LANDMARK MALL REDEVELOPMENT

PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

DATE: APRIL 15, 2022

PROJECT TEAM

APPLICANT
FOULGER-PRATT DEVELOPMENT, LLC
12435 PARK POTOMAC AVE
SUITE 200
POTOMAC, MD 20854
TEL. 240-499-9684
CONTACT: JAY KELLY

ATTORNEY
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700 NORTH FAIRFAX STREET
SUITE 600
ALEXANDRIA, VA 22314
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CONTACT: KENNETH WIRE

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URBAN, LTD.
4200D TECHNOLOGY COURT
CHANTILLY, VA 20151
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HORD COPLAN MACHT
1925 BALLENGER AVE
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ALEXANDRIA, VA 22314
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TRAFFIC ENGINEER
GOROVE SLADE
225 REINEKERS LANE
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TEL. 202-540-1926
CONTACT: ROBERT SCHIESEL, P.E.

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DAVIS UTILITY CONSULTING, LLC
3975 FAIR RIDGE DRIVE
SUITE 125-SOUTH
FAIRFAX, VA 22033
TEL. 703-945-9606
CONTACT: DAVIS GRAHAM

AREA TABULATIONS:

BLOCK K LOT AREA = 2.27 AC. 98,964 S.F.

ZONING TABULATIONS:

ON-SITE LOCATIONS / ADDRESSES: T.M. #047.02-03-11 / 5801 DUKE ST. ALEXANDRIA, VA 2231

TOTAL SITE/LOT AREAS: 98,964 SF OR 2.27 ACRES

EXISTING ZONE: CDD #29 (COORDINATED DEVELOPMENT DISTRICT #29)
PROPOSED ZONE: CDD #29 (COORDINATED DEVELOPMENT DISTRICT #29)

OPEN SPACE REQUIREMENTS: 24,741 SF (25% OF DEVELOPMENT AREA AT-OR ABOVE GRADE)
OPEN SPACE PROVIDED: 1,532 SF (AT-GRADE)
24,246 SF (ABOVE-GRADE)
TOTAL OPEN SPACE PROVIDED: 25,778 SF (26.05%)

EXISTING USE: SHOPPING CENTER
PROPOSED USE: MIXED-USE: - RESIDENTIAL, RETAIL

FLOOR AREA CALCULATION:

BUILDING K	GROSS AREA (SF)	NET FLOOR AREA (SF)
RETAIL	30,080	
RESIDENTIAL	350,550	
GARAGE/LOADING/SERVICE	127,550	
BUILDING K SUBTOTAL:	508,180	459,686

FLOOR AREA RATIO TABULATION (FAR):
PERMITTED F.A.R: 6.25*
PROPOSED F.A.R: 4.64

*690,000 SF PERMITTED FOR BLOC K PER CDD#2020-00007.

DENSITY:
BLOCK K: 349 UNITS (MULTIFAMILY)

PROPOSED DENSITY: 137.94 D.U/AC

MIN/MAX BLDG.: BLOCK K: SW: 70 FT. MIN, 180 FT. MAX.
HEIGHT PERMITTED: NE: 70 FT. MIN, 85 FT MAX.

BUILDING HEIGHT PROPOSED: BLOCK K: SW: 84 FT.
NE: 82 FT.

AVG. FINISHED GRADE: BLOCK K: 199.21 FT.

YARDS: REQUIRED: N/A PROPOSED: N/A

FRONTAGE: REQUIRED: N/A PROPOSED: N/A

PARKING TABULATIONS:

PARKING REQUIRED:

BLOCK K (RETAIL): RATIO: 3.9*SP/1,000 SF =30,080 S.F X 3.9/1,000= 118 SPACES
BLOCK K (MULTIFAMILY): RATIO: 1.2*UNIT =349 UNITS X 1.2= 291 SPACES
TOTAL PARKING REQUIRED: 409 SPACES

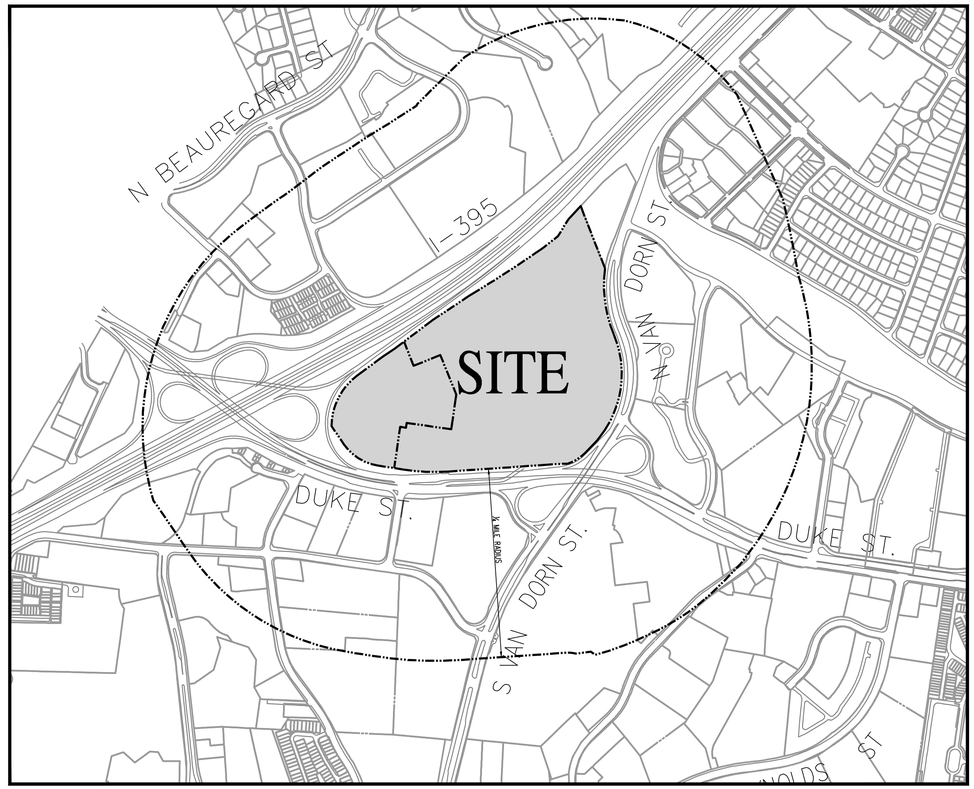
*PARKING RATIOS REFLECT THE APPROVED CDD#2020-00007.

PARKING PROVIDED:

BLOCK K (RETAIL): EX. GARAGE, BLOCKS E/G
BLOCK K (MULTIFAMILY): 322 SPACES
TOTAL PARKING PROVIDED: 322 SPACES
ON-STREET PARKING: 20 SPACES

LOADING SPACES REQUIRED: RATIO: 1/20,000 SF (RETAIL)=30,080 X 1/20,0000= 2 SPACES
LOADING SPACES PROVIDED: 2 SPACES

VICINITY MAP
SCALE: 1"=500'



TRIP GENERATION:

BLOCK K

Land Use	ITE Code	Size			Weekday AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	Weekday PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily Total
Proposed Development Program											
Residential											
Multifamily Housing (Mid-Rise) (Apartments, Townhomes, Condo; max 10 floors)	221	349	DU		30	87	117	90	57	147	1,900
Total Residential w/o Reductions					30	87	117	90	57	147	1,900
Internal Trip Capture Reduction					-1	-4	-5	-14	-11	-25	-378
Total Residential w/ Internal Capture Reductions					*29*	*83*	*112*	*76*	*46*	*122*	*1,522*
Non-Auto Mode Share Reduction[1]		50%			-14	-41	-56	-38	-23	-61	-761
Subtotal (Residential Trips with Internal Capture and Non-Auto Mode Share Reduction)					*14*	*41*	*56*	*38*	*23*	*61*	*761*
Total External Residential Trips					**14**	**41**	**56**	**38**	**23**	**61**	**761**
Retail											
Shopping Center	820	30	ksf of GLA		17	11	28	55	60	115	2,656
Total Retail w/o Reductions					17	11	28	55	60	115	2,656
Internal Trip Capture Reductions					-3	-4	-7	-7	-7	-13	-260
Total Retail w/ Internal Capture Reductions					*14*	*7*	*21*	*48*	*53*	*102*	*2,396*
Non-Auto Mode Share Reduction[1]		35%			-5	-2	-7	-17	-19	-36	-839
Subtotal (Retail Trips with Internal Capture and Non-Auto Mode Share Reduction)					*9*	*4*	*13*	*31*	*35*	*66*	*1,557*
Passby Reduction		20%/30%/ 20%	AM/PM/D ally		-2	-1	-3	-9	-10	-20	-311
Subtotal (Retail Trips with Internal Capture, Non-Auto Mode Share , and Pass By Reduction)					*8*	*4*	*11*	*23*	*24*	*46*	*1,246*
Total External Retail Trips					**8**	**4**	**11**	**23**	**24**	**46**	**1,246**
OVERALL NON-AUTO MODE TRIPS					**-19**	**-44**	**-63**	**-55**	**-42**	**-97**	**-1,599**
OVERALL DEVELOPMENT TRIPS					**22**	**45**	**66**	**61**	**47**	**108**	**2,007**

SHEET INDEX

Sheet List Table

Sheet Number	Sheet Title		
01	COVER SHEET	A1.0	CODE ANALYSIS
03-02	GENERAL NOTES & DETAILS	A2.1	LEVEL P1 PLAN
04	PROPERTY EXHIBIT	A2.2	LEVEL 1 PLAN
05	CONTEXTUAL PLAN	A2.3	LEVEL 2 PLAN
06	OVERALL EXISTING CONDITIONS	A2.4	LEVEL 3 PLAN
07	EXISTING CONDITIONS	A2.5	LEVEL 4 PLAN
08	OVERALL CONCEPT PLAN	A2.6	LEVEL 5-6 PLAN
09	CONCEPT PLAN	A2.7	LEVEL 7 PLAN
11	GRADING PLAN	A3.0 - A3.1	AREA PLANS
10	UTILITY PLAN	A4.1 - A4.3	ELEVATIONS
12	SANITARY SEWER PLAN	A5.1	SECTIONS
13	SANITARY SEWER COMPUTATIONS	A6.1	PERSPECTIVES
14	SWM PRE DEVELOPMENT PLAN	51	GREEN BUILDING APPROACH
15	SWM POST DEVELOPMENT PLAN		
16-18	SWM COMPS & NARRATIVE		
19	BMP PLAN		
20	BMP COMPS & NARRATIVE		
21	WQVD DATA BLOCKS		
22	OPEN SPACE MASTER PLAN		
23	OPEN SPACE PLAN		
24	PEDESTRIAN EXHIBIT		
25	FIRE SERVICE PLAN		
26	OVERALL TREE INVENTORY PLAN		
27-28	TREE INVENTORY PLAN		
29	TREE INVENTORY COMPUTATIONS		
30-31	AUTOTURN EXHIBIT		
32	LANDSCAPE PLAN		
L101	REFERENCE PLAN		
L102	MATERIAL + PLANTING PLAN		
L103	PLANTING SCHEDULE + NOTES		

PROJECT NARRATIVE:

DESCRIPTION OF DEVELOPMENT:

THE OVERALL LANDMARK PARCEL IS BORDERED TO THE NORTH BY HENRY G. SHIRLEY MEMORIAL HWY (I-395), TO THE SOUTHEAST BY DUKE STREET, AND TO THE EAST BY VAN DORN STREET. SPECIFIC TO THIS SITE, BLOCK N BORDERS THE SITE TO THE NORTH (VS. BLOCK E&G), TO THE SOUTHWEST BY FUTURE BLOCKS L, J AND H, AND TO THE SOUTHEAST BY FUTURE BLOCKS M AND I.

THE PURPOSE OF THE REDEVELOPMENT FOR BLOCK K IS TO ALLOW FOR A RANGE OF USES ACROSS THE SITE. THESE USES WOULD INCLUDE RETAIL AND RESIDENTIAL UNITS. THESE USES MAY BE IMPLEMENTED ANYWHERE ON THE SITE, SUBJECT TO CAPACITY OF INFRASTRUCTURE.

SPECIAL AMENITIES:

AS PART OF THE OVERALL PROPOSED DEVELOPMENT FOR THE SITE, THE APPLICANT PROPOSES TO PROVIDE SPECIAL AMENITIES INCLUDING A MINIMUM 3.5 ACRES OF OPEN SPACE NETWORK TO INCLUDE A CENTRAL PARK, PASEO, AND TERRACE PARK, AS WELL AS NEIGHBORHOOD PARKS. COLLECTIVELY, THESE PARKS WILL PROVIDE A MIX OF ACTIVE AND PASSIVE USES, AS WELL AS A COMBINATION OF LANDSCAPE AND HARDSCAPE AREAS, FOR RESIDENTS AND VISITORS ALIKE.

IN ADDITION TO THE PARKS, THE SITE SHALL ALSO FEATURE A FIRE STATION AND A CENTRALLY LOCATED TRANSIT HUB TO PROVIDE BUS TRANSIT SERVICES TO BOTH RESIDENTS AND THE SURROUNDING COMMUNITY.

THE CDD CONDITIONS OUTLINED THE AMENITIES REQUIRED WITH THE INFRASTRUCTURE PLAN. THOSE AMENITIES HAVE BEEN PROVIDED HEREIN.

ADJACENT PROPERTIES:

OVERALL, ANY ADJACENT PROPERTIES ARE SEPARATED FROM THE SITE BY MAJOR ROADWAYS, AND IN COMBINATION WITH STEPS PROPOSED BELOW, THE APPLICANT DOES NOT ANTICIPATE ADVERSE EFFECTS FOR THOSE PROPERTIES AS A RESULT OF THE PROPOSED DEVELOPMENT.

ADJACENT PROPERTIES SHALL BE PROTECTED FROM ADVERSE EFFECTS VIA STANDARD EROSION AND SEDIMENT CONTROL MEASURES, ALONGSIDE EFFORTS TO REDUCE THE OVERALL RUNOFF FROM THE SITE. IN ADDITION, BOTH ON AND OFFSITE IMPROVEMENTS MITIGATING THE IMPACT OF ADDITIONAL TRAFFIC SHALL BE PROVIDED AS PART OF THE APPROPRIATE DSUP PHASES OF DEVELOPMENT, AND AS DETERMINED BY TRIGGERS PROVIDED IN THE TRAFFIC STUDY.

PRIMARY ACCESS TO THE SITE WILL BE FROM SIGNALIZED INTERSECTIONS ON DUKE AND VAN DORN STREETS.

LIST OF EXISTING APPROVALS:

- CDD2020-00007
- SUB2021-00003
- DSP2021-00012

LIST OF REQUESTED APPROVALS:

- DSUP#_____-_____

GREEN BUILDING POLICY STATEMENT

THE BUILDING ON BLOCK K WILL COMPLY WITH THE CITY'S CURRENT GREEN BUILDING POLICY AT THE TIME OF DSUP APPROVAL. PLEASE SEE SHEET 51.

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
04-15-2022
PROFESSIONAL ENGINEER

PLAN DATE	REVISION
12-10-2021	1ST SUBMISSION
04-15-2022	2ND SUBMISSION
-	
-	
-	
-	
-	
-	
-	
-	

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APPROVED
DEVELOPMENT SITE PLAN NO. _____
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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SITE TABULATIONS

DEVELOPMENT SUMMARY

Use	Floor Area	Residential Units	Hotel Keys	INOVA HOSPITAL CAMPUS Building A Floor Area	Building A Units	Building B Floor Area	Building B Units	Building C Floor Area	Building C Units
Hospital	464,467			464,467	-	-	-	-	-
Office	-			-	-	-	-	-	-
Medical Office	302,066			-	-	94,212	-	76,357	-
Multifamily	1,213,142	1,133 units		-	-	-	-	-	-
Affordable Multifamily	-	0 units		-	-	-	-	-	-
Senior Housing (AL/IL)	-	0 units		-	-	-	-	-	-
2-over-2 Townhomes	-	0 units		-	-	-	-	-	-
Traditional Townhomes	-	0 units		-	-	-	-	-	-
Condo Flats	-	0 units		-	-	-	-	-	-
Hotel	-		0 keys	-	-	-	-	-	-
Retail	123,080			-	-	-	-	-	-
Grocer	-			-	-	-	-	-	-
Firestation	-			-	-	-	-	-	-
Garage / Loading / Service				298,250 (TOTAL GARAGE)	-	-	-	-	-
Total	**2,102,755**	**1,133 units**	**0 keys**	**762,717**	**-**	**94,212**	**-**	**76,357**	**-**
FAR over Gross Land Area	**0.9373**								

Use	Block D Floor Area	Block D Units	Block E Floor Area	Block E Units	Block G Floor Area	Block G Units	Block H Floor Area	Block H Units
Hospital	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-
Medical Office	-	-	131,497	-	-	-	-	-
Multifamily	-	-	196,568	172	257,441	222	-	-
Affordable Multifamily	-	-	-	-	-	-	-	-
Senior Housing (AL/IL)	-	-	-	-	-	-	-	-
2-over-2 Townhomes	-	-	-	-	-	-	-	-
Traditional Townhomes	-	-	-	-	-	-	-	-
Condo Flats	-	-	-	-	-	-	-	-
Hotel	-	-	-	-	-	-	-	-
Retail	-	-	-	-	-	-	-	-
Grocer	-	-	-	-	-	-	-	-
Firestation	-	-	-	-	-	-	-	-
Garage / Loading / Service	-	-	-	-	-	-	-	-
Total	**-**	**-**	**328,065**	**172**	**257,441**	**222**	**-**	**-**

Use	Block I Floor Area	Block I Units	Block F Floor Area	Block F Units	Block N Floor Area	Block N Units	Block J Floor Area	Block J Units	Block K Floor Area	Block K Units
Hospital	-	-	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-	-	-
Medical Office	-	-	-	-	-	-	-	-	-	-
Multifamily	408,583	390	-	-	-	-	-	-	350,550	349
Affordable Multifamily	-	-	-	-	-	-	-	-	-	-
Senior Housing (AL/IL)	-	-	-	-	-	-	-	-	-	-
2-over-2 Townhomes	-	-	-	-	-	-	-	-	-	-
Traditional Townhomes	-	-	-	-	-	-	-	-	-	-
Condo Flats	-	-	-	-	-	-	-	-	-	-
Hotel	-	-	-	-	-	-	-	-	-	-
Retail	93,000	-	3,120	-	2,244	-	-	-	30,080	-
Grocer	-	-	-	-	-	-	-	-	-	-
Firestation	-	-	-	-	-	-	-	-	-	-
Garage / Loading / Service	-	-	-	-	-	-	-	-	127,550	-
Total	**501,583**	**390**	**3,120**	**-**	**2,244**	**-**	**-**	**-**	**508,180**	**349**

PARKING TABULATIONS

Parking Requirement	Parking Ratio	Totals	INOVA HOSPITAL CAMPUS Building A REQUIRED	Building A PROPOSED	Building B REQUIRED	Building B PROPOSED	Building C REQUIRED	Building C PROPOSED
PARKING RATES								
Hospital	1/ 2 BEDS		TBD	(SEE BELOW)	-	-	-	-
Office	3.2 / 1,000 GSF		-	-	-	-	-	-
Medical Office	3.8 / 1,000 GSF		-	-	408	(SEE BELOW)	335	(SEE BELOW)
Multifamily	1.2 / unit		-	-	-	-	-	-
Affordable Multifamily	0.8 / unit		-	-	-	-	-	-
Senior Housing (AL/IL)	0.7 / unit		-	-	-	-	-	-
2-over-2 Townhomes	2.0 / unit		-	-	-	-	-	-
Traditional Townhomes	2.0 / unit		-	-	-	-	-	-
Condo Flats	1.3 / unit		-	-	-	-	-	-
Hotel	0.7 / key		-	-	-	-	-	-
Retail	3.9 / 1,000 GSF		-	-	-	-	-	-
Grocer	50 spaces		-	-	-	-	-	-
Firestation			-	-	-	-	-	-
VEHICLE PARKING								
STANDARD PARKING SPACES			-	TBD	-	TBD	-	TBD
COMPACT PARKING SPACES			-	TBD	-	TBD	-	TBD
HANDICAP PARKING SPACES (NON-VAN)			-	TBD	-	TBD	-	TBD
HANDICAP PARKING SPACES (VAN)			-	TBD	-	TBD	-	TBD
TOTAL PARKING PROVIDED:		**3,969**			1,510			
PARKING PROVIDED IN EXISTING GARAGE					550 (EXISTING GARAGE)			
PARKING PROVIDED IN PROPOSED GARAGE					960 (ABOVE GRADE GARAGE + BELOW GRADE GARAGE)			
LOADING SPACES								
BICYCLE PARKING								

Parking Requirement	Block D REQUIRED	Block D PROPOSED	Block E REQUIRED	Block E PROPOSED	Block G REQUIRED	Block G PROPOSED	Block H REQUIRED	Block H PROPOSED
PARKING RATES								
Hospital	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-
Medical Office				478				
Multifamily	-	-	-	209	-	288	-	-
Affordable Multifamily	-	-	-	-	-	-	-	-
Senior Housing (AL/IL)	-	-	-	-	-	-	-	-
2-over-2 Townhomes	-	-	-	-			-	-
Traditional Townhomes	-	-	-	-	-	-	-	-
Condo Flats	-	-	-	-	-	-	-	-
Hotel	-	-	-	-	-	-	-	-
Retail	-	-	-	218	-	114	-	-
Grocer	-	-	-	-	-	-	-	-
Firestation	-	-	-	-	-	-	-	-
VEHICLE PARKING								
STANDARD PARKING SPACES	-	-	-	405	-	127	-	-
COMPACT PARKING SPACES	-	-	-	462	-	260	-	-
HANDICAP PARKING SPACES (NON-VAN)	-	-	-	30	-	10	-	-
HANDICAP PARKING SPACES (VAN)	-	-	-	8	-	5	-	-
TOTAL PARKING PROVIDED:	-	-	-	905	-	402	-	-
PARKING PROVIDED IN EXISTING GARAGE	-	-	-	905	-	402	-	-
PARKING PROVIDED IN PROPOSED GARAGE	-	-	-	-	-	-	-	-
LOADING SPACES								
BICYCLE PARKING								

Parking Requirement	Block I REQUIRED	Block I PROPOSED	BLOCK F REQUIRED	BLOCK F PROPOSED	BLOCK N REQUIRED	BLOCK N PROPOSED	Block J REQUIRED	Block J PROPOSED	Block K REQUIRED	Block K PROPOSED
PARKING RATES										
Hospital	-	-	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-	-	-
Medical Office										
Multifamily	-	507	-	-	-	-	-	-	-	322
Affordable Multifamily	-	-	-	-	-	-	-	-	-	-
Senior Housing (AL/IL)	-	-	-	-	-	-	-	-	-	-
2-over-2 Townhomes	-	-		-		-	-	-	-	-
Traditional Townhomes	-	-	-	-	-	-	-	-	-	-
Condo Flats	-	-	-	-	-	-	-	-	-	-
Hotel	-	-	-	-	-	-	-	-	-	-
Retail	-	323	-	-	-	-	-	-	-	EX. GARAGE, BLOCKS E/G
Grocer	-	-	-	-	-	-	-	-	-	
Firestation	-	-	-	-	-	-	-	-	-	-
VEHICLE PARKING										
STANDARD PARKING SPACES	-	131	-	-	-	-	-	-	-	128
COMPACT PARKING SPACES	-	673	-	-	-	-	-	-	-	184
HANDICAP PARKING SPACES (NON-VAN)	-	24	-	-	-	-	-	-	-	8
HANDICAP PARKING SPACES (VAN)	-	2	-	-	-	-	-	-	-	2
TOTAL PARKING PROVIDED:	-	830	-	-	-	-	-	-	-	322
PARKING PROVIDED IN EXISTING GARAGE	-	830	-	-	-	-	-	-	-	-
PARKING PROVIDED IN PROPOSED GARAGE	-	-	-	-	-	-	-	-	-	322
LOADING SPACES		3								2
BICYCLE PARKING										

ZONING TABULATIONS

Zoning Requirement	INOVA HOSPITAL CAMPUS Building A	Building B	Building C
		PROPOSED	
LOT AREA (SQ. FT.)		452,343 (COMBINED INOVA HOSPITAL CAMPUS AREA)	
LOT WIDTH (FT.)		-	
FRONT YARD (FT.)		-	
SIDE YARD (FT.)		-	
REAR YARD (FT.)		-	
FLOOR AREA (SQ. FT.)		933,286 (COMBINED FLOOR AREA FOR BUILDINGS A,B,C)	
FAR (PER LOT)		2.06 (COMBINED FAR FOR BUILDINGS A,B,C)	
OPEN SPACE (SF / %)		15%	
GROUND FLOOR		53,530	
ABOVE GROUND		10,000	
TOTAL OPEN SPACE		62,530	
AVERAGE FINISHED GRADE (FT.)	216.34 (PROPOSED)	209.86 (PROPOSED)	212.07 (PROPOSED)
MAX. BUILDING HEIGHT (FT.)	159	52	60
CROWN COVERAGE (SQ. FT.)	-	-	-
MAX. RESI DENTISTY (UNITS/AC.)	-	-	-
Dwelling Unit Summary	-	-	-
STUDIO UNITS	-	-	-
ONE BEDROOM UNITS	-	-	-
ONE BEDROOM DEN UNITS	-	-	-
TWO BEDROOM UNITS	-	-	-
TWO BEDROOM DEN UNITS	-	-	-
LOADING SPACES	1	1	1
TRIP GENERATION (ADT)	5,774	910	3,317

Zoning Requirement	Block D REQUIRED	Block D PROPOSED	Block E REQUIRED	Block E PROPOSED	Block G REQUIRED	Block G PROPOSED	Block H REQUIRED	Block H PROPOSED
LOT AREA (SQ. FT.)	-	-	-	100,225	-	56,428	-	-
LOT WIDTH (FT.)	-	-	-	-	-	-	-	-
FRONT YARD (FT.)	-	-	-	-	-	-	-	-
SIDE YARD (FT.)	-	-	-	-	-	-	-	-
REAR YARD (FT.)	-	-	-	-	-	-	-	-
FLOOR AREA (SQ. FT.)	-	-	-	328,065	-	257,441	-	-
FAR (PER LOT)	-	-	-	3.27	-	4.56	-	-
OPEN SPACE (SF / %)	-	-	-	34.17%	-	25.30%	-	-
GROUND FLOOR	-	-	-	-	-	-	-	-
ABOVE GROUND	-	-	-	-	-	-	-	-
TOTAL OPEN SPACE	-	-	-	34,111	-	14,113	-	-
AVERAGE FINISHED GRADE (FT.)	-	-	-	200.55	-	198.58	-	-
MAX. BUILDING HEIGHT (FT.)	-	-	-	98 / 85	-	85	-	-
CROWN COVERAGE (SQ. FT.)	-	-	-	-	-	-	-	-
MAX. RESI DENTISTY (UNITS/AC.)	-	-	-	-	-	-	-	-
Dwelling Unit Summary	-	-	-	TBD	-	TBD	-	-
STUDIO UNITS	-	-	-	TBD	-	TBD	-	-
ONE BEDROOM UNITS	-	-	-	TBD	-	TBD	-	-
ONE BEDROOM DEN UNITS	-	-	-	TBD	-	TBD	-	-
TWO BEDROOM UNITS	-	-	-	TBD	-	TBD	-	-
TWO BEDROOM DEN UNITS	-	-	-	TBD	-	TBD	-	-
LOADING SPACES	-	-	-	3	-	2	-	-
TRIP GENERATION (ADT)	-	-	-	7,482	-	2,073	-	-

Zoning Requirement	Block I REQUIRED	Block I PROPOSED	Block F REQUIRED	Block F PROPOSED	Block N REQUIRED	Block N PROPOSED	Block J REQUIRED	Block J PROPOSED	Block K REQUIRED	Block K PROPOSED
LOT AREA (SQ. FT.)	-	112,066	-	112,495	-	112,495	-	-	-	98,964
LOT WIDTH (FT.)	-	-	-	-	-	-	-	-	-	-
FRONT YARD (FT.)	-	-	-	-	-	-	-	-	-	-
SIDE YARD (FT.)	-	-	-	-	-	-	-	-	-	-
REAR YARD (FT.)	-	-	-	-	-	-	-	-	-	-
FLOOR AREA (SQ. FT.)	-	485,000	-	-	-	-	-	-	-	459,686
FAR (PER LOT)	-	4.33	-	-	-	-	-	-	-	4.64
OPEN SPACE (SF / %)	-	34.93%	-	-	-	-	-	-	-	28.16%
GROUND FLOOR	-	6,123	-	-	-	-	-	-	-	4,771
ABOVE GROUND	-	33,017	-	-	-	-	-	-	-	23,102
TOTAL OPEN SPACE	-	39,140	-	-	-	-	-	-	-	27,873
AVERAGE FINISHED GRADE (FT.)	-	193.00	-	-	-	-	-	-	-	199.21
MAX. BUILDING HEIGHT (FT.)	-	85	-	-	-	-	-	-	-	85
CROWN COVERAGE (SQ. FT.)	-	-	-	-	-	-	-	-	-	-
MAX. RESI DENTISTY (UNITS/AC.)	-	-	-	-	-	-	-	-	-	-
Dwelling Unit Summary	-	-	-	-	-	-	-	-	-	TBD
STUDIO UNITS	-	-	-	-	-	-	-	-	-	TBD
ONE BEDROOM UNITS	-	-	-	-	-	-	-	-	-	TBD
ONE BEDROOM DEN UNITS	-	-	-	-	-	-	-	-	-	TBD
TWO BEDROOM UNITS	-	-	-	-	-	-	-	-	-	TBD
TWO BEDROOM DEN UNITS	-	-	-	-	-	-	-	-	-	TBD
LOADING SPACES	-	3	-	-	-	-	-	-	-	2
TRIP GENERATION (ADT)	-	5,173	-	-	-	-	-	-	-	2,159

APPROVED
DEVELOPMENT SITE PLAN NO. ____________
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. ____________

REVISIONS

No.	DATE	DESCRIPTION

PLAN DATE
12-10-2021
04-15-2022

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Planners• Engineers• Landscape Architects• Land Surveyors
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www.urban-ltd.com

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
04-15-2022
PROFESSIONAL ENGINEER

GENERAL NOTES & DETAILS
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: N/A C.I.= N/A DATE: DEC., 2021

SHEET 02 OF 51

FILE No. DSUP-13080

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-K\concept 2\13080-02A-GNOTES.dwg [GNOTES1] April 15, 2022 - 11:06am yelasri

GENERAL NOTES

1. THE SUBJECT SITE IS LOCATED ON THE FOLLOWING CITY OF ALEXANDRIA ASSESSMENT MAP NO.s: LOT 602 LANDMARK MALL REDEVELOPMENT R/S: 047.02-03-11 (5801 DUKE ST), AND IS ZONED CDD.
2. OWNER: LANDMARK LAND HOLDINGS, LLC C/O FOULGER-PRATT DEVELOPMENT, LLC
3. ADDRESS: 12435 PARK POTOMAC AVE, SUITE 200, POTOMAC, MD, 20854
4. THE SITE IS LOCATED IN THE HOLMES RUN WATERSHED.
5. CONSTRUCTION PERMITS ARE REQUIRED FOR THIS PROJECT. THE APPROVED SITE PLAN MUST BE ATTACHED TO THE PERMIT APPLICATION THAT FULLY DETAILS THE CONSTRUCTION AS WELL AS LAYOUTS AND SCHEMATICS OF THE MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS.
6. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC EASEMENTS UNLESS OTHERWISE APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.
7. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND TO THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC).
8. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. IF CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO, STREETS, ALLEYWAYS, DRIVEWAY APRONS, SANITARY AND STORM SEWERS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER DROP INLET STRUCTURES ARE DAMAGED BY THE CONTRACTOR OR BY ACTIVITIES RELATING TO THE SITE CONSTRUCTION THEN THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.
9. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE DESIGNED PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.
10. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).
11. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.
12. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES, MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO RELEASE OF THE FINAL SITE PLAN. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSMP GENERAL PERMIT CAN BE FOUND ONLINE AT: http://www.dcr.virginia.gov/soil_and_water/vsmp.shtml.
13. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ), TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES), AND BUILDING AND FIRE CODE ADMINISTRATION SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
14. ANY WORK IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
15. THE PROPERTY ADDRESS MUST BE CLEARLY MARKED IN THE FRONT AND BACK OF THE PROPOSED DEVELOPMENT SITE DURING CONSTRUCTION FOR EMERGENCY RESPONSE PURPOSES IN CONTRASTING COLORS FOR EASY IDENTIFICATION.
16. THE APPLICANT SHALL CONTACT THE CRIME PREVENTION UNIT OF THE ALEXANDRIA POLICE DEPARTMENT AT 703-746-1920 REGARDING SECURITY HARDWARE FOR NEW CONSTRUCTION. THIS SHALL BE COMPLETED PRIOR TO ISSUANCE OF BUILDING PERMIT.
17. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES
18. A SEPARATE DEMOLITION IS REQUIRED FOR ALL WALLS 24" AND OVER IN HEIGHT FROM THE GRADE AND SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS. THIS FINAL SITE PLAN SHOWS LOCATION, PROPOSED GRADING, AND DESIGN OF ALL THE WALLS.
19. ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENTS SHALL BE OWNED AND MAINTAINED PRIVATELY.
20. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT-OF-WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.
21. ALL WATER FACILITY CONSTRUCTIONS SHALL CONFORM TO VIRGINIA AMERICAN WATER (VAW) STANDARDS AND SPECIFICATIONS. NO WORK CAN BE COMPLETED ON EXISTING AND PROPOSED WATER FACILITIES UNTIL ALL EASEMENTS AND AGREEMENTS WITH VAW ARE FINALIZED, EXECUTED AND RECORDED. DEVELOPER OR CONTRACTOR SHALL CONTACT VAW AT 703-706-3889 TO OBTAIN AN APPROVED PROPOSAL AND PAY ALL REQUIRED FEES, PRIOR TO THE START OF CONSTRUCTION, DEMOLITION AND INSPECTION OF WATER FACILITIES, INCLUDING, BUT NOT LIMITED TO, WATER MAINS, FIRE HYDRANTS, DOMESTIC AND FIRE SERVICE LINES. ALL THE PROPOSED WET TAPS ON AN EXISTING WATER MAIN SHALL BE CONSTRUCTED BY VAW.
22. PRIOR TO THE RELEASE OF THE FINAL SITE PLAN, A TRAFFIC CONTROL PLAN FOR CONSTRUCTION DETAILING PROPOSED CONTROLS TO TRAFFIC MOVEMENT, LANE CLOSURES, CONSTRUCTION ENTRANCES, HAUL ROUTES, AND STORAGE AND STAGING SHALL BE PROVIDED FOR INFORMATION PURPOSES; HOWEVER, AN AMENDED TRAFFIC CONTROL PLAN, IF REQUIRED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES SHALL BE SUBMITTED TO THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES ALONG WITH THE BUILDING PERMIT APPLICATION. THE FINAL SITE PLAN SHALL INCLUDE A STATEMENT "FOR INFORMATION ONLY" ON THE TRAFFIC CONTROL PLAN SHEETS.
23. THIS SITE IS NOT LOCATED WITHIN A COMBINED SEWER AREA.
24. THE SITE CONTAINS EXISTING STORM SEWER, SANITARY SEWER, WATERLINES, ELECTRIC, AND OVERHEAD UTILITY. THE SUBJECT PLAN PROPOSES THE ADDITION OF STORM SEWER, SANITARY SEWER, WATERLINES, ELECTRIC, AND TELECOMMUNICATION CONNECTIONS. SOME OF THE EXISTING UTILITIES WILL REMAIN BUT NEW ONES WILL BE ADDED.
25. THE APPLICANT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL SPECIAL PAVING MATERIAL INSTALLED WITHIN THE PUBLIC RIGHT OF WAY PER DEVELOPMENT CONDITION 2G.

