
8	44.70	34	44.75
9	44.70	35	45.29
10	46.16	36	45.64
11	44.70	37	48.50
12	45.75	38	43.43
13	45.12	39	43.29
14	44.86	40	43.46
15	44.40	41	43.60
16	43.50	42	43.60
17	43.46	43	43.46
18	43.38	44	43.52
19	43.77	45	43.50
20	43.46	46	43.50
21	43.46	47	44.55
22	43.46	48	44.80
23	43.46	49	45.16
24	43.40	50	44.58
25	43.35	51	46.05
26	43.33	52	47.33

FIRST FLOOR ELEVATION= ±43.50

ROOF LINE ELEVATION= ±94.30
AVERAGE FINISHED GRADE= ±44.30
BUILDING HEIGHT= ±50.00 FT

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	CURB & GUTTER CG-2	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 CG-6R
40 44	CONTOURS	40 44
	HANDICAP RAMP (CG-12)	
▼	DOOR	▽
	PROPERTY LINE	
1 ●	SPOT ELEVATION (AT BUILDING)	

NOTES:

1. EXTERIOR GRADE AT APPROXIMATELY 20' INTERVALS.
2. AVERAGE FINISHED GRADE IS APPROXIMATE AND SUBJECT TO CHANGE AT FINAL SITE PLAN.

10 0 5 10 20 40
(IN FEET)
1 INCH = 10'

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SUNRISE SENIOR LIVING
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DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

AVERAGE FINISHED GRADE

APPROVED
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INSTRUMENT NO. DEED BOOK NO. PAGE NO.

OUTFALL ANALYSIS MAP

SCALE: 1" = 120'

NOTES

* ALTERNATIVE LIMIT OF ANALYSIS FOR FLOOD PROTECTION USED (150' DOWNSTREAM FROM POINT OF CONFLUENCE AS SHOWN IN THE MAP) PER SECTION 13-109(F)(2)(d)(i), AS POST DEVELOPMENT RELEASE RATES PROVIDED ON SITE COMPLIES WITH CRITERIA DESCRIBED IN SECTION 13-109(F)(2)(a)(i & ii). SEE THIS SHEET FOR PEAK RUNOFF RELEASES FROM THE SITE.

** THERE ARE NO NATURAL STREAMS WITHIN DEVELOPMENT'S WATERSHED WITH A LAND AREA EQUAL TO 100 TIMES THE CONTRIBUTING AREA.

LEGEND

SITE = ±0.75 AC

POINT OF CONFLUENCE

FLOW DIRECTION WITHIN PIPE

MAJOR DRAINAGE DIVIDE

MINOR DRAINAGE DIVIDE

OUTFALL 1 - CHANNEL PROTECTION ANALYSIS

BASED ON THE OUTFALL ANALYSIS MAP SHOWN, CONCENTRATED FLOW FROM THE SITE IS CONVEYED BY A MAN MADE SYSTEM, WHICH HAS BEEN ANALYZED TO A POINT WHERE THE WATERSHED IS 100 TIMES THE SITE AREA. DUE TO THE THE EXISTING PIPE DIAMETER AND SLOPE OF DOWNSTREAM PIPES AND BASED ON THE EXPECTED EXISTING AND PROPOSED FLOWS AS SHOWN IN THE PRELIMINARY CALCULATIONS BELOW, IT IS ESTIMATED THAT THE EXISTING DOWNSTREAM COMBINED SEWER SYSTEM DOES NOT EXPERIENCE EROSIVE VELOCITIES DURING THE 2-YR STORM EVENT. THEREFORE, THE ONSITE 2-YEAR, 24-HOUR PEAK FLOW RATE WILL BE REDUCED BELOW THE PRE-DEVELOPMENT RATE IN ACCORDANCE WITH Z.O. 13-109(F)(1)(a)(i). IT IS THE ENGINEER'S OPINION THAT THE OUTFALL IS ADEQUATE FOR CHANNEL PROTECTION WITHIN THE LIMITS OF ANALYSIS.

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.	LENGTH FT.	SLOPE FT./FT.	MANNING'S 'n'	DIA. IN.	CAPA-CITY C.F.S.	VEL. F.P.S.	FLOW TIME SEC.	NORMAL DEPTH IN.
NORTH	1002	4.24	4.24	0.52	20.00	3.50	7.72								
1002	EX. 1001	0.54	4.78	0.52	20.00	3.50	8.70**	216	0.0101	0.015	18	9.11	5.91	36.57	13.98
1000	EX. 1001	0.21	0.21	0.81	5.00	6.00	1.02**								
EX. 1001	EX. 2041	1.92	6.91	0.55	20.00	3.50	13.30	342	0.0231*	0.015	24	29.71	9.23	37.04	11.22
EX. 2041	EX. 2042	6.44	13.35	0.55	30.00	2.80	20.56	313	0.0236*	0.015	24	30.03	10.34	30.27	14.53
EX. 2042	EX. 5526	2.55	15.90	0.55	30.00	2.80	24.49	39	0.0400*	0.015	24	39.10	13.19	2.96	13.72
EX. 5526	EX. 2044	59.10	75.00												

NOTES

* APPROXIMATE, FROM RECORD INFORMATION

** INCLUDES PEAK RELEASE FROM SITE (ASSUMES ADJUSTED CN DUE TO RUNOFF REDUCTION PRACTICES)

EX. PIPES DO NOT EXPERIENCE EROSIVE VELOCITIES WITHIN LIMITS OF ANALYSIS

OUTFALL 1 - FLOOD PROTECTION ANALYSIS

BASED ON A PRELIMINARY ANALYSIS OF THE EXISTING 24" COMBINED SEWER 150' DOWNSTREAM OF THE POINT OF CONFLUENCE, IT IS EXPECTED THAT THE DOWNSTREAM SYSTEM DOES NOT EXPERIENCE LOCALIZED FLOODING. THEREFORE, THE ONSITE 10 YEAR-24 HOUR PEAK FLOW RATE WILL BE RELEASED BELOW THE PRE-DEVELOPMENT RATE IN ACCORDANCE WITH Z.O. 13-109(F)(2)(a)(i & ii).

AS SHOWN IN THE OUTFALL ANALYSIS MAP, THE FIRST DRAINAGE AREA (6.91 AC) INCLUDES THE OUTFALL PIPES RECEIVING DISCHARGE FROM THE SITE AND IS JOINED BY A SECOND DRAINAGE AREA (6.44 AC), AT THE POINT OF CONFLUENCE SHOWN, THAT IS AT LEAST 90% IN SIZE OF THE FIRST CONTRIBUTING AREA (6.91 AC). THEREFORE, THE LIMITS OF ANALYSIS FOR FLOOD PROTECTION SHALL EXTEND 150' FROM THE POINT OF CONFLUENCE.

THE DEVELOPMENT PROPOSES TO RELEASE THE 10YR, 24 HR STORM EVENT PEAK RATE OF RUNOFF BELOW THE PEAK RELEASE FROM THE PRE-DEVELOPMENT CONDITIONS. THEREFORE, IN ACCORDANCE WITH Z.O 13-109(F)(2)(d)(i), THE ALTERNATIVE LIMITS OF ANALYSIS SHALL BE UTILIZED FOR THE ANALYSIS OF FLOOD PROTECTION. DUE TO THE EXISTING RECEIVING PIPE DIAMETER AND THE EXPECTED EXISTING & PROPOSED FLOWS AS SHOWN IN THE PRELIMINARY CALCULATIONS BELOW, IT IS THE ENGINEER'S OPINION THAT THIS OUTFALL IS ADEQUATE FOR FLOOD PROTECTION WITHIN THE LIMITS OF ANALYSIS.

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.	LENGTH FT.	SLOPE FT./FT.	MANNING'S 'n'	DIA. IN.	CAPA-CITY C.F.S.	VEL. F.P.S.	FLOW TIME SEC.	NORMAL DEPTH IN.
NORTH	1002	4.24	4.24	0.52	20.00	5.10	11.24								
1002	EX. 1001	0.54	4.78	0.52	20.00	5.10	12.68**	216	0.0101	0.015	18	9.11			
1000	EX. 1001	0.21	0.21	0.81	5.00	9.00	1.14**								
EX. 1001	EX. 2041	1.92	6.91	0.55	20.00	5.10	19.38	342	0.0231*	0.015	24	29.71	10.12	33.79	14.08
EX. 2041	EX. 2042	6.44	13.35	0.55	30.00	4.00	29.37	313	0.0236*	0.015	24	30.03	10.95	28.57	19.10

NOTES

* APPROXIMATE, FROM RECORD INFORMATION

** INCLUDES PEAK RELEASE FROM SITE (ASSUMES ADJUSTED CN DUE TO RUNOFF REDUCTION PRACTICES)

PIPES RUNNNING FULL, SEE HGL COMPUTATIONS

EX. PIPES HAVE THE CAPACITY TO CONVEY 10 YEAR-24 HOUR STORM WITHIN LIMITS OF ANALYSIS

HYDRAULIC GRADE LINE COMPUTATIONS

Inlet Station	Structure Type (M,I)	Outlet Water Surface Elevation	D_o (in)	Q_o	L_o	S_o	H_i	Junction Loss V_o	H_o	D_i (in)	Q_i	V_i	Q_i/V_i	$V_i^2/2g$	H_i	Angle (°)	H_{bend}	Ht	1.3Ht	.5(Ht)	Final H	Inlet Water Surface Elevation	Junction Invert Elevation	Uniform Depth of Flow (ft)	Max Water Surface Elevation	Rim/ Throat Elevation	WSE to Rim Difference (>1 ft)	Crown to WSE Difference (<5 ft)	Fix?
1002	M	30.33	18	12.68	216	0.019	4.19	7.17	0.20	18	11.24	6.36	71.56	0.63	0.22	90	0.44	0.86	---	0.43	4.62	34.95	31.75	0.00	34.95	43.30	8.35	1.70	OK

WATER SURFACE ELEVATION IS GREATER THAN 2-FEET FROM THE RIM OF THE MANHOLE STRUCTURE

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DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY OUTFALL ANALYSIS

APPROVED
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DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

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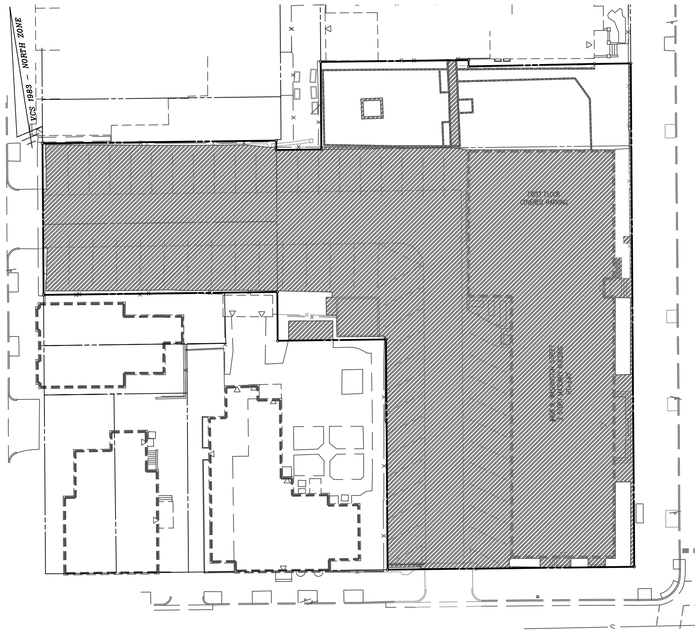
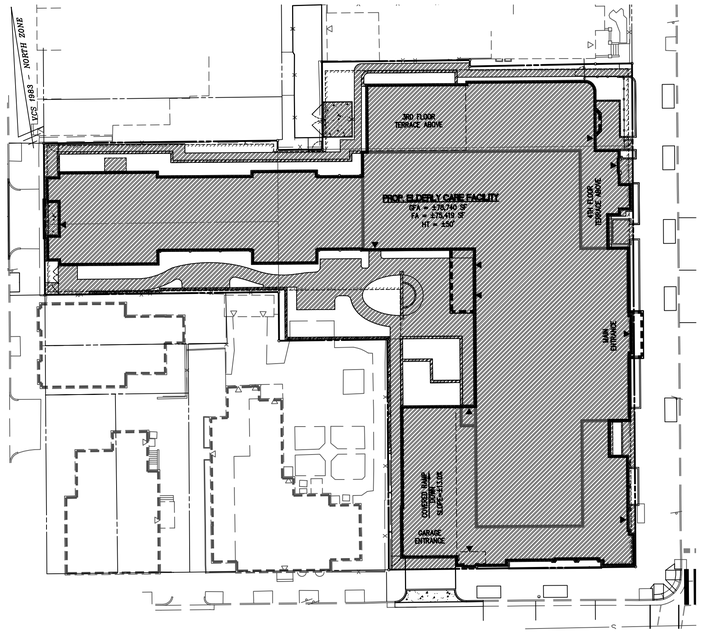
SHEET: P-0701



PRE-DEVELOPMENT- IMPERVIOUS AREA MAP

IMPERVIOUS AREA (±0.63 ACRES)



POST-DEVELOPMENT- IMPERVIOUS AREA MAP

IMPERVIOUS AREA (±0.64 ACRES)

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

STORMWATER MANAGEMENT COMPUTATIONS

OUTFALL 1

I. PRE-DEVELOPMENT CONDITION (OVERALL)

SITE AREA = 0.75 AC

A. CONTRIBUTING AREAS:

	HSG D AC	HSG D CN
PERVIOUS	0.12	80
IMPERVIOUS	0.63	98

B. WEIGHTED CN = 95

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q2 = 2.48 CFS
Q10 = 4.18 CFS

II. POST-DEVELOPMENT CONDITION (OVERALL)

SITE AREA = 0.75 AC

A. CONTRIBUTING AREAS:

	HSG D AC	HSG D CN
PERVIOUS	0.11	80
IMPERVIOUS	0.64	98

B. WEIGHTED CN = 95 (UNADJUSTED)
WEIGHTED CN = 92 (2-YR ADJUSTED)*
WEIGHTED CN = 93 (15-YR ADJUSTED)*
*SEE ADJUSTED RUNOFF REDUCTION CN CALCULATIONS, THIS SHEET

C. TIME OF CONCENTRATION = 6 MIN.

D. RUNOFF
Q2 = 2.29 CFS
Q10 = 4.08 CFS

III. STORMWATER MANAGEMENT REQUIREMENT – ALLOWABLE RELEASE FROM DEVELOPMENT

A. Q2 = 2.48 CFS

B. Q10 = 4.18 CFS

CHANNEL PROTECTION REQUIREMENT
– PREDEVELOPMENT SITE RELEASE FOR 2YR, 24 HR STORM

FLOOD PROTECTION
– PREDEVELOPMENT SITE RELEASE FOR 10YR, 24 HR STORM

IV. COMPLIANCE

DEMONSTRATE THAT RELEASES FROM THE SITE DO NOT EXCEED STORMWATER REQUIREMENT OF SECTION III.

	TOTAL FROM SITE		ALLOWABLE
Q2 =	2.29 CFS	≤	2.48 CFS
Q10 =	4.08 CFS	≤	4.18 CFS

ANTICIPATED PEAK RELEASE RATES FROM THE SITE DO NOT EXCEED THE ALLOWABLE RELEASE RATES FOR BOTH THE 2-YR AND 10-YR, 24-HR STORM EVENTS.

NOTE:
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.

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" = 30' | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CHANNEL AND FLOOD PROTECTION

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	0.11
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.64
	CN	98	98	98	98
					$CN_{(D.A. A)}$ 95

Total Area (acres): 0.75
Runoff Reduction Volume (ft^3): 248

POST-DEVELOPMENT UNADJUSTED CURVE NUMBER

RUNOFF CURVE NUMBER ADJUSTMENT COMPUTATIONS - SITE

USING SCS RUNOFF CURVE NUMBER METHOD TO DETERMINE RUNOFF VOLUME

NOTE: ANOTHER METHOD OF COMPUTING RUNOFF VOLUMES MAY BE USED DURING FINAL DESIGN AS APPROVED BY ALEXANDRIA.

PROJECT: **Sunrise Prelim DSUP** DSUP 7/14/2017

PROPOSED CONDITION UNADJUSTED RUNOFF DEPTHS & VOLUMES*:

DATA:
DRAINAGE AREA: 0.75 ACRES
UNADJUSTED CURVE NUMBER*: 95
S=1000/CN - 10 = 0.53
TIME OF CONCENTRATION: 0.1 HOURS
RAINFALL TYPE: II
POND AND SWAMP AREA: NONE

POST-DEVELOPMENT UNADJUSTED CURVE NUMBER

STORM NUMBER	1	2	3
FREQUENCY (YEARS)	1	2	10
24-HR RAINFALL (INCHES)	2.7	3.2	5.2
RUNOFF (INCHES)	2.16	2.64	4.62

1 YR STORM:	0.75	AC X	2.16	IN X 1FT/12IN X 43,560 =	5,873	CF
2 YR STORM:	0.75	AC X	2.64	IN X 1FT/12IN X 43,560 =	7,201	CF
10 YR STORM:	0.75	AC X	4.62	IN X 1FT/12IN X 43,560 =	12,572	CF

* BEFORE ACCOUNTING FOR RUNOFF REDUCTION MEASURES

VOID VOLUME:

VOLUME OF RUNOFF RETAINED ONSITE DUE TO PROPOSED VEGETATED ROOF

1, 2 & 10 YR 675 CF

VOID VOLUME WITHIN GREENROOF – SEE CALCULATIONS SHEET P-0703

ADJUST RUNOFF VOLUMES:

1 YR STORM:	5,873	-	675	=	5,198	CF
2 YR STORM:	7,201	-	675	=	6,526	CF
10 YR STORM:	12,572	-	675	=	11,897	CF

ADJUST RUNOFF DEPTHS (Q, INCHES):

1 YR STORM:	5,198 /	(0.75	X 1FT/12IN X 43,560) =	1.91
2 YR STORM:	6,526 /	(0.75	X 1FT/12IN X 43,560) =	2.40
10 YR STORM:	11,897 /	(0.75	X 1FT/12IN X 43,560) =	4.37

ADJUST RUNOFF CURVE NUMBERS:

	TRIAL S	RESULTING Q	ADJUSTED CN
1 YR STORM:	0.83	1.91	92
2 YR STORM:	0.81	2.40	92
10 YR STORM:	0.78	4.37	93

POST-DEVELOPMENT ADJUSTED CURVE NUMBERS

*METHODOLOGY FOR DETERMINING ADJUSTED CN PROVIDED BY VA DEQ GUIDELINES

WATER QUANTITY CONTROL NARRATIVE

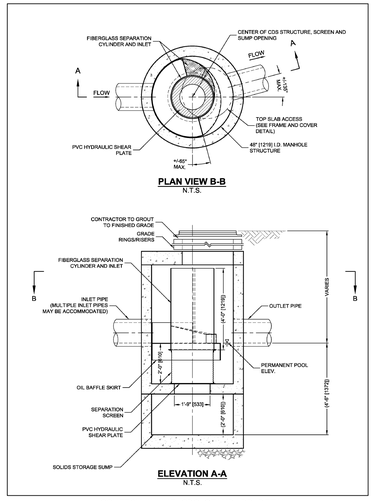
THE PROPOSED EXTENSIVE GREEN ROOF SYSTEM IS DESIGNED TO PROVIDE ENOUGH RUNOFF REDUCTION THAT IT WILL SATISFY THE SITE'S WATER QUANTITY CONTROL REQUIREMENTS WITH AN OVERALL DECREASE IN THE SITE'S CURVE NUMBER AND NO ADDITIONAL STORMWATER DETENTION METHODS WILL BE REQUIRED.

AS SHOWN ON THE COMPUTATIONS ON THIS SHEET, THE POST-DEVELOPMENT UNADJUSTED CURVE NUMBER CALCULATED BY THE VRRM SPREADSHEET BEFORE ACCOUNTING FOR RUNOFF REDUCTION MEASURES IS 95. USING THE SCS RUNOFF CURVE NUMBER METHOD TO DETERMINE RUNOFF VOLUMES, THE POST-DEVELOPMENT ADJUSTED CURVE NUMBERS FOR THE 2-YR STORM IS 92 AND THE 10-YR STORM IS 93 (SEE COMPUTATIONS, THIS SHEET).

FOR THE PURPOSES OF WATER QUANTITY CONTROL FOR CHANNEL AND FLOOD PROTECTION, A POST-DEVELOPMENT CURVE NUMBER OF 92 AND 93 WILL BE USED FOR THE 2-YR AND 10-YR, 24-HR STORMS, RESPECTIVELY.

TYPICAL HYDRODYNAMIC SEPARATOR DETAIL

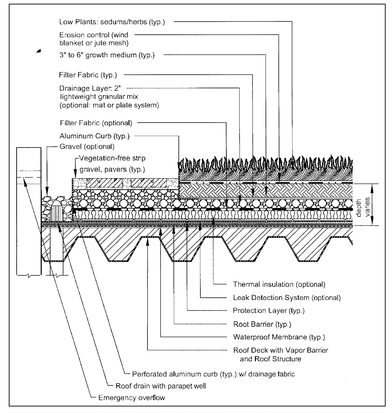
NOT TO SCALE



CONTECH INLINE CDS STANDARD DETAIL

TYPICAL GREEN ROOF DETAIL

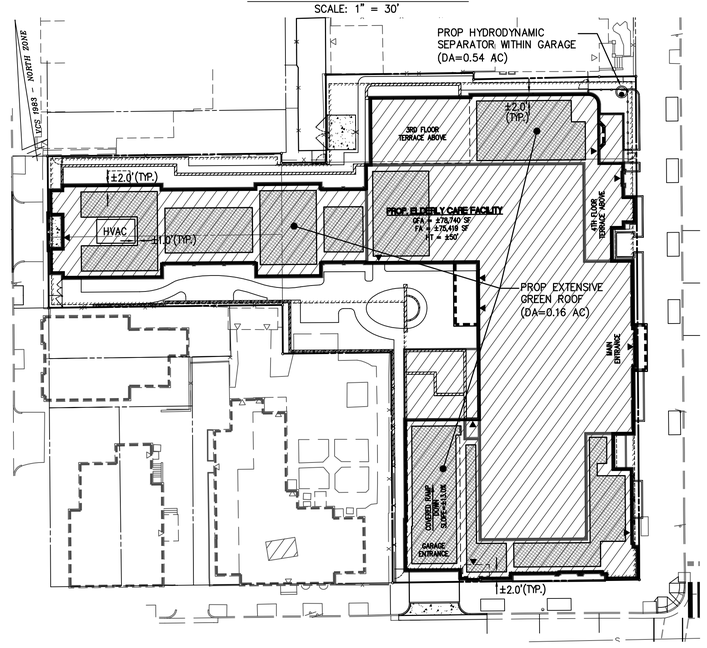
NOT TO SCALE



VA DEQ STORMWATER DESIGN SPECIFICATION NO. 5
FIGURE 5.2 TYPICAL SECTION – EXTENSIVE VEGETATED ROOF

BMP AREA SERVICE MAP

SCALE: 1" = 30'



ONSITE AREA TO HYDRODYNAMIC SEPARATOR (VIA ROOF DRAINS)
(23,522 SF. OR 0.54 AC)
(INCLUDES 0.16 AC FROM GREEN ROOF TO HYDRODYNAMIC SEPARATOR)

ONSITE AREA TO GREEN ROOF
(6,750 SF. OR 0.16 AC)

NOTE: EXACT AMOUNT & LOCATION OF GREEN ROOF SUBJECT TO CHANGE PENDING FINAL DESIGN OF ROOFTOP AT TIME OF FINAL SITE PLAN.

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY STORMWATER MANAGEMENT COMPUTATIONS AND DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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.

Project Name:	400 N. WASHINGTON ST. - SUNRISE
Date:	7/14/2017
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)* → 0.75

Maximum reduction required:	*10%*
The site's net increase in impervious cover (acres) is:	*0.01*
Post-Development TP Load Reduction for Site (lb/yr):	*0.16*

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				0.12	0.12
Impervious Cover (acres)				0.63	0.63
					0.75

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				0.11	0.11
Impervious Cover (acres)				0.64	0.64
Area Check	OK.	OK.	OK.	OK.	0.75

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)	0.12	0.11
Weighted Rv(turf)	0.25	0.25
% Managed Turf	16%	15%
Impervious Cover (acres)	0.63	0.63
Rv(impervious)	0.95	0.95
% Impervious	84%	85%
Total Site Area (acres)	0.75	0.74
Site Rv	0.84	0.85

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0524	0.0522
Pre-ReDevelopment Treatment Volume (cubic feet)	2,281	2,272
Pre-ReDevelopment TP Load (lb/yr)	1.43	1.43
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.91	1.93
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.30*

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

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)	0.11
Weighted Rv (turf)	0.25
% Managed Turf	15%
Impervious Cover (acres)	0.64
Rv(impervious)	0.95
% Impervious	85%
Final Site Area (acres)	0.75
Final Post Dev Site Rv	0.85

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.11
Weighted Rv (turf)	0.25
% Managed Turf	15%
ReDev. Impervious Cover (acres)	0.63
Rv(impervious)	0.95
% Impervious	85%
Total ReDev. Site Area (acres)	0.74
ReDev Site Rv	0.85

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	0.01
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0530	Post-ReDevelopment Treatment Volume (acre-ft)	0.0522	Post-Development Treatment Volume (acre-ft)	0.0008
Final Post-Development Treatment Volume (cubic feet)	2,307	Post-ReDevelopment Treatment Volume (cubic feet)	2,272	Post-Development Treatment Volume (cubic feet)	34
Final Post-Development TP Load (lb/yr)	1.45	Post-ReDevelopment Load (TP) (lb/yr)*	1.43	Post-Development TP Load (lb/yr)	0.02
Final Post-Development TP Load per acre (lb/acre/yr)	1.93	Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.93		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	10%		
		TP Load Reduction Required for Redeveloped Area (lb/yr)	0.14	TP Load Reduction Required for New Impervious Area (lb/yr)	0.02

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.16

← PHOSPHOROUS REDUCTION REQUIRED

Drainage Area A (OUTFALL 1)

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)				0.11	0.11	0.25
Impervious Cover (acres)				0.64	0.64	0.95
				Total	0.75	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	1.45
Post Development Treatment Volume in D.A. A (ft^3)	2,307

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 (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
1. Vegetated Roof (RR)													
1.a. Vegetated Roof #1 (Spec #5)	45		0.16		248	303	552	0		0.35	0.16	0.19	14.a. MTD - Hydrodynamic
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Hydrodynamic	0	0.05	0.33	303	0	1,487	1,487	20	0.19	0.74	0.19	0.75	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.49	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.05	AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	0.16
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	1.45
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.19
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.16
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr)	0.34
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr)	1.11

← PHOSPHOROUS REDUCTION ACHIEVED

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

WATER QUALITY COMPLIANCE

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.64	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.49	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.11	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.05	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 2,307

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	248	0	0	0	0	248
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	1.45	0.00	0.00	0.00	0.00	1.45
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.34	0.00	0.00	0.00	0.00	0.34
TP LOAD REMAINING (lb/yr)	1.11	0.00	0.00	0.00	0.00	1.11
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	1.11	0.00	0.00	0.00	0.00	1.11

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	1.45
TP LOAD REDUCTION REQUIRED (lb/yr)	0.16
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.34
TP LOAD REMAINING (lb/yr):	1.11
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

** TARGET TP REDUCTION EXCEEDED BY 0.18 LB/YEAR **

← COMPLIANCE VERIFICATION

GREEN ROOF VOIDS STORAGE VOLUME

RA = 6,750 SF
D = 4 IN.
P = 0.30

$T_v = \frac{(RA)(D)(P)}{12}$

$T_v = \frac{(6750\ SF)(4\ IN.)(0.30)}{12}$

T_v = 675 CF *

*SIZING PROVIDED BY VA DEQ GUIDELINES FOR VEGETATED ROOFS

PROJECT DESCRIPTION

DEVELOPMENT OR REDEVELOPMENT

DRAINAGE AREA	IMPERVIOUS	PERVIOUS	TOTAL
SITE AREA	0.64	0.11	0.75
ON-SITE TREATED	0.49	0.05	0.54
OFF-SITE TREATED	0.00	0.00	0.00
TOTAL IMPERVIOUS AREA TREATED	0.49		
ON-SITE IMPERVIOUS AREAS DISCONNECTED BY A VEGETATED BUFFER	0.00		
TOTAL IMPERVIOUS AREA TREATED OR DISCONNECTED	0.49		

WATER TREATMENT ON SITE

BMP TYPE	AREA TREATED BY BMP (ACRES)	IMPERVIOUS AREA TREATED BY BMP (ACRES)	BMP EFFICIENCY (%)	LATITUDE	LONGITUDE
GREENROOF (EXTENSIVE)	0.16	0.16	45%	38.808667°	-77.046469°
HYDRODYNAMIC SEPARATOR	0.38	0.33	20%	38.809104°	-77.046258°

MISCELLANEOUS

TOTAL WQV TREATED: YES NO

DETENTION ON SITE: YES NO

(DETENTION PROVIDED VIA GREEN ROOF)

PROJECT IS WITHIN WHICH WATERSHED? POTOMAC RIVER

DISCHARGES TO WHICH BODY OF WATER? POTOMAC RIVER

WQV TREATMENT REQUIRED= 1,816 CF/AC OF IMPERVIOUS AREA
= 1,816 X 0.64 AC
= 1162 CF (0.027 AC*FT)

% WQV PROVIDED= 1,816 CF/AC X 0.49 AC
= 890 CF (0.020 AC*FT) =77% WQV PROVIDED

* A MONETARY CONTRIBUTION MAY BE MADE FOR THE REMAINDER OF WATER QUALITY VOLUME IF FULL WATER QUALITY TREATMENT IS NOT PROVIDED AT THE TIME OF FINAL SITE PLAN

WATER QUALITY NARRATIVE

AS SHOWN IN THE COMPUTATIONS ON SHEET P-0702 AND P-0703, THE AMOUNT OF IMPERVIOUS AREA ON SITE WILL INCREASE WITH THE PROPOSED DEVELOPMENT BY 0.01 AC. THE SITE AREA USED FOR THE ANALYSIS IS THE RECORDED PARCEL AREA OF 0.75 AC. AS COMPUTED USING THE DEQ VRRM SPREADSHEET SHOWN IN SHEET P-0703. THE REQUIRED PHOSPHOROUS REMOVAL TO BE PROVIDED ON SITE SHALL BE AT LEAST 0.16 LB/YR. THE REQUIRED PHOSPHOROUS REDUCTION IS PROPOSED TO BE ACHIEVED BY TREATING APPROXIMATELY 0.16 AC ON SITE WITH AN EXTENSIVE GREEN ROOF AND 0.38 AC ON SITE WITH A HYDRODYNAMIC SEPARATOR.

