



Master Plan Amendment #2023-00007
Text Amendment #2023-00006
Rezoning #2023-00005
Coordinated Development District Concept Plan #2023-00004
Development Special Use Permit #2023-10007 (Condo Buildings)
Development Special Use Permit #2023-10013 (Hotel)
Development Special Use Permit #2023-10014 (Townhouses)
Development Site Plan #2023-00013 (Streets and Infrastructure)
Development Site Plan #2023-00014 (Public Park)
Special Use Permit #2023-00100 (Coordinated Sign Plan)
Subdivision #2023-00006
Vacation #2023-00005
Vulcan Site Redevelopment – 701 S. Van Dorn Street & 698 Burnside Place

Application	General Data	
Project Name: Vulcan Site Redevelopment	PC Hearing:	April 4, 2024
	CC Hearing:	April 13, 2024
	If approved, DSUP/DSP Expiration ¹	April 13, 2029
	Plan Acreage	185,508 SF (4.26 AC) (townhouses) 112,590 SF (2.58 AC) (condo flats) 46,924 SF (1.08 AC) (hotel) 264,840 SF (6.07 AC) (park) 100,971 SF (2.32 AC) (right-of-way) 63,622 SF (1.46 AC) (private street) <u>774,455 SF total (17.77 acres)</u>
Location: 701 S. Van Dorn Street and 698 Burnside Place	Current Zone	I / Industrial
	Proposed Zone	CDD #26 / Coordinated Development District 26
	Proposed Use	Townhouses, multi-unit residential, hotel, and retail
	Dwelling Units	31 townhouses 88 stacked townhouses <u>204 multi-unit units (condo flats)</u> 323 total residential units
	Gross Floor Area	107,322 SF (townhouses) 207,636 SF (stacked townhouses) 355,962 SF (condo flats) <u>266,651 SF (hotel)</u> 897,571 SF total
	Net Floor Area	96,410 SF (townhouses) 183,084 SF (stacked townhouses) 304,620 SF (condo flats) <u>163,462 SF (hotel)</u>

¹ Approval for five years due to the duration of the planned environmental remediation per GRD #2022-00047.

		747,576 SF total
	Small Area Plan	Eisenhower West
Applicant: Lennar Corporation and Potomac Land Group II, LLC, represented by Kenneth Wire, attorney	Historic District	N/A
	Green Building	LEED Silver or equivalent + performance points

Purpose of Application

The applicant requests approval of a Master Plan Amendment, map amendment (rezoning), Coordinated Development District Concept Plan Amendment, three Development Special Use Permits, two Development Site Plans, and other land-use requests to construct a public park, 256-room hotel with ground floor retail, and 323 residential units comprised of town houses, stacked townhouses, and six midrise condominium buildings. The proposal includes three new public streets, one private street, and six private alleys.

Applications and Modifications Requested:

1. Amendment to the Eisenhower West Small Area Plan Chapter of the Master Plan to change the height limit for the southern portion of the property from Medium-High to Medium.
2. Amendment to the Coordinated Development Districts table to include hotels and townhouses as permitted uses within CDD#26 with a CDD Special Use Permit
3. Amendment to the official zoning map to change the zoning designation for the property from Industrial/I to Coordinated Development District #26/CDD #26
4. Development Special Use Permit with site plan to construct six new multi-unit residential buildings with 208 units with:
 - a. A Special Use Permit for a parking reduction
5. Development Special Use Permit with site plan and modifications to construct a 256-room hotel with ground floor retail
6. Development Special Use Permit with site plan to construct 31 townhouses and 88 stacked townhouse (multi-unit residential) units with:
 - a. A Special Use Permit for a parking reduction for the stacked townhouse units
7. Development Site Plan to construct new streets and related infrastructure **(PC only)**
8. Development Site Plan to construct a public park **(PC only)**
9. Special Use Permit for a Coordinated Sign Plan for the hotel signage
10. Subdivision to create the new internal blocks and dedicate right-of-way **(PC only)**
11. Vacation of a portion of Courtney Ave right-of-way to accommodate the hotel site

Staff Recommendation: APPROVAL WITH CONDITIONS

Staff Reviewers:

Robert M. Kerns, AICP, Division Chief, Robert.Kerns@AlexandriaVA.gov
 Maya Contreras, Principal Planner, Maya.Contreras@AlexandriaVA.gov
 Jared Alves, AICP, Urban Planner, Jared.Alves@AlexandriaVA.gov

CITY COUNCIL ACTION, APRIL 13, 2024:

City Council approved the Planning Commission recommendation.

PLANNING COMMISSION ACTION, APRIL 4, 2024:

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to recommend approval of MPA #2023-00007. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to initiate Text Amendment #2023-00006. The motion carried on a vote of 7-0. On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to recommend approval of Text Amendment #2023-00006. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to recommend approval of REZ #2023-00005. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to recommend approval of CDD #2023-00004. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to recommend approval of DSUP #2023-10007, DSUP #2023-10013, and DSUP #2023-10014. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to approve of DSP #2023-00013. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to approve of DSP #2023-00014. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to recommend approval of SUP #2023-00100. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to approve of SUB #2023-00006. The motion carried on a vote of 7-0.

On a motion by Commissioner Lyle, seconded by Vice Chair McMahon, the Planning Commission voted to recommend approval of VAC #2023-00005. The motion carried on a vote of 7-0.

Reason: The Planning Commission agreed with the Staff analysis. The Commission found that the proposal satisfied the Coordinated Development District #26 and master plan requirements. The Commission also revised Condition #433 to align with comments from the Eisenhower West/Landmark Van Dorn Implementation Advisory Group to ensure ADA access for the park.

433. CONDITION AMENDED BY PLANNING COMMISSION: Provide these modifications to the landscape plan and supporting drawings with the Final Site Plan to the satisfaction of the Director of RP&CA: (RP&CA) *

- a. Locate trash and recycling bins within five feet of the curb line at public park entrances.

- b. Replace the mulch ADA paths with a porous pavement ~~from the sidewalk to the overlook.~~
- c. The observation deck and stairs to Backlick Run shall be made of composite materials with anti-slip treatment.
- d. Include habitat areas where feasible. Designs shall focus on biodiversity, connectivity, and vertical and horizontal vegetation layering. Plant species with documented pollinator or avian habitat value shall be included in the planting plans.

Speakers:

Chair Macek asked Staff to explain the rationale for including the subject site in CDD#26, despite the parcels being separated by Backlick Run.

Staff answered that the small area plan envisioned using CDD rezoning to encompass the immediate area, called the Innovation District. Including the parcels on either side of Backlick Run enables coordination of the restoration and revitalization of the resource protection area on both banks and transportation improvements, such as the pedestrian/cyclist bridge provided with the application, to further connect the parcels.

Sash Impastato, on behalf of the Cameron Station Civic Association, said that the Association generally supports the project, but that their members are concerned about current and future traffic. The applicant's traffic study uses pandemic era data and it even showed that all intersections are currently impacted significantly. They are concerned that the pandemic data doesn't demonstrate the true magnitude of the issue. In addition, they are concerned that the City's budget does not recommend the multimodal bridge envisioned by the Eisenhower West Small Area Plan. The Association requested an updated traffic study using current data or an explanation to ensure that the current study is suitable. Further, the Association asked the City to recommit to the multimodal bridge, particularly considering the growth anticipated in the area, including the redevelopment of Landmark Mall.

Ken Wire, Wire Gill, LLP, project attorney, described the project and noted the importance of connecting the parks on both banks of Backlick Run. The project provides less density than shown in the small area plan, but the same amount of open space. They set the hotel building back from the bridge and pulled back infrastructure to accommodate any future widening of S. Van Dorn Street. He acknowledged that Courtney Ave is a complicated intersection. He discussed the history of the project, the variety of open space and the design of the hotel to be able to attract national brands with long- and short-stay components. He noted that City Staff confirmed the traffic study locations and open space design, particularly the pedestrian bridge. He highlighted the contributions to affordable housing, open space, and other amenities for the area and the City.

On a motion by Vice Chair McMahon, seconded by Commissioner Lyle, the Planning Commission voted to close the public hearing. The motion carried on a vote of 7-0.

Vice Chair McMahon noted the concern from the Cameron Station Civic Association about regional traffic. She asked to hear about the appropriateness of the traffic study, given pandemic

activity, and why the sidelining of the multimodal bridge option has occurred, given the current lived experience of area residents. She asked for the current and future vision for the area. She also highlighted the benefits of the project, including the variety of housing types, the bridge connection, the hotel, the connectivity, and the park. The project is using the aspects of the site and turning them into assets and laying the groundwork for future improvements to the neighborhood. She noted that this project can't solve the regional traffic problems, and that the City should continue to look for opportunities for investments and improvements.

Staff noted that we are confident in the traffic study. The applicant adjusted the pandemic era counts to approximate pre-pandemic travel behavior. Since then, the City has conducted traffic counts in the area and has determined that the applicant estimated more traffic than has returned post-pandemic, likely due to different commuting habits and work-from home. Staff noted that an analysis of the benefits of the multimodal bridge to traffic would not be outweighed by the considerable projected costs, especially when compared to the costs and benefits associated with widening the existing S. Van Dorn Street bridge. Staff are focused on this area with a VDOT study to evaluate the intersection of Eisenhower Avenue with S. Van Dorn Street, introducing adaptive traffic signals on S. Van Dorn Street, a recent grant to study high crash intersections, the coming West End Transitway bus rapid transit, and additional initiatives.

Commissioner Lyle expressed great concern about the current state of traffic congestion in the area. She noted that there are three high crash intersections along S. Van Dorn Street. People are doing U-turns along S. Pickett St. She noted the poor design at S. Pickett completed when Modera Tempo was built, which was revised but traffic still backs up to Home Depot. She discussed the approved and pending development projects along the corridor, as well as in Fairfax County. Residents are living with the problem today and need relief. The Vulcan project is great, but the existing conditions are a problem, and no one is listening. Help is needed to get the traffic right. Bus rapid transit will not be a solution for everyone, and it won't be implemented for 5-10 years. Multiple 311 requests have been put in for traffic signals along the corridor and they are closed without improvement.

Staff acknowledged the Commissioner's and residents' frustration with the traffic along the corridor and reiterated that Staff are focused on identifying and implementing improvements.

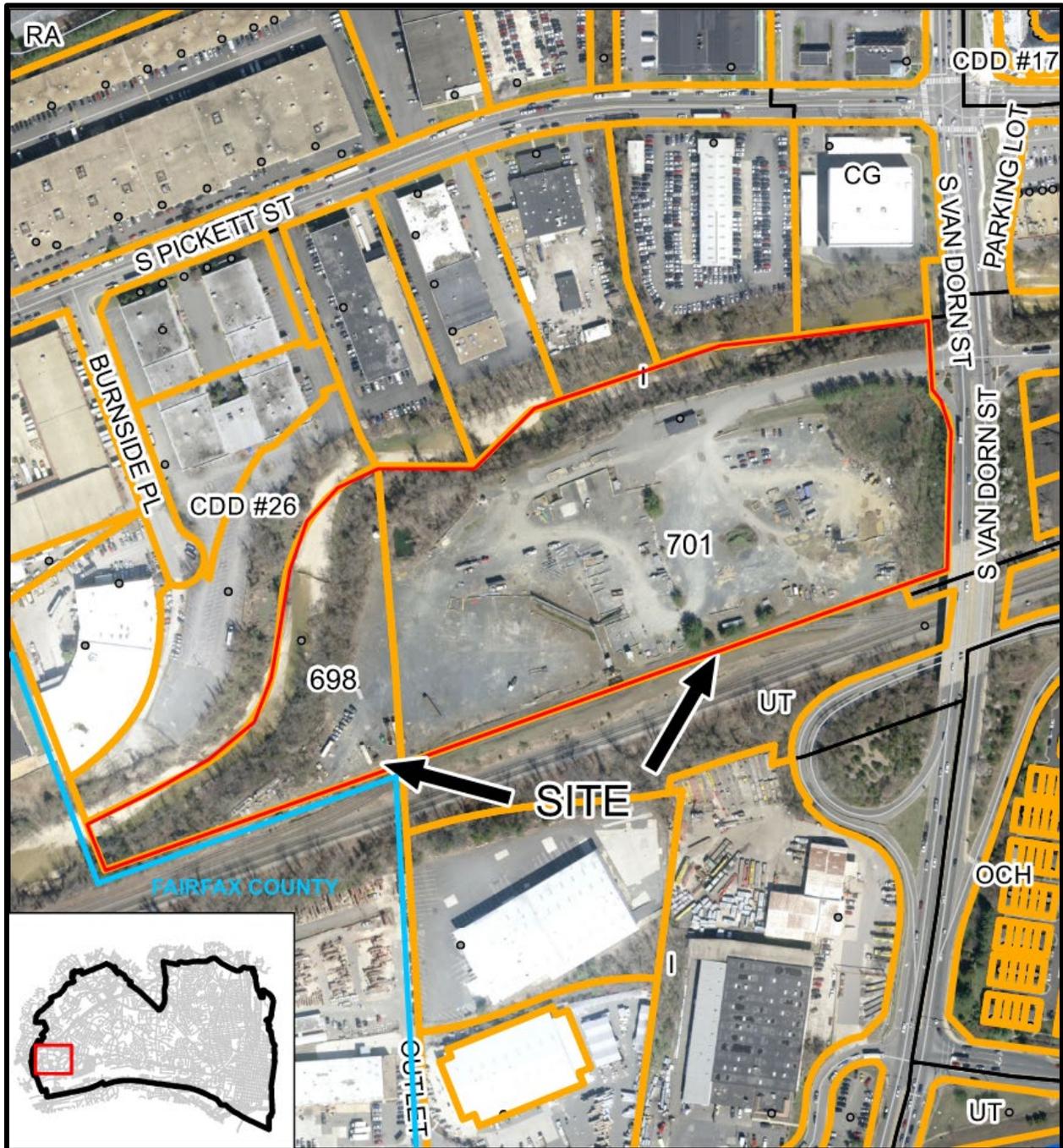
Commissioner Lyle said that she appreciates the \$112 thousand Capital bikeshare contribution but noted that most will go into a Citywide fund that may not be used in the West End. She would like an additional station at Ben Brenman or Boothe Park, or elsewhere in the area. She would like to see the money stay within the West End. To build a network, investments need to be made in the West End. In addition, she noted that she had discussed a possible CDD condition 21.I to collect current traffic counts following project completion. She acknowledged Staff's recommended revisions to condition 433 to change the mulch park paths to porous pavement. Making the park ADA complaint will ensure equal access. She noted the increases in anticipated taxes from about \$180 thousand today to \$2.7 million at full buildout in today's dollars and rates. She has heard a lot of vitriol about developers, but this project has been a good experience and meets the long-anticipated vision for this site.

Chair Macek acknowledged that traffic is already broken in this area, and that corridor and multimodal investments are sorely needed. This project is good and worthy of the Commission and Council's support.

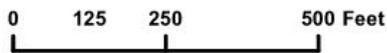
Commissioner Brown said that while the project didn't seem big on paper, the site is huge. It's one of the biggest he's seen that is anticipated to be redeveloped at one time. He believes the transportation issues can be solved. He asked the applicant about the high number of AM peak travel, and how many people are anticipated to be leaving at the one exit on Courtney Ave.

Mr. Wire said that they focused on designing the site to have narrow streets with on-street parking. While there is only one exit today, future connections to the Virginia Paving Site and to S. Pickett are possible with further redevelopment. He noted that any backup at the intersection with S. Van Dorn Street would be into their site.

Commissioner Lyle asked for support from the Commission to recommend that Staff apply the additional Capital Bikeshare contribution towards a second station in the West End. The Commissioners agreed with her proposal and acknowledged that bikeshare works best when it provides options to multiple destinations within a quarter mile of each station, so a higher density of stations is necessary for the system to function well in the West End.



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 Development Special Use Permit #2023-10007 - Condo Flats
 Development Special Use Permit #2023-10013 - Hotel
 Development Special Use Permit #2023-10014 - Townhouses/Stacked Townhouses
 Development Site Plan #2023-00013 - Infrastructure and public streets
 Development Site Plan #2023-00014 - Public park
 Coordinated Sign Special Use Permit #2023-00100
 Subdivision #2023-00006
 Vacation #2023-00005
 701 South Van Dorn Street &
 698 Burnside Place



PROJECT LOCATION MAP

I. SUMMARY

A. Recommendation

Staff recommend **approval** of the proposal for a hotel, townhouses, stacked townhouses, midrise multi-unit residential buildings, a public park, and public and private streets at the Vulcan site, subject to compliance with the staff recommendations. The entire proposal (across the Development Special Use Permits and the Development Site Plan) would provide several benefits for the City, including:

- Construction of new street grid and new buildings on smaller development blocks at a former industrial site identified for redevelopment in the Eisenhower West Small Area Plan
- 264,840 sq. ft. (6.1 acres) of Resource Protection Area associated with Backlick Run dedicated to the City, including 192,689 SF (4.4 acres) as a new public park
- 44,484 sq. ft. (1.0 acre) of privately owned open space
- Affordable housing contribution (\$3,543,736)
- Eisenhower West/Landmark Van Dorn Implementation Fund contribution (\$2,579,137 value in \$2023)
- Public art contribution/on-site public art (\$249,783.90 value)
- Capital Bikeshare contribution (\$112,500)
- 10.65 lbs. of phosphorous removed (20% more than required)
- Consistency with the City's Green Building Policy

B. General Project Description

The applicant, Lennar Corporation and Potomac Land Group II, LLC, seeks to redevelop two brownfield industrial parcels. The redevelopment would include restoring the Resource Protection Area (RPA) associated with Backlick Run, a new public park in the RPA, townhouses and stacked townhouses, midrise condo flats, a dual-branded hotel with ground floor retail, and new public and private streets, with a net of 323 residences, a 256-room hotel, and over 5,400 sq. ft. of retail.

Although reviewed together and discussed here in one report, staff have divided this redevelopment proposal into five primary development requests: one Development Special Use Permit (DSUP) for townhouses and stacked townhouses, a DSUP for the condo flats, a DSUP for the hotel, a Development Site Plan (DSP) for the public park, and a DSP for the streets and infrastructure. This report includes distinct conditions of approval for each of these four requests and the associated land use approvals.

Key issues to consider that this report addresses include:

- The Master Plan Amendment and rezoning request
- Site layout and building design
- Special Use Permit (SUP) requests, including the requested parking reduction
- Requested modifications

II. BACKGROUND

1. Site Context

The project site comprises two contiguous lots totaling 773,892 sq. ft. (17.76 acres). To the north and west is Backlick Run, to the south are Norfolk Southern railroad tracks, and to the east is S. Van Dorn Street. Previously, Vulcan Materials used the site for their construction aggregates business. A variety of light industrial uses are to the north opposite Backlick Run and to the south opposite the railroad tracks. A heavy industrial site owned by Virginia Paving Company is on the opposite side of S. Van Dorn Street. Most of the site is level, excepting a slope down from S. Van Dorn Street, which is more gradual where it aligns with Courtney Ave and steeper along the roadway embankment, and a steep slope down to Backlick Run. A one-story building, truck scales, concrete pads, and asphalt occupy the site, with some vegetation and trees, including invasive species, along the Backlick Run and S Van Dorn Street slopes.

2. Small Area Plan

The Eisenhower West Small Area Plan (EWSAP) chapter of the City's Master Plan identifies the site for redevelopment as part of the Van Dorn Innovation District neighborhood. For the Vulcan site in particular, the plan calls for residential in the interior, including a limited number of townhouses; mixed-use (office/residential/retail) along S. Van Dorn Street, a park along Backlick Run, the north-south Farrington Connector on the western edge, and a new internal street grid. Retail may include Production, Wholesale, and Repair (PWR) uses such as maker spaces. The SAP sets building heights based on the distance to the Van Dorn Metro Station, requiring heights of 5-15 stories for this site (3-4 stories for townhouses). Residential developments must provide 30 percent open space, including 15 percent at grade, while commercial developments must provide at least 10 percent publicly accessible open space at grade.

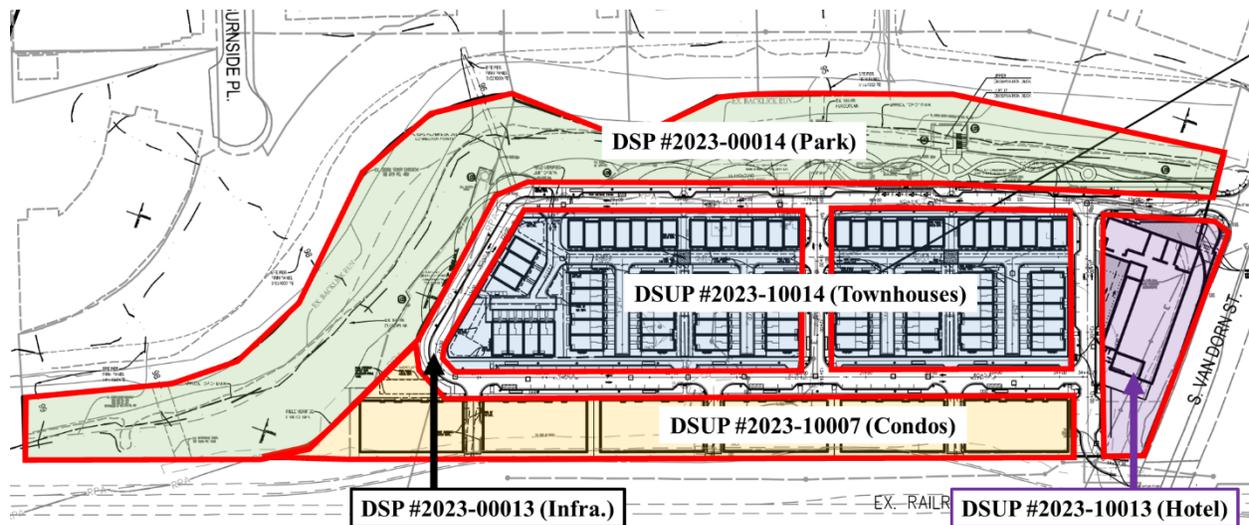
III. PROJECT DESCRIPTION

A. Overview

The applicant proposes to redevelop the 17.8-acre site into a new neighborhood with three new public streets (Roads D, E, and F), one private street (Road G)², and six private alleys (Alleys A through F), as shown in Figure 1. Along the northern and western edge of the site would be a new public park in the Resource Protection Area associated with Backlick Run. In the middle surrounded by Roads D, F, and G, would be 31 townhomes and 88 stacked townhouses. Along the southern edge of the site between Road G and the Norfolk Southern railroad tracks would be six midrise buildings that the applicant refers to as condo flats, each with a mix of 34 one-, two-, and three-bedroom condominium units. On the eastern edge of the site between Road F and S Van Dorn Street would be a 256-room dual branded short- and long-stay hotel with ground floor retail at the entrance to the site perpendicular to S Van Dorn Street and facing Road D.

² The Road names start with D to continue the naming convention from the first roads approved for CDD #26 with the Public Storage site on the opposite bank of Backlick Run.

Figure 1 Proposed Site Layout



Although reviewed together, the requested redevelopment at the Vulcan Materials Company site has been divided into five major requests: one DSUP for the townhouses and stacked townhouses (DSUP#2023-10014), one for the condo flats (DSUP#2023-10007), one for the hotel (DSUP#2023-10013), a DSP for the streets (DSP#2023-00013), and a DSP for the public park (DSP#2023-00014). Additional requests include the rezoning, Master Plan Amendment, Coordinated Sign Plan Special Use Permit (SUP), Subdivision, and a Vacation.

B. DSUP#2023-10007 for Condo Flats

The six mid-rise condo flats would be five to six stories in height, with the sixth story provided by a double-height mezzanine in three of the buildings. The six buildings would provide 204 condominiums, with 48 one-bedroom, 108 two-bedroom, and 48 three-bedroom units. Each building would be 59,327 sq. ft. with a partially below grade garage, lobby with package room, and access drives between Buildings A and B, C and D, and E and F. Buildings A, B, and D with mezzanines would be 64 feet in height, while Buildings C, E, and F would be 54.5-ft. in height. The garage for each condo flat would have 37 spaces, including 22 tandem spaces. Refer to the subsequent Special Use Permits section for details on the request to reduce the parking requirement for the condo flats.

C. DSUP#2023-10013 for Hotel

The 11-story and 129-ft. tall hotel would be built into the slope adjacent to S Van Dorn Street, so it would appear to be 10-stories from S Van Dorn and 11-stories from within the site. The hotel would be 226,651 sq. ft., including 5,416 sq. ft. of retail on the second floor that is at-grade with S Van Dorn Street. The hotel would have the lobby, drop-off, loading, and garage entrance facing the new public Road F and the interior of the site. Due to the slope, the 65-space garage is below the grade of S Van Dorn Street on the first and second floors of the hotel.

D. DSUP#2023-10014 for Townhouses and Stacked Townhouses

The townhouses and stacked townhouses would comprise 14 buildings, or sticks, with 31 townhouses in 5 sticks facing towards Backlick Run and 9 sticks of 88 stacked townhouses in the

middle of the site. Like other stacked townhouse configurations, they would look like traditional townhouses on the exterior but have one living unit located on the first and second floors and the second living unit on the third and fourth floors. Since the ground floor also includes two garage parking spaces (one for each unit) and staircases to reach the upper unit, the bottom floor unit is smaller at 1,683 sq. ft., while the unit on the upper floors is larger at 2,604 sq. ft. In addition to the garage spaces, each stacked townhouse also has two driveway spaces (one per unit). This tandem parking arrangement with garage space necessitates a parking reduction SUP, as discussed later in the SUP section of this report. The townhouse units are 2,853 sq. ft. with a two-car garage on the ground floor. All the townhouses and stacked townhouses would have three bedrooms. The townhouses would be 50-ft. in height and the stacked townhouses would be 60-ft. in height.

This DSUP would also provide privately-owned and publicly accessible at-grade open space via the setbacks around each stick. Staff worked with the applicant on the layout to provide two north-south greenways, which along with Road E that bisects the DSUP, increase permeability and provide direct pedestrian connections from the condo flats to the public park.

E. DSP for Streets

The DSP involves constructing the new street grid comprised of three public streets and one private street. Road D intersects with S Van Dorn Street and is an extension of Courtney Avenue. This road would parallel Backlick Run in an east to west direction before looping to the southern part of the site. In front of the condo flats this becomes private Road G with a public access easement. As discussed further in the parking reduction SUP section, this street is private to provide dedicated parking spaces for the condo flats. Road E would be a north-south street that bisects the townhouses and stacked townhouses and could serve as the landing for a future bridge connecting to S Pickett Street. Road F would be north-south and parallel to S Van Dorn Street. A future extension could continue Road F underneath S Van Dorn Street and connect to the Virginia Paving Company Site at 5601 Courtney Avenue. Roads D, F, and G would have on-street parking totaling 94 spaces.

F. DSP for Public Park

Through this DSP the applicant proposes constructing a public park along Backlick Run. The applicant proposes dedicating over 6-acres to the City, including about 1.7-acres of land underwater. Staff proposes allowing the applicant to construct this park via in kind contributions per the Eisenhower West/Landmark Van Dorn Implementation Fund. Since the park is entirely within the RPA, the long-term design supports passive recreation. Future extensions of this CDD per the EWSAP would complete the park per this approved design. The subsequent Open Space section describes the design in greater detail.

IV. ZONING

A. Current Zoning

The current site is zoned I / Industrial. The Industrial zone permits retail and restaurant uses, but the zoning district does not permit hotel or residential uses, and rezoning of the site is a recommendation in the EW/LVD SAP. The by-right maximum Floor Area Ratio is 0.85, which can increase to 1.25 with an SUP. The maximum allowed building height is 50-ft. without an SUP, but that height can increase if needed to accommodate the specific operations of the use.

Several other provisions within the Zoning Ordinance pertain to the project in addition to zone requirements. §11-400 requires a DSP to construct new streets and buildings that are not specifically exempt. Consistent with staff practice, new buildings requiring site plan approval that also require an SUP are combined and processed as a DSUP.

§11-416 allows for the potential modification of certain minimum zoning requirements, including those requested for the hotel loading requirement. In addition, §8-100(A)(4) allows for SUP requests for parking reductions and §9-103(C) allows for SUP requests for a coordinated sign plan. Separately, if approved, the applicant will need to submit a future application to name the proposed public streets, per the City Code of Ordinances §5-2-64.

B. Proposed Zoning

The applicant has requested a map amendment (rezoning) to change the zoning of the project site from I / Industrial to CDD #26 / Coordinated Development District #26. In March 2019, the City Council established this zoning district to initially include 880 & 890 S Pickett Street and 620 Burnside Place alongside a DSUP to construct a Public Storage building on one of three parcels.³ In addition to storage, this zoning district permits a range of mixed uses, including the retail, recreational areas, and multi-unit residential (including stacked townhouses) requested with these DSUPs. As noted in the subsequent Text Amendment section, Staff are initiating an amendment to add hotel and townhouse uses to the table for CDD #26.

CDD #26 refers to the EWSAP to set the height limits for the district. In general, the EWSAP requires a minimum of 5 stories and a maximum of 15 stories, excepting townhouses that should be 3 to 4 stories. The zoning district further establishes a maximum allowed Floor Area Ratio (FAR) of 2.5 and open space requirements of 10% for primarily non-residential uses and 30% for primarily residential uses, with at least half provided as publicly accessible ground-level usable open space. Notably, the publicly accessible ground-level open space may be anywhere within the CDD plan area.

Table 1 Zoning Tabulations

Property Address:	701 S Van Dorn Street and 698 Burnside Place			
Total Site Area:	773,892 (17.76 acres)			
Current Zone:	I / Industrial			
Proposed Zone:	CDD #26 / Coordinated Development District #26			
Current Use:	Vacant			
Proposed Use:	Townhouse, Multi-unit Residential (stacked townhouse and midrise condo), Hotel, Retail/Restaurant			
	Permitted / Required	Proposed		
		Townhouses	Condo Flats	Hotel
Maximum FAR	2.5	0.96 (as a tract) ¹		
Maximum Height	5-15 stories 3-4 stories (townhouses)	4 stories (47')	5-6 (54.5' to 64')	11 stories (129')

³ The project numbers were: MPA #2018-00006, TA #2018-00012, REZ #2018-00005, CDD #2018-00005, DSUP #2018-00077, and TMP #2018-00077.