ADDITIONAL NOTES

1. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
2. DEWATERING AND OTHER CONSTRUCTION RELATED DISCHARGE LIMITS TO THE SEWER SYSTEM ARE REGULATED BY ALEXRENEW PRETREATMENT. CONTRACTOR IS REQUIRED TO CONTACT ALEXRENEW'S PRETREATMENT COORDINATOR AT 703-721-3500 X2020.

EXISTING CONDITIONS SURVEY NOTES

1. HORIZONTAL DATUM* NORTH AMERICAN DATUM OF 1983, NAD83
   VERTICAL DATUM* NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88*
2. UTILITY INFORMATION, AS SHOWN ON THIS PLAN, IS TAKEN FROM THE RECORDS AND/OR FIELD SURVEY COMPLETED BY URBAN LTD., DATED 05/10/2012; AND CANNOT BE GUARANTEED. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-257-7777 AND 811 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION. THE CONSTRUCTION WORKERS AND CONTRACTOR(S) ARE ENCOURAGED TO VISIT DOMINION VIRGINIA POWER WEB SITE AT WWW.DOM.COM (KEYWORD SAFETY) FOR ADDITIONAL SAFETY INSTRUCTIONS.
3. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR/ENGINEER SHOULD DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.
4. THE BOUNDARY INFORMATION FOR THE SUBJECT SITE IS BASED ON A CURRENT FIELD SURVEY PREPARED BY URBAN LTD., DATED 02/01/2012 IN ACCORDANCE WITH THE REQUIREMENTS OF VIRGINIA ASSOCIATION OF LAND SURVEYORS.

* PER MEMORANDUM TO INDUSTRY, JULY 20, 2005; THE PLAN SHALL BE PREPARED USING VIRGINIA STATE PLANE (NORTHZONE) COORDINATES BASED ON NAD83 AND NAVD88; HOWEVER, IF THE CURRENT DRAWINGS ARE PREPARED USING NORTH AMERICAN DATUM OF 1927 (NAD27) AND NORTHGEODETIC VERTICAL DATUM OF 1929 (NGVD29) THEN THE AS-BUILT DRAWINGS SHALL PROVIDE A CONVERSION TABLE OF SANITARY AND STORM SEWER DATA IN THE NAD83 AND NAVD88 DATUMS.

ENVIRONMENTAL SITE ASSESSMENT

1. 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.
2. 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 THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4996.
3. UNLESS APPROVED BY THE DIRECTOR OF TRANSPORTATION & ENVIRONMENTAL SERVICES (T&ES) 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.

SANITARY FLOW COMPUTATIONS

TOTAL FLOW FROM BUILDING K=
300 GPD/UNIT * 352 UNITS + 200 GPD/1,000 S.F. * 28,454 S.F. = 111,291 GPD
PEAK FACTOR FLOW FROM BUILDING = 136,087 GPD * 4.0 = 445,164 OR 0.45 MGD

THE TOTAL ESTIMATED FLOW EXCEEDS 10,000 GPD AND IS THEREFORE SUBJECT MEMORANDUM TO INDUSTRY NO. 06-14, WHICH STATES THAT AT THE TIME OF THE FINAL SITE PLAN,

1. THE APPLICANT SHALL PROVIDE ADEQUATE SANITARY SEWER OUTFALL ANALYSIS, AS GENERALLY DESCRIBED BELOW, SUFFICIENT TO DETERMINE EXISTING AND FUTURE FLOWS IN THE CITY-OWNED SEWERS THAT ARE USED BY THE DEVELOPMENT/REDEVELOPMENT PROJECT. THE SANITARY SEWER ADEQUATE OUTFALL ANALYSIS SHALL BE COMPLETED UP TO THE TRUNK SEWER DOWNSTREAM WITH A MINIMUM DIAMETER OF 24" OR TO A POINT AS DIRECTED BY T&ES STAFF.
2. THE APPLICANT SHALL PROVIDE AN ESTIMATE OF THE AVERAGE DAY AND PEAK WASTEWATER FLOW DISCHARGED UPSTREAM AND DOWNSTREAM OF THE DEVELOPMENT SITE UNDER EXISTING CONDITIONS AND THE CONTRIBUTION OF SANITARY FLOW FROM THE PROPOSED DEVELOPMENT SITE TO THE TRUNK SEWER USING THE FACTORS DESCRIBED BELOW:

A. AVERAGE DESIGN FLOWS:
I. SINGLE FAMILY HOME/TOWNHOUSE 350 GPD/UNIT
II. MULTI-FAMILY (CONDO, APARTMENT) 300 GPD/UNIT
III. OFFICE/RETAIL 200 GPD/1000 S.F.
IV. HOTEL 130 GPD/ROOM
B. THE SANITARY SEWERS SHALL BE DESIGNED FOR PEAK FLOW USING A PEAKING FACTOR OF 4 APPLIED TO THE AVERAGE FLOW.
C. AT THE DISCRETION OF T&ES STAFF, EXISTING CONDITIONS PEAK FLOWS, BASED ON LONG-TERM MONITORING AND/OR SEWER MODELING, MAY BE AVAILABLE TO THE APPLICANT FOR USE IN DETERMINING SANITARY SEWER CAPACITY.
D. SHORT-TERM TEMPORARY FLOW MONITORING OR WATER METER DATA MAY NOT BE USED IN LIEU OF COMPUTING EXISTING FLOWS. LONG-TERM MONITORING MAY BE USED SUBJECT TO THE APPROVAL OF THE DIRECTOR OF T&ES.

3. IN LIEU OF THE ESTIMATION OF THE AVERAGE DAY AND PEAK HOUR WASTEWATER FLOW, THE DIRECTOR OF T&ES AT HIS DISCRETION MAY REQUEST THE APPLICANT TO MEASURE THE SANITARY FLOW UPSTREAM AND DOWNSTREAM OF THE PROPOSED DEVELOPMENT SITE TO DETERMINE THE CURRENT SANITARY FLOW DISCHARGED INTO THE TRUNK SEWER UPSTREAM OF THE DEVELOPMENT SITE AND THE CURRENT CONTRIBUTION OF THE SANITARY FLOW TO THE TRUNK SEWER FROM THE DEVELOPMENT SITE UNDER EXISTING CONDITIONS.
4. THE APPLICANT SHALL ESTIMATE ADDITIONAL AVERAGE DAY AND PEAK HOUR WASTEWATER FLOW TO BE DISCHARGED INTO THE TRUNK SEWER FROM THE PROPOSED DEVELOPMENT SITE UNDER PROPOSED CONDITIONS USING THE FACTORS DESCRIBED ABOVE.
5. THE SANITARY SEWER ADEQUATE OUTFALL ANALYSIS SHALL ACCOUNT FOR THE EXISTING AND FUTURE NEEDS.
6. THE CITY OF ALEXANDRIA, AT ITS DISCRETION, WILL PROVIDE THE APPLICANT WITH ANY READILY AVAILABLE DATA TO ASSIST IN COMPLETION OF THE ADEQUATE OUTFALL ANALYSIS. THE ADDITIONAL PARAMETERS REQUIRED TO COMPLETE THE ANALYSIS SHALL BE FIELD MEASURED (I.E., LENGTH, PIPE DIAMETER, MATERIAL OF CONSTRUCTION, AND SLOPE, ETC.) AND/OR ESTIMATED (I.E., MANNING'S ROUGHNESS COEFFICIENT) BY THE APPLICANT. THE APPLICANT SHALL USE THE CRITERIA ESTABLISHED BY THE ENGINEERS AND SURVEYORS (ESI) INSTITUTE, AS SHOWN ON THE ESI CHECK LIST, WHERE APPLICABLE.
7. THE APPLICANT SHALL PROVIDE ALL THE MEASURED AND/OR ESTIMATED DATA AND CALCULATIONS ON THE ADEQUATE SANITARY SEWER OUTFALL ANALYSIS ON THE PLANS FOR REVIEW BY THE CITY STAFF.
8. THE INCREASED PEAK FLOW WILL BE PLACED IN THE CITY OF ALEXANDRIA WASTEWATER FLOW CAPACITY REGISTRY TO DETERMINE THAT THE CITY HAS SUFFICIENT TREATMENT CAPACITY AVAILABLE IN THE ALEXANDRIA SANITATION AUTHORITY (ASA) ADVANCED WASTEWATER TREATMENT PLANT (A WWTP) AND IN VARIOUS INTERCEPTOR SEWERS IN THE CITY OF ALEXANDRIA.
9. SANITARY SEWER SYSTEMS THAT SERVE OVER 400 PEOPLE REQUIRE THE APPROVAL OF THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ). THEREFORE, THE APPLICANT SHALL COMPLY WITH ALL THE REGULATORY REQUIREMENTS OF THE STATE OF VIRGINIA.
10. THE INSTALLATION OF PLUMBING FIXTURES THROUGHOUT THE CITY SHALL BE GOVERNED BY LOCATION. IN THE AREAS A AND B SHOWN IN THE ATTACHED MAP, THE SANITARY SEWER PLUMBING FIXTURES AND DRAINS LOCATED BELOW THE FIRST FLOOR (INCLUDING PARKING STRUCTURES) SHALL HAVE IN-STRUCTURE OR ON-SITE PLUNPED DISCHARGE TO THE CITY'S GRAVITY COLLECTION SYSTEM.
11. THE PUMPED FACILITIES SHALL BE PROVIDED WITH A STANDBY SOURCE OF POWER (I.E., BATTELY OR GENERATOR).
12. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE PERPETUAL OWNERSHIP, CAPITAL, AND MAINTENANCE AND OPERATION OF THE PUMPS AND APPURTENANCES.
13. NO FOUNDATION DRAIN, BASEMENT DRAIN, OR STAIRWELL BASEMENT ACCESS DRAIN SHALL BE CONNECTED TO THE CITY OR ASA SANITARY SEWER.

DEMOLITION

1. A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY AN EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE , AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED, TO ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.
4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
5. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS, AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.
6. PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
7. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS/CLEAN FILL AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
8. THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
9. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE, AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
10. THE CONTRACTOR OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LINER CONTROL ACT.

SIGN CONSTRUCTION

A SEPARATE PERMIT IS REQUIRED FOR SIGN CONSTRUCTION.

CEMETERY AND/OR BURIAL GROUNDS

THERE IS NO OBSERVABLE, HISTORICAL, OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY. FURTHERMORE, IT IS ILLEGAL TO DISTURB HUMAN REMAINS WITHOUT OBTAINING APPROPRIATE LEGAL AUTHORIZATION. IF BURIALS ARE FOUND DURING THE ARCHAELOGICAL INVESTIGATION AND NEED TO BE MOVED PRIOR TO DEVELOPMENT, THE APPLICANT SHALL BE RESPONSIBLE FOR THE ARCHAEOLOGICAL REMOVAL AND FOR OBTAINING THE NECESSARY LEGAL DOCUMENTS, INCLUDING A PERMIT FROM THE VIRGINIA DEPARTMENT OF HISTORIC RESOURCES FOR THE ARCHAELOGICAL REMOVAL OF BURIALS.

RODENT ABATEMENT NOTE

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

MARINE CLAY STATEMENT

NO MARINE CLAYS EXISTS ON SITE FOR BLOCK K.

SOLID WASTE MANAGEMENT

1. SINCE THE APPLICANT IS NOT REQUIRED, BY SECTION 5-1-31 OF THE CITY CHARTER AND CODE TITLE 5: TRANSPORTATION AND ENVIRONMENTAL SERVICES, TO USE THE CITY OF ALEXANDRIA'S COLLECTION AND DISPOSAL SERVICES; SOLID WASTE COLLECTION AND DISPOSAL SERVICES SHALL BE PROVIDED BY THE APPLICANT / PRIVATE COLLECTORS AND SHALL BE PASSED ON TO THE NEW OWNER IN CASE OF A SALE OF THE PROPERTY SUBSEQUENT TO THE DEVELOPMENT.

SITE ACCESSIBILITY NOTES

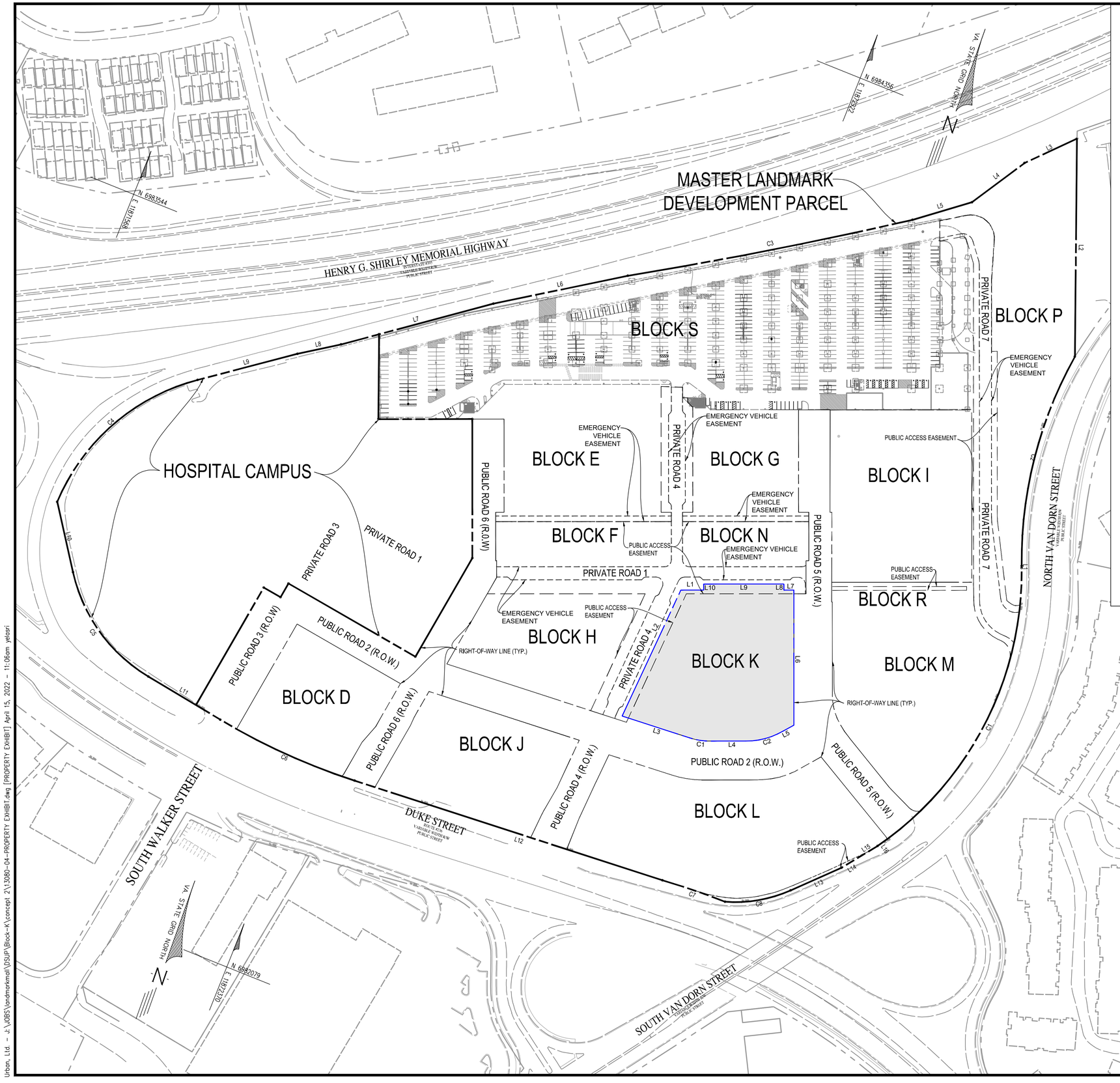
1. ALL BUILDINGS WITHIN THE BOUNDARY OF THIS SITE SHALL HAVE AT LEAST ONE "ACCESSIBLE ROUTE" THAT CONFORMS TO "ADA"-"ACCESSIBLE ROUTE" STANDARDS. THESE STANDARDS INCLUDE, BUT ARE NOT LIMITED TO: MAXIMUM WALK SLOPE=1:20 AND MAXIMUM RAMP SLOPE=1:12. ALL WALKS WILL BE BROOM-FINISHED CONCRETE UNLESS OTHERWISE SPECIFIED ON THESE DRAWINGS AND/OR THE ARCHITECTURAL PLANS.
2. ALL "ACCESSIBLE" PARKING SPACES SHALL BE DESIGNATED WITH APPROPRIATE SIGNAGE.
3. THE PAVEMENT SLOPE WITHIN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION.

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) 838-4399.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR CITY ARCHAEOLOGISTS CAN BE ARRANGED.
3. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ECT.) 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.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.
5. ALL REQUIRED ARCHAEOLOGICAL MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

CONSTRUCTION NOTES

1. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREIN ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE.
2. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR ENSURING THAT EXISTING UTILITIES ARE DISCONNECTED.
6. THE DEVELOPER SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.
7. ALL AREAS, ON OR OFFSITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE AS RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
8. EXISTING SEPTIC FIELDS, IF APPLICABLE, SHALL BE ABANDONED IN ACCORDANCE WITH VIRGINIA HEALTH DEPARTMENT STANDARDS AND S



LINE AND CURVE TABLE FOR MASTER LANDMARK PARCEL

LINE	BEARING	DISTANCE
L1	N 22°31'14" W	4.34'
L2	N 21°18'19" W	467.89'
L3	S 43°07'11" W	124.06'
L4	S 31°28'43" W	140.72'
L5	S 51°36'25" W	133.19'
L6	S 56°26'03" W	294.13'
L7	S 53°09'18" W	338.60'
L8	S 56°03'08" W	95.82'
L9	S 53°28'53" W	221.61'
L10	S 34°28'32" E	154.97'
L11	S 80°55'52" E	180.07'
L12	N 86°05'08" E	694.45'
L13	N 44°09'27" E	119.69'
L14	N 37°04'34" E	27.45'
L15	N 37°04'34" E	62.71'
L16	S 54°49'53" E	0.01'

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH	TANGENT
C1	699.67'	714.22'	56°07'44"	N 05°32'41" E	672.03'	380.79'
C2	468.83'	898.89'	29°53'01"	N 07°34'42" W	463.54'	239.88'
C3	622.78'	10000.00'	3°34'06"	S 57°02'00" W	622.68'	311.49'
C4	413.23'	450.00'	52°36'49"	S 27°10'28" W	398.86'	222.47'
C5	283.79'	350.00'	46°27'26"	S 57°42'15" E	276.08'	150.22'
C6	317.24'	1400.00'	12°58'59"	S 87°25'22" E	316.56'	159.30'
C7	141.68'	1512.69'	5°21'59"	N 87°02'47" E	141.63'	70.89'
C8	144.40'	291.56'	28°22'37"	N 58°20'45" E	142.93'	73.71'

LINE TABLE FOR BLOCK K

Parcel Line Table		
Line #	Length	Direction
L1	49.06	S68° 08' 38.22"W
L2	298.11	S3° 08' 38.22"W
L3	152.73	N86° 08' 38.42"E
L4	74.00	N68° 11' 25.33"E
L5	25.09	N39° 24' 02.13"E
L6	289.81	N21° 51' 21.78"W
L7	21.54	S68° 08' 38.22"W
L8	13.00	N21° 51' 21.78"W
L9	172.00	S68° 08' 38.22"W
L10	13.00	S21° 51' 21.78"E

CURVE TABLE						
CURVE	ARC	RADIUS	DELTA ANGLE	TANGENT	CHORD	BEARING
C1	45.87'	130.09'	20°12'06"	23.17'	45.63'	N76°24'23"E
C2	86.18'	155.74'	31°42'21"	44.23'	85.09'	N53°04'50"E

LOT AREAS

BLOCK K: 2.27 AC. (98,964 SF)

LEGEND

LOT LINES

DSUP APPLICATION AREA

APPROVED

DEVELOPMENT SITE PLAN NO. _____

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. _____

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
12-10-2021
04-15-2022

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LICENSED
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Angela Tsai Clayton
LIC. NO. 036706
04-15-2022

PROPERTY EXHIBIT

LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

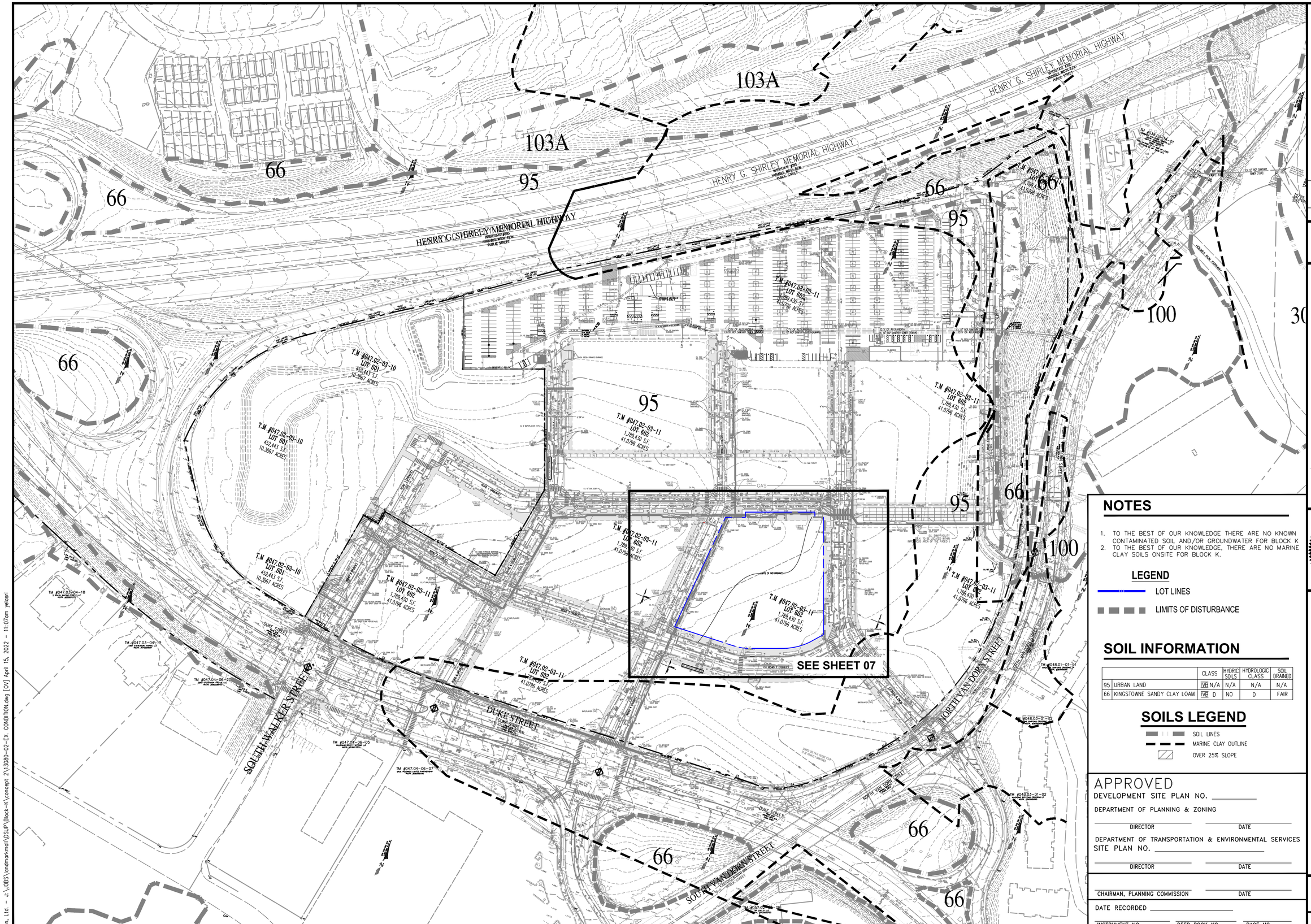
SCALE: 1"=100' C.I.= N/A DATE: DEC., 2021

SHEET 04 OF 51

FILE No. DSUP-13080

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-K\concept 2\13080-04-PROPERTY EXHIBIT.dwg, [PROPERTY EXHIBIT] April 15, 2022 - 11:06am yelorsi


VA STATE GRID NORTH
N
1/4 MI. RADIUS
1/4 MI. RADIUS
HENRY G. SHIRLEY MEMORIAL HIGHWAY
INTERSTATE 395
HENRY G. SHIRLEY MEMORIAL HIGHWAY
INTERSTATE 395
N ARMISTEAD ST
QUANTRELL AVE
LINCOLNIA RD
NORTH VAN DORN STREET
NORTH VAN DORN STREET
HOWARD JOHNSON'S
ROAD 1 (PRIVATE)
ROAD 2 (PUBLIC)
ROAD 3 (PRIVATE)
ROAD 4 (PUBLIC)
ROAD 5 (PUBLIC)
ROAD 6 (PUBLIC)
ROAD 7 (PRIVATE)
ROAD 8 (PUBLIC)
ROAD 9 (PUBLIC)
ROAD 10 (PRIVATE)
ROAD 11 (PUBLIC)
ROAD 12 (PUBLIC)
ROAD 13 (PUBLIC)
ROAD 14 (PUBLIC)
ROAD 15 (PUBLIC)
ROAD 16 (PUBLIC)
ROAD 17 (PUBLIC)
ROAD 18 (PUBLIC)
ROAD 19 (PUBLIC)
ROAD 20 (PUBLIC)
ROAD 21 (PUBLIC)
ROAD 22 (PUBLIC)
ROAD 23 (PUBLIC)
ROAD



NOTES

1. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO KNOWN CONTAMINATED SOIL AND/OR GROUNDWATER FOR BLOCK K
2. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO MARINE CLAY SOILS ONSITE FOR BLOCK K.

LEGEND

LOT LINES

LIMITS OF DISTURBANCE

SOIL INFORMATION

		CLASS	HYDRIC SOILS	HYDROLOGIC CLASS	SOIL DRAINED
95	URBAN LAND	IVB N/A	N/A	N/A	N/A
66	KINGSTOWNE SANDY CLAY LOAM	IVB D	NO	D	FAIR

SOILS LEGEND

SOIL LINES

MARINE CLAY OUTLINE

OVER 25% SLOPE

APPROVED

DEVELOPMENT SITE PLAN NO. _____

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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CLAYTON C. TOCK
Lic. No. 036790
04-15-2022
PROFESSIONAL ENGINEER

OVERALL EXISTING CONDITIONS

LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.=2' DATE: DEC., 2021

SHEET 06 OF 51

FILE No. DSUP-13080

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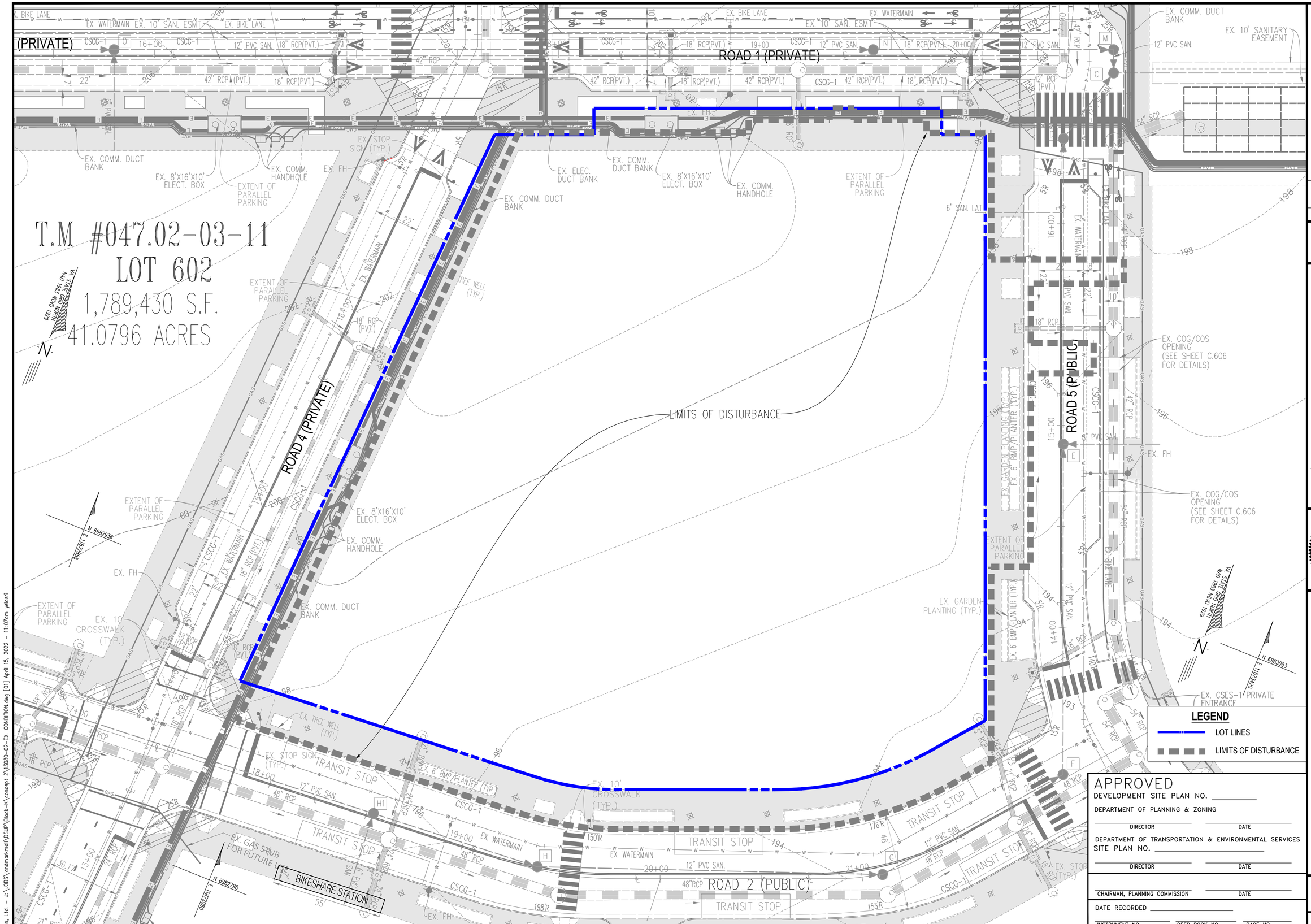

APPROVED

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DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

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CLAYTON E. CUMPTON
LIC. NO. 036700
04-15-2022

EXISTING CONDITIONS

LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.= 2' DATE: DEC., 2021

SHEET 07 OF 51

FILE No. DSUP-13080

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HENRY G. SHIRLEY MEMORIAL HIGHWAY
INTERSTATE 495
VARIABLE WIDTH R/W
PUBLIC STREET

LOT 602
1,789,430 S.F.
41.0796 ACRES

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK H
BLOCK K
BLOCK M

SEE SHEET 09

ROAD 1 (PUBLIC)
ROAD 2 (PUBLIC)
ROAD 3 (PUBLIC)
ROAD 4 (PUBLIC)
ROAD 5 (PUBLIC)
ROAD 6 (PUBLIC)

DUKE STREET
VARIABLE WIDTH R/W
PUBLIC STREET

SOUTH WALKER STREET
VARIABLE WIDTH R/W
PUBLIC STREET

NORTH VAN DORN STREET
VARIABLE WIDTH R/W
PUBLIC STREET

SOUTH VAN DORN STREET
VARIABLE WIDTH R/W
PUBLIC STREET

HOLMES RUN PARKWAY

TM #047.03-04-18
TM #047.03-04-19
TM #047.04-06-20
TM #047.04-06-05
TM #047.04-06-07
TM #057.02-0A-08
TM #048.01-01-31
TM #048.03-01-32
TM #048.03-01-02

LEGEND

LOT LINES

LIMITS OF DISTURBANCE

APPROVED

DEVELOPMENT SITE PLAN NO. _____

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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CLAYTON C. FOX
038790
REGISTERED
PROFESSIONAL ENGINEER
04/15/2022

OVERALL CONCEPT PLAN

LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' | C.I.= 2' | DATE: DEC., 2021

SHEET 08 OF 51

FILE No. DSUP-13080

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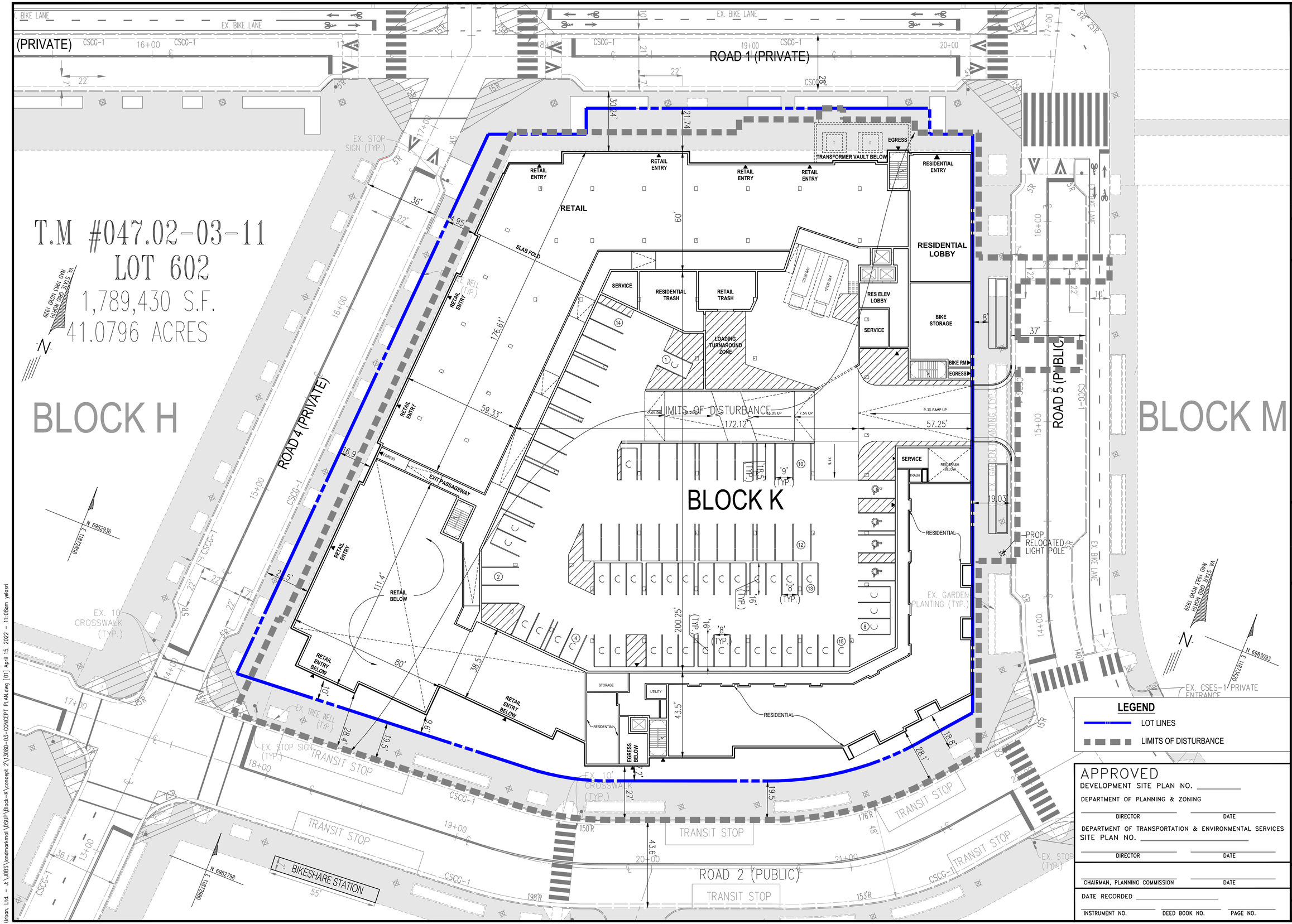