THE COMPUTED PHOSPHOROUS REMOVAL ON SITE IS EQUAL TO 0.34 LB/YR, WHICH SATISFIES WATER QUALITY CONTROL REQUIREMENTS OF SECTION 13-109 OF THE CITY OF ALEXANDRIA ZONING ORDINANCE. AN ELECTRONIC COPY OF THE DEQ VRRM SPREADSHEET HAS BEEN PROVIDED WITH THIS SUBMISSION, SHOWING PRELIMINARY BMP ANALYSIS.

IT IS EXPECTED THAT 77% OF THE WATER QUALITY VOLUME WILL BE TREATED WITH THE PROPOSED EXTENSIVE GREEN ROOF AND HYDRODYNAMIC SEPARATOR LOCATED ON SITE. THEREFORE, A MONETARY CONTRIBUTION TO THE CITY'S WATER QUALITY EQUIVALENCY FUND IS EXPECTED TO BE REQUIRED AT TIME OF FINAL SITE PLAN.

NOTES:

1. INFORMATION PROVIDED ON THIS SHEET IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FINAL DESIGN.
2. TARGET NITROGEN REDUCTION NOT REQUIRED.
3. ALTERNATIVE NUMBER AND TYPE OF BMP FACILITIES MAY BE PROVIDED SO LONG AS REQUIREMENTS OF VRRM SPREADSHEETS ARE MET.

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: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION

COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 8/24/17 PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY STORMWATER MANAGEMENT COMPUTATIONS AND DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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.

COMBINED SEWER MITIGATION NARRATIVE

THE APPLICANT HAS EVALUATED THE POTENTIAL CONNECTION TO SEPARATED STORM AND SANITARY SEWERS IN THE GENERAL VICINITY OF THE PROJECT AND HAS COME TO THE CONCLUSION THAT A CONNECTION TO SEPARATED SEWER IS NOT FEASIBLE FROM A DESIGN STANDPOINT NOR A PROJECT VIABILITY STANDPOINT. HOWEVER, AS DISCUSSED WITH CITY OF ALEXANDRIA STAFF, OFFSITE SANITARY SEWER SEPARATION OF ROUGHLY TWO BLOCKS ALONG PRINCESS STREET ARE PROPOSED WITH THIS APPLICATION IN COMPLIANCE WITH OPTION C OF MEMORANDUM TO INDUSTRY NO. 07-14. THIS EXHIBIT AND THE FOLLOWING SUMMARIES SERVE TO EXPLAIN HOW WE ARRIVED AT THIS CONCLUSION.

STORM SEWER CONNECTION

PER RECORD INFORMATION PROVIDED BY THE CITY OF ALEXANDRIA, THERE ARE NO SEPARATED STORM SEWER SYSTEMS WITHIN TWO BLOCKS OF THE SUBJECT DEVELOPMENT. FURTHER INVESTIGATION DETERMINED THAT A CONNECTION TO AN EXISTING SEPARATED SEWER FACILITY WITHIN THE LIMITS OF GRAVITY FLOW FROM THE PROPOSED DEVELOPMENT IS NOT FEASIBLE. ADDITIONALLY, DUE TO THE PROPOSED SITE LAYOUT, AS WELL AS ANTICIPATED SOIL CONDITIONS, IT DOES NOT APPEAR FEASIBLE TO RETAIN ONSITE 50% OF THE ANNUAL STORMWATER RUNOFF VOLUME. THIS APPLICATION PROPOSES AN EXTENSIVE GREEN ROOF FACILITY THAT IS DESIGNED TO PROVIDE RUNOFF REDUCTION – UNDER THE ASSUMPTION THAT THE RUNOFF REDUCTION VOLUME ACHIEVED COULD BE CREDITED IN THE FORM OF PROVIDING AN EQUIVALENT REDUCTION TO THE FEE-IN-LIEU. AS DISCUSSED WITH CITY OF ALEXANDRIA STAFF AT A FEBRUARY 9, 2017 MEETING, THE APPLICANT PLANS TO PROVIDE PAYMENT OF THE FEE-IN-LIEU WITH THE POTENTIAL FOR CREDIT GIVEN TO ANY RUNOFF REDUCTION ACHIEVED THROUGH GREEN INFRASTRUCTURE.

50% OF 1.0" STORM VOLUME = (0.50)*(1"/12")*(32,729 SF) = 1,364 CF

RUNOFF REDUCTION = 248 CF / 1364 CF = 0.18 [18%]
(SEE P-0702)

SANITARY SEWER CONNECTION

THE APPLICANT EXPLORED THE FEASIBILITY OF PROVIDING A SEPARATE SANITARY SEWER CONNECTION TO EXISTING SEPARATED FACILITIES AT TWO LOCATIONS WITHIN ROUGHLY TWO BLOCKS OF THE SUBJECT DEVELOPMENT: AT THE INTERSECTION OF PRINCESS STREET AND N. ROYAL STREET; AND WITHIN ORONOCO STREET BETWEEN N. ST. ASAPH STREET AND N. PITT STREET.

PRINCESS STREET IS COMPOSED OF HISTORIC COBBLESTONE BETWEEN N. WASHINGTON STREET AND N. ST. ASAPH STREET. DUE TO CONCERNS ABOUT THE DISTURBANCE AND RESTORATION OF A HISTORIC STREET INCLUDING BUT NOT LIMITED TO – HIGH CONSTRUCTION COSTS, IMPACT ON TRAFFIC ALONG N. WASHINGTON ST. AND THE POTENTIAL FOR UNKNOWN UTILITY CONFLICTS – WE BELIEVE THIS OPTION IS NOT LIKELY FEASIBLE AND NOT ADVISABLE.

A SEPARATE SEWER CONNECTION FROM THE DEVELOPMENT TO THE LOCATION ON ORONOCO STREET WOULD REQUIRE NEARLY 300' OF SANITARY SEWER TO BE INSTALLED ALONG SOUTHBOUND N. WASHINGTON STREET. PRELIMINARY CONSTRUCTABILITY ESTIMATES PERFORMED BY THE APPLICANT CONCLUDED THAT THIS OPTION WOULD REQUIRE EXTENSIVE MAINTENANCE OF TRAFFIC PRACTICES DUE TO THE NEED FOR OPEN TRENCH CONSTRUCTION ALONG N. WASHINGTON STREET AND COULD COST TWICE AS MUCH AS THE PREVIOUSLY IDENTIFIED OPTION TO CONNECT ALONG PRINCESS STREET. FOR SIMILAR CONCERNS OF EXTREMELY HIGH CONSTRUCTION COSTS, TRAFFIC IMPACT AND THE POTENTIAL FOR UNKNOWN UTILITY CONFLICTS, WE BELIEVE THIS OPTION IS NOT LIKELY FEASIBLE AND NOT ADVISABLE

OUR CONCERNS WERE ECHOED BY STAFF AT A FEBRUARY 9, 2017 MEETING, DURING WHICH IT WAS PROPOSED THAT THE APPLICANT COULD EXPLORE PROVIDING OFFSITE SEPARATION OF SANITARY SEWER FURTHER EAST ON PRINCESS STREET (AS MENTIONED ABOVE). THE PROPOSED SEPARATION WOULD INCLUDE A NEW MANHOLE STRUCTURE ON PITT STREET THAT COLLECTS SANITARY SEWER FLOWS FROM APPROXIMATELY 14 SINGLE FAMILY HOMES AND CONNECTS TO AN ADDITIONAL PROPOSED MANHOLE STRUCTURE AT THE INTERSECTION OF N. PITT STREET AND PRINCESS STREET, WHICH EVENTUALLY DISCHARGES INTO AN EXISTING SEPARATE SANITARY SEWER AN AT EXISTING MANHOLE ON PRINCESS STREET. THE CITY OF ALEXANDRIA HAS NOTED THAT WHILE THIS OFFSITE SEPARATION HAS THE POTENTIAL TO NOT EXCHANGE AN EXACT ONE-TO-ONE RATIO OF EXISTING DEVELOPMENT SEPARATED AS COMPARED TO PROPOSED DEVELOPMENT, THE SEPARATION WOULD BE ACCEPTABLE WITH NO ADDITIONAL FEE. SEE THIS SHEET FOR THE PROPOSED CONCEPTUAL OFFSITE SANITARY SEWER LAYOUT.

EXISTING USE (SITE)

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
	OFFICE (SF)	200	28,112	5,622
		TOTAL EX. SITE =		22,490

*ASSUMES PEAK FLOW MULTIPLIER OF 4

EX. USES TO BE SEPARATED

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)*
	SINGLE FAMILY RESIDENTIAL	350	14	19,600
		TOTAL EX. OFFSITE =		19,600

*ASSUMES PEAK FLOW MULTIPLIER OF 4

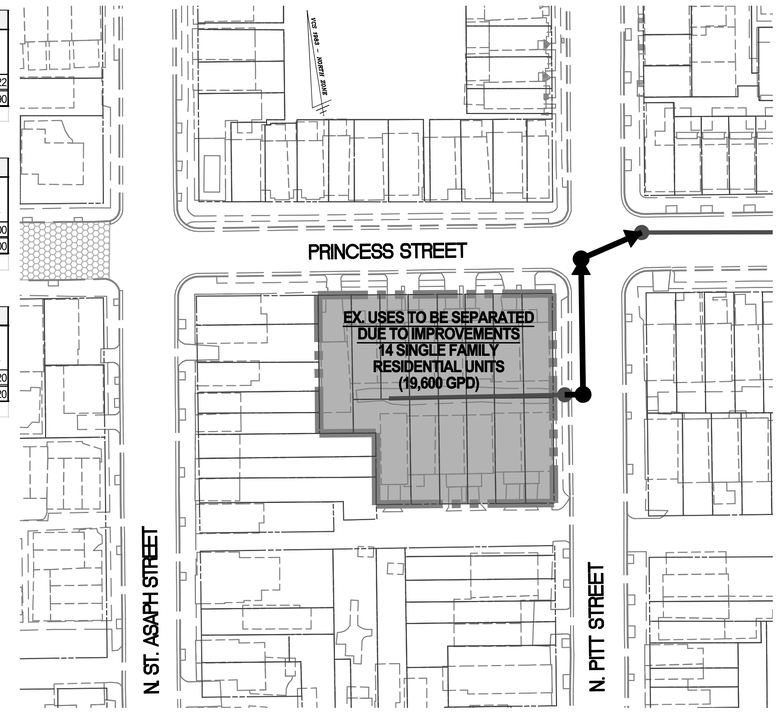
PROPOSED USE (SITE)

	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)*
	ELDERLY CARE FACILITY (HOTEL)	130	96	49,920
		TOTAL PROPOSED =		49,920

*ASSUMES PEAK FLOW MULTIPLIER OF 4

THE CITY OF ALEXANDRIA HAS NOTED THAT WHILE THIS OFFSITE SEPARATION HAS THE POTENTIAL TO NOT EXCHANGE AN EXACT ONE-TO-ONE RATIO OF EXISTING DEVELOPMENT SEPARATED AS COMPARED TO PROPOSED DEVELOPMENT, THE SEPARATION WOULD BE ACCEPTABLE WITH NO ADDITIONAL FEE.

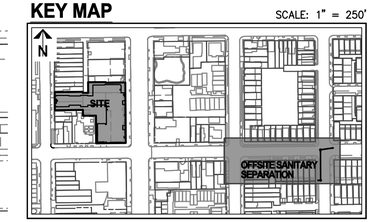
(PROPOSED SITE) – (EXISTING SITE) – (OFFSITE SEPARATION)
49,920 GPD – 22,490 GPD – 19,600 GPD = 7,830 GPD



PROPOSED SEPARATE SANITARY SEWER SUBSHEDS
SCALE: 1" = 50'

KEY MAP

SCALE: 1" = 250'

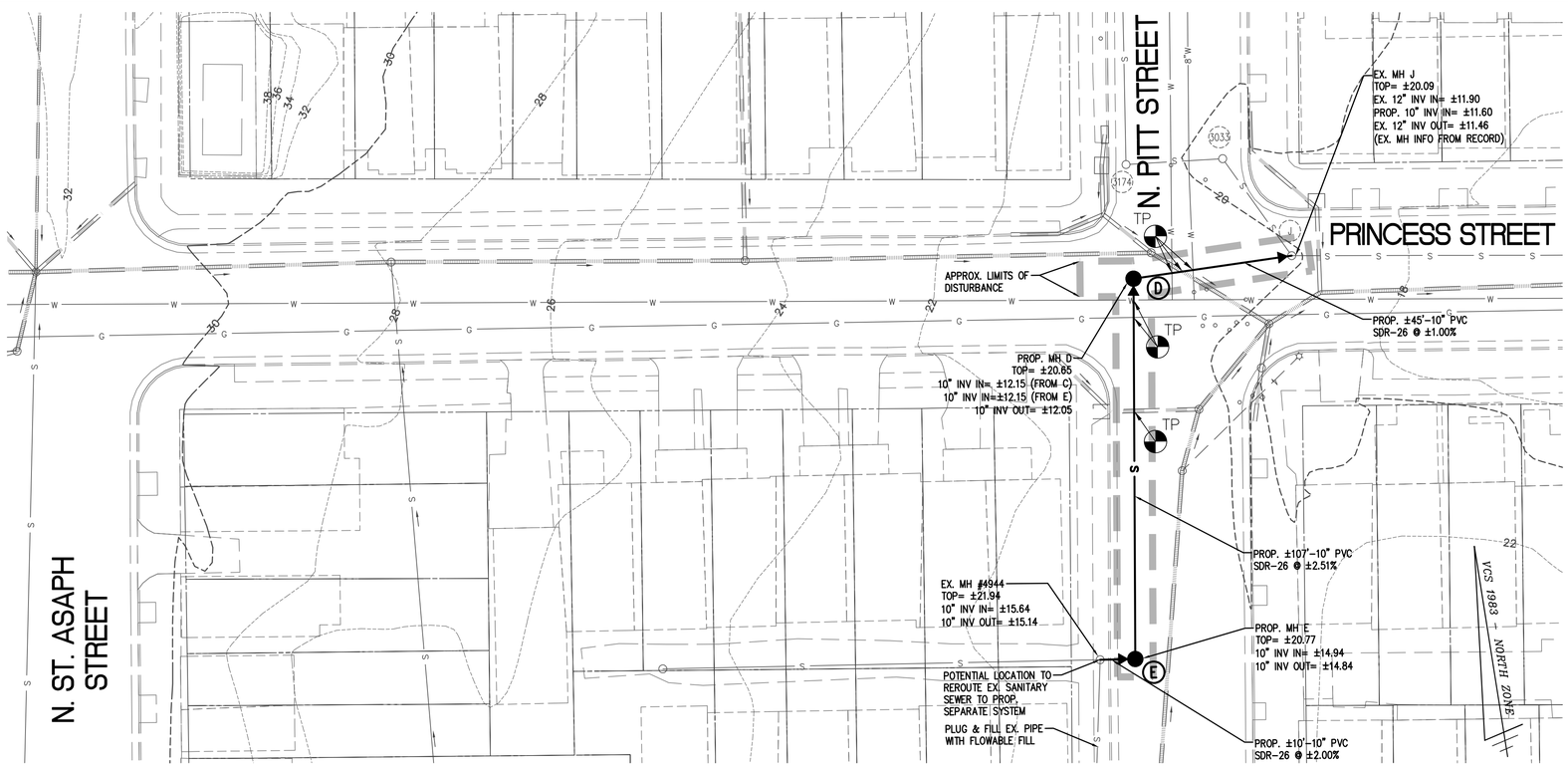


NOTES

1. TEMPORARY SUPPORT OF ADJACENT UTILITIES MAY BE REQUIRED DURING SEWER INSTALLATION. ALL EX. UTILITIES TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.
2. TEST PITS WERE NOT PERFORMED IN THE PREPARATION OF THIS EXHIBIT. TEST PITS REQUIRED TO CONFIRM FEASIBILITY OF THIS OPTION.
3. FINAL PAVEMENT SECTION TO BE PROVIDED BY GEOTECHNICAL ENGINEER.
4. THIS EXHIBIT WAS PREPARED USING A COMBINATION OF CITY OF ALEXANDRIA GIS RECORD AND AS-BUILT INFORMATION. EXISTING CONDITIONS MAY VARY IN THE FIELD.
5. FINAL SANITARY SEWER ALIGNMENT SUBJECT TO CHANGE PENDING REVIEW AND APPROVAL BY CITY OF ALEXANDRIA.

LEGEND

- EX. SEWER SANITARY SEWER SYSTEM
- PROP. OFFSITE SEPARATED SANITARY SEWER
- SUBSHEDS SUBJECT TO OFFSITE SANITARY SEWER SEPARATION



20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

PRELIMINARY PROPOSED OFFSITE SANITARY SEPARATION IMPROVEMENTS
SCALE: 1" = 20'

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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(703) 532-6163 Fax (703) 533-1301 www.WLPINC.com

SCALE: AS NOTED | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

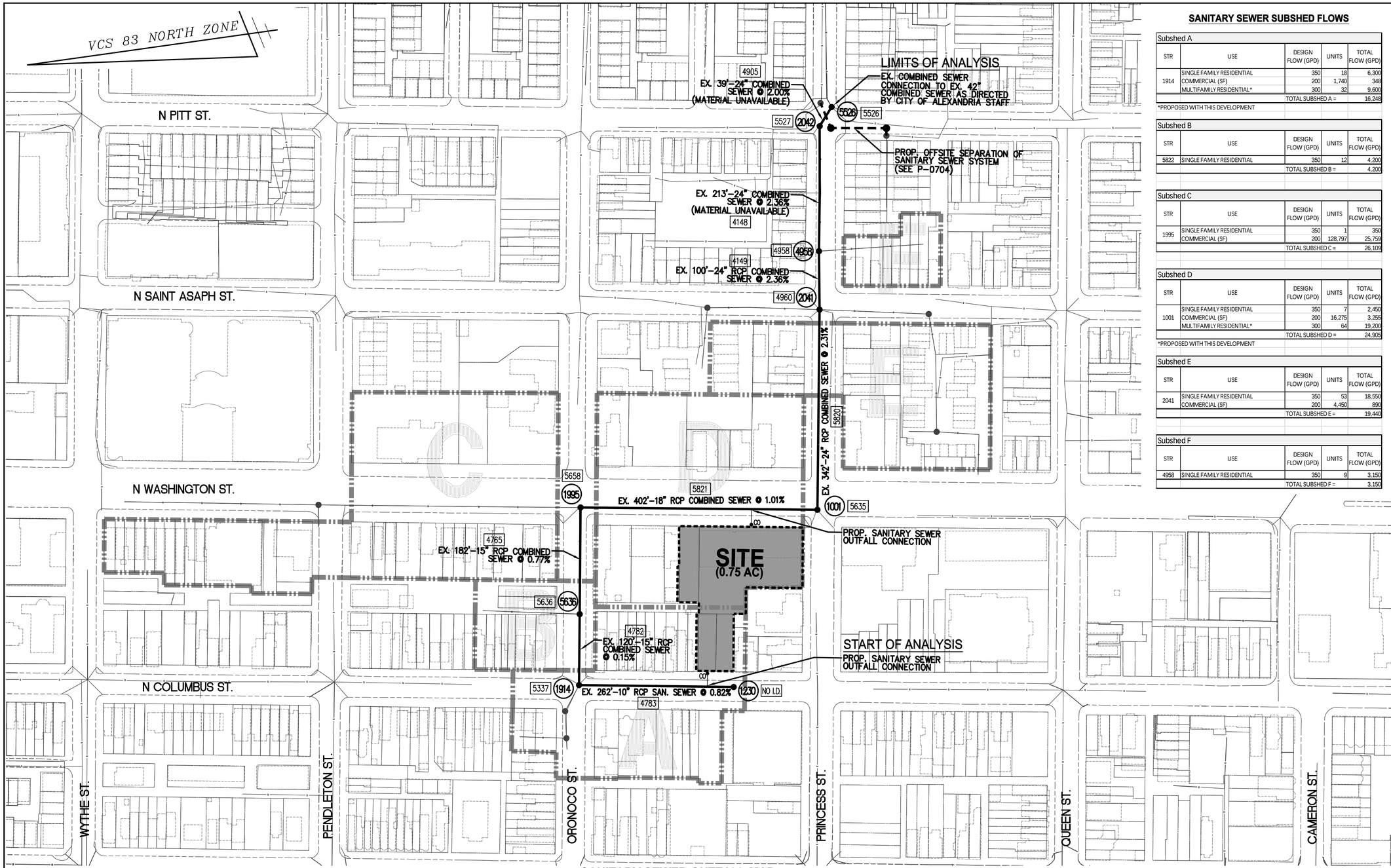
NO.	DESCRIPTION	DATE	REV BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

COMBINED SEWER MITIGATION PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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. 064.02 Job No. 16-101 Cadd Dwg. File: Q:\sdskproj\16101\dwg\Planning\DSUP\16101P-0704.dwg



SANITARY SEWER OUTFALL MAP

SANITARY SEWER SUBSHED FLOWS

Subshed A

STR	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
1914	SINGLE FAMILY RESIDENTIAL	350	18	6,300
	COMMERCIAL (SF)	200	1,740	348
	MULTIFAMILY RESIDENTIAL*	300	32	9,600
			TOTAL SUBSHED A =	16,248

*PROPOSED WITH THIS DEVELOPMENT

Subshed B

STR	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
5822	SINGLE FAMILY RESIDENTIAL	350	12	4,200
			TOTAL SUBSHED B =	4,200

Subshed C

STR	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
1995	SINGLE FAMILY RESIDENTIAL	350	1	350
	COMMERCIAL (SF)	200	128,797	25,759
			TOTAL SUBSHED C =	26,109

Subshed D

STR	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
1001	SINGLE FAMILY RESIDENTIAL	350	7	2,450
	COMMERCIAL (SF)	200	16,275	3,255
	MULTIFAMILY RESIDENTIAL*	300	64	19,200
			TOTAL SUBSHED D =	24,905

*PROPOSED WITH THIS DEVELOPMENT

Subshed E

STR	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
2041	SINGLE FAMILY RESIDENTIAL	350	53	18,550
	COMMERCIAL (SF)	200	4,450	890
			TOTAL SUBSHED E =	19,440

Subshed F

STR	USE	DESIGN FLOW (GPD)	UNITS	TOTAL FLOW (GPD)
4958	SINGLE FAMILY RESIDENTIAL	350	9	3,150
			TOTAL SUBSHED F =	3,150

NOTES

1. PIPE NETWORK OBTAINED FROM FIELD VERIFIED SURVEY BY WALTER L. PHILLIPS, INC. SEE P-0302 FOR AS-BUILT DATA. STRUCTURES 4958, 5636 AND 5526 FROM ALEXANDRIA GIS/RECORD INFORMATION.
2. SEE SHEET P-0201 FOR SANITARY SEWER ADEQUATE OUTFALL NARRATIVE.