Minimum Open Space ²	93,997 SF (30% residential + 10% non-residential)	237,173 SF (68.7%) ¹		
Minimum Tree Crown Coverage ³	193,614 SF (25%)	30,410 SF (16.4%)	54,000 SF (48%)	7,890 SF (16.8%)
		299,315 SF (38.6%)		
Parking ⁴	230	238, including tandem	N/A	N/A
	342	N/A	274, including tandem and on- street	N/A
	61	N/A	N/A	65
Loading Space ⁵	9	None	None	2

1 FAR and open space calculations include the square footage of the entire site.

2 CDD #26 permits pooling required open space across the plan area. The proposed open space total includes the public park.

3 Proposed CDD #26 condition would require 25% canopy summed for the townhouse, condo flats, and hotel site; with each DSUP individually providing at least 15% canopy.

4 Parking reduction SUP requested for stacked townhouses and condo flats.

5 Modification requested for the hotel loading spaces.

V. STAFF ANALYSIS

Staff supports the proposed Vulcan site redevelopment plan that would remediate the former industrial site to create a new neighborhood with a public park, residences, a hotel, retail, and a street grid that aligns with the recommendations of the EWSAP. The project also represents an opportunity to continue building out the Backlick Run Trail and concentrate growth near the Van Dorn Metro and future West End Transitway. Staff believes that the additional land-use requests, such as the Master Plan Amendment, rezoning, and SUP requests are justified. The proposal is also consistent with zoning ordinance requirements and site plan standards.

A. *Master Plan Discussion*

Staff finds that the development proposal is consistent with the EWSAP chapter of Alexandria Master Plan as discussed below. Although the project includes a request for a Master Plan Amendment (MPA), the request is reasonable and appropriate given the nature of the site. The MPA, together with the redevelopment of the brownfield site, public park, street layout, and mixed-use elements of the proposal, ultimately support the broad goals and objectives of the SAP.

Consistency with Master Plan Goals/Objectives

The proposed CDD Concept Plan and DSP/DSUPs are consistent with the objectives of both the plan-wide and neighborhood-specific elements of the 2015 EWSAP. The objectives from the plan highlighted in this report are open space, transportation connectivity, environmental sustainability, affordable housing, and production, wholesale, and repair uses. Specifically:

1. *Parks and Open Space* – The Plan seeks to provide residents with recreational opportunities by protecting existing parks, establishing an open space network in new development areas,

and linking and expanding pedestrian/recreational trails in the area. The Plan contains several specific recommendations to meet these goals, including establishing the Backlick Run Greenway, which would be a linear park along both sides of the Backlick Run stream on either side of South Van Dorn Street. The second specific recommendation is to introduce “green connections” that would offer transitions to the Greenway. The current proposal would offer both plan elements. The applicant has agreed to dedicate 264,840 sq. ft. (6.08 ac.) of land underwater and RPA associated with Backlick Run along the northern and western boundary of the project site to the City for a public park. This park would complement the three-acre dedication on the opposite bank that was part of the Public Storage application. The applicant has also agreed to provide a pair of north-south “green connections” with trees, shrubs, and walkways that would bisect the townhouse blocks and link the condo flats at the southern edge of the site to the park along Backlick Run.

2. *Transportation & Street Connectivity* – The EWSAP calls for establishing a network of new streets as part of redevelopment projects, including new north-south bridges, and improving the walking and cycling environment. The applicant has proposed streets that align with the SAP’s framework, including three public roads, with Road D lining the new public park on Backlick Run, Road E bisecting the townhouses north-south, and Road F parallel to S Van Dorn and bisecting the townhouse and hotel blocks north-south. In front of the condo flats, the applicant is proposing a private street, Road G. Within the two townhouse blocks, the applicant has proposed six private alleys (Alleys A through F) that provide access to the rear garages. For walking and cycling connectivity, the applicant provides a pedestrian/bicycle bridge from the northwest corner of the site that would connect the public park on south bank of the Backlick Run to the public park on the north bank created with the Public Storage project.

In addition, this application considers potential future connections outlined by the EWSAP. The Farrington Connector would create a new north-south link, connecting S. Pickett Street in the north and Farrington Avenue in the south. The applicant suggests an adjusted alignment for this connector, which due to the anticipated bridge height would preclude a direct connection to this site. The proposal also allows for Road E to extend north across Backlick Run to S Pickett Street and Road F to run under S Van Dorn Street to reach the Virginia Paving Company site to coincide with future redevelopments.

3. *Environmental Sustainability* – The EWSAP sets goals for constructing high-efficiency buildings, reducing stormwater pollution, and protecting and stabilizing specific waterways, including Backlick Run. Regarding high-efficiency buildings, and as discussed further in the Green Building Policy section, the applicant has committed to meeting the City’s Green Building Policy and providing electric vehicle (EV) charging spaces and EV ready spaces. During the Final Site Plan process, the applicant will determine whether to proceed with certification under the National Green Building Standard (NGBS) or LEED. Both require the project’s support of renewable energy generation in some way, but LEED permits applicants to purchase credits from off-site renewable energy sources. The applicant also worked collaboratively with City staff to achieve a stormwater mitigation plan that would accomplish the plan’s goal to reduce stormwater runoff. The proposal would eliminate the existing untreated, impervious surface on the site and restore the RPA associated with Backlick Run, including removing invasive species and introducing landscaping with native plantings.

4. *Affordable Housing* – The Eisenhower West SAP identified several affordable housing-related goals, including providing new housing opportunities and voluntary contributions to the Housing Trust Fund. While the applicant is not proposing any on-site committed affordable units, the range of housing types and sizes will mean that the market rate housing will be more accessible to a broader range of households than if the project just had one type of housing, such as townhouses, which are typically more expensive per square foot. In addition, the applicant has committed to providing a contribution to the Housing Trust Fund consistent with City policy.
5. *Production/Wholesale/Repair (“PWR”) Uses* – A Plan goal specific to Neighborhood #1 is to establish production/wholesale/repair (PWR) uses in the area. The plan defines these uses as “a wide variety of businesses that are traditionally located in light-industrial or warehouse-type spaces... and include light industrial uses, spaces for start-up companies, technology companies, innovation, and “maker” businesses... also includ[ing] pet services, catering/food services, sports facilities, and contractor offices.” Such uses are further described in the Plan as being important sources of employment that are appropriate in light industrial and warehouse-type areas. CDD#26 permits these uses and, while the DSPs and DSUPs proposed for this application are predominantly residential, the hotel has ground-level commercial space that could accommodate PWR tenants. In addition, future extensions of CDD #26 could provide additional space for PWR uses.

Master Plan Amendment

The applicant is requesting a Master Plan Amendment to change height limit for the southern portion of the property from Medium-High to Medium, as shown in Attachment 1. Staff supports this limited amendment since layers of fill cover the site and the applicant will need to conduct extensive environmental remediation to prepare for above grade construction. As a result, the SAP’s vision of taller buildings is not currently feasible, and this amendment would enable the applicant to pursue the buildings proposed for Blocks A, B, and C.

The applicant is providing partially above grade condominium parking adjacent to Courtney Avenue without the EWSAP recommended 30-feet of active use screening. However, staff worked with the applicant team to refine the architecture as part of the development review process, including eliminating surface parking, making the lobby entrance more prominent, and minimizing the visual impact of the partially below grade parking. Accordingly, staff have determined that this design follows the intent of the SAP and does not necessitate a separate MPA.

B. Rezoning and CDD Text Amendment

Both parcels are zoned I / Industrial, and the applicant has requested a Map Amendment (rezoning) to CDD #26. If approved, the proposed CDD zone would allow an additional 1.1 million sq. ft. of development within this Phase III of the CDD with maximum building heights ranging from 100-ft. (Blocks A, B, and C) to 150-ft. for Block D. As noted in the preceding section, the applicant is requesting to add hotel and townhouse uses to the CDD #26 zone, which is the reason for the Text Amendment. Staff supports the request to amend the boundaries of CDD #26 to include the Vulcan site since the EWSAP envisioned a CDD encompassing these boundaries to enable the redevelopment of these industrial parcels into mixed-use neighborhoods. Text Amendment, TA #2023-00006 would amend §5-602 of the Zoning Ordinance to include townhouse and hotel uses as permitted uses in CDD #26 with a CDD Special Use Permit, as shown in Table 2 (**emphasis added** for the amendment):

Table 2: Amended CDD #26 Zoning Table

CDD No.	CDD Name	Without a CDD Special Use Permit	With a CDD Special Use Permit		
			Maximum FAR and/or Development Levels	Maximum Height	Uses
26	Public Storage / Boat US	I/Industrial regulations shall apply	<p>Maximum FAR: 2.5</p> <p>Minimum open space: A minimum of 10% of the land area occupied by primarily non-residential uses shall be provided as publicly-accessible, ground-level useable open space. A minimum of 30% of the land area within the CDD area occupied by primarily residential uses shall be provided as useable open space, half of which must be publicly-accessible, ground-level useable open space. Publicly-accessible, ground-level useable open space may be provided at any location within the CDD area to meet the open space requirement.</p>	The maximum heights shall conform to the Eisenhower West Small Area Plan as may be amended.	<p>Multi-unit dwelling; self-storage/warehouse ; animal care facility with no overnight accommodation; catering; glass shop; health and athletic club or fitness studio; improved outdoor recreational facilities intended for passive and/or non-congregate recreational activities; light assembly, service and crafts; machine shop; manufacturing; massage establishment; motor vehicle parking or storage; outdoor dining; personal service establishment; printing and publishing services; private school, academic or commercial, with more than 20 students on the premises at any one time; recreational areas consisting of natural and</p>

			<p>Minimum yards: None, except as may be applicable pursuant to the supplemental yard and setback regulations of Section 7-1000.</p> <p>Area Requirements: There are no lot area or frontage requirements.</p> <p>The height-to-setback ratio required in Section 6-403(A) of the Zoning Ordinance and the zone transition requirements of Section 7-900 do not apply.</p>		<p>unimproved geographic features; restaurant; retail shopping establishment; valet parking; wholesale; hotel; and townhouse</p>
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C. Vacation (VAC#2023-00005)

The proposal would have the City vacate 1,840 sq. ft. of land, which consists of a slip lane to turn right from Courtney Avenue onto N Van Dorn Street (Exhibit B attached). The applicant’s request to vacate public right-of-way in this location is acceptable and will not have a negative impact on any nearby property and the vacated land will enable construction of the hotel proposed with DSUP#2023-10023. Eliminating the slip lane aligns with the 2021 Alexandria Mobility Plan strategy to eliminate traffic fatalities and serious injuries by, in part, making existing intersections safer and more comfortable for pedestrians. Slip lanes enable higher vehicle speeds at turns and contribute to crashes when motorists fail to yield to pedestrians.

The Office of Real Estate Assessments valued the vacation based on the assessments of the adjacent parcels that are part of the development site, the value of the land as part of this redevelopment, rezoning, and DSUP; and anticipated delay in construction due to the planned environmental remediation. Based on calculations from the Office of Real Estate Assessments, the applicant is deriving \$32,500 of value from the vacation. In addition to the applicant’s payment of the vacation value into the City’s Open Space Fund, the vacation allows for viable site development that implements the EWSAP while allowing for a site design that prioritizes pedestrian safety.

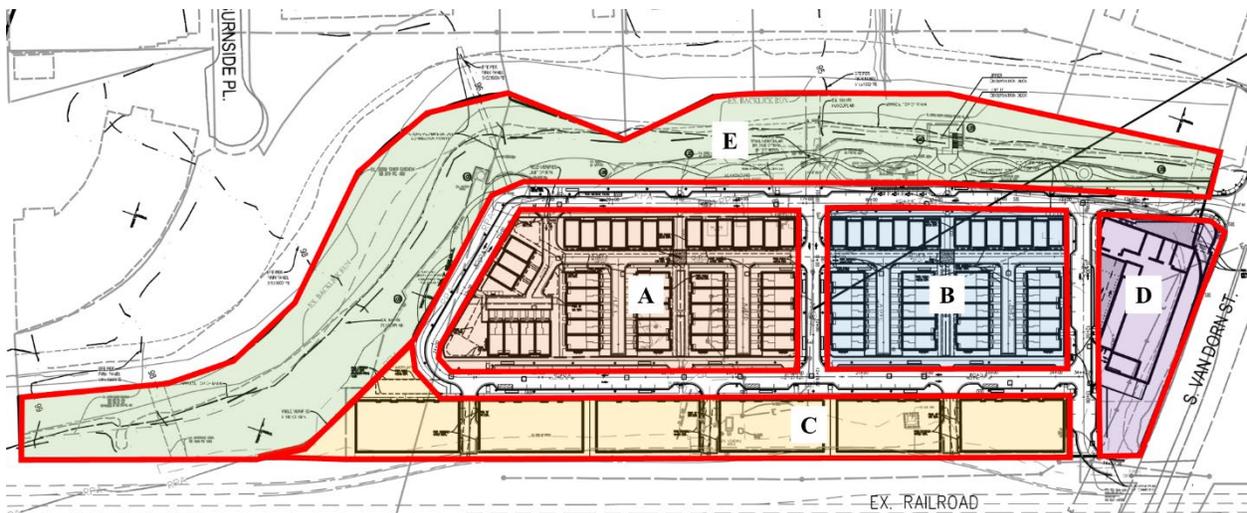
D. Site & Building Design

Site Design

Staff finds that the site layout, per Figure 2, is reasonable and appropriate for the site. We have worked with the applicant team to achieve a design that includes three new public streets, one private street, and private alleys that form a street grid and create the four development blocks: A, B, C, and D, and public park, Block E. As discussed in greater detail in the subsequent Transportation and Streetscape section, the design includes a pedestrian/bicycle bridge to connect public parks on both banks of Backlick Run and reservations for future vehicle connections across Backlick Run and under S Van Dorn Street to the Virginia Paving Company site. The design locates the hotel, the tallest building, on the steep grade along S Van Dorn Street, the six condo flats between the freight railroad to the south and the internal townhouse/stacked townhouse blocks. Block E, the public park and resource protection area associated with Backlick Run, forms the northern and western edges of the site.

Although permeability to adjacent parcels is challenging due to Backlick Run, the railroad, and the S Van Dorn Street bridge, the planned and future connections increase permeability beyond the status quo and the internal layout of the townhouse/stacked townhouse blocks and private alleys breakdown the scale of the internal Blocks A and B. The four public and private roads reinforce this internal permeability.

Figure 2: Proposed Vulcan Redevelopment Site Layout



Building Design – Condo Flats

The applicant has proposed two primary designs for the condo flats, shown in Figure 3, with colors and materials further distinguishing the six buildings. The flats will be 5-6 stories tall, with the taller buildings offering two-story units with mezzanines that appear as six towers extended from the roofline. Staff worked collaboratively with the applicant team to introduce variety into the designs of the condo flats, provide differing rooflines, and minimize the visual impact of the partially below grade parking level on the ground floor with window boxes, landscaping, and an enlarged central entrance with lobby. The applicant carries the materials and themes around each side of the building. The net result is six contemporary buildings that use relatively simple changes to features and colors to achieve individual expressions. With the changes made throughout the

development process, Staff support the designs of the condo flats.

Figure 3: Condo Flat Front Façade Renderings



Building Design – Hotel

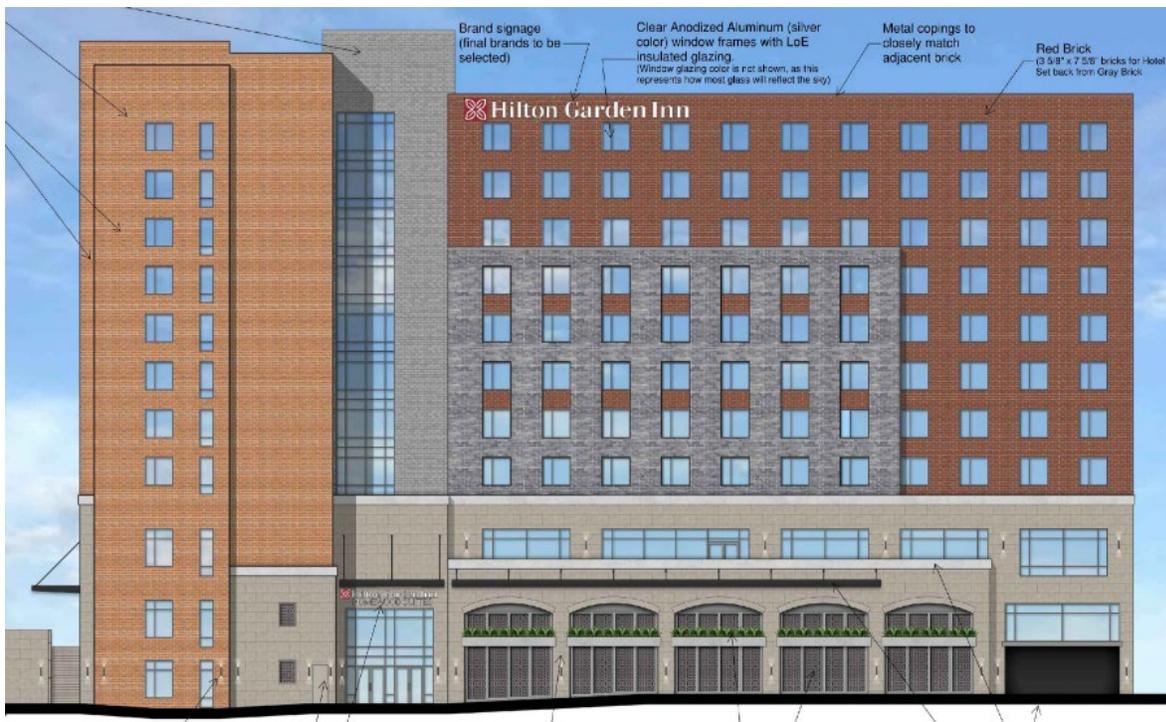
The hotel will be the most visible building from outside the site as it sits at the entrance and is the tallest at 11 stories. Since the applicant proposes a dual-branded short- and long-stay hotel, Staff worked with their architect to both break the massing of the building and illustrate the two components through horizontal and vertical expressions, as shown in Figure 4. Insets in each expression using complementary brick colors as well as the glass band on the S Van Dorn Street façade reinforce this design. On the Courtney Ave entrance to the site, Staff supports the applicant’s proposal to provide ground floor retail in-line with the Small Area Plan recommendations as well as a plaza to offer a flat area despite the downslope.

Figure 4: Hotel Rendering from S Van Dorn Street



Internal to the site is the entrance to the hotel on Road F, as shown in Figure 5. This façade carries the short- and long-stay expressions as well as the vertical glass element from the S Van Dorn Street façade. Staff worked with the applicant to minimize the visual impact of the partially below grade garage and loading area and support the applicant’s proposed terrace atop on this space from the third-floor lobby and common areas. Staff support the design of the hotel as proposed.

Figure 5: Road F Façade Rendering of the Hotel



Building Design – Townhouses/Stacked Townhouses

Figures 6 and 7 show renderings of the townhouses and stacked townhouses, respectively. From the exterior, the buildings would be similar as the single entrance to each stacked townhouse opens to a hallway with separate entrances for each of the two units within each building. Similar material palettes—largely brick, panel, and siding—and colors reinforce the similarities. The additional story for the stacked houses is, however, a differentiator, as are the building widths and treatment of windows. The two figures show just a handful of the representative color and material combinations for these buildings, with additional examples in the preliminary plan. Staff worked with the applicant on the materials choices, window symmetry, and the design of the stacked townhouses. Originally, the applicant team sought approval for back-to-back units that lacked the clear differences between the front entrance and rear garage. As proposed, the stacked townhouses preserve this difference and Staff support both their proposed design and the design of the townhouses.

Figure 6: Townhouse Renderings



Figure 7: Stacked Townhouse Renderings



E. Compliance with City Policies

Affordable Housing Policy

Pursuant to the City's Procedures Regarding Affordable Housing Contributions, the applicant has committed to providing a voluntary contribution totaling \$3,543,736 to the Housing Trust Fund. This amount is based on a 2021 Residential Tier II contribution rate of \$6.21 per square foot of residential development subject to contributions. It is the City's policy to apply contribution rates in effect at the time a development application is accepted for review. Due to the extended length of this application (the initial concept plan for the development was submitted five years ago in 2019), the applicant has agreed to a 2021 contribution rate. The Tier II rate applies to this development since the underlying Industrial zoning does not permit residential development. The 2021 Non-residential contribution rate of \$2.32 per square foot was applied to the proposed hotel floor area.

The Alexandria Housing Affordability Advisory Committee (AHAAC) was briefed twice on the project. At the first briefing on September 7, 2023, the Committee recommended that staff explore opportunities with the applicant to convert all or part of the housing contribution into on-site units to help expand affordable homeownership options in Eisenhower West. At their March 7, 2024, meeting, the Committee acknowledged the applicant is providing a voluntary monetary contribution consistent with City policy and noted the diversity of housing typologies being proposed, but expressed disappointment that no affordable on-site units would be incorporated into the development. They discussed the limitations of the City's legislative authority to require the provision of on-site units and expressed support for revisiting solutions pursuant to the upcoming Housing Master Plan Update

Green Building Policy

The DSUPs for the condo flats, hotel, and townhouse/stacked townhouse will comply with the City's 2019 Green Building Policy. The applicant proposes achieving National Green Building Standard's Silver Certification for the condo flats and townhouses/stacked townhouses. For the hotel, the applicant proposes achieving LEED Silver certification. In addition to benefits from the location of the site near to the Van Dorn Metro Station, for the hotel the applicant proposes an energy efficient building envelope, programmable/dimmable lighting, energy efficient mechanical systems (incl. HVAC and hot water), a green roof over the parking garage ramp, reserved space for solar panel installations in the future, and EV charging and charger-ready parking spaces.

For the residential buildings, the applicant proposes an energy efficient building envelope, timers and photovoltaic sensors for exterior lighting, energy star appliances, energy efficient HVAC systems, low flow WaterSense fixtures, and reserved rooftop space for solar panel installations. Like the hotel, the condo flats will need to provide a mix of EV charging and charger-ready spaces. The townhouse garage spaces will need to be EV charger ready with the option for residents to choose EV charging during construction. NGBS requires on-site renewable energy generation, while LEED requires either on-site generation or purchasing credits from off-site generation. During the final site plan process, the applicant will work with staff to either locate renewable energy on-site or pursue a certification pathway that permits credits for off-site generation.

Public Art

The City's 2014 Public Art Policy requires new development projects to provide on-site or in-kind contributions to support the growth of public art in the city. Since this application package includes three DSUPs, the policy will apply to each individually. Staff has proposed a condition for each DSUP to implement the policy, which would require a contribution of \$0.30 per gross square foot of the buildings within the development, capped at \$75,000 per building. Accordingly, the contributions would be \$75,000 for the townhouses/stacked townhouses, \$67,995.30 for the hotel, and \$106,788.60 for the condo flats (i.e., \$17,798.10 per building) for a total contribution of \$249,783.90.

For the purposes of the townhouse/stacked townhouse DSUP, the entire development counts as one building. In townhouse style developments, Staff recommends, but does not require, the monetary contribution so that future condominium or homeowner associations do not need to maintain an art installation. However, the applicant will determine whether to proceed with on-site or in-kind public art as part of the final site plan processes.

F. Stormwater and Wastewater

Stormwater

Nearly 73% of the existing site consists of untreated gravel or paved surfaces. Post-development, the applicant would construct two underground stormwater vaults located within Alley A on opposite sides of Road E. The applicant also proposes four bioretention areas within the townhouse blocks, green roof on the hotel, and Best Management Practice (BMP) tree wells. These BMPs would provide 38,481 cubic feet of storage, which exceeds the 21,049 cubic feet needed to achieve the required levels of phosphorous removal. As a result, the BMPs will remove 10.65 pounds of phosphorous per year, which is nearly 20% more than required.

Since the applicant designed their BMPs to account for the entire site, Staff have proposed a CDD condition to require approval of a Stormwater Management Master Plan (SWMMP) prior to final site plan release of any of the related DSPs/DSUPs for this site. Staff will review the SWMMP to confirm that it meets the requirements of the Virginia Stormwater Management Program Regulations and the Chesapeake Bay Act in accordance with Article XIII of the Zoning Ordinance for control of stormwater quality and quantity. Implementing the SWMMP will also ensure that even if the project proceeds in phases, the project will still meet the requirements at each phase.

Wastewater

The redevelopment of the former Vulcan Materials site proposes to construct mixed-use buildings with an estimate peak sanitary flow of 0.53 MGD, which is equivalent to 204 condo flat units, 88 two-over-two multifamily units, 31 townhome units and 256 hotel rooms. The site is in the separated sewer system area and sanitary flow from the project site discharges to the Backlick Run sewer owned by Fairfax County.

Staff have worked with the applicant to assess the effect of the redevelopment on the city's sanitary sewer collection system. As part of the Preliminary DSUP site plan submission dated December 21, 2023, the applicant conducted a sanitary sewer adequate outfall analysis per the City's Memo to Industry 06-14 to identify any places where sewer capacity is exceeded and where they would need to complete infrastructure upgrades to accommodate the redevelopment of the site. Based on

the analysis, the applicant shall install approximately 3,036 linear feet of new sanitary sewers onsite which meet on Road F and exit the site to Fairfax County-owned Backlick Run sewer. The applicant determined that the sanitary sewer lines constructed have sufficient capacity to serve the proposed development, and Staff concur with the analysis.

To track sanitary flows, as part of each building DSUP submission the applicant will update the Sanitary Sewer Flows computation table showing the amount of sewage generated with each DSUP and remaining sewer flow allocated to the project. If the applicant proposes any changes in density that results in additional sewer flow than what is stated above, the applicant will update the sanitary sewer adequate outfall analysis as part of the DSUP process to assess the need for additional infrastructure improvements.

Soil Remediation

Staff required the applicant to submit environmental reports to ensure safe and adequate remediation of the former Vulcan Materials site for future residential use, based on the historic use of the site and the results of the Phase I and Phase II Environmental Site Assessments. In addition, the applicant joined the Virginia Department of Environmental Quality's (DEQ's) Voluntary Remediation Program (VRP) to secure state approval under VRP requirements. The applicant submitted a site characterization report, remedial action plan, soils management plan, health and safety plan, and a risk assessment analysis using DEQ's Virginia Unified Risk Assessment Model.

The goal of the plans is to eliminate pathways of exposure, ensuring that they do not pose an unacceptable risk to onsite workers during redevelopment and future residents of the site. On March 26, 2021, DEQ granted approval to the VRP plan. Per the environmental reports, the applicant will remove contaminated material, regrade the site, and introduce clean fill material, along with a geotextile cap and additional DEQ-approved clean fill for residential use on top of the geotextile cap.

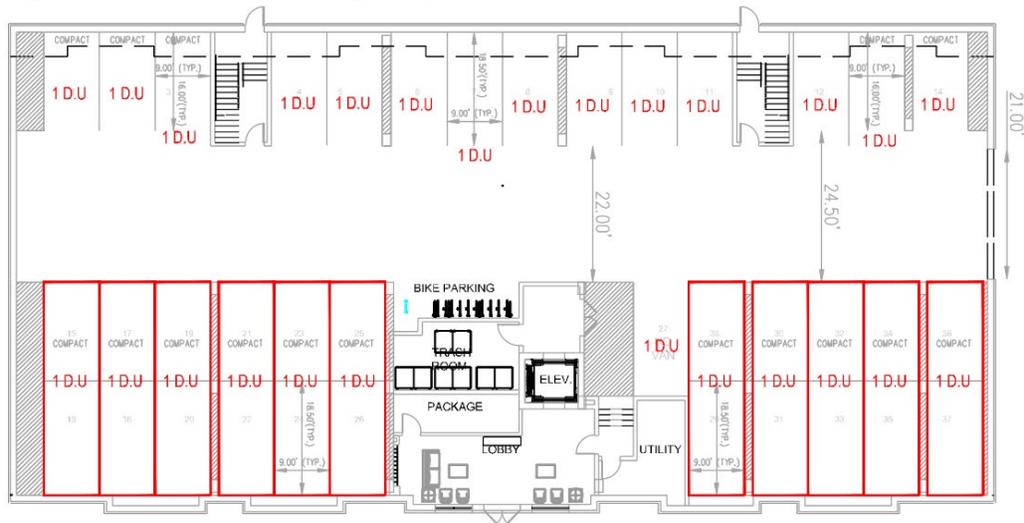
G. Special Use Permits

Parking Reduction

The applicant is seeking SUPs per §8-100(A)(4) to reduce the parking requirement for the stacked townhouse units and the condo flats. While the applicant provides tandem spaces for each stacked townhouse unit (one garage and one driveway), the Zoning Ordinance only counts one space since tandem spaces do not count for multi-unit residential. Since the applicant is providing tandem spaces exclusive to each unit, Staff do not have any concerns with this SUP request. In practice, each stacked townhouse will have two dedicated parking spaces which would otherwise satisfy the Zoning Ordinance requirement.

For the condo flats, the applicant is proposing a parking ratio of 0.76 spaces/unit and is requesting a reduction of 186 spaces below the zoning ordinance requirement. The ratio does not include the additional 132 tandem spaces provided with a partially below grade garage beneath each building, which the applicant would offer for sale to individual condo owners, as shown in Figure 8.

Figure 8: Condo Flat Garage Layout



As a result of the garage layout, the applicant is proposing at least one parking space for 26 of the 34 condos in each building. To provide at least one parking space for each of the remaining eight units in each building, and 48 total units across the six condo flats buildings, the applicant will reserve 52 on-street spaces on private Road G. While counting on-street spaces is atypical, Staff support the approach for this specific site. Due to the location, it is unlikely that the site will have spillover parking from other residences or businesses and the condominium association will be responsible for parking enforcement for the spaces and long-term maintenance of the private road. Staff would not support this approach in less isolated sites, as dedicating on-street parking to individual homeowners means a less efficient use of these spaces compared to on-street spaces open to all motorists.