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DEVELOPMENT SITE PLAN NO. _____

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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Lic. No. 036790
04-15-2022
PROFESSIONAL ENGINEER

CONCEPT PLAN

LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=2' DATE: DEC., 2021

SHEET 09 OF 51

FILE No. DSUP-13080

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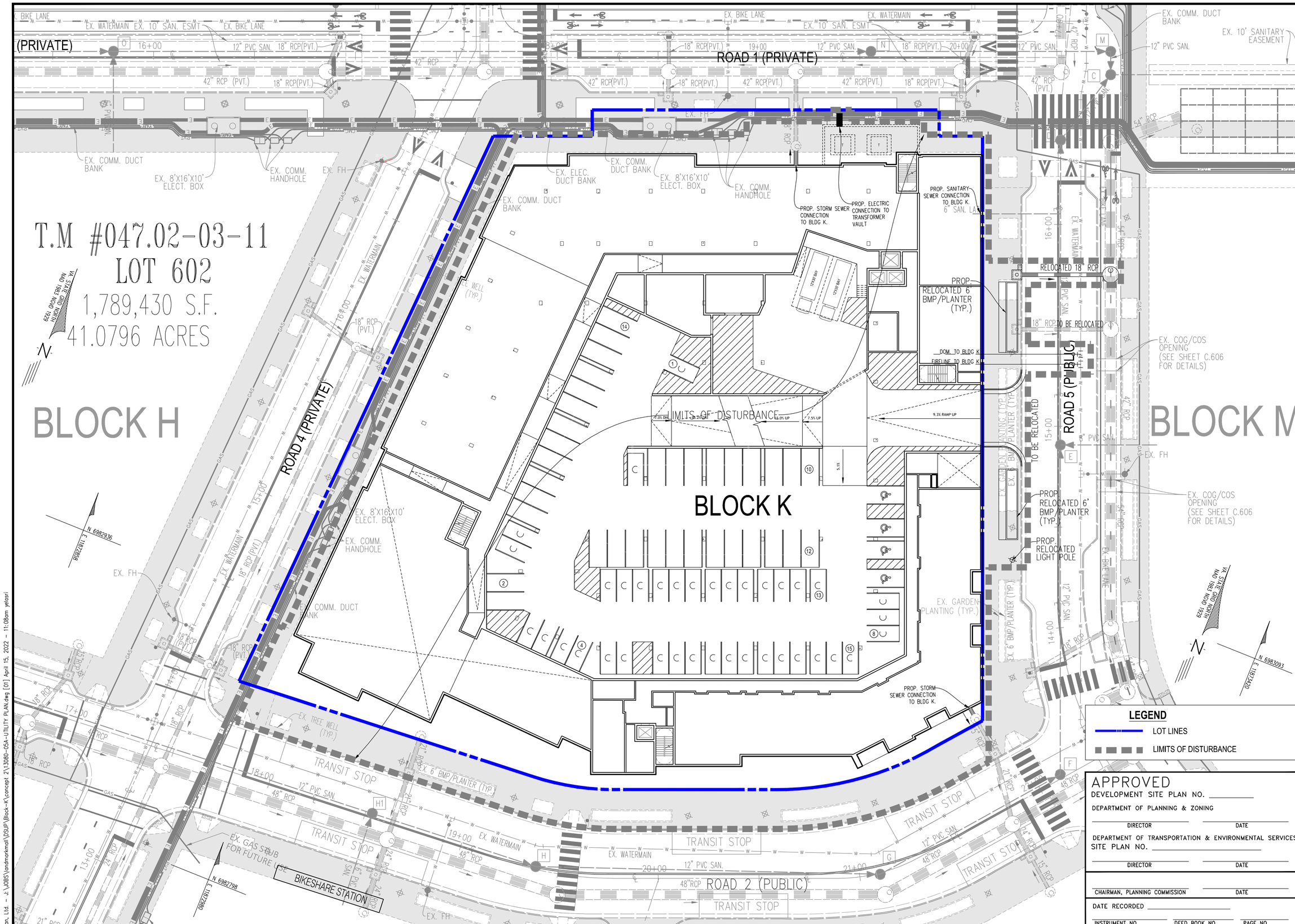

LEGEND

- LOT LINES
- LIMITS OF DISTURBANCE

APPROVED

DEVELOPMENT SITE PLAN NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

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UTILITY PLAN

LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.=2' DATE: DEC., 2021

SHEET 10 OF 51

FILE No. DSUP-13080

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T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK H

BLOCK K

BLOCK M

ROAD 1 (PRIVATE)

ROAD 4 (PRIVATE)

ROAD 5 (PUBLIC)

ROAD 2 (PUBLIC)

BIKESHARE STATION

EX. BIKE LANE

(PRIVATE)

EX. STOP SIGN (TYP.)

EX. TREE WELL (TYP.)

EX. STOP SIGN (TYP.)

PROP. STORM SEWER CONNECTION TO BLDG K.

PROP. STORM SEWER CONNECTION TO BLDG K.

LIMITS OF DISTURBANCE

PROP. RELOCATED 6' BMP/PLANTER (TYP.)

RELOCATED 18" RCP

18" RCP TO BE RELOCATED

EX. COG/COS OPENING (SEE SHEET C.606 FOR DETAILS)

EX. COG/COS OPENING (SEE SHEET C.606 FOR DETAILS)

PROP. RELOCATED BMP/PLANTER (TYP.)

PROP. RELOCATED LIGHT POLE

EX. GARDEN PLANTING (TYP.)

EX. 6' BMP/PLANTER (TYP.)

TRANSIT STOP

TRANSIT STOP

TRANSIT STOP

TRANSIT STOP

TRANSIT STOP

EX. STOP SIGN (TYP.)

N 6982936 E 1187858

N 6982798 E 1187981

N 6983093 E 1187470

M.S. STATE GRID NORTH NAD 1983 NSRS 1929

LEGEND

LOT LINES

LIMITS OF DISTURBANCE

APPROVED
DEVELOPMENT SITE PLAN NO. _____
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.

No.	DESCRIPTION	DATE
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COMMONWEALTH OF VIRGINIA
CLAYTON C. BOTKIN
LIC. NO. 036708
REGISTERED PROFESSIONAL ENGINEER
04-15-2022

GRADING PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' | C.I.= 2' | DATE: DEC., 2021

SHEET 11 OF 51

FILE No. DSUP-13080

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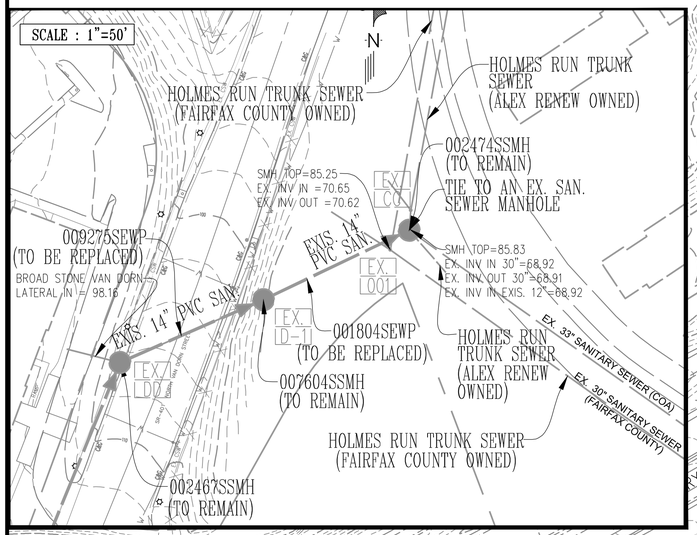
NOTES

1. RESIDENTIAL AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 300 GPD PER UNIT
2. EACH RESIDENTIAL UNIT IS BASED ON A 1,000 G.S.F. FLOOR PLATE
3. RETAIL AND OFFICE AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 200 GPD PER 1,000 S.F. OF NET FLOOR AREA
4. ALL PIPE DATA HAS BEEN OBTAINED BY FIELD SURVEY PERFORMED BY URBAN, LTD.
5. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
6. DEWATERING AND OTHER CONSTRUCTION RELATED DISCHARGE LIMITS TO THE SEWER SYSTEM ARE REGULATED BY ALEXRENEW PRETREATMENT. CONTRACTOR IS REQUIRED TO CONTACT ALEXRENEW'S PRETREATMENT COORDINATOR AT 703-721-3500 X2020.
7. THE APPLICANT SHALL PROVIDE A PRE- AND POST-CCTV INSPECTION OF MANHOLE CONNECTION BY A NASSCO MACP CERTIFIED TECHNICIAN.
8. INSUFFICIENT PIPE CAPACITIES OF EXISTING SANITARY SEWER ARE SHOWN ON SHEET 23. THOSE PIPES ARE SHOWN TO BE REMOVED AND REPLACED WITH APPROPRIATELY SIZED PIPES ON SHEET 23.
9. HGL ANALYSIS WILL BE PROVIDED WITH THE FINAL INFRASTRUCTURE SITE PLAN.
10. THE PROJECT SITE IS LOCATED WITHIN THE HOLMES RUN TRUNK SEWER SHED. THE PROJECT SITE IS NOT LOCATED IN THE COMBINED SEWER SYSTEM AREA.
11. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
12. DEWATERING AND OTHER CONSTRUCTION-RELATED DISCHARGE LIMITS TO THE SEWER SYSTEM ARE REGULATED BY ALEXRENEW PRETREATMENT. THE CONTRACTOR IS REQUIRED TO CONTACT ALEXRENEW'S PRETREATMENT COORDINATOR AT 703-721-3500 X2020



APPROVED

DEVELOPMENT SITE PLAN NO. _____

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. _____

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
12-10-2021
04-15-2022

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COMMONWEALTH OF VIRGINIA
CLAYTON E. CRAMER
LIC. NO. 038798
PROFESSIONAL ENGINEER
04-15-2022

SANITARY SEWER PLAN

LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.= 2' DATE: DEC., 2021

SHEET 12 OF 51

FILE No. DSUP-13080

C:\Users\jkrkmall\DSUP\Block-K\concept 2\13080-07-SAN PLAN & CMPS.dwg [SAN01] April 15, 2022 - 11:09am yelcsri

ADEQUATE OUTFALL ANALYSIS

Blocks		Building G.S.F	Office Sanitary Flow	Office G.S.F	Retail Sanitary Flow	Retail G.S.F	MFH Sanitary Flow	MFH Units	Total Proposed Sanitary Flow (GPD)
HOSPITAL CAMPUS	A	565,525	200GPD/1,000 S.F.	565,525	200GPD/1,000 S.F.		300GPD/UNIT	-	113,105
	B	107,239	200GPD/1,000 S.F.	107,239	200GPD/1,000 S.F.	-	300GPD/UNIT	-	21,448
	C	88,085	200GPD/1,000 S.F.	88,085	200GPD/1,000 S.F.	-	300GPD/UNIT	-	17,617
Total		760,849		760,849		-		-	152,170
LANDMARK	D	335,000	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	335	100,500
	E	328,065	200GPD/1,000 S.F.	131,497	200GPD/1,000 S.F.	-	300GPD/UNIT	172	77,899
	G	257,441	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	222	66,600
	H	90,798	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	42,000	300GPD/UNIT	350	113,400
	I	502,768	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	95,433	300GPD/UNIT	390	136,087
	J	81,344 52,000 S.F. (Fire Station)	200GPD/1,000 S.F.	52000			300GPD/UNIT	235	80,900
	K	503,854	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	28,454	300GPD/UNIT	352	111,291
	L	133,644	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	11,000	300GPD/UNIT	260	80,200
	M	120,815	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	200	60,000
Total		2,353,729		183,497		176,887		2,516	826,877
EX. BUILDING	MULTI-FAMILY USE	135,594	200GPD/1,000 S.F.	-	200GPD/1,000 S.F.	-	300GPD/UNIT	184	55,200.00

Landmark Mall Breakdown by Manhole

	Block	Lateral #	Lateral Tie In Location	% of Block Flow	MH Flow Enters in Sanitary Computations
HOSPITAL CAMPUS	A	1	SMH W1	33.33%	W
		2	SMH V1	33.33%	V
		3	SMH L2	33.33%	L2
	B	1	SMH R	36.09%	R
		2	SMH L2	63.91%	L2
	C	1	SMH L	32.85%	L
		2	SMH K	32.85%	K
		3	SMH T	32.85%	T
	(Garage)	1	SMH S	1.45%	S
LANDMARK MALL	D	1	SMH I2	100%	I2
	E	1	SMH R	50%	R
		2	SMH EX. MM	50%	EX. MM
	G	1	BETWEEN EX.KK & EX.JJ	100%	EX. JJ
	H	1	SMH I	50%	I
		2	SMH O	50%	O
	I	1	SMH EX. II	100%	EX. II
	J	1	SMH I	100%	I
	K	1	BETWEEN E & D	100%	D
	L	1	SMH H1	100%	H1
	M	1	SMH E	100%	E

PROPOSED SANITARY SEWER DESIGN COMPUTATIONS

Project: Landmark Mall

From Point	To Point	RESIDENTIAL 300 GPD/UNIT	OFFICE/RETAIL 200 GDP/ 1000 SF	SFA/SFD DWELLINGS 350 GPD/UNIT	HOTEL 130 GPD/UNIT	PEAK FACTOR	INCR q MGD	FLOW q MGD	FLOW q C.F.S.	Invert Elevation Upper End	Invert Elevation Lower End	Length FT.	Slope %	Dia. IN.	Capacity Q MGD	VEL. F.P.S.	Capacity q/Q %	Pipe Coefficient	Pipe Material	BLOCKS TO STR	Remarks	Rim Elevation	Pipe Cover
W	V	0	188508			4.0	0.15	0.15	0.23	189.77	187.39	132.42	1.80%	12	4.03	3.85	3.74	0.010	PVC		33.33% gpd from Block A	215.00	12.61
V	U	0	188508			4.0	0.15	0.30	0.47	188.18	187.39	72.26	1.10%	12	3.15	3.87	9.58	0.010	PVC		33.33% gpd from Block A	213.75	12.78
U	L	0	0			4.0	0.00	0.30	0.47	187.29	186.25	94.64	1.10%	12	3.15	3.87	9.58	0.010	PVC			213.00	12.86
L	K	0	-			4.0	0.02	0.32	0.50	186.15	184.86	117.14	1.10%	12	3.15	4.00	10.31	0.010	PVC		Flow from Block C	211.00	12.43
K	J	0	-			4.0	0.02	0.35	0.54	184.76	184.18	52.56	1.10%	12	3.15	4.08	11.05	0.010	PVC		Flow from Block C	208.50	11.87
J	I1	0	0			4.0	0.00	0.35	0.54	184.71	184.18	47.70	1.10%	12	3.15	4.08	11.05	0.010	PVC			207.25	11.27
I1	I	0	0			4.0	0.40	0.75	1.16	184.08	181.35	248.57	1.10%	12	3.15	5.09	23.82	0.010	PVC		Flow from Block D	206.00	10.96
I	H1	0	0			4.0	0.55	1.30	2.01	181.25	178.20	276.69	1.10%	12	3.15	5.92	41.30	0.010	PVC		Flow from Block J 50% Flow from Block H	200.50	9.63
H1	H	0	0			4.0	0.32	1.62	2.51	178.10	177.17	85.17	1.10%	12	3.15	6.25	51.49	0.010	PVC		Flow from Block L	196.35	9.12
H	G	0	0			4.0	0.00	1.62	2.51	177.07	175.19	170.85	1.10%	12	3.15	6.25	51.49	0.010	PVC			195.50	9.22
G	F	0	0			4.0	0.00	1.62	2.51	175.09	173.96	102.02	1.10%	12	3.15	6.25	51.49	0.010	PVC			194.80	9.86
F	E	0	0			4.0	0.00	1.62	2.51	173.86	171.82	163.39	1.25%	12	3.36	6.55	48.30	0.010	PVC			193.75	9.94
E	D	0	0			4.0	0.69	2.31	3.57	171.72	169.30	151.17	1.60%	12	3.80	7.84	60.73	0.010	PVC		Flow from Block M Flow from Block K	195.40	11.84
D	C	0	0			4.0	0.00	2.31	3.57	169.20	168.53	40.84	1.65%	12	3.86	7.93	59.81	0.010	PVC			198.50	14.65
C	B	0	0			4.0	0.44	2.74	4.24	168.43	161.89	384.95	1.70%	14	5.90	8.40	46.48	0.010	PVC		Flows from SSMH M & D	198.85	15.21
B	A	0	0			4.0	0.00	2.74	4.24	161.79	158.12	215.56	1.70%	14	5.90	8.40	46.48	0.010	PVC			174.25	6.23
A	002506SSMH	0	0			4.0	1.17	3.92	6.06	158.02	153.71	215.56	2.00%	14	6.40	9.73	61.15	0.010	PVC			181.84	11.91
BLOCK C	L	0	28936			4.0	0.02	0.02	0.04	187.47	186.35	45.00	2.50%	8	1.61	2.46	1.44	0.010	PVC		32.85% gpd from Block C	211.00	11.76
BLOCK C	K	0	28936			4.0	0.02	0.02	0.04	186.08	184.96	45.00	2.50%	8	1.61	2.46	1.44	0.010	PVC		32.85% gpd from Block C	208.50	11.21
BLOCK D	I2	335				4.0	0.40	0.40	0.62	186.23	185.60	25.00	2.50%	12	4.75	5.71	8.47	0.010	PVC			205.25	9.51
I2	I1	0	0			4.0	0.00	0.40	0.62	185.50	184.28	48.93	2.50%	12	4.75	5.71	8.47	0.010	PVC			206.00	10.25
BLOCK J	I	235	52000			4.0	0.32	0.32	0.50	182.70	181.45	50.00	2.50%	6	0.75	5.66	43.29	0.010	PVC			200.50	8.90
BLOCK H	I	175	21000			4.0	0.23	0.23	0.35	182.70	181.45	50.00	2.50%	6	0.75	5.22	30.34	0.010	PVC		50% Flow from Block H	200.50	8.90
BLOCK L	H1	260	11000			4.0	0.32	0.32	0.50	179.55	178.30	50.00	2.50%	6	0.75	5.61	42.91	0.010	PVC			196.35	8.40
BLOCK M	E	200	0			4.0	0.24	0.24	0.37	173.17	171.92	50.00	2.50%	6	0.75	5.23	32.11	0.010	PVC			195.40	11.11
BLOCK K	D	352	28454			4.0	0.45	0.45	0.69	170.65	169.40	50.00	2.50%	8	1.61	6.10	27.65	0.010	PVC			198.50	13.92
BLOCK E	R	86	65749			4.0	0.16	0.16	0.24	183.95	182.70	50.00	2.50%	8	1.61	4.49	9.68	0.010	PVC		50% Flow from Block E	204.00	10.02
BLOCK B	R	0	38703			4.0	0.03	0.03	0.05	183.33	182.70	25.00	2.50%	8	1.61	2.90	1.92	0.010	PVC		36.09% gpd from Block B	204.00	10.34
R	Q	0	0			4.0	0.19	0.19	0.29	182.60	179.02	204.83	1.75%	12	3.97	3.97	4.70	0.010	PVC		Flow from Block B 50% Flow from Block E	204.00	10.70
Q	P	0	0			4.0	0.02	0.21	0.33	178.92	177.31	91.68	1.75%	12	3.97	4.09	5.31	0.010	PVC		Flow from Block C	211.00	16.04
P	O	0	0			4.0	0.00	0.21	0.33	177.21	175.43	143.07	1.25%	12	3.36	3.63	6.28	0.010	PVC			209.00	15.89
O	N	0	0			4.0	0.23	0.44	0.68	175.33	170.63	375.50	1.25%	12	3.36	4.56	13.04	0.010	PVC		50% Flow from Block H	206.35	15.51
N	M	0	0			4.0	0.00	0.44	0.68	170.53	169.05	118.87	1.25%	12	3.36	4.56	13.04	0.010	PVC			201.50	15.48
M	C	0	0			4.0	0.00	0.44	0.68	168.95	168.63	11.50	2.75%	12	4.98	6.01	8.79	0.010	PVC			199.00	15.03
BLOCK C	T		28936			4.0	0.02	0.02	0.04	181.73	180.70	37.50	2.75%	8	1.69	2.46	1.37	0.010	PVC		32.85% gpd from Block C	209.50	13.88
T	S		0			4.0	0.00	0.02	0.04	180.60	179.60	100.23	1.00%	10	1.85	1.81	1.25	0.010	PVC			211.25	15.33
S	Q		1277			4.0	0.00	0.02	0.04	179.50	179.12	37.87	1.00%	10	1.85	1.89	1.31	0.010	PVC		1.45% gpd from Block C Garage	211.00	15.75
BLOCK H	O	175	21000			4.0	0.23	0.23	0.35	176.78	175.53	50.00	2.50%	6	0.75	5.22	30.34	0.010	PVC		50% Flow from Block H	206.35	14.79
BLOCK I	EX.II	390	95433			4.0	0.54	0.54	0.84	170.40	169.15	50.00	2.50%	10	2.92	6.32	18.65	0.010	PVC			199.00	14.30
BLOCK E	EX.MM	86	65749			4.0	0.16	0.16	0.24	181.49	180.52	38.79	2.50%	6	2.00	4.68	7.79	0.010	PVC		50% Flow from Block E	195.13	6.82
BLOCK G	EX.JJ	222	0			4.0	0.27	0.27	0.41	179.66	177.77	75.43	2.50%	6	2.00	5.43	13.32	0.010	PVC			193.99	7.17
BLOCK A & B	L2	0	257045			4.0	0.21	0.21	0.32	185.76	184.48	51.37	2.50%	8	2.00	4.88	10.28	0.010	PVC		63.91% gpd from Block B 33.33% gpd from Block A	194.40	4.32
L2	N1	0	0			4.0	0.00	0.21	0.32	184.38	182.94	95.77	1.50%	10	2.00	4.01	10.28	0.010	PVC			194.40	5.01
N1	EX.NN	0	0			4.0	0.00	0.21	0.32	182.84	181.60	82.52	1.50%	10	2.00	4.01	10.28	0.010	PVC			194.52	5.84
EX.NN	EX.MM	0	0			4.0	0.00	0.21	0.32	181.50	180.42	223.82	0.49%	10	0.99	2.18	20.79	0.013	PVC			195.04	6.77
EX.MM	EX.LL	0	0			4.0	0.16	0.36	0.56	180.39	179.52	74.55	1.17%	10	1.54	3.56	23.53	0.013	PVC		50% Flow from Block E	195.13	7.37
EX.LL	EX.KK	0	0			4.0	0.00	0.36	0.56	179.29	178.72	122.64	0.46%	10	0.96	2.53	37.53	0.013	PVC			194.89	7.80
EX.KK	EX.JJ	0	0			4.0	0.27	0.63	0.97	178.68	177.67	177.43	0.57%	10	1.07	3.15	58.56	0.013	PVC			193.70	7.51
EX.JJ	EX.II	0	0			4.0	0.00	0.63	0.97	177.59	174.74	259.55	1.10%	10	1.49	4.04	42.15	0.013	PVC		Flow from Block G	193.99	8.20
EX.II	002506SSMH	0	0			4.0	0.54	1.17	1.81	174.44	153.71	165.68	12.51%	10	5.02	11.64	23.34	0.013	PVC		Flow from Block I	193.26	9.41

EXISTING SANITARY SEWER DESIGN COMPUTATIONS

Project: Landmark Mall

From Point	To Point	RESIDENTIAL 300 GPD/UNIT	OFFICE/RETAIL 300 GDP/ 1000 SF	SFA/SFD DWELLINGS 350 GPD/UNIT	HOTEL 130 GPD/UNIT	PEAK FACTOR	INCR q MGD	FLOW q MGD	FLOW q C.F.S.	Invert Elevation Upper End	Invert Elevation Lower End	Length FT.	Slope %	Dia. IN.	Capacity Q MGD	VEL. F.P.S.	Capacity q/Q %	Pipe Coefficient	Pipe Material	BLOCKS TO STR	Remarks	Rim Elevation	Pipe Cover
002506SSMH	002469SSMH	2516	1121233.00			4.0	3.92	3.92	6.06	160.03	134.41	111.27	23.03%	10	5.91	10.83	66.31	0.015	Conc.		002506SSMH	192.03	16.00
002469SSMH	007600SSMH	0				4.0	0.00	3.92	6.06	134.24	132.08	28.20	7.66%	12	5.54	7.05	70.70	0.015	Conc.		002469SSMH	148.64	7.20
007600SSMH	002468SSMH	0				4.0	0.00	3.92	6.06	129.77	119.03	221.98	4.84%	12	4.40	5.61	88.96	0.015	Conc.		007600SSMH	138.78	4.51
002468SSMH	002467SSMH	0				4.0	0.00	3.92	6.06	118.81	97.75	299.41	7.03%	12	5.31	6.76	73.78	0.015	Conc.		002468SSMH	125.91	3.55
002467SSMH	007604SSMH	184				4.0	0.22	4.14	6.40	97.45	81.35	109.44	14.71%	12	7.68	15.40	53.89	0.015	Conc.		002467SSMH	107.00	4.78
007604SSMH	002474SSMH	0				4.0	0.00	4.14	6.40	69.50	68.92	112.75	0.51%	12	1.44	1.83	288.21	0.015	Conc.		007604SSMH	92.70	11.60

PROPOSED SANITARY SEWER DESIGN COMPUTATIONS

Project: Landmark Mall

From Point	To Point	RESIDENTIAL 300 GPD/UNIT	OFFICE/RETAIL 200 GDP/ 1000 SF	SFA/SFD DWELLINGS 350 GPD/UNIT	HOTEL 130 GPD/UNIT	PEAK FACTOR	INCR q MGD	FLOW q MGD	FLOW q C.F.S.	Invert Elevation Upper End	Invert Elevation Lower End	Length FT.	Slope %	Dia. IN.	Capacity Q MGD	VEL. F.P.S.	Capacity q/Q %	Pipe Coefficient	Pipe Material	BLOCKS TO STR	Remarks	Rim Elevation	Pipe Cover
002506SSMH	002469SSMH	2516	1121233			4.0	3.92	3.92	6.06	148.40	137.27	111.27	10.00%	14	14.32	17.66	27.35	0.010	PVC			192.03	21.82
002469SSMH	007600SSMH	0				4.0	0.00	3.92	6.06	137.17	134.78	28.20	8.50%	14	13.20	16.65	29.66	0.010	PVC		002506SSMH	148.64	5.73
007600SSMH	002468SSMH	0				4.0	0.00	3.92	6.06	134.68	115.81	221.98	8.50%	14	13.20	16.65	29.66	0.010	PVC		002469SSMH	138.78	2.05
002468SSMH	002467SSMH	0				4.0	0.00	3.92	6.06	115.71	91.01	299.41	8.25%	14	13.01	16.46	30.11	0.010	PVC		007600SSMH	125.91	5.10
002467SSMH	007604SSMH	184				4.0	0.22	4.14	6.40	90.91	81.60	109.44	8.50%	14	13.20	16.90	31.34	0.010	PVC		002468SSMH	107.00	8.05
007604SSMH	002474SSMH	0				4.0	0.00	4.14	6.40	81.50	71.92	112.75	8.50%	14	13.20	16.90	31.34	0.010	PVC		002467SSMH	92.70	5.60

NOTE: WHERE VELOCITIES IN SANITARY SEWER PIPES EXCEED THE MAXIMUM ALLOWABLE VELOCITY OF 10 FT/S, SPECIAL PROVISIONS SHALL BE MADE TO RESTRAIN THE PIPE TO PROTECT AGAINST DISPLACEMENT BY EROSION.

APPROVED
DEVELOPMENT SITE PLAN NO. ____________
DEPARTMENT OF PLANNING & ZONING
DIRECTOR ____ DATE ____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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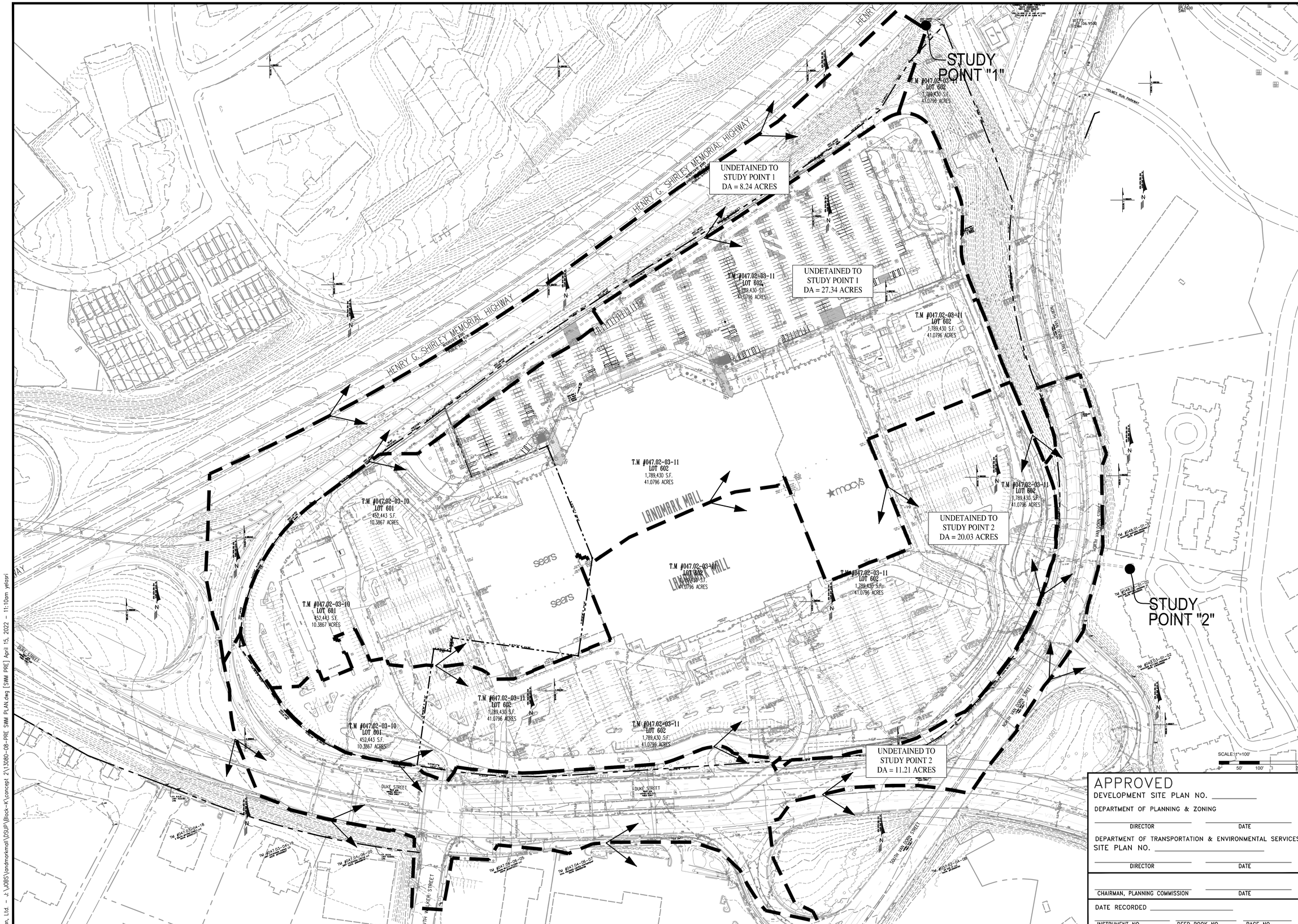
SANITARY SEWER COMPUTATIONS
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

DATE: DEC., 2021
C.I.= N/A
SCALE: N/A

SHEET 13 OF 51

FILE No. DSUP-13080



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04-15-2022
PROFESSIONAL ENGINEER

SWM PRE DEVELOPMENT PLAN

LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.=2' DATE: DEC., 2021

SHEET 14 OF 51

FILE No. DSUP-13080

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-K\concept 2\13080-08-PRE SWM PLAN.dwg [SWM PRE] April 15, 2022 - 11:10am yelasri

STUDY POINT "1"

VAULT 4

HENRY G. SHIRLEY MEMORIAL HIGHWAY

OFFSITE UNDETAINED DRAINAGE AREA TO STUDY POINT "1"
DA = 6.45AC
CN= 95
TC = 15 MINS

STUDY POINT "1":
ONSITE DA TO VAULT 4
DA = 8.06 AC
CN= 98
TC = 10 MINS

STUDY POINT "1":
BLOK G DA TO VAULT 2
DA = 1.30 AC
CN= 95
TC = 10 MINS

BLOCK I

STUDY POINT "1":
BLOCK I DA TO VAULT 2
DA = 2.57 AC
CN= 95
TC = 10 MINS

BLOCK G

BLOCK E

STUDY POINT "1":
BLOCK E DA TO VAULT 2
DA = 2.30 AC
CN= 95
TC = 10 MINS

VAULT 3

STUDY POINT "1":
PARKS, ROADS, S/W, ETC.
DA TO VAULT 2
DA = 17.46 AC
CN= 95
TC = 10 MINS

STUDY POINT "1":
PORTION OF INOVA DA TO VAULT 2
DA = 3.51 AC
CN= 95
TC = 10 MINS

VAULT 2

BLOCK K

STUDY POINT "2"

STUDY POINT "1":
BLOCK H DA TO VAULT 2
DA = 1.61 AC
CN= 95
TC = 10 MINS

UNDERGROUND STRUCTURE EXTENT

BLOCK H

STUDY POINT "1":
BLOCK K DA TO VAULT 2
DA = 2.53 AC
CN= 95
TC = 10 MINS

BLOCK L

STUDY POINT "2":
ONSITE DA TO VAULT 3
DA = 20.73 AC
CN= 95
TC = 10 MINS

BLOCK J

BLOCK D

OFFSITE UNDETAINED DRAINAGE AREA TO STUDY POINT "2"
DA = 11.21AC
CN= 95
TC = 10 MINS

DUKE STREET

SOUTH VAN DORN STREET

SCALE: 1"=100'
0 50' 100' 200'

NOTE:
*ALL STORMWATER BMP FACILITIES SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY.
**DISCHARGE FROM GARAGE SUMP PUMPS MUST BYPASS BMPS AND DETENTION STRUCTURES.