80 0 40 80 160 320

(IN FEET)
1 INCH = 80'

SANITARY SEWER FLOW COMPUTATIONS

FROM	TO	INCREMENTAL CONTRIBUTING	MODELED FLOW FROM CITY (GPM)	INCREMENTAL FLOW (GPD)	CUMULATIVE (GDP)	PEAK FLOW FACTOR	CUMULATIVE PEAK FLOW		INVERTS		PIPE SIZE (IN)	AREA (SF)	PIPE LENGTH (FT)	PIPE SLOPE (FT)	MANNINGS n	MATERIAL	CAPACITY (CFS)	VELOCITY AT PEAK (FPS)	FLOW DEPTH (IN)
							(GPD)	(CFS)	UPPER END	LOWER END									
1230	1914	SUBSHED A	16,248	16,248	16,248	4	64,992	0.101	38.71	36.55	10	0.55	262	0.0082	0.015	RCP	1.71	1.73	1.63
1914	5636	SUBSHED B	4,200	4,200	20,448	4	81,792	0.127	35.68	35.50	15	1.23	120	0.0015	0.015	RCP	2.16	0.97	2.45
5636	1995	SUBSHED C	26,109	26,109	46,557	4	186,230	0.288	35.20	33.72	15	1.23	182	0.0081	0.015	RCP	5.03	2.23	2.43
1995	1001	SUBSHED D	24,905	24,905	71,462	4	285,850	0.442	33.62	29.57	18	1.77	402	0.0101	0.015	RCP	9.10	2.67	2.69
1001	2041	SUBSHED E	19,440	19,440	90,902	4	363,610	0.563	29.37	21.48	24	3.14	342	0.0231	0.015	RCP	29.69	3.70	2.29
2041	4958	SUBSHED F	3,150	3,150	94,052	4	376,210	0.582	21.12	18.76	24	3.14	100	0.0236	0.015	RCP	30.03	3.76	2.31
4958	2042	-	0	0	94,052	4	376,210	0.582	18.76	13.74	24	3.14	213	0.0236	0.015	N/A*	30.01	3.76	2.31
2042	5526	-	0	0	94,052	4	376,210	0.582	13.54	12.76	24	3.14	39	0.0200	0.015	N/A*	27.65	3.55	2.40

* CONFIRMATION OF PIPE MATERIAL NOT AVAILABLE THROUGH STANDARD SURVEYING METHODS. WHEN MATERIAL INFORMATION IS UNAVAILABLE, A MANNING'S N FACTOR OF 0.015 WAS USED TO BE CONSERVATIVE.

LEGEND

- EX. SEWER SYSTEM (NOT INCLUDED IN ANALYSIS)
- EX. SEWER SYSTEM SUBJECT TO OUTFALL ANALYSIS
- PROP. OFFSITE SEPARATION OF SANITARY SEWER (FOR INFORMATION ONLY)
- SITE AREA
- SUBSHEDS CONTRIBUTING TO SANITARY SEWER OUTFALL ANALYSIS
- # WLP STRUCTURE NUMBER
- # ALEXANDRIA GIS STRUCTURE NUMBER

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" = 80' | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 8/24/17 PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY SANITARY SEWER OUTFALL ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING

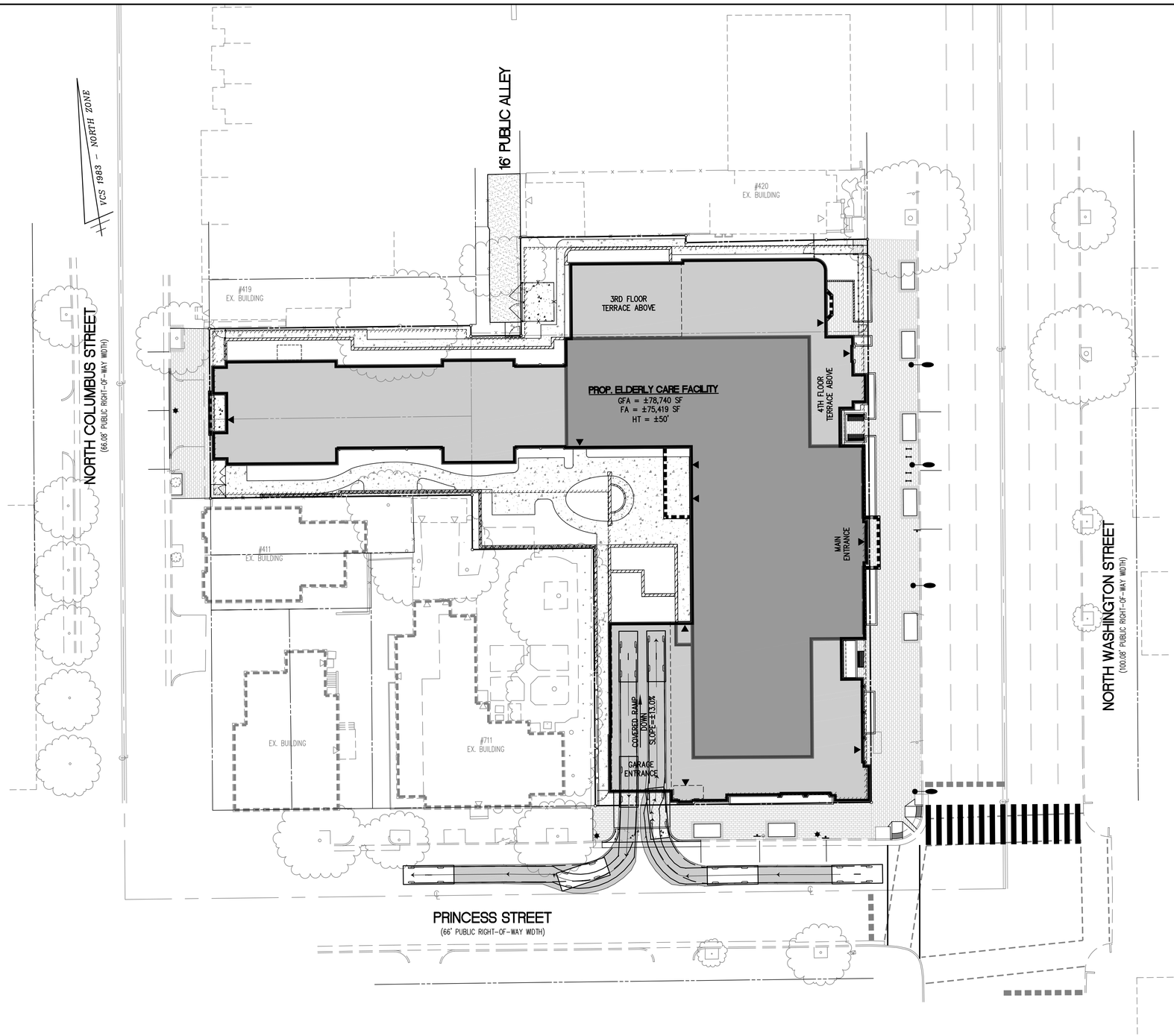
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

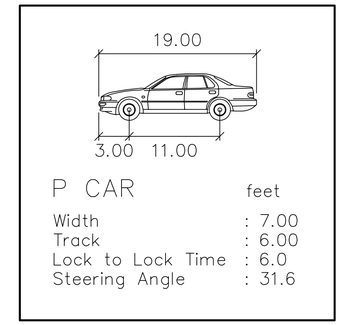
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.





NOTE

TRUCK MOVEMENTS SHOWN ON THIS SHEET
PERFORMED USING AUTO TURN MODELING SOFTWARE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20'

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PLAN STATUS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY VEHICLE MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING

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

DIRECTOR DATE

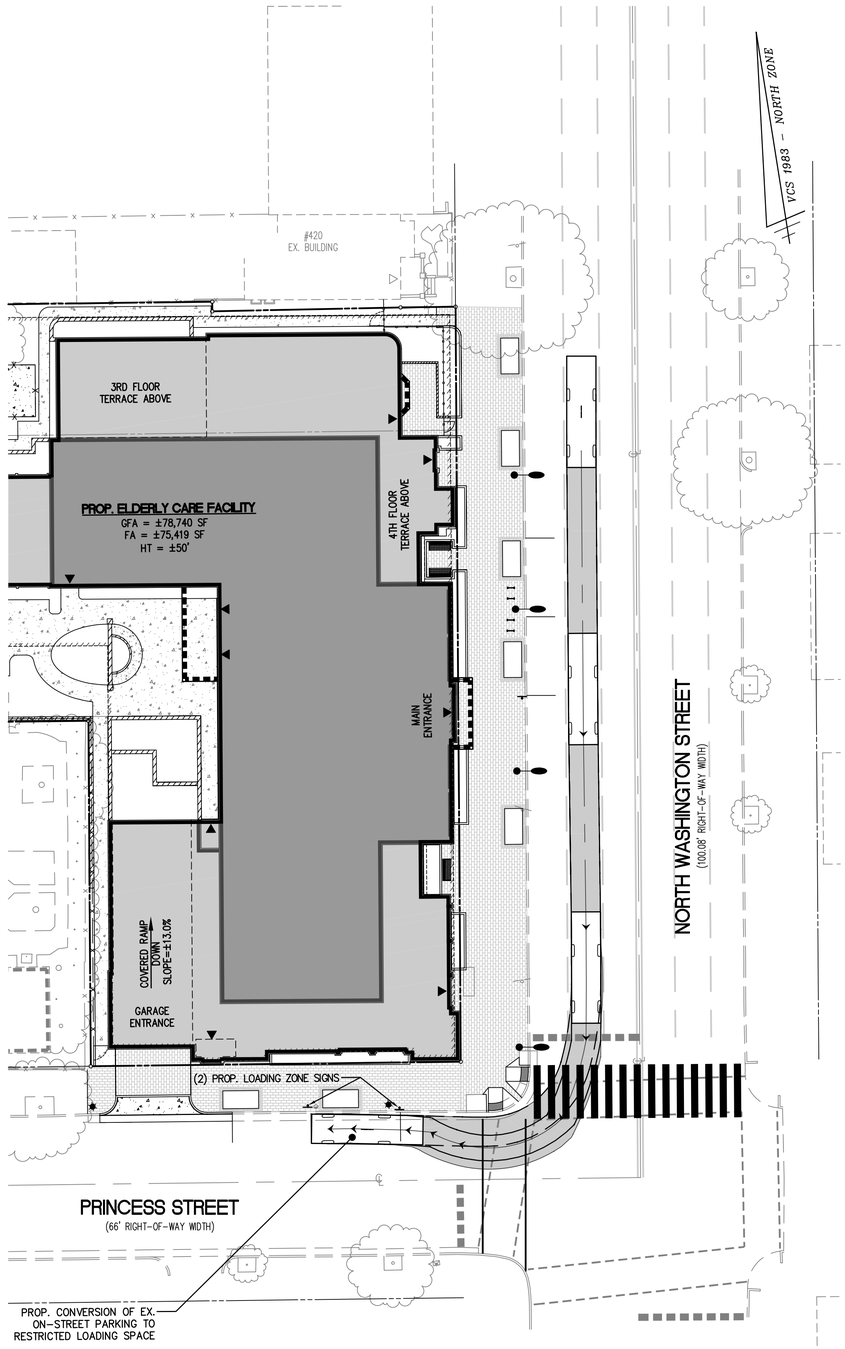
CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

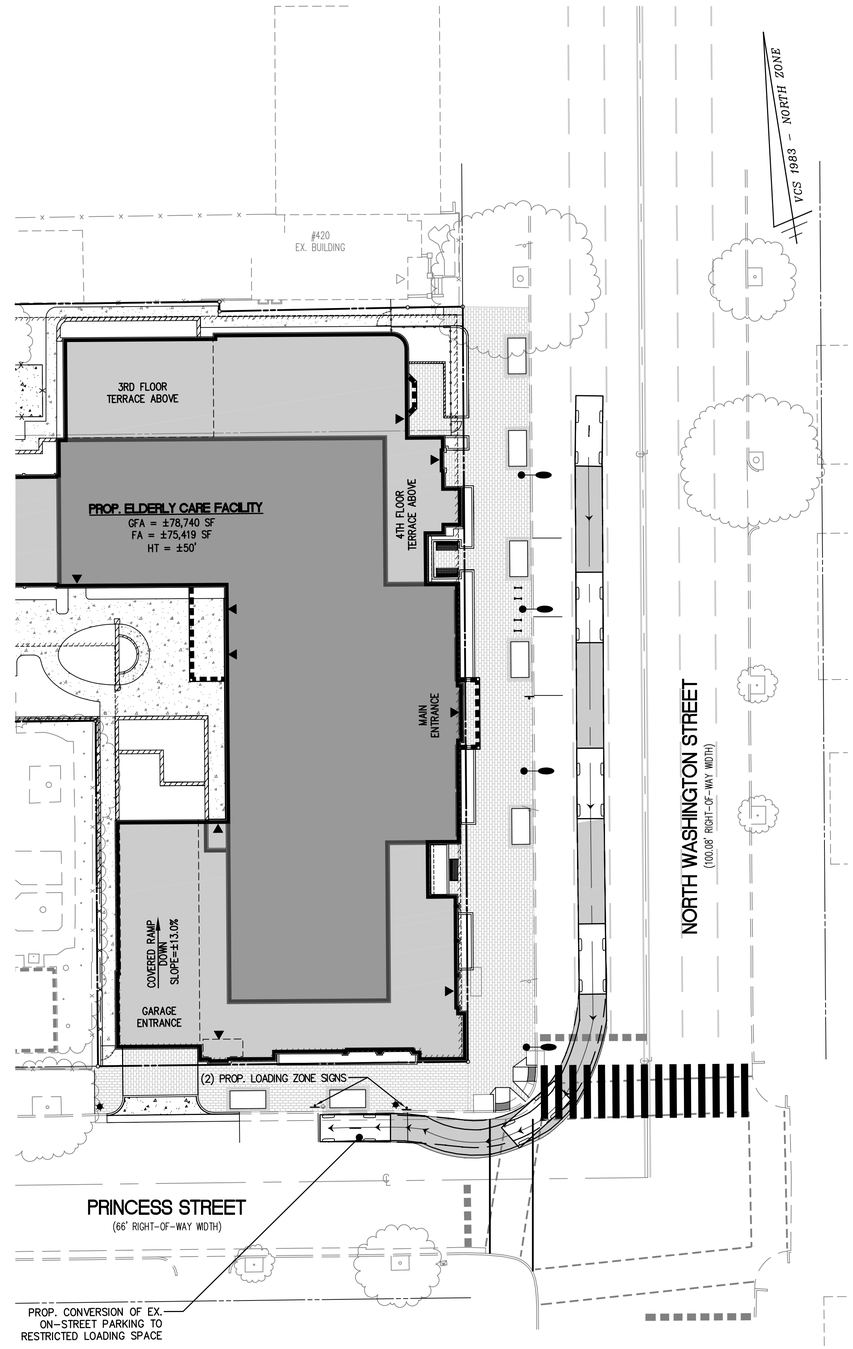
File No. ALEX Tax Map No. 064.02 Job No. 16-101 Cadd Dwg. File: Q:\sdskproj\16101\dwg\Planning\DSUP\16101P-1101.dwg

SHEET: P-1101



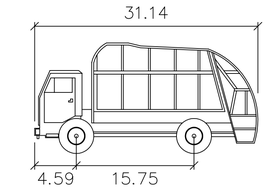
GARBAGE TRUCK TURNING MOVEMENT

SCALE: 1" = 20'



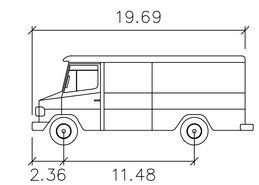
LOADING TRUCK TURNING MOVEMENT

SCALE: 1" = 20'



GARBAGE TRUCK feet

Width	: 8.17
Track	: 8.17
Lock to Lock Time	: 6.0
Steering Angle	: 46.4



LIGHT TRUCK feet

Width	: 7.55
Track	: 7.55
Lock to Lock Time	: 6.0
Steering Angle	: 22.4

NOTE

TRUCK MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTO TURN MODELING SOFTWARE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20'

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY GARBAGE TRUCK MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

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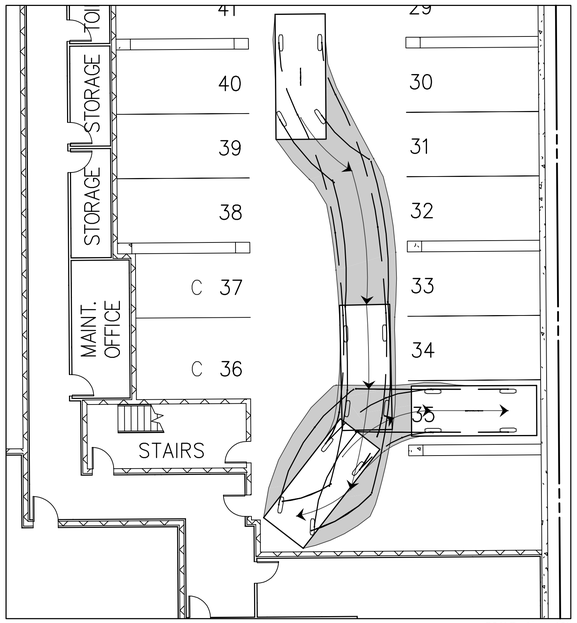
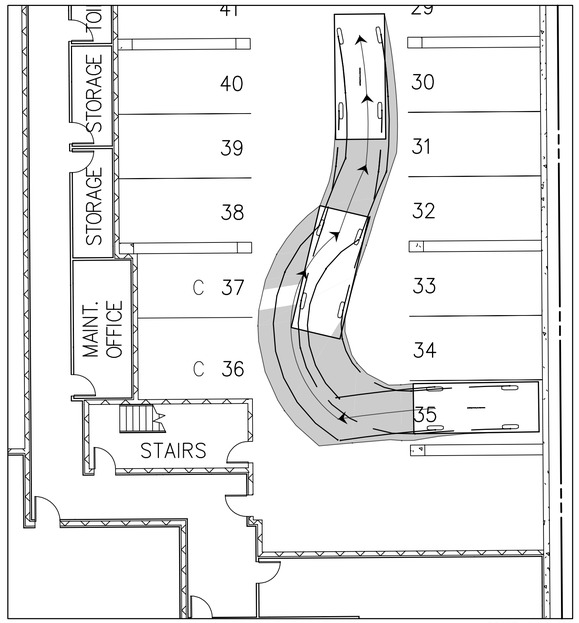
ENLARGEMENT #1 - ENTERING STANDARD SPACE #35



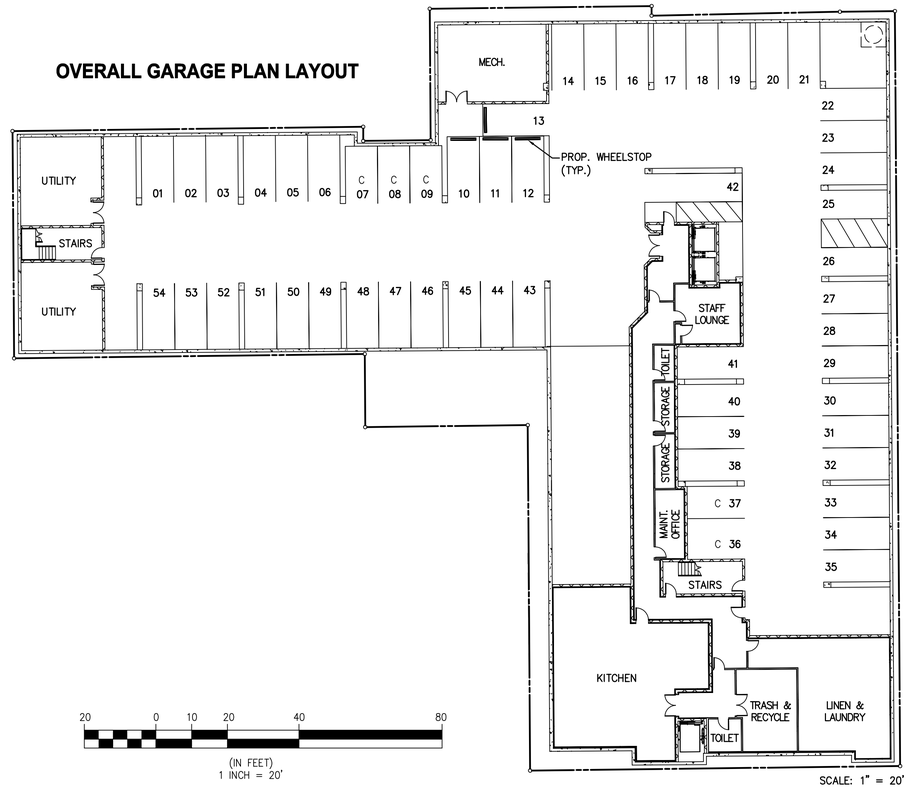
SCALE: 1" = 10'

ENLARGEMENT #1 - EXITING STANDARD SPACE #35



SCALE: 1" = 10'

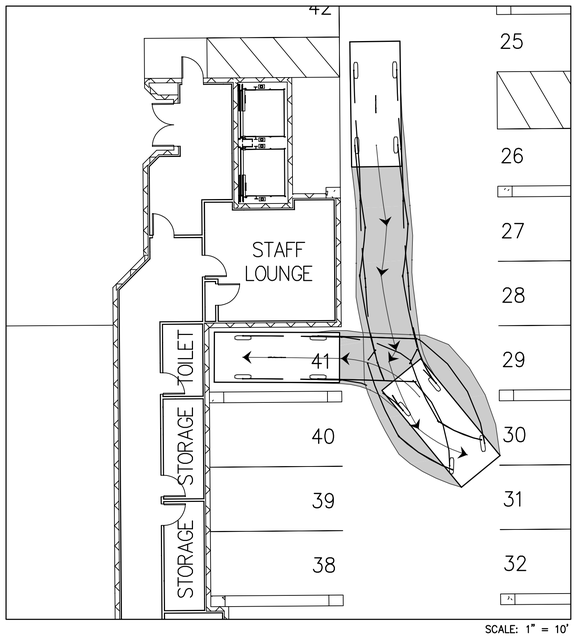
OVERALL GARAGE PLAN LAYOUT



SCALE: 1" = 20'

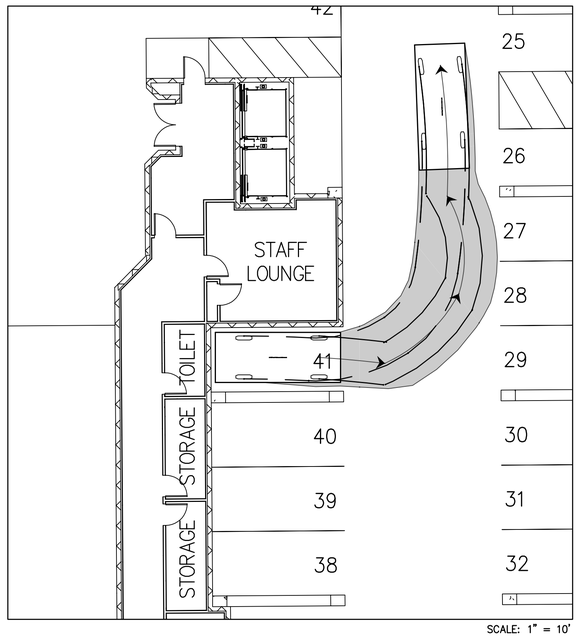
20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

ENLARGEMENT #2 - ENTERING STANDARD SPACE #41

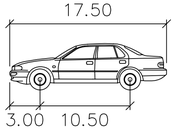


SCALE: 1" = 10'

ENLARGEMENT #2 - EXITING STANDARD SPACE #41



SCALE: 1" = 10'



17.5' LARGE CAR

	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 41.0

10 0 5 10 20 40
(IN FEET)
1 INCH = 10'

NOTE

1. TRUCK MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTO TURN MODELING SOFTWARE

2. SEE ARCHITECTURAL PLANS SHEET A1.2 FOR GARAGE PLAN LAYOUT.

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: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No. 041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

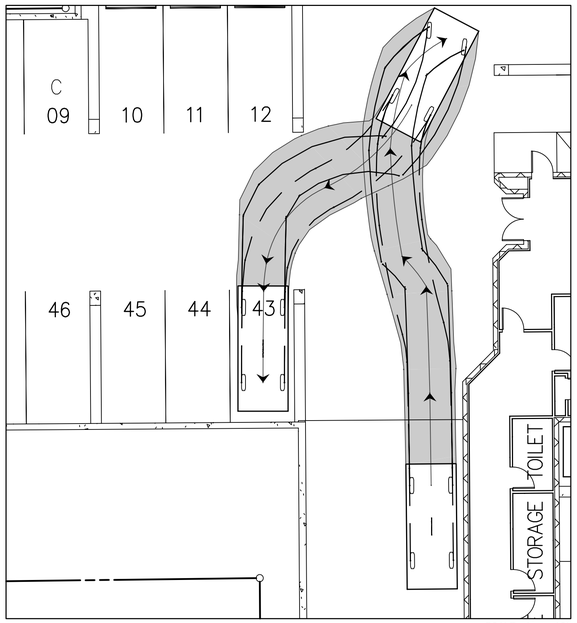
NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY GARAGE VEHICLE MOVEMENT PLAN

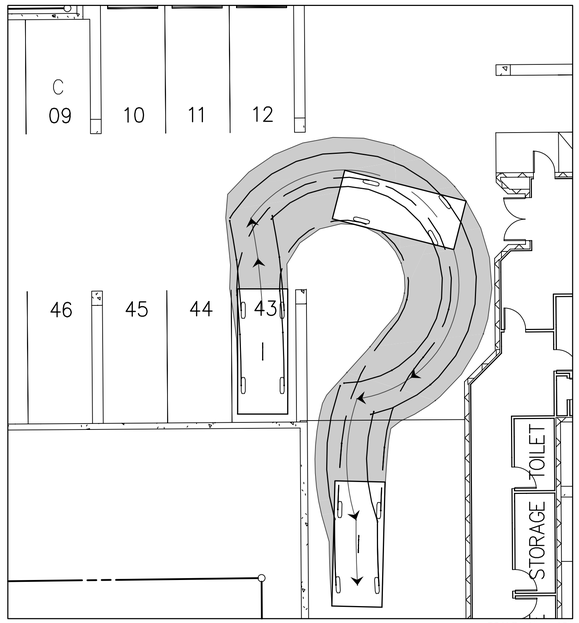
APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

ENLARGEMENT #3 - ENTERING STANDARD SPACE #43



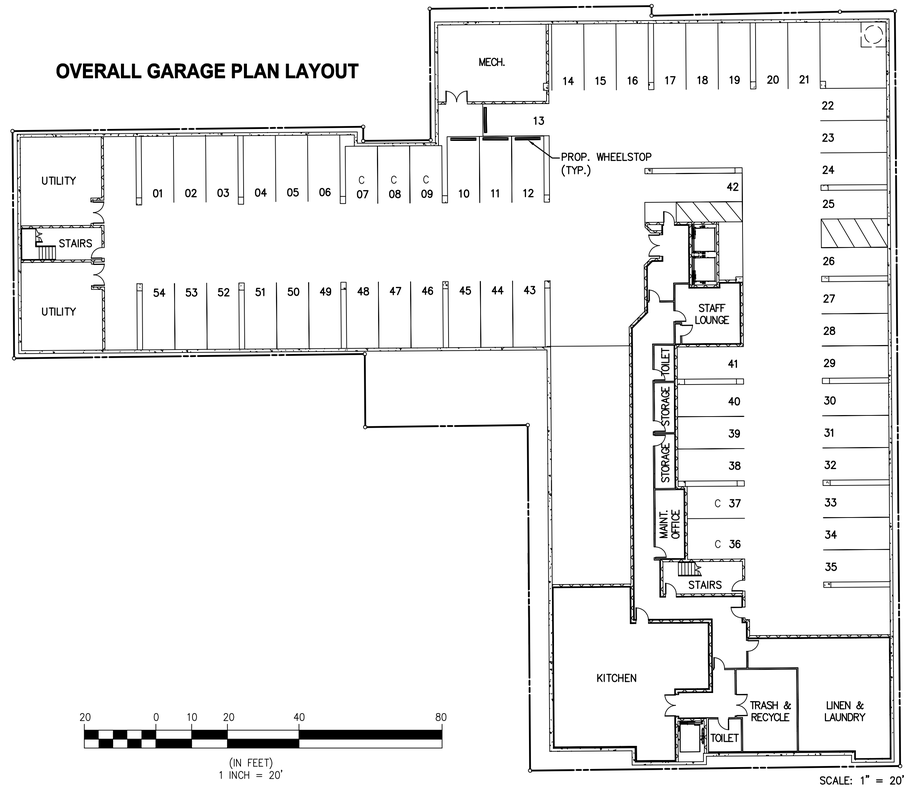
SCALE: 1" = 10'