Comprehensive Sign Plan

Per §9-103(C) the applicant for DSUP#2023-10013 is requesting a Coordinated Sign SUP to encompass the Block D hotel. Through the SUP the applicant seeks to increase the number, type, and area of signage to align with the scale of the building. Without a Comprehensive Sign Plan, the block would need to conform to the §9-202(A) Zoning Ordinance requirements for signs in a CDD zoning district.

The applicant is only proposing wall signs with this Comprehensive Sign Plan (Sheet H-016) and distinguishes them between signs higher than 20-ft. above grade and signs lower than 20-ft. above grade. §9-202(A)iii6-7 specify that the total square footage for wall signs shall not exceed 1 sq. ft. per linear foot of the building frontage for each side facing a street, alley, or parking area. In most cases, the applicant is proposing additional signage beyond this requirement, excepting the West façade for signs higher than 20-ft. and the South façade for signs lower than 20-ft.⁴, per Table 3.

⁴ To calculate the linear feet of frontage for the West and South façades, Staff summed the two frontages that the applicant team provided relative to Road C and the loading dock for these façades.

Table 3: Comprehensive Sign Plan Square Footage Request

Façade	LF	Signage SF			Signage SF per LF		
		> 20'	< 20'	Total	> 20'	< 20'	Total
<i>East</i>	220.3	416.0	90.0	506.0	1.9	0.4	2.3
<i>North</i>	148.5	208.0	294.4	502.4	1.4	2.0	3.4
<i>West</i>	220.3	208.0	250.0	458.0	0.9	1.1	2.1
<i>South</i>	148.5	293.9	134.4	428.4	2.0	0.9	2.9

While reviewing a Comprehensive Sign Plan the City Council must determine whether the plan, “provides the same or greater benefits to the public as the sign regulations otherwise applicable.” The EWSAP does not address building signage, but since the proposed hotel will be dual-branded, additional signage is necessary to advertise the short- and long-stay operators. The building is also 227-ft. above grade, thereby decreasing the perceived size of the signage proposed for the roofline. Finally, the proposed retail signage would be on the awning above the retail bays at an appropriate scale for the building. For these reasons, Staff do not have any concerns with the proposal.

H. Open Space

The EWSAP requires 30% ground level open space for residential buildings (15% publicly accessible) and 10% publicly accessible at grade open space for non-residential buildings. CDD #26 enables applicants to share open space across the site, such that the open space provided by the public park can help to meet the requirement for the residential and non-residential uses. Table 4 summarizes the open space provided with each DSUP and DSP and the overall open space provided by this development. Excepting a small rooftop terrace in the hotel, all open space provided with this project will be at-grade and public or publicly accessible.

Table 4 Open Space Required and Provided

	Required	Provided
<i>Townhouses</i>	55,652.4 (30%)	27,050.0 (15%)
<i>Condo Flats</i>	33,646.5 (30%)	12,236.0 (11%)
<i>Hotel</i>	4,697.9 (10%)	5,198.0 (11%)
Subtotal	93,966.8 (27%)	44,483.0 (13%)
<i>Park</i>	0.0 (00%)	192,689.0 (73%)
Total	93,968.8 (27%)	237,173.0 (69%)

Restoring the Backlick Run RPA and constructing the Backlick Run Greenway are key priorities of the SAP that this project significantly advances. The park along Backlick Run comprises most of the open space that this project provides. Since the entirety of the park is within an RPA, the park features must be more natural and relatively low impact. Staff have worked with the applicant to identify appropriate features, including an ADA compliant trail, natural play equipment, outdoor games tables and seating, and an observation deck with a lower level that reaches down to the run. Staff have also worked with the applicant team to include a pedestrian/cyclist bridge that would span Backlick Run and connect to a city-owned parcel (620 Burnside Place) on the opposite bank that was dedicated to the City as part of the original rezoning to create CDD#26. However, due to cost, staff recommends the applicant consider a more selective approach to features with the park DSP.

The applicant reports that remediating the brownfield site will cost over \$3.1 million and they have worked with staff to apply the EW/LVD Implementation Fund contribution towards the cost of the park. The in-kind contribution would go towards remediation of the park site, invasive species removal, park amenities, and the pedestrian bridge. Staff determined that this in-kind use of the EW/LVD contribution is appropriate because the Backlick Run restoration and park are a plan priority, but the applicant estimates the cost of the park improvements at \$3.3 million compared to the approximately \$2.5 million EW/LVD contribution. The applicant presented their vision and funding constraints at the January 2024, Park and Recreation Commission. Commissioners expressed a preference for ensuring that some park amenities were delivered with this application, even if it meant splitting the construction into stages with future stages provided if/when funding becomes available (e.g., future CDD expansion). Figure 9 shows the two proposed park construction stages.

Figure 9: Park Construction Stages



Per Figure 9, Staff have proposed conditions to require invasive species removal and construction of the park amenities within Stage 1, plus the pedestrian/bicyclist bridge. Invasive species remediation is vital to minimize long-term costs for Recreation, Parks, & Cultural Activities staff once the City accepts the park. The bridge provides a break between the stages to mitigate spread of invasive species from Stage 2 to Stage 1. The bridge also advances transportation priorities of the SAP by enabling people to move between their homes, the park, and the businesses on S. Pickett Street without congesting S. Van Dorn Street while also making the park more accessible to non-residents. This bridge links the otherwise separate CDD #26 sites and creates an opportunity for future parcels with continued redevelopment to contribute to Stage 2 of the park and achieve the long-term vision. In addition, constructing the bridge from the beginning provides staging areas during the most intensive phase of the site redevelopment and past experiences have shown that the core components of the bridge will likely increase in cost faster than the other park amenities proposed for Stage 2. During the final site plan process, Staff would work with the applicant to account for the in-kind contribution of the Stage 1 and pedestrian bridge construction relative to the EW/LVD contribution policy.

Separate from the EW/LVD contribution, in the southwestern edge of the site north of the westernmost condo flat, the applicant will provide a private playground with a public access easement. Since this playground is outside of the RPA, the equipment will differ from the vision for the more natural play area in the park. The playground is part of the condo DSUP, so it will be

built with that DSUP. The applicant has also provided an elevated plaza adjacent to the retail areas within the hotel. The remaining open space areas surround the townhouses, condo flats, and hotel at grade. Staff worked with the applicant to ensure that the townhouse blocks are permeable with north/south greenways between Buildings H & G and L & M that align with crosswalks connecting to the park.

I. Subdivision

The applicant proposes to subdivide 701 S Van Dorn Street and 698 Burnside Place into 52 new lots ranging from 1,226 SF (0.03 acres) for a townhouse lot to 264,840 SF (6.08 acres) for the public park, as shown in the tables below. Refer to Exhibit C for the proposed subdivision plat. Staff do not have any concerns about the proposal as they will enable the redevelopment of the site by creating the blocks for the future hotel, townhouses, condo flats, and public park.

Table 5: Area of Tabulation Before Subdivision

Parcel	Area		Current Use
	<i>sq. ft.</i>	<i>ac.</i>	
701 S Van Dorn St (TM #067.03-01-17) ¹	603,706	13.86	Vacant
698 Burnside Pl (TM #067.03-01-21)	170,749	3.92	Vacant

¹ Area includes 1,742 SF (0.04 acres) of right-of-way vacation proposed with this application.

Table 6: Area of Tabulation After Subdivision

Parcel	Area		Proposed Use
	<i>sq. ft.</i>	<i>ac.</i>	
Lots 501-531	1,226 – 1,630	0.03 - 0.04	Townhouse
Lot 532-540	7,009 – 12,262	0.16 – 0.28	Stacked townhouses
Lot 541	46,928	1.08	Hotel
Lots 542-547	16,607 – 21,838	0.38 – 0.50	Condo flats
Lot 548	264,840	6.08	Public park
Lots 549-550	15,573 – 31,210	0.36 – 0.72	Private alleys
Lot 551	4,853	0.11	Private open space
Lot 552	63,622	1.46	Road G private street
Street dedication	100,971	2.32	Public right-of-way

J. Parking/Loading

Since the redevelopment involves three DSUPs with parking requirements, this section outlines the requirements and proposal for the condo flats, hotel, and townhouses/stacked townhouses separately. As discussed in the preceding SUP section, the condo flats would have partially below grade garages under each of the six buildings with a total of 274 tandem and individual garage and on-street parking spaces, per Table 7. Counting the tandem spaces, the applicant is providing less than the minimum required 342 spaces. Per the SUP section, Staff support this reduction.

Table 7: Condo Flat Parking

	Market Rate
Number Bedrooms/Units¹	360
Base Ratio	1
Max. Parking Requirement	408
Credits	
<i>Proximity to BRT</i>	-
<i>Walkability Index</i>	-
<i>4 or more bus routes</i>	5%
<i>20% or more studios</i>	-
Total Credits	5%
Adjusted Ratio	0.95
Min. Parking Requirement	342
Provided Residential Parking²	222
¹ Ratio based on <i>bedrooms</i> for market rate units, and <i>units</i> for affordable units.	
² Includes 66 pairs of tandem parking spaces, i.e., 132 total tandem spaces and 52 reserved on-street spaces	

For the hotel/retail parking, the applicant proposes a partially below grade parking garage built into the grade of the hill adjacent to N Van Dorn Street and Courtney Ave. Parking would be on two floors, with separate ramp entrances allowing motorists to drive to a lower floor with 41 spaces and an upper floor with 26 spaces. As Table 8 shows, the 65 total parking spaces fall within the range required by the Zoning Ordinance.

Table 8: Hotel Parking

Use	Rooms/SF	Max. Req.	Min. Req.	Provided
Hotel	256	103	52	65
Retail	5,416	17	2	
Total	-	120	54	

The Zoning Ordinance requires 1 off-street loading space per 20,000 sq. ft. of floor area for the hotel/retail use. Based on the net floor area of the hotel/retail (and excluding the garage), the requirement would be nine loading spaces. The applicant is proposing two internal loading spaces and is requesting a modification for this requirement. Staff have reviewed the design of the loading area and support the modification since the proposed spaces will be sufficient for the needs of the hotel/retail.

The preceding SUP section also addressed the parking requirement for the townhouse/stacked townhouses. Each dwelling will have a pair of parking spaces, with the townhouse parking in a side-by-side two car garage and the stacked townhouse parking provided with tandem spaces: one in the garage and one on a driveway. Per Table 9, and counting the tandem spaces for the stacked townhouses, the 238 total parking spaces are within the range of spaces required by the Zoning Ordinance. Per the SUP section, Staff support the technical reduction request for the stacked townhouses to use tandem parking.

Table 9: Townhouse & Stacked Townhouse Parking

	Market Rate
Number Bedrooms/Units	357
Base Ratio	1
Max. Parking Requirement	357
Credits	
<i>Proximity to BRT</i>	-
<i>Walkability Index</i>	-
<i>4 or more bus routes</i>	5%
<i>20% or more studios</i>	-
Total Credits	5%
Adjusted Ratio	0.95
Min. Parking Requirement	227
Provided Residential Parking¹	238
¹ Includes 88 pairs of tandem parking spaces, i.e., 176 total tandem spaces provided with the stacked townhouses.	

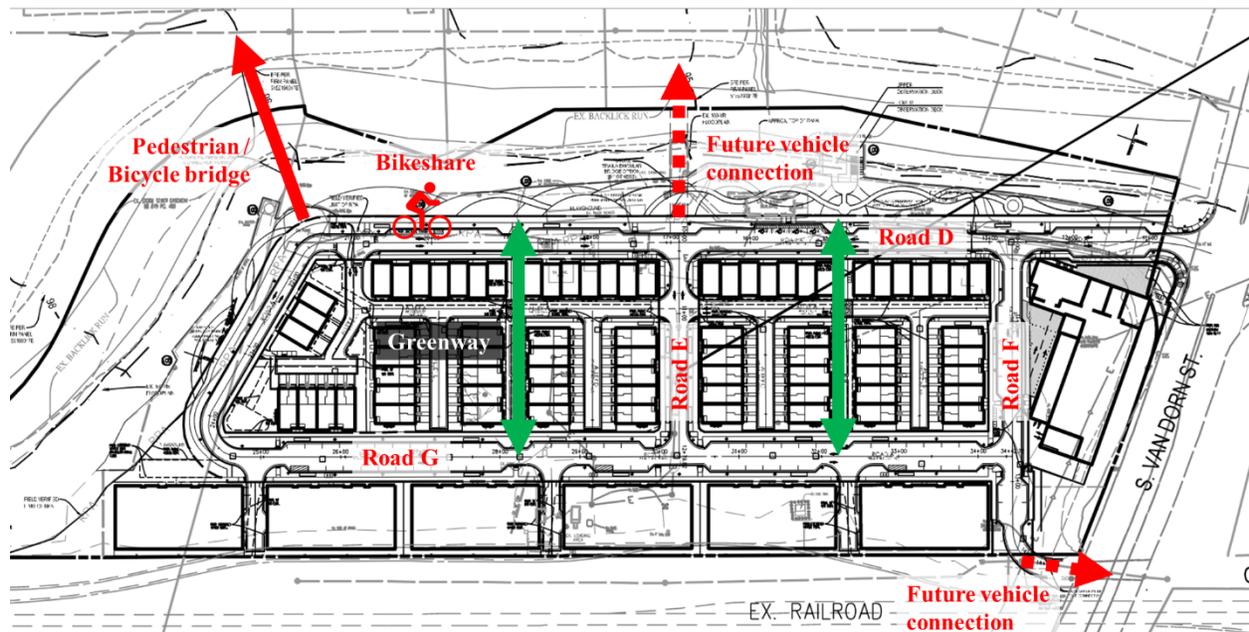
K. Transportation and Streetscape

Through the Infrastructure DSP, the applicant would construct the new public rights-of-way for Roads D, E, F, and G. Road D extends from the current entrance to the site at N Van Dorn Street and loops around the site on the separating the townhouses from the future public park on the north and west. Road G separates the townhouses from the condo flats on the south. Road E is perpendicular to Roads D and G and bisects the townhouse blocks in the middle of the site. A future bridge connection could extend Road E across Backlick Run to S Pickett Street if the parcels on the opposite bank were redeveloped. Toward the eastern edge of the site is Road F, which separates the townhouse block from the hotel block. This road could extend south, underneath S Van Dorn Street, and into the Virginia Paving Company parcel if that site were redeveloped.

The Infrastructure DSP also provides for at least one Capital Bikeshare Station on the northwestern edge of Road D, which would be close to the landing of the pedestrian/bicycle bridge that the applicant is constructing as part of the Park DSP. Given the recommended \$112,500 contribution to Capital Bikeshare, Staff may install an additional station in the site or use the remaining funds for more bicycles, maintenance, and/or other operational costs.

As noted in the Open Space section, each townhouse block has publicly accessible greenways that split the blocks and connect the townhouses and condo flats to the park. Within the townhouse blocks are internal private alleys that provide access to the rear garages and driveways. During the Concept phase, Staff worked with the applicant team to refine the street grid and block layout, as well as the planned and proposed pedestrian, bicycle, and vehicular connections to other sites. Figure 10 summarizes these proposed transportation features.

Figure 10: Proposed Transportation Layout



The applicant conducted a Multimodal Transportation Impact Analysis to evaluate whether the current transportation network can support the proposed development and to identify any mitigation measures. Staff concur with the report’s conclusion that “*the additional vehicle trips generated by the proposed mixed-use development who have a negligible impact to the roadway network.*” Further, the project improves pedestrian access to the site and the Van Dorn Metrorail station by providing safer crossings at Courtney Ave and S Van Dorn Street. Finally, the applicant will participate in a Tier II Transportation Management Plan (TMP) with the development contributing to the citywide TMP fund used to encourage residents and visitors to use public transportation, walk, bike, or carpool instead of driving alone.

L. School Impacts

The applicant proposes to construct 119 townhouse/stacked townhouse units and 204 multi-unit residential units (condominiums), for a total of 323 new residential units. The student generation rate for market rate townhouse units is 0.11 and 0.04 for midrise condominium units, so staff projects 26 students from this development. This project is in the attendance area for Samuel Tucker Elementary School, Francis Hammond Middle School, and Alexandria City High School. Per ACPS’ 2023-204 school enrollment data, Samuel Tucker and Francis Hammond are over capacity. Both Alexandria City High School campuses are over-capacity and exceed utilization ranges. However, the new Minnie Howard Campus of the High School will open for the school year 24-25, which will increase the capacity at the High School.

Staff will consider the additional students entering ACPS from this development in subsequent ACPS Capital Improvement Plan proposals. The City and ACPS continue to monitor and integrate student generation numbers in forthcoming school enrollment projections and ACPS will continue to coordinate with the City to review, plan, and allocate resources for additional capacity to ensure that all ACPS students have safe and equitable learning environments.

Table 10: Type of Unit (Built within last 30 years) Student Generation Rate

Type of Unit	Old properties (> 30 yrs. old) Per housing unit	New properties (≤ 30 yrs. old) Per housing unit
Single-Family Detached (market rate)	0.28	0.19
Townhouse/Duplex (market rate)	0.17	0.11
Low-Rise Apt./Condo (market rate)	0.32	0.06
Midrise Apt./Condo (market rate)	0.18	0.04
Highrise Apt./Condo (market rate)	0.14	0.04
Resolution 2876*	0.65	0.90
Other Income-Restricted Housing**	0.33	0.73

* Commonly defined as “Public Housing” units

** Defined as properties in which most of the units are income restricted. These properties exclude senior housing properties

VI. COMMUNITY

The applicant held one community meeting and attended three meetings of the Eisenhower West/Landmark Van Dorn Implementation Advisory Group (IAG) and two meetings of the Park and Recreation Commission. During their February 22 meeting of the IAG the members had questions about project timing, future housing costs, bicycle and pedestrian connections, and the bridge. They recommended support of the proposal. During the February 27 community meeting, attendees asked about access to the site, pedestrian safety on S Van Dorn Street, the pedestrian/cyclist bridge over Backlick Run, the open space design, retail/restaurant opportunities, the anticipated sale prices of the condos and townhouses, and the impact of the proposed data center in nearby Fairfax County.

Table 11: Community Meetings

Date	Entity
January 18, 2022	Eisenhower West/Landmark Van Dorn Implementation Advisory Group
March 17, 2022	Park and Recreation Commission
March 24, 2022	Virtual community meeting
April 27, 2022	Eisenhower West/Landmark Van Dorn Implementation Advisory Group
January 18, 2024	Park and Recreation Commission meeting
February 22, 2024	Eisenhower West/Landmark Van Dorn Implementation Advisory Group
February 27, 2024	Virtual community meeting

VII. CONCLUSION

Staff finds the applicant’s redevelopment of the Vulcan site is appropriate and advances the EWSAP. We recommend approval of the Master Plan Amendment, rezoning, the Development Special Use Permits and associated Special Use Permits, the Development Site Plan, and the stand-alone Special Use Permit requests, subject to compliance with all applicable codes and the recommended conditions included in this report.

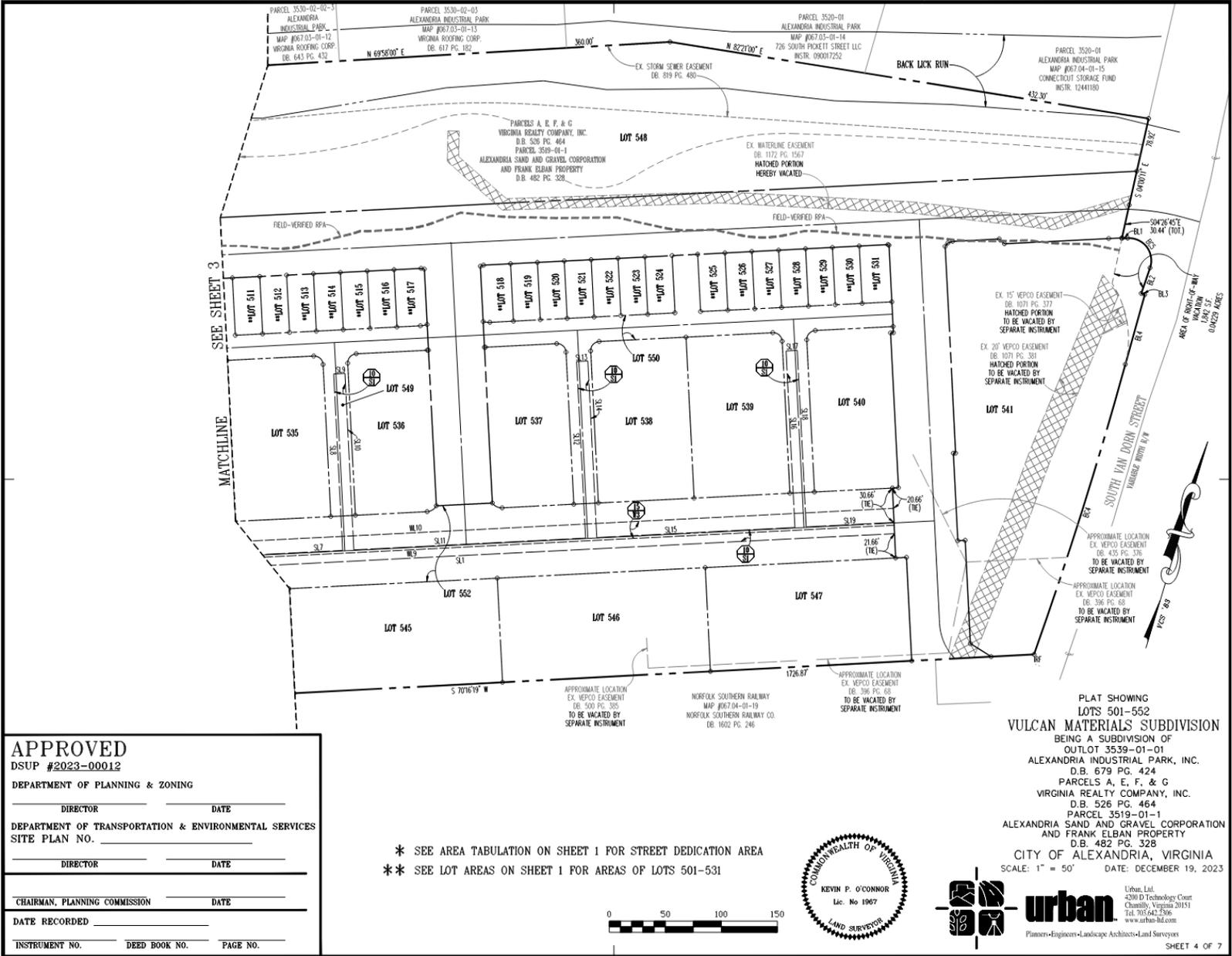
Staff: Robert M. Kerns, AICP, Division Chief, Development
Maya Contreras, Principal Planner
Jared Alves, AICP, Urban Planner

VIII. GRAPHICS

Exhibit A: Site Plan



Exhibit C: Subdivision Plat



APPROVED
 DSUP #2023-00012

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.

* SEE AREA TABULATION ON SHEET 1 FOR STREET DEDICATION AREA
 ** SEE LOT AREAS ON SHEET 1 FOR AREAS OF LOTS 501-531



PLAT SHOWING
 LOTS 501-552
VULCAN MATERIALS SUBDIVISION
 BEING A SUBDIVISION OF
 OUTLOT 3539-01
 ALEXANDRIA INDUSTRIAL PARK, INC.
 D.B. 679 PG. 424
 PARCELS A, E, F, & G
 VIRGINIA REALTY COMPANY, INC.
 D.B. 526 PG. 464
 PARCEL 3519-01-1
 ALEXANDRIA SAND AND GRAVEL CORPORATION
 AND FRANK ELBAN PROPERTY
 D.B. 482 PG. 328
CITY OF ALEXANDRIA, VIRGINIA
 SCALE: 1" = 50' DATE: DECEMBER 19, 2023



APPROVED

DSUP #2023-00012

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

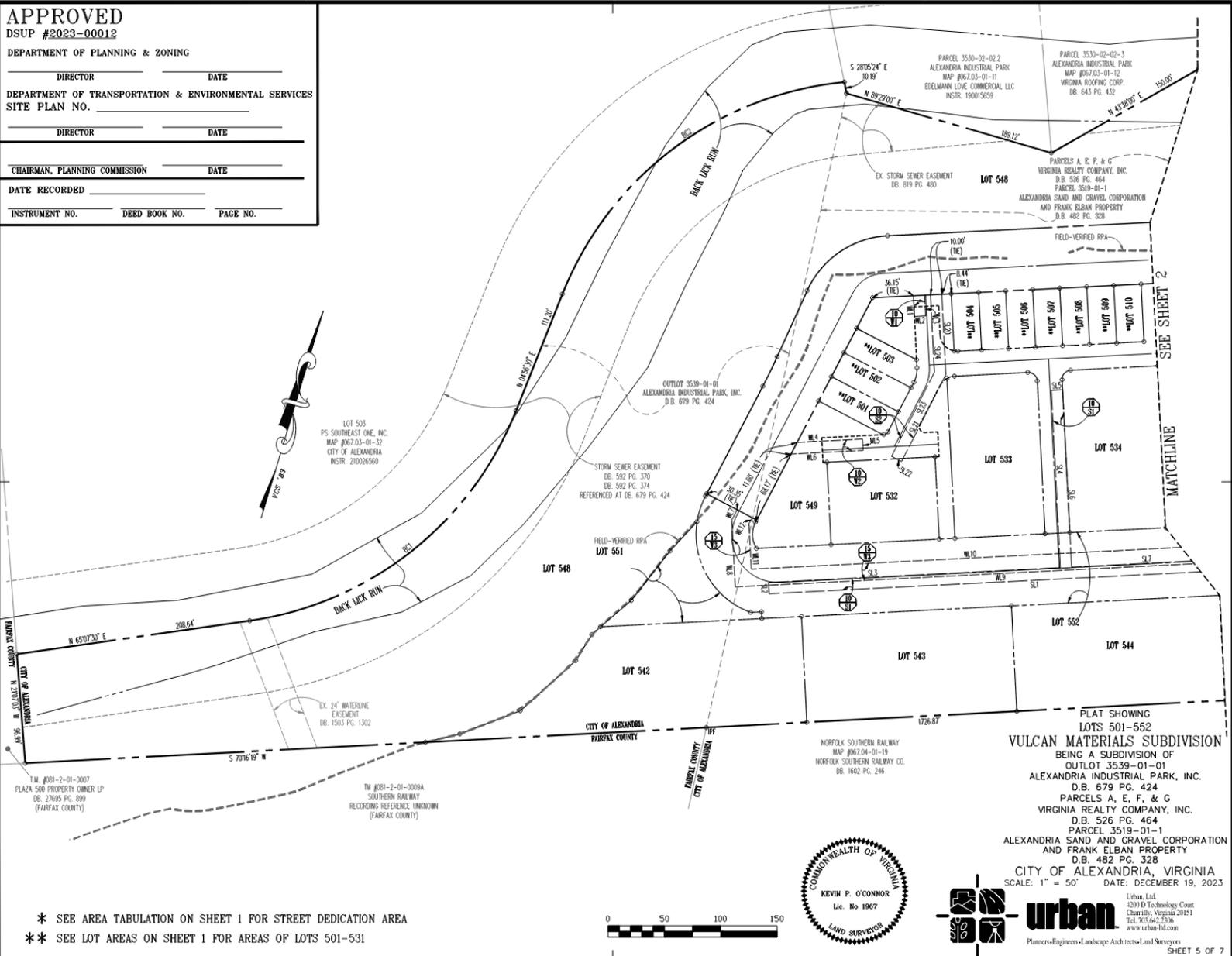
SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____



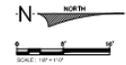
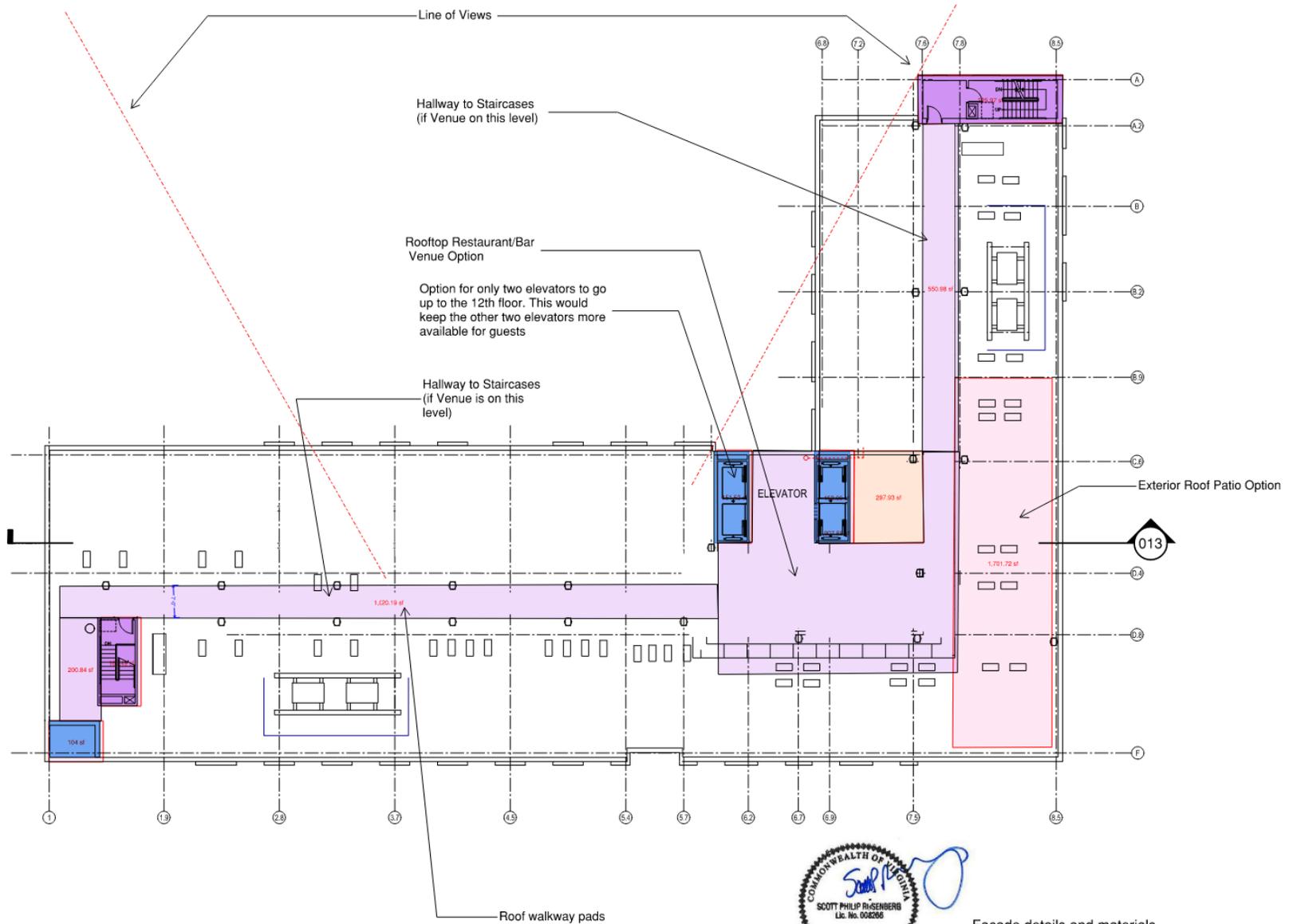
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- * SEE AREA TABULATION ON SHEET 1 FOR STREET DEDICATION AREA
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Exhibit D: Hotel Rooftop Restaurant

- Legend**
- Garage
 - Garage Ramp
 - Retail
 - Retail Corridor
 - Elevators
 - Stairs
 - Public Space
 - Meeting Rooms
 - Food Prep
 - Public Restrooms
 - Back of House
 - Mech / Elec
 - Hotel 1 Guestrooms
 - Hotel 2 Guestrooms
 - Green Roof



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Architecture
 Project Management
 Interior Design
 Branding

Dual-Branded Hotel
 Van Dorn Street - Alexandria, Virginia



Façade details and materials to be determined with brand at the time of final site plan.