APPROVED
DEVELOPMENT SITE PLAN NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR _____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
_____ DIRECTOR _____ DATE
_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
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INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

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PLAN DATE
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04-15-2022

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COMMONWEALTH OF VIRGINIA
CRAIG C. TOOK
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04-15-2022
PROFESSIONAL ENGINEER

SWM POST DEVELOPMENT PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.= 2' DATE: DEC., 2021

SHEET 14 OF 20

FILE No. DSUP-13080

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SWM PRE - Study Point "1"

SWM PRE OFFSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
4.880	98	Paved parking, HSG D
3.360	80	>75% Grass cover, Good, HSG D
8.240	91	Weighted Average
3.360		40.78% Pervious Area
4.880		59.22% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

1 Year Flow Calculations

Runoff = 16.03 cfs @ 12.15 hrs, Volume= 50,067 cf, Depth>1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 20.03 cfs @ 12.15 hrs, Volume= 63,254 cf, Depth>2.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 32.58 cfs @ 12.15 hrs, Volume= 117,174 cf, Depth>3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM PRE Onsite UNDETAINED Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
11.210	98	Paved parking, HSG D
16.130	80	>75% Grass cover, Good, HSG D
27.340	87	Weighted Average
16.130		59.00% Pervious Area
11.210		41.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 52.17 cfs @ 12.09 hrs, Volume= 136,159 cf, Depth>1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 67.33 cfs @ 12.09 hrs, Volume= 176,935 cf, Depth>1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 116.25 cfs @ 12.09 hrs, Volume= 348,346 cf, Depth>3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

STUDY POINT 1 SWM PRE FLOWS

1 Year Flow Calculations

Inflow Area = 1,549,865 sf, 45.22% Impervious, Inflow Depth >1.44" for 1-yr event
Inflow = 66.27 cfs @ 12.10 hrs, Volume= 186,226 cf
Primary = 66.27 cfs @ 12.10 hrs, Volume= 186,226 cf , Atten= 0%Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

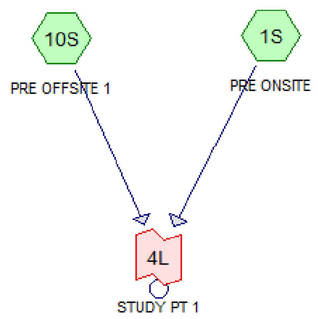
2 Year Flow Calculations

Inflow Area = 1,549,865 sf, 45.22% Impervious, Inflow Depth >1.86" for 2-yr event
Inflow = 84.95 cfs @ 12.10 hrs, Volume= 240,188 cf
Primary = 84.95 cfs @ 12.10 hrs, Volume= 240,188 cf , Atten= 0%Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

10 Year Flow Calculations

Inflow Area = 1,549,865 sf, 45.22% Impervious , Inflow Depth > 3.60" for 10-yr event
Inflow = 145.10 cfs @ 12.10 hrs, Volume= 465,520 cf
Primary = 145.10 cfs @ 12.10 hrs, Volume= 465,520 cf , Atten= 0% Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

PRE-DEVELOPMENT HYDROCAD MODEL - Study Point "1"



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DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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CHAIRMAN, PLANNING COMMISSION _____ DATE _____
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04-15-2022

SWM COMPS & NARRATIVE

LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"= C.I.= 2' DATE: DEC., 2021

SHEET 16 OF 20

FILE No. DSUP-13080

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SWM POST - Study Point "1"

SWM POST OFFSITE Undetained Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
6.449	95	Urban commercial, 85% imp, HSG D
0.967		15.00% Pervious Area
5.482		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry,**

1 Year Flow Calculations

Runoff = 14.72 cfs@ 12.15 hrs, Volume= 47,538 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 17.82 cfs@ 12.15 hrs, Volume= 58,407 cf, Depth> 2.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 27.18 cfs@ 12.15 hrs, Volume= 101,915 cf, Depth> 4.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST Block I DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
2.570	95	Urban commercial, 85% imp, HSG D
0.386		15.00% Pervious Area
2.184		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 6.98 cfs@ 12.08 hrs, Volume= 18,970 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 8.43 cfs@ 12.08 hrs, Volume= 23,306 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 12.70 cfs@ 12.08 hrs, Volume= 40,668 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST Block G DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
1.295	95	Urban commercial, 85% imp, HSG D
0.194		15.00% Pervious Area
1.101		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 3.52 cfs@ 12.08 hrs, Volume= 9,559 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 4.25 cfs@ 12.08 hrs, Volume= 11,744 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 6.40 cfs@ 12.08 hrs, Volume= 20,492 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST Block E DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
2.300	95	Urban commercial, 85% imp, HSG D
0.345		15.00% Pervious Area
1.955		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

1 Year Flow Calculations

Runoff = 6.25 cfs@ 12.08 hrs, Volume= 16,977 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 7.54 cfs@ 12.08 hrs, Volume= 20,858 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 11.36 cfs@ 12.08 hrs, Volume= 36,395 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST PORTION OF INOVA DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
3.510	95	Urban commercial, 85% imp, HSG D
0.527		15.00% Pervious Area
2.983		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 9.53 cfs @ 12.08 hrs, Volume= 25,909 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 11.51 cfs @ 12.08 hrs, Volume= 31,831 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 17.34 cfs @ 12.08 hrs, Volume= 55,542 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST Block H DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
1.610	95	Urban commercial, 85% imp, HSG D
0.242		15.00% Pervious Area
1.368		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 4.37 cfs@ 12.08 hrs, Volume= 11,884 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 5.28 cfs@ 12.08 hrs, Volume= 14,600 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 7.95 cfs@ 12.08 hrs, Volume= 25,477 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST Block K DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
2.530	95	Urban commercial, 85% imp, HSG D
0.380		15.00% Pervious Area
2.151		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 6.87 cfs@ 12.08 hrs, Volume= 18,675 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 8.30 cfs@ 12.08 hrs, Volume= 22,943 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 12.50 cfs@ 12.08 hrs, Volume= 40,035 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

SWM POST Onsite DETAINED (VAULT #2) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
3.645	95	Urban commercial, 85% imp, HSG D
0.547		15.00% Pervious Area
3.098		85.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 9.90 cfs@ 12.08 hrs, Volume= 26,905 cf, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 11.96 cfs@ 12.08 hrs, Volume= 33,055 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 18.01 cfs@ 12.08 hrs, Volume= 57,678 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

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DEVELOPMENT SITE PLAN NO. _____
DEPARTMENT OF PLANNING & ZONING
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PROFESSIONAL ENGINEER
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SWM COMPS & NARRATIVE
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"= C.I.= 2' DATE: DEC., 2021

SHEET 17+ OF 20

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SWM POST - Study Point "1"

SWM POST Onsite DETAINED (VAULT #4) Runoff Calculations

Curve Number Calculations

Area (ac)	CN	Description
8.060	98	Paved parking, HSG D
8.060		100.00% Impervious Area

Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

1 Year Flow Calculations

Runoff = 23.76 cfs @ 12.08 hrs, Volume= 68,545 cf, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 1-yr Rainfall=2.70"

2 Year Flow Calculations

Runoff = 28.16 cfs @ 12.08 hrs, Volume= 82,450 cf, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 2-yr Rainfall=3.20"

10 Year Flow Calculations

Runoff = 40.96 cfs @ 12.08 hrs, Volume= 137,581 cf, Depth> 4.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Landmark Mall 24-hr S1 10-yr Rainfall=5.20"

STUDY POINT 1 SWM POST FLOWS

1 Year Flow Calculations

Inflow Area = 1,392,570 sf, 88.78% Impervious, Inflow Depth >2.09" for 1-yr event
Inflow = 39.40 cfs @ 12.18 hrs, Volume= 242,361 cf
Primary = 39.40 cfs @ 12.18 hrs, Volume= 242,361 cf, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

2 Year Flow Calculations

Inflow Area = 1,392,570 sf, 88.78% Impervious, Inflow Depth >2.55" for 2-yr event
Inflow = 52.77 cfs @ 12.21 hrs, Volume= 296,122 cf
Primary = 52.77 cfs @ 12.21 hrs, Volume= 296,122 cf, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

10 Year Flow Calculations

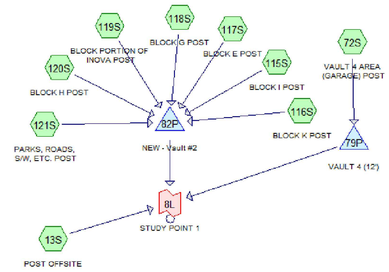
Inflow Area = 1,392,570 sf, 88.78% Impervious, Inflow Depth >4.39" for 10-yr event
Inflow = 118.46 cfs @ 12.15 hrs, Volume= 509,764 cf
Primary = 118.46 cfs @ 12.15 hrs, Volume= 509,764 cf Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs

ENERGY BALANCE METHOD TO STUDY POINT "1"

Q(Developed)=	39.40	cfs
Q(Pre-Developed)=	66.27	cfs
RV(Pre-Developed)=	4.28	ac-ft
RV(Developed)=	5.56	ac-ft
I.F. =	0.8	(0.8 for sites greater than one acre) (0.9 for sites less than or equal to one acre)

Q Developed		I.F x (Q Pre-Developed x RV Pre-Developed)/RV Developed
39.40	≤	40.81

POST-DEVELOPMENT HYDROCAD MODEL - Study Point "1"



VAULT #2

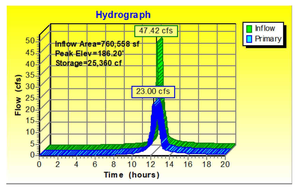
1 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf, 85.00% Impervious, Inflow Depth >2.03" for 1-yr event
Inflow = 47.42 cfs @ 12.08 hrs, Volume= 128,878 cf
Outflow = 23.00 cfs @ 12.27 hrs, Volume= 127,952 cf, Atten= 52%, Lag= 11.1 min
Primary = 23.00 cfs @ 12.27 hrs, Volume= 127,952 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 186.20' @ 12.27 hrs Surf.Area= 4,200 sf Storage= 25,360 cf

Plug-Flow detention time=15.8 min calculated for 127,888 cf (99% of inflow)
Center-of-Mass det. time=12.7 min (769.2 - 756.5)

Primary OutFlow Max=23.00 cfs @ 12.27 hrs HW=186.20' (Free Discharge)
└1=Culvert (Passes 23.00 cfs of 222.28 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 23.00 cfs @ 11.50 fps)
  └3=Orifice/Grate (Controls 0.00 cfs)
  └4=Orifice/Grate (Controls 0.00 cfs)



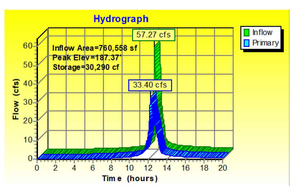
2 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf, 85.00% Impervious, Inflow Depth >2.50" for 2-yr event
Inflow = 57.27 cfs @ 12.08 hrs, Volume= 158,337 cf
Outflow = 33.40 cfs @ 12.23 hrs, Volume= 157,324 cf, Atten= 42%, Lag= 8.6 min
Primary = 33.40 cfs @ 12.23 hrs, Volume= 157,324 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 187.37' @ 12.23 hrs Surf.Area= 4,200 sf Storage= 30,290 cf

Plug-Flow detention time=15.5 min calculated for 157,324 cf (99% of inflow)
Center-of-Mass det. time=12.7 min (764.5 - 751.8)

Primary OutFlow Max=33.38 cfs @ 12.23 hrs HW=187.37' (Free Discharge)
└1=Culvert (Passes 33.38 cfs of 256.50 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 25.25 cfs @ 12.63 fps)
  └3=Orifice/Grate (Orifice Controls 8.13 cfs @ 3.47 fps)
  └4=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.09 fps)



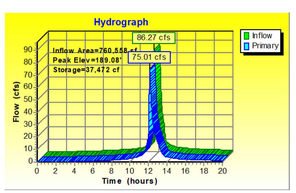
10 YEAR EVENT SUMMARY

Inflow Area = 760,558 sf, 85.00% Impervious, Inflow Depth >4.36" for 10-yr event
Inflow = 86.27 cfs @ 12.08 hrs Volume= 276,287 cf
Outflow = 75.01 cfs @ 12.14 hrs Volume= 274,936 cf, Atten= 13%, Lag= 3.5 min
Primary = 75.01 cfs @ 12.14 hrs Volume= 274,936 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 189.08' @ 12.14 hrs Surf.Area= 4,200 sf Storage= 37,472 cf

Plug-Flow detention time=12.9 min calculated for 274,798 cf (99% of inflow)
Center-of-Mass det. time=10.7 min (749.4 - 738.7)

Primary OutFlow Max=74.94 cfs @ 12.14 hrs HW=189.08' (Free Discharge)
└1=Culvert (Passes 74.94 cfs of 299.43 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 28.22 cfs @ 14.11 fps)
  └3=Orifice/Grate (Orifice Controls 18.02 cfs @ 7.21 fps)
  └4=Orifice/Grate (Orifice Controls 28.71 cfs @ 4.20 fps)



VAULT #4

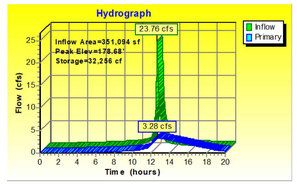
1 YEAR EVENT SUMMARY

Inflow Area = 351,094 sf ,100.00% Impervious, Inflow Depth >2.34" for 1-yr event
Inflow = 23.76 cfs @ 12.08 hrs, Volume= 68,545 cf
Outflow = 3.28 cfs @ 12.67 hrs, Volume= 66,871 cf, Atten= 86%, Lag= 35.2 min
Primary = 3.28 cfs @ 12.67 hrs, Volume= 66,871 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 178.68' @ 12.67 hrs Surf.Area= 4,200 sf Storage= 32,256 cf

Plug-Flow detention time=112.5 min calculated for 66,871 cf (98% of inflow)
Center-of-Mass det. time=101.9 min (834.7 - 732.9)

Primary OutFlow Max=3.28 cfs @ 12.67 hrs HW=178.68' (Free Discharge)
└1=Culvert (Passes 3.28 cfs of 99.40 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 3.28 cfs @ 13.12 fps)
  └3=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.03 fps)
  └4=Orifice/Grate (Controls 0.00 cfs)



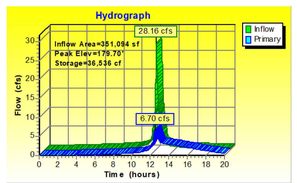
2 YEAR EVENT SUMMARY

Inflow Area = 351,094 sf ,100.00% Impervious, Inflow Depth >2.82" for 2-yr event
Inflow = 28.16 cfs @ 12.08 hrs, Volume= 82,450 cf
Outflow = 6.70 cfs @ 12.56 hrs, Volume= 80,392 cf, Atten= 76%, Lag= 28.4 min
Primary = 6.70 cfs @ 12.56 hrs, Volume= 80,392 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 179.70' @ 12.56 hrs Surf.Area= 4,200 sf Storage= 36,536 cf

Plug-Flow detention time=108.4 min calculated for 80,392 cf (98% of inflow)
Center-of-Mass det. time=97.5 min (827.0 - 729.5)

Primary OutFlow Max=6.70 cfs @ 12.56 hrs HW=179.70' (Free Discharge)
└1=Culvert (Passes 6.70 cfs of 109.02 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 3.50 cfs @ 14.00 fps)
  └3=Orifice/Grate (Orifice Controls 3.20 cfs @ 3.49 fps)
  └4=Orifice/Grate (Controls 0.00 cfs)



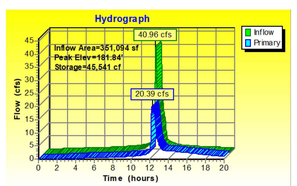
10 YEAR EVENT SUMMARY

Inflow Area = 351,094 sf ,100.00% Impervious, Inflow Depth >4.70" for 10-yr event
Inflow = 40.96 cfs @ 12.08 hrs, Volume= 137,581 cf
Outflow = 20.39 cfs @ 12.28 hrs, Volume= 132,914 cf, Atten= 50%, Lag= 11.6 min
Primary = 20.39 cfs @ 12.28 hrs, Volume= 132,914 cf

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.01 hrs
Peak Elev= 181.84' @ 12.28 hrs Surf.Area= 4,200 sf Storage= 45,541 cf

Plug-Flow detention time=88.5 min calculated for 132,914 cf (97% of inflow)
Center-of-Mass det. time=73.7 min (792.9 - 719.2)

Primary OutFlow Max=20.39 cfs @ 12.28 hrs HW=181.84' (Free Discharge)
└1=Culvert (Passes 20.39 cfs of 126.90 cfs potential flow)
  └2=Orifice/Grate (Orifice Controls 3.92 cfs @ 15.67 fps)
  └3=Orifice/Grate (Orifice Controls 7.25 cfs @ 7.91 fps)
  └4=Orifice/Grate (Orifice Controls 9.22 cfs @ 6.15 fps)



APPROVED
DEVELOPMENT SITE PLAN NO. _____
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. _____

No.	DATE	DESCRIPTION
		REVISIONS

PLAN DATE
12-10-2021
04-15-2022

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Planners • Engineers • Landscape Architects • Land Surveyors

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
PROFESSIONAL ENGINEER
04-15-2022

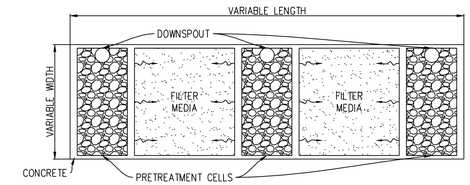
SWM COMPS & NARRATIVE
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1"= C.I.= 2' DATE: DEC., 2021

SHEET 18 OF 20

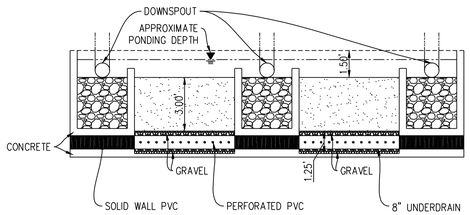
FILE No. DSUP-13080

Urban, Ltd. – J:\JOBS\Landmarkmall\DSUP\Block-K\concept 2\13080-10-SWM COMPS & NARRATIVE.dwg [POST-DEV (2)] April 15, 2022 – 11:10am yelosri

BIORETENTION FACILITY



PLAN VIEW: NOT TO SCALE



PROFILE VIEW: NOT TO SCALE

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK H

BLOCK M

BLOCK K

AMENITY TERRACE

AMENITY

COURTYARD

ROOF AREA TO BIORETENTION FACILITY AT GRADE = 60,837 SF

RESIDENTIAL TERRACE

RESIDENTIAL TERRACE

RESIDENTIAL TERRACE

ROAD 1 (PRIVATE)

ROAD 4 (PRIVATE)

ROAD 5 (PUBLIC)

ROAD 2 (PUBLIC)

ROAD 4 (PUBLIC)

EX. 12' LANEWAY

EX. BIKE LANE

TRANSIT STOP

BIKESHARE STATION

LEGEND

DRAINAGE AREA

BIORETENTION FACILITY

NOTE:
ALL STORMWATER BMP FACILITIES SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY.

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BMP PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: N/A C.I.= N/A DATE: DEC., 2021

SHEET 19 OF 51

FILE No. DSUP-13080

Urban, Ltd. - J:\JOBS\Landmarkmall\DSUP\Block-K\concept 2\13080-11-BMP PLAN.dwg [LAYOUT] April 15, 2022 - 11:11am yelsori

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 44.17

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*0*
Post-Development TP Load Reduction for Site (lb/yr):	~~20.98~~ 41.96

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 forest/open space					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				2.52	2.52
Impervious Cover (acres)				47.75	47.75
					50.27

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				2.52	2.52
Impervious Cover (acres)				47.75	47.75
Area Check	OK.	OK.	OK.	OK.	50.27

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)	2.52	2.52
Weighted Rv(turf)	0.25	0.25
% Managed Turf	5%	5%
Impervious Cover (acres)	47.75	47.75
Rv(impervious)	0.95	0.95
% Impervious	95%	95%
Total Site Area (acres)	**50.27**	**50.27**
Site Rv	**0.91**	**0.91**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	3.8327	3.8327
Pre-ReDevelopment Treatment Volume (cubic feet)	166,953	166,953
Pre-ReDevelopment TP Load (lb/yr)	**104.90**	**104.90**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	2.09	2.09
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*20.61*

LAND COVER SUMMARY – POST DEVELOPMENT

Land Cover Summary-Post (Final)

Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.52
Weighted Rv (turf)	0.25
% Managed Turf	5%
Impervious Cover (acres)	47.75
Rv(impervious)	0.95
% Impervious	95%
Final Site Area (acres)	**50.27**
Final Post Dev Site Rv	**0.91**

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.52
Weighted Rv (turf)	0.25
% Managed Turf	5%
ReDev. Impervious Cover (acres)	47.75
Rv(impervious)	0.95
% Impervious	95%
Total ReDev. Site Area (acres)	**50.27**
ReDev Site Rv	**0.91**

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	0.00
Rv(impervious)	--

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	3.8327	Post-ReDevelopment Treatment Volume (acre-ft)	3.8327	Post-Development Treatment Volume (acre-ft)	--
Final Post-Development Treatment Volume (cubic feet)	166,953	Post-ReDevelopment Treatment Volume (cubic feet)	166,953	Post-Development Treatment Volume (cubic feet)	--
Final Post-Development TP Load (lb/yr)	**104.90**	Post-ReDevelopment Load (TP) (lb/yr)*	**104.90**	Post-Development TP Load (lb/yr)	**--**
Final Post-Development TP Load per acre (lb/acre/yr)	2.09	Post-ReDevelopment TP Load per acre (lb/acre/yr)	2.09		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	20%		
		TP Load Reduction Required for Redeveloped Area (lb/yr)	**20.98**	**TP Load Reduction Required for New Impervious Area (lb/yr)**	**0**

[1] *Adjusted Land Cover Summary:*
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	~~20.98~~	41.96

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	750.41	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	750.41

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				2.52	2.52	0.25
Impervious Cover (acres)				47.75	47.75	0.95
				Total	50.27	

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
1. Vegetated Roof (RR)													
1.b. Vegetated Roof #2 (Spec #5)	60		13.99		28,947	19,298	48,245	0		30.28	18.17	12.11	
6. Bioretention (RR)													
TREEWELLS & BIORETENTION×	80		7.28	0	20,084	5,021	25,105	50	0.00	15.76	14.18	1.58	
11. Filtering Practices (no RR)													
11.a.Filtering Practice #1 (Spec #12)	0		8.06	0	0	27,795	27,795	60	0.00	17.44	10.47	6.98	

× 1.40 AC. BLOCK K ROOF TO BIORETENTION

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)	47.75	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	29.33	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	2.52	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³) 166,953

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft³)	49,031	0	0	0	0	49,031
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	104.90	0.00	0.00	0.00	0.00	104.90
TP LOAD REDUCTION ACHIEVED (lb/yr)	42.81	0.00	0.00	0.00	0.00	42.81
TP LOAD REMAINING (lb/yr)	62.08	0.00	0.00	0.00	0.00	62.08
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	271.09	0.00	0.00	0.00	0.00	271.09

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	104.90	
TP LOAD REDUCTION REQUIRED (lb/yr)	~~20.98~~	41.96
TP LOAD REDUCTION ACHIEVED (lb/yr)	42.81	
TP LOAD REMAINING (lb/yr)	62.08	
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00	**

** TARGET TP REDUCTION EXCEEDED BY ~~21.83~~ LB/YEAR ** 0.85 LB/YEAR

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	750.41
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	271.09
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	479.32

BMP NARRATIVE

STORMWATER BEST MANAGEMENT PRACTICES FOR THE SUBJECT SITE ARE BEING PROVIDED IN ACCORDANCE WITH VA DEQ AND CITY OF ALEXANDRIA STANDARDS BY USING THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM) TO MEET THE WATER QUALITY CRITERIA

THE BELOW REQUIRED TP REMOVAL IS TO BE DISTRIBUTED ACROSS THE SITE ON A PER BLOCK BASIS. THE PHOSPHOROUS LOAD REDUCTION REQUIRED BY THE VRRM WILL BE SATISFIED WITH THE UTILIZATION OF THREE (3) STORMWATER BEST MANAGEMENT PRACTICE (BMP) FACILITITIES IN CONFORMANCE WITH THE STORMWATER BMP CLEARINGHOUSE WEBSITE. THE THREE (3) BMP FACILITIES PROPOSED ARE:

- VEGETATED ROOF (LEVEL 2)
- URBAN BIORETENTION - TREEWELLS (LEVEL 2), BIORETENTION FACILITY (LEVEL 2)
- SAND FILTER (LEVEL 1)

BASED ON THE SUBJECT SITE'S PROPOSED LAND COVER, THE TOTAL PHOSPHOROUS LOAD REDUCTION REQUIRED TO BE REMOVED IS 41.96 LBS/YEAR. THE TOTAL PHOSPHOROUS LOAD REDUCTION ACHIEVED IS 42.81 LBS/YEAR, THEREFORE THE TOTAL PHOSPHOROUS LOAD REDUCTION IS EXCEEDED BY 0.85 LBS/YEAR.

"FOR INFORMATION ONLY"

NOTE:
ALL STORMWATER BMP FACILITIES AND COMPUTATIONS SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY.

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_____ DIRECTOR _____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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_____ DIRECTOR _____ DATE
_____ CHAIRMAN, PLANNING COMMISSION _____ DATE
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INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

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		REVISIONS

PLAN DATE
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04-15-2022

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CLAYTON C. TOCK
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PROFESSIONAL ENGINEER
04-15-2022

BMP COMPS & NARRATIVE
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= N/A DATE: DEC., 2021

SHEET 20 OF 51
FILE No. DSUP-13080

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-K\concept 2\13080-12-BMP COMPS & NARRATIVE.dwg [Proposed] April 15, 2022 - 11:11am yelosri

PROPOSED BMP COMPUTATIONS

Project Description

Development or Redevelopment

Drainage Area	Impervious	Pervious	Total
Site Area	47.75 ACRES	2.52 ACRES	50.27 ACRES
On-Site Treated	29.92 ACRES	0.00 ACRES	29.92 ACRES
Off-Site Treated	0 ACRES	0 ACRES	0 ACRES
Total Treated	29.92 ACRES		
Any On-Site Disconnected by a Vegetated Buffer (25 ft)	0 ACRES		
Total On-Site Treated or Disconnected			29.92 ACRES

Water Treatment on site

BMP Type	*Area treated by BMP (acres)*	*Impervious area treated by BMP (acres)*	*BMP efficiency (%)*
SAND FILTER	8.06 ACRES	8.06 ACRES	60 %
TREEWELL	4.79 ACRES	4.79 ACRES	50 %
GREEN ROOF	17.07 ACRES	17.07 ACRES	60 %

Miscellaneous

Total WQV treated: yes no
Detention on site: yes no

Project is within which watershed? HOLMES RUN WATERSHED

Project discharges to which body of water? HOLMES RUN

PROPOSED WQV TREATMENT:

TOTAL SITE PROP. IMPERVIOUS AREA = 47.75 AC OR 2,079,990 SF

TOTAL SITE WQV REQUIRED = 2,079,990 SF X (0.5 IN/12 IN/FT) = 86,666.25 CF

PROP. TREATED IMPERVIOUS AREA = 29.92 AC OR 1,303,315 SF

TOTAL SITE WQV PROPOSED = 58,866 CF + 16,518 CF + 27,795 CF = 103,179 CF (SEE SHEET C.605 FOR TOTAL BMP TREATMENT VOLUME VALUES FROM MASTER SWM PLAN (DSP#2021-00017))

ACTUAL BMP COMPUTATIONS

Project Description

Development or Redevelopment

Drainage Area	Impervious	Pervious	Total
Site Area	47.75 ACRES	2.52 ACRES	50.27 ACRES
On-Site Treated	29.33 ACRES	0.00 ACRES	29.33 ACRES
Off-Site Treated	0 ACRES	0 ACRES	0 ACRES
Total Treated	29.33 ACRES		
Any On-Site Disconnected by a Vegetated Buffer (25 ft)	0 ACRES		
Total On-Site Treated or Disconnected			29.33 ACRES

Water Treatment on site

BMP Type	*Area treated by BMP (acres)*	*Impervious area treated by BMP (acres)*	*BMP efficiency (%)*
SAND FILTER	8.06 ACRES	8.06 ACRES	60 %
TREEWELL	4.79 ACRES	4.79 ACRES	50 %
GREEN ROOF	13.99 ACRES	13.99 ACRES	60 %
BIORETENTION	2.49 ACRES	2.49 ACRES	50 %

Miscellaneous

Total WQV treated: yes no
Detention on site: yes no

Project is within which watershed? HOLMES RUN WATERSHED

Project discharges to which body of water? HOLMES RUN

ACTUAL WQV TREATMENT:

TOTAL SITE PROP. IMPERVIOUS AREA = 47.75 AC OR 2,079,990 SF

TOTAL SITE WQV REQUIRED = 2,079,990 SF X (0.5 IN/12 IN/FT) = 86,666.25 CF

PROP. TREATED IMPERVIOUS AREA = 29.33 AC OR 1,277,615 SF

TOTAL SITE WQV PROPOSED = 48,245 CF + 25,105 CF + 27,795 CF = 101,145 CF (SEE SHEET 20 FOR TOTAL BMP TREATMENT VOLUME VALUES)

"FOR INFORMATION ONLY"

NOTE:
ALL STORMWATER BMP FACILITIES AND COMPUTATIONS SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY.

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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DIRECTOR DATE
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PROFESSIONAL ENGINEER
04-15-2022

WQVD DATA BLOCKS

LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

DATE: DEC., 2021
C.I.= N/A
SCALE: N/A

SHEET 21 OF 51

FILE No. DSUP-13080

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LANDMARK MASTER OPEN SPACE CALCULATIONS

DSUP	Block	Lot Area SF	Lot Area AC	Publicly Accessible	At Grade	Above Grade	Transferred Block Open Space (1)	Mandatory Open Space Blocks	Onsite Transferred Mandatory Open Space	Remaining Mandatory Open Space (AC.)	Total	Percent OS/Block	Sitewide Open Space SF	Sitewide Open Space AC	Notes
								0 SF	0 SF	0 SF					
CDSP 2022-00011	Hospital Campus (A,B,C)	416,577 SF	9.56 AC	No	62,500 SF	10,000 SF	0 SF	0 SF			72,500 SF	15.00%	72,500 SF	1.66 AC	
	Block D	60,360 SF	1.39 AC	No					0 SF	-	0 SF			0.00 AC	
CDSP 2021-00013	Block E	99,982 SF	2.30 AC	No	2,570 SF	24,677 SF	-525 SF		0 SF	-	26,722 SF	26.73%		0.00 AC	525 SF transfer to Block G
	Block F	22,739 SF	0.52 AC	Yes	0 SF	0 SF	0 SF	22,739 SF	0 SF	0.52	22,739 SF	0	22,739 SF	0.52 AC	
CDSP 2021-00013	Block G	55,393 SF	1.27 AC	No	1,645 SF	6,785 SF	525 SF		5,320 SF	-	14,275 SF	25.77%		0.00 AC	525 SF transfer from Block E, 5,320 SF transfer from Block N
	Block H	89,320 SF	2.05 AC	No				-	0 SF	-	0 SF			0.00 AC	
CDSP 2021-00014	Block I	112,066 SF	2.57 AC	No	6,123 SF	33,017 SF	0 SF	-	0 SF	-	39,140 SF	34.93%	39,140 SF	0.90 AC	
	Block J	80,597 SF	1.85 AC	No				-	0 SF	-	0 SF			0.00 AC	
CDSP 2021-00015	Block K	98,964 SF	2.27 AC	No	1,532 SF	24,246 SF	0 SF	-	0 SF	-	25,778 SF	26.05%	25,778 SF	0.59 AC	
	Block L	133,629 SF	3.07 AC	No				-	0 SF	-	0 SF			0.00 AC	
	Block M	120,815 SF	2.77 AC	No				-	0 SF	-	0 SF			0.00 AC	
	Block N	17,699 SF	0.41 AC	Yes	0 SF	0 SF	0 SF	17,699 SF	-5,320 SF	0.28	12,379 SF	69.94%	12,379 SF	0.28 AC	5,320 SF transfer to Block G
	Block P	114,050 SF	2.62 AC	Yes	0 SF	0 SF	0 SF	114,050 SF	0 SF	2.61	114,050 SF	100.00%	114,050 SF	2.62 AC	
	Block Q	14,581 SF	0.33 AC	Yes	0 SF	0 SF	0 SF	14,581 SF	0 SF	0.33	14,581 SF	100.00%	14,581 SF	0.33 AC	
	Block R	10,179 SF	0.23 AC	Yes	0 SF	0 SF	0 SF	10,179 SF	0 SF	0.23	10,179 SF	100.00%	10,179 SF	0.23 AC	
	Road 7 Bridge		0.00 AC	No	0 SF	0 SF	0 SF	-	0 SF	-	0 SF	0	0 SF	0.00 AC	
									TOTAL	3.98			311,346 SF	7.15 AC	

1. See sheet L002 for Block Parks Public and Private open space locations.
2. See "Notes" column for explanation of where open space was transferred from or to.
3. Per condition 69 of CDD 2020-00007, if development Blocks D, E, G, H, I, J, K, L and M cannot meet their individual open space requirements, then the unmet portion may be accommodated as publicly accessible ground-level open space on adjacent blocks within the CDD Plan Area. Area in excess of the required 3.5 acres of publicly accessible open spaces provided on Blocks F, N, P, Q, and R may contribute towards the unmet portions of development blocks outside the Hospital Campus, as determined through the DSUP process.
4. Mandatory OS AC. cannot fall below 3.5 Acres.

LEGEND

- BLOCK K LOT LINE
- DSUP APPLICATION AREA
- OPEN SPACE PROVIDED FOR RESPECTIVE BLOCKS
- PUBLICLY ACCESSIBLE OPEN SPACE

HENRY G. SHIRLEY MEMORIAL HIGHWAY
INTERSTATE 395
VARIABLE WIDTH R/W
PUBLIC STREET

VA STATE GRID NORTH

N

BLOCK S

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK E

BLOCK A/B

T.M #047.02-03-10
LOT 601
452,443 S.F.
10.3867 ACRES

BLOCK G

BLOCK I

TERRACE PARK

BLOCK Q

BLOCK F

BLOCK N

BLOCK C

PASEO

NORTH VAN DORN STREET
VARIABLE WIDTH R/W
PUBLIC STREET

BLOCK H

BLOCK K

BLOCK D

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK M

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK J

VA STATE GRID NORTH

SOUTH WALKER STREET

DUKE STREET
VARIABLE WIDTH R/W
PUBLIC STREET

BLOCK L

APPROVED

DEVELOPMENT SITE PLAN NO. _____

DEPARTMENT OF PLANNING & ZONING

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_____ DIRECTOR _____ DATE

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PROFESSIONAL ENGINEER

OPEN SPACE MASTER PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' | C.I.= N/A | DATE: DEC., 2021

SHEET 22 OF 51

FILE No. DSUP-13080

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T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK H

BLOCK M

ROAD 1 (PRIVATE)

ROAD 2 (PUBLIC)

ROAD 4 (PRIVATE)

ROAD 5 (PUBLIC)

AMENITY TERRACE

AMENITY

ROOF TOP OPEN SPACE

RESIDENTIAL TERRACE

COURTYARD

RESIDENTIAL TERRACE

RESIDENTIAL TERRACE

LIMITS OF DISTURBANCE

EX. BIKE LANE

EX. GARDEN PLANTING (TYP.)

PROP. RELOCATED LIGHT POLE

EX. CSES-1/PRIVATE ENTRANCE

TRANSIT STOP

TRANSIT STOP

TRANSIT STOP

BIKESHARE STATION

EX. TREE WELL (TYP.)