ENLARGEMENT #3 - EXITING STANDARD SPACE #43



SCALE: 1" = 10'

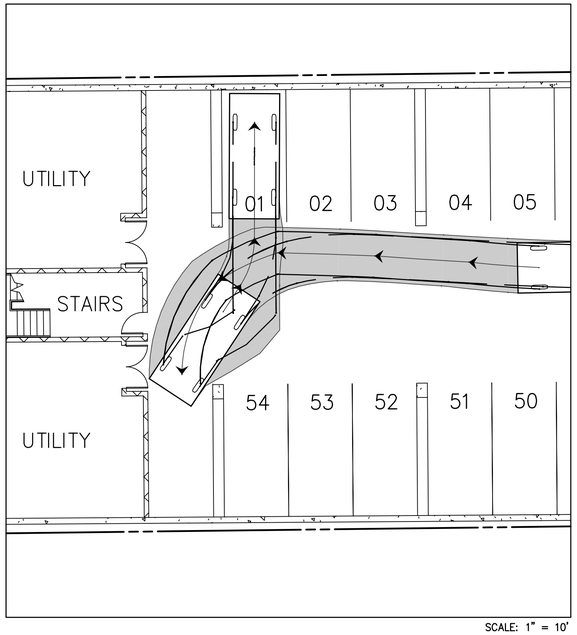
OVERALL GARAGE PLAN LAYOUT



SCALE: 1" = 20'

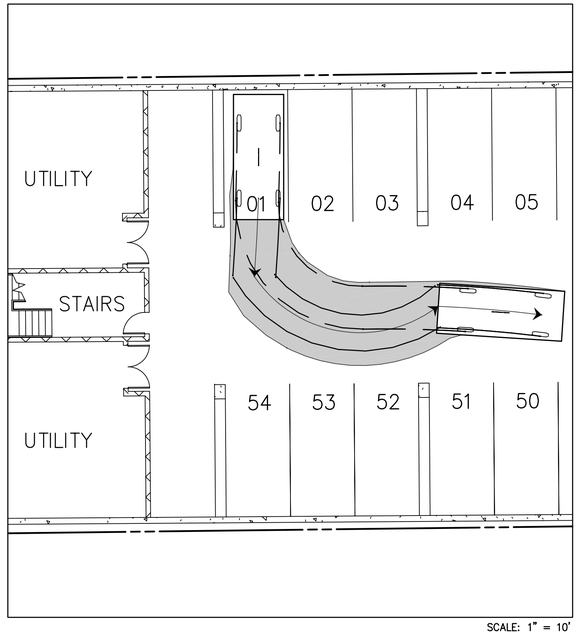
20 0 10 20 40 80
(IN FEET)
1 INCH = 20'

ENLARGEMENT #4 - ENTERING STANDARD SPACE #1



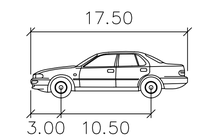
SCALE: 1" = 10'

ENLARGEMENT #4 - EXITING STANDARD SPACE #1



SCALE: 1" = 10'

10 0 5 10 20 40
(IN FEET)
1 INCH = 10'



17.5' LARGE CAR

	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 41.0

NOTE

1. TRUCK MOVEMENTS SHOWN ON THIS SHEET PERFORMED USING AUTO TURN MODELING SOFTWARE

2. SEE ARCHITECTURAL PLANS SHEET A1.2 FOR GARAGE PLAN LAYOUT.

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

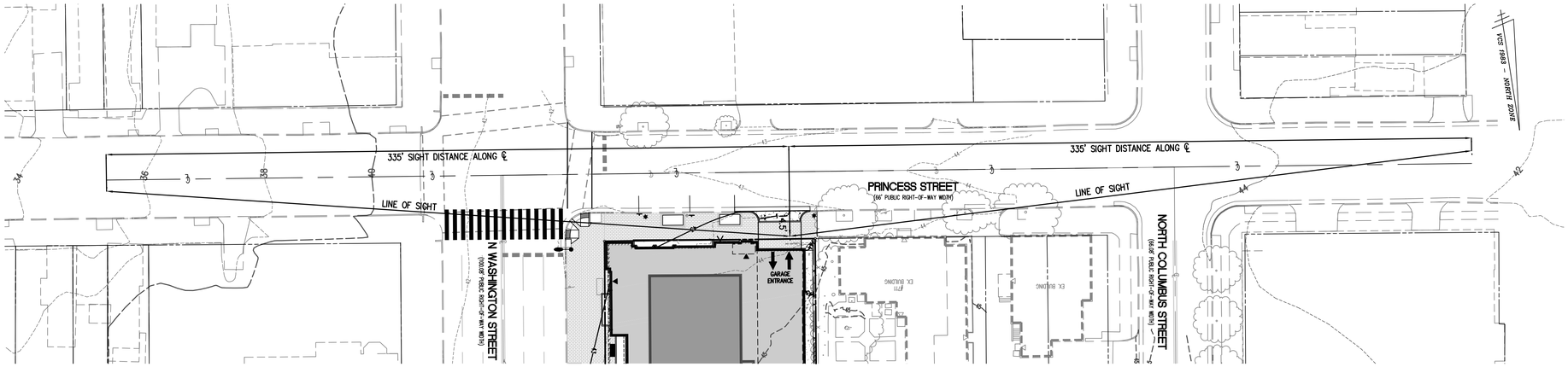
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

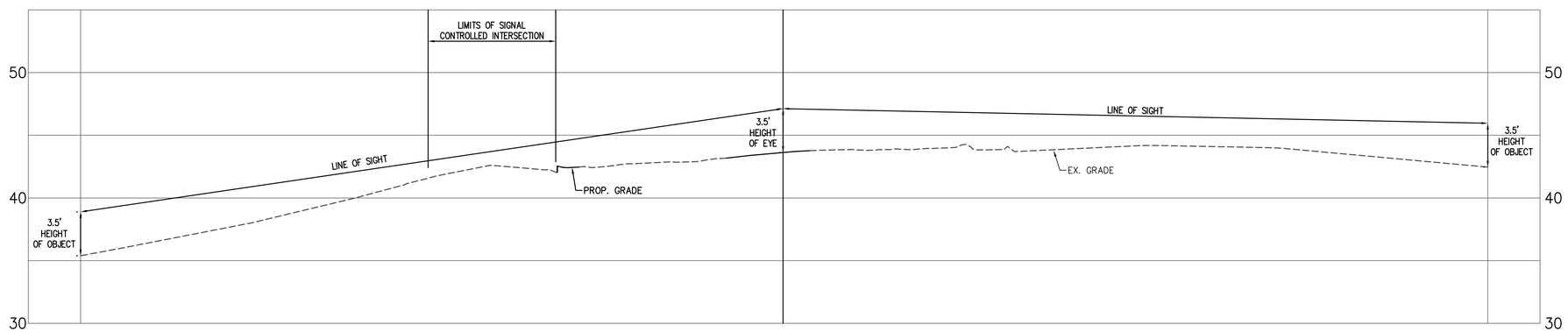
PRELIMINARY GARAGE VEHICLE MOVEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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.



PLAN VIEW

POSTED SPEED: 25 MPH
DESIGN SPEED: 30 MPH
SCALE: 1"=30'



PROFILE VIEW

POSTED SPEED: 25 MPH
DESIGN SPEED: 30 MPH
SCALE: 1"=30' (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.

30 0 15 30 60 120
(IN FEET)
1 INCH = 30'

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SCALE: HOR. 1" = 30' VERT. 1" = 5'
DATE: 08/24/17
DRAWN: DP
CHECKED: BF

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COMMONWEALTH OF VIRGINIA
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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY SIGHT DISTANCE PLAN AND PROFILE

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
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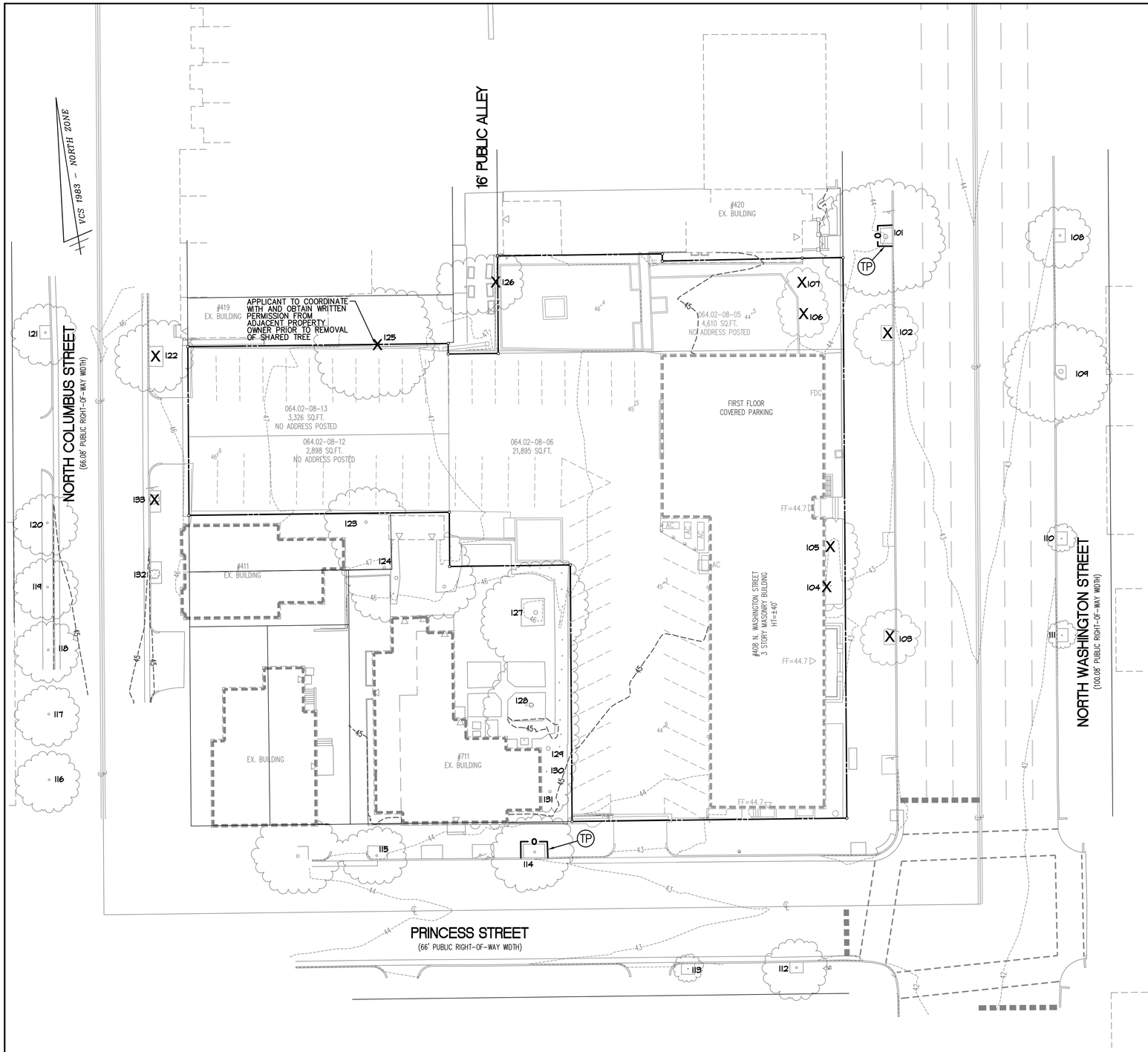

Tree Inventory

Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition %	Removal	Activities: Crown Prune	Root Prune	Hand Removal/ Selective Removal
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schlitter- ISA # MA-5385A #(16-101) 2/7/2017										
101	Quercus palustris	Pin oak	22"	22'	70%	63%				
102	Platanus hybrida x acerifolia	London planetree	8"	8'	65%	66%	X			
103	Quercus palustris	Pin oak	7"	8'	70%	66%	X			
104	Betula papyrifera	Paper birch	5"	8'	0%	63%	X			
105	Cornus florida	Flowering dogwood	7"	8'	60%	66%	X			
106	Acer palmatum	Japanese maple	5"	8'	80%	75%	X			
107	Cercis canadensis	Eastern redbud	3"	8'	73%	69%	X			
108	Platanus hybrida x acerifolia	London planetree	10"	10'	65%	63%				
109	Quercus palustris	Pin oak	23"	23'	70%	63%				
110	Platanus hybrida x acerifolia	London planetree	2"	8'	65%	66%				
111	Quercus palustris	Pin oak	4"	8'	70%	59%				
112	Quercus palustris	Pin oak	20"	20'	70%	59%				
113	Crataegus spp.	Hawthorn	4"	8'	58%	66%				
114	Acer rubrum	Red maple	10"	10'	70%	63%				
115	Acer rubrum	Red maple	9"	9'	70%	63%				
116	Ulmus rubra	Slippery elm	12"	12'	73%	56%				
117	Ulmus rubra	Slippery elm	13"	13'	73%	56%				
118	Ulmus rubra	Slippery elm	10"	10'	73%	56%				
119	Ulmus rubra	Slippery elm	10"	10'	73%	56%				
120	Ulmus rubra	Slippery elm	14"	14'	73%	56%				
121	Acer rubrum	Red maple	12"	12'	70%	63%				
122	Platanus hybrida x acerifolia	London planetree	12"	12'	65%	66%	X			
123	Ligustrum japonicum	Japanese privet	10"	10'	0%	63%				
124	Ligustrum japonicum	Japanese privet	12"	12'	0%	66%				
125	Juglans nigra	Black walnut	18"	18'	68%	50%	X			
126	Ulmus rubra	Slippery elm	8"	8'	73%	53%	X			
127	Magnolia x soulangiana	Saucer magnolia	16"	16'	70%	66%				
128	Magnolia grandiflora	Southern magnolia	20"	20'	70%	56%				
129	Ilex opaca	American holly	8"	8'	73%	66%				
130	Ilex opaca	American holly	4"	8'	73%	66%				
131	Ilex opaca	American holly	8"	8'	73%	66%				
132	Ulmus parvifolia	Chinese elm	2"	8'	70%	75%				
133	Ulmus parvifolia	Chinese elm	2"	8'	70%	75%	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 using the diameter of a tree with the basal area equivalent to the sum of the basa

Condition Ratings provided as percentages based on methods outlined in the 9th edition of the Guide for Plant Appraisal, published by the

LEGEND

TREES TO BE REMOVED X

TREE PROTECTION FENCE —o—

NOTES

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY WALTER L. PHILLIPS, INC.
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.
4. THERE ARE NO EXISTING SHRUBS MORE THAN 3' TALL WITHIN THE SITE.

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SUNRISE SENIOR LIVING 400 N. WASHINGTON ST

DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

EXISTING VEGETATION SURVEY & TREE PRESERVATION PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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. 064.02 Job No. 16-101 Cadd Dwg. File: Q:\sdskproj\16101\dwg\Planning\DSUP\16101P-1201.dwg

SHEET: P-1201

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.

TREE PRESERVATION AREA

KEEP OUT

NO EQUIPMENT OR MATERIALS ARE TO BE STORED OR DEPOSITED IN THIS AREA

(COMPANY NAMES AND CONTACT NUMBERS)

PENALTY FOR VIOLATIONS STRICTLY ENFORCED

SPECIFICATIONS

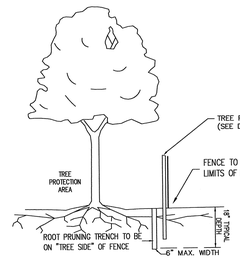
– MINIMUM DIMENSION: 11 X 8 INCHES (W X H)

– BACKGROUND COLOR: RED OR YELLOW

– SIGNS MADE OF WEATHERPROOF MATERIAL

TREE PRESERVATION SIGN DETAIL

ROOT PRUNING DETAIL (TYPICAL)



NOTE:

TREE PROTECTION AREA WILL BE DETERMINED AS PART OF THE PLAN REVIEW PROCESS. EXACT LOCATION, DEPTH AND METHODS OF ROOT PRUNING TO BE DETERMINED IN THE FILED BY PROJECT FORESTER.

EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.

TRENCH SHOULD BE BACKFILLED IMMEDIATELY.

ROOTS SHALL BE SEVERED BY TRENCHER, VIBRATORY PLOW OR APPROVED EQUIVALENT. ROOTS OVER 1.0" DIAMETER SHALL BE CLEANLY CUT BY HAND. ROOT PRUNING ADJACENT TO SPECIMEN TREES MAY REQUIRE SOIL REMOVAL BY SUPERSONIC AIR TOOL TO MINIMIZE TREE AND ROOT IMPACTS.

TREE PRESERVATION TECHNIQUES
(Both techniques described below can be combined with the pruning of roots that may occur beyond the area of treatment).

#1 – For Use in Areas Where Equipment Must Operate in Areas That Will Remain at Existing Grade:

- In the woodchip and plywood or chainlink fence area shown in figure 1 below, spread 10-15" of wood chips by hand.
- On top of the wood chips, lay 5/8 to ¾ inch plywood or heavy-gauge chain link fence to provide a path for equipment and workers to operate.

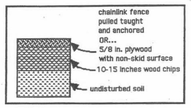


Figure 1

#2 – For Use in Areas Where Fill Soil Will Be Placed Over the Root Zone:

- An aeration system shall be installed in the area shown in figure 2 below prior to grading. The aeration system (see diagram below) shall consist of *geotextile* fabric laid on top of the undisturbed ground; with not less than six inches of river rock on top of it; and with a second layer of *geotextile* fabric laid on top of the rock.
- Fill dirt can then be placed on top of the *geotextile* fabric.

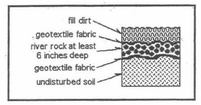


Figure 2

Standards and Requirements

Figure I-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.

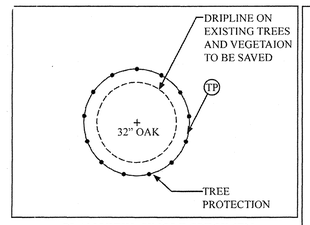
7. A certification letter for tree wells, tree trenches and plantings above structure shall be provided by the project's Landscape Architect. The letter shall certify that all below grade construction is in compliance with approved drawings and specifications. The letter shall be submitted to the City 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.

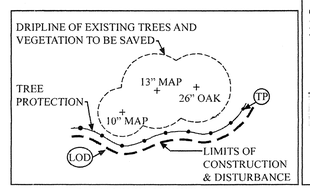
9. MAINTENANCE OF ALL TREES AND LANDSCAPE MATERIALS SHALL CONFORM TO ACCEPTED INDUSTRY STANDARDS SET FORTH BY THE LANDSCAPE CONTRACTORS ASSOCIATION, AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, THE INTERNATIONAL SOCIETY OF ARBORICULTURE, AND THE AMERICAN NATIONAL STANDARDS INSTITUTE.

Standards and Requirement

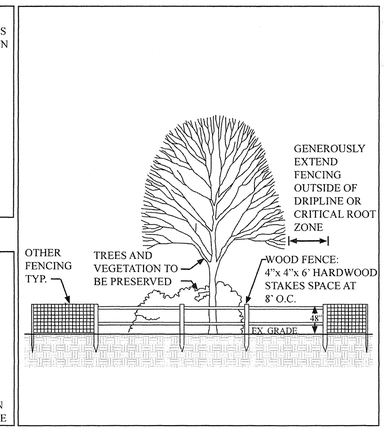
Figure I-B. Tree Protection



PLAN VIEW: SINGLE SPECIMEN



PLAN VIEW: VEGETATION



VEGETATION PROTECTION AND PRESERVATION DETAIL SECTION

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: 08/24/17 | DRAWN: DP | CHECKED: BF

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 8/24/17 PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV BY	APPROVED	DATE

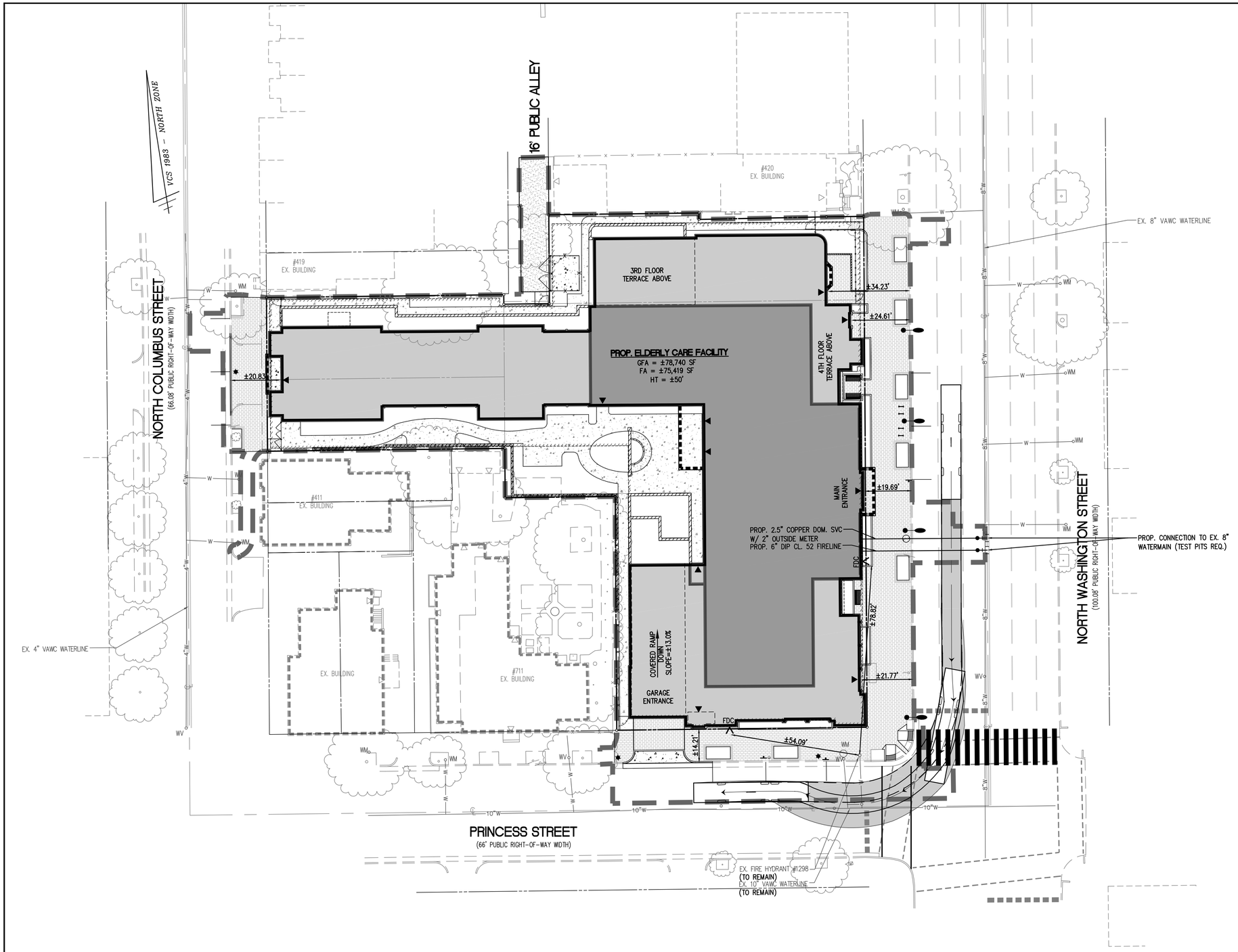
SUNRISE SENIOR LIVING 400 N. WASHINGTON ST

DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

TREE PRESERVATION NOTES & DETAILS

APPROVED
SPECIAL USE PERMIT NO. 2016–0041
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.



FIRE TRUCK DETAIL

20 0 10 20 40 80

(IN FEET)
1 INCH = 20'

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COMMONWEALTH OF VIRGINIA
AARON M. VINSON
Lic. No.041851
8/24/17
PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

PRELIMINARY FIRE SERVICE PLAN

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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. 064.02 Job No. 16-101 Cadd Dwg. File: Q:\sdskproj\16101\dwg\Planning\DSUP\16101P-1301.dwg

SHEET: P-1301

COMBINED SEWER MEETING MINUTES (02/09/2017)

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945

December 28, 2016
February 17, 2017

Attendees: Satya Singh, City of Alexandria
Erin Bevis-Carver, City of Alexandria
Shanna Austin, City of Alexandria
Jerry Liang, Sunrise Senior Living (Not in attendance)

From: Ben Flood, Walter L. Phillips, Inc.
Daniel Pietropaoli, Walter L. Phillips, Inc.

Subject: 400 N. Washington St. (Sunrise Senior Living), Combined Sewer Mitigation Meeting

The following is a summary to a meeting held on December 20, 2016 at City Hall regarding the proposed methods for meeting the City of Alexandria's (COA) combined sewer separation requirements for the subject development. Follow up responses from 2/9/2017 meeting included below in red.

Combined Sewer Separation Requirements
Governing code – City's Memorandum to Industry 07-14.