005a
 New Sheet - February 12, 2024

Exhibit E: Conduit Grid

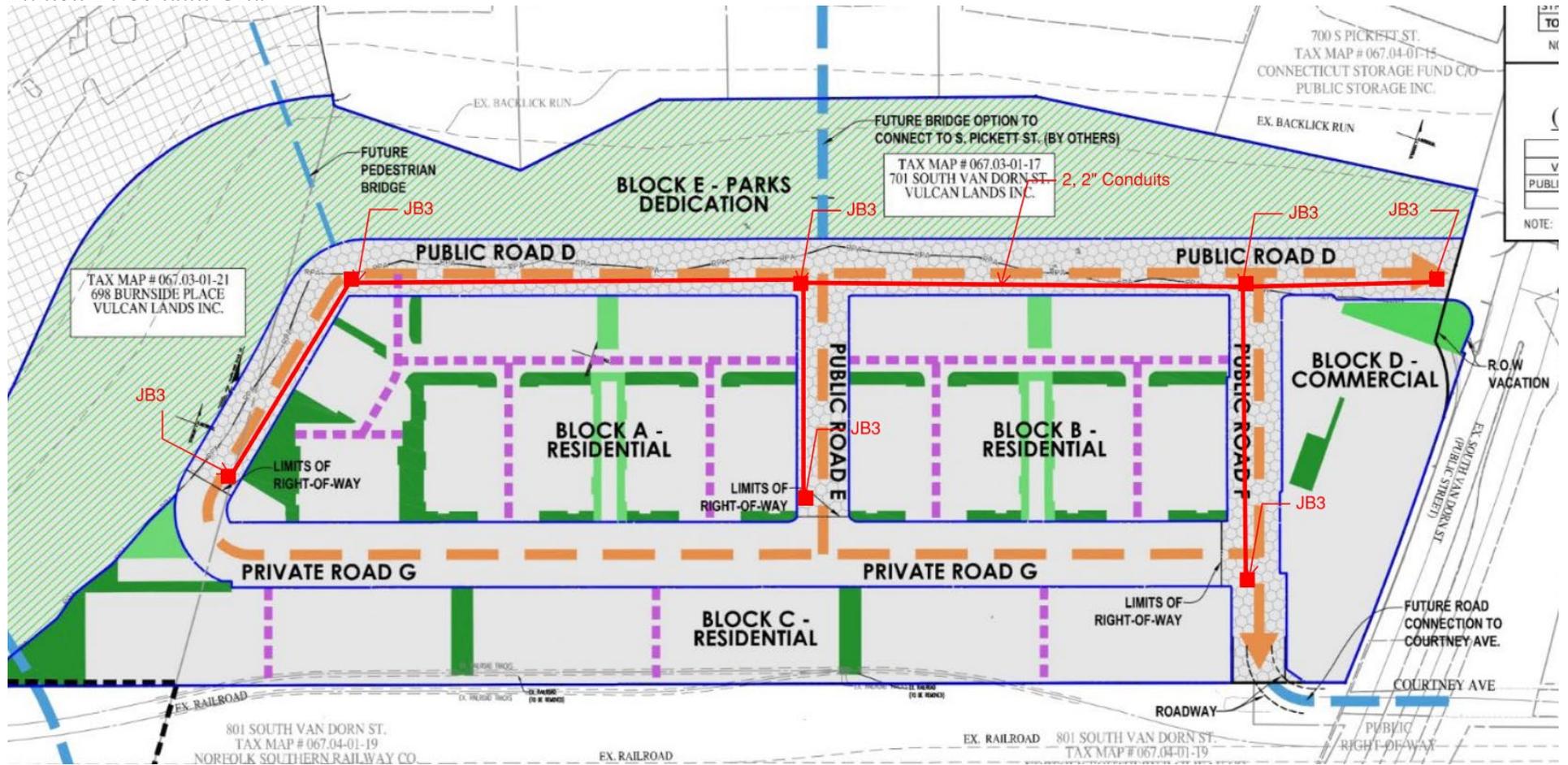


Exhibit F: Park Stages



IX. STAFF RECOMMENDATIONS – CDD #2023-00004

*Note: the conditions below are from CDD #2018-00005 with **emphasis added** for Staff recommended revisions and new conditions associated with this CDD Concept Plan Amendment.*

A. GENERAL

1. The Applicant shall comply with the Coordinated Development District (CDD) Concept Plan, dated January 30, 2019, **as revised December 21, 2023,** and with the zoning requirements of CDD #26. (P&Z)
2. The conditions of this approval are binding upon the Applicant, its successors and/or assigns. (P&Z)
3. Within the conditions for CDD#2018-0005, ~~and~~ DSUP#2018-0006, **and CDD#2023-00004,** the following definitions shall apply:
 - a. “Parcel 1” is the northern-most property at the project site, as it would be configured in the future, and is the site of the intended self-storage facility.
 - b. “Parcel 2” is the central property at the project site, as it would be configured in the future, and is the site of the interim surface parking lot and future multifamily residential building.
 - c. “Parcel 3” is the southern/southwestern-most property at the project site, as it would be configured in the future, that would be dedicated to the City for future public street and open space purposes.
 - d. “Public Street A” is a future public street located on the eastern edge of the project site. It is intended to function as a one-way street with only half of its total planned width, with the remaining half potentially being requested on adjacent property in the future.
 - e. “The private street” is a future private street located between the proposed Parcel 1 (self-storage building) and Parcel 2 (interim parking lot/future residential) and which connects Burnside Place and Public Street A.
 - f. Public Street “C” is a future public street located along the southern portion of the project site approximately parallel to Backlick Run.
 - g. Phase I of the CDD Concept Plan includes both Phase I-A and Phase I-B as depicted on the CDD Concept Plan.
 - h. **Phase III of the CDD Concept Plan includes the entirety of 701 S. Van Dorn Street and 698 Burnside Place, i.e., Blocks A, B, C, D, and E; and associated public and private streets and alleys.**
4. At least 120 days prior to submitting a preliminary DSUP application, unless otherwise waived by the Director of P&Z, the Applicant shall submit a conceptual DSUP for review by the City for each block(s), building(s) and/or open spaces(s) within the CDP area. (P&Z)

5. Notwithstanding any contrary provisions in the Zoning Ordinance, the CDD Concept Design Plan (CDD#2018-0005 or any revisions thereof **including CDD #2023-00004**), shall remain valid for 15 years from approval. (P&Z)
6. The Directors of T&ES, RP&CA and P&Z may require that infrastructure, open space, land uses and other matters adjacent to the subject site deemed necessary to review a preliminary DSUP application also be shown in the application. (P&Z) (T&ES)
7. The Applicant(s) shall coordinate, to the extent necessary, with all future property owners and Applicant(s) within CDD #26 on the design of streets, parks-open spaces, sewer systems and other related infrastructure and construction. (P&Z) (T&ES) (RP&CA)
8. If a dedication required herein results in a use, lot, or structure being no longer in conformity with applicable zoning requirements, such lot or structure shall be treated as noncomplying. (P&Z) (T&ES)

8A. Phase III Blocks A, B, C, and D shall form a master association to maintain Private Road G and private alleys A, B, C, D, E, and F; common open space areas, and other shared amenities and features of the development. The master association and owners and their successors of property within the blocks shall not remove the Road G public access easement nor petition the City to accept Road G into its system for maintenance so long as Blocks A, B, C, and D are developed per the Preliminary Plan known as DSUP #2023-10007, 2023-10013 and 2023-10014 dated December 21, 2023. (P&Z)

B. CDD CONCEPT PLAN

9. The Applicant shall submit a revised CDD Concept Plan for administrative review and approval by the Director of Planning & Zoning within 120 days from City Council approval of the CDD Concept Plan. The CDD Concept Plan shall be revised to meet all applicable conditions of this approval. **This condition does not apply to the Phase III applicant.** (P&Z) (T&ES)
10. ~~As part of the revised CDD Concept Plan submission, correct the “overall FAR” calculations in the CDD Concept Plan to include land being dedicated for public street purposes, consistent with Zoning Ordinance provisions.~~ (P&Z) **CONDITION DELETED BY STAFF**
11. For Parcel 3 only, the following items may be depicted on a revised CDD Concept Plan submitted to the Director of Planning & Zoning for administrative review and approval at any time prior to their construction on Parcel 3: sidewalks, recreational trails, bike lanes, fitness equipment, playground equipment, or other features approved by the Directors of T&ES, P&Z and RPCA. (P&Z) (RP&CA)
12. Provide public access easements for all sidewalk areas between the ROW line and the face of buildings. (P&Z) (T&ES)

C. INFRASTRUCTURE & PHASING

13. Prior to the release of the Final DSUP for Phase I, the Applicant shall submit the easement plats, deeds, and any other necessary documentation to dedicate to the City, or as otherwise

directed by the City in fee simple or by easement, the following:

- a. Dedication of rights-of way for a portion of Public Street A as depicted on Phase I of the CDD Concept Plan;
 - b. Dedication of the area identified as Parcel 3 on Phase I of the CDD Concept Plan. This area, except for land needed for public streets as shown on the CDD Concept Plan, remains allowable to count towards the requirements for open space; and
 - c. All required easements for the Phase I DSUP, including but not limited to public access easements and emergency vehicle easements (EVE). (P&Z) (T&ES)
14. The minimum width of land to be dedicated to the City as public right-of-way along the eastern side of the CDD Concept Plan area for the portion of Public Street A depicted on Phase I of the CDD Concept Plan shall be 33 feet unless otherwise requested by the Directors of Planning & Zoning and Transportation & Environmental Services. The dedication shall be recorded prior to release of the Final Site Plan for the Phase I DSUP. (P&Z) (T&ES)
15. At any time prior to the release of the Final DSUP for Phase II, the property owner of Parcel 2 shall dedicate the following areas to the City as public rights-of-way:
- a. Dedication of land for the continuation of Public Street A from its temporary terminus at the private street to Public Street C as depicted on Phase II of the CDD Concept Plan;
 - b. Dedication of land to achieve the full width of the right-of-way for Public Street C as depicted on Phase II of the CDD Concept Plan;
 - c. All required easements that may be depicted on the Phase II DSUP, including but not limited to public access easements and emergency vehicle easements (EVE). (P&Z) (T&ES)
16. At any time prior to the release of the Final DSUP for Phase II, the property owner of Parcel 3 shall dedicate the following areas as public rights-of-way from Parcel 3:
- a. Dedication of land for Public Street C in its entirety, as depicted on Phase II of the CDD Concept Plan;
 - b. Dedication of land for the continuation of Burnside Place from its current terminus to Public Street C as depicted on Phase II of the CDD Concept Plan;
 - c. All required easements depicted on the Phase II DSUP, including but not limited to public access easements and emergency vehicle easements (EVE). (P&Z) (T&ES)
17. The amount of land required to be dedicated as public right-of-way from Parcels 2 and Parcel 3 in Conditions #15 and #16 shall be the amount necessary to achieve the following minimum right-of-way widths, notwithstanding their depiction on Phase II of the CDD Concept Plan, unless otherwise requested by the Directors of Planning & Zoning and Transportation & Environmental Services:

- a. 33 feet on the eastern side of the CDD Concept Plan area for the continuation of Public Street A to Public Street C as depicted on Phase II of the CDD Concept Plan;
 - b. 38 feet in the central and southern portions of the CDD Concept Plan area for Public Street C as depicted on Phase II of the CDD Concept Plan; and
 - c. 66 feet in the southern portion of the CDD Concept Plan area for the continuation of Burnside Place to Public Street C as depicted on Phase II of the CDD Concept Plan. (P&Z) (T&ES)
18. Where a public access easement is provided for open space, plazas, streets, and/or sidewalks, the easement(s) shall be a perpetual public access easement for vehicles and/or pedestrians. (P&Z) (T&ES) (RP&CA)
19. Public Street A, ~~and~~ Public Street C, **Road D, Road E, and Road F** within the CDD Concept Plan area shall be public streets. **Road G shall be a private street.** (T&ES)
20. Public Street A shall be restricted to one-way traffic only until such time that additional land is dedicated to the City from the immediately adjacent property owner to the east and additional roadway is constructed to meet minimum roadway width requirements for two-way traffic. (P&Z) (T&ES)
21. For roadways, sidewalks, or trails to be provided by the Applicant(s) pursuant to the conditions herein, the Applicant(s) shall coordinate with any future adjacent property owner(s) to build any necessary transition(s) to future roadways, sidewalks or trails on adjacent property. (T&ES)
- 21A. Prior to the final site plan release of the Phase III Infrastructure DSP and Block E Public Park DSP, the applicant shall submit subdivision plats, easement plats, deeds, and any other necessary documentation to the satisfaction of the Director of P&Z and subsequently dedicate or grant to the City, these minimum land dedications, reservations, and public access easements as shown on the CDD Final Site Plan:**
- a. Dedication of right-of-way for the Roads D, E, and F new public streets and sidewalks.**
 - b. Dedication of the approximately six-acre Block E public park and resource protection area associated with Backlick Run.**
 - c. Subsequent to City acceptance of dedicated land, easements and/or reservations, the Applicant will continue construction in accordance with Phase III DSP and Block E Public Park DSP. The applicant will not be responsible for T&ES road closure or reserved parking permit fees after said dedication until the streets are used to access adjacent building(s) with occupancy.**
- 21B. Easements for streets and sidewalks shown on Sheet 02A of the Preliminary Plan dated December 21, 2023, shall be perpetual public access and use easements. Easements for open spaces, hotel plaza and the playground shall allow public access with property owner use limitations allowing for maintenance, safety and uses consistent with the type of easement The playground easement shall allow the public**

access during hours associated with public parks. The City and the applicant reserve the right within the easements to reprogram by mutual agreement so long as the reprogramming is consistent with the intent of the use of the easement. (P&Z) (T&ES) (RP&CA)

21C. The applicant shall obtain Final Site Plan approval for the Infrastructure Development Site Plan for Phase III prior to release of the final site plan for Blocks A, B, C, D, or E. The applicant shall complete the work associated with the Infrastructure DSP for the block adjacent to the building prior to release of the first Certificate of Occupancy for any building on that block within Phase III. Roads shall be substantially complete and open to traffic to coincide with occupancy for adjacent blocks. The final road surface must be complete prior to performance bond release for the Infrastructure DSP (DSP #2023-00013). At minimum, the infrastructure plan shall include this information subject to the satisfaction of the Directors of P&Z and T&ES: (P&Z) (T&ES)

a. The entire final road surface, parking lanes, traffic signs and signals, and necessary roadway markings for all required new streets or portions thereof.

b. Curbs and gutters for all streets

c. ADA-compliant curb ramps.

d. Any revised traffic signs, traffic signals, or roadway markings that may be necessary, as determined by the Directors of P&Z and T&ES, along existing streets adjacent to the Phase III CDD Concept Plan area.

e. All grading, topography, and spot elevation necessary to review the proposed infrastructure.

f. All necessary above and below-grade utilities, including stormwater, sanitary, water, and electrical connections.

21D. All infrastructure within future Phase III City public right-of-way and private streets shall be to City Standards while materials used within the private alleys may be alternate materials to the satisfaction of the Directors of P&Z and T&ES and determined during the Infrastructure DSP. (P&Z) (T&ES)

21F. The applicant will coordinate and record deeds of vacation for all Phase III private easements located in the proposed right-of-way as shown on this plan and plat prior to dedication of these rights-of-way to City. The applicant will alert the P&Z project manager after doing so and provide the recorded instrument numbers (of vacations). (P&Z) (T&ES)

21G. The Phase III pedestrian bridge across Backlick Run and internal street network shall be constructed prior to/simultaneously with the request for the first Phase III DSUP Certificate of Occupancy for any building within Phase III, Phase 3 per Sheet 04D. (T&ES) (P&Z) ***

21H. The design of all future buildings, streets, parks, and infrastructure shall not preclude the City from improving the existing S Van Dorn Street bridge. Additionally, any

building on Block D shall preserve a minimum 25-ft. setback from the property line along S Van Dorn Street as shown in the DSUP #2023-10013 plan set. Sheeting and shoring for the hotel may exist in the reservation area. (T&ES)

D. DEVELOPMENT PHASING

22. The applicant shall construct the development in phases as shown on the CDD Concept Plan and subject to Development Special Use Permit approval. The applicant may amend the phasing of the CDD Concept Plan, subject to the review and approval of the Director of Planning & Zoning, at such time that the final Plan required in Condition #9 is submitted. (P&Z)

E. DEVELOPMENT PHASING TRIGGERS

23. During the development of the Phase I CDD area, the following minimum infrastructure items shall be provided and/or constructed by the Applicant in accordance with the following:

- a. All infrastructure identified in the CDD Concept Plan to be constructed with Phase I shall include, at a minimum:
 - i. The final road surface and necessary roadway markings for the private street and for the portion of “Public Street A” to be constructed within the Phase I of the CDD Concept Plan;
 - ii. Sidewalks with ADA compliant access and minimum of 6-foot width clear of obstructions or greater as required in the Phase I DSUP, on all four sides of the self-storage building proposed in Phase I;
 - iii. Interim trail connections on both sides of the interim parking lot from the private street to the shared property line between Parcels 2 and 3;
 - iv. Curbs and gutters for the portion of Public Street A to be constructed within Phase I of the CDD Concept Plan;
 - v. New curbs and gutters for the southern edge of South Pickett Street and the eastern edge of Burnside Place;
 - vi. New bike lane and other necessary roadway markings on South Pickett Street;
 - vii. Necessary roadway markings on Burnside Place;
 - viii. Landscape strips between curbs and sidewalks; and
 - ix. Any necessary stormwater, sanitary and utility connections.
- b. The final infrastructure improvements listed in subsection (a) above shall be installed prior to the issuance of the first certificate of occupancy permit for the building proposed in the Phase I DSUP. (P&Z) (T&ES) (RP&CA)

24. During the development of the Phase II CDD area, the following minimum infrastructure items shall be provided and/or constructed by the Applicant in accordance with the following:

- a. All infrastructure identified in the CDD Concept Plan to be constructed with Phase II shall include, at a minimum:
 - i. Curb and gutter for the south side of the private street and any necessary

- new pavement to ensure a proper road surface adjacent to the new curb and gutter;
 - ii. The final road surface and necessary roadway markings for “Public Street C”;
 - iii. The final road surface and necessary roadway markings to connect Burnside Place to Public Street C;
 - iv. The final road surface, bike lane, and necessary roadway markings to connect Public Street A (from its interim terminus at the private street) to Public Street C;
 - v. Sidewalks with ADA compliant access and minimum of six-foot width clear of obstructions or greater as required in the Phase II DSUP, on all four sides of the building proposed in Phase II, some of which may replace the interim trail connections required in Condition #21 of this report;
 - vi. Curbs and gutters for all new streets or portions thereof;
 - vii. Landscape strips between curbs and sidewalks; and
 - viii. Any necessary stormwater, sanitary and utility connections.
- b. The final infrastructure improvements listed in subsection (a) above shall be installed prior to the issuance of the first certificate of occupancy permit for the building proposed in the Phase II DSUP. (P&Z) (T&ES)

24A. The design of Road F shall not preclude the provision of street trees and a minimum 5-ft. wide unobstructed sidewalk for the future extension of Courtney Avenue underneath S Van Dorn Street to access the properties on the other side (e.g., 750 S Van Dorn Street), to the satisfaction of the Directors in T&ES and P&Z. (T&ES) (P&Z)

F. OPEN SPACE

25. A minimum of 10% of the land area within the CDD area (excluding Parcel 3) that is occupied by primarily non-residential uses shall be provided as publicly-accessible, ground-level useable open space. A minimum of 30% of the land area within the CDD area (excluding Parcel 3) that is occupied by primarily residential uses shall be provided as useable open space, half of which must be publicly-accessible, ground-level useable open space. Publicly-accessible, ground-level useable open space may be provided at any location within the CDD area in order to meet the open space requirement but in all cases the provision of ground-level open space shall be generally consistent with the CDD Concept Plan submission. Public rights-of-way shall not be counted as open space (P&Z) (T&ES).
26. All additional ground-level open space, including courtyards, plazas, and private internal courtyards shall be designed as high-quality open space for residents, building tenants and the public where appropriate. (P&Z) (RP&CA)

26A. The Block E public park depicted in Phase III shall be a minimum of 4.4 acres and meet these requirements to the satisfaction of the Directors of P&Z and RP&CA: (RP&CA)

- a. The entire park shall be dedicated to the City prior performance bond release for the infrastructure DSP #2023-00013.**

- b. Stage 1 of the park, with boundaries as depicted in Exhibit F of CDD#2023-00004, must be complete, including the park amenities, invasive species removal and pedestrian bridge prior to the final Certificate of Occupancy for any building within Phase III, Phase 3 per Sheet 04D.
 - c. Stage 2 of the park must be designed with the DSP for the park but may be completed with future phases of the CDD.
- 26B. For any proposed play spaces within the Phase III CDD plan area, the applicant shall follow the City of Alexandria Playspace Policy approved in October 2013 to improve the health and wellbeing of all youth through design and provision of quality play spaces. Prior to submitting the first final site plan for any DSUP or DSP with a playground, the applicant shall work with RP&CA and P&Z Staff and meet with the Park and Recreation Commission to develop a playspace design of structured and/or unstructured play. (RP&CA)
- 26C. The Phase III site shall have a 25 percent tree canopy coverage requirement and each individual DSUP shall have a minimum 15 percent tree canopy. Sitewide and DSUP calculations shall exclude public street trees, public right-of-way, and the Block E public park to the satisfaction of the Directors of P&Z and RP&CA. (P&Z) (RP&CA)
- 26D. The individual blocks within Phase III shall comply with the City's Landscape Guidelines at the time of DSUP approval. (RP&CA)

G. INTERIM USES

27. The Special Use Permit for the interim parking lot shown on Parcel 2 in Phase I of the CDD Concept Plan shall be reconsidered by City Council for a five year extension 10 years from the date of its approval by City Council. (P&Z) (CC)

H. USES

28. Any proposed land uses shall be subject to the development levels, requirements and locations set in the CDD Concept Plan and the CDD#26 zone requirements. (P&Z)
- a. The floor area defined for each block within Phase III of CDD #29 is the maximum floor area subject to compliance with the CDD conditions required herein, and applicable requirements of the Zoning Ordinance. Additional floor area may be requested pursuant to § 7-700 of the Zoning Ordinance.
- 28A. The applicant may transfer up to 20 percent of the allowable building square footage for Phase III depicted on the CDD Final Site Plan from one block to another block within the Phase III CDD Concept Plan area or change the use to another use, subject to administrative approval by the Director of P&Z, and these provisions: (P&Z)
- a. In no case may any administrative approval of such a transfer result in an increase in the overall total square footage of the buildings within the CDD Concept Plan area.
 - b. In no case may any administrative approval of such a transfer allow for the following for any block within the Phase III CDD Concept Plan area:

i. An increase in the maximum allowable building height

ii. A decrease in the minimum required building height(s) for each block

iii. A decrease in the required open space

iv. A decrease in the proportion of non-residential uses provided in the Phase III area.

c. The applicant shall submit an updated CDD Concept Plan, depicting the revised building square footage proposed for all blocks in the CDD Concept Plan area for administrative approval by the Director of P&Z prior to approval of any such transfer request.

29. No interim uses shall be approved which preclude the layout or function of Phase II of the approved CDD Concept Plan. (P&Z)

29A. Townhouses and stacked townhouses may only be permitted on Phase III Blocks A and B. (P&Z)

I. PARKING

30. Parking for the development depicted in the CDD Concept Plan shall be provided according to Zoning Ordinance requirements in effect at the time of DSUP approval. (P&Z) (T&ES)

31. All on-street parking controls and restrictions within the project area shall be determined by the City. Any such controls and restrictions which the applicant desires shall be shown on the final site plan. Within the project area, any parking meters which are placed on private streets with public access easements or on public rights-of-way shall be acquired and installed by the applicant in accord with City specifications. The City reserves the right to enforce parking meters on private streets containing public access easements. (P&Z) (T&ES)

31A. All parking for Phase III Blocks A and B shall be below grade unless these blocks develop as townhouses or stacked townhouses. In that instance, the parking must be in at-grade garages. Parking for townhouses and stacked townhouses shall be in rear-loaded garages accessed from an internal alley. Front-loaded garages are prohibited. (P&Z)

31B. Parking for Phase III Blocks C and D shall be fully or partially below grade. No above grade structured, or surface parking is permitted on these blocks. (P&Z)

31C. Excepting stacked townhouses, all Phase III multi-unit residential parking shall be unbundled (i.e., the cost to purchase or lease a parking space is separate from the cost to purchase or lease the residential unit), to the satisfaction of the Director of T&ES. (T&ES)

31D. On-street parking on public streets with the Phase III site shall be managed by the City. Any parking restrictions proposed by the Applicant shall be determined during review of the Final DSUP Plans. The Director of T&ES reserves the authority to

approve proposed restrictions and to set and adjust meter rates and hours. (T&ES)

31E. Provide a minimum of one 55-ft. by 7-ft. location for a Capital Bikeshare station within the right-of-way of the northern portion of Road D of Phase III. Additional Capital Bikeshare stations may be provided within the CDD to accommodate anticipated demand for biking to and from the site. (T&ES)

J. UTILITIES

32. All electrical transformers and associated utilities shall be screened to the satisfaction of the Director of P&Z or provided in underground vaults which shall comply with all applicable Dominion Virginia Power (DVP) standards. Ventilation grates shall not be located within public open space, sidewalks or streets - public right-of-way. The final location of the transformers and/or vaults shall be approved as part of the preliminary DSUP review for each building/block. (P&Z) (T&ES)

33. All new utilities serving the CDD, whether located within or outside of the CDD, shall be placed underground at the cost of Applicant. All utilities with the exception of those having a franchise agreement with the City shall be located outside the public right-of-way; however, no transformers or switch gears shall be placed in the public right-of-way. (T&ES)

33B. A connected underground conduit grid shall be installed in preparation of fiber and cable installation to provide high-speed communication and connectivity to all buildings and traffic signals within the Phase III site. The conduits shall be to the satisfaction of the Directors of T&ES and ITS. This shall either be shown as part of the DSUPs for individual buildings or within the Infrastructure DSP. (T&ES) (ITS)

33C the applicant shall underground all overhead power and communication lines fronting the development along S Van Dorn Street and onsite adjacent to Van Dorn as shown on the DSUP and in addition, the Applicant shall do the following to the satisfaction of the Director of T&ES. (T&ES):

- a. Move southern poles out of the Van Dorn ROW onto private property; and**
- b. The northern poles may remain in the Courtney Avenue ROW and shall include a below- grade conduit stub out to the existing Van Dorn Street ROW.**

K. STORMWATER

34. All development shall meet the requirements as set forth in the Environmental Management Ordinance (Chesapeake Bay Preservation Act) as adopted by the City of Alexandria at the time of the submittal of each preliminary DSUP. (T&ES)

35. All development shall meet the requirements as set forth in Memorandum to Industry 01-18, Use of Manufactured/Proprietary Stormwater BMPs or applicable City Policy at the time of approval. (T&ES)

36. The water quality volume from impervious surfaces within new public rights-of-way shall receive treatment from stormwater Best Management Practice (BMP) facilities in accordance with Memo to Industry 04-2014 or applicable City policy at the time of approval. (T&ES)

37. All impervious surfaces must be removed from the RPA and replanted per the landscape plan as approved with the Water Quality Impact Assessment. (T&ES)

37A The applicant shall submit a Stormwater Master Plan for review and approval prior to Final Site Plan release for any DSUP or DSP within Phase III. (T&ES)

L. FLOODPLAIN

38. All development shall meet the requirements as set forth in the Floodplain District Ordinance Article VI Section 6-300 as adopted by the City of Alexandria at the Final Site Plan submittal of each DSUP. (T&ES)

M. CONTRIBUTION(S)

39. **Provide contributions for Capital Bikeshare as noted below:** (P&Z) (T&ES)

a. Provide location for a future Capital Bikeshare Station along Public Street A near the intersection with South Pickett Street with the Phase I DSUP. A contribution of \$40,000 shall be made towards the Capital Bikeshare fund with the Phase II DSUP.

b. **\$112,500 toward the Capital Bikeshare fund with the Phase III Infrastructure DSP.**

c. All checks shall be made payable to the City of Alexandria and Submitted to the Department of P&Z with a cover letter citing the project name, contribution amount, and the condition being fulfilled.