CSCG-1

CSES-1

15R

25R

150'R

198'R

5R

5'R

8'R

N 6982936 E 1182811

N 6982798 E 1182811

N 6983093 E 1182420

NAD 1983 NORTH STATE GRID

OPEN SPACE CALCULATION:

BLOCK K SITE AREA: 2.27 AC.

OPEN SPACE REQUIRED: 24,741 SF OR 0.57 AC. (25% OF DEVELOPMENT AREA)

OPEN SPACE PROVIDED:

AT-GRADE OPEN SPACE: 1,532 SF

ABOVE-GRADE OPEN SPACE: 24,246 SF

TOTAL OPEN SPACE PROVIDED: 0.64 AC. OR 25,778 SF (26.05%)

LEGEND

LOT LINES

DSUP APPLICATION AREA

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04-15-2022

OPEN SPACE PLAN

LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

DATE: DEC., 2021

SCALE: 1"=20'

C.I.=N/A

SHEET
23
OF
51

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PEDESTRIAN ROUTE

BIKE ROUTE

EX. STOP SIGN (TYP.)

EX. RET. WALL (TYP.)

ROAD 1 (PRIVATE)

EX. BIKE LANE

EX. TURN LANE

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK H

BLOCK K

BLOCK M

ROAD 4 (PRIVATE)

ROAD 5 (PUBLIC)

ROAD 2 (PUBLIC)

ROAD 3 (PUBLIC)

RETAIL

RESIDENTIAL LOBBY

RESIDENTIAL ENTRY

RETAIL ENTRY

SERVICE

RESIDENTIAL TRASH

RETAIL TRASH

RES ELEV LOBBY

BIKE STORAGE

LOADING / UNLOADING ZONE

EGRESS

TRANSFORMER VAULT BELOW

PROP. RELOCATED LIGHT POLE

EX. GARDEN PLANTING (TYP.)

TREE WELL (TYP.)

TRANSIT STOP

BIKESHARE STATION

VEHICLE ROUTE

PEDESTRIAN ROUTE

BIKE ROUTE

N 6982936 E 1197484

N 6982982 E 1197484

N 6982795 E 1197484

N 6983061 E 1197484

N 6983790 E 1197484

LEGEND

- PEDESTRIAN ROUTE
- VEHICLE ROUTE
- BIKE ROUTE

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04-15-2022

PEDESTRIAN EXHIBIT

LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=50' C.I.=N/A DATE: DEC., 2021

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24
OF
51

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T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

BLOCK H

BLOCK K

BLOCK M

ROAD 1 (PRIVATE)

ROAD 2 (PUBLIC)

ROAD 4 (PRIVATE)

ROAD 5 (PUBLIC)

230' BUILDING COVERAGE LINE

277' BUILDING COVERAGE LINE

269' BUILDING COVERAGE LINE

375' BUILDING COVERAGE LINE

EX. BIKE LANE

EX. WATERMAIN

EX. FH

EX. WELL (TYP.)

EX. GARDEN PLANTING (TYP.)

PROP. RELOCATED LIGHT POLE

DOM. TO BLDG K

FIRELINE TO BLDG K

17'X30' Bay

9.3% RAMP UP

7.0% DN

13.2% DN

15.0% UP

7.5% UP

5.1%

TRANSIT STOP

BIKESHARE STATION

N 6982936 E 1187858

N 6982798 E 1187811

TOTAL BUILDING K RESIDENTIAL PERIMETER = 1256 FT.

BUILDING PERIMETER COVERED = 277 FT. (22.05%) FROM PRIVATE ROAD 4
BUILDING PERIMETER COVERAGE =375 FT. (29.86%) FROM PUBLIC ROAD 2
BUILDING PERIMETER COVERED = 269 FT. (21.42%) FROM PUBILC ROAD 5
BUILDING PERIMETER COVERAGE =230 FT. (18.31%) FROM PRIVATE ROAD 1

TOTAL BUILDING E RESI. COVERAGE = 1,151FT. (91.64%)

GROUP CLASSIFICATION: CDD-2

LEGEND

LOT LINES

FIRE SERVICE ACCESS

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FIRE SERVICE PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

DATE: DEC., 2021
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SHEET 25 OF 51

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This Plan Prepared or Approved by:
John Lightle, ISA Certified Arborist
MA-5174A

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OVERALL TREE INVENTORY PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=100' C.I.=2' DATE: DEC., 2021

SHEET
26
OF
51

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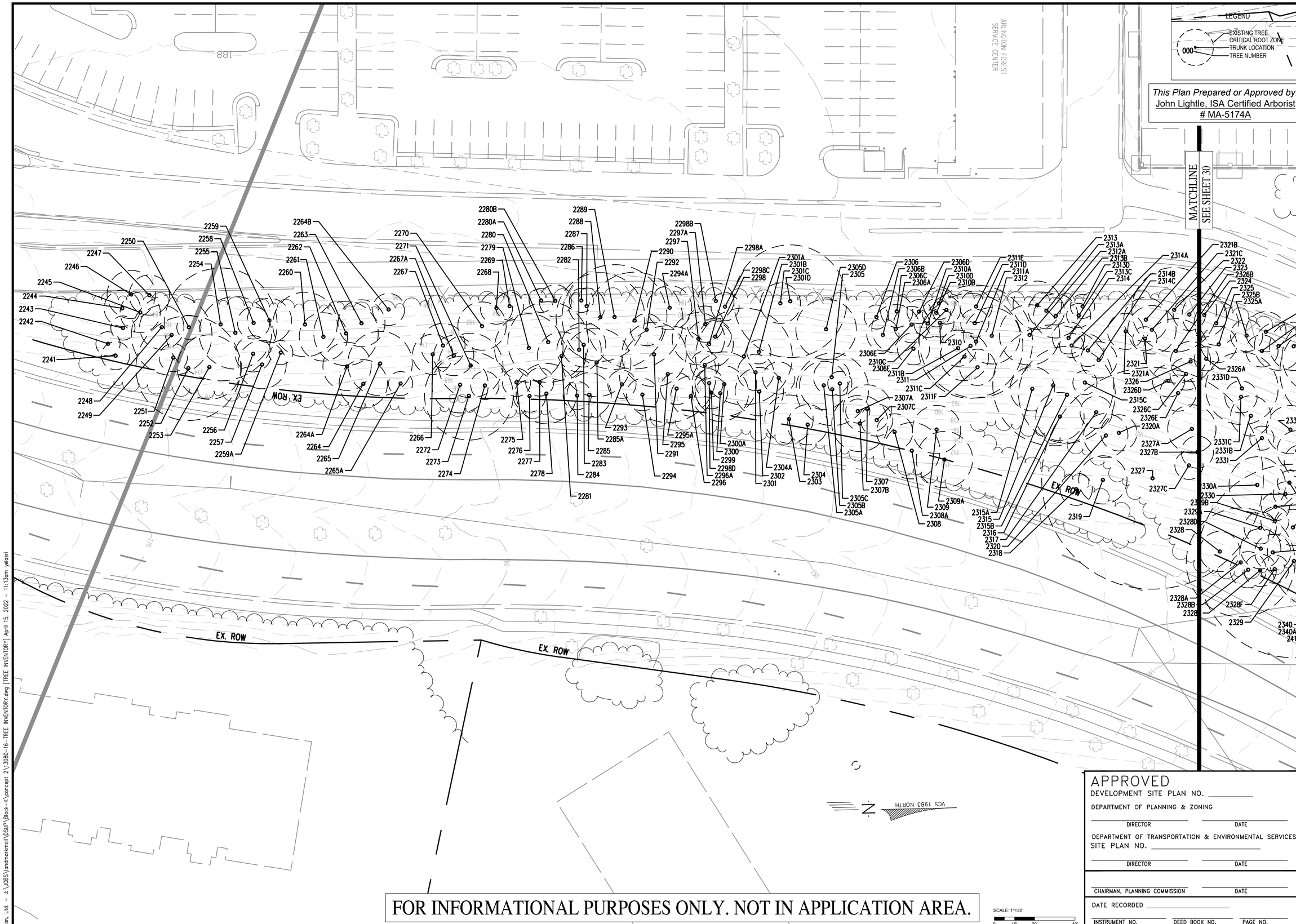

This Plan Prepared or Approved by:
John Lightle, ISA Certified Arborist
MA-5174A

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COMMONWEALTH OF VIRGINIA
John Lightle
Lic. No. 1957
04-15-2022
LANDSCAPE ARCHITECT

TREE INVENTORY PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.= 2' DATE: DEC., 2021

SHEET
27
OF
51

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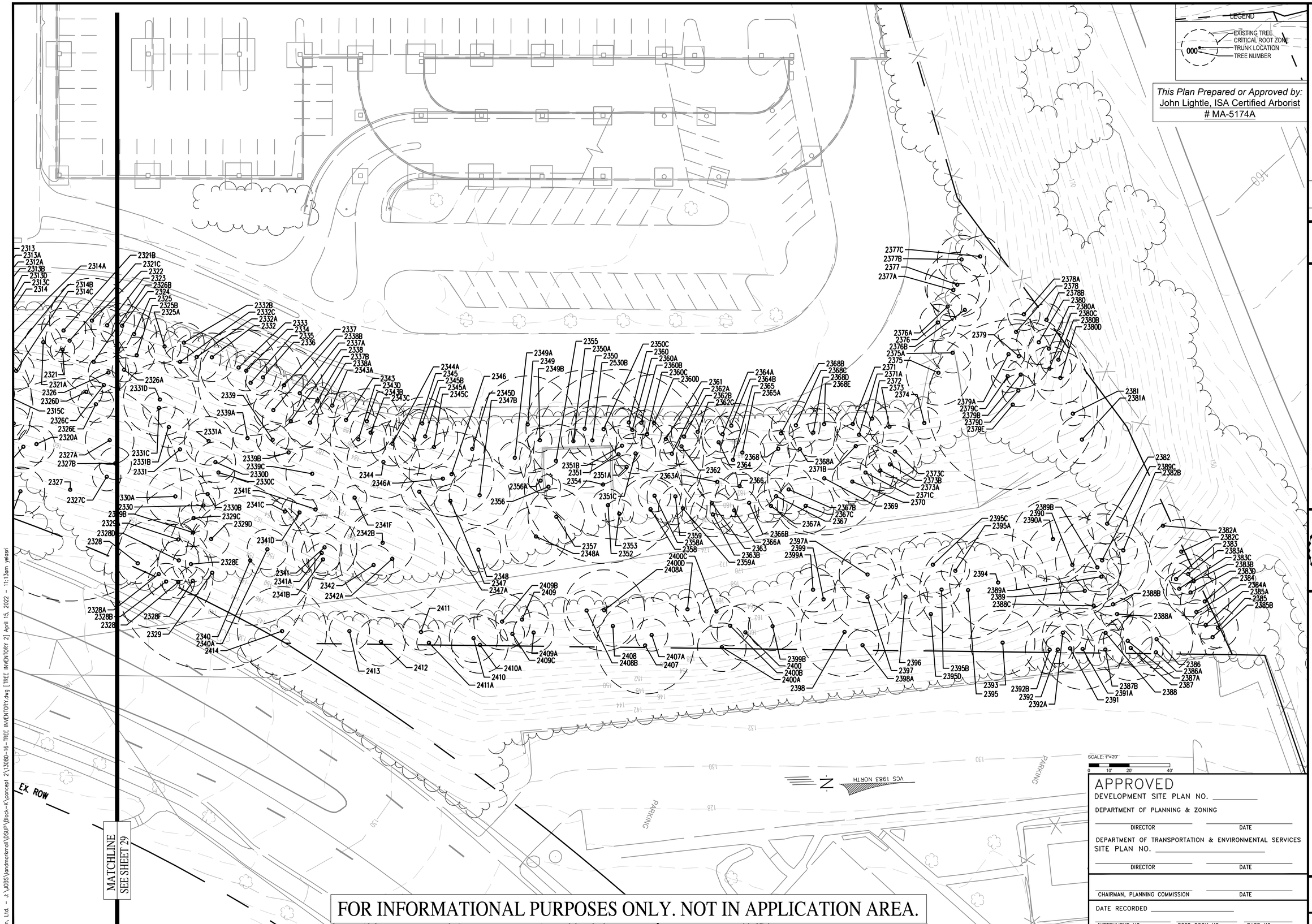

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COMMONWEALTH OF VIRGINIA
John Lightle
Lic. No. 1957
LANDSCAPE ARCHITECT
4/15/2022

TREE INVENTORY PLAN
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A C.I.= 2' DATE: DEC., 2021

SHEET 28 OF 51

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TREE INVENTORY & CONDITION ANALYSIS

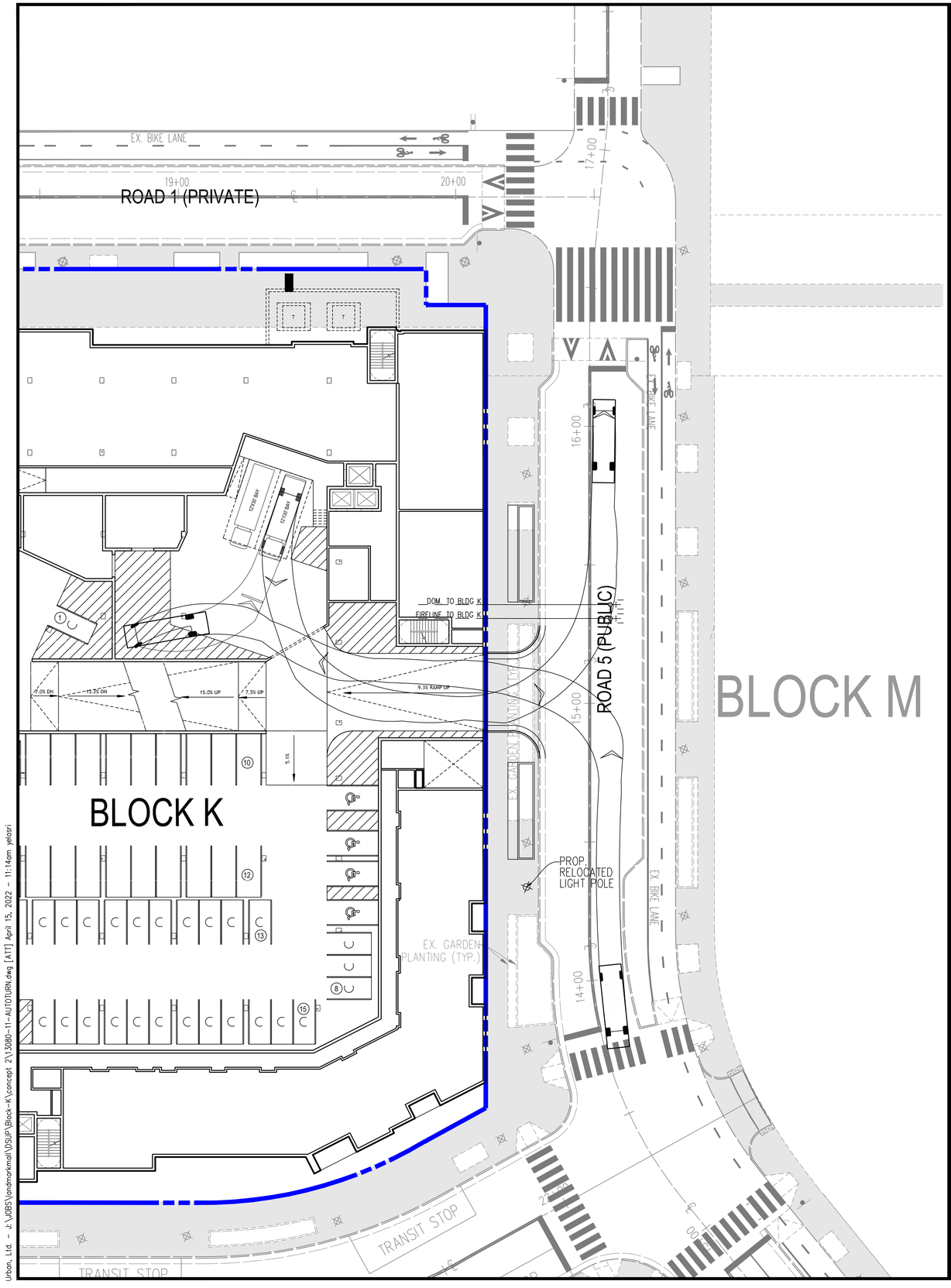
TREE #	BOTANICAL NAME	COMMON NAME	TRUNK SIZE	CRZ SIZE	TRUNK ELEVATION	CRZ ELEVATION	COMMENTS	CONDITION RATING
			DBH (in.)	R (ft.)	Elevation (ft.)	Elevation (ft.)		
2241	*Ailanthus altissima*	Tree of Heaven	7"	7'	177.00	176.50		62.50
2242	*Ailanthus altissima*	Tree of Heaven	6"	6'	179.00	178.50	Crooked	43.75
2243	*Ailanthus altissima*	Tree of Heaven	6"	6'	181.50	181.00		62.50
2244	*Robinia pseudoacacia*	Black Locust	9"	9'	183.75	183.25	Leaning	53.13
2245	*Robinia pseudoacacia*	Black Locust	10"	10'	183.75	183.25		59.38
2246	*Ailanthus altissima*	Tree of Heaven	12"	12'	185.50	185.00		62.50
2247	*Robinia pseudoacacia*	Black Locust	10"	10'	185.50	185.00	Dead	0.00
2248	*Ailanthus altissima*	Tree of Heaven	11"	11'	181.50	181.00		59.38
2249	*Robinia pseudoacacia*	Black Locust	20"	20'	180.00	179.50	Co-dominant, Poor	31.25
2250	*Prunus serotina*	Black Cherry	6"	6'	181.25	180.75		62.50
2251	*Ailanthus altissima*	Tree of Heaven	7"	7'	176.50	176.00		62.50
2252	*Quercus rubra*	Red Oak	26"	26'	174.75	174.25	Co-dominant	43.75
2253	*Quercus alba*	White Oak	16"	16'	174.75	174.25	Co-dominant, Poor, Leaning	28.13
2254	*Quercus rubra*	Red Oak	28"	28'	181.50	181.00		62.50
2255	*Quercus rubra*	Red Oak	18"	18'	179.75	179.25		59.38
2256	*Robinia pseudoacacia*	Black Locust	9"	9'	175.75	175.25		62.50
2257	*Robinia pseudoacacia*	Black Locust	12"	12'	173.75	173.25		71.88
2258	*Robinia pseudoacacia*	Black Locust	8"	8'	181.75	181.25		59.38
2259	*Robinia pseudoacacia*	Black Locust	11"	11'	182.00	181.50		62.50
2259A	*Quercus rubra*	Red Oak	6"	6'	175.75	175.25	AFA	53.13
2260	*Quercus rubra*	Red Oak	16"	16'	181.00	180.50		62.50
2261	*Quercus rubra*	Red Oak	12"	12'	178.50	178.00	Leaning	43.75
2262	*Quercus rubra*	Red Oak	16"	16'	179.00	178.50	Dead	0.00
2263	*Quercus rubra*	Red Oak	10"	10'	181.00	180.50	Dead	0.00
2264	*Robinia pseudoacacia*	Black Locust	12"	12'	169.00	168.50		62.50
2264A	*Ailanthus altissima*	Tree of Heaven	12"	12'	172.75	172.25	Co-dominant	65.63
2264B	*Ailanthus altissima*	Tree of Heaven	8"	8'	183.75	183.25	AFA	53.13
2265	*Quercus rubra*	Red Oak	16"	16'	171.75	171.25		53.13
2265A	*Ailanthus altissima*	Tree of Heaven	6"	6'	169.00	168.50		62.50
2266	*Robinia pseudoacacia*	Black Locust	10"	10'	173.50	173.00		56.25
2267	*Ailanthus altissima*	Tree of Heaven	11"	11'	175.00	174.50		62.50
2267A	*Prunus serotina*	Black Cherry	10"	10'	173.00	172.50	AFA	53.13
2268	*Ulmus americana*	American Elm	8"	8'	183.00	182.50		56.25
2269	*Prunus serotina*	Black Cherry	7"	7'	183.50	183.00	Lost Limbs, Poor	31.25
2270	*Ailanthus altissima*	Tree of Heaven	12"	12'	179.00	178.50		56.25
2271	*Robinia pseudoacacia*	Black Locust	16"	16'	171.00	170.50	Dead	0.00
2272	*Unknown*	Unknown	14"	14'	167.00	166.50	Dead	0.00
2273	*Robinia pseudoacacia*	Black Locust	22"	22'	164.50	164.00	Dead	0.00
2274	*Prunus serotina*	Black Cherry	7"	7'	166.50	166.00		53.13
2275	*Ailanthus altissima*	Tree of Heaven	7"	7'	166.00	165.50	Dead	0.00
2276	*Ailanthus altissima*	Tree of Heaven	8"	8'	162.50	162.00	Dead	0.00
2277	*Prunus serotina*	Black Cherry	7"	7'	165.00	164.50	Leaning	62.50
2278	*Prunus serotina*	Black Cherry	15"	15'	162.50	162.00	Co-Dominant	53.13
2279	*Unknown*	Unknown	17"	17'	173.00	172.50	Multi-stem, Dead	0.00
2280	*Robinia pseudoacacia*	Black Locust	20"	20'	174.00	173.50	Poor	31.25
2280A	*Unknown*	Unknown	6"	6'	185.00	184.50		62.50
2280B	*Ailanthus altissima*	Tree of Heaven	8"	8'	185.00	184.50	Co-Dominant	62.50
2281	*Prunus serotina*	Black Cherry	12"	12'	170.50	170.00		53.13
2282	*Ailanthus altissima*	Tree of Heaven	11"	11'	172.00	171.50		62.50
2283	*Ailanthus altissima*	Tree of Heaven	8"	8'	173.00	172.50		53.13
2284	*Prunus serotina*	Black Cherry	7"	7'	163.50	163.00		62.50
2285	*Robinia pseudoacacia*	Black Locust	11"	11'	163.50	163.00	Dead	0.00
2285A	*Quercus rubra*	Red Oak	14"	14'	168.50	168.00	AFA, Vines	43.75
2286	*Ailanthus altissima*	Tree of Heaven	6"	6'	185.50	185.00	Poor	31.25
2287	*Ailanthus altissima*	Tree of Heaven	9"	9'	184.00	183.50		53.13
2288	*Robinia pseudoacacia*	Black Locust	22"	22'	180.00	179.50		62.50
2289	*Prunus serotina*	Black Cherry	26"	26'	180.00	179.50		62.50
2290	*Ailanthus altissima*	Tree of Heaven	24"	24'	178.00	177.50		53.13
2291	*Unknown*	Unknown	16"	16'	170.00	169.50	Dead	0.00
2292	*Ailanthus altissima*	Tree of Heaven	8"	8'	175.50	175.00		53.13
2293	*Robinia pseudoacacia*	Black Locust	7"	7'	163.00	162.50		62.50
2294	*Ailanthus altissima*	Tree of Heaven	8"	8'	175.50	175.00		62.50
2294A	*Robinia pseudoacacia*	Black Locust	11"	11'	182.00	181.50	Leaning	53.13
2295	*Robinia pseudoacacia*	Black Locust	24"	24'	165.00	164.50	Co-Dominant, Poor	31.25
2295A	*Ailanthus altissima*	Tree of Heaven	8"	8'	162.00	161.50	Leaning	53.13
2296	*Prunus serotina*	Black Cherry	10"	10'	160.50	160.00	Leaning	40.63
2296A	*Ailanthus altissima*	Tree of Heaven	7"	7'	167.50	167.00	Crooked	43.75
2297	*Prunus serotina*	Black Cherry	13"	13'	173.50	173.00	Leaning	46.88
2297A	*Ailanthus altissima*	Tree of Heaven	9"	9'	177.00	176.50	Crooked	50.00
2298	*Ailanthus altissima*	Tree of Heaven	8"	8'	174.00	173.50		53.13
2298A	*Unknown*	Unknown	12"	12'	172.50	172.00	Dead	0.00
2298B	*Prunus serotina*	Black Cherry	9"	9'	185.00	184.50		65.63
2298C	*Prunus serotina*	Black Cherry	7"	7'	183.00	182.50		68.75
2298D	*Unknown*	Unknown	7"	7'	163.00	162.50	Dead	0.00
2299	*Ailanthus altissima*	Tree of Heaven	8"	8'	161.00	160.50		59.38
2300	*Ulmus americana*	American Elm	14"	14'	161.00	160.50	Vines	53.13
2300A	*Ulmus americana*	American Elm	16"	16'	163.00	162.50	Vines	62.50
2301	*Ailanthus altissima*	Tree of Heaven	9"	9'	166.00	165.50	Up Rooting	62.50
2301A	*Ailanthus altissima*	Tree of Heaven	24"	24'	170.00	169.50	Co-Dominant	53.13
2301B	*Ailanthus altissima*	Tree of Heaven	6"	6'	171.00	170.50		65.63
2301C	*Prunus serotina*	Black Cherry	10"	10'	183.00	182.50	Co-Dominant	68.75
2301D	*Ulmus americana*	American Elm	28"	28'	184.00	183.50	Multistem	53.13
2302	*Robinia pseudoacacia*	Black Locust	12"	12'	162.00	161.50		62.50
2303	*Ailanthus altissima*	Tree of Heaven	12"	12'	157.00	156.50		62.50
2304	*Ulmus americana*	American Elm	10"	10'	156.00	155.50		53.13
2304A	*Prunus serotina*	Black Cherry	8"	8'	165.00	164.50		59.38
2305	*Unknown*	Unknown	9"	9'	166.00	165.50	Dead	0.00
2305A	*Ailanthus altissima*	Tree of Heaven	12"	12'	164.00	163.50		59.38
2305B	*Ailanthus altissima*	Tree of Heaven	18"	18'	163.00	162.50	Co-Dominant	53.13
2305C	*Ailanthus altissima*	Tree of Heaven	6"	6'	165.00	164.50		62.50
2305D	*Prunus serotina*	Black Cherry	15"	15'	177.00	176.50		62.50
2306	*Ailanthus altissima*	Tree of Heaven	6"	6'	183.00	182.50		53.13
2306A	*Robinia pseudoacacia*	Black Locust	12"	12'	179.00	178.50	Heavy Leaning	28.13
2306B	*Prunus serotina*	Black Cherry	8"	8'	177.00	176.50		59.38
2306C	*Ailanthus altissima*	Tree of Heaven	8"	8'	185.00	184.50		53.13
2306D	*Ulmus americana*	American Elm	6"	6'	185.00	184.50		62.50
2306E	*Prunus serotina*	Black Cherry	9"	9'	181.00	180.50	Co-Dominant, Leaning	62.50
2306F	*Carya glabra*	Pignut Hickory	8"	8'	174.00	173.50		53.13
2307	*Ailanthus altissima*	Tree of Heaven	12"	12'	159.00	158.50		59.38
2307A	*Ailanthus altissima*	Tree of Heaven	6"	6'	159.00	158.50	Dead	0.00
2307B	*Ailanthus altissima*	Tree of Heaven	14"	14'	156.00	155.50		65.63
2307C	*Ailanthus altissima*	Tree of Heaven	8"	8'	157.00	156.50		68.75
2308	*Juniperus virginiana*	Eastern Red Cedar	9"	9'	155.00	154.50	Vines	59.38
2308A	*Juniperus virginiana*	Eastern Red Cedar	14"	14'	152.00	151.50		65.63
2309	*Ailanthus altissima*	Tree of Heaven	12"	12'	156.00	155.50		68.75
2309A	*Ulmus americana*	American Elm	14"	14'	151.00	150.50		53.13
2310	*Ailanthus altissima*	Tree of Heaven	7"	7'	182.00	181.50		62.50
2310A	*Ailanthus altissima*	Tree of Heaven	7"	7'	181.00	180.50		62.50
2310B	*Ailanthus altissima*	Tree of Heaven	7"	7'	185.00	184.50		53.13
2310C	*Ailanthus altissima*	Tree of Heaven	7"	7'	186.00	185.50		53.13
2310D	*Ailanthus altissima*	Tree of Heaven	8"	8'	188.00	187.50		62.50
2311	*Ailanthus altissima*	Tree of Heaven	26"	26'	175.00	174.50		62.50
2311A	*Robinia pseudoacacia*	Black Locust	28"	28'	176.00	175.50		53.13
2311B	*Ailanthus altissima*	Tree of Heaven	9"	9'	174.00	173.50	Poor	28.13
2311C	*Ailanthus altissima*	Tree of Heaven	12"	12'	173.00	172.50	Dead	0.00
2311D	*Juniperus virginiana*	Eastern Red Cedar	7"	7'	182.00	181.50		65.63
2311E	*Ailanthus altissima*	Tree of Heaven	8"	8'	187.00	186.50		68.75
2311F	*Ailanthus altissima*	Tree of Heaven	9"	9'	170.00	169.50		53.13
2312	*Ulmus americana*	American Elm	14"	14'	178.00	177.50	Vines	62.50
2312A	*Quercus rubra*	Red Oak	15"	15'	180.00	179.50	Vines	62.50
2313	*Robinia pseudoacacia*	Black Locust	12"	12'	189.00	188.50		53.13
2313A	*Robinia pseudoacacia*	Black Locust	9"	9'	187.00	186.50		59.38
2313B	*Ailanthus altissima*	Tree of Heaven	11"	11'	185.50	185.00		53.13
2313C	*Ailanthus altissima*	Tree of Heaven	6"	6'	186.00	185.50		62.50
2313D	*Ailanthus altissima*	Tree of Heaven	6"	6'	189.00	188.50		62.50
2314	*Ailanthus altissima*	Tree of Heaven	8"	8'	178.00	177.50		53.13
2314A	*Unknown*	Unknown	6"	6'	177.00	176.50	Dead	0.00
2314B	*Ailanthus altissima*	Tree of Heaven	8"	8'	176.00	175.50		65.63
2314C	*Ailanthus altissima*	Tree of Heaven	9"	9'	174.00	173.50		68.75
2315	*Ailanthus altissima*	Tree of Heaven	30"	30'	167.00	166.50	Multistem	65.63