Sanitary Sewer Mitigation

1. Option A – Connect to separated sewer
   a. Separation of sanitary sewer system will be explored as there are a two potential connection options for downstream separated sanitary sewers, one at the intersection of Princess St. and N. Royal St. (2 blocks), and the other within Oronoco Street between N. St. Asaph St and N Pitt St. (2.5 blocks). Staff noted that connection to a separated sewer is typically required if an existing separated sewer is available within 2 blocks of the development (assuming gravity flow is available).
   b. Intersection of Princess and Royal (2 blocks away)
      i. Princess St. is made up of cobble stone between N Washington and St. Asaph. City of Alexandria (COA) staff noted that the cobble stone street may have historical significance. Staff to follow up with BAR regarding the ability to open cut Princess St. within the cobble stone area for sewer installation. WLP to confirm adequate invert at the existing separated sewer to allow for gravity connection. It was agreed that construction of this option would not feasible due to the high expense of construction and difficulty of obtaining approval to remove/replace historic cobblestones.
      ii. In an attempt to mitigate impact to the historic brick, the use of directional jack & bore with 2 pits (one on either end of the cobble stone portion of Princess St.) was discussed. Sunrise/WLP to explore cost and feasibility of this type of installation. Jack and bore requires large excavation pits on either side of sewer installation

(approximately 15'x30'). Existing conditions and/or a desire to keep streets open, may exclude the ability to use jack and bore in this area. It was agreed that construction of this option would not be feasible due to the high expense of construction.

   c. Oronoco Street connection (2.5 blocks away)
      i. There is an existing separated sanitary sewer line downstream of the proposed development within Oronoco Street constructed with a recent development (DSUP 2013-00016). WLP to explore the ability for a gravity connection at this location. WLP noted that a new sewer main within Washington Street would be going against existing topography of the road, creating a potentially deeper sewer system than is typically desired. Existing utility depths, crossings and/or other existing constraints may preclude the ability to make this connection as the connection requires the construction of a sewer system beyond the typical 2 block requirement. It was agreed that construction of this option would not be feasible due to the high expense of construction.
2. Option C – Offsite Separation OR Fee in Lieu
   a. Staff noted that they believed elderly care facilities have been classified as "Multifamily Residential" on other projects when determining sanitary sewer flow generation per Memo to Industry 06-14 and sewer tap fees. Sunrise disagrees with this determination as they believe their water consumption is far less than a residential use and is more in line with an "Office/Retail" or "Hotel"; or "Commercial" use. Sunrise offered to provide existing water consumption data from other facilities within the area in order to justify the use designation as "Office/Retail" or "Hotel" and "Commercial" when determining proposed peak wastewater flow and sewer tap fee. Staff noted that they would review data provided and issue a determination. COA reviewed the data collected by Sunrise and issued by WLP regarding sanitary sewer flow generation. Sunrise had compiled data from six of their nearby facilities and showed that the average usage rate of 217 gpd/1,000 sf was closest to the "Office/Retail" rate (200 gpd/1,000 sf). COA however, directed WLP to use the "Multifamily" classification (300 gpd/1,000 sf) because of existing precedence with other projects proposing Elderly Care Facilities within the City and the inherent factor of safety applied to the City's established sewer flow generation rates. The City's rates are conservative estimates which include inflow and infiltration (I & I), which consider the unintended stormwater and groundwater flows that enter the system. COA also pointed to a similar Elderly Care facility (Brandywine Senior Living) from 2016 that was required to use the "Residential" use when determining sanitary sewer flows and tap fees. COA agreed to look into the Duke St. Sunrise facility from 1995 to see what its tap fee rate was but were uncertain if the same metrics were used for determining tap fees over 20 years ago.
   b. It was acknowledged by COA that the Fee in Lieu could be an option for Sunrise, pending additional information pertaining to the feasibility of connecting to one of the

separated systems noted above. WLP acknowledges the City's preference to provide offsite sanitary sewer separation, assuming the cost be equivalent to the Fee. COA proposed the option of constructing a segment of offsite separated sanitary sewer that spans one block along Princess St., starting from a connection point to an existing system with a doghouse manhole at Saint Asaph St. and extending to an existing manhole on Pitt St (roughly 300 feet of pipe). WLP shall explore the cost of this offsite separation and acknowledged that this would require a survey and comes with the inherent exposure to risk during construction. COA also cautioned that an updated Memo to Industry may be issued in the summer of 2017 due to the anticipation of tightened mandates on combined sewers in the Commonwealth of Virginia. This could potentially increase (double) the cost of the Fee in Lieu, which COA noted should be accounted for when comparing to the construction cost of the offsite sanitary sewer option that COA proposed. This information will be passed along to Sunrise for further discussion.
   c. COA noted that if a connection to a separated sewer was provided AND additional existing developments were connected to the newly constructed sewer main, credits would be applied to the sanitary sewer tap fee in an equivalent amount to the number of existing units redirected to the separated system. Re-confirmed. COA noted that the off-site separation they suggested, while potentially not exchanging an exact one-to-one ratio of existing development separated as compared to proposed development, they would accept the separation with no additional fee.
   d. COA noted that if a connection to a separated sewer was provided, there could be relief given with respect to the limits of analysis for the sanitary sewer outfall study such that the limits of analysis could stop at the point of connection to the separated sewer system. WLP is concerned that if a new system is constructed which spans 2 blocks and redirects other adjacent developments from a combined sewer into the newly constructed separated system, these new flows may necessitate additional improvements downstream of the newly constructed separated system. Re-confirmed.

Storm Sewer Mitigation

1. Option A – Connect to separated sewer
   a. Per record information provided by the City of Alexandria, there are no separated storm sewer systems within 2 blocks of the subject development. Therefore, it was acknowledged that a connection to an existing separated storm sewer system would not be required. This was reiterated at the follow-up meeting and it was agreed upon that Sunrise will pay the storm sewer Fee in Lieu.
   b. COA confirmed that in the event the development's storm sewer system discharges into a combined sewer system, the outfall analysis shall ignore the presence of sanitary sewer flows and only take into account storm water which flows through the existing system.
2. Option B – Retain 50% of annual runoff

   a. Due to proposed site layout, as well as anticipated soil conditions, WLP noted that it does not appear to be feasible to retain onsite 50% of the annual stormwater runoff volume created from a 1 year storm event. This was reiterated during the meeting.
   b. The City proposed exploring the use of urban green infrastructure (green roofs, permeable pavement, and bioretention) in order to reduce the total runoff as much as possible. WLP noted that meeting a retention threshold of 50% is unlikely due to the assumed inability to provide infiltration. Additionally, WLP noted that other runoff reduction methods, such as green roof and permeable pavement, do not provide nearly the same level of runoff reduction when compared to infiltration. COA noted that phosphorus removal is not the critical pollutant in the CSO drainage area and therefore providing additional treatment for the removal of phosphorus would not be allowed to offset any portion of the fee in lieu payment. COA noted that runoff reduction is the desired method of treatment within the CSO drainage area. As such, WLP agreed to explore the use of runoff reduction practices under the assumption that the runoff reduction volume achieved could be credited in the form of providing an equivalent reduction to the fee in lieu. For example, as discussed in the meeting if 10% of the 50% retention requirement was met, a 10% reduction to the fee in lieu could be applied. While a retention threshold of 50% is unlikely, WLP will look into the construction of a green roof on the proposed building with the hope that it achieves a portion of the City's goals of providing runoff reduction instead of providing a proprietary treatment device which does not provide runoff reduction. WLP will also discuss this matter with Sunrise due to questions about how a green roof impacts any active roof space at the senior living facilty and overall upfront/long term maintenance costs.
   c. COA staff noted that a reduction to the Fee in Lieu may be credited on a case by case basis if green infrastructure is provided which goes beyond meeting the City's standard stormwater management requirements. Summarized above in item b.
   e. COA noted that a soils report is required to confirm the inability to provide infiltration.
3. Option C – Offsite Separation OR Fee in Lieu
   a. It was acknowledged by COA that the Fee in Lieu could be an option for Sunrise, pending additional information pertaining to the feasibility of retaining 50% of the annual runoff. It was agreed upon that Sunrise will pay the storm sewer Fee in Lieu with the potential for credit given to any runoff reduction achieved through green infrastructure.

Action Items

1. COA to send plans of existing utilities at N Royal and Princess. **(Completed 12/21/16)**
2. COA staff to discuss with BAR the potential for open trench construction of a sewer main within the historic cobble street on Princess Street between N Washington and St. Asaph St. COA to provide additional details such as road section, installation specifications, additional required

approvals, timing, etc…as this information is required by Sunrise to determine the cost and feasibility of this option. **(Completed 1/27/17)**
3. COA to review previous applications for Elderly Care uses and confirm how their peak waste water flow as well as the sanitary sewer tap fee was required to be determined. **(Completed 1/27/17) COA confirmed previous applications for Elderly Care use were classified as multifamily.**
4. Sunrise to compile water usage data from other facilities in the area to justify "Office/Retail" or "Hotel" and "Commercial" classification when determining peak wastewater flow and tap fee. **(Completed 1/24/17)**
5. Sunrise to explore cost and feasibility of jack & bore in Princess St. in lieu of open cut. **(Completed 2/2/17) Not feasible.**
6. WLP to provide additional information on the Concept 2 submission regarding the combined sewer mitigation than is typically required. COA acknowledged a willingness to review this information and provide comments as the final outcome of this decision is important to Sunrise in their effort to determine project costs.
7. WLP to discuss the feasibility of including runoff reduction practices into the design of the proposed building with the design team and Sunrise.
8. COA to research the classification of the 1995 Sunrise facility located at Duke St. to see how it was classified in terms of the sanitary sewer tap fee.
9. WLP to discuss the option of providing offsite sanitary sewer separation with Sunrise to obtain a construction estimate from their contractor.

We trust the above adequately summarizes the discussion of the plan to meet the City's sanitary and storm water requirements. However, if you have any questions, please do not hesitate to contact me at 703-532-6163 or bflood@wlpinc.com.

Sincerely,

Benjamin L. Flood

Ben Flood, P.E.
Project Manager

WALTER L. PHILLIPS INCORPORATED ESTABLISHED 1945
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SCALE: NONE | DATE: 08/24/17 | DRAWN: DP | CHECKED: BF

PLAN STATUS

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION
07/28/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA AARON M. VINSON Lic. No.041851 8/24/17 PROFESSIONAL ENGINEER

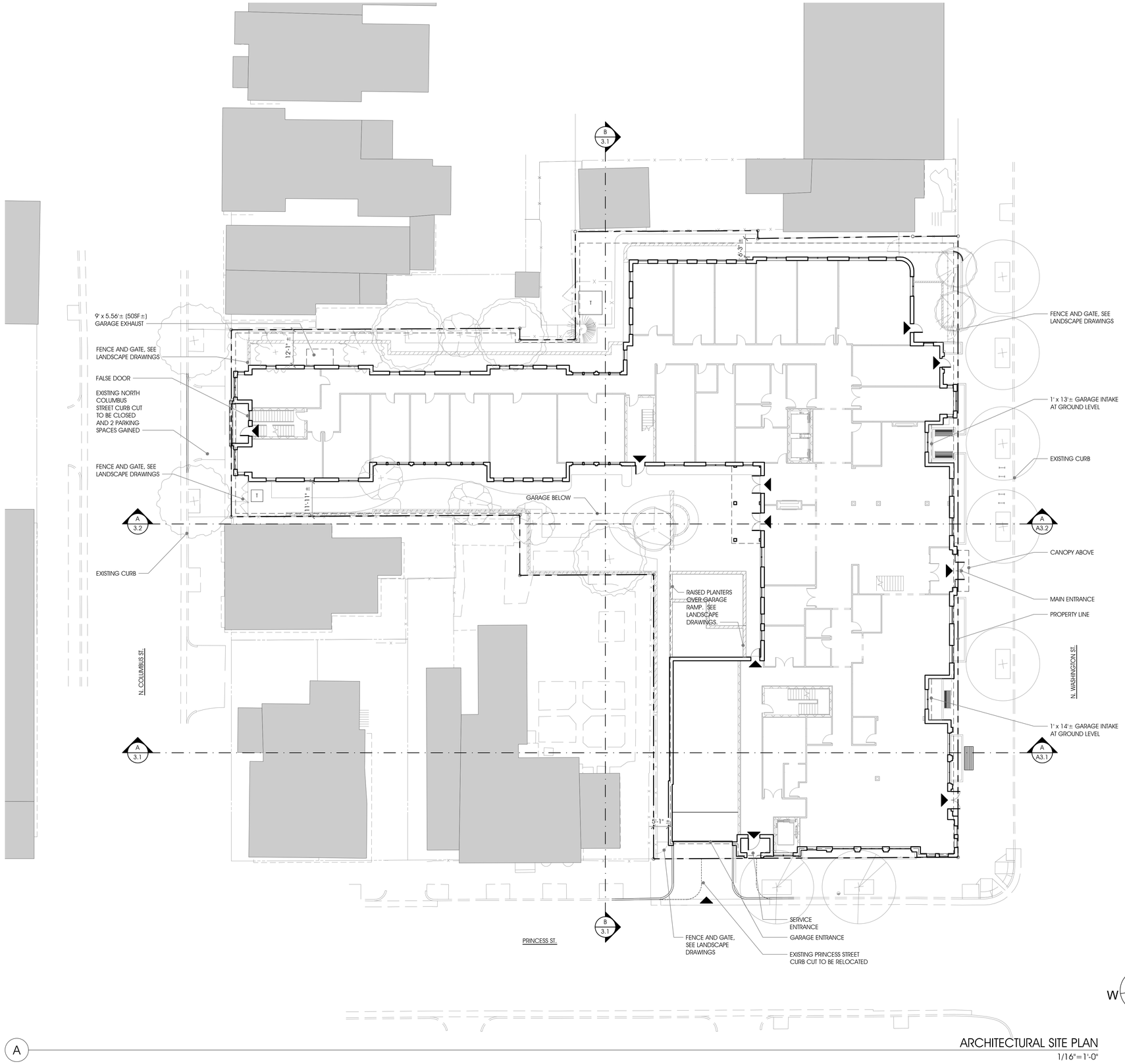
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

CORRESPONDENCE

APPROVED
SPECIAL USE PERMIT NO. 2016-0041
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.



ARCHITECTURAL SITE PLAN
1/16"=1'-0"

APPROVED	DSUP#
SPECIAL USE PERMIT NO.	2016-0041
DEPARTMENT OF PLANNING & ZONING	
DIRECTOR DATE	
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	
SITE PLAN NO. XXXXX	
DIRECTOR DATE	
CHAIRMAN, PLANNING COMMISSION DATE	
DATE RECORDED	
INSTRUMENT NO. DEED BOOK NO. PAGE NO.	

COMMONWEALTH OF VIRGINIA
JOHN M. RUST
No. 3940
08/24/17
ARCHITECT

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www.rustorling.com

400 N. Washington Street

Alexandria, Virginia

16.040

REVISIONS

DATE	DESCRIPTION

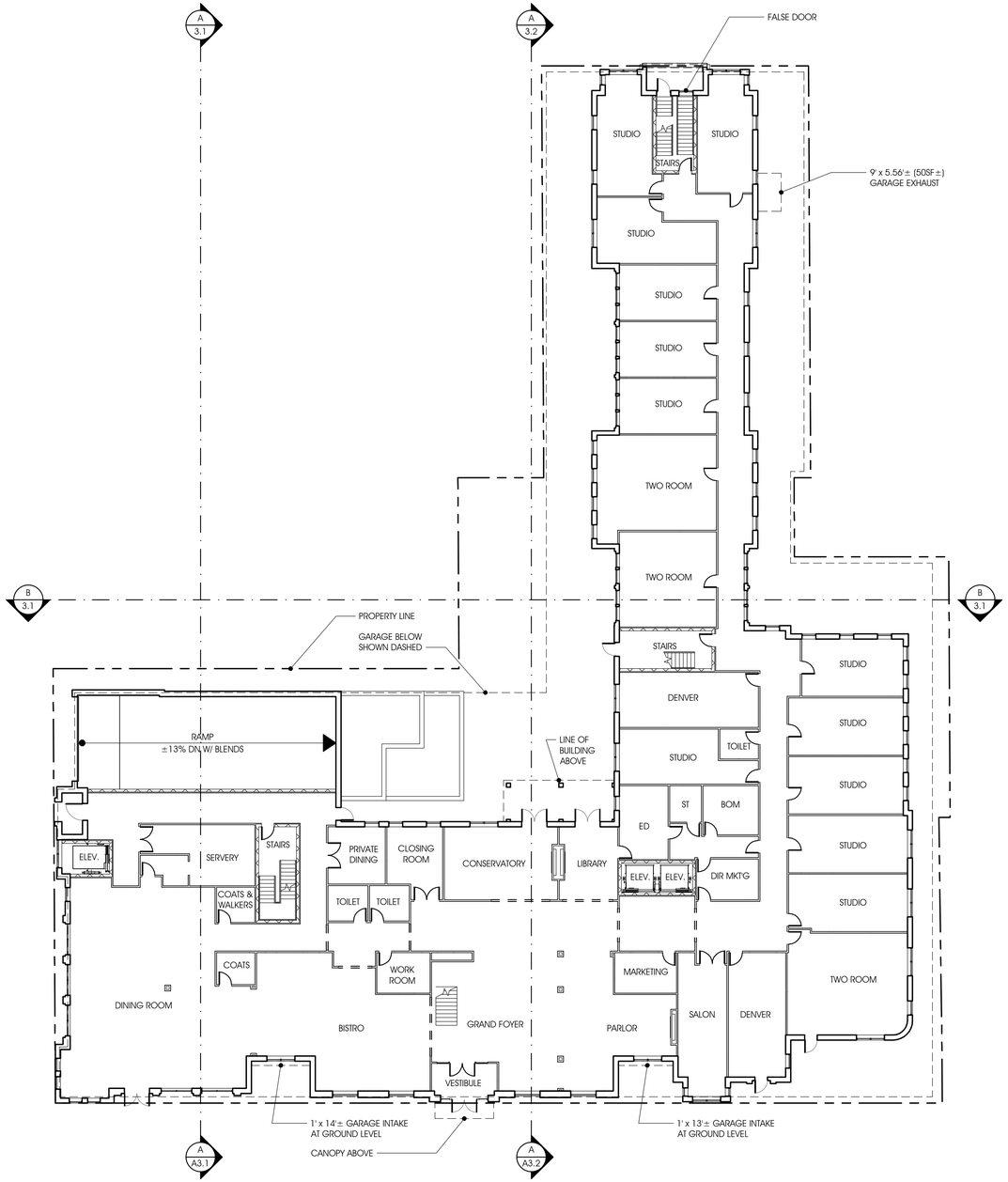
PRELIMINARY SITE PLAN
08.24.17

ARCHITECTURAL SITE PLAN

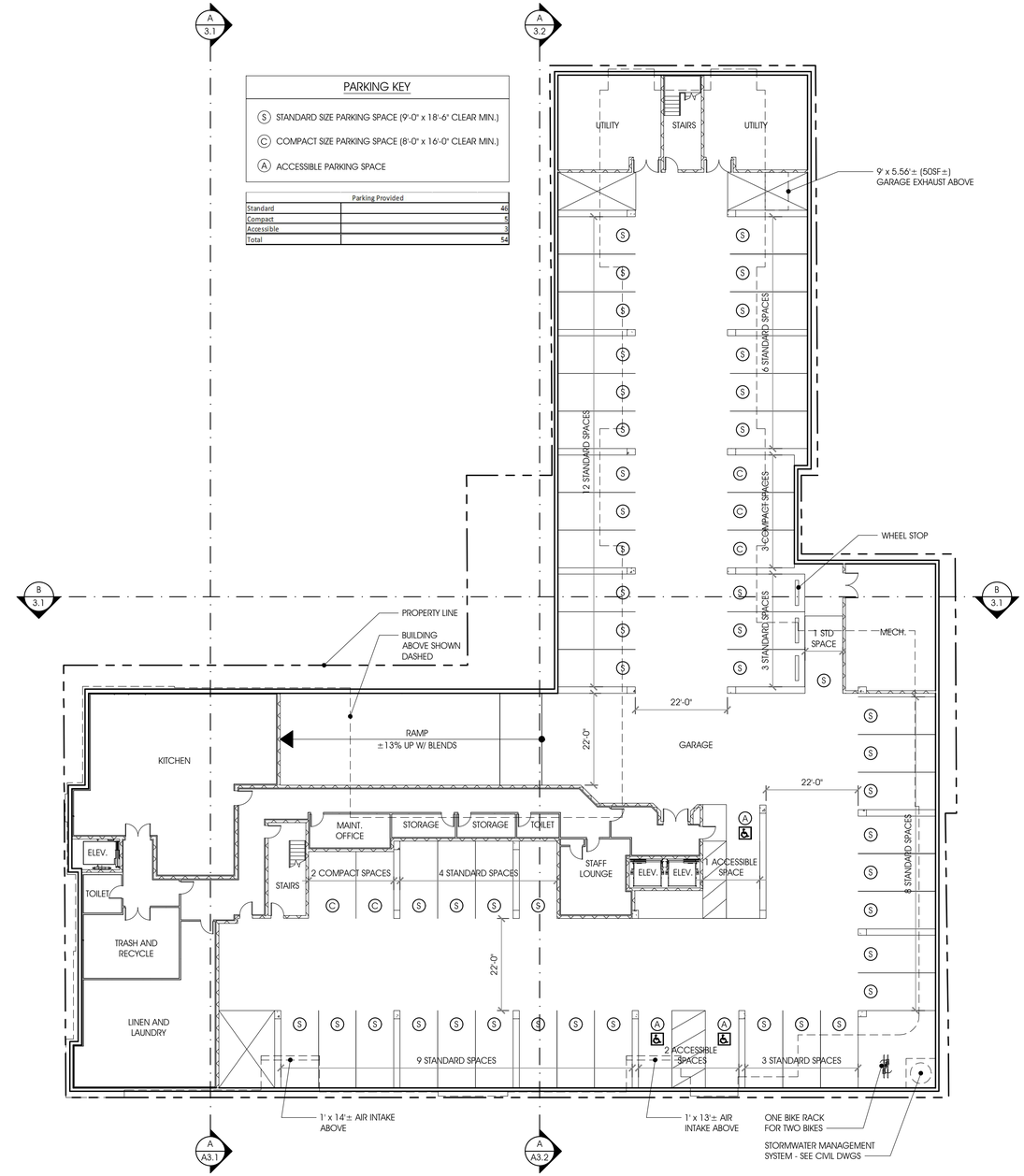
SHEET NO.

A1.1

W:_2016\16040 400 N Washington St - Sunrise\Drawings\16040_A1.1_Architectural Site Plan.dwg, A1.1, 8/23/2017 5:48:52 PM, acassara, Copyright RUST | ORLING ARCHITECTURE



GROUND FLOOR PLAN
1/16"=1'-0"

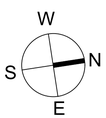


GARAGE PLAN
1/16"=1'-0"

PARKING KEY

- (S) STANDARD SIZE PARKING SPACE (9'-0" x 18'-6" CLEAR MIN.)
- (C) COMPACT SIZE PARKING SPACE (8'-0" x 16'-0" CLEAR MIN.)
- (A) ACCESSIBLE PARKING SPACE

Parking Provided	
Standard	46
Compact	5
Accessible	3
Total	54



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400 N. Washington Street

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REVISIONS

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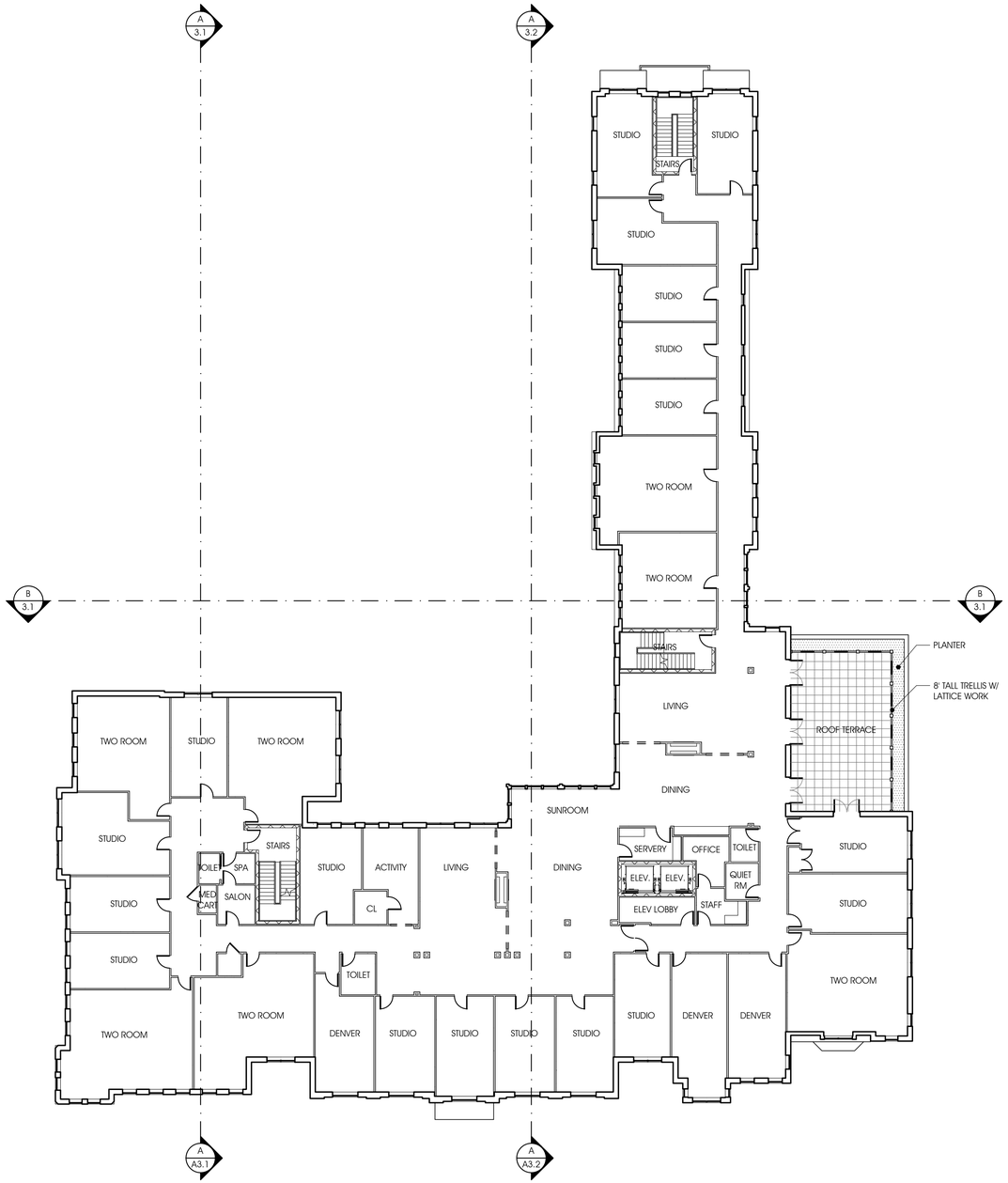
PRELIMINARY SITE PLAN
08.24.17

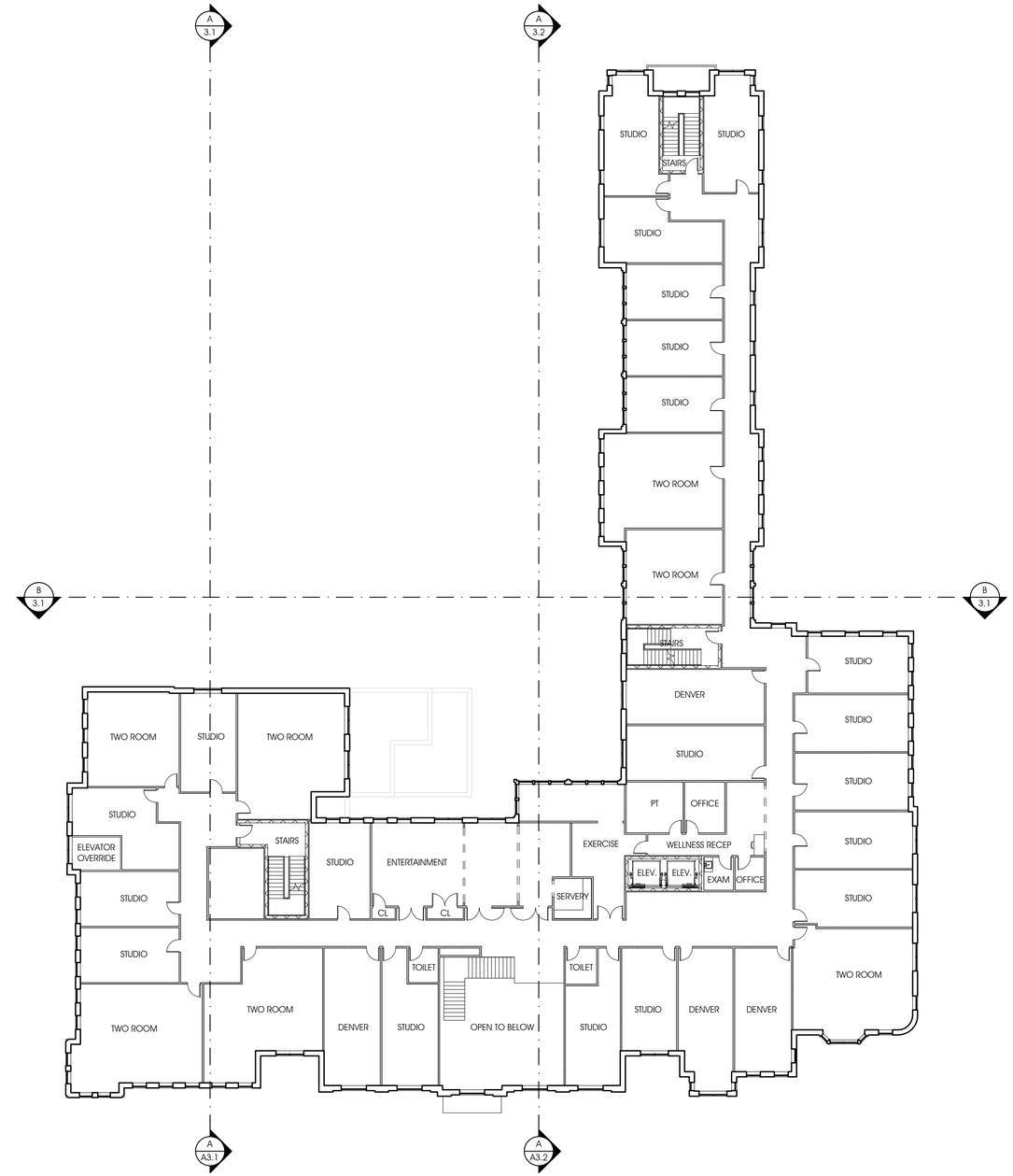
FLOOR PLANS

SHEET NO.
A1.2



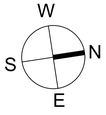
B

3RD FLOOR PLAN
1/16"=1'-0"