40. CDD Phase II **and III** development will be subject to the applicable developer contribution rate consistent with the Eisenhower West-Landmark/Van Dorn Developer Contribution Policy in effect at the time that the Phase II **and III** DSUPs **is are** approved. Contribution rates are subject to an annual escalation clause equivalent to the CPI-U for the Washington Metro area and shall be recalculated January 1st of each year.

a. All checks shall be made payable to the City of Alexandria with the applicable fund reference code and submitted to the Department of Planning and Zoning with a cover letter citing the project name, contribution amount, and the condition being fulfilled. Payment shall be made prior to the release of the first certificate of occupancy for **the each** Phase II **and III** DSUP **or provided through an in kind contribution in the manner and timing specified by the DSUP or DSP conditions of approval. The estimated in lieu contribution dollar amount and full description must be provided and approved at the time of DSP or DSUP approval.** (P&Z)

N. AFFORDABLE HOUSING

41. The applicant shall provide a monetary contribution to the Housing Trust Fund for Phase I **and Phase III** consistent with the City's Procedures Regarding Affordable Housing Contributions. (Housing)

41A Should the applicant for Phase III request and obtain an extension to the expiration of a DSUP approval, then the monetary contribution to the Housing Trust Fund for

that DSUP shall be recalculated at the time of the extension request. (Housing)

42. The applicant shall provide 10% of all residential units constructed as part of Phase II as either committed affordable rental set-aside units affordable at 60% of the area median income (adjusted for utility allowances) or committed affordable for-sale units affordable at 80% of area median income for a period of 40 years dependent on the type of project developed. (Housing)
43. The unit mix for affordable housing constructed as part of the future residential building in Phase II shall be proportional to the overall unit mix in the building or shall be to the satisfaction of the Director of Housing. (Housing)
44. Additional provisions for the set-aside units will be applied during Phase II DSUP review process consistent with the City's standard set-aside conditions in effect at that time. (Housing)
45. As part of the Phase II DSUP, the applicant shall submit an Affordable Housing Plan consistent with published City standards. (Housing)

45A Should committed affordable set-aside units be provided as part of Phase III, the City's standard set-aside conditions and policies in effect at that time of DSUP review shall apply. (Housing)

O. STREET NAMES

46. All new public **streets** and private streets, **alleys, and open spaces with building entrances fronting them** shall be named and all said street names within each CDD phase shall be approved consistent with City current requirements and practices to the satisfaction of the Director of Planning & Zoning prior to the release of the first Final Site Plan for the respective CDD phase. (P&Z)

P. SUSTAINABILITY

- 47 The applicant(s) for the Phase III plan area may propose additional sustainability strategies which may be incorporated administratively to the satisfaction of the Climate Action Officer of OCA. (OCA)**

- 48 All Phase III buildings shall comply with the City's Green Building Policy at the time of DSUP/DSP approval. (OCA)**

Q. PUBLIC ART

- 49 Per the City's Public Art Policy at the time of Phase III DSUP/DSP approval, work with City Staff to incorporate public art on-site or provide an equivalent monetary contribution to be used toward public art within the Eisenhower West plan area. (RP&CA)**

X. STAFF RECOMMENDATIONS – DSUP #2023-10007 (CONDO FLATS)

1. The Final Site Plan shall conform substantially with the preliminary plan dated December 21, 2023, and comply with the following conditions of approval.

I. SITE PLAN

2. Per § 11-418 of the Zoning Ordinance, the development special use permit shall expire and become null and void, unless the applicant commences substantial construction of the project within 60 months after initial approval and the applicant thereafter pursues such construction with due diligence. The applicant shall provide a written status report to Staff 18 months after initial approval to update the City Council on the project status if they have not yet commenced substantial construction. The applicant may petition to extend the validity period after adequate notice and a public hearing. (P&Z)
3. Submit the plats and associated deeds for all applicable easements, dedications, and subdivisions per the Preliminary Plan dated December 21, 2023, with the first Final Site Plan. The applicant must obtain approval of the plat(s) prior to or concurrent with the Final Site Plan release. Provide proof of recordation with the first application for a building permit. (P&Z) (T&ES) (RP&CA) *, **
 - a. Provide public easements to the satisfaction of the Directors of P&Z and T&ES. Easements shall be consistent with the preliminary site plan.
 - b. Emergency Vehicle Easement(s) (EVE) shall not be painted. When an EVE is shared with a pedestrian walkway or consists of grasscrete or a similar surface treatment, the EVE shall be defined in a manner that is compatible with the surrounding ground plane.
4. Property rights to be conveyed by easement to the City may instead be conveyed by dedication (fee simple) to the City subject to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES)
5. Show site utilities compatibly with other conditions on the site plan to the satisfaction of the Directors of P&Z, T&ES prior to Final Site Plan release, specifically: (P&Z) (T&ES) *
 - a. Locating above grade service openings and required clearances for items such as transformers, telephone, HVAC units, and cable boxes.
 - b. Minimizing conflicts with plantings, pedestrian areas, and major view sheds.
 - c. Excluding above grade utilities from dedicated open space areas and tree wells.
 - d. Screening all utilities from the public right-of-way, accommodating Dominion requirements.
6. Provide a lighting plan with the Final Site Plan, unless otherwise identified below, to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of P&Z, T&ES, Code, and the Climate Action Officer of OCA and shall include: (P&Z) (T&ES) (OCA) (Code) *

- a. The location of all existing and proposed streetlights and site lights, shading back less relevant information.
 - b. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
 - c. A photometric plan with lighting calculations encompassing all existing and proposed streetlights and site light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way.
 - d. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
 - e. The numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.
 - f. Full cut-off lighting as applicable to prevent light spilling onto adjacent properties. Provide a plan distinguishing between the site with all streetlights and other pertinent off-site lighting and the site without streetlights and off-site lighting to demonstrate how the plan complies with § 13-1-3 light spill regulations.
 - g. Additional lighting to achieve City standards if existing lighting within the City right-of-way adjacent to the site does not meet the minimum standards.
 - h. Basic, approved Dominion LED light fixtures for all proposed light fixtures in the City right-of-way.
 - i. All site lights designed to meet City of Alexandria photometric standards shall have photovoltaic switches.
 - j. The location of conduit routing between site lighting fixtures to avoid conflicts with street trees.
 - k. Details indicating proposed light pole and footings relative to the adjacent grade and pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
 - l. An average of 5.0-foot candle-maintained lighting for underground/structured parking garages. When unoccupied, the lighting may turn off and on using motion sensors. Without motion sensor lighting, unoccupied lighting levels may be no less than 1.5-foot candles. **
 - m. Light fixtures for the open canopies and underground/structured parking garages shall be recessed, flush-mounted, or otherwise shielded to provide downward-directed light into the ceiling for any areas visible from the public right-of-way. **
7. Provide a unit numbering plan for each floor of a multi-unit building with the first Final Site Plan. The unit numbers shall comply with a scheme of 100 level numbers on the first floor, 200 level numbers on the second floor, and continue in this scheme for the remaining floors. Indicate the use of each unit (i.e., residential, retail, office). (GIS) *
 8. Provide a georeferenced CAD file in AutoCAD 2018.dwg or greater format that adheres to the National CAD Standards prior to Final Site Plan release. The file shall have the dimension plan including existing conditions, proposed conditions, and grading elements. (P&Z) (DPI) (GIS) *
 9. Sheeting and shoring, support of excavation shall not extend beyond the property line, except when the applicant has obtained a written release or encroachment from adjacent private/non-City property owners which has been reviewed prior to Final Site Plan release

and recorded in the Land Records. (P&Z) (Code) *

10. The total number of residential units may be adjusted higher or lower so long as the new unit count does not increase the building envelope, parking is provided per the Zoning Ordinance, and the building is in substantial conformance with the preliminary plan to the satisfaction of the Director of P&Z. (P&Z) *
 - a. Minor changes to the façade fenestration and details will be permissible, including but not limited to, window count and alignment, to be coordinated with sustainability envelope attributes and energy performance submission.
 - b. The Sanitary Adequate Outfall Analysis must reflect the actual number of units.
 - c. The unit count must be finalized prior to Final Site Plan release.

A. BUILDING

11. Provide a building code analysis with these building code data prior to Final Site Plan release: (1) use group, (2) number of stories, (3) type of construction, (4) total floor area per floor, (5) height of structure, (6) non-separated or separated mixed use, (7) fire protection system requirements, and (8) accessible routes. (P&Z) (Code) *
12. The building design, including the appearance, color, and quality of materials; final detailing; three-dimensional expression; and depth of all plane changes, shall be consistent with the elevations dated December 21, 2023, and the following conditions. Provide this information regarding materials and design to the satisfaction of the Director of P&Z prior to Final Site Plan release: (P&Z) (Code) (OCA) *
 - a. Samples of actual window glazing, frame, and sash components proposed for each area of the building in the color and material that will be provided (may reduce sample sizes for ease in handling). **
 - i. Window sizes and types.
 - ii. Window mullion dimensions and projection in front of face of glass.
 - iii. Window frame, sash, and mullion materials.
 - iv. If any windows visible from a public park or right-of-way are shown as simulated divided light type, then they shall include between the glass spacer bars aligned with exterior muntins; any such exterior muntins shall project not less than 3/8 inch beyond the face of glass and be reflected in the window samples provided. Grills located between the glass will not be supported.
 - b. Where fiber cement façade panels are permitted, they shall not use a wrap-around trim for mounting to the substructure but may use either a batten system to conceal the joints or a rainscreen type installation. If exposed fasteners are proposed, they may be either concealed or if exposed, shall be finished to match the adjacent panels and their location integrated into the overall design.
 - c. The underside of all balconies shall be finished and present a visually cohesive appearance with paint matching the building or soffit material.

- d. Coordinate the design, color, and materials of all penthouses, rooftop mechanical areas, and rooftop screening with the overall architecture of the building, as regards massing, materials, and detailing/expression. Flat roof surfaces must be light-colored with green roofs encouraged as an alternative.
 - e. For the hotel and high-visibility facades for townhouses and stacked townhouses, where dissimilar materials meet, they must typically meet at an interior corner; where that is not possible, such transitions shall occur at a significant plane change or reveal, or as otherwise shown on the DSUP.
13. Provide detailed drawings in realistic colors to permit evaluation of key building elements such as the building base, elevation types, entrances, entry canopy, stoops, windows, balconies, railings, cornices, and other ornamental elements, and material details including the final detailing, finish, and color of these elements prior to Final Site Plan release. (P&Z)
*
- a. The drawings shall be enlarged and coordinated plan-section-elevation studies, typically at 1/4" = 1'-0" scale, with shadows cast at 45 degrees from both left and above to show true depth of recesses and projections.
 - b. Separate design drawings shall be submitted for each primary building typology, different wall, or bay type.
 - c. When warranted by the three-dimensional complexity of the design, the applicant shall provide isometric vignettes of special conditions or building areas to the satisfaction of the Director of P&Z.
 - d. All structures must remain within the property (e.g., balconies, railings, and canopies), unless permitted under the City of Alexandria Code or an encroachment has been obtained.
14. Provide the items listed below to allow Staff to review the materials, finishes, and architectural details. These materials shall conform substantially to the preliminary plan and the current *Guidelines for Preparation of Mock-Up Panels*, Memo to Industry effective at application submission. (P&Z) (Code)
- a. Prior to ordering final building materials, provide a materials board that includes all proposed materials and finishes at first Final Site Plan. The materials board shall remain with P&Z until the issuance of the final Certificate of Occupancy, when Staff will return all samples to the applicant. (P&Z) *, ***
 - b. Staff may request more detailed/extensive materials relating to the proposed fenestration, such as samples of the glazing, frame, and sash components, and including whether the windows will be double-or-triple glazed and have simulated divided lights. **
 - c. Materials may be modified or substituted only if in substantial conformance with the Preliminary Site Plan approval and to the satisfaction of the Director of P&Z. *
 - d. Drawings of mock-up panel(s) that depict all proposed materials, finishes, and relationships as part of the first Final Site Plan. *
 - e. An on-site mock-up panel using the approved materials, finishes, and relationships shall be constructed for Staff review and approval. Per VCC108.2 concrete or masonry mock-up panels exceeding 6-ft. require a building permit. The panel(s) shall be constructed and approved prior to vertical (above-grade) construction and

before ordering building materials. Locate the panel so that it receives sunlight from the same predominant direction as will the finished structure. **

- f. The mock-up panel shall remain on-site, in the same location, and visible from the right-of-way without entering the site throughout construction until the issuance of the first Certificate of Occupancy. ***

15. For condominium facades facing Road G, fiber cement shall not exceed 50% of that façade. (P&Z) *

16. Prior to receiving a building permit for any building within Block A, begin construction of the pedestrian and cyclist bridge per DSP #2023-00014. (P&Z) **

B. OPEN SPACE/LANDSCAPING

17. Develop a palette of site furnishings for review and approval by Staff prior to Final Site Plan release. (P&Z) (T&ES) *

18. Provide material, finishes, and architectural details for all retaining, seat, decorative, and screen walls prior to Final Site Plan release. Indicate methods for grade transitions, handrails, directional changes, and above and below-grade conditions. Coordinate with adjacent site and building conditions. The design and construction of all walls shall be to the satisfaction of the Directors of P&Z, T&ES, and Code. (P&Z) (T&ES) (Code) *

19. Develop and install a playspace for structured and/or unstructured play that conforms to the City of Alexandria's Playspace Policy, to the satisfaction of the Directors of P&Z and RP&CA. Provide a letter of certification from a certified safety professional attesting that the design meets the policy prior to Final Site Plan release and provide a letter of certification after construction to confirm that the playground was built per the design prior to issuance of the final Certificate of Occupancy. The playspace design, installation, and maintenance shall meet these requirements: (P&Z) (RP&CA) (Code) *, ***

- a. Provide a coordinated array of the play elements.
- b. Depict the location, scale, massing, and character of the playspace, grade conditions, surfacing, site furnishings, vegetation, and other site features. Consider providing artificial or natural canopies and shade structures for summer heat.
- c. Play spaces and site equipment shall comply with the most recent guidelines, specifications, and recommendations of the Consumer Product Safety Commission (CPSC) Handbook for Public Playground Safety, ASTM Specification for Playground Equipment for Public Use (ASTM F1487) and ASTM Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment (ASTM F1292).
- d. Play area and equipment shall comply with Americans with Disabilities Act 2010 ADA Standards for Accessible Design.
- e. Play spaces shall be regularly inspected and maintained according to CPSC, ASTM, and manufacturer recommendations. Natural play spaces and/or elements shall be maintained and cared for according to landscape standards provided by landscape architect, planner, and/or to relevant CPSC and ASTM standards.
- f. Play areas shall be open to the public and located in areas accessible to the public. The play areas will also be subject to a public access easement.

- g. Play spaces shall have appropriate signage posted with hours of operation and other operational information.
20. Post sign(s) stating that open space public access easements are open to the public, noting any operating hours, other restrictions, and contact information to facilitate reporting of issues. Show the sign locations and design on the Final Site Plan and install the signs prior to the issuance of the first Certificate of Occupancy. (P&Z) (RP&CA) *, ***
 21. All publicly accessible open spaces shall be maintained and managed by the applicant/owner or its successors consistent with the Level 2 conditions of the APPA Grounds Standards and other applicable City standards. Maintenance shall include the life cycle replacement of materials and components depicted in the landscape design. (RP&CA) *
 22. Prepare an Establishment Maintenance Plan to the satisfaction of the Director of RP&CA prior to Final Site Plan release. The Establishment Maintenance Plan shall detail execution of work, labor, and materials for maintenance of the park until final Performance Bond release. (RP&CA) *, ****

C. ARCHAEOLOGY

23. Call Alexandria Archaeology immediately at 703.746.4399 if you discover any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts during development. Cease work in the discovery area until a City archaeologist inspects the site and records the finds. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *
24. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, or allow independent parties to collect or excavate artifacts, unless authorized by Alexandria Archaeology. Failing to comply shall result in project delays. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *

D. PEDESTRIAN/STREETSCAPE

25. Provide the pedestrian improvements listed below to the satisfaction of the Directors of P&Z and T&ES. Complete all pedestrian improvements prior to the issuance of the final Certificate of Occupancy. (P&Z) (T&ES) ***
 - a. Install ADA accessible pedestrian improvements serving the site.
 - b. Construct all sidewalks to City standards. The minimum unobstructed width of all newly constructed sidewalks shall be six feet or as otherwise shown on DSUP.
 - c. Sidewalks must comply with the City's Complete Streets Design Guidelines.
 - d. Sidewalks shall be flush across all driveway crossings.
 - e. All newly constructed curb ramps shall be concrete with detectable warning and shall conform to current VDOT standards.
 - f. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street.
 - g. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development.

- h. All crosswalks shall be standard, 6 inches wide, white thermoplastic parallel lines with reflective material, with 10 feet in width between interior lines. High-visibility crosswalks [white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)] may be required as directed by staff at Final Site Plan. Alternative crosswalk treatments must be approved by the Director of T&ES.
- i. Install audible pedestrian countdown signals and pedestrian activated pushbuttons in accordance with City Standards. All pedestrian-activated push buttons shall be accessible per ADA Accessibility Guidelines.
- j. All below grade utilities placed within a City sidewalk shall be integrated with the adjacent paving materials and to minimize any visible impacts.

E. PARKING

- 26. Unbundle all residential garage parking and reserved spaces on Road G (i.e., the cost to purchase or rent a parking space is separate from the cost to purchase the residential unit). (T&ES)
- 27. Provide a Parking Management Plan with the Final Site Plan submission that complies with the requirements of the Parking Management Plan Template provided in Memo to Industry 01-19. The Departments of P&Z and T&ES must approve the Parking Management Plan prior to the Final Site Plan release. (P&Z) (T&ES) *
- 28. The applicant may make garage parking spaces, which are required to comply with zoning requirements, available for public/off-site users if the applicant can demonstrate excess parking to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (TE&S)
- 29. Provide bicycle parking per current Bicycle Parking Standards, available at: www.alexandriava.gov/bicycleparking. (T&ES) *, ***
 - a. Include details on the locations and types of bicycle parking prior to Final Site Plan release. Install bicycle parking prior to the issuance of the first Certificate of Occupancy.
 - b. Provide signage, striping, or other means to direct people to any indoor or covered bicycle parking areas within the private property. Show the proposed signage, etc. prior to release of the Final Site Plan and install the signage, etc. prior to issuance of the Final Certificate of Occupancy.
- 30. Provide signage, striping, or other means to prevent parking in emergency vehicle easement(s) prior to Final Site Plan release, to the satisfaction of the Director of T&ES. (T&ES) *
- 31. Provide electric vehicle chargers for at least five percent of the required parking spaces, consisting of Level 2 and/or Level 3 DC Fast Chargers rounded up to the next whole number parking space. (OCA) ***
- 32. At least 50 percent of the required off-street parking spaces shall be electric vehicle charger ready per these requirements: (OCA) ***

- a. Size and install the conduit correctly based on the number and location of future chargers. A combination of Level 1, Level 2, and/or DCFCs may be used; based on the estimated demand for charging and planned usage.
 - b. Label parking space location junction box for the future electric vehicle charger.
 - c. Provide available physical space within the utility closet for future cabinetry required to add vehicle chargers to the electrical panel.
 - d. Additional conduit does not need to account for transformer sizing.
 - e. EV chargers may encroach in the required parking space dimension.
33. Instead of Conditions 31 and 32, the applicant shall have this option. Install at least one publicly accessible electric vehicle DC Fast Charger (Level 3), prior to issuance of the final Certificate of Occupancy. The Level 3 charger space(s) would not be in addition to the off-street parking required under the Zoning Ordinance. If one charger is not feasible at the project site, the applicant may work with city staff to identify an alternative suitable location in the city. (OCA) ***
34. Update parking counts on the cover sheet to state the number of electric vehicle charger and electric vehicle charger ready parking spaces, show the location of these spaces, and detail the signage, striping, or similar used to direct people to these spaces prior to Final Site Plan release. Install the signage for charger spaces when the charger is installed and operational, etc. prior to release of the final Certificate of Occupancy. (OCA) *, ***

F. SUSTAINABILITY

35. The project shall comply with the requirements of the City of Alexandria Green Building Policy that is in effect at the time of DSUP approval. (OCA) *, **, ***, ****
36. The applicant may propose additional sustainability strategies to the satisfaction of the Directors of P&Z and the Climate Action Officer of OCA. (P&Z) (OCA) *, **, ***, ****
37. The applicant shall provide these items to comply with the Green Building Policy at first Final Site Plan: (OCA) *
- a. Evidence of the project’s registration with LEED Silver v.4, Green Globes, EarthCraft, NGBS, or equivalent.
 - b. A copy of the draft certification scorecard which indicates the project will meet the required performance points as outlined in the Green Building Policy for LEED, Green Globes, EarthCraft, NGBS, or equivalent.
38. The applicant shall provide these items to comply with the Green Building Policy with the Building Permit: (OCA) **
- a. An updated copy of the draft certification scorecard/checklist prior to building permit release for above-grade construction for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
 - b. A draft commissioning plan and verification, if required by the Green Building Rating System and the building code, from a certified third-party reviewer that includes items “i” through “iii” below, prior to receiving building permits for above-grade construction.

- i. A narrative describing the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
 - ii. A listing of the specific equipment, appliances, or systems to be tested and a description of the tests to be performed, to include, but are not limited to, calibrations and economizer controls, conditions under which the test will be performed. Testing shall affirm winter and summer design conditions and full outside air conditions.
 - iii. Measurable criteria for performance; the plan should match the project's submitted plans and sustainability certification scorecard.
 - c. Water efficiency and indoor environmental quality documentation for the priority performance points in the Green Building Policy prior to building permit release for above-grade construction for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
39. The applicant shall provide these items to comply with the Green Building Policy at First and Final Certificates of Occupancy: (OCA) ***
- a. Evidence that design phase credits (for the certifying party) have been submitted by Temporary Certificate of Occupancy for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
 - b. A commissioning report verified by a certified, third-party reviewer, including issues log, completed pre-function checklists, and any completed functional performance tests to match scorecard and approved permit plans prior to issuance of the final Certificate of Occupancy.
 - c. Evidence showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for Design Phase credits for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
 - d. If the project fails to achieve the required certification level and priority performance points, then demonstrate a good faith, reasonable, and documented effort to achieve the certification level to the satisfaction of the Climate Action Officer.
40. The applicant shall provide the following to comply with the Green Building Policy at Release of Performance Bond: (OCA) ****
- a. Documentation of applicable green building certification showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
41. Demonstrate that the roof(s) are solar ready, with the necessary conduit and available electrical panel area to enable future solar panel installation, on the Final Site Plan. (OCA)
*
42. At the first Final Site Plan for condominiums, townhouses, and stacked townhouses, demonstrate that the buildings will be fully electric including all mechanical systems.

(OCA) *

II. TRANSPORTATION

A. STREETS/TRAFFIC

43. Repair any of the City's existing public infrastructure that construction damages per the most recent version of the T&ES Design and Construction Standards Memo to Industry 23-01, or to the satisfaction of Director of T&ES, prior to Performance Bond release. (T&ES) ****
44. Conduct a pre-construction walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration Staff to document existing conditions prior to Final Site Plan release. (T&ES) (Code) *
45. Mark all private street signs that intersect a public street with a fluorescent green strip to notify the plowing crews, both City and contractor, that they are not to plow those streets, prior to the issuance of the first Certificate of Occupancy. (T&ES) ***
46. Slopes on parking ramps to garage entrances and exits shall not exceed 15 percent. For slopes 10 percent or greater, provide trench drains connected to a storm sewer to eliminate or diminish the possibility of ice forming. The slope on a ramp with parking or used for egress shall not exceed 6.5 percent. For non-parking ramps with slopes of 10 percent and greater, provide a minimum of 10 feet in length transition slopes at the top and bottom of the ramp. The transition slope shall be half the difference in slope between two adjacent sections. Provide final design prior to Final Site Plan release subject to the satisfaction of the Director of T&ES. (T&ES) *
47. Wall mounted obstructions excluding electric car chargers at the wall end of a parking space shall be no more than 24 inches extended from the wall and at least 48 inches from the garage floor. Areas with obstructions that exceed this requirement will not count as parking spaces. (T&ES) ****
48. Provide full curb to curb restoration for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street prior to Performance Bond release. (T&ES) ****
49. Provide these construction and maintenance details for non-standard emergency vehicle easement/landings in front of Building F prior to Final Site Plan release subject to the satisfaction of the Director of T&ES: (T&ES) *
 - a. Prioritize the selection of ground stabilized, permeable materials to the greatest extent possible.
 - b. Show any non-standard materials in the site plan and landscape plan sheets.
 - c. Confirm that the landing will not compromise any existing underground utilities.
 - d. Manufacturer's data sheets and specifications with engineering details describing the materials, installation method, loading capabilities (minimum 80,000 lbs.), and maintenance requirements.
 - e. A maintenance agreement with the abutting property owner(s) responsible for maintaining the landing.

50. Finalize street names and addresses for mail delivery (addressed per the front door) and for emergency services (addressed per street access) prior to Final Site Plan release. (P&Z) (T&ES) (GIS) *
51. Provide turning movement exhibits (one for each movement and one together) for vehicles entering and exiting the garage to demonstrating that the vehicles entering the garage will not touch the garage wall frame and vehicles exiting the garage will not encroach on the opposing traffic lane. (T&ES) *

B. TRANSPORTATION MANAGEMENT PLAN

52. Each DSUP shall contribute to the Citywide Transportation Management Plan (TMP) at the rate specified by the current TMP policy. Unless the upfront payment or partial upfront payment option is chosen as described below, payments are due once per year no later than September 30 for 30 years with rates adjusted annually for inflation based on the April-to-March Consumer Price Index change reported by the Bureau of Labor Statistics. (T&ES)
 - a. Projects that obtain their first Certificate of Occupancy prior to July 1, will have their first year of assessment in the current calendar year. Projects that obtain their first Certificate of Occupancy on July 1 or later will have their first year of assessment in the next calendar year.
 - b. A development may receive a 35% discount for paying the entire 30-year amount (unadjusted for inflation) prior to receipt of the first Certificate of Occupancy. Under this option, no further TMP payments are required. ***
 - c. A development may receive a 25% discount for paying one quarter of the entire 30-year amount (unadjusted for inflation) before receipt of the final Certificate of Occupancy and five standard subsequent payments over the next five years. The five annual payments will be made no later than September 30 each year. After these payments are made, no further TMP payments are required. ***
53. The applicant/owner may request permission to manage its own TMP fund subject to the approval of the Director of T&ES. The property must have achieved specific single occupancy vehicle targets for at least three years in a row, as specified in the current TMP policy, and have provided the City with detailed information about how the applicant/owner will manage the TMP for the development. Development would retain the annual TMP contributions and must spend it exclusively on transportation related activities approved by the Director of T&ES or designee. (T&ES)
54. Designate an on-site TMP Coordinator prior to the issuance of the first Certificate of Occupancy. Provide the name, address, email, and telephone number of the coordinator to the City's Mobility Services Division, updating this information annually or as needed. This person will be the City's point of contact for the development and will be responsible for paying invoices, coordinating with staff on TMP-related activities as needed. (T&ES) ***

III. PUBLIC WORKS

A. WASTEWATER/SANITARY SEWERS

55. Pay sewer connection fee in accordance with City Code § 5-6-25.1(a). (T&ES)
56. The project ties to Lower Backlick Run Sewer owned by Fairfax County. The applicant shall complete a capacity analysis of Fairfax County sewers up to a trunk sewer downstream that is 27 inches in diameter prior to final site plan release. The applicant shall provide sewer improvements where capacity deficiency is identified prior to receipt of the first Certificate of Occupancy. (T&ES)

B. UTILITIES

57. If the applicant does not have a franchise agreement with the City, locate all private utilities outside of the public right-of-way and public utility easements. (T&ES)
58. Underground all overhead power and communication lines fronting the development along S Van Dorn Street and onsite adjacent to Van Dorn except as noted in the preliminary site plan prior to the Performance Bond release with these revisions prior to Final Site Plan release to the satisfaction of the Director of T&ES. (T&ES): (T&ES) (Hotel) *, ****
 - a. Move southern poles out of the Van Dorn ROW onto private property; and
 - b. The northern poles may remain in the Courtney Avenue ROW and shall include a below- grade conduit stub out to the existing S. Van Dorn Street ROW.
59. Do not locate transformers and switch gears in the public right-of-way. (T&ES)
60. The City shall own and maintain all new fire hydrants on public streets. The applicant or their representative shall own, inspect, test, and maintain all hydrants on private streets. Install hydrants prior to issuance of the first Certificate of Occupancy. (T&ES) ***

IV. ENVIRONMENTAL

A. STORMWATER MANAGEMENT

61. The City of Alexandria's stormwater management regulations for water quality are: (1) state phosphorus removal requirement and (2) Alexandria Water Quality Volume Default. Complying with the state phosphorus reduction requirement does not relieve the applicant from the Alexandria Water Quality Default requirement. Treat the Alexandria Water Quality Volume Default, as determined by the site's post-development impervious area, in a Best Management Practice (BMP) facility. (T&ES) *
62. Provide a BMP narrative and complete pre- and post-development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance prior to Final Site Plan release. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils

otherwise. (T&ES) *

63. Design all stormwater (BMPs to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs, including site specific plan views, cross sections, planting plans, and complete design calculations for each BMP prior to Final Site Plan release. (T&ES) *
64. Groundwater from sump pumps may not be discharged into any stormwater BMPs. Sump pumps may discharge into a closed conduit system, provided the closed conduit system does not drain to a BMP and provide the closed conduit system and onsite Stormwater Management system have adequate capacity as coordinated with T&ES staff. (T&ES)
65. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees, prior to Final Site Plan release. (T&ES) *
66. All BMP's must be accessible for regular maintenance and inspections. The final building design must include access points and maintenance accessibility for the green roof and any other BMPs. Access to green roofs may be by a door on the same level as the green roof, an interior elevator, interior stairway with door through a penthouse, or by an alternating tread device with a roof hatch or trap door not less than 16 square feet in area and with a minimum dimension of 24 inches. Access to any portion of the green roof of other BMP shall not be solely through a private residence. (T&ES) (OCA)
67. Complete construction inspection checklists and associated photographic documentation for each stormwater BMP and detention facility. Submit all documents required by the City of Alexandria As-Built Stormwater Requirements including as-built plans, CAD data, BMP certifications, and completed construction inspection checklists prior to Performance Bond release. (T&ES) ****
68. Construct and install the stormwater BMPs required for this project under the direct supervision of the design professional or their designated representative. Submit a written certification from the design professional to the Director of T&ES prior to Performance Bond release certifying that the BMPs are: (T&ES) ****
 - a. Constructed and installed as designed and in accordance with the released Final Site Plan.
 - b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized.
69. Install descriptive signage for surface-installed stormwater BMPs (e.g., Bio-Retention Filters, Vegetated Swales) prior to the submission of As-Built Plans to the satisfaction of the Director of T&ES. (T&ES) ****
70. Submit the stormwater quality BMP and/or Stormwater Detention Facilities Maintenance Agreement to include the BMP Schedule and Guidelines Addendum with the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) *

71. The Applicant shall be responsible for maintaining stormwater Best Management Practices (BMPs) until activation of the homeowner's association (HOA), and/or master association, if applicable, or until sale to a private owner. Prior to transferring maintenance responsibility for the BMPs to the HOA, master association, and/or owner, the applicant shall: (T&ES) ****
 - a. Execute a maintenance service contract with a qualified private contractor for a minimum of three years, and transfer the contract to the HOA, master association, and/or owner.
 - b. Include a copy of the contract in the BMP Operation and Maintenance Manual.
 - c. Submit a copy of the maintenance contract to T&ES prior to Performance Bond release.