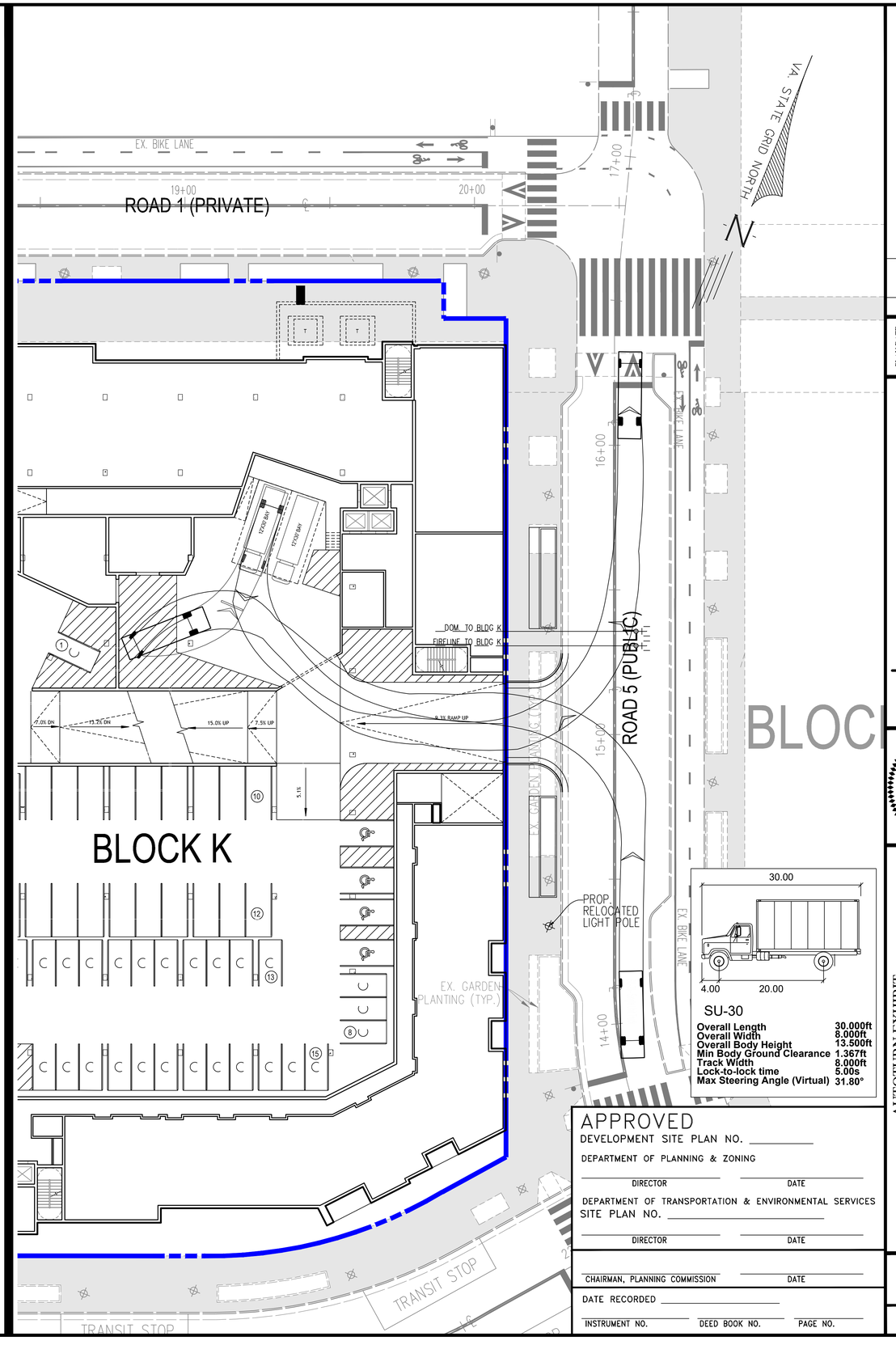
TREE INVENTORY & CONDITION ANALYSIS

TREE #	BOTANICAL NAME	COMMON NAME	TRUNK SIZE	CRZ SIZE	TRUNK ELEVATION	CRZ ELEVATION	COMMENTS	CONDITION RATING
			DBH (in.)	R (ft.)	Elevation (ft.)	Elevation (ft.)		
2315A	*Ailanthus altissima*	Tree of Heaven	11"	11'	165.00	164.50		68.75
2315B	*Ailanthus altissima*	Tree of Heaven	24"	24'	164.00	163.50	Multistem	53.13
2315C	*Ailanthus altissima*	Tree of Heaven	6"	6'	168.00	167.50		62.50
2316	*Ailanthus altissima*	Tree of Heaven	12"	12'	160.00	159.50		62.50
2317	*Ulmus americana*	American Elm	8"	8'	162.00	161.50		53.13
2318	*Ailanthus altissima*	Tree of Heaven	8"	8'	148.00	147.50		59.38
2319	*Ulmus americana*	American Elm	12"	12'	149.00	148.50	Leaning, Poor	28.13
2320	*Ailanthus altissima*	Tree of Heaven	11"	11'	158.00	157.50		65.63
2320A	*Ailanthus altissima*	Tree of Heaven	9"	9'	159.00	158.50		68.75
2321	*Ailanthus altissima*	Tree of Heaven	6"	6'	183.00	182.50		53.13
2321A	*Juniperus virginiana*	Eastern Red Cedar	9"	9'	183.00	182.50		62.50
2321B	*Ailanthus altissima*	Tree of Heaven	11"	11'	187.00	186.50		62.50
2321C	*Robinia pseudoacacia*	Black Locust	12"	12'	185.00	184.50		53.13
2322	*Ailanthus altissima*	Tree of Heaven	21"	21'	191.00	190.50	Poor, Co-Dominant	28.13
2323	*Ailanthus altissima*	Tree of Heaven	8"	8'	190.00	189.50		65.63
2324	*Robinia pseudoacacia*	Black Locust	11"	11'	194.00	193.50		68.75
2325	*Robinia pseudoacacia*	Black Locust	12"	12'	190.00	189.50	Poor	28.13
2325A	*Ailanthus altissima*	Tree of Heaven	8"	8'	190.00	189.50		59.38
2325B	*Robinia pseudoacacia*	Black Locust	9"	9'	187.00	186.50	Dead	0.00
2326	*Prunus serotina*	Black Cherry	10"	10'	181.00	180.50		59.38
2326A	*Robinia pseudoacacia*	Black Locust	6"	6'	182.00	181.50	Dead	0.00
2326B	*Robinia pseudoacacia*	Black Locust	16"	16'	182.00	181.50		53.13
2326C	*Robinia pseudoacacia*	Black Locust	8"	8'	178.00	177.50		62.50
2326D	*Robinia pseudoacacia*	Black Locust	8"	8'	174.00	173.50		62.50
2326E	*Robinia pseudoacacia*	Black Locust	9"	9'	172.00	171.50		53.13
2327	*Acer rubrum*	Red Maple	55"	55'	152.00	151.50	Co-Dominant, 1/2 Leaning	50.00
2327A	*Robinia pseudoacacia*	Black Locust	12"	12'	165.00	164.50		53.13
2327B	*Robinia pseudoacacia*	Black Locust	8"	8'	160.00	159.50	Dead	0.00
2327C	*Robinia pseudoacacia*	Black Locust	7"	7'	167.00	166.50		65.63
2328	*Ailanthus altissima*	Tree of Heaven	10"	10'	143.00	142.50		68.75
2328A	*Ailanthus altissima*	Tree of Heaven	27"	27'	142.00	141.50	Co-Dominant	53.13
2328B	*Ailanthus altissima*	Tree of Heaven	9"	9'	142.00	141.50		62.50
2328C	*Ailanthus altissima*	Tree of Heaven	8"	8'	143.00	142.50		62.50
2328D	*Ailanthus altissima*	Tree of Heaven	10"	10'	146.00	145.50		53.13
2328E	*Ailanthus altissima*	Tree of Heaven	9"	9'	146.00	145.50		65.63
2328F	*Ailanthus altissima*	Tree of Heaven	7"	7'	144.00	143.50		68.75
2329	*Ailanthus altissima*	Tree of Heaven	48"	48'	147.00	146.50	Multistem	59.38
2329A	*Ailanthus altissima*	Tree of Heaven	8"	8'	149.00	148.50		53.13
2329B	*Ailanthus altissima*	Tree of Heaven	7"	7'	152.00	151.50		62.50
2329C	*Ulmus americana*	American Elm	7"	7'	155.00	154.50		62.50
2329D	*Ailanthus altissima*	Tree of Heaven	9"	9'	153.00	152.50		53.13
2330	*Ulmus americana*	American Elm	6"	6'	159.00	158.50		59.38
2330A	*Unknown*	Unknown	14"	14'	158.00	157.50	Dead	0.00
2330B	*Prunus serotina*	Black Cherry	6"	6'	162.00	161.50		59.38
2330C	*Robinia pseudoacacia*	Black Locust	8"	8'	166.00	165.50	Dead	0.00
2330D	*Robinia pseudoacacia*	Black Locust	10"	10'	168.00	167.50	Poor	28.13
2331	*Ailanthus altissima*	Tree of Heaven	6"	6'	169.00	168.50		59.38
2331A	*Robinia pseudoacacia*	Black Locust	12"	12'	173.00	172.50	Dead	0.00
2331B	*Prunus serotina*	Black Cherry	10"	10'	173.00	172.50		59.38
2331C	*Robinia pseudoacacia*	Black Locust	8"	8'	176.00	175.50	Dead	0.00
2331D	*Robinia pseudoacacia*	Black Locust	18"	18'	178.00	177.50	Poor	28.13
2332	*Robinia pseudoacacia*	Black Locust	12"	12'	191.00	190.50		59.38
2332A	*Ailanthus altissima*	Tree of Heaven	12"	12'	190.00	189.50	Co-Dominant	65.63
2332C	*Ailanthus altissima*	Tree of Heaven	8"	8'	188.00	187.50		68.75
2332B	*Robinia pseudoacacia*	Black Locust	10"	10'	191.00	190.50	Poor	28.13
2333	*Ailanthus altissima*	Tree of Heaven	19"	19'	191.00	190.50	Co-Dominant	53.13
2334	*Ailanthus altissima*	Tree of Heaven	10"	10'	191.00	190.50		62.50
2335	*Robinia pseudoacacia*	Black Locust	26"	26'	189.00	188.50		62.50
2336	*Ailanthus altissima*	Tree of Heaven	9"	9'	191.00	190.50		53.13
2337	*Ailanthus altissima*	Tree of Heaven	19"	19'	191.00	190.50	Co-Dominant	65.63
2337A	*Ailanthus altissima*	Tree of Heaven	9"	9'	191.00	190.50		68.75
2337B	*Robinia pseudoacacia*	Black Locust	7"	7'	191.00	190.50	Crooked	59.38
2338	*Ailanthus altissima*	Tree of Heaven	14"	14'	185.00	184.50		53.13
2338A	*Ailanthus altissima*	Tree of Heaven	12"	12'	187.00	186.50		62.50
2338B	*Ailanthus altissima*	Tree of Heaven	10"	10'	186.00	185.50		62.50
2339	*Ailanthus altissima*	Tree of Heaven	8"	8'	180.00	179.50		53.13
2339A	*Ailanthus altissima*	Tree of Heaven	7"	7'	178.00	177.50		65.63
2339B	*Ailanthus altissima*	Tree of Heaven	7"	7'	179.00	178.50		68.75
2339C	*Robinia pseudoacacia*	Black Locust	13"	13'	175.00	174.50	Vines	40.63
2340	*Quercus palustris*	Pin Oak	32"	32'	153.00	152.50		43.75
2340A	*Ailanthus altissima*	Tree of Heaven	10"	10'	157.00	156.50	Vines	46.88
2341	*Quercus palustris*	Pin Oak	16"	16'	163.00	162.50		53.13
2341A	*Quercus palustris*	Pin Oak	10"	10'	162.00	161.50		62.50
2341B	*Quercus palustris*	Pin Oak	8"	8'	161.00	160.50		62.50
2341C	*Ulmus americana*	American Elm	7"	7'	167.00	166.50		53.13
2341D	*Unknown*	Unknown	9"	9'	168.00	167.50	Dead	0.00
2341E	*Robinia pseudoacacia*	Black Locust	12"	12'	170.00	169.50	Poor	28.13
2341F	*Ailanthus altissima*	Tree of Heaven	6"	6'	176.00	175.50		65.63
2342	*Prunus serotina*	Black Cherry	10"	10'	164.00	163.50		68.75
2342A	*Ulmus americana*	American Elm	26"	26'	167.00	166.50	Co-Dominant	65.63
2342B	*Ailanthus altissima*	Tree of Heaven	16"	16'	170.00	169.50	Co-Dominant	68.75
2343	*Gleditsia triacanthus*	Honey Locust	14"	14'	190.00	189.50		53.13
2343A	*Ailanthus altissima*	Tree of Heaven	6"	6'	191.00	190.50		62.50
2343B	*Ailanthus altissima*	Tree of Heaven	16"	16'	190.00	189.50		62.50
2343C	*Ailanthus altissima*	Tree of Heaven	10"	10'	189.00	188.50		53.13
2343D	*Robinia pseudoacacia*	Black Locust	14"	14'	187.00	186.50		65.63
2344	*Robinia pseudoacacia*	Black Locust	18"	18'	185.00	184.50	Vines	68.75
2344A	*Ailanthus altissima*	Tree of Heaven	11"	11'	189.00	188.50	Crooked	59.38
2345	*Ailanthus altissima*	Tree of Heaven	15"	15'	190.50	190.00	Co-Dominant	65.63
2345A	*Ailanthus altissima*	Tree of Heaven	16"	16'	191.00	190.50	Co-Dominant	68.75
2345B	*Ailanthus altissima*	Tree of Heaven	13"	13'	192.00	191.50	Co-Dominant	40.63
2345C	*Ailanthus altissima*	Tree of Heaven	20"	20'	190.50	190.00	Co-Dominant, Crooked, 1/2 Dead	25.00
2345D	*Ulmus americana*	Tree of Heaven	6"	6'	191.00	190.50		46.88
2346	*Ailanthus altissima*	Tree of Heaven	21"	21'	187.00	186.50	Multistem	53.13
2346A	*Ulmus americana*	Tree of Heaven	6"	6'	186.00	185.50		62.50
2347	*Ailanthus altissima*	Tree of Heaven	8"	8'	182.00	181.50		62.50
2347A	*Ailanthus altissima*	Tree of Heaven	9"	9'	182.00	181.50		53.13
2347B	*Prunus serotina*	Black Cherry	15"	15'	185.00	184.50	Co-Dominant	65.63
2348	*Prunus serotina*	Black Cherry	11"	11'	175.00	174.50		68.75
2348A	*Ailanthus altissima*	Tree of Heaven	15"	15'	175.00	174.50	Co-Dominant	65.63
2349	*Prunus serotina*	Black Cherry	24"	24'	191.00	190.50	Co-Dominant, Vines	68.75
2349A	*Prunus serotina*	Black Cherry	8"	8'	187.00	186.50	Dead	0.00
2349B	*Ailanthus altissima*	Tree of Heaven	6"	6'	186.00	185.50	Vines	50.00
2350	*Prunus serotina*	Black Cherry	29"	29'	188.00	187.50	Vines	53.13
2350A	*Unknown*	Unknown	6"	6'	185.00	184.50	Dead	0.00
2350B	*Prunus serotina*	Black Cherry	12"	12'	185.00	184.50	Leaning	59.38
2350C	*Prunus serotina*	Black Cherry	16"	16'	189.00	188.50	Dead	0.00
2351	*Prunus serotina*	Black Cherry	42"	42'	183.00	182.50	Vines	59.38
2351A	*Ailanthus altissima*	Tree of Heaven	6"	6'	181.00	180.50		53.13
2351B	*Ailanthus altissima*	Tree of Heaven	10"	10'	185.00	184.50		62.50
2351C	*Robinia pseudoacacia*	Black Locust	10"	10'	185.00	184.50		62.50
2352	*Ulmus americana*	American Elm	8"	8'	174.00	173.50		53.13
2353	*Ailanthus altissima*	Tree of Heaven	7"	7'	175.00	174.50		59.38
2354	*Prunus serotina*	Black Cherry	39"	39'	174.25	173.75	Multistem, 2/3 Dead, Leaning	28.13
2355	*Quercus rubra*	Red Oak	18"	18'	175.25	174.75		65.63
2356	*Acer rubrum*	Red Maple	6"	6'	175.75	175.25		68.75
2356A	*Prunus serotina*	Black Cherry	6"	6'	178.00	177.50	Leaning	53.13
2357	*Juniperus virginiana*	Eastern Red Cedar	14"	14'	175.00	174.50		62.50
2358	*Prunus serotina*	Black Cherry	16"	16'	179.00	178.50		62.50
2358A	*Prunus serotina*	Black Cherry	8"	8'	181.00	180.50		53.13
2359	*Robinia pseudoacacia*	Black Locust	14"	14'	182.00	181.50		65.63
2359A	*Quercus palustris*	Pin Oak	12"	12'	180.00	179.50		68.75
2360	*Ailanthus altissima*	Tree of Heaven	8"	8'	192.00	191.50	Leaning	59.38
2360A	*Ailanthus altissima*	Tree of Heaven	7"	7'	190.00	189.50		65.63
2360B	*Ailanthus altissima*	Tree of Heaven	6"	6'	192.00	191.50		68.75
2360C	*Prunus serotina*	Black Cherry	7"	7'	190.00	189.50		50.00
2360D	*Ailanthus altissima*	Tree of Heaven	24"	24'	192.00	191.50	Co-Dominant	53.13
2361	*Ailanthus altissima*	Tree of Heaven	7"	7'	189.50	189.00		53.13
2362	*Robinia pseudoacacia*	Black Locust	9"	9'	189.00	188.50		62.50
2362A	*Prunus serotina*	Black Cherry	6"	6'	188.00	187.50		62.50

TREE INVENTORY & CONDITION ANALYSIS

TREE #	BOTANICAL NAME	COMMON NAME	TRUNK SIZE	CRZ SIZE	TRUNK ELEVATION	CRZ ELEVATION	COMMENTS	CONDITION RATING
			DBH (in.)	R (ft.)	Elevation (ft.)	Elevation (ft.)		
2362B	*Quercus rubra*	Red Oak	7"	7'	190.00	189.50		53.13
2362C	*Robinia pseudoacacia*	Black Locust	13"	13'	191.00	190.50		65.63
2363	*Robinia pseudoacacia*	Black Locust	13"	13'	180.00	179.50		68.75
2363A	*Unknown*	Unknown	10"	10'	179.00	178.50	Dead	0.00
2363B	*Quercus rubra*	Red Oak	11"	11'	179.00	178.50		59.38
2364	*Quercus palustris*	Pin Oak	8"	8'	189.50	189.00		65.63
2364A	*Robinia pseudoacacia*	Black Locust	9"	9'	191.00	190.50		68.75
2364B	*Quercus palustris*	Pin Oak	7"	7'	192.00	191.50		59.38
2365	*Robinia pseudoacacia*	Black Locust	28"	28'	187.00	186.50	Dead	0.00
2365A	*Prunus serotina*	Black Cherry	11"	11'	188.00	187.50		65.63
2366	*Quercus rubra*	Red Oak	7"	7'	183.00	182.50		68.75
2366A	*Robinia pseudoacacia*	Black Locust	12"	12'	179.00	178.50		59.38
2366B	*Unknown*	Unknown	17"	17'	180.00	179.50	Dead	0.00
2367	*Robinia pseudoacacia*	Black Locust	9"	9'	181.00	180.50	Dead	0.00
2367A	*Robinia pseudoacacia*	Black Locust	8"	8'	179.00	178.50		53.13
2367B	*Quercus rubra*	Red Oak	12"	12'	183.00	182.50		62.50
2367C	*Robinia pseudoacacia*	Black Locust	14"	14'	178.00	177.50		62.50
2368	*Quercus rubra*	Red Oak	9"	9'	189.00	188.50		53.13
2368A	*Unknown*	Unknown	6"	6'	188.00	187.50	Dead	0.00
2368B	*Quercus rubra*	Red Oak	6"	6'	192.00	191.50	Crooked	59.38
2368C	*Ulmus americana*	American Elm	12"	12'	193.00	192.50		65.63
2368D	*Ulmus americana*	American Elm	12"	12'	192.00	191.50	





SU-30

Overall Length	30.000ft
Overall Width	8.000ft
Overall Body Height	13.500ft
Min Body Ground Clearance	1.367ft
Track Width	8.000ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	31.80°

APPROVED

DEVELOPMENT SITE PLAN NO. _____

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. _____

No.	DATE	DESCRIPTION

REVISIONS

PLAN DATE
12-10-2021
04-15-2022

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
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Planners•Engineers•Landscape Architects•Land Surveyors

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
04-15-2022
PROFESSIONAL ENGINEER

AUTOTURN EXHIBIT

LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

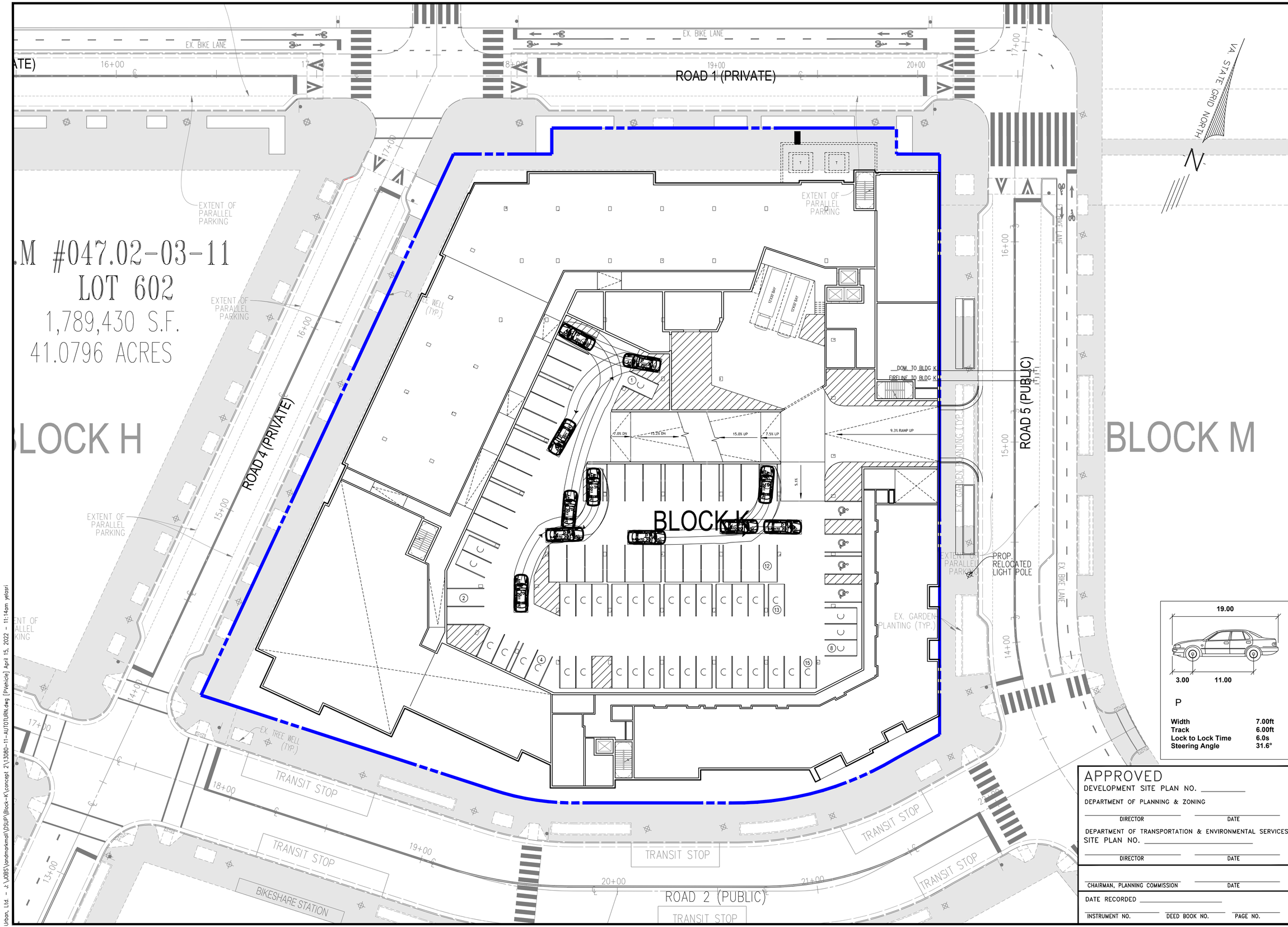
CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20'
C.I.= N/A
DATE: DEC., 2021

SHEET 30 OF 51

FILE No. DSUP-13080

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-K\concept 2\13080-11-AUTOTURN.dwg [ATT] April 15, 2022 - 11:14am yelasri



APPROVED

DEVELOPMENT SITE PLAN NO. _____

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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LANDMARK MALL REDEVELOPMENT PHASE II CONCEPT - BLOCK K

CITY OF ALEXANDRIA, VIRGINIA

SCALE: 1"=20' C.I.= N/A DATE: DEC., 2021

SHEET 31 OF 51

FILE No. DSUP-13080

Urban, Ltd. - J:\JOBS\landmarkmall\DSUP\Block-K\concept 2\13080-11-AUTOTURN.dwg [PVehicle] April 15, 2022 - 11:14am yelasri

LEGEND

- LOT LINES
- PROPOSED CANOPY TREES (CATEGORY III & IV)
- PROPOSED ORNAMENTAL TREES (CATEGORY I & II)
- PROPOSED SHRUBS
- OFFSITE TREE PROPOSED WITH SEPARATE DSP

T.M #047.02-03-11
LOT 602
1,789,430 S.F.
41.0796 ACRES

ROAD 1 (PRIVATE)
ROAD 4 (PRIVATE)
ROAD 5 (PUBLIC)
ROAD 2 (PUBLIC)
EX. BIKE LANE
BIKE LANE
AMENITY TERRACE
AMENITY
RESIDENTIAL TERRACE
LIMITS OF DISTURBANCE
COURTYARD
RESIDENTIAL TERRACE
RESIDENTIAL TERRACE
EX. TREE WELL (TYP.)
TRANSIT STOP
BIKESHARE STATION
PROP. RELOCATED LIGHT POLE
EX. GARDEN PLANTING (TYP.)
EX. CSES-1/PRIVATE ENTRANCE
EX. PARKING ENTRANCE
EX. BIKE LANE
CSCG-1
CSCG-1
CSCG-1

AREA OF LANDMARK INCLUDED IN THIS APPLICATION



APPROVED

SPECIAL USE PERMIT NO. _____

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. _____ DATE

LandDesign.
200 S. PEYTON STREET
ALEXANDRIA, VA 22314
703.549.7784
WWW.LANDDESIGN.COM

KEY MAP

SEAL

NOT FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA
MATTHEW V. CLARK
Lic. No. 952
04-15-2022
LANDSCAPE ARCHITECT

PROJECT

LANDMARK BLOCK K

FOULGER PRATT

LANDDESIGN PROJ.#
2021228

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
	CONCEPT II SUBMISSION	04-15-2022

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE

VERT: N/A
HORZ: 1"=60'

0 30' 60' 120'

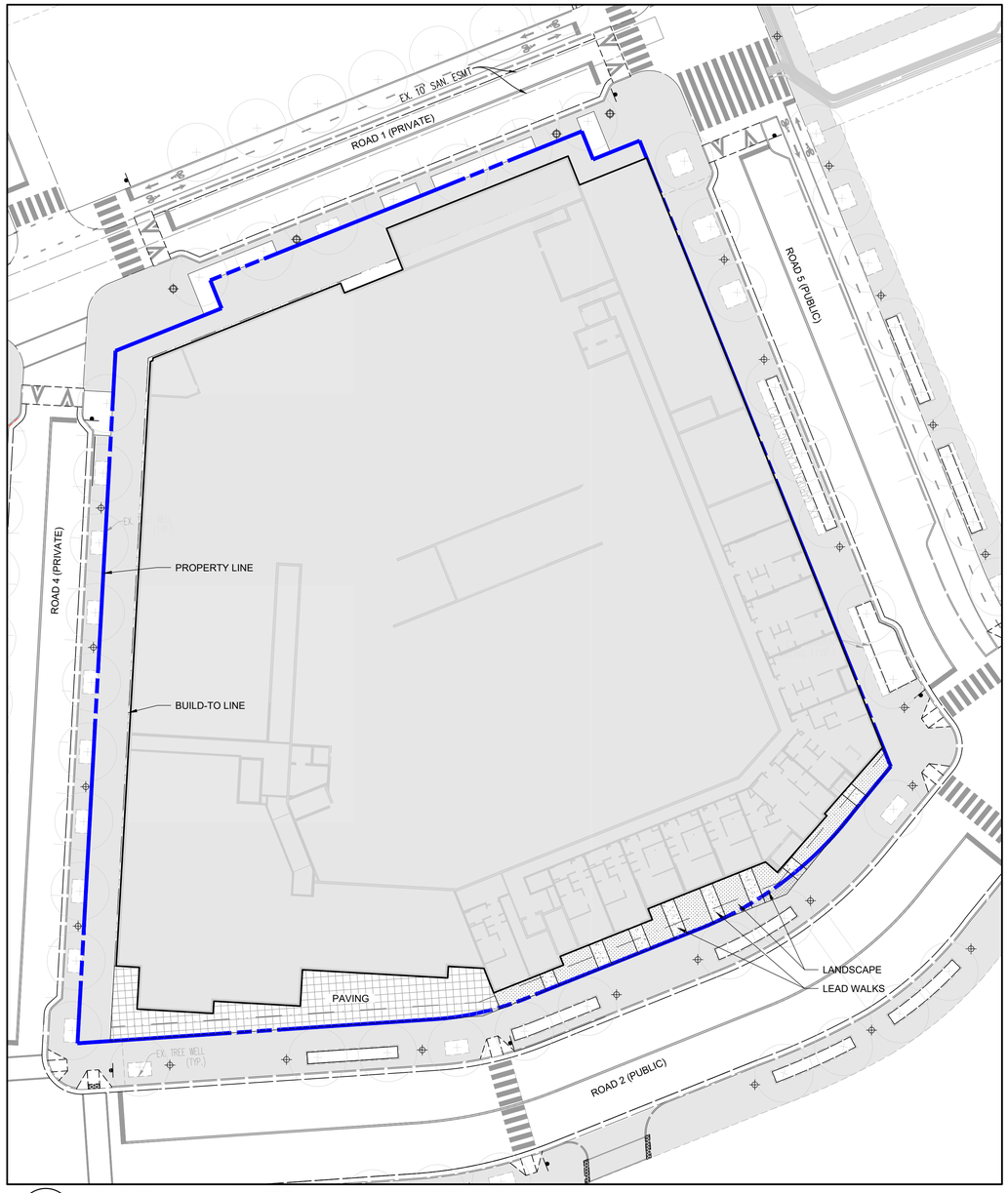
NORTH

SHEET TITLE

REFERENCE PLAN

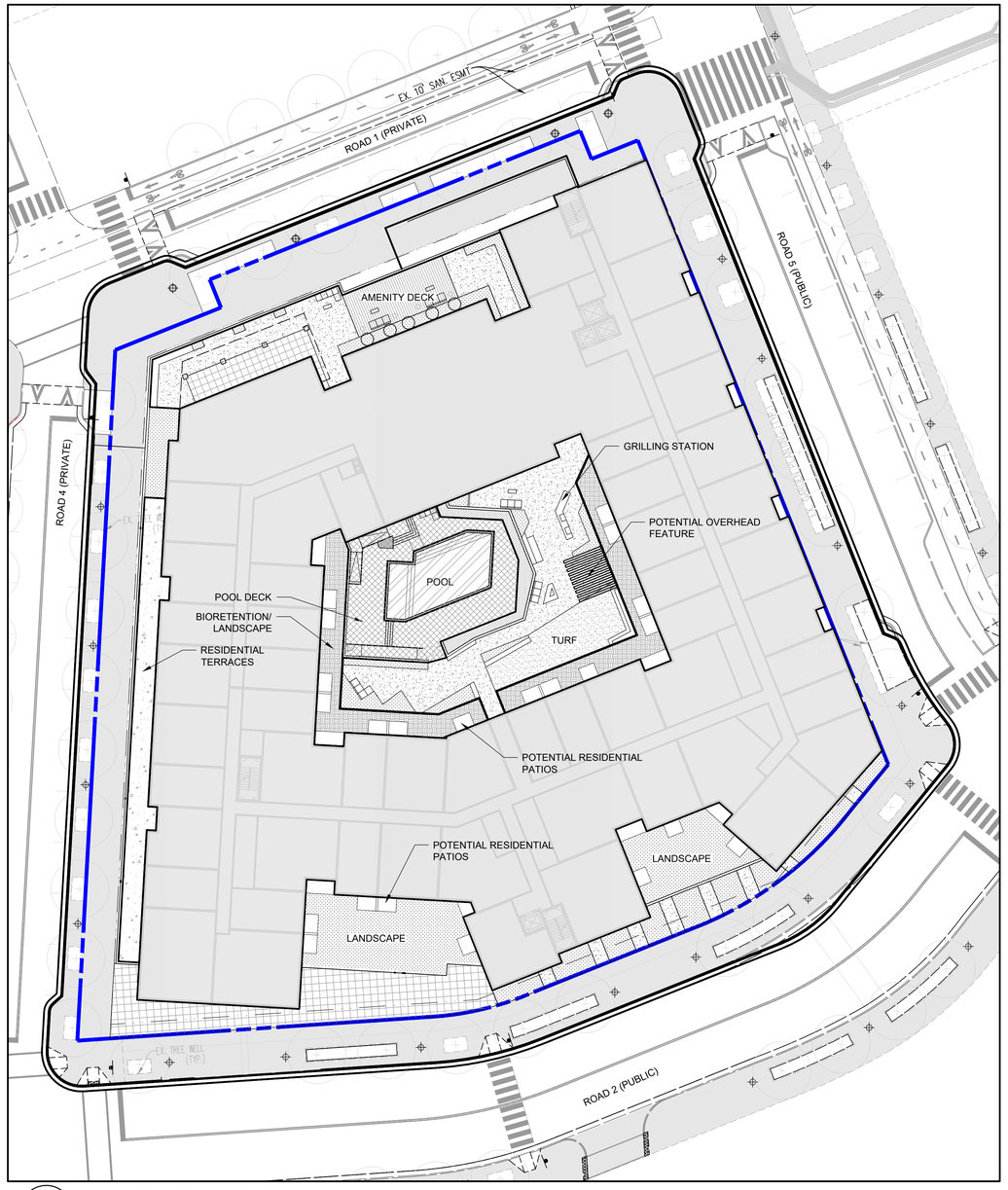
SHEET NUMBER

L101



1 L102 STREETSCAPE MATERIALS AND LANDSCAPE PLAN

PLAN 1" = 30'-0"



1 L102 COURTYARD MATERIALS AND LANDSCAPE PLAN

PLAN 1" = 30'-0"

NOTES:

1. PAVING PATTERNS ARE PRELIMINARY AND ARE INTENDED TO SHOW CHANGES IN MATERIALS. PATTERNS DO NOT DEPICT FINAL PAVING PATTERN OR LAYOUT.
2. PRELIMINARY LIGHT LOCATIONS SHOWN. FINAL LIGHT LOCATIONS MAY SHIFT WITH FINAL PHOTOMETRICS AND INDIVIDUAL BLOCK ENGINEERING
3. BMP TREE WELLS ARE PROPOSED AS PART OF THE INFRASTRUCTURE PLAN FOR THE SITE, SEE DSUP2020-10029

APPROVED
SPECIAL USE PERMIT NO. _____
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. DATE

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KEY MAP

SEAL

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MATTHEW V. CLARK
Lic. No. 952
04-15-2022
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NOT FOR CONSTRUCTION

PROJECT

LANDMARK BLOCK K

FOULGER PRATT

LANDDESIGN PROJ.#
2021228

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
	CONCEPT II SUBMISSION	04-15-2022

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE NORTH

VERT: N/A
HORZ: 1"=30'

0 15' 30' 60'

SHEET TITLE

MATERIALS + PLANTING PLAN

SHEET NUMBER

L102

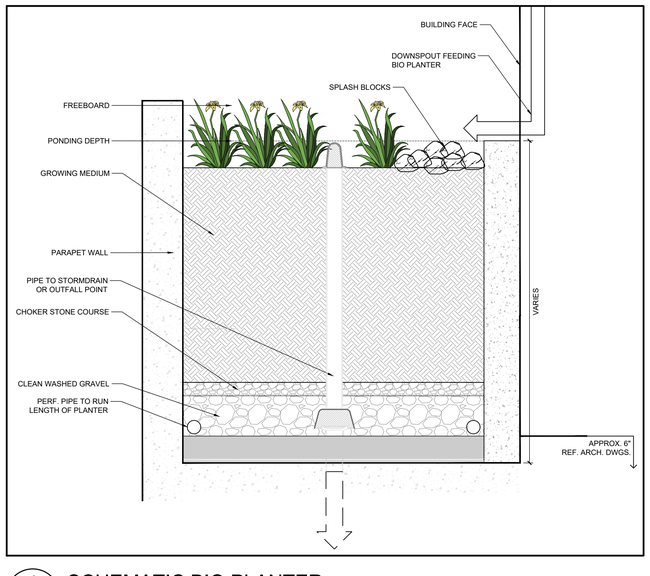
CROWN COVER TABULATIONS	
TOTAL SITE AREA (SF) - BLOCK K	110,365
25% CROWN COVER REQUIRED (SF)	27,591
EXISTING CROWN COVER (SF)	0
REMOVED CROWN COVER (SF)	0
PRESERVED CROWN COVER (SF)	
Crown Cover from Preserved Trees	0
Crown Cover from Preserved Shrubs	0
PROPOSED CROWN COVER (SF)	
Crown Cover from Proposed Trees	27,500
Crown Cover from Proposed Shrubs	91
TOTAL CROWN COVER PROVIDED (%)	25.0%
TOTAL CROWN COVER PROVIDED (SF)	27,591

Note to Applicant: Crown Cover Tabulations shall be provided on all plans requiring approval in accordance with the 2019 Landscape Guidelines. Refer to subsequent tabs for additional required charts and schedules.

Initial Issue: 4/15/2022
Updated:

NOTES:

1. ADDITIONAL DESIGN AND COORDINATION FOR THE FINAL NUMBER AND SPECIES OF PLANTINGS IS ONGOING AND WILL BE UPDATED TO MEET CROWN COVER AND DIVERSITY REQUIREMENTS WITH A FUTURE SUBMISSION.



1 L103 SCHEMATIC BIO PLANTER
SECTION

3/4" = 1'-0"

A) STANDARD LANDSCAPE PLAN NOTES FOR ALL PLANS REQUIRING APPROVAL:

THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL PROJECTS THAT REQUIRE APPROVAL BY THE CITY AS OUTLINED IN CHAPTER 3 OF THE CITY'S 2019 LANDSCAPE GUIDELINES:

1) THE PROPERTY OWNER AND/OR APPLICANT, SPECIFIER, CONTRACTOR AND INSTALLER OF PLANT MATERIAL ARE RESPONSIBLE FOR UNDERSTANDING AND ADHERING TO THE STANDARDS SET FORTH IN THE MOST RECENT VERSION OF THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND APPLICABLE CONDITIONS OF APPROVAL. ALL QUESTIONS REGARDING APPLICATION OF, OR ADHERENCE TO, THE STANDARDS AND/OR CONDITIONS OF APPROVAL SHALL BE DIRECTED TO THE CITY PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBING ACTIVITY.
2) THE CITY-APPROVED LANDSCAPE PLAN SUBMISSION, INCLUDING PLANT SCHEDULE, NOTES AND DETAILS SHALL BE THE DOCUMENT USED FOR INSTALLATION PURPOSES AND ALL PROCEDURES SET FORTH IN THE LANDSCAPE GUIDELINES MUST BE FOLLOWED.
3) THE CONTRACTOR SHALL NOT INTERFERE WITH ANY TREE PROTECTION MEASURES OR IMPACT ANY EXISTING VEGETATION IDENTIFIED TO BE PRESERVED PER THE APPROVED TREE AND VEGETATION PROTECTION PLAN.
4) ANY CHANGES, ALTERATIONS OR MODIFICATIONS TO THE SITE CONDITIONS THAT AFFECT VEGETATION PROTECTION ZONES WILL REQUIRE AN AMENDMENT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND/OR DETAILS.
5) INSTALLATION OF PLANT MATERIAL MAY ONLY OCCUR DURING THE PLANTING SEASONS IDENTIFIED IN THE LANDSCAPE GUIDELINES.
6) IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.
7) SUBSTITUTIONS TO THE APPROVED PLANT MATERIAL SHALL NOT OCCUR UNTIL WRITTEN APPROVAL IS PROVIDED BY THE CITY.
8) MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED BY THE OWNER, APPLICANT, SUCCESSOR(S) AND/OR ASSIGN(S) IN PERPETUITY AND IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND AS CONDITIONED BY PROJECT APPROVAL, AS APPLICABLE.