A

2ND FLOOR PLAN
1/16"=1'-0"



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REVISIONS

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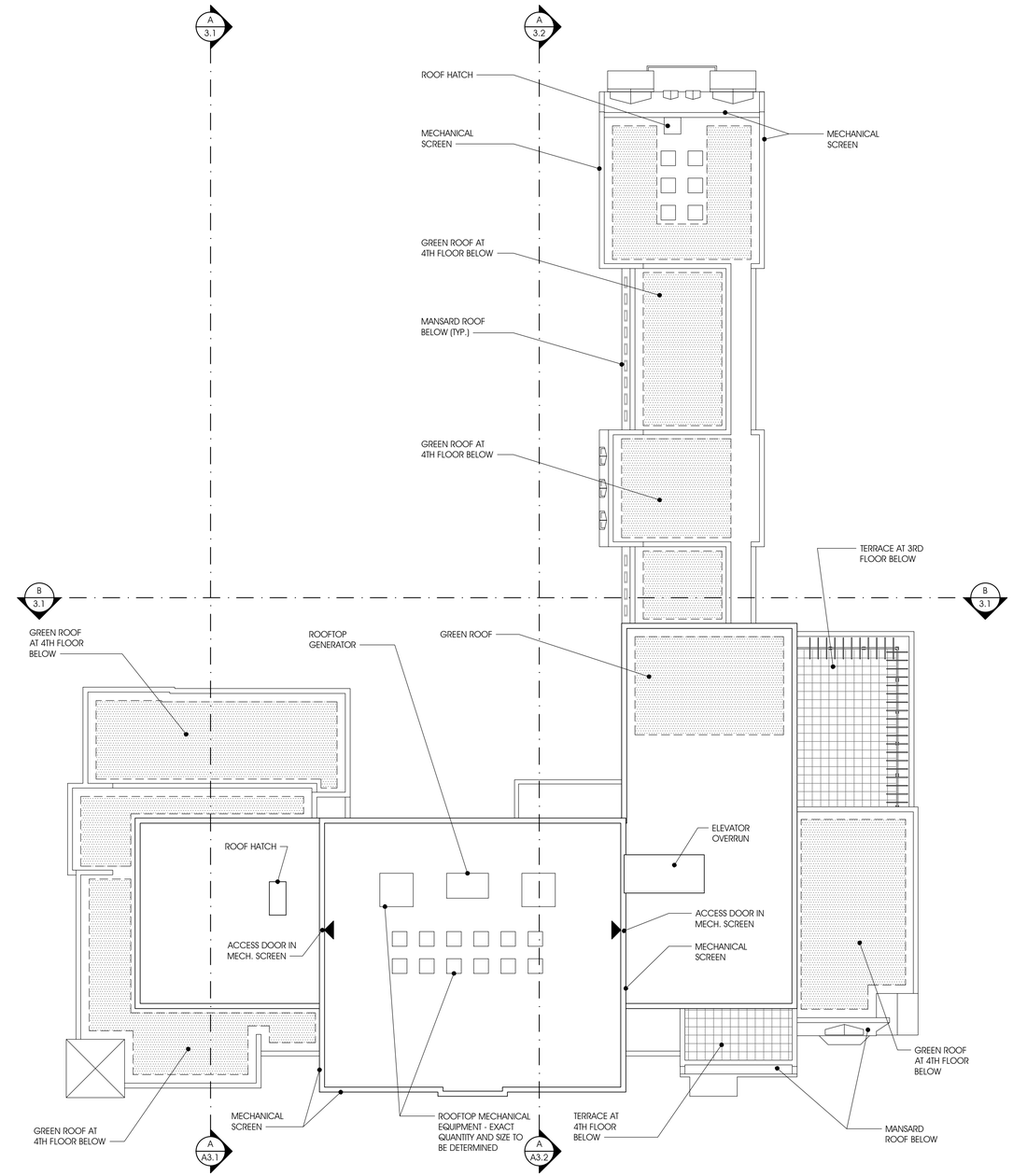
PRELIMINARY SITE PLAN
08.24.17

FLOOR PLANS

SHEET NO.

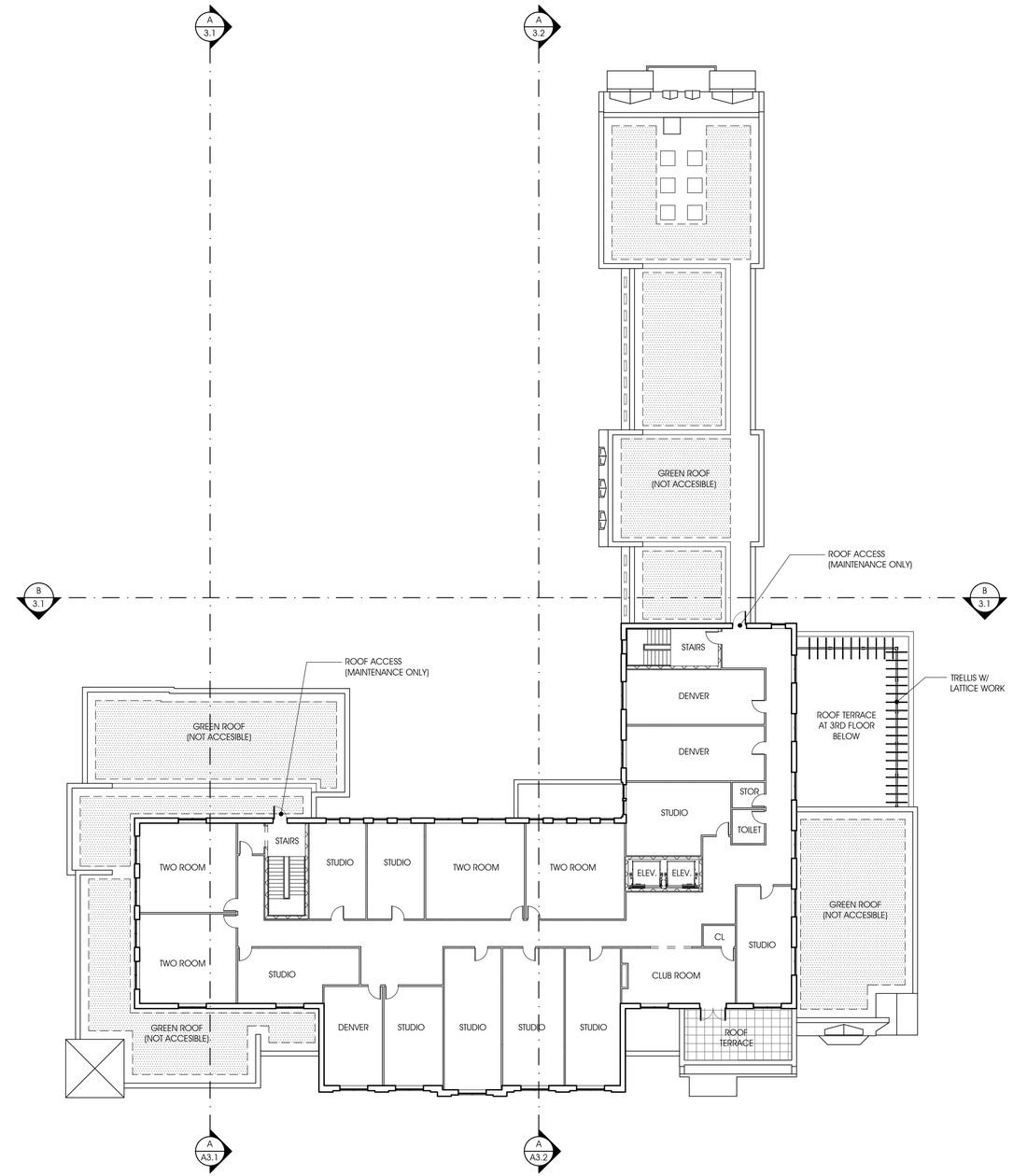
A1.3



B

ROOF PLAN

1/16"=1'-0"



A

4TH FLOOR PLAN

1/16"=1'-0"

KEY

ROOF TERRACE

GREEN ROOF

W
S
N
E

APPROVED
SPECIAL USE PERMIT NO.
DEPARTMENT OF PLANNING & ZONING

DSUP# 2016-0041

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. XXXXX

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

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16.040

REVISIONS

DATE	DESCRIPTION

PRELIMINARY SITE PLAN
08.24.17

FLOOR PLANS

SHEET NO.

A1.4

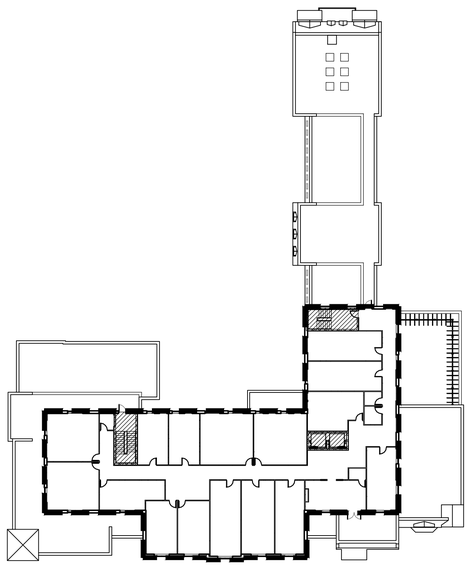
W:_2016\16040 400 N Washington St - Sunrise\Drawings\16040_A1.4_Floor Plans.dwg, A1.4, 8/23/2017 5:49:00 PM, acassara, Copyright RUST | ORLING ARCHITECTURE

	Proposed FAR Deduction Summary	
Potential Floor Area Deductions	1st Floor Deductions	930
	2nd Floor Deductions	953
	3rd Floor Deductions	826
	4th Floor Deductions	612
	Total Deductions	3,321

Proposed Floor Area Deductions	Total Gross Floor Area (See Note 2)	78,740
	Total Net Floor Area (See Note 4)	75,419
	Total Deductions Proposed (See Note 3)	**3,321**
	Deductions as % of Gross Floor area (See Note 1)	4.2%
	FAR	2.30

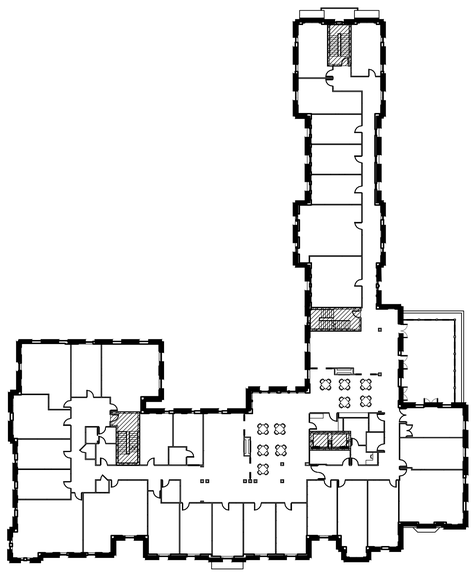
General Notes

1. Total deductions for residential area will not exceed 15% of gross
2. Gross floor area is all above grade floor area measured to the outside face of all exterior walls and includes all covered balconies
3. Deductions include space with a headroom of seven feet six inches or less, whether or not provided with a finished floor or ceiling, as well as elevator and stair bulkheads, accessory water tanks, cooling towers and similar construction not susceptible to



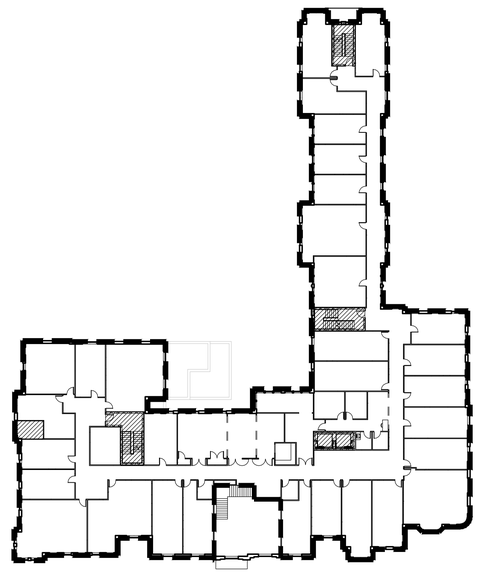
DEDUCTIONS: 612 SQ. FT.

D — 4TH FLOOR
1/32"=1'-0"



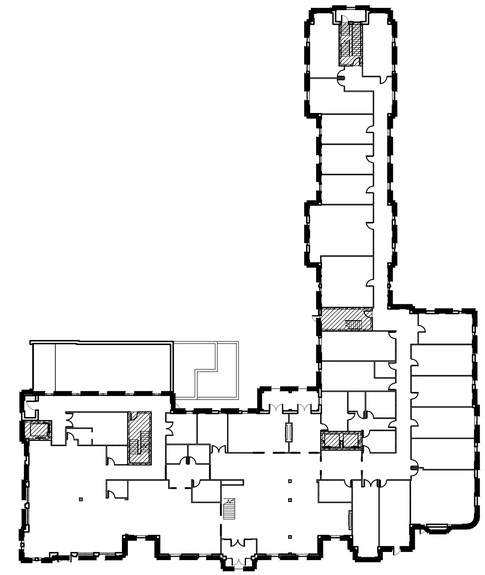
DEDUCTIONS: 826 SQ. FT.

C — 3RD FLOOR
1/32"=1'-0"



DEDUCTIONS: 953 SQ. FT.

B — 2ND FLOOR
1/32"=1'-0"



DEDUCTIONS: 930 SQ. FT.

A — GROUND FLOOR
1/32"=1'-0"

KEY

GROSS FLOOR AREA

AREAS DEDUCTED FROM GROSS SQ. FT. TO DETERMINE FAR:

SPACE WITH A HEADROOM OF SEVEN FEET SIX INCHES OR LESS, WHETHER OR NOT PROVIDED WITH A FINISHED FLOOR OR CEILING, AS WELL AS ELEVATOR AND STAIR BULKHEADS, ACCESSORY WATER TANKS, COOLING TOWERS AND SIMILAR CONSTRUCTION NOT SUSCEPTIBLE TO STORAGE OR OCCUPANCY.

APPROVED
SPECIAL USE PERMIT NO.
DEPARTMENT OF PLANNING & ZONING

DSUP# 2016-0041

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. XXXXX

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

COMMONWEALTH OF VIRGINIA
JOHN M. RUST
No. 3940
08/24/17
ARCHITECT

RUST | ORLING
ARCHITECTURE

1215 CAMERON STREET
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22314

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admin@rustorling.com
www.rustorling.com

400 N. Washington Street

Alexandria, Virginia

16.040

REVISIONS

DATE	DESCRIPTION

PRELIMINARY SITE PLAN
08.24.17

FAR DIAGRAMS

SHEET NO.

A1.5

W:_2016\16040 400 N Washington St - Sunrise\Drawings\16040_A1.5_FAR Diagrams.dwg, A1.5, 8/23/2017 5:49:04 PM, acassara, Copyright RUST | ORLING ARCHITECTURE

D

NORTH ELEVATION

1/16"=1'-0"

C

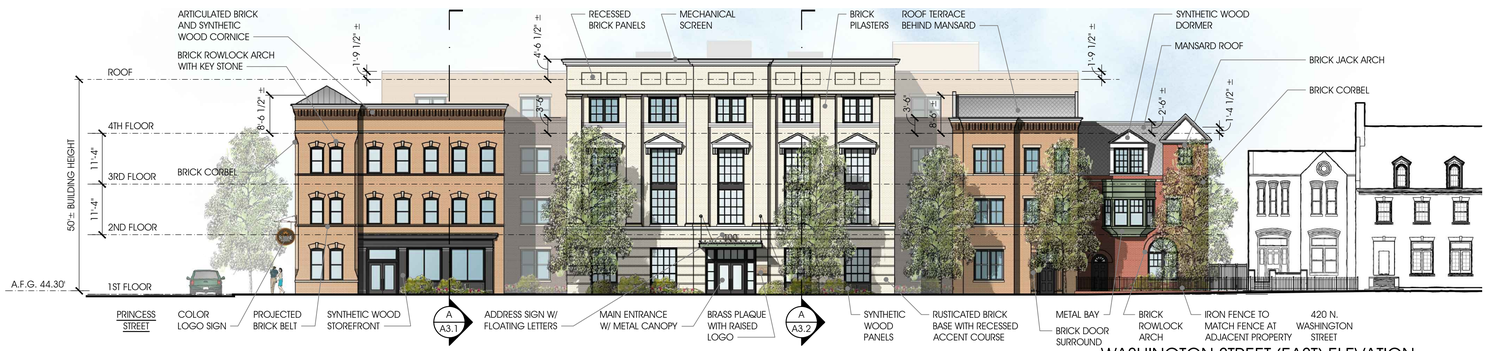
COLUMBUS STREET (WEST) ELEVATION

1/16"=1'-0"

B

PRINCESS STREET (SOUTH) ELEVATION

1/16"=1'-0"



A

WASHINGTON STREET (EAST) ELEVATION

1/16"=1'-0"

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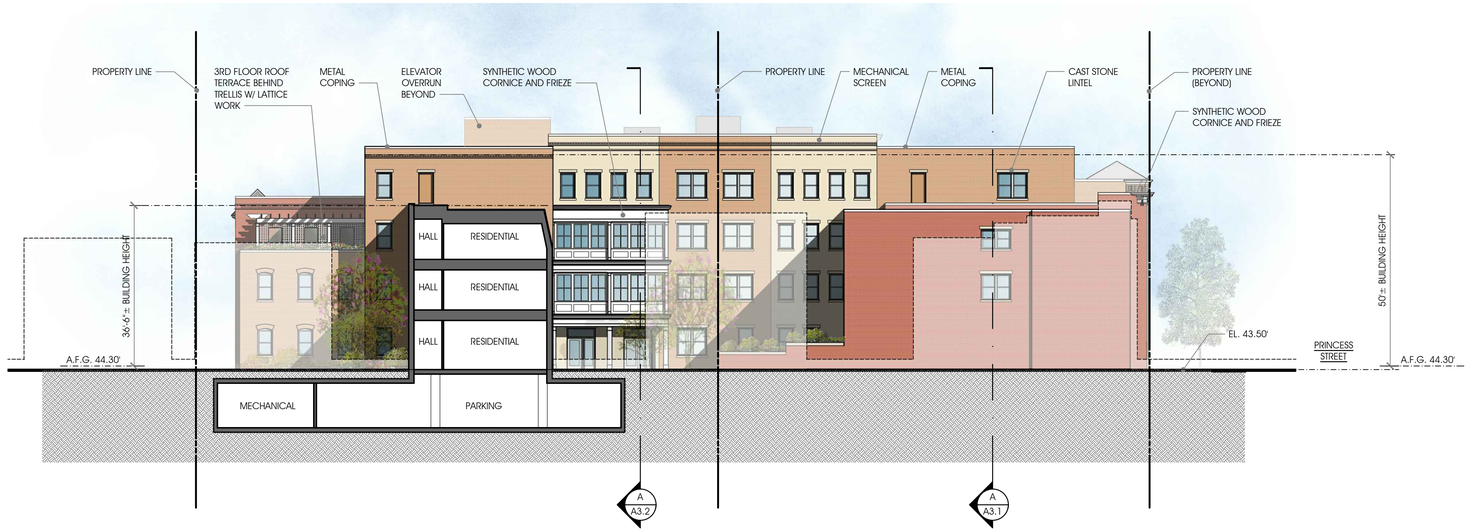
EXTERIOR ELEVATIONS

SHEET NO.

A2.1

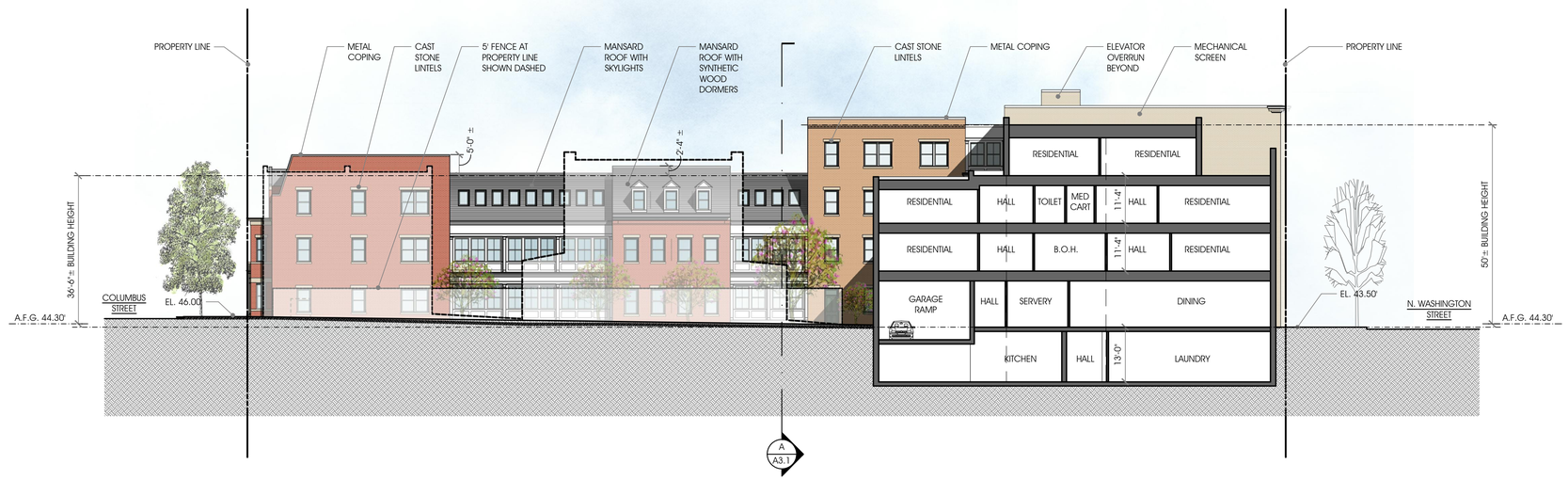
W:_2016\16040 400 N Washington St - Sunrise\Drawings\16040_A2.1_Exterior Elevations.dwg, A2.1, 8/23/2017 5:49:07 PM, acassara, Copyright RUST | ORLING ARCHITECTURE



B

BUILDING SECTION AND COURTYARD EAST ELEVATION

1/16"=1'-0"



A

BUILDING SECTION AND COURTYARD NORTH ELEVATION

1/16"=1'-0"

APPROVED
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DEPARTMENT OF PLANNING & ZONING

DSUP#
2016-0041

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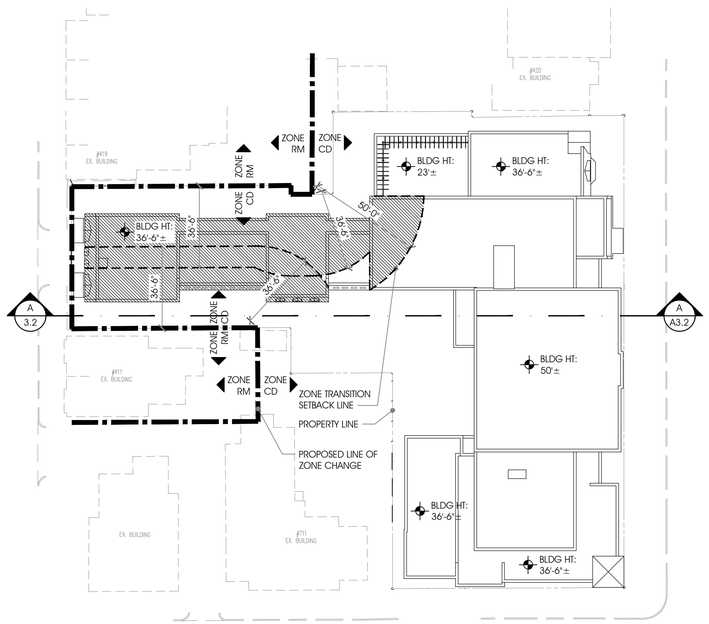
PRELIMINARY SITE PLAN
08.24.17

BUILDING SECTIONS

SHEET NO.