72. Provide the Homeowner's Association (HOA), and/or master association, with an Owner's Operation and Maintenance Manual for all on site BMPs. The manual shall include at a minimum: (T&ES)
 - a. An explanation of the functions and operations of the BMP(s),
 - b. Drawings and diagrams of the BMP(s) and any supporting utilities,
 - c. Catalog cuts on maintenance requirements including any mechanical or electrical equipment,
 - d. Manufacturer contact names and phone numbers,
 - e. A copy of the executed maintenance service contract, and
 - f. A copy of the maintenance agreement with the City.

73. Provide the Homeowners Association (HOA) with a brochure describing the stormwater BMP(s) installed on the site, outlining the responsibilities of the homeowners and the HOA, and/or master association, with respect to maintenance requirements. Upon activation of the HOA, the applicant shall furnish five copies of the brochure per unit to the HOA for distribution to subsequent homeowners. (T&ES)

74. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division prior to Performance Bond release. (T&ES) ****

75. Submit a certification by a qualified professional that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not affected adversely by construction operations prior to Performance Bond release to the satisfaction of the Director of T&ES. If maintenance of the facilities or systems were required to make this certification, describe the maintenance measures performed. (T&ES) ****

76. An overall stormwater management master plan will be required per the CDD. As blocks/phases are developed, the SWM master plan shall be updated concurrently before the release of any final site plan. (T&ES) *

B. WATERSHED, WETLANDS, & RPAs

77. Use standard city markers to mark all on-site stormwater curb inlets and public curb inlets within 50 feet of the property line to the satisfaction of the Director of T&ES. (T&ES)

78. For sites that contain marine clays, account for marine clay or highly erodible soils in the construction methodology and erosion and sediment control measures. (T&ES)

79. Provide Environmental Site Assessment Notes that delineate, map, describe, and/or explain these environmental features (if located on site): (T&ES)
- a. Individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams, and associated buffers,
 - b. Highly erodible and highly permeable soils,
 - c. Steep slopes greater than 15 percent in grade,
 - d. Known areas of contamination; springs, seeps, or related features, and
 - e. A listing of all wetlands permits required by law.
80. Prepare a Stormwater Pollution Prevention Plan with enhanced protective measures from site sources to the proximity of the RPA(s) to the project. (T&ES)

C. CONTAMINATED LAND

81. If required by the VDEQ Voluntary Remediation Program, a Site-Specific Health and Safety Plan (HASP) shall be submitted with each phase of the development. (T&ES)
82. If required by the VDEQ Voluntary Remediation Program, all non-hardscape areas (pervious) excluding the RPA within the site shall have 2 ft of clean fill and a geotextile cap. (T&ES)
83. If environmental site assessments or investigations discover the presence of additional contamination on site not evaluated in the VDEQ Voluntary Remediation Program, the Final Site Plan shall not be released, and no construction activity shall occur until these items have been submitted and approved by the Director of T&ES: (T&ES) *
- a. A Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
 - b. A Risk Assessment indicating any risks associated with the contamination.
 - c. A Remediation Plan detailing any contaminated soil and/or groundwater excluding the RPA. Describe the environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).
 - d. A Health and Safety Plan with measures to take during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment.
84. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the applicant must notify T&ES, Office of Environmental Quality immediately. Should unanticipated conditions warrant, stop construction within the affected area until the appropriate environmental reports identified in “a” through “d” above are submitted and approved at the discretion of the Director of T&ES. Include the preceding text as a note on the Final Site Plan. (T&ES) (Code) *

D. SOILS

85. Provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments prior to Final Site plan release.

(T&ES) *

E. NOISE

86. Submit a noise study identifying the noise levels that residents will be exposed to initially and 10 years into the future per the Noise Guidance Book used by the Department of Housing and Urban Development prior to the Final Site Plan release. (T&ES) *
87. If the noise study identified noise impacted areas, conduct a building shell analysis identifying ways to minimize noise and vibration exposure to future residents. Submit the building shell analysis and the noise commitment letter for review and approval prior to Final Site Plan release. (P&Z) (T&ES) *

V. CONSTRUCTION MANAGEMENT

88. Submit a construction phasing plan to the satisfaction of the Director of T&ES, for review, approval, and partial release of Erosion and Sediment Control for the Final Site Plan. Complete all the requirements of Zoning Ordinance Article XIII (Environmental Management) for quality improvement, quantity control, and the development of Storm Water Pollution Prevention Plan prior to the partial Final Site Plan release. (T&ES) *
89. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements: (P&Z) (T&ES) (Code)
 - a. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed, *
 - b. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction, *
 - c. Include an overall proposed schedule for construction, *
 - d. Include a plan for temporary pedestrian circulation, *
 - e. Include the location and size of proposed construction trailers, if any, *
 - f. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and *
 - g. Post copies of the plan in the construction trailer and give it to each subcontractor before they start work. ***
90. Provide off-street parking for all construction workers without charge and ensure that all workers use this parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall: (P&Z) (T&ES) *
 - a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit, *

- b. Post information on transit schedules and routes, *
 - c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
 - d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. If the violation is not corrected within five days, a "stop work order" will be issued, with construction halted until the violation has been corrected.
91. Include a chapter on maintaining pedestrian access within the Construction Management Plan. Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project. (T&ES) *
 92. Include a chapter on the waste control program in the Construction Management Plan. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. Dispose of all waste offsite per all applicable federal, state, and local laws. Provide documentation as required per the City's Green Building Policy and conditions therein. (T&ES) (Code) *
 93. Discuss construction staging activities with T&ES prior to the release of any permits for ground disturbing activities. No major construction staging shall be allowed within the public right-of-way. (T&ES) *
 94. Obtain additional City approvals for any structural elements that extend into the public right-of-way, including but not limited to footings, foundations, and tiebacks, from the Director of T&ES as a part of the Sheeting and Shoring permit. (T&ES) **
 95. Identify a Certified Land Disturber (CLD) in a letter to the Division Chief of Permits & Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets prior to Final Site Plan release. If the CLD changes during the project, then note that change in a letter to the Division Chief. (T&ES) *
 96. Conduct an in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any permits are issued. (P&Z) (T&ES) **
 97. To the extent the City establishes a quarterly community meeting for the purpose of providing updates on the status of construction projects in the West End, the applicant shall participate in such meetings or provide written updates to City staff while the project is under substantial construction. Such updates may be provided in coordination with meetings hosted by the City. (P&Z)
 98. Hold an in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z project planner prior to

starting work. (P&Z)

99. Identify a community liaison throughout the construction. Provide their name and telephone number, including an emergency contact number, to residents, property managers, and business owners whose property abuts the site, to the satisfaction of the Directors of P&Z and T&ES. Install a temporary informational sign prior to Final Site Plan release with the community liaison's name and contact information. Display the sign until construction finishes. (P&Z) (T&ES) *, ***
100. Temporary construction and/or on-site sales trailer(s) are permitted and subject to the approval of the Directors of P&Z and Code Administration. Remove the trailer(s) prior to the issuance of the final Certificate of Occupancy. (P&Z) (Code) ***
101. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when below-grade construction reaches the proposed finished grade. Ensure the wall check shows: (P&Z) **
 - a. Key dimensions of the building as shown on the approved Final Site Plan,
 - b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
 - c. Extent of any below-grade structures,
 - d. Foundation wall in place, and
 - e. Future face of finished wall above.
102. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when the building reaches the proposed finished grade. Ensure each wall check shows: (P&Z) **
 - a. Key dimensions of the building as shown on the approved Final Site Plan,
 - b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
 - c. Extent of any below-grade structures,
 - d. Foundation wall in place, and
 - e. Future face of finished wall above.
103. Submit a stamped electronic copy of an as-built development site plan survey, per the *As-Built Development Site Plan Survey Checklist* prior to applying for a Certificate of Occupancy permit. A registered architect, engineer, or surveyor shall prepare the as-built plan. Include a note stating that the height was calculated based on all applicable provisions of the Zoning Ordinance. (P&Z) (T&ES) ***
104. If outstanding performance, completion, or other bonds for the benefit of the City are in effect for the property at such time as it may be conveyed or sold to a party other than the applicant, a substitute bond and associated documents must be provided by that party or, in the alternative, an assignment or other documentation from the bonding company indicating that the existing bond remains in effect despite the change in ownership may be provided. The bond(s) shall be maintained until such time that all requirements are met, and the bond(s) released by the City. (T&ES) ****

VI. CONTRIBUTIONS

105. Contribute \$3,543,736 to the City’s Housing Trust Fund based on this payment schedule:

- i. \$379,232 for the hotel;
- ii. \$1,428,846 for the condo flats;
- iii. \$1,136,952 for the stacked townhouses; and
- iv. \$598,706 for the townhouses.

- a. Monetary contributions to the Housing Trust Fund shall be recalculated at the time of future extension requests, if any, consistent with the CDD #2023-0004 conditions of approval.
- b. Make all payments to the City of Alexandria and submit them to the Office of Housing with a cover letter to include the project name, case number, and explanation of the contribution amount, if phased. Each payment shall be made prior to the first Certificate of Occupancy for each respective building type listed above i.-iv. (Housing) ***

106. Pursuant to the Eisenhower West/Landmark Van Dorn Implementation Developer Contributions Policy, a contribution is required to the Eisenhower West/Landmark Van Dorn Implementation Fund. Based on the formula adopted by City Council in 2018, the contribution amount is as follows:

- a. \$3.45 (2023\$) (Catalyst rate) per net square foot of development for this DSUP approval, excluding square footage achieved through the application of Section 7-700 of the Zoning Ordinance;
- b. Contribution rates are subject to an annual escalation clause equivalent to the CPIU for the Washington Metro area. Contribution rates will be recalculated in January of each year. The final contribution amount shall be calculated and verified by the Neighborhood Planning and Community Development Division of the Department of Planning and Zoning at the time of Certificate of Occupancy. All contributions shall be made via wire transfer to the City of Alexandria. Instructions will be provided by Planning and Zoning staff prior to the time of deposit. Wire transfer documentation must include the source name, receiving department name (Planning & Zoning), applicable fund reference code and the condition number being fulfilled. Payments shall be made prior to the release of the first certificate of occupancy.
- c. Total contribution is in Park DSUP Condition #497.

VII. PUBLIC ART

107. Work with City Staff to incorporate on-site public art elements or provide an equivalent monetary contribution for public art within the Small Area Plan per the City’s Public Art Policy, adopted December 13, 2014, to the satisfaction of the Directors of P&Z and RP&CA. (P&Z) (RP&CA)

108. Identify the location, type, and goals for public art in the Final Site Plan. Select the artist, finalize locations and medium, and provide a schedule for the art installation prior to Final

Site Plan release. (P&Z) (RP&CA) *

109. Install any on-site art prior to issuance of the first Certificate of Occupancy, to the satisfaction of the Directors of P&Z and/or RP&CA. (P&Z) (RP&CA) ***
110. The in-lieu contribution shall be \$0.30 per gross square foot, with a maximum contribution of \$75,000 per building prior to issuance of the first Certificate of Occupancy. On-site public art shall be of an equivalent value to the contribution. (P&Z) (RP&CA) ***

VIII. USES AND SIGNS

A. RETAIL/COMMERCIAL

111. The applicant/owner may designate a limited number of condominium units for short-term rentals, as defined by §3-2-141 of the Code of Ordinances, provided that the number of short-term rental apartments or individuals renting those apartments does not meet the definition of a hotel per §2-161 of the Zoning Ordinance, which would require a change of use application. (P&Z)

B. SIGNAGE

112. Incorporate and interpret elements of site environmental features (e.g., innovative stormwater facilities and plantings) into the design of the public realm in consultation with Staff. Provide text, graphics, and materials for interpretive elements prior to Final Site Plan release subject to approval by the Directors of P&Z, RP&CA, and the Climate Action Officer of OCA. Install the interpretative elements prior to issuance of the Certificate of Occupancy. (P&Z) (T&ES) (RP&CA) (OCA) *, ***

C. DISCLOSURE REQUIREMENTS

113. Incorporate these elements in the Condominium/Homeowner's Association (HOA) documents to retain trees proposed to be saved: (P&Z)
 - a. Require property owners to sign a disclosure statement acknowledging the presence and required protection of the trees.
 - b. Retain the trees depicted as protected on the released Final Site Plan unless the City Arborist permits removal of any due to the health and safety of the tree.
 - c. Require unanimous approval by the Condominium/HOA and a site plan amendment to remove a tree designated as protected on the Final Site Plan.
 - d. Comply with other restrictions deemed necessary by the City Attorney
114. Submit all condominium association covenants for review and approval by the Director of P&Z and the City Attorney prior to applying for the first Certificate of Occupancy. Include the conditions listed below in a dedicated section of the association covenants. The language shall establish and state that these conditions cannot be changed except by an amendment to this DSUP approved by the City Council. (P&Z) (T&ES) (City Attorney) ***
 - e. The principal use of the underground garage and parking spaces shall be for passenger vehicles garaged at the address; storage which interferes with the use of a parking space for a motor vehicle is not permitted.

- f. All landscaping and open space areas within the development shall be maintained by the Condominium/Homeowner's Association.
 - g. Obtain approval for any exterior building improvements or changes from the City, as determined by the Director of P&Z.
 - h. Develop a noise control by-law to control noise levels in the development and resolve noise issues between neighboring occupants and disclose this by-law to all involved at the time of sale or lease agreement.
 - i. Inspect and maintain stormwater facility BMPs to ensure proper functioning.
 - j. Road G is a private street with public access easement with maintenance performed by the Condominium/Homeowner's Association including maintenance for the sanitary and storm sewers located within the site.
115. Furnish each prospective buyer with a statement disclosing the prior history of the former Vulcan Materials Company site including previous environmental conditions and on-going remediation measures. Disclose this information to the satisfaction of the Director of T&ES. (T&ES)
116. Disclose to potential buyers the items listed below to the satisfaction of the Director of P&Z and the City Attorney: (P&Z) (T&ES) (City Attorney)
- a. Heavy industrial uses, the Virginia Paving and Heavy Railroad Track are within the immediate vicinity of the project, are permitted to continue indefinitely, and will generate truck traffic, including empty garbage trucks emanating odors, on the public streets surrounding the project.
 - b. Road G is a private street with public access easement with maintenance performed by the Condominium/Homeowner's Association including maintenance for the sanitary and storm sewers located within the site.
 - c. S Van Dorn Street is a major arterial and future traffic is expected to increase significantly as development along S Van Dorn Street continues. (P&Z) (T&ES)
 - d. That this property is along the planned route for the future West End Transitway, which will run along Beauregard Street and Van Dorn Street in an approximately east/west direction.
 - e. Implementing each Transitway corridor may require widening City right-of-way to accommodate related infrastructure.
 - f. Planning and approvals required for development parcels will require (as applicable) compliance with Small Area Plans, including but not limited to dedication of right-of-way for roadway expansion to accommodate Transitway infrastructure, construct streetscape enhancements, and provide for any other frontage improvements.
 - g. The open space along Backlick Run is a Resource Protection Area and has limited uses permitted within it. Potential buyers should refer to <https://www.alexandriava.gov/stormwater-management/resource-protection-areas-rpas> for allowable uses within the RPA.
 - h. Historic land use, prior to remediation this site's location was used as a storage yard for Vulcan Materials Company, an industrial producer of construction aggregates. Environmental site assessments and remediation measures were performed to ensure that the site presents no unacceptable risk for future residents.

XI. STAFF RECOMMENDATIONS – DSUP#2023-10013 (HOTEL)

117. The Final Site Plan shall conform substantially with the preliminary plan dated December 21, 2023, and comply with the following conditions of approval.

I. SITE PLAN

118. Per § 11-418 of the Zoning Ordinance, the development special use permit shall expire and become null and void, unless the applicant commences substantial construction of the project within 60 months after initial approval and the applicant thereafter pursues such construction with due diligence. The applicant shall provide a written status report to Staff 18 months after initial approval to update the City Council on the project status if they have not yet commenced substantial construction. The applicant may petition to extend the validity period after adequate notice and a public hearing. (P&Z)

119. Submit the plats and associated deeds for all applicable easements, dedications, and subdivisions per the Preliminary Plan dated December 21, 2023, with the first Final Site Plan. The applicant must obtain approval of the plat(s) prior to or concurrent with the Final Site Plan release. Provide proof of recordation with the first application for a building permit. (P&Z) (T&ES) (RP&CA) *, **

a. Provide public easements to the satisfaction of the Directors of P&Z and T&ES. Easements shall be consistent with the preliminary site plan.

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

120. Property rights to be conveyed by easement to the City may instead be conveyed by dedication (fee simple) to the City subject to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES)

121. Show site utilities compatibly with other conditions on the site plan to the satisfaction of the Directors of P&Z, T&ES prior to Final Site Plan release, specifically: (P&Z) (T&ES)
*

a. Locating above grade service openings and required clearances for items such as transformers, telephone, HVAC units, and cable boxes.

b. Minimizing conflicts with plantings, pedestrian areas, and major view sheds.

c. Excluding above grade utilities from dedicated open space areas and tree wells.

d. Screening all utilities from the public right-of-way, accommodating Dominion requirements.

122. Provide a lighting plan with the Final Site Plan, unless otherwise identified below, to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of P&Z, T&ES, Code, and the Climate Action Officer of OCA and shall include: (P&Z) (T&ES) (OCA) (Code) *

- a. The location of all existing and proposed streetlights and site lights, shading back less relevant information.
 - b. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
 - c. A photometric plan with lighting calculations encompassing all existing and proposed streetlights and site light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way.
 - d. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
 - e. The numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.
 - f. Full cut-off lighting as applicable to prevent light spilling onto adjacent properties. Provide a plan distinguishing between the site with all streetlights and other pertinent off-site lighting and the site without streetlights and off-site lighting to demonstrate how the plan complies with § 13-1-3 light spill regulations.
 - g. Additional lighting to achieve City standards if existing lighting within the City right-of-way adjacent to the site does not meet the minimum standards.
 - h. Basic, approved Dominion LED light fixtures for all proposed light fixtures in the City right-of-way.
 - i. All site lights designed to meet City of Alexandria photometric standards shall have photovoltaic switches.
 - j. The location of conduit routing between site lighting fixtures to avoid conflicts with street trees.
 - k. Details indicating proposed light pole and footings relative to the adjacent grade and pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
 - l. An average of 5.0-foot candle-maintained lighting for underground/structured parking garages. When unoccupied, the lighting may turn off and on using motion sensors. Without motion sensor lighting, unoccupied lighting levels may be no less than 1.5-foot candles. **
 - m. Light fixtures for the open canopies and underground/structured parking garages shall be recessed, flush-mounted, or otherwise shielded to provide downward-directed light into the ceiling for any areas visible from the public right-of-way. **
123. Provide a georeferenced CAD file in AutoCAD 2018.dwg or greater format that adheres to the National CAD Standards prior to Final Site Plan release. The file shall have the dimension plan including existing conditions, proposed conditions, and grading elements. (P&Z) (DPI) (GIS) *
 124. Sheeting and shoring, support of excavation shall not extend beyond the property line, except when the applicant has obtained a written release or encroachment from adjacent private/non-City property owners which has been reviewed prior to Final Site Plan release and recorded in the Land Records. (P&Z) (Code) *
 125. The hotel owner shall enter into a memorandum of understanding with the Homeowners Association/Condominium Association(s) associated with DSUP #2023-10007 and DSUP #2023-10014 to allow these associations to use the hotel meeting room(s) up to once per

month for free or at cost for their regular meetings and to cover any common maintenance needs (e.g., private roadways). (P&Z)

A. BUILDING

126. Provide a building code analysis with these building code data prior to Final Site Plan release: (1) use group, (2) number of stories, (3) type of construction, (4) total floor area per floor, (5) height of structure, (6) non-separated or separated mixed use, (7) fire protection system requirements, and (8) accessible routes. (P&Z) (Code) *
127. The building design, including the appearance, color, and quality of materials; final detailing; three-dimensional expression; and depth of all plane changes, shall be consistent with the elevations dated December 21, 2023, and the following conditions. Provide this information regarding materials and design to the satisfaction of the Director of P&Z prior to Final Site Plan release: (P&Z) (Code) (OCA) *
 - a. Samples of actual window glazing, frame, and sash components proposed for each area of the building in the color and material that will be provided (may reduce sample sizes for ease in handling). **
 - v. Window sizes and types.
 - vi. Window mullion dimensions and projection in front of face of glass.
 - vii. Window frame, sash, and mullion materials.
 - viii. If any windows visible from a public park or right-of-way are shown as simulated divided light type, then they shall include between the glass spacer bars aligned with exterior muntins; any such exterior muntins shall project not less than 3/8 inch beyond the face of glass and be reflected in the window samples provided. Grills located between the glass will not be supported.
 - b. Where fiber cement façade panels are permitted, they shall not use a wrap-around trim for mounting to the substructure but may use either a batten system to conceal the joints or a rainscreen type installation. If exposed fasteners are proposed, they may be either concealed or if exposed, shall be finished to match the adjacent panels and their location integrated into the overall design.
 - c. The underside of all balconies shall be finished and present a visually cohesive appearance with paint matching the building or soffit material.
 - d. Coordinate the design, color, and materials of all penthouses, rooftop mechanical areas, and rooftop screening with the overall architecture of the building, as regards massing, materials, and detailing/expression. Flat roof surfaces must be light-colored with green roofs encouraged as an alternative.
 - e. For the hotel and high-visibility facades for townhouses and stacked townhouses, where dissimilar materials meet, they must typically meet at an interior corner; where that is not possible, such transitions shall occur at a significant plane change or reveal, or as otherwise shown on the DSUP.
128. Provide detailed drawings in realistic colors to permit evaluation of key building elements such as the building base, elevation types, entrances, entry canopy, stoops, windows,

balconies, railings, cornices, and other ornamental elements, and material details including the final detailing, finish, and color of these elements prior to Final Site Plan release. (P&Z) *

- a. The drawings shall be enlarged and coordinated plan-section-elevation studies, typically at 1/4" = 1'-0" scale, with shadows cast at 45 degrees from both left and above to show true depth of recesses and projections.
 - b. Separate design drawings shall be submitted for each primary building typology, different wall, or bay type.
 - c. When warranted by the three-dimensional complexity of the design, the applicant shall provide isometric vignettes of special conditions or building areas to the satisfaction of the Director of P&Z.
 - d. All structures must remain within the property (e.g., balconies, railings, and canopies), unless permitted under the City of Alexandria Code or an encroachment has been obtained.
129. Provide the items listed below to allow Staff to review the materials, finishes, and architectural details. These materials shall conform substantially to the preliminary plan and the current *Guidelines for Preparation of Mock-Up Panels*, Memo to Industry effective at application submission. (P&Z) (Code)
- a. Prior to ordering final building materials, provide a materials board that includes all proposed materials and finishes at first Final Site Plan. The materials board shall remain with P&Z until the issuance of the final Certificate of Occupancy, when Staff will return all samples to the applicant. (P&Z) *, ***
 - b. Staff may request more detailed/extensive materials relating to the proposed fenestration, such as samples of the glazing, frame, and sash components, and including whether the windows will be double-or-triple glazed and have simulated divided lights. **
 - c. Materials may be modified or substituted only if in substantial conformance with the Preliminary Site Plan approval and to the satisfaction of the Director of P&Z. *
 - d. Drawings of mock-up panel(s) that depict all proposed materials, finishes, and relationships as part of the first Final Site Plan. *
 - e. An on-site mock-up panel using the approved materials, finishes, and relationships shall be constructed for Staff review and approval. Per VCC108.2 concrete or masonry mock-up panels exceeding 6-ft. require a building permit. The panel(s) shall be constructed and approved prior to vertical (above-grade) construction and before ordering building materials. Locate the panel so that it receives sunlight from the same predominant direction as will the finished structure. **
 - f. The mock-up panel shall remain on-site, in the same location, and visible from the right-of-way without entering the site throughout construction until the issuance of the first Certificate of Occupancy. ***
130. The applicant may provide a usable roof deck with amenities such as an open and/or enclosed bar/restaurant per Exhibit D with the Final Site Plan submission with the final design to the satisfaction of the Director of P&Z. (P&Z) *
131. Prior to receiving a building permit for any building within Block A, begin construction of the pedestrian and cyclist bridge per DSP #2023-00014. (P&Z) **

B. OPEN SPACE/LANDSCAPING

- 132. Develop a palette of site furnishings for review and approval by Staff prior to Final Site Plan release. (P&Z) (T&ES) *
- 133. Provide material, finishes, and architectural details for all retaining, seat, decorative, and screen walls prior to Final Site Plan release. Indicate methods for grade transitions, handrails, directional changes, and above and below-grade conditions. Coordinate with adjacent site and building conditions. The design and construction of all walls shall be to the satisfaction of the Directors of P&Z, T&ES, and Code. (P&Z) (T&ES) (Code) *

C. ARCHAEOLOGY

- 134. Call Alexandria Archaeology immediately at 703.746.4399 if you discover any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts during development. Cease work in the discovery area until a City archaeologist inspects the site and records the finds. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *
- 135. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, or allow independent parties to collect or excavate artifacts, unless authorized by Alexandria Archaeology. Failing to comply shall result in project delays. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *

D. PEDESTRIAN/STREETSCAPE

- 136. Provide the pedestrian improvements listed below to the satisfaction of the Directors of P&Z and T&ES. Complete all pedestrian improvements prior to the issuance of the final Certificate of Occupancy. (P&Z) (T&ES) ***
 - a. Install ADA accessible pedestrian improvements serving the site.
 - b. Construct all sidewalks to City standards. The minimum unobstructed width of all newly constructed sidewalks shall be six feet or as otherwise shown on DSUP.
 - c. Sidewalks must comply with the City's Complete Streets Design Guidelines.
 - d. Sidewalks shall be flush across all driveway crossings.
 - e. All newly constructed curb ramps shall be concrete with detectable warning and shall conform to current VDOT standards.
 - f. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street.
 - g. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development.
 - h. All crosswalks shall be standard, 6 inches wide, white thermoplastic parallel lines with reflective material, with 10 feet in width between interior lines. High-visibility crosswalks [white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)] may be required as directed by staff at Final Site Plan. Alternative crosswalk treatments must be approved by the Director of T&ES.