B) STANDARD LANDSCAPE PLAN NOTES FOR DEVELOPMENT SITE PLANS:

IN ADDITION TO THE NOTES PROVIDED ABOVE, THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL DSP/DSUP PROJECTS:

1) THE APPROVED METHOD(S) OF PROTECTION MUST BE IN PLACE FOR ALL VEGETATION TO BE PRESERVED ON-SITE AND ADJACENT TO THE PROJECT SITE PURSUANT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND DETAILS PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBANCE. THE APPLICANT SHALL NOTIFY THE PLANNING & ZONING (P&Z) PROJECT MANAGER ONCE THE TREE PROTECTION METHODS ARE IN PLACE. NO DEMOLITION, CONSTRUCTION, OR LAND DISTURBANCE MAY OCCUR UNTIL AN INSPECTION IS PERFORMED BY THE CITY AND WRITTEN CONFIRMATION IS PROVIDED BY THE CITY WHICH VERIFIES CORRECT INSTALLATION OF THE TREE PROTECTION MEASURES.
2) THE APPLICANT MUST CONTACT THE P&Z PROJECT MANAGER PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATION TO SCHEDULE A PRE-INSTALLATION MEETING. THE MEETING SHOULD BE HELD BETWEEN THE APPLICANT'S GENERAL CONTRACTOR, LANDSCAPE CONTRACTOR, LANDSCAPE ARCHITECT, THE P&Z PROJECT MANAGER AND THE CITY ARBORIST (AS APPLICABLE) TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES DURING AND AFTER INSTALLATION.
3) THE FOLLOWING INFORMATION SHALL BE PROVIDED TO THE P&Z PROJECT MANAGER AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO THE LANDSCAPE PRE-INSTALLATION MEETING: 1) A LETTER THAT CERTIFIES THAT THE PROJECT LANDSCAPE ARCHITECT PERFORMED PRE-SELECTION TAGGING FOR ALL TREES PROPOSED WITHIN THE PUBLIC RIGHT OF WAY AND ON PUBLIC LAND PRIOR TO INSTALLATION. THIS LETTER MUST BE SIGNED AND SEALED BY THE PROJECT LANDSCAPE ARCHITECT, AND 2) A COPY OF THE SOIL BULK DENSITY TEST REPORT VERIFYING THAT MAXIMUM COMPRESSION RATES ARE MET.
4) ALL CONSTRUCTION WASTE SHALL BE REMOVED PRIOR TO PLANTING.
5) AS-BUILT DRAWINGS FOR THIS LANDSCAPE AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES, THE CITY CODE OF ORDINANCES, AND ALL APPLICABLE PLAN PREPARATION CHECKLISTS. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.
6) AREAS OF BARE SOIL WILL NOT BE ACCEPTED. MULCHED AREAS AND PLANTING AREAS SHALL BE WEED FREE UPON ACCEPTANCE OF THE PROJECT BY THE CITY.

A STANDARD LANDSCAPE PLAN NOTES
NOT TO SCALE

OF UPDATES: 01 LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE:
THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
STANDARD LANDSCAPE PLAN NOTES
1 OF 1
Date drawn: 01/01/19
LD 016

APPROVED
SPECIAL USE PERMIT NO. _____
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. _____ DATE _____

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KEY MAP

SEAL

NOT FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA
MATTHEW V. CLARK
Lic. No. 952
04-15-2022
LANDSCAPE ARCHITECT

PROJECT

LANDMARK BLOCK K

FOULGER PRATT

LANDDESIGN PROJ.# 2021228

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
	CONCEPT II SUBMISSION	04-15-2022

DESIGNED BY:
DRAWN BY:
CHECKED BY:

SCALE NORTH

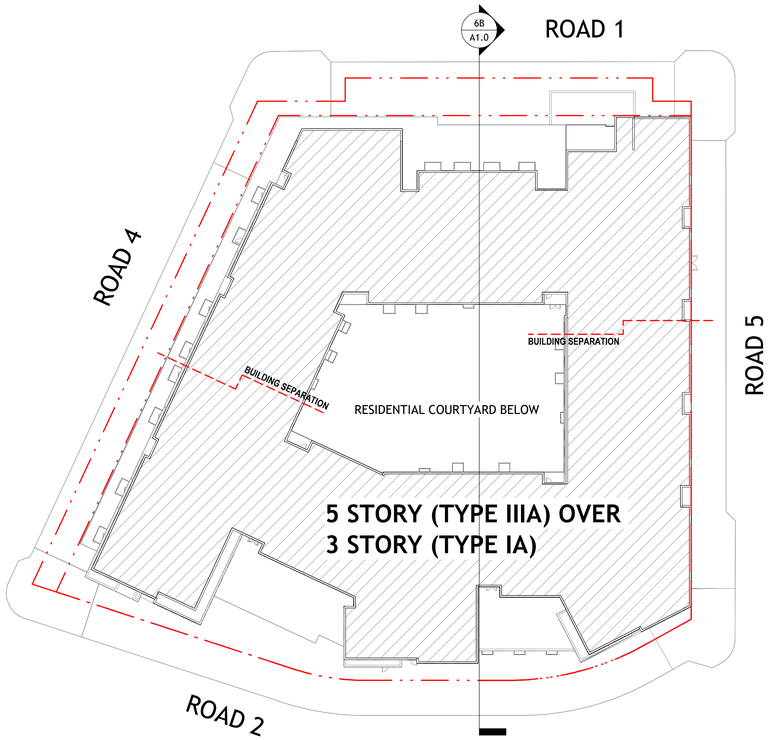
VERT: N/A
HORZ: NTS
(NOT TO SCALE)

SHEET TITLE

PLANTING SCHEDULE + NOTES

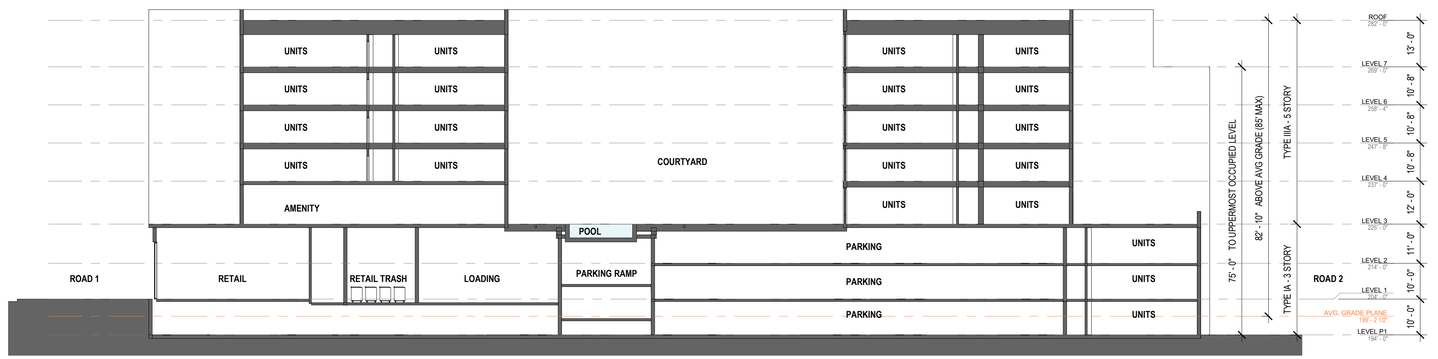
SHEET NUMBER

L103



4B BUILDING CODE DIAGRAM

A1.0 | A1.0 1" = 40'-0"



6B CODE SECTION N-S

A1.0 | A1.0 1" = 20'-0"

BULDING CODE ANALYSIS

APPLICABLE CODES (CITY OF ALEXANDRIA)

2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (2018 International Code Council Family of Codes w/ incorporated USBC ammendments)

FLOOR	Area (SF)	Use Group	Type(s) of Construction	Allowable No. of Stories	Allowable Height (FT)	Allowable Area per Floor (SF)**	Fire Protection
LEVEL 7	57,798	R2	IIIA	5*	85*	72,000	NFPA 13
LEVEL 6	61,879	R2	IIIA	5*	85*	72,000	NFPA 13
LEVEL 5	61,879	R2	IIIA	5*	85*	72,000	NFPA 13
LEVEL 4	57,580	R2	IIIA	5*	85*	72,000	NFPA 13
LEVEL 3	60,714	R2	IIIA	5*	85*	72,000	NFPA 13
HORIZONTAL BUILDING SEPARATION (3 HOUR RATED)							
LEVEL 2	47,347	R2/S2/A3/B	IA	UL	UL	UL	NFPA 13
LEVEL 1	72,655	A2/M/R2/S2/A3/B	IA	UL	UL	UL	NFPA 13
LEVEL P1	81,685	A2/M/R2/S2	IA	UL	UL	UL	NFPA 13

*ALLOWABLE HEIGHT IS INCREASED BY 20 FEET AND THE NUMBER OF STORIES INCREASES BY 1 FOR A BUILDING EQUIPPED WITH A NFPA13 SPRINKLER SYSTEM

**ALLOWABLE AREA INCREASE OF 200% PER USE OF NFPA 13 SPRINKLER SYSTEM

BUILDING USE AND OCCUPANCY	
Separated Mixed Uses	
A2	Restaurant
A3	Assembly
B	Business
M	Mercantile
R2	Residential
S2	Storage (Loading)
Non-Seperated Mixed Uses	
S2	Storage (Parking Garage Uses)

APPLICABLE BUILDING CODES:

2018 VIRGINIA UNIFORM STATEWIDE BUILDNG CODE
- 2018 INTERNATIONAL BUILDING CODE
- 2018 INTERNATIONAL RESIDENTIAL CODE
- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL PLUMBING CODE
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE
- 2018 INTERNATIONAL FUEL AND GAS CODE
- 2017 NATIONAL ELECTRIC CODE
- FAIR HOUSING GUIDELINES
- 2010 ICC/ANSI A117.1 FOR ACCESSIBILITY STANDARDS

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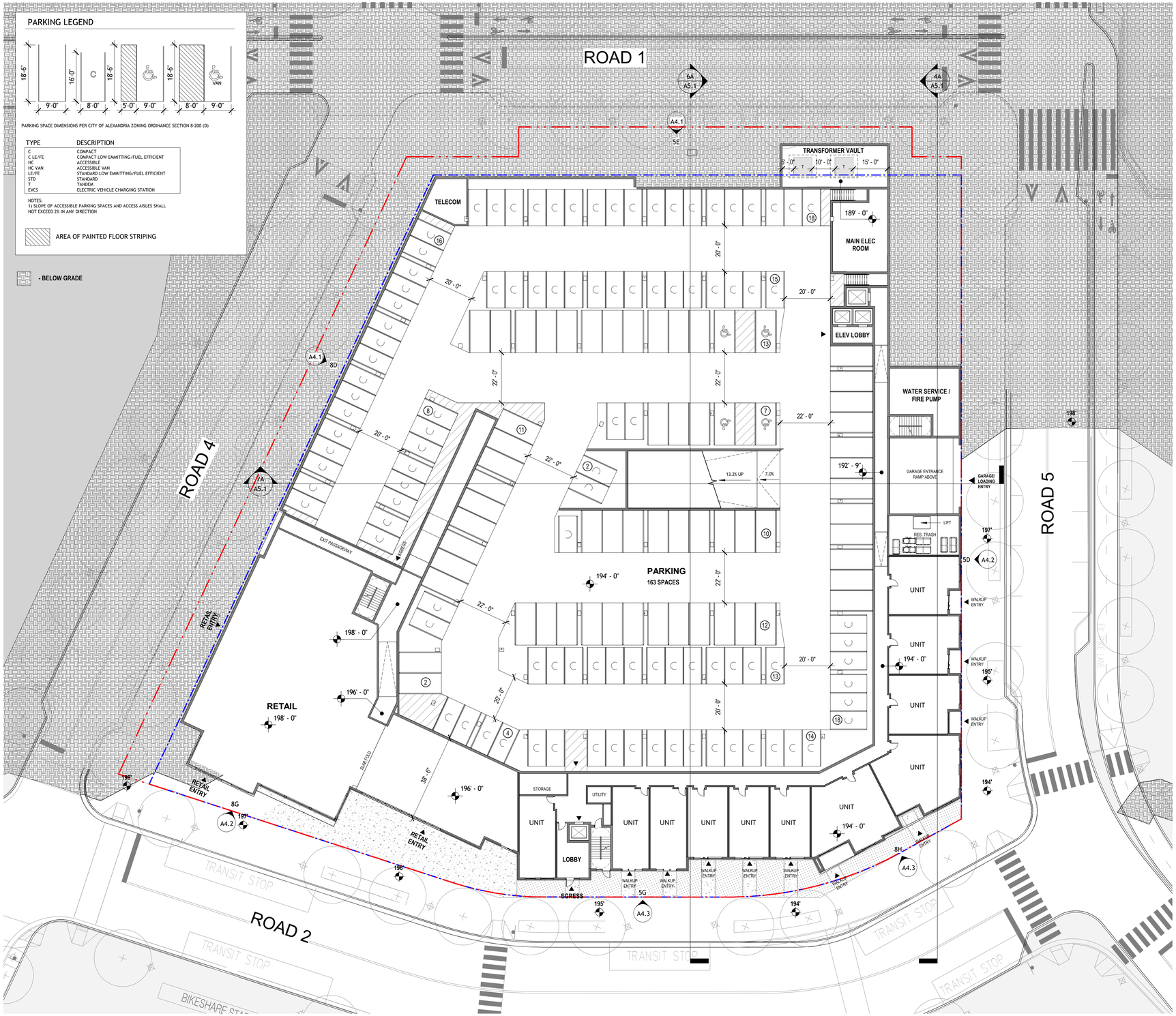

7A LEVEL P1 PLAN

A1.0 | A2.1 | 3/64" = 1'-0"

PARKING COUNT - BLOCK K	
Count	Type Comments

LEVEL P1

58	Standard
101	Compact
4	Accessible Space
163	

LEVEL 1

35	Standard
38	Compact
4	Accessible Space
77	

LEVEL 2

35	Standard
45	Compact
2	Accessible Space
82	

322

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LEVEL P1 PLAN

No
A2.1

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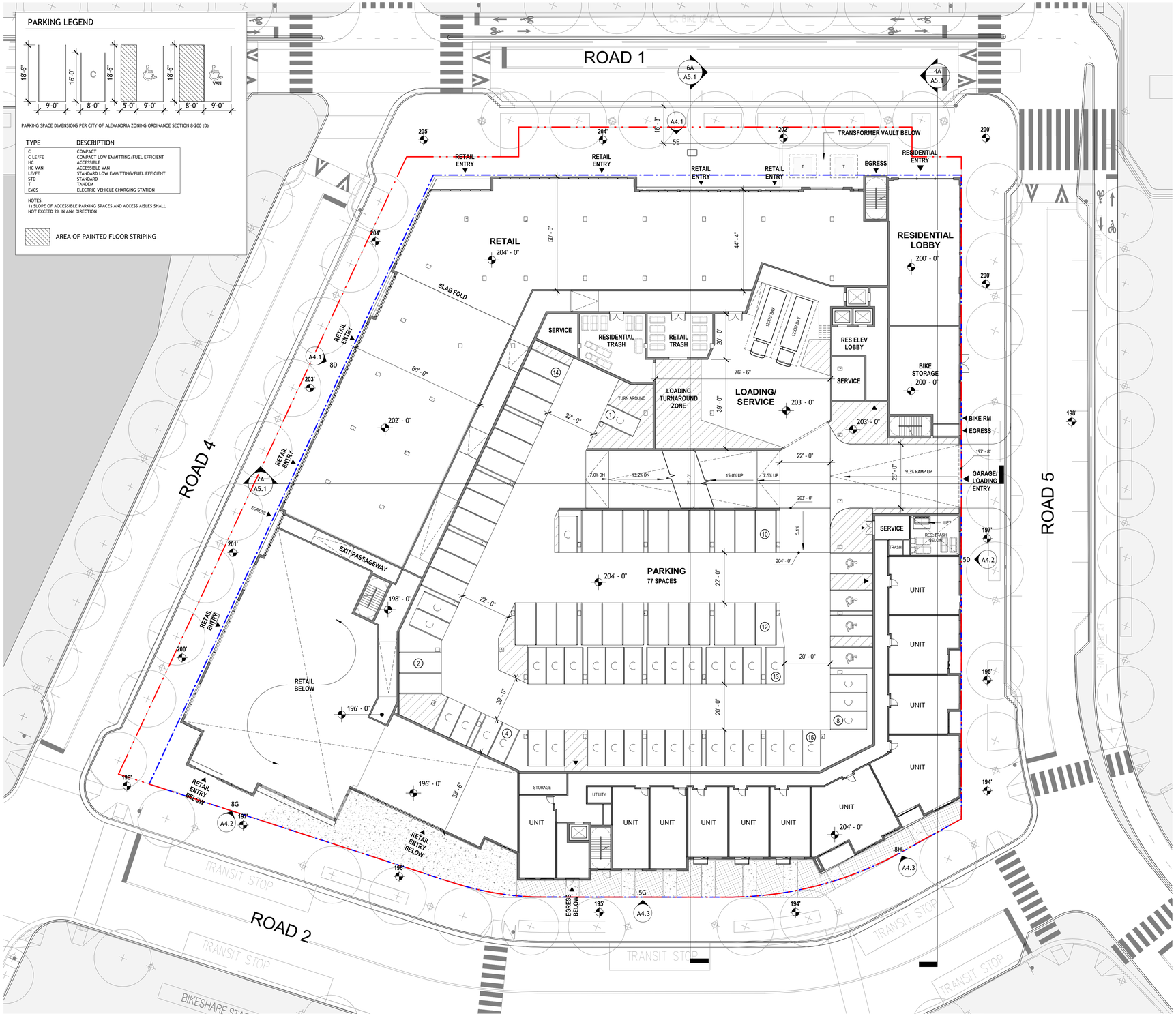

7A | LEVEL 1 PLAN

A1.0 | A2.2 | 3/64" = 1'-0"

PARKING COUNT - BLOCK K	
Count	Type Comments

LEVEL P1

58	Standard
101	Compact
4	Accessible Space
163	

LEVEL 1

35	Standard
38	Compact
4	Accessible Space
77	

LEVEL 2

35	Standard
45	Compact
2	Accessible Space
82	

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LEVEL 1 PLAN

No
A2.2

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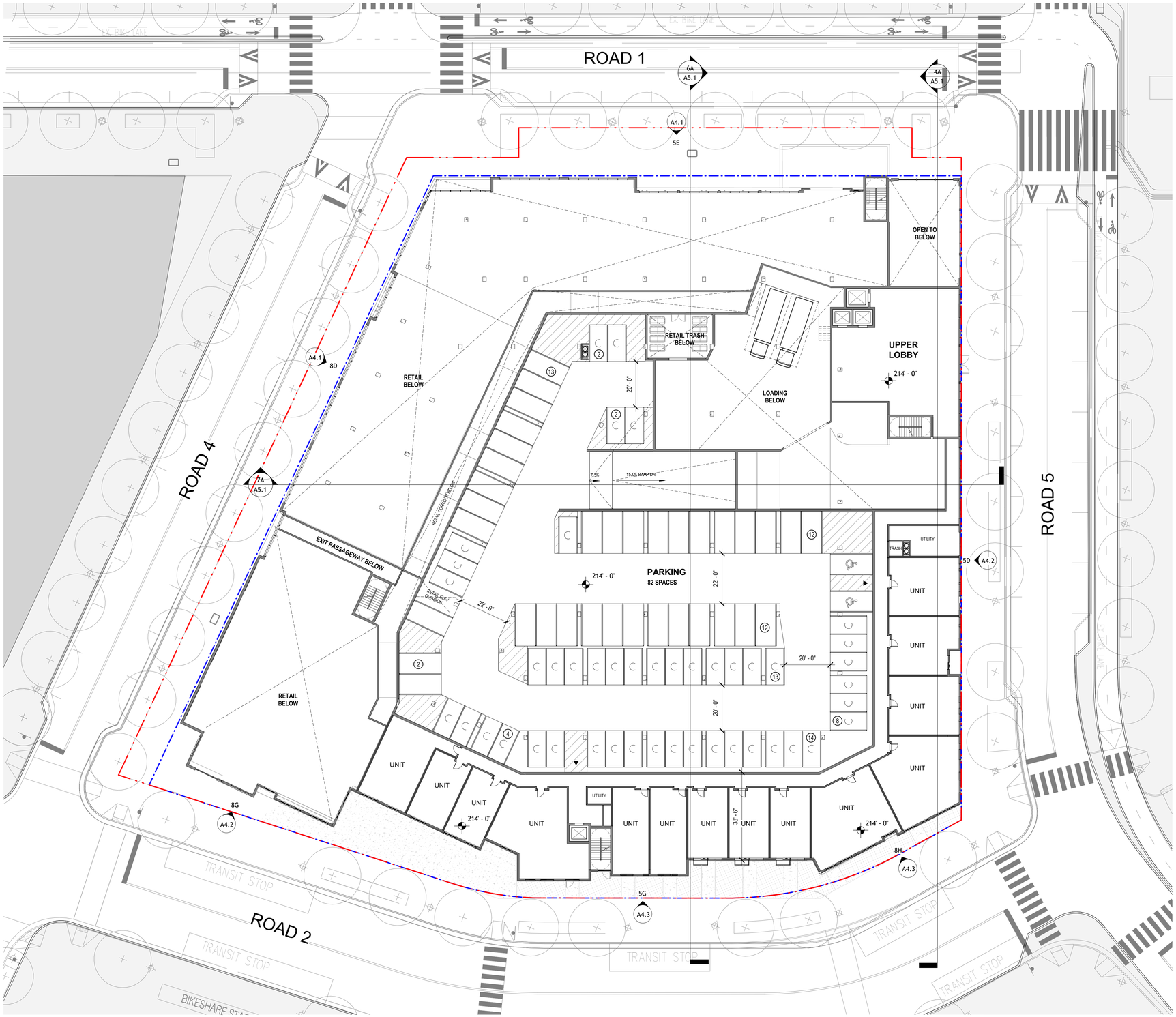

7A LEVEL 2 PLAN

A1.0 | A2.3 | 3/64" = 1'-0"

PARKING COUNT - BLOCK K	
Count	Type Comments
LEVEL P1	
58	Standard
101	Compact
4	Accessible Space
163	
LEVEL 1	
35	Standard
38	Compact
4	Accessible Space
77	
LEVEL 2	
35	Standard
45	Compact
2	Accessible Space
82	
322	

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Scale
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Drawing
LEVEL 2 PLAN

No
A2.3

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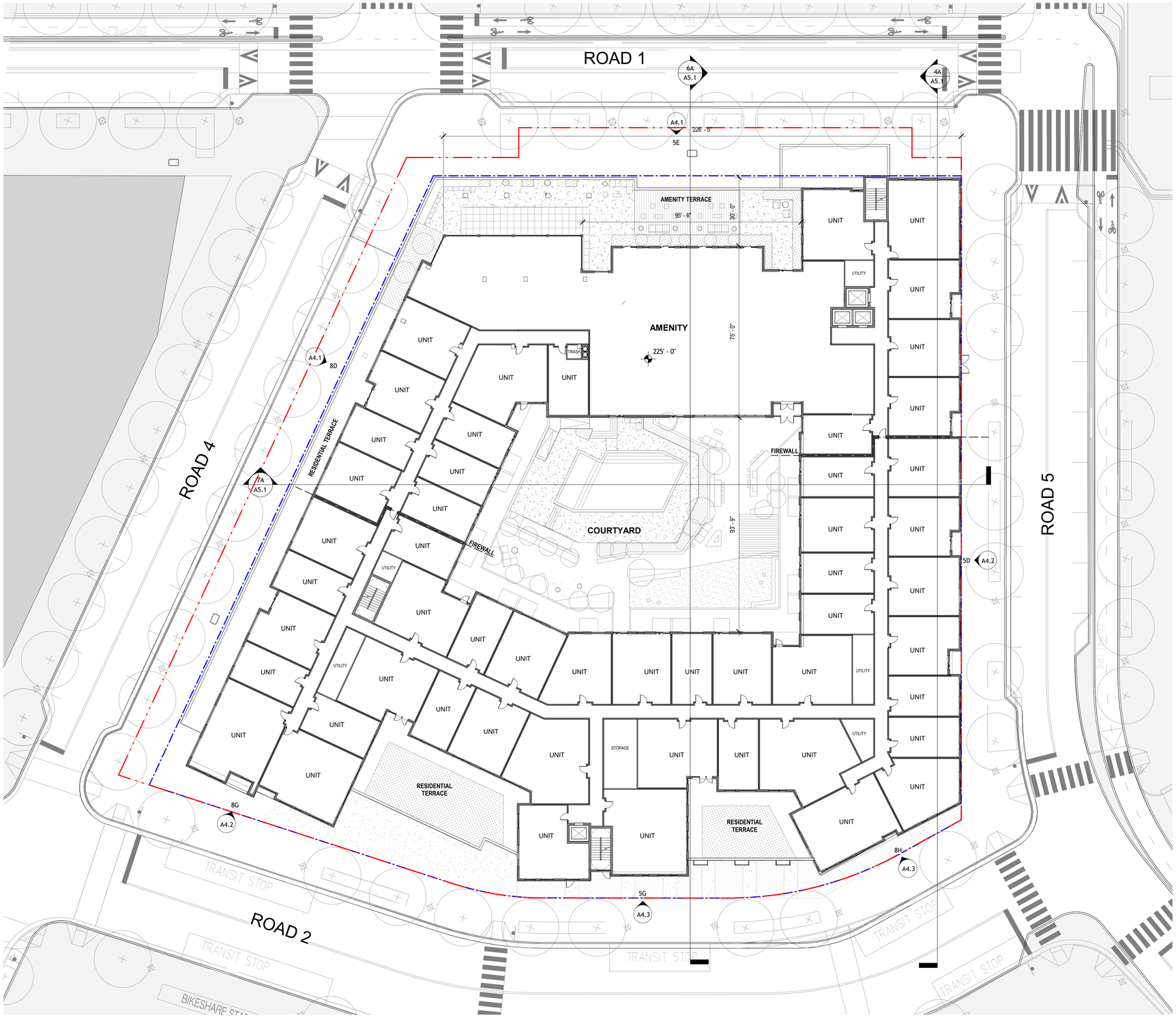

7A LEVEL 3 PLAN
A1.0 A2.4 3/64" = 1'-0"

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LEVEL 3 PLAN

No
A2.4

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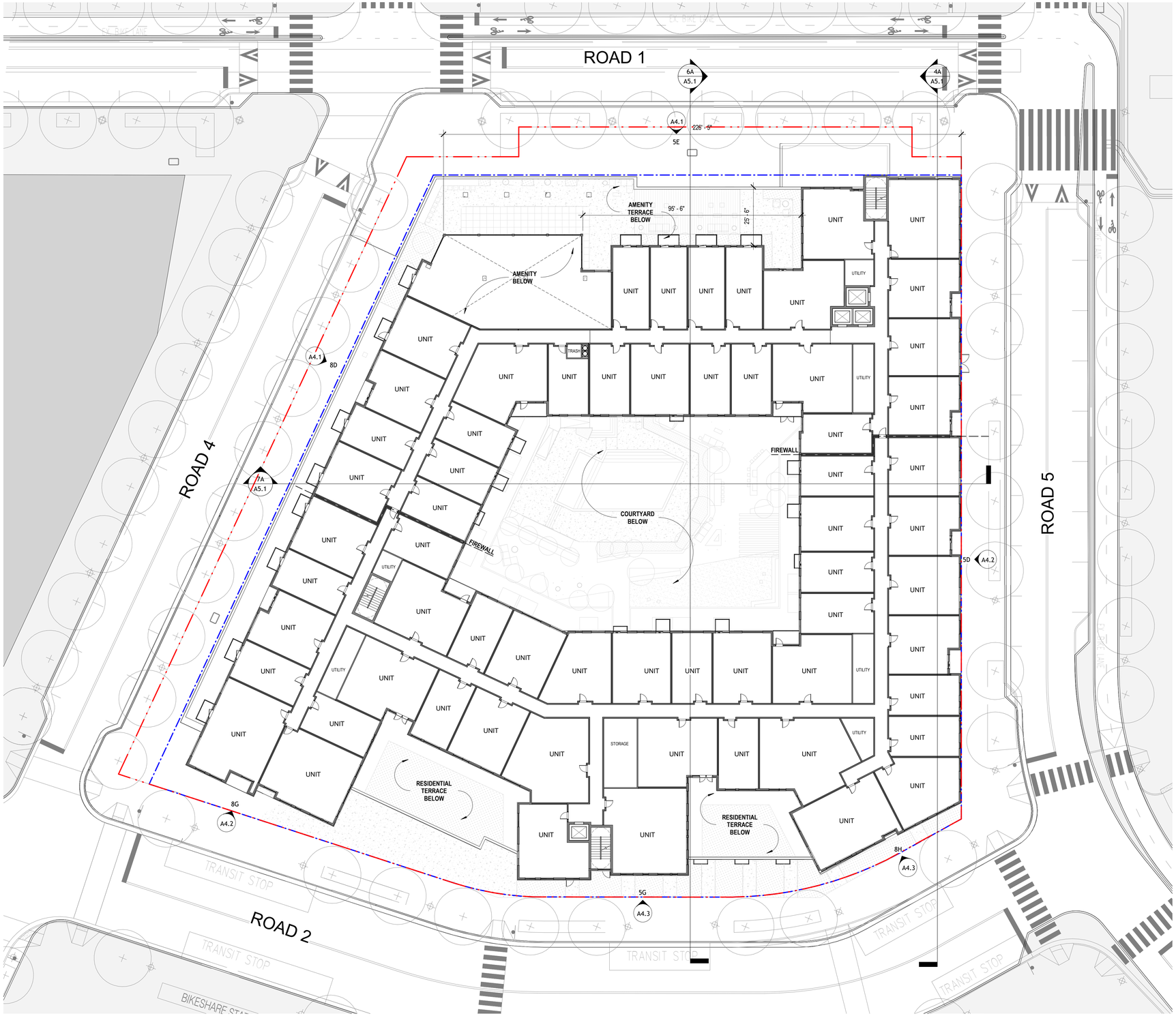

7A LEVEL 4 PLAN

A1.0 | A2.5 | 3/64" = 1'-0"

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LEVEL 4 PLAN

No
A2.5

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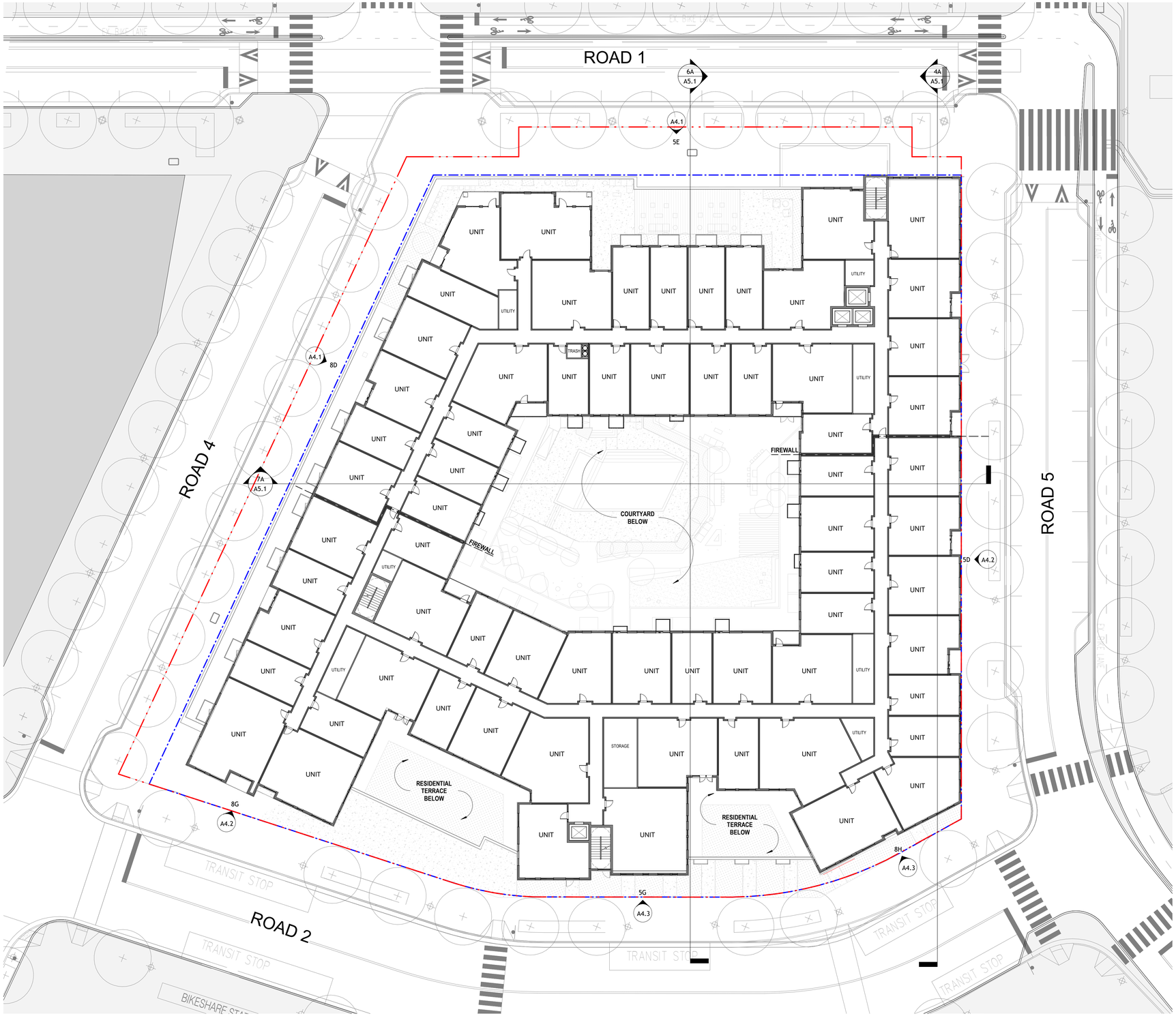

7A LEVEL 5-6 PLAN

A1.0 | A2.6 | 3/64" = 1'-0"