A3.1

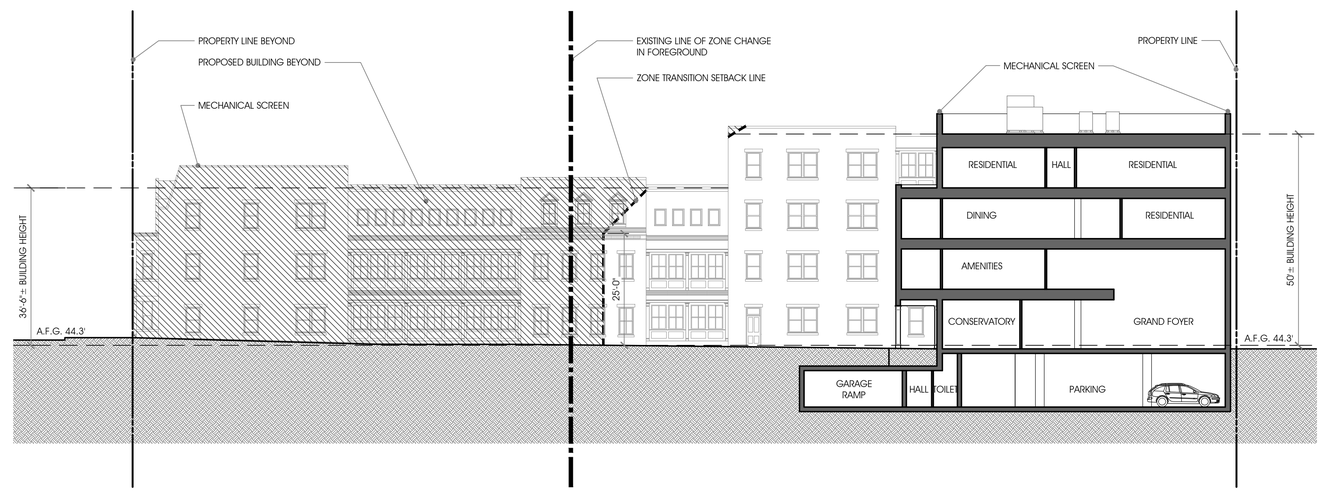
W:_2016\16040 400 N Washington St - Sunrise\Drawings\16040_A3.1_Building Sections.dwg, 3.1, 8/23/2017 5:49:10 PM, acassara, Copyright RUST | ORLING ARCHITECTURE



B

ROOF PLAN

1/32"=1'-0"



A

BUILDING SECTION

1/16"=1'-0"

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DEPARTMENT OF PLANNING & ZONING

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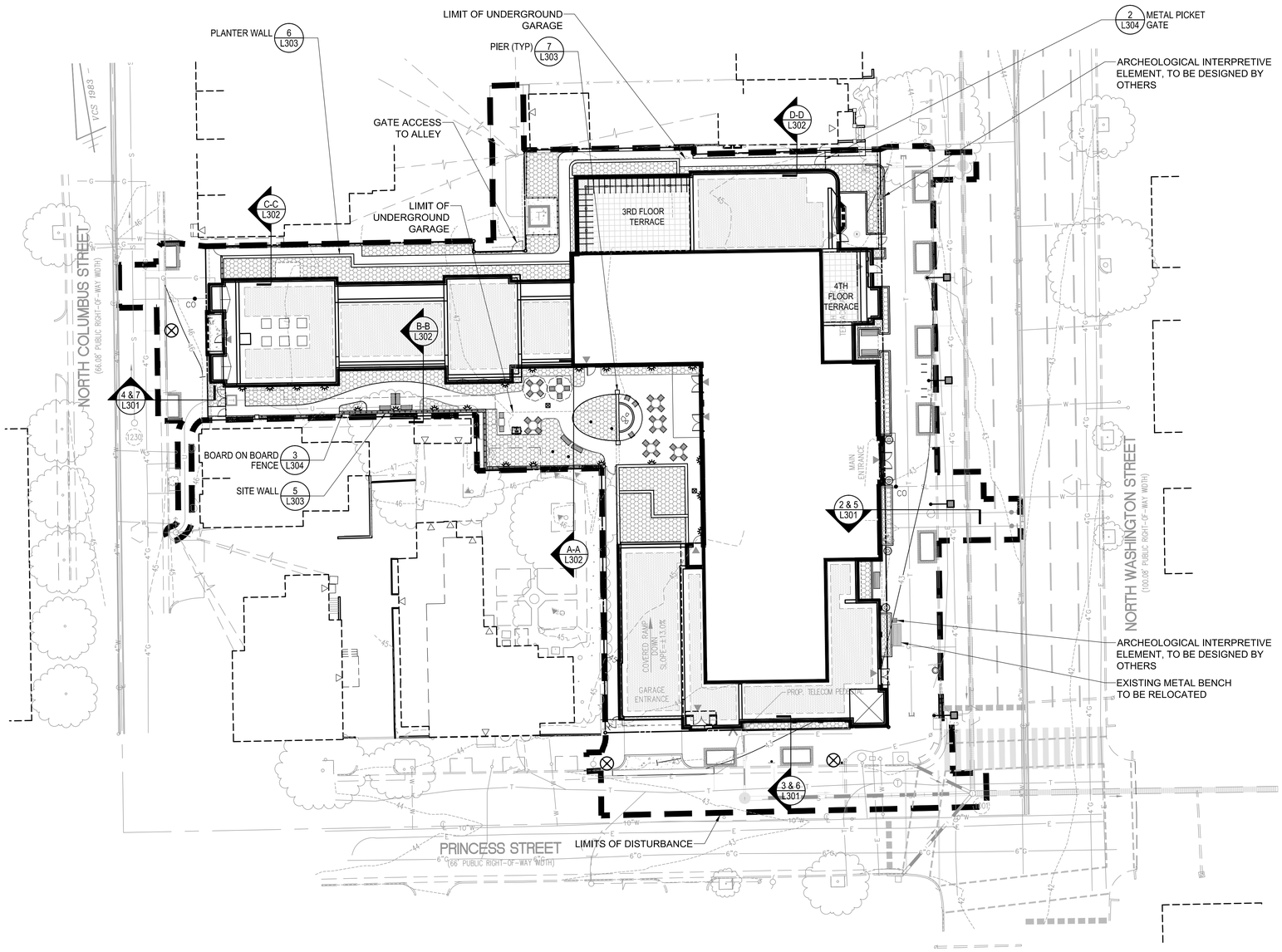
PRELIMINARY SITE PLAN
08.24.17

ZONE TRANSITION DIAGRAMS

SHEET NO.

A3.2

W:_2016\16040 400 N Washington St - Sunrise\Drawings\16040_A3.2_Zone Transition Diagrams.dwg, 3.2, 8/23/2017 5:49:14 PM, acassara, Copyright RUST | ORLING ARCHITECTURE



SITE FURNITURE LEGEND

- 2 / L305 BENCH TYPE 1
- 3 / L305 BENCH TYPE 2
- 5 / L305 TABLE AND CHAIRS SET
- 4 / L305 TRASH RECEPTACLE
- 6 / L305 PLANTER
- 7 / L305 BICYCLE RACK

0 5 10 20 30

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PLAN STATUS

DATE	DESCRIPTION
07/26/17	DSUP SUBMISSION 2
08/24/17	DSUP SUBMISSION 3

DATE	DESCRIPTION
02/17/17	CONCEPT 2 SUBMISSION
06/02/17	DSUP SUBMISSION

COMMONWEALTH OF VIRGINIA
MARK C. GIONET
Lic. No. 000279
08-24-17
LANDSCAPE ARCHITECT

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

LANDSCAPE REFERENCE PLAN

APPROVED 2016-0041

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED _____

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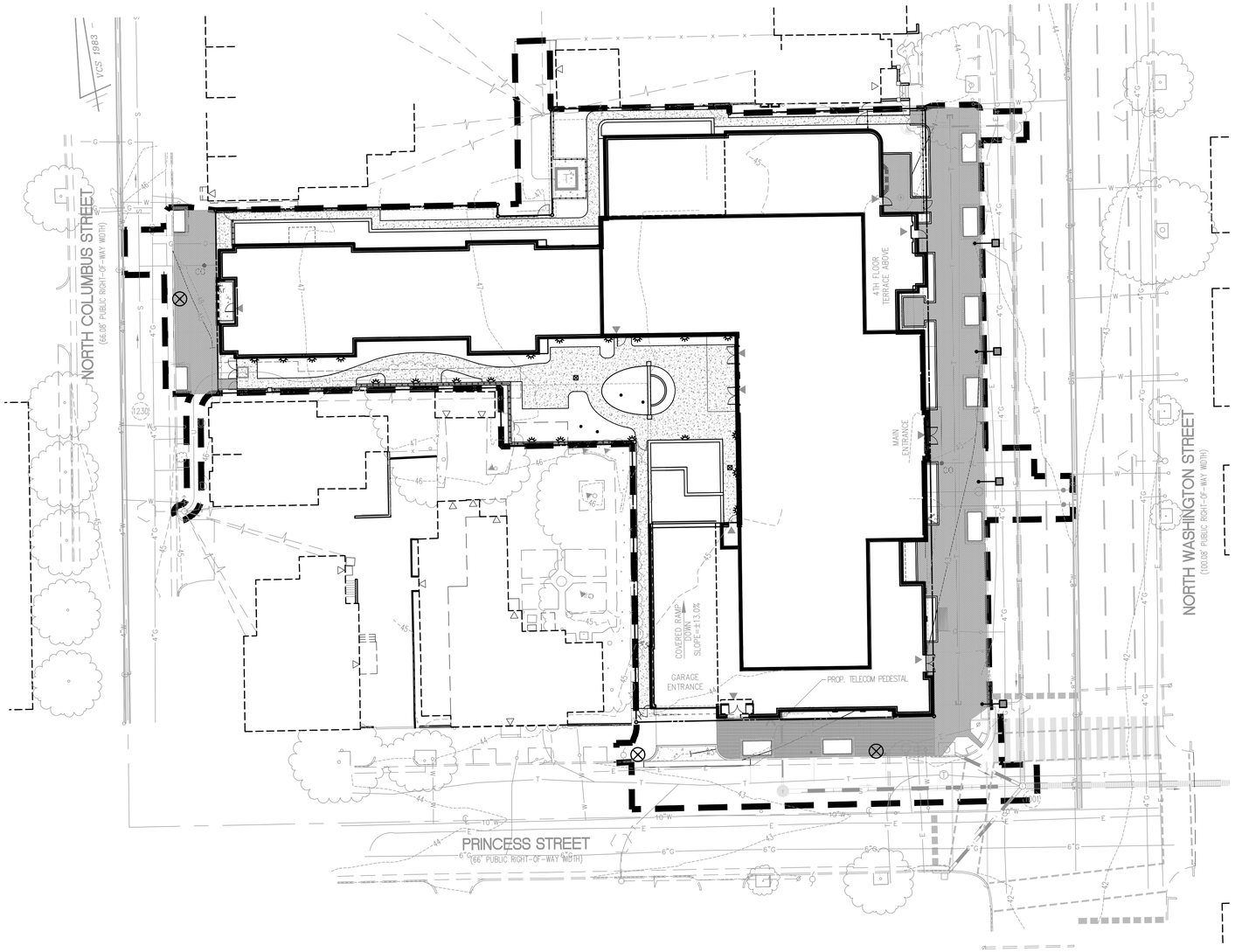

PAVING LEGEND

1 / L303 CONCRETE PAVING ON STRUCTURE

3 / L303 UNIT PAVING ON GRADE

0 5 10 20 30

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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
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LANDSCAPE PAVING PLAN

APPROVED 2016-0041

DEPARTMENT OF PLANNING & ZONING

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SITE PLAN No. _____

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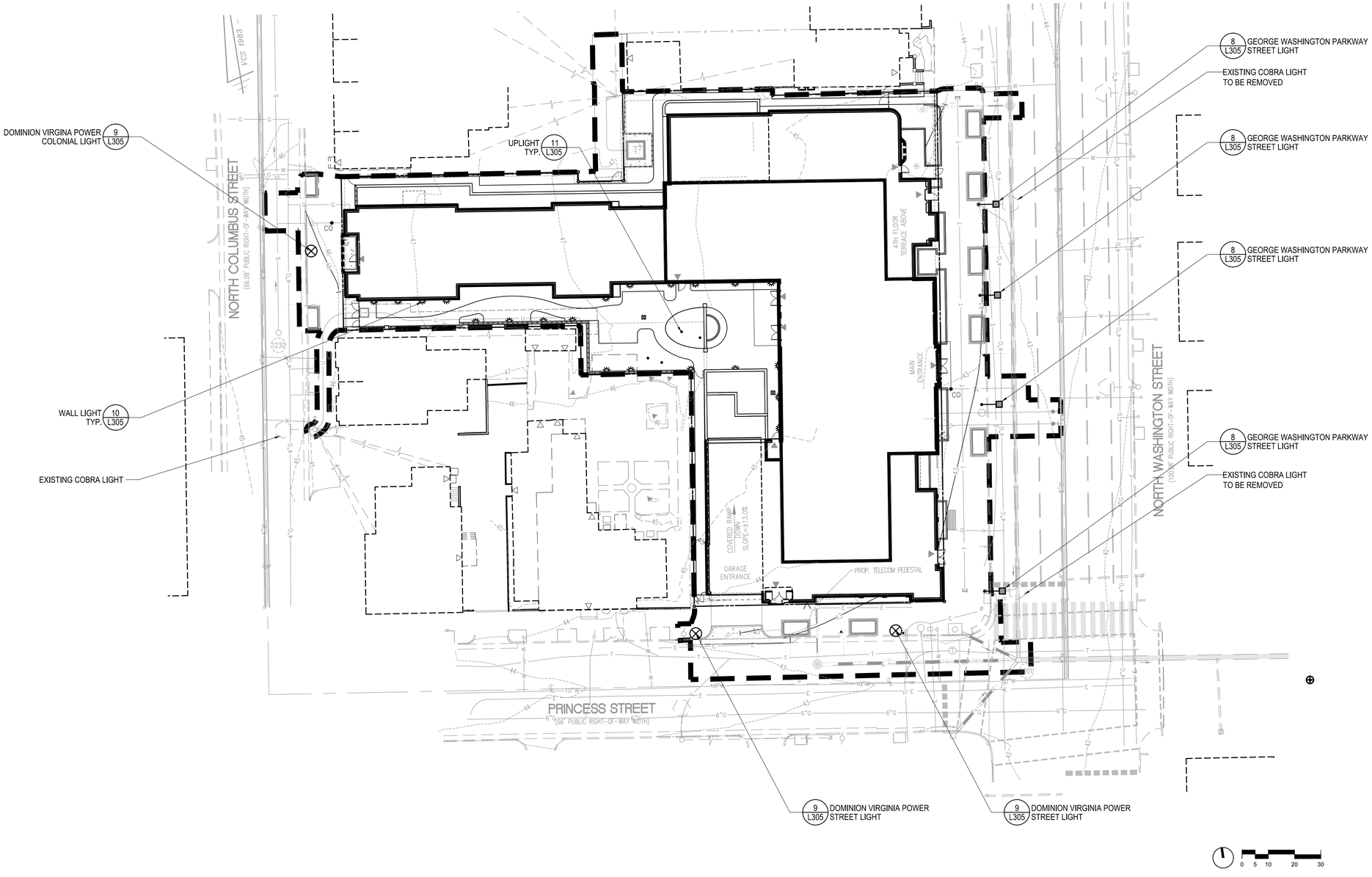
DATE RECORDED _____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 064.02 Job No. 16-101 Cadd Dwg. File: G:\2017\17042.00 - Sunrise Assisted Living Alexandria\01 Caddocs\L-101.dwg

SHEET: L102



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COMMONWEALTH OF VIRGINIA
MARK C. GIONET
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08.24.17
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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
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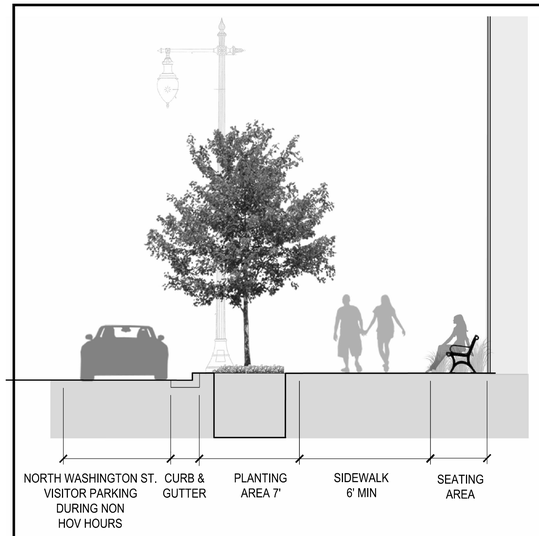
CITY OF ALEXANDRIA, VIRGINIA

LANDSCAPE LIGHTING PLAN

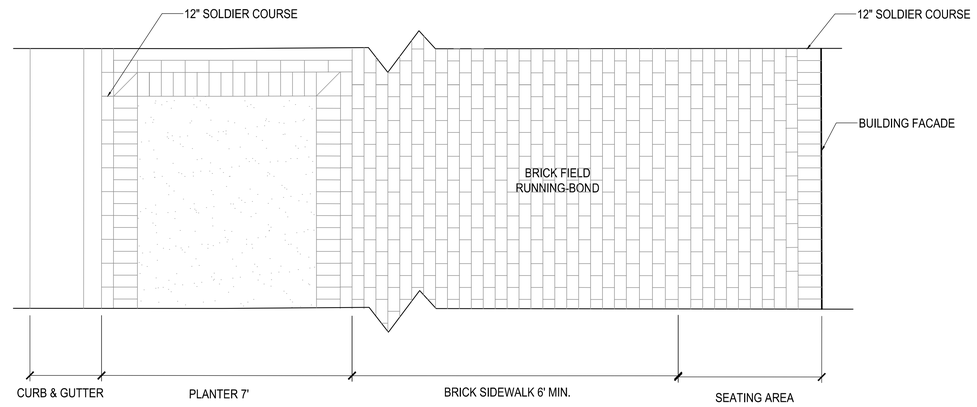
APPROVED 2016-0041
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 064.02 Job No. 16-101 Cadd Dwg. File: G:\2017\17042.00 - Sunrise Assisted Living Alexandria\01 Caddocs\L-101.dwg

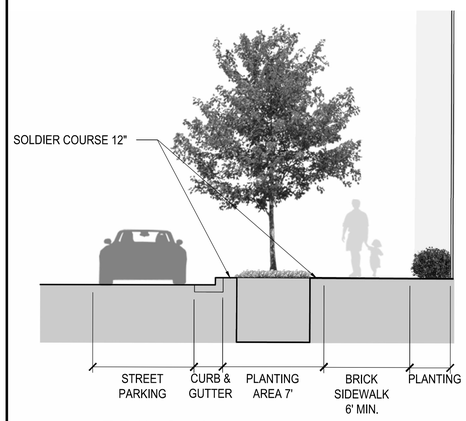
SHEET: L103



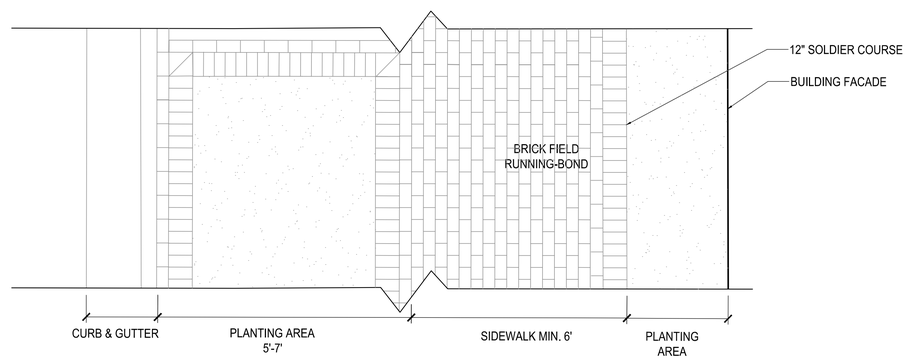
5 WASHINGTON STREET - SECTION
1" = 5'-0"



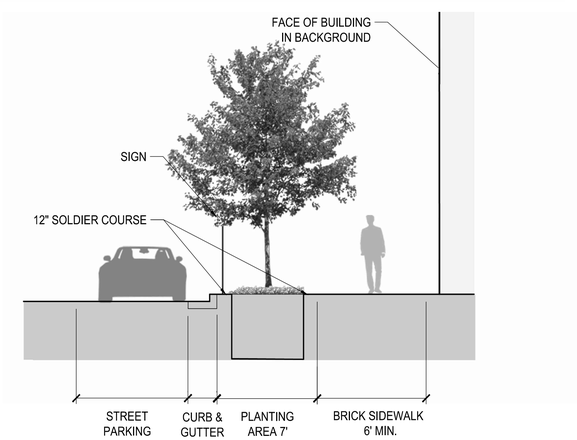
2 WASHINGTON STREET - PLAN
1" = 2'-0"



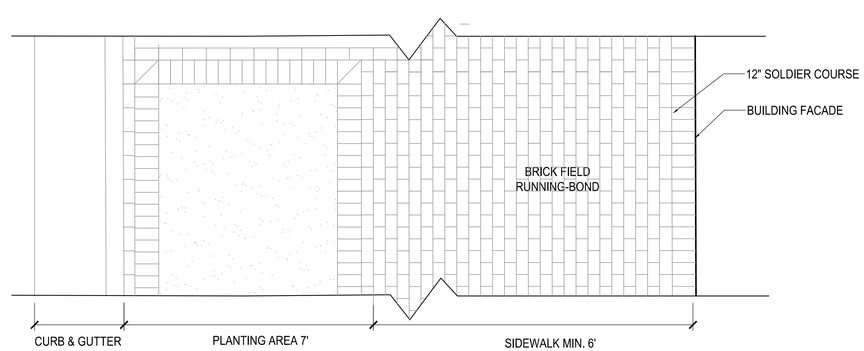
6 PRINCESS STREET - SECTION
1"= 5'-0"



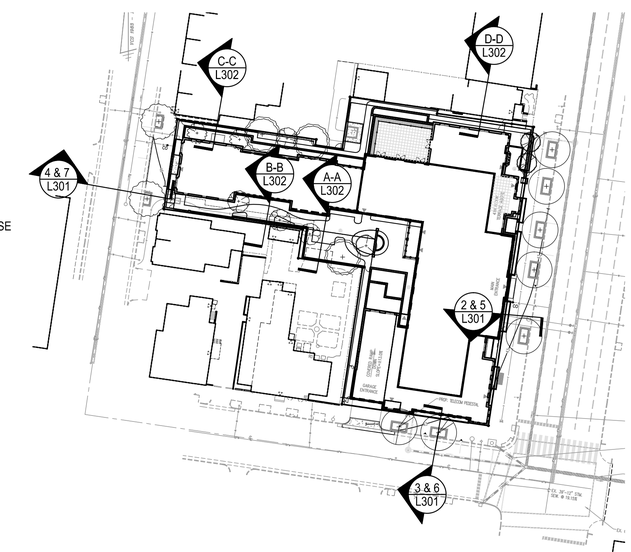
3 PRINCESS STREET - PLAN
1"= 2'-0"



7 NORTH COLUMBUS STREET - SECTION
1" = 5'-0"



4 NORTH COLUMBUS STREET - PLAN
1" = 2'-0"



1 KEY PLAN
1" = 50'-0

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02/17/17	CONCEPT 2 SUBMISSION
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08/24/17	DSUP SUBMISSION 3

COMMONWEALTH OF VIRGINIA
MARK C. GIONET
Lic. No. 000279
08.24.17
LANDSCAPE ARCHITECT

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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

SITE SECTIONS

APPROVED 2016-0041
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
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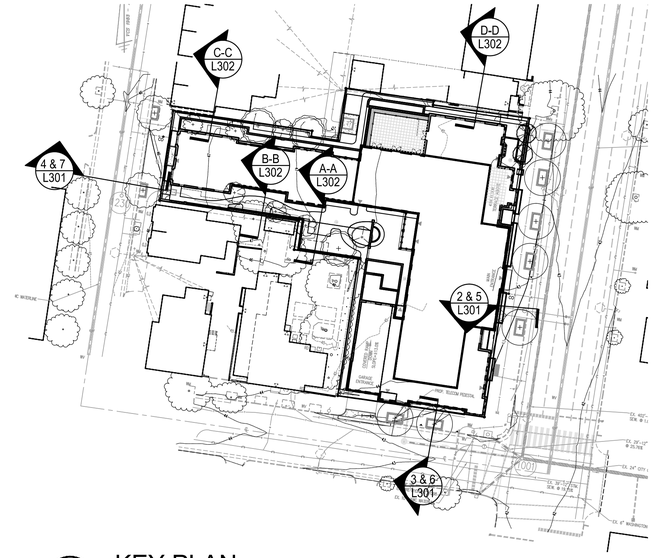
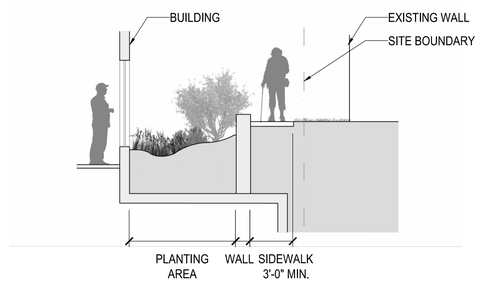


1 KEY PLAN
1" = 50'-0



C-C SECTION
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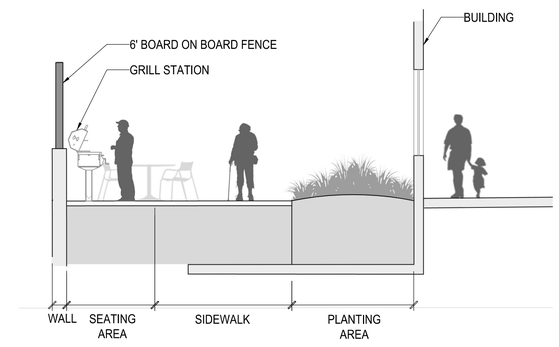
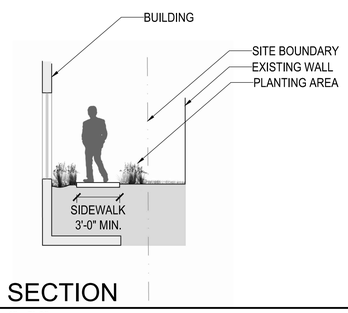
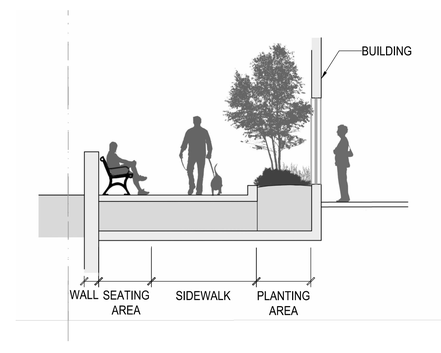


A-A SECTION



D-D SECTION
1"= 5'-0"



B-B SECTION

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08.24.17
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NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
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CITY OF ALEXANDRIA, VIRGINIA

SITE SECTIONS

APPROVED 2016-0041
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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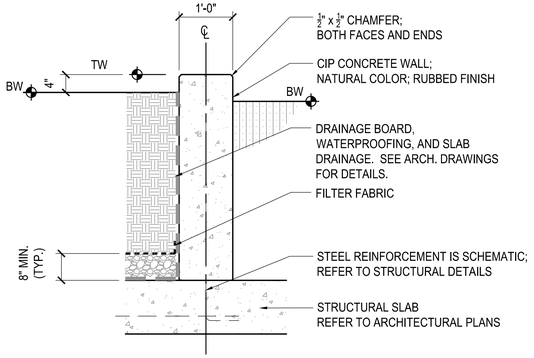
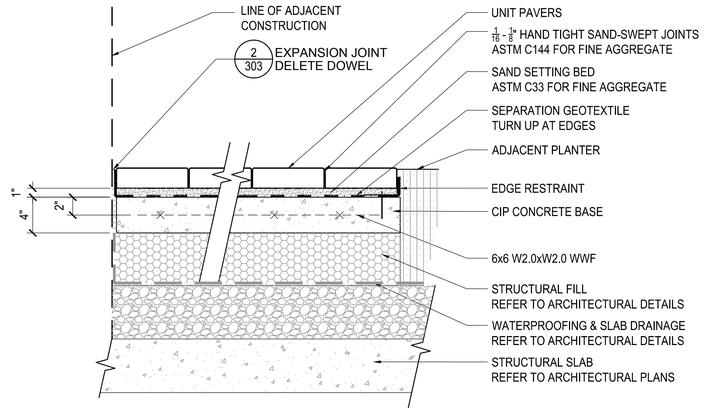


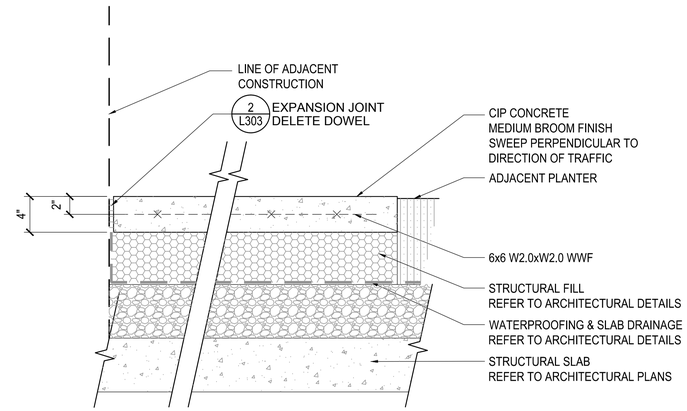
NOTES:
1 ADJACENT CONDITIONS VARY. REFER TO PLANS.