- i. Install audible pedestrian countdown signals and pedestrian activated pushbuttons in accordance with City Standards. All pedestrian-activated push buttons shall be accessible per ADA Accessibility Guidelines.
- j. All below grade utilities placed within a City sidewalk shall be integrated with the adjacent paving materials and to minimize any visible impacts.
- k. The final design of the pedestrian area adjacent to the Hotel's loading and garage entrances shall be determined during review of the Final Site Plan to the satisfaction of the Director of T&ES. More specifically, the Applicant shall study and provide the following elements, which shall be incorporated into its design. *
 - i. Curb radii
 - ii. Signage: both advanced warning (i.e., flashing); and, standard, as per MUTCD/AASHTO/Complete Street's Design Guideline Standards.
 - iii. Bollards: lighted and non-lighted
 - iv. Pavement markings

E. PARKING

- 137. Provide a Parking Management Plan with the Final Site Plan submission that complies with the requirements of the Parking Management Plan Template provided in Memo to Industry 01-19. The Departments of P&Z and T&ES must approve the Parking Management Plan prior to the Final Site Plan release. (P&Z) (T&ES) *
- 138. The valet parking operation may be subject to review by the Directors of P&Z and T&ES as needed to determine compliance with conditions of approval, codes, and ordinances, and to adjust features to mitigate community impacts. (P&Z) (T&ES)
 - a. The valet operator shall record the number of vehicles using the service and share this log with the City upon request for City parking studies.
 - b. Double-parking, staging within the right-of-way, and/or storing vehicles in locations other than designated facilities indicate that the valet operator has insufficient staff for the vehicle volumes. If any of these circumstances exist, then the operator must submit a plan to remedy them for review and approval by the Directors of P&Z and T&ES.
 - c. If reviews demonstrate the need for additional parking, then the applicant shall secure agreement(s) with nearby off-site parking to accommodate overflow vehicles. Valet parking charges shall be the same at all on- and off-site parking locations used by the operation.
- 139. Share daily parking occupancy, including counts of entries and exits for parking facilities for weekdays and weekends, annually with the City upon request. (T&ES)
- 140. The applicant may make garage parking spaces, which are required to comply with zoning requirements, available for public/off-site users if the applicant can demonstrate excess parking to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (TE&S)
- 141. Provide bicycle parking per current Bicycle Parking Standards, available at: www.alexandriava.gov/bicycleparking. (T&ES) *, ***

- a. Include details on the locations and types of bicycle parking prior to Final Site Plan release. Install bicycle parking prior to the issuance of the first Certificate of Occupancy.
 - b. Provide signage, striping, or other means to direct people to any indoor or covered bicycle parking areas within the private property. Show the proposed signage, etc. prior to release of the Final Site Plan and install the signage, etc. prior to issuance of the Final Certificate of Occupancy.
142. Provide signage, striping, or other means to prevent parking in emergency vehicle easement(s) prior to Final Site Plan release, to the satisfaction of the Director of T&ES. (T&ES) *
143. Provide electric vehicle chargers for at least five percent of the required parking spaces, consisting of Level 2 and/or Level 3 DC Fast Chargers rounded up to the next whole number parking space. (OCA) ***
144. At least 50 percent of the required off-street parking spaces shall be electric vehicle charger ready per these requirements: (OCA) ***
- a. Size and install the conduit correctly based on the number and location of future chargers. A combination of Level 2 and/or DCFCs may be used; based on the estimated demand for charging and planned usage.
 - b. Label parking space location junction box for the future electric vehicle charger.
 - c. Provide available physical space within the utility closet for future cabinetry required to add vehicle chargers to the electrical panel.
 - d. Additional conduit does not need to account for transformer sizing.
 - e. EV chargers may encroach in the required parking space dimension.
145. Instead of Conditions 143 and 144, the applicant shall have this option. Install at least one publicly accessible electric vehicle DC Fast Charger (Level 3), prior to issuance of the final Certificate of Occupancy. The Level 3 charger space(s) would not be in addition to the off-street parking required under the Zoning Ordinance. If one charger is not feasible at the project site, the applicant may work with city staff to identify an alternative suitable location in the city. (OCA) ***
146. Update parking counts on the cover sheet to state the number of electric vehicle charger and electric vehicle charger ready parking spaces, show the location of these spaces, and detail the signage, striping, or similar used to direct people to these spaces prior to Final Site Plan release. Install the signage for charger spaces when the charger is installed and operational, etc. prior to release of the final Certificate of Occupancy. (OCA) *, ***

F. SUSTAINABILITY

147. The project shall comply with the requirements of the City of Alexandria Green Building Policy that is in effect at the time of DSUP approval. (OCA) *, **, ***, ****
148. The applicant may propose additional sustainability strategies to the satisfaction of the Directors of P&Z and the Climate Action Officer of OCA. (P&Z) (OCA) *, **, ***, ****
149. The applicant shall provide these items to comply with the Green Building Policy at first

Final Site Plan: (OCA) *

- a. Evidence of the project's registration with LEED Silver v.4, Green Globes, EarthCraft, NGBS, or equivalent.
- b. A copy of the draft certification scorecard which indicates the project will meet the required performance points as outlined in the Green Building Policy for LEED, Green Globes, EarthCraft, NGBS, or equivalent.

150. The applicant shall provide these items to comply with the Green Building Policy with the Building Permit: (OCA) **

- a. An updated copy of the draft certification scorecard/checklist prior to building permit release for above-grade construction for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
- b. A draft commissioning plan and verification, if required by the Green Building Rating System and the building code, from a certified third-party reviewer that includes items "i" through "iii" below, prior to receiving building permits for above-grade construction.
 - iv. A narrative describing the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
 - v. A listing of the specific equipment, appliances, or systems to be tested and a description of the tests to be performed, to include, but are not limited to, calibrations and economizer controls, conditions under which the test will be performed. Testing shall affirm winter and summer design conditions and full outside air conditions.
 - vi. Measurable criteria for performance; the plan should match the project's submitted plans and sustainability certification scorecard.
- c. Water efficiency and indoor environmental quality documentation for the priority performance points in the Green Building Policy prior to building permit release for above-grade construction for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.

151. The applicant shall provide these items to comply with the Green Building Policy at First and Final Certificates of Occupancy: (OCA) ***

- a. Evidence that design phase credits (for the certifying party) have been submitted by Temporary Certificate of Occupancy for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
- b. A commissioning report verified by a certified, third-party reviewer, including issues log, completed pre-function checklists, and any completed functional performance tests to match scorecard and approved permit plans prior to issuance of the final Certificate of Occupancy.
- c. Evidence showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for Design

Phase credits for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.

- d. If the project fails to achieve the required certification level and priority performance points, then demonstrate a good faith, reasonable, and documented effort to achieve the certification level to the satisfaction of the Climate Action Officer.
152. The applicant shall provide the following to comply with the Green Building Policy at Release of Performance Bond: (OCA) ****
- a. Documentation of applicable green building certification showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
153. Demonstrate that the roof(s) are solar ready, with the necessary conduit and available electrical panel area to enable future solar panel installation, on the Final Site Plan. (OCA) *
154. At the first Final Site Plan for the hotel, the building will include electricity with the following exceptions where gas elements are necessary: kitchens, food and beverage uses, make-up air units, energy recovery units, water heaters, boilers, commercial dryers, lobby fireplace, emergency backup generators, package rooftop unit HVAC units, and fire pits on the third-floor exterior patio and 12th floor. If using gas for accessory elements such as the lobby fireplace and firepits, then they must be controlled with automated, or occupancy sensors, or timers, or scheduled controls not to exceed two hours, or other technology to prevent the accessory element from using natural gas when not being used by an occupant of the building. (OCA) *

II. TRANSPORTATION

A. STREETS/TRAFFIC

155. Repair any of the City's existing public infrastructure that construction damages per the most recent version of the T&ES Design and Construction Standards Memo to Industry 23-01, or to the satisfaction of Director of T&ES, prior to Performance Bond release. (T&ES) ****
156. Conduct a pre-construction walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration Staff to document existing conditions prior to Final Site Plan release. (T&ES) (Code) *
157. Mark all private street signs that intersect a public street with a fluorescent green strip to notify the plowing crews, both City and contractor, that they are not to plow those streets, prior to the issuance of the first Certificate of Occupancy. (T&ES) ***
158. Slopes on parking ramps to garage entrances and exits shall not exceed 15 percent. For slopes 10 percent or greater, provide trench drains connected to a storm sewer to eliminate or diminish the possibility of ice forming. The slope on a ramp with parking or used for egress shall not exceed 6.5 percent. For non-parking ramps with slopes of 10 percent and greater, provide a minimum of 10 feet in length transition slopes at the top and bottom of

the ramp. The transition slope shall be half the difference in slope between two adjacent sections. Provide final design prior to Final Site Plan release subject to the satisfaction of the Director of T&ES. (T&ES) *

159. Wall mounted obstructions excluding electric car chargers at the wall end of a parking space shall be no more than 24 inches extended from the wall and at least 48 inches from the garage floor. Areas with obstructions that exceed this requirement will not count as parking spaces. (T&ES) ****
160. Provide full curb to curb restoration for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street prior to Performance Bond release. (T&ES) ****
161. Finalize street names and addresses for mail delivery (addressed per the front door) and for emergency services (addressed per street access) prior to Final Site Plan release. (P&Z) (T&ES) (GIS) *
162. Provide turning movement exhibits (one for each movement and one together) for vehicles entering and exiting the garage to demonstrating that the vehicles entering the garage will not touch the garage wall frame and vehicles exiting the garage will not encroach on the opposing traffic lane. (T&ES) *

B. TRANSPORTATION MANAGEMENT PLAN

163. Each DSUP shall contribute to the Citywide Transportation Management Plan (TMP) at the rate specified by the current TMP policy. Unless the upfront payment or partial upfront payment option is chosen as described below, payments are due once per year no later than September 30 for 30 years with rates adjusted annually for inflation based on the April-to-March Consumer Price Index change reported by the Bureau of Labor Statistics. (T&ES)
 - a. Projects that obtain their first Certificate of Occupancy prior to July 1, will have their first year of assessment in the current calendar year. Projects that obtain their first Certificate of Occupancy on July 1 or later will have their first year of assessment in the next calendar year.
 - b. A development may receive a 35% discount for paying the entire 30-year amount (unadjusted for inflation) prior to receipt of the first Certificate of Occupancy. Under this option, no further TMP payments are required. ***
 - c. A development may receive a 25% discount for paying one quarter of the entire 30-year amount (unadjusted for inflation) before receipt of the final Certificate of Occupancy and five standard subsequent payments over the next five years. The five annual payments will be made no later than September 30 each year. After these payments are made, no further TMP payments are required. ***
164. The applicant/owner may request permission to manage its own TMP fund subject to the approval of the Director of T&ES. The property must have achieved specific single occupancy vehicle targets for at least three years in a row, as specified in the current TMP policy, and have provided the City with detailed information about how the applicant/owner will manage the TMP for the development. Development would retain the

annual TMP contributions and must spend it exclusively on transportation related activities approved by the Director of T&ES or designee. (T&ES)

165. Designate an on-site TMP Coordinator prior to the issuance of the first Certificate of Occupancy. Provide the name, address, email, and telephone number of the coordinator to the City's Mobility Services Division, updating this information annually or as needed. This person will be the City's point of contact for the development and will be responsible for paying invoices, coordinating with staff on TMP-related activities as needed. (T&ES) ***

III. PUBLIC WORKS

A. WASTEWATER/SANITARY SEWERS

166. Pay sewer connection fee in accordance with City Code § 5-6-25.1(a). (T&ES)
167. The project ties to Lower Backlick Run Sewer owned by Fairfax County. The applicant shall complete a capacity analysis of Fairfax County sewers up to a trunk sewer downstream that is 27 inches in diameter prior to final site plan release. The applicant shall provide sewer improvements where capacity deficiency is identified prior to receipt of the first Certificate of Occupancy. (T&ES)

B. UTILITIES

168. If the applicant does not have a franchise agreement with the City, locate all private utilities outside of the public right-of-way and public utility easements. (T&ES)
169. Underground all overhead power and communication lines fronting the development along S Van Dorn Street and onsite adjacent to Van Dorn except as noted in the preliminary site plan prior to the Performance Bond release with these revisions prior to Final Site Plan release to the satisfaction of the Director of T&ES. (T&ES): (T&ES) (Hotel) *, ****
- a. Move southern poles out of the Van Dorn ROW onto private property; and
 - b. The northern poles may remain in the Courtney Avenue ROW and shall include a below- grade conduit stub out to the existing S. Van Dorn Street ROW.
170. Do not locate transformers and switch gears in the public right-of-way. (T&ES)
171. The City shall own and maintain all new fire hydrants on public streets. The applicant or their representative shall own, inspect, test, and maintain all hydrants on private streets. Install hydrants prior to issuance of the first Certificate of Occupancy. (T&ES) ***

IV. ENVIRONMENTAL

A. STORMWATER MANAGEMENT

172. The City of Alexandria's stormwater management regulations for water quality are: (1) state phosphorus removal requirement and (2) Alexandria Water Quality Volume Default. Complying with the state phosphorus reduction requirement does not relieve the applicant from the Alexandria Water Quality Default requirement. Treat the Alexandria Water

Quality Volume Default, as determined by the site's post-development impervious area, in a Best Management Practice (BMP) facility. (T&ES) *

173. Provide a BMP narrative and complete pre- and post-development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance prior to Final Site Plan release. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. (T&ES) *
174. Design all stormwater (BMPs to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs, including site specific plan views, cross sections, planting plans, and complete design calculations for each BMP prior to Final Site Plan release. (T&ES) *
175. Groundwater from sump pumps may not be discharged into any stormwater BMPs. Sump pumps may discharge into a closed conduit system, provided the closed conduit system does not drain to a BMP and provide the closed conduit system and onsite Stormwater Management system have adequate capacity as coordinated with T&ES staff. (T&ES)
176. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees, prior to Final Site Plan release. (T&ES) *
177. All BMP's must be accessible for regular maintenance and inspections. The final building design must include access points and maintenance accessibility for the green roof and any other BMPs. Access to green roofs may be by a door on the same level as the green roof, an interior elevator, interior stairway with door through a penthouse, or by an alternating tread device with a roof hatch or trap door not less than 16 square feet in area and with a minimum dimension of 24 inches. (T&ES) (OCA)
178. Complete construction inspection checklists and associated photographic documentation for each stormwater BMP and detention facility. Submit all documents required by the City of Alexandria As-Built Stormwater Requirements including as-built plans, CAD data, BMP certifications, and completed construction inspection checklists prior to Performance Bond release. (T&ES) ****
179. Construct and install the stormwater BMPs required for this project under the direct supervision of the design professional or their designated representative. Submit a written certification from the design professional to the Director of T&ES prior to Performance Bond release certifying that the BMPs are: (T&ES) ****
 - a. Constructed and installed as designed and in accordance with the released Final Site Plan.
 - b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized.

180. Install descriptive signage for surface-installed stormwater BMPs (e.g., Bio-Retention Filters, Vegetated Swales) prior to the submission of As-Built Plans to the satisfaction of the Director of T&ES. (T&ES) ****
181. Submit the stormwater quality BMP and/or Stormwater Detention Facilities Maintenance Agreement to include the BMP Schedule and Guidelines Addendum with the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) *
182. The Applicant shall be responsible for maintaining stormwater Best Management Practices (BMPs) until activation of the homeowner's association (HOA), and/or master association, if applicable, or until sale to a private owner. Prior to transferring maintenance responsibility for the BMPs to the HOA, master association, and/or owner, the applicant shall: (T&ES) ****
 - a. Execute a maintenance service contract with a qualified private contractor for a minimum of three years, and transfer the contract to the HOA, master association, and/or owner.
 - b. Include a copy of the contract in the BMP Operation and Maintenance Manual.
 - c. Submit a copy of the maintenance contract to T&ES prior to Performance Bond release.
183. Provide the Homeowner's Association (HOA), and/or master association, with an Owner's Operation and Maintenance Manual for all on site BMPs. The manual shall include at a minimum: (T&ES)
 - a. An explanation of the functions and operations of the BMP(s),
 - b. Drawings and diagrams of the BMP(s) and any supporting utilities,
 - c. Catalog cuts on maintenance requirements including any mechanical or electrical equipment,
 - d. Manufacturer contact names and phone numbers,
 - e. A copy of the executed maintenance service contract, and
 - f. A copy of the maintenance agreement with the City.
184. Provide an Owner's Operation and Maintenance Manual for all BMPs to the owner. The manual shall include at a minimum: (T&ES)
 - a. An explanation of the functions and operations of the BMP(s),
 - b. Drawings and diagrams of the BMP(s) and any supporting utilities,
 - c. Catalog cuts on maintenance requirements including mechanical or electrical equipment,
 - d. Manufacturer contact names and phone numbers,
 - e. A copy of the executed maintenance service contract, and
 - f. A copy of the maintenance agreement with the City.
185. The applicant/owner shall install and maintain stormwater BMPs. The applicant/owner shall execute a maintenance service contract with a qualified private contractor for a minimum of three years and develop an Owner's Operation and Maintenance Manual for all BMPs on the project. The manual shall include at a minimum: (T&ES) ****
 - a. An explanation of the functions and operations of the BMP(s),

- b. Drawings and diagrams of the BMP(s) and any supporting utilities,
 - c. Catalog cuts on maintenance requirements including mechanical or electrical equipment; manufacturer contact names, and phone numbers,
 - d. A copy of the executed maintenance service contract, and
 - e. A copy of the maintenance agreement with the City. Include a copy of the contract in the BMP Operation and Maintenance Manual. Submit a copy of the maintenance agreement to the City prior to Performance Bond release.
186. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division prior to Performance Bond release. (T&ES) ****
187. Submit a certification by a qualified professional that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not affected adversely by construction operations prior to Performance Bond release to the satisfaction of the Director of T&ES. If maintenance of the facilities or systems were required to make this certification, describe the maintenance measures performed. (T&ES) ****
188. An overall stormwater management master plan will be required per the CDD. As blocks/phases are developed, the SWM master plan shall be updated concurrently before the release of any final site plan. (T&ES) *

B. WATERSHED, WETLANDS, & RPAs

189. Use standard city markers to mark all on-site stormwater curb inlets and public curb inlets within 50 feet of the property line to the satisfaction of the Director of T&ES. (T&ES)
190. For sites that contain marine clays, account for marine clay or highly erodible soils in the construction methodology and erosion and sediment control measures. (T&ES)
191. Provide Environmental Site Assessment Notes that delineate, map, describe, and/or explain these environmental features (if located on site): (T&ES)
- a. Individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams, and associated buffers,
 - b. Highly erodible and highly permeable soils,
 - c. Steep slopes greater than 15 percent in grade,
 - d. Known areas of contamination; springs, seeps, or related features, and
 - e. A listing of all wetlands permits required by law.
192. Prepare a Stormwater Pollution Prevention Plan with enhanced protective measures from site sources to the proximity of the RPA(s) to the project. (T&ES)

C. CONTAMINATED LAND

193. If required by the VDEQ Voluntary Remediation Program, a Site-Specific Health and Safety Plan (HASP) shall be submitted with each phase of the development. (T&ES)
194. If required by the VDEQ Voluntary Remediation Program, all non-hardscape areas (pervious) excluding the RPA within the site shall have 2 ft of clean fill and a geotextile cap. (T&ES)

195. If environmental site assessments or investigations discover the presence of additional contamination on site not evaluated in the VDEQ Voluntary Remediation Program, the Final Site Plan shall not be released, and no construction activity shall occur until these items have been submitted and approved by the Director of T&ES: (T&ES) *
- a. A Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
 - b. A Risk Assessment indicating any risks associated with the contamination.
 - c. A Remediation Plan detailing any contaminated soil and/or groundwater excluding the RPA. Describe the environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).
 - d. A Health and Safety Plan with measures to take during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment.
196. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the applicant must notify T&ES, Office of Environmental Quality immediately. Should unanticipated conditions warrant, stop construction within the affected area until the appropriate environmental reports identified in “a” through “d” above are submitted and approved at the discretion of the Director of T&ES. Include the preceding text as a note on the Final Site Plan. (T&ES) (Code) *

D. SOILS

197. Provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments prior to Final Site plan release. (T&ES) *

E. NOISE

198. Submit a noise study identifying the noise levels that residents will be exposed to initially and 10 years into the future per the Noise Guidance Book used by the Department of Housing and Urban Development prior to the Final Site Plan release. (T&ES) *
199. If the noise study identified noise impacted areas, conduct a building shell analysis identifying ways to minimize noise and vibration exposure to future residents. Submit the building shell analysis and the noise commitment letter for review and approval prior to Final Site Plan release. (P&Z) (T&ES) *
200. Supply deliveries, loading, and unloading activities shall not occur between the hours of 11 PM and 7 AM. (T&ES)
201. No trucks or other vehicles, including construction equipment, associated with this project shall be permitted to idle for more than 10 minutes when parked, including vehicles in the loading dock. Post at least two no idling for greater than 10 minutes signs in the loading dock area in plain view prior to the issuance of the Certificate of Occupancy. (T&ES) ***

F. AIR POLLUTION

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

V. CONSTRUCTION MANAGEMENT

203. Submit a construction phasing plan to the satisfaction of the Director of T&ES, for review, approval, and partial release of Erosion and Sediment Control for the Final Site Plan. Complete all the requirements of Zoning Ordinance Article XIII (Environmental Management) for quality improvement, quantity control, and the development of Storm Water Pollution Prevention Plan prior to the partial Final Site Plan release. (T&ES) *
204. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements: (P&Z) (T&ES) (Code)
- a. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed, *
 - b. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction, *
 - c. Include an overall proposed schedule for construction, *
 - d. Include a plan for temporary pedestrian circulation, *
 - e. Include the location and size of proposed construction trailers, if any, *
 - f. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and *
 - g. Post copies of the plan in the construction trailer and give it to each subcontractor before they start work. ***
205. Provide off-street parking for all construction workers without charge and ensure that all workers use this parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall: (P&Z) (T&ES) *
- a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit, *
 - b. Post information on transit schedules and routes, *
 - c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
 - d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. If the violation is

not corrected within five days, a "stop work order" will be issued, with construction halted until the violation has been corrected.

206. Include a chapter on maintaining pedestrian access within the Construction Management Plan. Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project. (T&ES) *
207. Include a chapter on the waste control program in the Construction Management Plan. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. Dispose of all waste offsite per all applicable federal, state, and local laws. Provide documentation as required per the City's Green Building Policy and conditions therein. (T&ES) (Code) *
208. Discuss construction staging activities with T&ES prior to the release of any permits for ground disturbing activities. No major construction staging shall be allowed within the public right-of-way. (T&ES) *
209. Obtain additional City approvals for any structural elements that extend into the public right-of-way, including but not limited to footings, foundations, and tiebacks, from the Director of T&ES as a part of the Sheeting and Shoring permit. (T&ES) **
210. Identify a Certified Land Disturber (CLD) in a letter to the Division Chief of Permits & Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets prior to Final Site Plan release. If the CLD changes during the project, then note that change in a letter to the Division Chief. (T&ES) *
211. Conduct an in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any permits are issued. (P&Z) (T&ES) **
212. To the extent the City establishes a quarterly community meeting for the purpose of providing updates on the status of construction projects in the West End, the applicant shall participate in such meetings or provide written updates to City staff while the project is under substantial construction. Such updates may be provided in coordination with meetings hosted by the City. (P&Z)
213. Hold an in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z project planner prior to starting work. (P&Z)
214. Identify a community liaison throughout the construction. Provide their name and telephone number, including an emergency contact number, to residents, property managers, and business owners whose property abuts the site, to the satisfaction of the Directors of P&Z and T&ES. Install a temporary informational sign prior to Final Site Plan

release with the community liaison's name and contact information. Display the sign until construction finishes. (P&Z) (T&ES) *, ***

215. Temporary construction and/or on-site sales trailer(s) are permitted and subject to the approval of the Directors of P&Z and Code Administration. Remove the trailer(s) prior to the issuance of the final Certificate of Occupancy. (P&Z) (Code) ***
216. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when below-grade construction reaches the proposed finished grade. Ensure the wall check shows: (P&Z) **
 - a. Key dimensions of the building as shown on the approved Final Site Plan,
 - b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
 - c. Extent of any below-grade structures,
 - d. Foundation wall in place, and
 - e. Future face of finished wall above.
217. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when the building reaches the proposed finished grade. Ensure each wall check shows: (P&Z) **
 - a. Key dimensions of the building as shown on the approved Final Site Plan,
 - b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
 - c. Extent of any below-grade structures,
 - d. Foundation wall in place, and
 - e. Future face of finished wall above.
218. Submit a stamped electronic copy of an as-built development site plan survey, per the *As-Built Development Site Plan Survey Checklist* prior to applying for a Certificate of Occupancy permit. A registered architect, engineer, or surveyor shall prepare the as-built plan. Include a note stating that the height was calculated based on all applicable provisions of the Zoning Ordinance. (P&Z) (T&ES) ***
219. If outstanding performance, completion, or other bonds for the benefit of the City are in effect for the property at such time as it may be conveyed or sold to a party other than the applicant, a substitute bond and associated documents must be provided by that party or, in the alternative, an assignment or other documentation from the bonding company indicating that the existing bond remains in effect despite the change in ownership may be provided. The bond(s) shall be maintained until such time that all requirements are met, and the bond(s) released by the City. (T&ES) ****

VI. CONTRIBUTIONS

220. Contribute \$3,543,736 to the City's Housing Trust Fund based on this payment schedule:
 - i. \$379,232 for the hotel;
 - ii. \$1,428,846 for the condo flats;
 - iii. \$1,136,952 for the stacked townhouses; and
 - iv. \$598,706 for the townhouses.

- a. Monetary contributions to the Housing Trust Fund shall be recalculated at the time of future extension requests, if any, consistent with the CDD #2023-0004 conditions of approval.
 - b. Make all payments to the City of Alexandria and submit them to the Office of Housing with a cover letter to include the project name, case number, and explanation of the contribution amount, if phased. Each payment shall be made prior to the first Certificate of Occupancy for each respective building type listed above i.-iv. (Housing) ***
221. Pursuant to the Eisenhower West/Landmark Van Dorn Implementation Developer Contributions Policy, a contribution is required to the Eisenhower West/Landmark Van Dorn Implementation Fund. Based on the formula adopted by City Council in 2018, the contribution amount is as follows:
- a. \$3.45 (2023\$) (Catalyst rate) per net square foot of development for this DSUP approval, excluding square footage achieved through the application of Section 7-700 of the Zoning Ordinance;
 - b. Contribution rates are subject to an annual escalation clause equivalent to the CPIU for the Washington Metro area. Contribution rates will be recalculated in January of each year. The final contribution amount shall be calculated and verified by the Neighborhood Planning and Community Development Division of the Department of Planning and Zoning at the time of Certificate of Occupancy. All contributions shall be made via wire transfer to the City of Alexandria. Instructions will be provided by Planning and Zoning staff prior to the time of deposit. Wire transfer documentation must include the source name, receiving department name (Planning & Zoning), applicable fund reference code and the condition number being fulfilled. Payments shall be made prior to the release of the first certificate of occupancy.
 - c. Total contribution is in Park DSUP Condition #497.

VII. PUBLIC ART

- 222. Work with City Staff to incorporate on-site public art elements or provide an equivalent monetary contribution for public art within the Small Area Plan per the City's Public Art Policy, adopted December 13, 2014, to the satisfaction of the Directors of P&Z and RP&CA. (P&Z) (RP&CA)
- 223. Identify the location, type, and goals for public art in the Final Site Plan. Select the artist, finalize locations and medium, and provide a schedule for the art installation prior to Final Site Plan release. (P&Z) (RP&CA) *
- 224. Install any on-site art prior to issuance of the first Certificate of Occupancy, to the satisfaction of the Directors of P&Z and/or RP&CA. (P&Z) (RP&CA) ***
- 225. The in-lieu contribution shall be \$0.30 per gross square foot, with a maximum contribution of \$75,000 per building prior to issuance of the first Certificate of Occupancy. On-site public art shall be of an equivalent value to the contribution. (P&Z) (RP&CA) ***

VIII. USES AND SIGNS

A. RETAIL/COMMERCIAL

226. Provide these conditions for the retail/commercial areas, to the satisfaction of the Director of P&Z: (P&Z)
- a. A minimum of 14 feet floor-to-floor height.
 - b. Maintain operable entrances along Road D. Include this requirement in each tenant's lease.
 - c. All ground floor windows shall remain transparent, except as otherwise allowed by the Zoning Ordinance per § 5-511. Do not block windows with walls, film, storage cabinets, shelving, boxes, coat racks, storage bins, closets, or similar. Retailers may have display cases that face the street.
227. The Director of P&Z shall review administrative Special Use Permits after one year of operation, and shall docket the matter for the Planning Commission and City Council if (1) violations of the permit conditions occurred and were not corrected immediately, constitute repeat violations, or create a direct and immediate adverse zoning effect on the surrounding community; (2) the Director has received a request from any person to docket the permit for review due to a complaint that may be a violation of the permit conditions; or (3) the Director has determined that problems with the operation of the use exist and that new or revised conditions are needed. (P&Z)
228. Contact Go Alex at goalex@alexandriava.gov prior to receipt of the Final Certificate of Occupancy to: (T&ES) ***
- a. Identify ways to encourage employees who drive to use off-street parking.
 - b. Learn how to establish an employee transportation benefits program to encourage employees to commute using public transportation.
 - c. Receive printed and electronic business promotional material to provide information on ways to access the site other than driving.
 - d. Receive information on nearby garages to post on the business' website to encourage patrons to park off-street.

B. SIGNAGE

229. Incorporate and interpret elements of site environmental features (e.g., innovative stormwater facilities and plantings) into the design of the public realm in consultation with Staff. Provide text, graphics, and materials for interpretive elements prior to Final Site Plan release subject to approval by the Directors of P&Z, RP&CA, and the Climate Action Officer of OCA. Install the interpretative elements prior to issuance of the Certificate of Occupancy. (P&Z) (T&ES) (RP&CA) (OCA) *, ***

XII. STAFF RECOMMENDATIONS – DSUP #2023-10014 **(TOWNHOUSES)**

230. The Final Site Plan shall conform substantially with the preliminary plan dated December 21, 2023, and comply with the following conditions of approval.

I. SITE PLAN

231. Per § 11-418 of the Zoning Ordinance, the development special use permit shall expire and become null and void, unless the applicant commences substantial construction of the project within 60 months after initial approval and the applicant thereafter pursues such construction with due diligence. The applicant shall provide a written status report to Staff 18 months after initial approval to update the City Council on the project status if they have not yet commenced substantial construction. The applicant may petition to extend the validity period after adequate notice and a public hearing. (P&Z)
232. Submit the plats and associated deeds for all applicable easements, dedications, and subdivisions per the Preliminary Plan dated December 21, 2023, with the first Final Site Plan. The applicant must obtain approval of the plat(s) prior to or concurrent with the Final Site Plan release. Provide proof of recordation with the first application for a building permit. (P&Z) (T&ES) (RP&CA) *, **
- a. Provide public easements to the satisfaction of the Directors of P&Z and T&ES. Easements shall be consistent with the preliminary site plan.
 - b. Emergency Vehicle Easement(s) (EVE) shall not be painted. When an EVE is shared with a pedestrian walkway or consists of grasscrete or a similar surface treatment, the EVE shall be defined in a manner that is compatible with the surrounding ground plane.
233. Property rights to be conveyed by easement to the City may instead be conveyed by dedication (fee simple) to the City subject to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES)
234. Show site utilities compatibly with other conditions on the site plan to the satisfaction of the Directors of P&Z, T&ES prior to Final Site Plan release, specifically: (P&Z) (T&ES)
*
- a. Locating above grade service openings and required clearances for items such as transformers, telephone, HVAC units, and cable boxes.
 - b. Minimizing conflicts with plantings, pedestrian areas, and major view sheds.
 - c. Excluding above grade utilities from dedicated open space areas and tree wells.
 - d. Screening all utilities from the public right-of-way, accommodating Dominion requirements.
235. Provide a lighting plan with the Final Site Plan, unless otherwise identified below, to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of P&Z, T&ES, Code, and the Climate Action Officer of OCA and shall include: (P&Z) (T&ES) (OCA) (Code) *

- a. The location of all existing and proposed streetlights and site lights, shading back less relevant information.
 - b. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
 - c. A photometric plan with lighting calculations encompassing all existing and proposed streetlights and site light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way.
 - d. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
 - e. The numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.
 - f. Full cut-off lighting as applicable to prevent light spilling onto adjacent properties. Provide a plan distinguishing between the site with all streetlights and other pertinent off-site lighting and the site without streetlights and off-site lighting to demonstrate how the plan complies with § 13-1-3 light spill regulations.
 - g. Additional lighting to achieve City standards if existing lighting within the City right-of-way adjacent to the site does not meet the minimum standards.
 - h. Basic, approved Dominion LED light fixtures for all proposed light fixtures in the City right-of-way.
 - i. All site lights designed to meet City of Alexandria photometric standards shall have photovoltaic switches.
 - j. The location of conduit routing between site lighting fixtures to avoid conflicts with street trees.
 - k. Details indicating proposed light pole and footings relative to the adjacent grade and pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
236. Provide a georeferenced CAD file in **AutoCAD 2018**.dwg or greater format that adheres to the National CAD Standards prior to Final Site Plan release. The file shall have the dimension plan including existing conditions, proposed conditions, and grading elements. (P&Z) (DPI) (GIS) *
237. Sheeting and shoring, support of excavation shall not extend beyond the property line, except when the applicant has obtained a written release or encroachment from adjacent private/non-City property owners which has been reviewed prior to Final Site Plan release and recorded in the Land Records. (P&Z) (Code) *
- a. Minor changes to the façade fenestration and details will be permissible, including but not limited to, window count and alignment, to be coordinated with sustainability envelope attributes and energy performance submission.
 - b. The Sanitary Adequate Outfall Analysis must reflect the actual number of units.
 - c. The unit count must be finalized prior to Final Site Plan release.