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LEVEL 5-6 PLAN

No
A2.6

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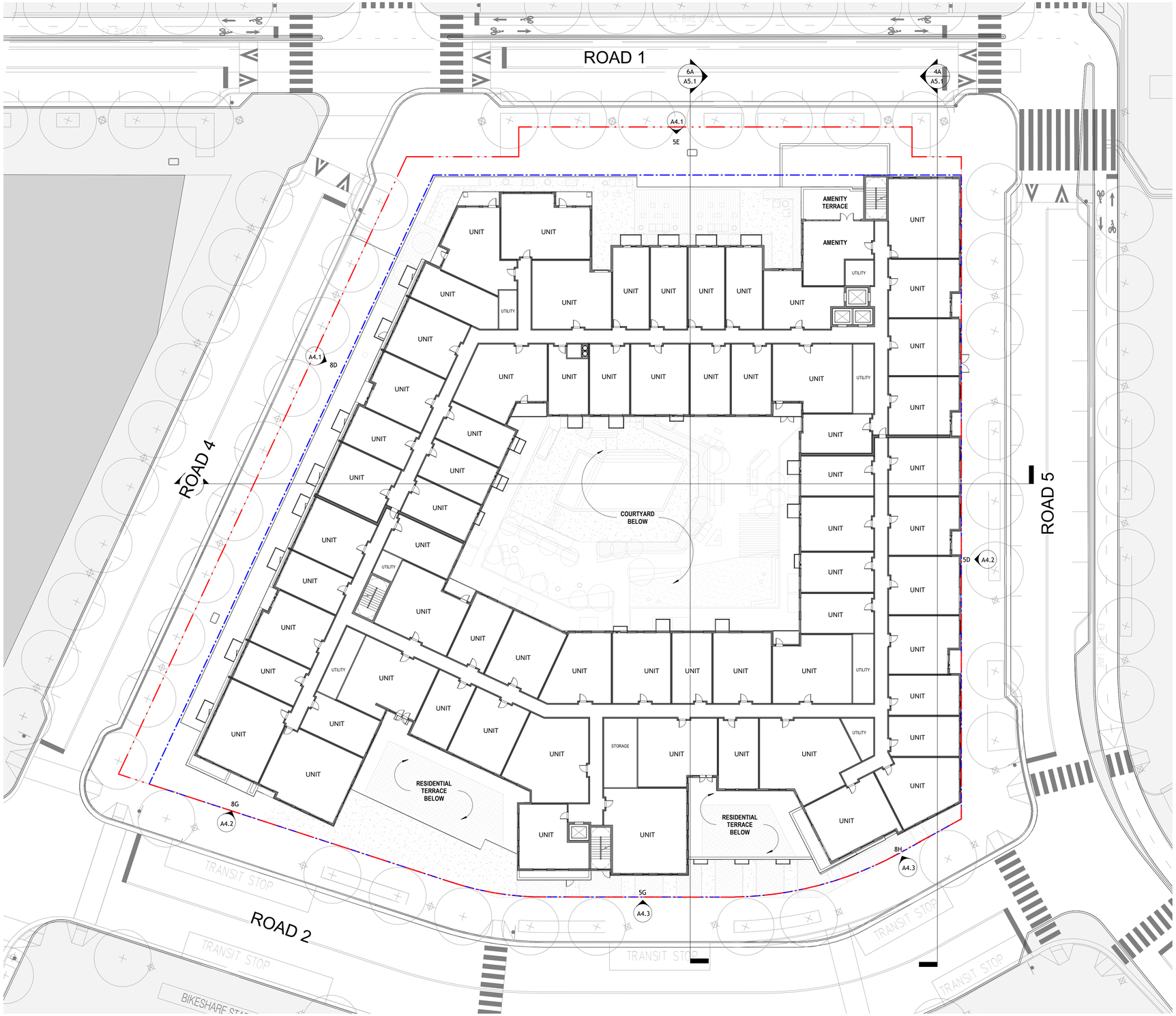

7A LEVEL 7 PLAN

A1.0 | A2.7 | 3/64" = 1'-0"

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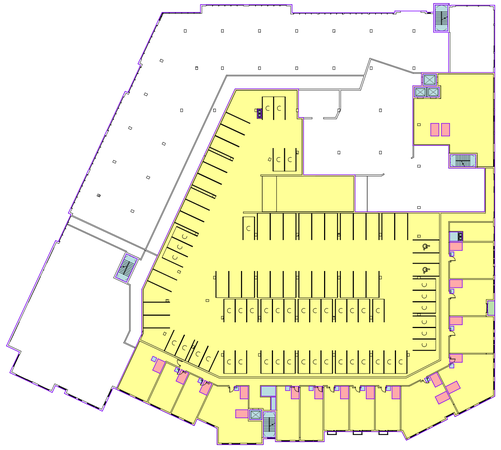
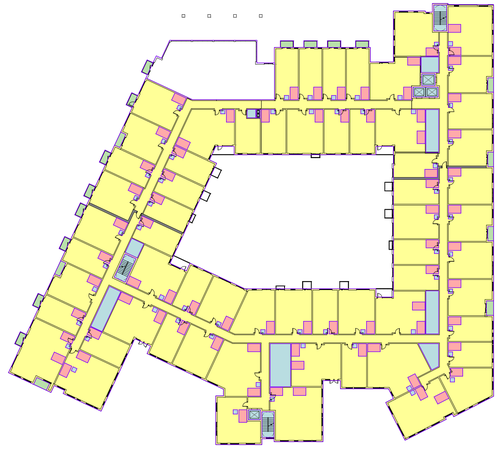
LEVEL P1 FLOOR AREA	

AREA EXCLUSION - Balcony	291 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	3535 SF
AREA EXCLUSION - Lavatory	650 SF
NET FLOOR AREA - After Exclusions	76642 SF
TOTAL GROSS AREA	81118 SF



LEVEL 2 FLOOR AREA	

AREA EXCLUSION - Balcony	51 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	1181 SF
AREA EXCLUSION - Lavatory	950 SF
NET FLOOR AREA - After Exclusions	45563 SF
TOTAL GROSS AREA	47744 SF



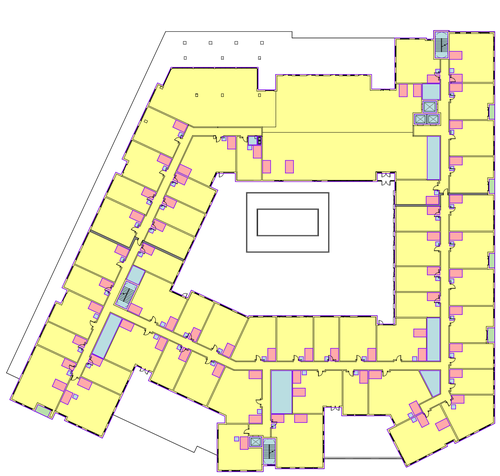
LEVEL 4 FLOOR AREA	

AREA EXCLUSION - Balcony	822 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	2983 SF
AREA EXCLUSION - Lavatory	3749 SF
NET FLOOR AREA - After Exclusions	50964 SF
TOTAL GROSS AREA	58518 SF



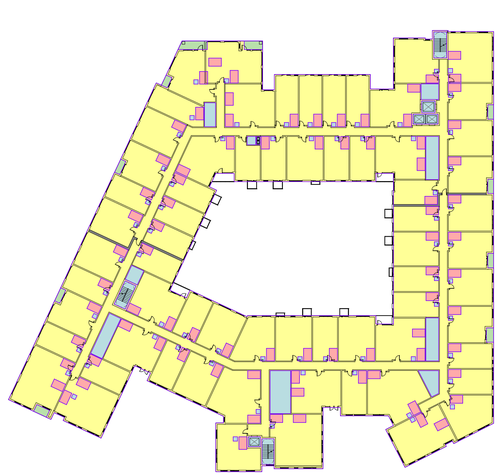
LEVEL 1 FLOOR AREA	

AREA EXCLUSION - Balcony	240 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	2147 SF
AREA EXCLUSION - Lavatory	650 SF
AREA EXCLUSION - Loading	850 SF
NET FLOOR AREA - After Exclusions	69530 SF
TOTAL GROSS AREA	73418 SF



LEVEL 3 FLOOR AREA	

AREA EXCLUSION - Balcony	224 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	2902 SF
AREA EXCLUSION - Lavatory	3399 SF
NET FLOOR AREA - After Exclusions	54482 SF
TOTAL GROSS AREA	61006 SF



LEVEL 5 FLOOR AREA	

AREA EXCLUSION - Balcony	532 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	3148 SF
AREA EXCLUSION - Lavatory	4049 SF
NET FLOOR AREA - After Exclusions	54538 SF
TOTAL GROSS AREA	62267 SF

BLOCK K TOTAL FLOOR AREA	
Name	Area

AREA EXCLUSION - Balcony	3966 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	22184 SF
AREA EXCLUSION - Lavatory	21492 SF
AREA EXCLUSION - Loading	850 SF
NET FLOOR AREA - After Exclusions	459686 SF
TOTAL GROSS AREA: 1011	508180 SF

BASEMENT. Area exclusions per City of Alexandria Zonning Ordinance 2-145

LOADING DOCK. Area exclusions per City of Alexandria Zonning Ordinance 2-145 (850 SF of area excluded per required isle)

BALCONY. Area exclusions per City of Alexandria Zonning Ordinance 2-145

CIRCULATION - SHAFTS - MECHANICAL ROOMS. Area exclusions per City of Alexandria Zonning Ordinance 2-145

LAVATORY. Area exclusions per City of Alexandria Zonning Ordinance 2-145 (50 SF max. of area excluded per lavatory)

REMAINING NET FLOOR AREA. Per City of Alexandria Zonning Ordinance 2-145

0 50 100 200

*NOTE: Basement garage levels not counted towards GFA or Floor Area Ratio

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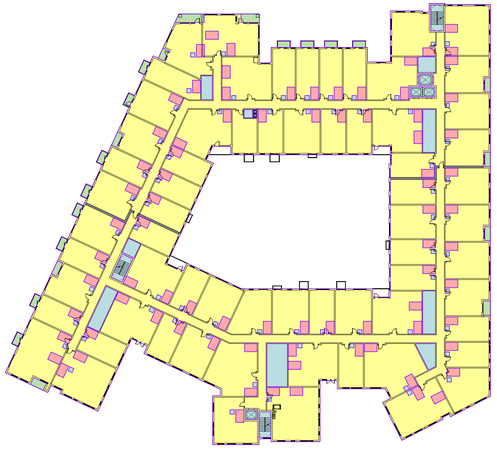
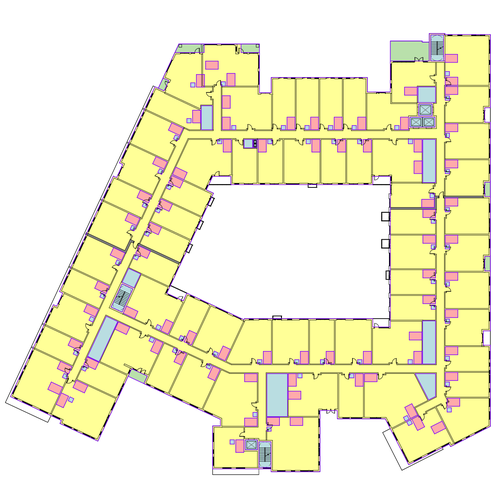


LEVEL 6 FLOOR AREA	

AREA EXCLUSION - Balcony	1050 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	3148 SF
AREA EXCLUSION - Lavatory	4049 SF
NET FLOOR AREA - After Exclusions	54538 SF
TOTAL GROSS AREA	62785 SF



LEVEL 7 FLOOR AREA	

AREA EXCLUSION - Balcony	756 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	3139 SF
AREA EXCLUSION - Lavatory	3999 SF
NET FLOOR AREA - After Exclusions	53429 SF
TOTAL GROSS AREA	61323 SF

BLOCK K TOTAL FLOOR AREA	
Name	Area

AREA EXCLUSION - Balcony	3966 SF
AREA EXCLUSION - Circulation, Shaft, Mechanical	22184 SF
AREA EXCLUSION - Lavatory	21492 SF
AREA EXCLUSION - Loading	850 SF
NET FLOOR AREA - After Exclusions	459686 SF
TOTAL GROSS AREA: 1011	508180 SF

BASEMENT. Area exclusions per City of Alexandria Zonning Ordinance 2-145

LOADING DOCK. Area exclusions per City of Alexandria Zonning Ordinance 2-145 (850 SF of area excluded per required isle)

BALCONY. Area exclusions per City of Alexandria Zonning Ordinance 2-145

CIRCULATION - SHAFTS - MECHANICAL ROOMS. Area exclusions per City of Alexandria Zonning Ordinance 2-145

LAVATORY. Area exclusions per City of Alexandria Zonning Ordinance 2-145 (50 SF max. of area excluded per lavatory)

REMAINING NET FLOOR AREA. Per City of Alexandria Zonning Ordinance 2-145

0 50 100 200

*NOTE: Basement garage levels not counted towards GFA or Floor Area Ratio

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Project
LANDMARK - BLOCK K

ALEXANDRIA, VA

Phase
STAGE II CONCEPT SUBMISSION

Date
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Scale
As indicated

Drawing
AREA PLANS

No
A3.1

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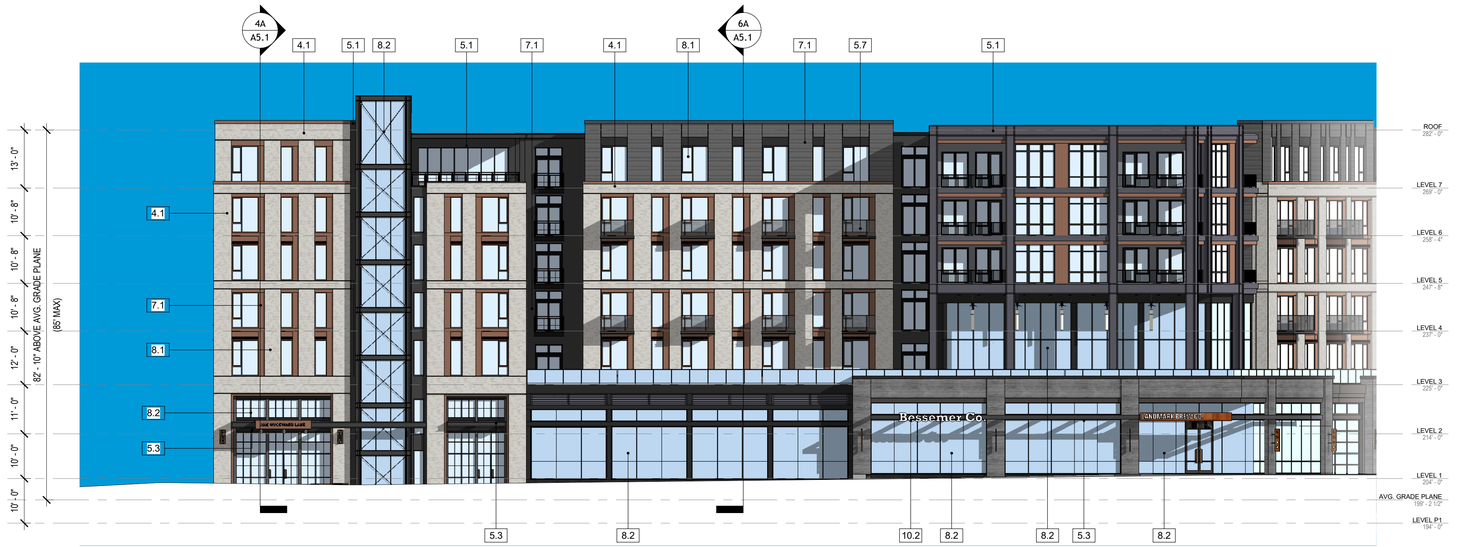

5E OVERALL ELEVATION - NORTH

A2.1 | A4.1 1/16" = 1'-0"



8D OVERALL ELEVATION - WEST

A2.1 | A4.1 1/16" = 1'-0"

ELEVATION KEYNOTES	
3.1	EXPOSED CONCRETE COLUMNS
4.1	BRICK VENEER
4.2	LINEAR MASONRY VENEER
5.1	METAL PANEL
5.2	PREFINISHED ALUMINUM RAILING SYSTEM
5.3	STEEL RETAIL & ENTRY CANOPY
5.6	JULIET BALCONY
5.7	PREFABRICATED METAL BALCONY
7.1	FIBER CEMENT
8.1	WINDOW SYSTEM
8.2	STOREFRONT SYSTEM - SUBJECT TO CHANGE BY FUTURE TENANT
8.3	OVERHEAD ROLLING DOOR
10.1	BUILDING SIGNAGE & GRAPHICS
10.2	LANDSCAPE ELEMENT

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LANDMARK - BLOCK K

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Date
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Scale
1/16" = 1'-0"

Drawing
ELEVATIONS

No
A4.1

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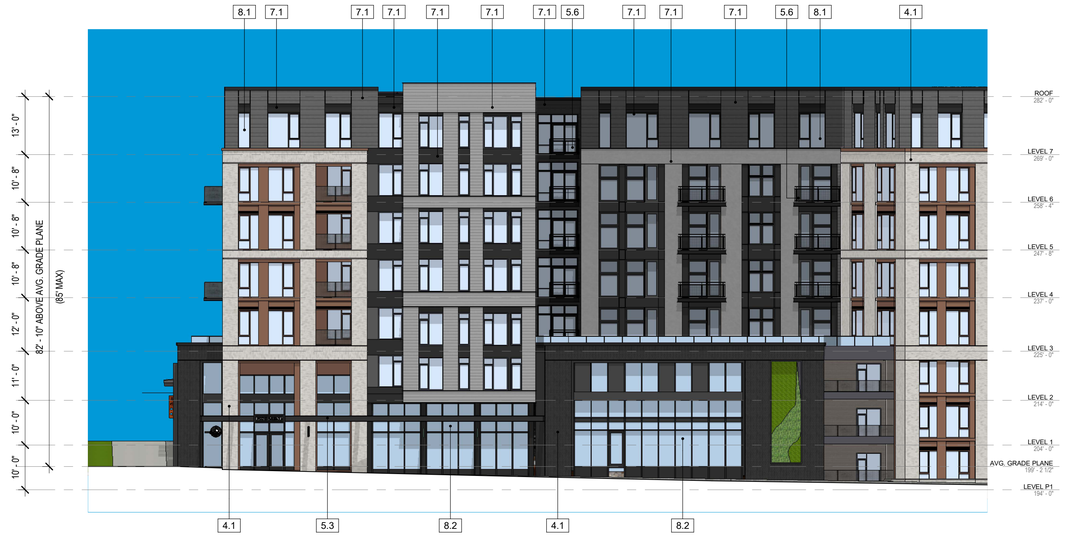
5D OVERALL ELEVATION - EAST

A2.1 A4.2 1/16" = 1'-0"



8G OVERALL ELEVATION - SOUTH A

A2.1 A4.2 1/16" = 1'-0"

ELEVATION KEYNOTES	
3.1	EXPOSED CONCRETE COLUMNS
4.1	BRICK VENEER
4.2	LINEAR MASONRY VENEER
5.1	METAL PANEL
5.2	PREFINISHED ALUMINUM RAILING SYSTEM
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8.3	OVERHEAD ROLLING DOOR
10.1	BUILDING SIGNAGE & GRAPHICS
10.2	LANDSCAPE ELEMENT

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Drawing
ELEVATIONS

No
A4.2

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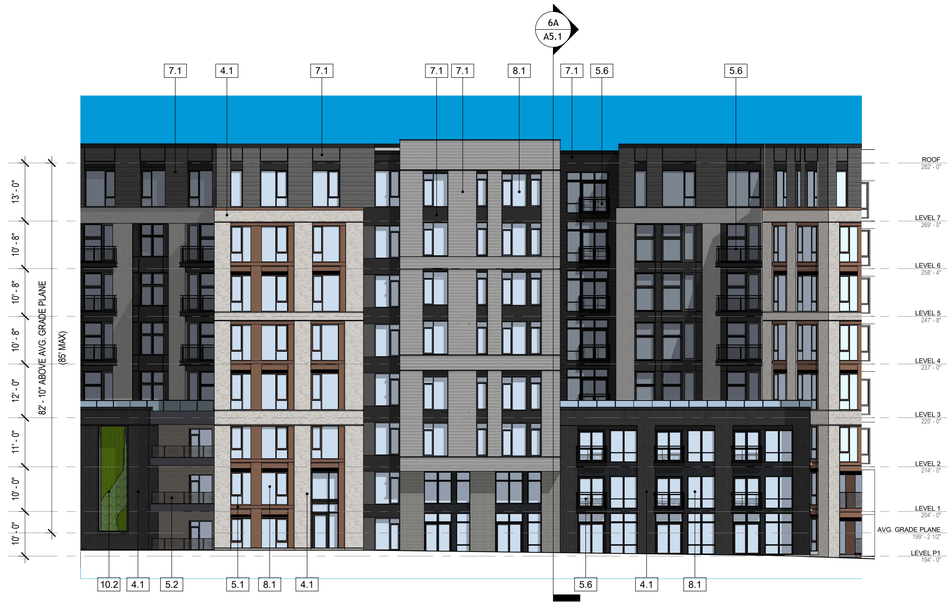

5G OVERALL ELEVATION - SOUTH B

A2.1 | A4.3 1/16" = 1'-0"



8H OVERALL ELEVATION - SOUTH C

A2.1 | A4.3 1/16" = 1'-0"

ELEVATION KEYNOTES	
3.1	EXPOSED CONCRETE COLUMNS
4.1	BRICK VENEER
4.2	LINEAR MASONRY VENEER
5.1	METAL PANEL
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ELEVATIONS

No
A4.3

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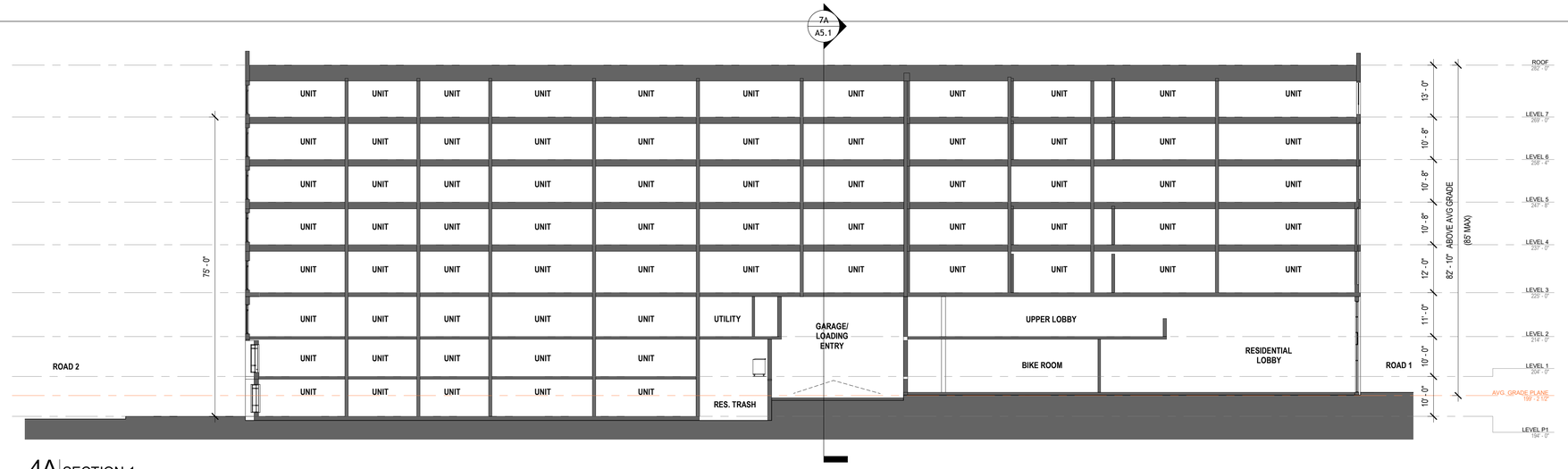
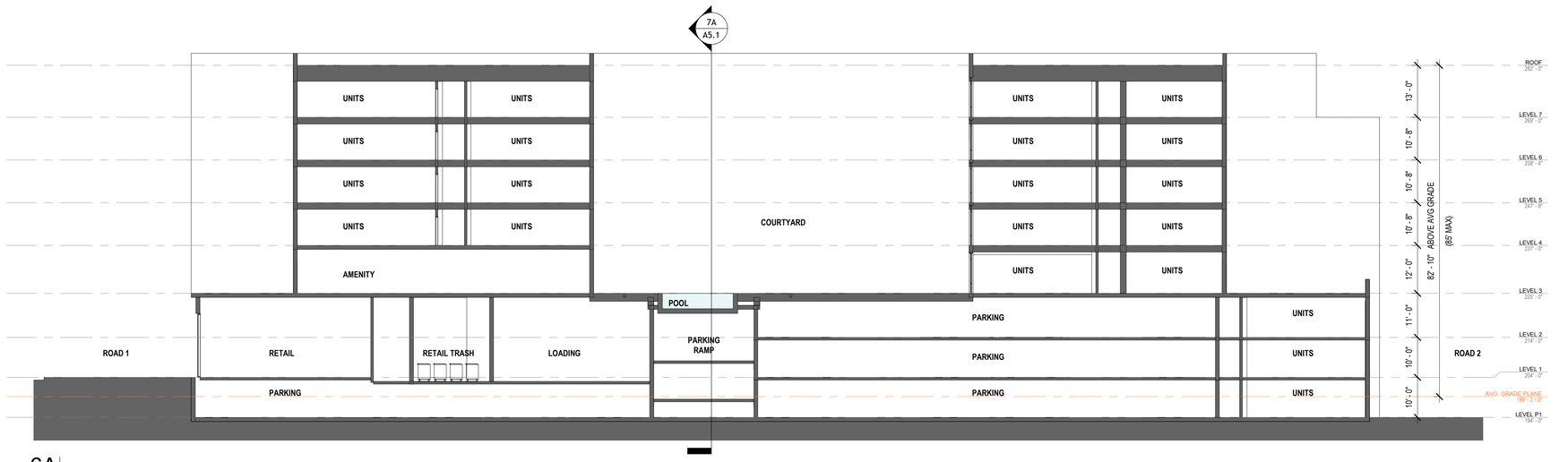


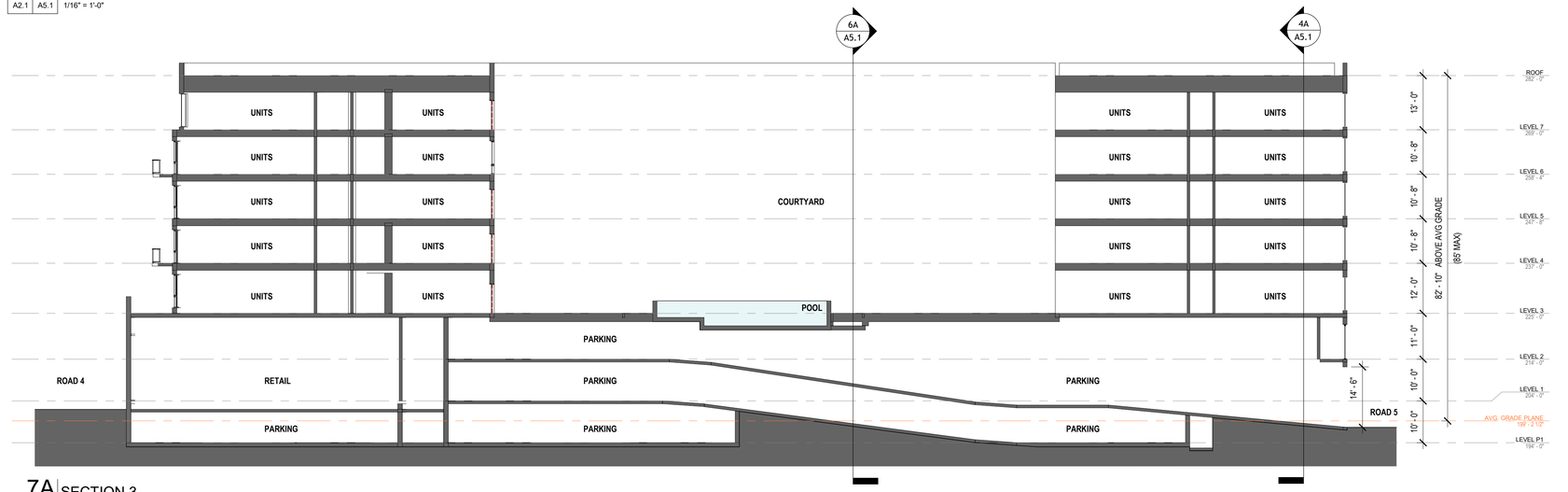
4A SECTION 1

A2.1 | A5.1 1/16" = 1'-0"



6A SECTION 2

A2.1 | A5.1 1/16" = 1'-0"



7A SECTION 3

A2.1 | A5.1 1/16" = 1'-0"

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SECTIONS

No
A5.1

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PERSPECTIVE - NORTHEAST CORNER



PERSPECTIVE - NORTHWEST CORNER



PERSPECTIVE - SOUTHEAST CORNER



PERSPECTIVE - SOUTHWEST CORNER

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PERSPECTIVES

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SUSTAINABLE BUILDING PARTNERS

Sustainable Building Partners
2701 Prosperity Avenue, Suite 100
Fairfax, VA 22031

Date: April 15th, 2022

Project: LMR Block K

Purpose: Concept 2 Submission - Green Building Approach

General Approach

The Landmark Mall Redevelopment (LMR) project is pursuing LEED Neighborhood Development v4 Plan certification. The LMR Block K project is pursuing LEED BD+C Multifamily Mid-rise v4 certification at a Silver level. The project will meet the 2019 Green Building Policy requirements as required by the CDD conditions.

Energy

Sustainable Building Partners is hired to perform whole building energy modeling for the project. The effort will analyze the impacts of the envelope, mechanical, plumbing, and electrical systems on the overall energy performance of the building. The effort is iterative, occurring at key design development milestones. Energy efficiency opportunities will be explored and considered to optimize the overall performance and reduce the environmental impacts of the building. Strategies include but are not limited to:

- Window-to-wall ratio
- Window performance
- Envelope thermal transmittance
- Thermal bridging
- Heating and cooling efficiencies
- Ventilation optimization and controls
- Lighting power density

The project will meet the require 14% energy cost savings, equivalent to 5 LEED NC energy points, and explore higher levels of performance as part of this effort. The project will not be part of a district-wide energy system.

The building will be made solar-ready for potential future installation of PV panels.

Water

The project will use native and adaptive plantings throughout the project. The project will include a high-performing irrigation system using drip irrigation, moisture meters, and controllers where necessary to ensure plantings survive and thrive. The use of non-potable water for irrigation will be evaluated.

Low flow plumbing fixtures and ENERGY STAR appliances will be used to reduce potable water use reduction. A 40% water use reduction, at minimum, will be achieved for plumbing fixtures as required by the Green Building Policy. Potential fixture flow rates include: 0.8/1.28 gpf dual flush water closet, 1.0 gpm lavatory faucet, 1.75 gpm

showerhead, and 1.5 gpm kitchen faucet. All tank water closets, lavatory faucets, and showerheads will be WaterSense labeled ensuring high-quality fixtures.

Indoor Environmental Quality

Overall occupant comfort and indoor air quality will be achieved by ensuring high quality compartmentalization of the units, which will be tested and measured via unit air leakage testing. This ensures contaminant and odor transfer between units is minimized. Additionally, outdoor air will be provided directly from the outdoors into the units and all outdoor air systems will be equipped with a minimum MERV 8 filter.

Indoor air quality concerns will also be mitigated by using low-emitting flooring, paints and coating, insulation, and ceiling systems within the building. This will be managed and confirmed by reviewing product information and ensuring it carries a GreenGuard Gold label (or equivalent), which is a third-party label that confirms volatile organic compounds levels are below prescribed thresholds.

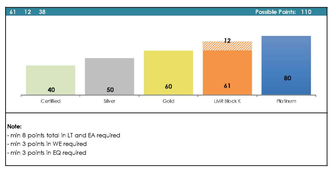
Lastly, the project team will evaluate daylight penetration into units, amenity, and retail spaces. Window and daylit area will be maximized to the greatest extent possible, while still balancing thermal and energy performance.

LEED for Homes v4: Multifamily Mid-Rise
LMR - Block K
April 15, 2022

SUSTAINABLE BUILDING PARTNERS

Y	?	N			
2	**0**	**0**	**Integrative Process**		**Possible Points: 2**
2			Credit	Integrative Process	
15	**0**	**0**	**Location and Transportation**		**Possible Points: 15**
Y			Prereq	Floodplain Avoidance	Req'red
15			Credit	*Neighborhood Development*	15
		8	Credit	Site Selection	8
		3	Credit	Compact Development	3
		2	Credit	Community Resources	2
		2	Credit	Access to Transit	2
1.5	**5**	**0.5**	**Sustainable Sites**		**Possible Points: 7**
Y			Prereq	Construction Activity Pollution Prevention	Req'red
Y			Prereq	No Invasive Plants	Req'red
	2		Credit	Heat Island Reduction *ND Alignment*	2
	3		Credit	Rainwater Management (v4.1) *ND Alignment*	3
1.5		0.5	Credit	Non-Toxic Pest Control	2
6	**2**	**4**	**Water Efficiency**		**Possible Points: 12**
Y			Prereq	Water Metering	Req'red
6	2	4	Credit	Total Water Use *ND Alignment*	12
20	**3**	**14**	**Energy and Atmosphere**		**Possible Points: 37**
Y			Prereq	Minimum Energy Performance *ND Alignment*	Req'red
Y			Prereq	Energy Metering	Req'red
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Req'red
19	2	9	Credit	Annual Energy Use *ND Alignment*	30
		5	Credit	Efficient Hot Water Distribution	5
1	1		Credit	Advanced Utility Tracking	2
3.5	**0**	**5.5**	**Materials and Resources**		**Possible Points: 9**
Y			Prereq	Certified Tropical Wood	Req'red
Y			Prereq	Durability Management	Req'red
1			Credit	Durability Management Verification	1
0.5		4.5	Credit	Environmentally Preferable Products	5
2		1	Credit	Construction Waste Management (NC v4)	3

Y	?	N			
7.5	**1**	**9.5**	**Indoor Environmental Quality**		**Possible Points: 18**
Y			Prereq	Ventilation	Req'red
Y			Prereq	Combustion Venting	Req'red
Y			Prereq	Garage Pollutant Protection	Req'red
Y			Prereq	Radon-Resistant Construction	Req'red
Y			Prereq	Air Filtering	Req'red
Y			Prereq	Environmental Tobacco Smoke	Req'red
Y			Prereq	Compartmentalization	Req'red
1		2	Credit	Enhanced Ventilation	3
0.5		1.5	Credit	Contaminant Control	2
1		2	Credit	Balancing of Heating and Cooling Distribution Systems	3
		3	Credit	Enhanced Compartmentalization	3
2			Credit	Enhanced Combustion Venting	2
	1	1	Credit	Enhanced Garage Pollutant Protection	1
2	1		Credit	Low Emitting Products	3
1			Credit	No Environmental Tobacco Smoke	1
5	**1**	**0**	**Innovation**		**Possible Points: 6**
4	1		Credit	Innovation	5
1			Credit	LEED AP Homes	1
0	**0**	**4**	**Regional Priority Credits**		**Possible Points: 4**
		1	Credit	Site Selection (thres. 8)	1
		1	Credit	Access to Transit (thres. 2)	1
		1	Credit	Community Resources (thres. 2)	1
		1	Credit	Rainwater Management (thres. 3)	1
61	**12**	**38**			**Possible Points: 110**



Note:
- min 8 points total in LT and EA required
- min 3 points in WE required
- min 3 points in EQ required

No.	DATE	REVISIONS DESCRIPTION

PLAN DATE
12-10-2021
04-15-2022

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GREEN BUILDING APPROACH
LANDMARK MALL REDEVELOPMENT
PHASE II CONCEPT - BLOCK K
CITY OF ALEXANDRIA, VIRGINIA

DATE: DEC., 2021
SCALE: N/A
C.I.= N/A

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