6 PLANTER WALL
3/4" = 1' - 0"

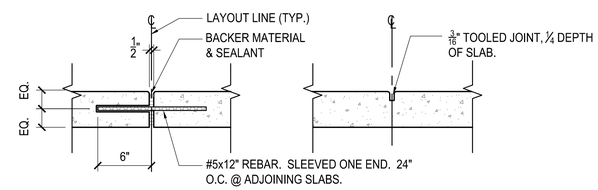


NOTES:
1. EDGE RESTRAINT: 2½ x 4 x 3/16" GALVANIZED STEEL ANGLE, AFFIXED TO TOP OF SLAB W/ EXPANSION ANCHORS, MIN. 24" O.C. INSTALL PAVER COURSES IN STRAIGHT LINES AND TRUE ARCS AND TANGENTS.
1. FOR ALL CUTS, REPLICATE EDGE CONDITION OF UNCUT UNIT.
2. INSTALL CUT UNITS MIN. 10 UNITS FROM ENDS OF COURSE. CUT UNITS LESS THAN ½ PAVER DIMENSION ARE PROHIBITED. REMOVE CUT UNIT AND 2 ADJACENT UNITS; INSTALL 3 EQUAL CUT UNITS.
3. FOR RADIAL COURSES, INSTALL SYMMETRICALLY CUT UNITS AT REGULAR INTERVALS. CUT EACH UNIT FOR SMALLER RADII AND AS DIRECTED BY ARCHITECT.

4 UNIT PAVING ON STRUCTURE
1 1/2" = 1'-0"

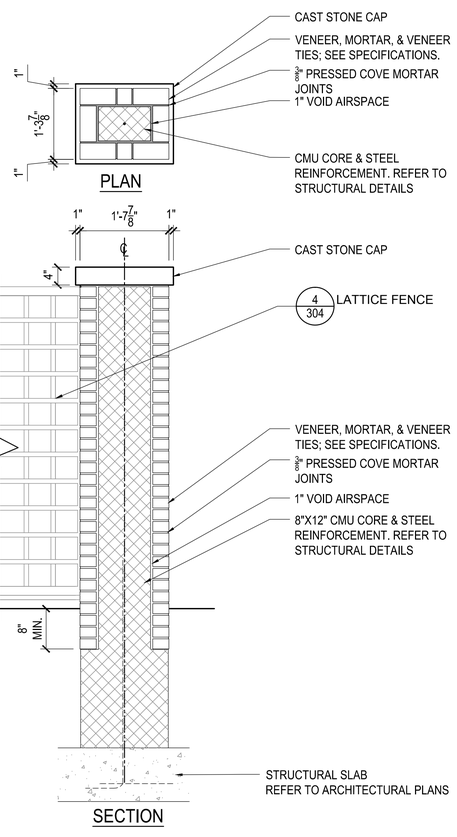


1 CONCRETE PAVING ON STRUCTURE
1 1/2" = 1'-0"

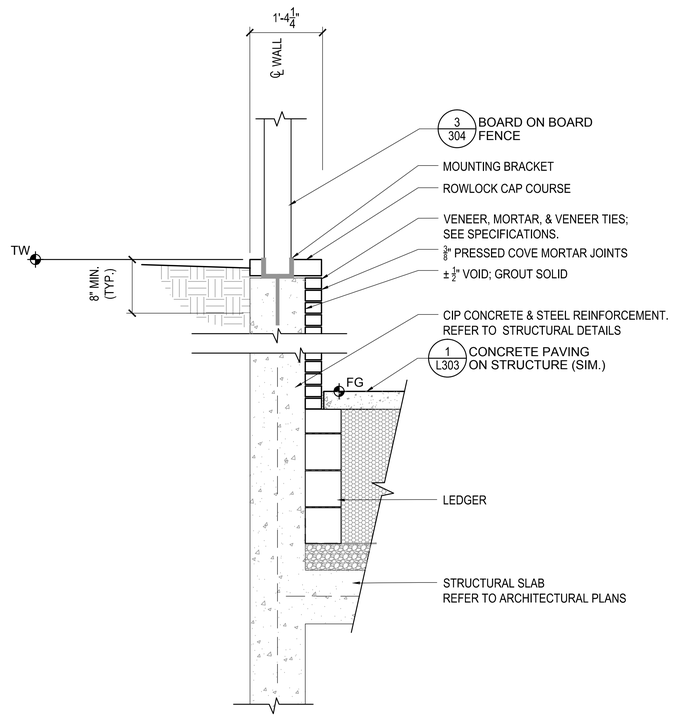


NOTES:
1. INSTALL CONTROL JOINTS AT EQUAL INTERVALS OF 5'-0" EACH WAY UNLESS OTHERWISE INDICATED.
2. INSTALL EXPANSION JOINTS @ 20'-0" INTERVALS MAX. EACH WAY, UNLESS OTHERWISE INDICATED, AND WHERE SLAB MEETS ANY ADJACENT STRUCTURE.
3. TOOL ALL EXPOSED EDGES W/ ¼" RADIUS.
4. RECESS EXPANSION JOINTS ¼" BELOW FINISH GRADE.
5. SAWCUT JOINTS ARE PROHIBITED.

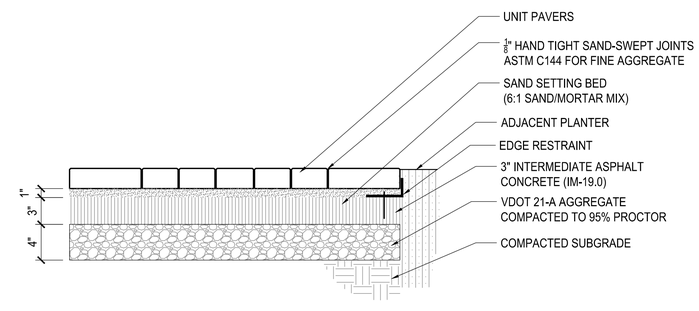
2 CONCRETE JOINTING
1 1/2" = 1'-0"



7 PIER



5 SITE WALL
3/4" = 1'-0"



3 UNIT PAVING ON GRADE
1 1/2" = 1'-0"

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COMMONWEALTH OF VIRGINIA
MARK C. GIONET
Lic. No. 000279
08-24-17
LANDSCAPE ARCHITECT

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SUNRISE SENIOR LIVING
400 N. WASHINGTON ST
DEVELOPMENT SPECIAL USE PERMIT WITH PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA

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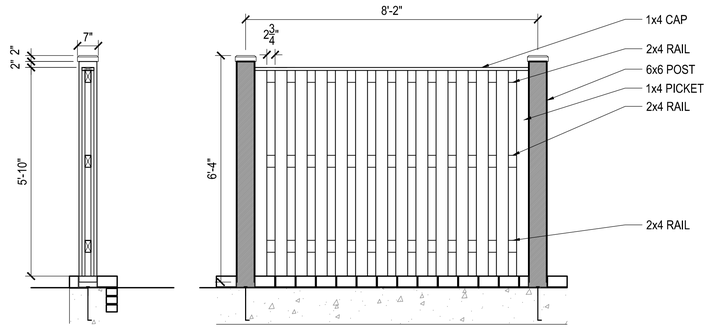
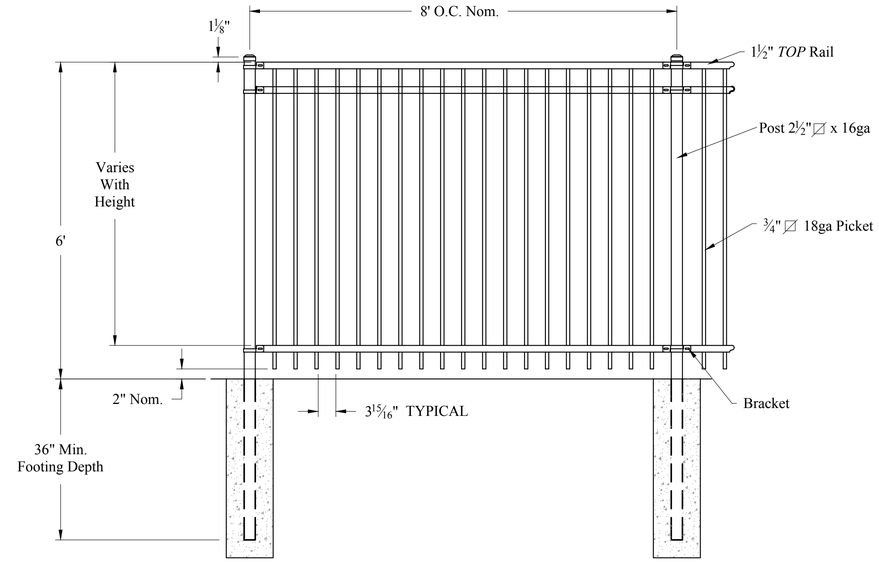


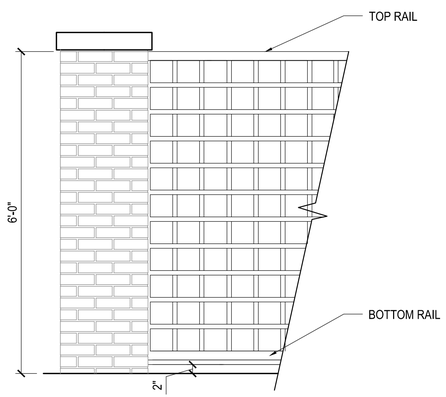
NOTE:
ALL LUMBER IS CELLULAR PVC.
COLOR: WHITE

3 BOARD ON BOARD FENCE

1/2" = 1'-0"



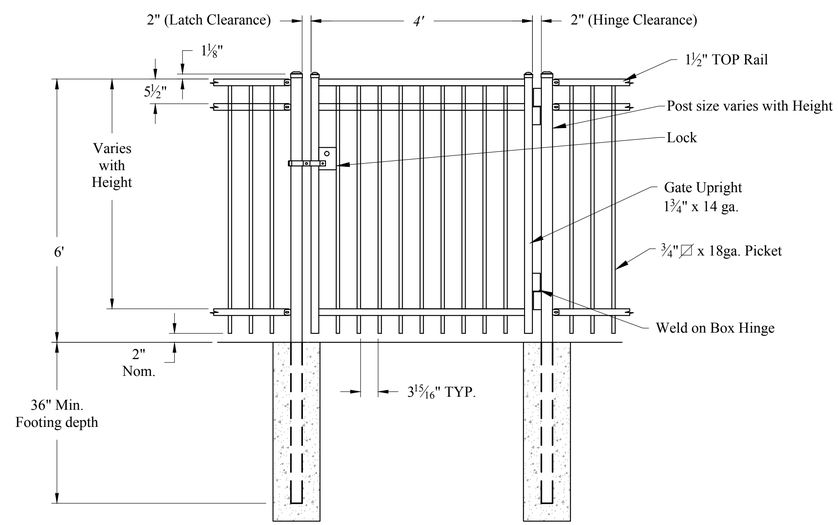
1 METAL PICKET FENCE



NOTE:
ALL LUMBER IS CELLULAR PVC. COLOR: WHITE

4 LATTICE FENCE

NTS



2 METAL PICKET FENCE GATE

NTS

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DOMINION VIRGINIA POWER
COLONIAL LIGHT FIXTURE WITH
STANDARD BLACK FINISH

9 DOMINION VIRGINA POWER COLONIAL LIGHT

MANUFACTURER: LUMIERE
MODEL: CAMBRIA 230
COLOR: BRONZE
FINISH: POWDER COAT

11 UP LIGHT

MANUFACTURER: PERFORMANCE LIGHTING
MODEL:071419
COLOR: IRON GRAY
FINISH: POWDER COAT

10 WALL LIGHT

MANUFACTURER: COUNTRY CASUAL
MODEL: 8521 - SENECA BISTRO TABLE
8525 - SENECA ARMCHAIR
8000 - EUCALYPTUS UMBRELLA
COLOR: NATURAL
FINISH: MFR'S STANDARD

5 TABLE & CHAIR SET

MANUFACTURER: TOURNESOL SITEWORKS
MODEL: CENTURION ROUND 30" X 21" X 24"
COLOR: TBD
FINISH: CONCRETE

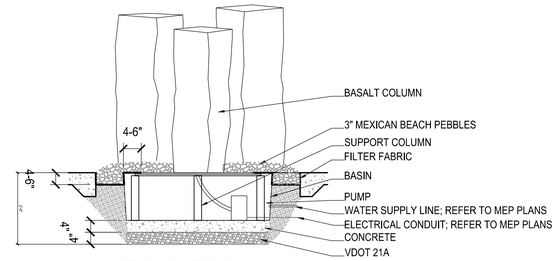
6 PLANTER

MANUFACTURER: TBD
MODEL: TBD
COLOR: BLACK
FINISH: POWDER COAT

7 BICYCLE RACK

GEORGE WASHINGTON
PARKWAY LIGHT FIXTURE WITH
STANDARD BLACK FINISH

8 GEORGE WASHINGTON PARKWAY STREET LIGHT



1 FOUNTAIN

NTS

MANUFACTURER: VICTOR STANLEY
MODEL: CLASSIC SERIES CR-96
COLOR: BLACK
FINISH: POWDER COATED ALUMINUM

2 BENCH TYPE 1

MANUFACTURER: COUNTRY CASUAL
MODEL: 4702 - COVENTRY
COLOR: NATURAL
FINISH: MFR'S STANDARD

3 BENCH TYPE 2

MANUFACTURER: VICTOR STANLEY
MODEL: SD-42
COLOR: BLACK
FINISH: POWDER COATED ALUMINUM

4 TRASH RECEPTACLE

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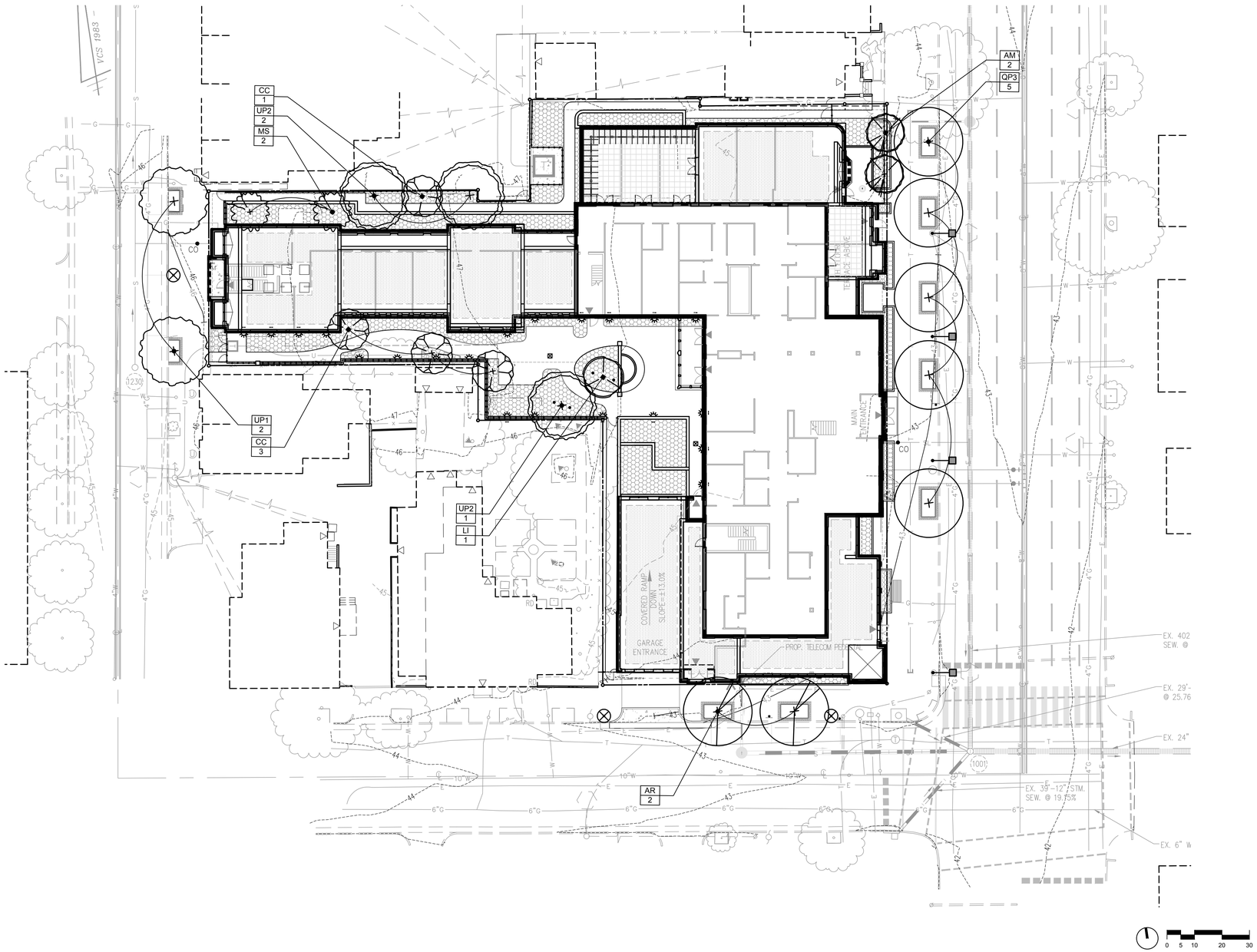

PLANTING LEGEND

SHRUB AND PERENNIAL PLANTING

GREEN ROOF PLANTING

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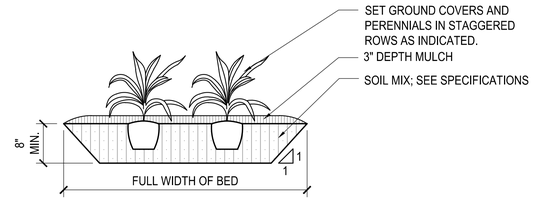
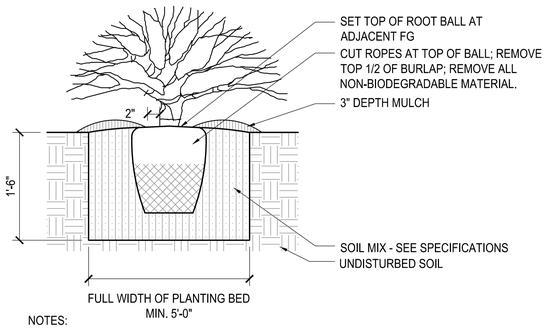
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

File No. ALEX Tax Map No. 064.02 Job No. 16-101 Cadd Dwg. File: G:\2017\17042.00 - Sunrise Assisted Living Alexandria\01 Caddocs\L-401.dwg

SHEET: L401



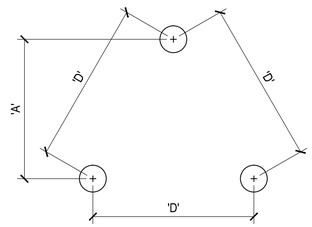
3 GROUND COVER PLANTING



NOTES:

1. FOR CONTAINER-GROWN SHRUBS, REMOVE CONTAINER WITHOUT CRACKING ROOT BALL AND MAKE (3) 1" DEEP VERTICAL CUTS, EQUALLY SPACED ABOUT ROOT BALL.

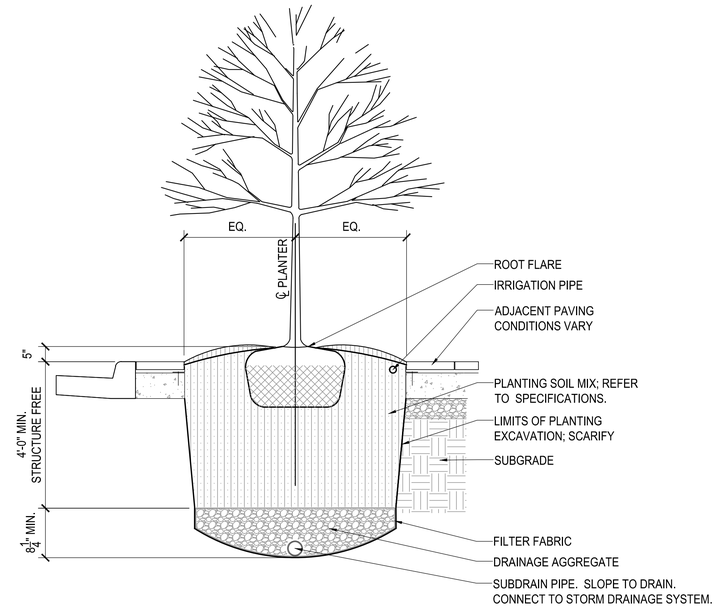
5 SHRUB PLANTING



PLANT (TYP.)

SPACING 'D'	ROW 'A'
8" O.C.	6.93" O.C.
10" O.C.	8.66" O.C.
12" O.C.	10.4" O.C.
18" O.C.	15.6" O.C.
24" O.C.	20.8" O.C.
36" O.C.	30.0" O.C.
48" O.C.	31.5" O.C.

4 GROUND COVER SPACING



1 TREE PLANTING - PIT

PLANT SCHEDULE: STREET TREES

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS	UNIT COVERAGE	TOTAL COVERAGE
AR	2	Acer rubrum	Red Maple	3" CAL	B&B	As Shown	MIN. BRANCHING HEIGHT 6`	1,250	2,500
QP3	5	Quercus palustris	Pin Oak	3" CAL	B&B	As Shown	MIN. BRANCHING HEIGHT 6`	1,250	6,250
UP1	2	Ulmus parvifolia	Chinese Elm	3" CAL	B&B	As Shown	MIN. BRANCHING HEIGHT 6`	1,250	2,500
								TOTAL:	11,250

PLANT SCHEDULE: ON SITE TREES TREES

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS	UNIT COVERAGE	SUBTOTAL	LESS 50% ON STRUCTURE DEDUCTION	TOTAL COVERAGE
MS	3	Magnolia virginiana	Sweet Bay	2.5" CAL	B&B	As Shown		250	750	375	375
UP2	3	Ulmus parvifolia `Emer II`	`Emer II` Allee Elm	3" CAL	B&B			1,250	3,750	1,250	2,500
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS				
TO	2	Thuja occidentalis `Techny`	Techny Arborvitae	8' HT.	B&B	As Shown		250	500	250	250
ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS				
AM	2	Acer palmatum	Green Leave Japanese Maple	2.5"Cal	B&B	8-10` HT,		250	500		500
CC	4	Cercis canadensis	Eastern Redbud	2.5"Cal	B&B	6`-8` H		500	2,000	750	1,250
LI	1	Lagerstroemia indica `Natchez`	Nachez Crape Myrtle	2.5"Cal	B&B	8-10` HT,	3-4 MULTISTEM SPECIMEN	250	250		250
										TOTAL:	5,125

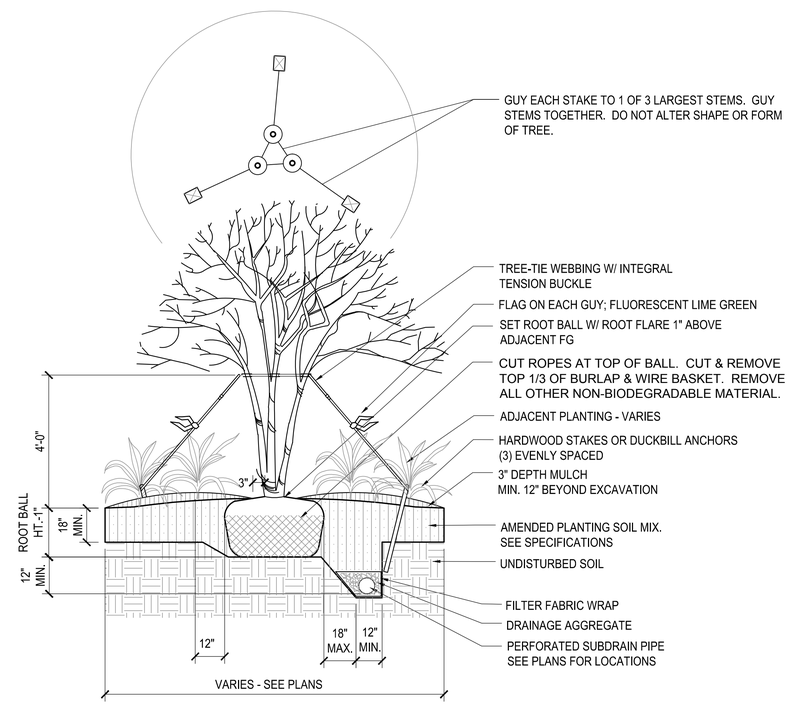
NOTES:

1. REFER TO SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: SOIL ANALYSES AND AMENDMENT RECOMMENDATIONS; SOURCE LIST AND PHOTOGRAPHS FOR INITIAL SELECTION; PHOTOGRAPHS FOR VERIFICATION.
2. REFER TO SPECIFICATIONS FOR TREE TAGGING REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. MEET REQUIREMENTS OF ANSI Z60.1, LATEST ADDITION, FOR ALL PLANT MATERIAL.
5. QUANTITIES GIVEN ARE FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR MEETING THE DESIGN INTENT, AS INDICATED ON PLANTING PLANS.
6. ALL PLANTS ARE TO BE HEALTHY, FULL, BALANCED, AND EXCEPTIONALLY HEAVY.
7. PROVIDE TURF PER SPECIFICATIONS IN ALL DISTURBED AREAS NOT OTHERWISE PLANTED OR PAVED.

6 PLANT SCHEDULE

CROWN COVERAGE REQUIREMENTS

TOTAL PARCEL AREA =	32,729 SF
REQUIRED CROWN COVERAGE (25%)=	8,182 SF
EXISTING CROWN COVERAGE TO REMAIN =	0 SF
TOTAL PROPOSED TREES ON SITE =	14 TREES
TOTAL PROPOSED STREET TREES =	9 TREES
EXISTING TREES OFF SITE TO REMAIN =	0 TREES
CROWN COVERAGE OF PROPOSED ON SITE TREES =	5,125 SF
CROWN COVERAGE OF PROPOSED OFF SITE TREES =	11,250 SF
CROWN COVERAGE OF EXISTING OFF SITE TREES =	0 SF
TOTAL CROWN COVERAGE PROVIDED TOWARD REQUIREMENT OF ZO 11-410.CC(2) =	5,125 SF
TOTAL ONSITE AND OFFSITE CROWN COVERAGE PROVIDED WITH THIS DEVELOPMENT =	16,375 SF



2 MULTI-STEM TREE PLANTING

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