A. BUILDING

238. Provide a building code analysis with these building code data prior to Final Site Plan release: (1) use group, (2) number of stories, (3) type of construction, (4) total floor area

per floor, (5) height of structure, (6) non-separated or separated mixed use, (7) fire protection system requirements, and (8) accessible routes. (P&Z) (Code) *

239. The building design, including the appearance, color, and quality of materials; final detailing; three-dimensional expression; and depth of all plane changes, shall be consistent with the elevations dated December 21, 2023, and the following conditions. Provide this information regarding materials and design to the satisfaction of the Director of P&Z prior to Final Site Plan release: (P&Z) (Code) (OCA) *
- a. Samples of actual window glazing, frame, and sash components proposed for each area of the building in the color and material that will be provided (may reduce sample sizes for ease in handling). **
 - ix. Window sizes and types.
 - x. Window mullion dimensions and projection in front of face of glass.
 - xi. Window frame, sash, and mullion materials.
 - xii. If any windows visible from a public park or right-of-way are shown as simulated divided light type, then they shall include between the glass spacer bars aligned with exterior muntins; any such exterior muntins shall project not less than 3/8 inch beyond the face of glass and be reflected in the window samples provided. Grills located between the glass will not be supported.
 - b. Where fiber cement façade panels are permitted, they shall not use a wrap-around trim for mounting to the substructure but may use either a batten system to conceal the joints or a rainscreen type installation. If exposed fasteners are proposed, they may be either concealed or if exposed, shall be finished to match the adjacent panels and their location integrated into the overall design.
 - c. The underside of all balconies shall be finished and present a visually cohesive appearance with paint matching the building or soffit material.
 - d. Coordinate the design, color, and materials of all penthouses, rooftop mechanical areas, and rooftop screening with the overall architecture of the building, as regards massing, materials, and detailing/expression. Flat roof surfaces must be light-colored with green roofs encouraged as an alternative.
 - e. For the hotel and high-visibility facades for townhouses and stacked townhouses, where dissimilar materials meet, they must typically meet at an interior corner; where that is not possible, such transitions shall occur at a significant plane change or reveal, or as otherwise shown on the DSUP.
240. Provide detailed drawings in realistic colors to permit evaluation of key building elements such as the building base, elevation types, entrances, entry canopy, stoops, windows, balconies, railings, cornices, and other ornamental elements, and material details including the final detailing, finish, and color of these elements prior to Final Site Plan release. (P&Z) *

- a. The drawings shall be enlarged and coordinated plan-section-elevation studies, typically at 1/4" = 1'-0" scale, with shadows cast at 45 degrees from both left and above to show true depth of recesses and projections.
 - b. Separate design drawings shall be submitted for each primary building typology, different wall, or bay type.
 - c. When warranted by the three-dimensional complexity of the design, the applicant shall provide isometric vignettes of special conditions or building areas to the satisfaction of the Director of P&Z.
 - d. All structures must remain within the property (e.g., balconies, railings, and canopies), unless permitted under the City of Alexandria Code or an encroachment has been obtained.
241. Provide the items listed below to allow Staff to review the materials, finishes, and architectural details. These materials shall conform substantially to the preliminary plan and the current *Guidelines for Preparation of Mock-Up Panels*, Memo to Industry effective at application submission. (P&Z) (Code)
- a. Prior to ordering final building materials, provide a materials board that includes all proposed materials and finishes at first Final Site Plan. The materials board shall remain with P&Z until the issuance of the final Certificate of Occupancy, when Staff will return all samples to the applicant. (P&Z) *, ***
 - b. Staff may request more detailed/extensive materials relating to the proposed fenestration, such as samples of the glazing, frame, and sash components, and including whether the windows will be double-or-triple glazed and have simulated divided lights. **
 - c. Materials may be modified or substituted only if in substantial conformance with the Preliminary Site Plan approval and to the satisfaction of the Director of P&Z. *
 - d. Drawings of mock-up panel(s) that depict all proposed materials, finishes, and relationships as part of the first Final Site Plan. *
 - e. An on-site mock-up panel using the approved materials, finishes, and relationships shall be constructed for Staff review and approval. Per VCC108.2 concrete or masonry mock-up panels exceeding 6-ft. require a building permit. The panel(s) shall be constructed and approved prior to vertical (above-grade) construction and before ordering building materials. Locate the panel so that it receives sunlight from the same predominant direction as will the finished structure. **
 - f. The mock-up panel shall remain on-site, in the same location, and visible from the right-of-way without entering the site throughout construction until the issuance of the first Certificate of Occupancy. ***
242. Townhouse facades and Building O shall reflect the mix of materials shown on the DSUP and shall not exceed 50% fiber cement per townhouse or two-over-two building. (P&Z) *
243. Prior to receiving a building permit for any building within Block A, begin construction of the pedestrian and cyclist bridge per DSP #2023-00014. (P&Z) **

B. OPEN SPACE/LANDSCAPING

244. Develop a palette of site furnishings for review and approval by Staff prior to Final Site Plan release. (P&Z) (T&ES) *

245. Provide material, finishes, and architectural details for all retaining, seat, decorative, and screen walls prior to Final Site Plan release. Indicate methods for grade transitions, handrails, directional changes, and above and below-grade conditions. Coordinate with adjacent site and building conditions. The design and construction of all walls shall be to the satisfaction of the Directors of P&Z, T&ES, and Code. (P&Z) (T&ES) (Code) *
246. Provide pedestrian scale openings within the walls at the end of Alleys A, B, C, D, and E to increase permeability of the site. The walls must be at least 5-ft. tall and made of brick. Show the openings prior to Final Site Plan release and construct them prior to receipt of the Final Certificate of Occupancy to the satisfaction of the Director of P&Z. (P&Z) *, ***

C. ARCHAEOLOGY

247. Call Alexandria Archaeology immediately at 703.746.4399 if you discover any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts during development. Cease work in the discovery area until a City archaeologist inspects the site and records the finds. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *
248. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, or allow independent parties to collect or excavate artifacts, unless authorized by Alexandria Archaeology. Failing to comply shall result in project delays. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *

D. PEDESTRIAN/STREETSCAPE

249. Provide the pedestrian improvements listed below to the satisfaction of the Directors of P&Z and T&ES. Complete all pedestrian improvements prior to the issuance of the final Certificate of Occupancy. (P&Z) (T&ES) ***
 - a. Install ADA accessible pedestrian improvements serving the site.
 - b. Construct all sidewalks to City standards. The minimum unobstructed width of all newly constructed sidewalks shall be six feet or as otherwise shown on DSUP.
 - c. Sidewalks must comply with the City’s Complete Streets Design Guidelines.
 - d. Sidewalks shall be flush across all driveway crossings.
 - e. All newly constructed curb ramps shall be concrete with detectable warning and shall conform to current VDOT standards.
 - f. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street.
 - g. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development.
 - h. All crosswalks shall be standard, 6 inches wide, white thermoplastic parallel lines with reflective material, with 10 feet in width between interior lines. High-visibility crosswalks [white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)] may be required as directed by staff at Final Site Plan. Alternative crosswalk treatments must be approved by the Director of T&ES.

- i. Install audible pedestrian countdown signals and pedestrian activated pushbuttons in accordance with City Standards. All pedestrian-activated push buttons shall be accessible per ADA Accessibility Guidelines.
- j. All below grade utilities placed within a City sidewalk shall be integrated with the adjacent paving materials and to minimize any visible impacts.

E. PARKING

- 250. Design and allocate parking to conform with these requirements, to the satisfaction of the Directors of P&Z, T&ES, and Code Administration: (P&Z) (T&ES) (Code)
 - a. All parked vehicles shall not encroach on the proposed streets, drive aisles, pedestrian walkways, and emergency vehicle easements.
 - b. Each townhouse unit shall provide a sufficient area within each unit, garage, or in an enclosed area for a standard City-issued trash and recycling container exclusive of the area required for parking.
- 251. Provide bicycle parking per current Bicycle Parking Standards, available at: www.alexandriava.gov/bicycleparking. (T&ES) *, ***
 - a. Include details on the locations and types of bicycle parking prior to Final Site Plan release. Install bicycle parking prior to the issuance of the first Certificate of Occupancy.
 - b. Provide signage, striping, or other means to direct people to any indoor or covered bicycle parking areas within the private property. Show the proposed signage, etc. prior to release of the Final Site Plan and install the signage, etc. prior to issuance of the Final Certificate of Occupancy.
- 252. Provide signage, striping, or other means to prevent parking in emergency vehicle easement(s) prior to Final Site Plan release, to the satisfaction of the Director of T&ES. (T&ES) *
- 253. Provide electric vehicle chargers for at least five percent of the required parking spaces, consisting of Level 2, Level 3 DC Fast Chargers, or a combination thereof, rounded up to the next whole number parking space. Provide the option for townhouse and stacked townhouse purchasers to install a charger until this five percent requirement is satisfied. (OCA) ***
- 254. Provide two empty slots in the electrical panel for the future Level 2 charging and pull string ready conduit from the electrical panel to the garaged parking spaces. Install and label the conduit outlet in each garage prior to receiving the Certificate of Occupancy. (OCA) ***
- 255. Update parking counts on the cover sheet to state the number of electric vehicle charger and electric vehicle charger ready parking spaces, show the location of these spaces, and detail the signage, striping, or similar used to direct people to these spaces prior to Final Site Plan release. Install the signage for charger spaces when the charger is installed and operational, etc. prior to release of the final Certificate of Occupancy. (OCA) *, ***

F. SUSTAINABILITY

256. The project shall comply with the requirements of the City of Alexandria Green Building Policy that is in effect at the time of DSUP approval. (OCA) *, **, ***, ****
257. The applicant may propose additional sustainability strategies to the satisfaction of the Directors of P&Z and the Climate Action Officer of OCA. (P&Z) (OCA) *, **, ***, ****
258. The applicant shall provide these items to comply with the Green Building Policy at first Final Site Plan: (OCA) *
- a. Evidence of the project's registration with LEED Silver v.4, Green Globes, EarthCraft, NGBS, or equivalent.
 - b. A copy of the draft certification scorecard which indicates the project will meet the required performance points as outlined in the Green Building Policy for LEED, Green Globes, EarthCraft, NGBS, or equivalent.
259. The applicant shall provide these items to comply with the Green Building Policy with the Building Permit: (OCA) **
- a. An updated copy of the draft certification scorecard/checklist prior to building permit release for above-grade construction for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
 - b. Water efficiency and indoor environmental quality documentation for the priority performance points in the Green Building Policy prior to building permit release for above-grade construction for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
260. The applicant shall provide these items to comply with the Green Building Policy at First and Final Certificates of Occupancy: (OCA) ***
- a. Evidence that design phase credits (for the certifying party) have been submitted by Temporary Certificate of Occupancy for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
 - b. Evidence showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for Design Phase credits for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.
 - c. If the project fails to achieve the required certification level and priority performance points, then demonstrate a good faith, reasonable, and documented effort to achieve the certification level to the satisfaction of the Climate Action Officer.
261. The applicant shall provide the following to comply with the Green Building Policy at Release of Performance Bond: (OCA) ****
- a. Documentation of applicable green building certification showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for LEED Silver v. 4, Green Globes, EarthCraft, NGBS, or equivalent.

262. At the first Final Site Plan for condominiums, townhouses, and stacked townhouses, demonstrate that the buildings will be fully electric including all mechanical systems. (OCA) *

II. TRANSPORTATION

A. STREETS/TRAFFIC

263. The individual driveways for the townhouses shall allow adequate space for the intended design vehicle to park without encroaching into the crossing sidewalk and/or street/alley. (T&ES)
264. Create an enhanced shared drive aisle for rear loaded townhouses to the satisfaction of the Directors of P&Z and T&ES, by using materials such as: (P&Z) (T&ES)
- a. Concrete, decorative pavers, or other quality materials and/or enhanced landscaping (excluding asphalt) for the driveway apron for the townhouses.
 - b. Stacked townhouses may use asphalt, concrete, or other similar materials for their driveways.
 - c. Integrate all service pedestals and transformers for the dry utilities into the building design and/or screen these utilities.
265. Repair any of the City's existing public infrastructure that construction damages per the most recent version of the T&ES Design and Construction Standards Memo to Industry 23-01, or to the satisfaction of Director of T&ES, prior to Performance Bond release. (T&ES) ****
266. Conduct a pre-construction walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration Staff to document existing conditions prior to Final Site Plan release. (T&ES) (Code) *
267. Mark all private street signs that intersect a public street with a fluorescent green strip to notify the plowing crews, both City and contractor, that they are not to plow those streets, prior to the issuance of the first Certificate of Occupancy. (T&ES) ***
268. Wall mounted obstructions excluding electric car chargers at the wall end of a parking space shall be no more than 24 inches extended from the wall and at least 48 inches from the garage floor. Areas with obstructions that exceed this requirement will not count as parking spaces. (T&ES) ****
269. Provide full curb to curb restoration for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street prior to Performance Bond release. (T&ES) ****
270. Obtain approval for a street naming case for all areas below prior to Final Site Plan release. (P&Z) (T&ES) (GIS) *
- a. Alleys A, B, C, D, E, and F.
 - b. Open spaces when residences have front doors that face them.

- 271. Finalize street names and addresses for mail delivery (addressed per the front door) and for emergency services (addressed per street access) prior to Final Site Plan release. (P&Z) (T&ES) (GIS) *
- 272. Provide turning movement exhibits (one for each movement and one together) for vehicles entering and exiting the garage to demonstrating that the vehicles entering the garage will not touch the garage wall frame and vehicles exiting the garage will not encroach on the opposing traffic lane. (T&ES) *
- 273. Provide traffic calming measures (e.g., speed cushions, speed bumps) as approved by the Director of T&ES for Alleys A, B, C, D, & E. The specific traffic calming techniques will be determined during review of the final DSUP site plans. (T&ES) *

B. TRANSPORTATION MANAGEMENT PLAN

- 274. Each DSUP shall contribute to the Citywide Transportation Management Plan (TMP) at the rate specified by the current TMP policy. Unless the upfront payment or partial upfront payment option is chosen as described below, payments are due once per year no later than September 30 for 30 years with rates adjusted annually for inflation based on the April-to-March Consumer Price Index change reported by the Bureau of Labor Statistics. (T&ES)
 - a. Projects that obtain their first Certificate of Occupancy prior to July 1, will have their first year of assessment in the current calendar year. Projects that obtain their first Certificate of Occupancy on July 1 or later will have their first year of assessment in the next calendar year.
 - b. A development may receive a 35% discount for paying the entire 30-year amount (unadjusted for inflation) prior to receipt of the first Certificate of Occupancy. Under this option, no further TMP payments are required. ***
 - c. A development may receive a 25% discount for paying one quarter of the entire 30-year amount (unadjusted for inflation) before receipt of the final Certificate of Occupancy and five standard subsequent payments over the next five years. The five annual payments will be made no later than September 30 each year. After these payments are made, no further TMP payments are required. ***
- 275. The applicant/owner may request permission to manage its own TMP fund subject to the approval of the Director of T&ES. The property must have achieved specific single occupancy vehicle targets for at least three years in a row, as specified in the current TMP policy, and have provided the City with detailed information about how the applicant/owner will manage the TMP for the development. Development would retain the annual TMP contributions and must spend it exclusively on transportation related activities approved by the Director of T&ES or designee. (T&ES)
- 276. Designate an on-site TMP Coordinator prior to the issuance of the first Certificate of Occupancy. Provide the name, address, email, and telephone number of the coordinator to the City's Mobility Services Division, updating this information annually or as needed. This person will be the City's point of contact for the development and will be responsible for paying invoices, coordinating with staff on TMP-related activities as needed. (T&ES) ***

III. PUBLIC WORKS

A. WASTEWATER/SANITARY SEWERS

277. Pay sewer connection fee in accordance with City Code § 5-6-25.1(a). (T&ES)
278. The project ties to Lower Backlick Run Sewer owned by Fairfax County. The applicant shall complete a capacity analysis of Fairfax County sewers up to a trunk sewer downstream that is 27 inches in diameter prior to final site plan release. The applicant shall provide sewer improvements where capacity deficiency is identified prior to receipt of the first Certificate of Occupancy. (T&ES)

B. UTILITIES

279. If the applicant does not have a franchise agreement with the City, locate all private utilities outside of the public right-of-way and public utility easements. (T&ES)
280. Underground all overhead power and communication lines fronting the development along S Van Dorn Street and onsite adjacent to Van Dorn except as noted in the preliminary site plan prior to the Performance Bond release with these revisions prior to Final Site Plan release to the satisfaction of the Director of T&ES. (T&ES): (T&ES) (Hotel) *, ****
- a. Move southern poles out of the Van Dorn ROW onto private property; and
 - b. The northern poles may remain in the Courtney Avenue ROW and shall include a below- grade conduit stub out to the existing S. Van Dorn Street ROW.
281. Do not locate transformers and switch gears in the public right-of-way. (T&ES)
282. The City shall own and maintain all new fire hydrants on public streets. The applicant or their representative shall own, inspect, test, and maintain all hydrants on private streets. Install hydrants prior to issuance of the first Certificate of Occupancy. (T&ES) ***

C. SOLID WASTE

283. Meet all the minimum street standards for the City to provide solid waste collection service per City Code Title 5, Chapter 1 (Solid Waste Control). Collection vehicles must be able to pick up solid waste without backing up. Store containers inside the units or within an enclosure that completely screens them from view. (T&ES)

IV. ENVIRONMENTAL

A. STORMWATER MANAGEMENT

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

285. Provide a BMP narrative and complete pre- and post-development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance prior to Final Site Plan release. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. (T&ES) *
286. Design all stormwater (BMPs to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs, including site specific plan views, cross sections, planting plans, and complete design calculations for each BMP prior to Final Site Plan release. (T&ES) *
287. Groundwater from sump pumps may not be discharged into any stormwater BMPs. Sump pumps may discharge into a closed conduit system, provided the closed conduit system does not drain to a BMP and provide the closed conduit system and onsite Stormwater Management system have adequate capacity as coordinated with T&ES staff. (T&ES)
288. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees, prior to Final Site Plan release. (T&ES) *
289. All BMP's must be accessible for regular maintenance and inspections. The final building design must include access points and maintenance accessibility for the green roof and any other BMPs. Access to green roofs may be by a door on the same level as the green roof, an interior elevator, interior stairway with door through a penthouse, or by an alternating tread device with a roof hatch or trap door not less than 16 square feet in area and with a minimum dimension of 24 inches. Access to any portion of the green roof of other BMP shall not be solely through a private residence. (T&ES) (OCA)
290. Complete construction inspection checklists and associated photographic documentation for each stormwater BMP and detention facility. Submit all documents required by the City of Alexandria As-Built Stormwater Requirements including as-built plans, CAD data, BMP certifications, and completed construction inspection checklists prior to Performance Bond release. (T&ES) ****
291. Construct and install the stormwater BMPs required for this project under the direct supervision of the design professional or their designated representative. Submit a written certification from the design professional to the Director of T&ES prior to Performance Bond release certifying that the BMPs are: (T&ES) ****
 - a. Constructed and installed as designed and in accordance with the released Final Site Plan.
 - b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized.
292. Install descriptive signage for surface-installed stormwater BMPs (e.g., Bio-Retention

- Filters, Vegetated Swales) prior to the submission of As-Built Plans to the satisfaction of the Director of T&ES. (T&ES) ****
293. Submit the stormwater quality BMP and/or Stormwater Detention Facilities Maintenance Agreement to include the BMP Schedule and Guidelines Addendum with the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) *
294. The Applicant shall be responsible for maintaining stormwater Best Management Practices (BMPs) until activation of the homeowner's association (HOA), and/or master association, if applicable, or until sale to a private owner. Prior to transferring maintenance responsibility for the BMPs to the HOA, master association, and/or owner, the applicant shall: (T&ES) ****
- a. Execute a maintenance service contract with a qualified private contractor for a minimum of three years, and transfer the contract to the HOA, master association, and/or owner.
 - b. Include a copy of the contract in the BMP Operation and Maintenance Manual.
 - c. Submit a copy of the maintenance contract to T&ES prior to Performance Bond release.
295. Provide the Homeowner's Association (HOA), and/or master association, with an Owner's Operation and Maintenance Manual for all on site BMPs. The manual shall include at a minimum: (T&ES)
- a. An explanation of the functions and operations of the BMP(s),
 - b. Drawings and diagrams of the BMP(s) and any supporting utilities,
 - c. Catalog cuts on maintenance requirements including any mechanical or electrical equipment,
 - d. Manufacturer contact names and phone numbers,
 - e. A copy of the executed maintenance service contract, and
 - f. A copy of the maintenance agreement with the City.
296. Provide the Homeowners Association (HOA) with a brochure describing the stormwater BMP(s) installed on the site, outlining the responsibilities of the homeowners and the HOA, and/or master association, with respect to maintenance requirements. Upon activation of the HOA, the applicant shall furnish five copies of the brochure per unit to the HOA for distribution to subsequent homeowners. (T&ES)
297. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division prior to Performance Bond release. (T&ES) ****
298. Submit a certification by a qualified professional that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not affected adversely by construction operations prior to Performance Bond release to the satisfaction of the Director of T&ES. If maintenance of the facilities or systems were required to make this certification, describe the maintenance measures performed. (T&ES) ****
299. An overall stormwater management master plan will be required per the CDD. As blocks/phases are developed, the SWM master plan shall be updated concurrently before the release of any final site plan. (T&ES) *

B. WATERSHED, WETLANDS, & RPAs

300. Use standard city markers to mark all on-site stormwater curb inlets and public curb inlets within 50 feet of the property line to the satisfaction of the Director of T&ES. (T&ES)
301. For sites that contain marine clays, account for marine clay or highly erodible soils in the construction methodology and erosion and sediment control measures. (T&ES)
302. Provide Environmental Site Assessment Notes that delineate, map, describe, and/or explain these environmental features (if located on site): (T&ES)
 - a. Individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams, and associated buffers,
 - b. Highly erodible and highly permeable soils,
 - c. Steep slopes greater than 15 percent in grade,
 - d. Known areas of contamination; springs, seeps, or related features, and
 - e. A listing of all wetlands permits required by law.
303. Prepare a Stormwater Pollution Prevention Plan with enhanced protective measures from site sources to the proximity of the RPA(s) to the project. (T&ES)

C. CONTAMINATED LAND

304. If required by the VDEQ Voluntary Remediation Program, a Site-Specific Health and Safety Plan (HASP) shall be submitted with each phase of the development. (T&ES)
305. If required by the VDEQ Voluntary Remediation Program, all non-hardscape areas (pervious) excluding the RPA within the site shall have 2 ft of clean fill and a geotextile cap. (T&ES)
306. If environmental site assessments or investigations discover the presence of additional contamination on site not evaluated in the VDEQ Voluntary Remediation Program, the Final Site Plan shall not be released, and no construction activity shall occur until these items have been submitted and approved by the Director of T&ES: (T&ES) *
 - a. A Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
 - b. A Risk Assessment indicating any risks associated with the contamination.
 - c. A Remediation Plan detailing any contaminated soil and/or groundwater excluding the RPA. Describe the environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).
 - d. A Health and Safety Plan with measures to take during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment.
307. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the applicant must notify T&ES, Office of Environmental Quality immediately. Should unanticipated conditions warrant, stop

construction within the affected area until the appropriate environmental reports identified in “a” through “d” above are submitted and approved at the discretion of the Director of T&ES. Include the preceding text as a note on the Final Site Plan. (T&ES) *

D. SOILS

308. Provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments prior to Final Site plan release. (T&ES) *

E. NOISE

309. Submit a noise study identifying the noise levels that residents will be exposed to initially and 10 years into the future per the Noise Guidance Book used by the Department of Housing and Urban Development prior to the Final Site Plan release. (T&ES) *
310. If the noise study identified noise impacted areas, conduct a building shell analysis identifying ways to minimize noise and vibration exposure to future residents. Submit the building shell analysis and the noise commitment letter for review and approval prior to Final Site Plan release. (P&Z) (T&ES) *

V. CONSTRUCTION MANAGEMENT

311. Submit a construction phasing plan to the satisfaction of the Director of T&ES, for review, approval, and partial release of Erosion and Sediment Control for the Final Site Plan. Complete all the requirements of Zoning Ordinance Article XIII (Environmental Management) for quality improvement, quantity control, and the development of Storm Water Pollution Prevention Plan prior to the partial Final Site Plan release. (T&ES) *
312. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements: (P&Z) (T&ES) (Code)
- a. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed, *
 - b. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction, *
 - c. Include an overall proposed schedule for construction, *
 - d. Include a plan for temporary pedestrian circulation, *
 - e. Include the location and size of proposed construction trailers, if any, *
 - f. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and *
 - g. Post copies of the plan in the construction trailer and give it to each subcontractor before they start work. ***

313. Provide off-street parking for all construction workers without charge and ensure that all workers use this parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall

be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall: (P&Z) (T&ES) *

- a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit, *
 - b. Post information on transit schedules and routes, *
 - c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
 - d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. If the violation is not corrected within five days, a "stop work order" will be issued, with construction halted until the violation has been corrected.
314. Include a chapter on maintaining pedestrian access within the Construction Management Plan. Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project. (T&ES) *
315. Include a chapter on the waste control program in the Construction Management Plan. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. Dispose of all waste offsite per all applicable federal, state, and local laws. Provide documentation as required per the City's Green Building Policy and conditions therein. (T&ES) (Code) *
316. Discuss construction staging activities with T&ES prior to the release of any permits for ground disturbing activities. No major construction staging shall be allowed within the public right-of-way. (T&ES) *
317. Obtain additional City approvals for any structural elements that extend into the public right-of-way, including but not limited to footings, foundations, and tiebacks, from the Director of T&ES as a part of the Sheeting and Shoring permit. (T&ES) **
318. Identify a Certified Land Disturber (CLD) in a letter to the Division Chief of Permits & Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets prior to Final Site Plan release. If the CLD changes during the project, then note that change in a letter to the Division Chief. (T&ES) *
319. Conduct an in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any permits are issued. (P&Z) (T&ES) **

320. To the extent the City establishes a quarterly community meeting for the purpose of providing updates on the status of construction projects in the West End, the applicant shall participate in such meetings or provide written updates to City staff while the project is under substantial construction. Such updates may be provided in coordination with meetings hosted by the City. (P&Z)
321. Hold an in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z project planner prior to starting work. (P&Z)
322. Identify a community liaison throughout the construction. Provide their name and telephone number, including an emergency contact number, to residents, property managers, and business owners whose property abuts the site, to the satisfaction of the Directors of P&Z and T&ES. Install a temporary informational sign prior to Final Site Plan release with the community liaison's name and contact information. Display the sign until construction finishes. (P&Z) (T&ES) *, ***
323. Temporary construction and/or on-site sales trailer(s) are permitted and subject to the approval of the Directors of P&Z and Code Administration. Remove the trailer(s) prior to the issuance of the final Certificate of Occupancy. (P&Z) (Code) ***
324. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when below-grade construction reaches the proposed finished grade. Ensure the wall check shows: (P&Z) **
 - a. Key dimensions of the building as shown on the approved Final Site Plan,
 - b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
 - c. Extent of any below-grade structures,
 - d. Foundation wall in place, and
 - e. Future face of finished wall above.
325. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when the building reaches the proposed finished grade. Ensure each wall check shows: (P&Z) **
 - a. Key dimensions of the building as shown on the approved Final Site Plan,
 - b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
 - c. Extent of any below-grade structures,
 - d. Foundation wall in place, and
 - e. Future face of finished wall above.
326. Submit a stamped electronic copy of an as-built development site plan survey, per the *As-Built Development Site Plan Survey Checklist* prior to applying for a Certificate of Occupancy permit. A registered architect, engineer, or surveyor shall prepare the as-built plan. Include a note stating that the height was calculated based on all applicable provisions of the Zoning Ordinance. (P&Z) (T&ES) ***
327. If outstanding performance, completion, or other bonds for the benefit of the City are in effect for the property at such time as it may be conveyed or sold to a party other than the

applicant, a substitute bond and associated documents must be provided by that party or, in the alternative, an assignment or other documentation from the bonding company indicating that the existing bond remains in effect despite the change in ownership may be provided. The bond(s) shall be maintained until such time that all requirements are met, and the bond(s) released by the City. (T&ES) ****

VI. CONTRIBUTIONS

328. Contribute \$3,543,736 to the City's Housing Trust Fund based on this payment schedule:
- i. \$379,232 for the hotel;
 - ii. \$1,428,846 for the condo flats;
 - iii. \$1,136,952 for the stacked townhouses; and
 - iv. \$598,706 for the townhouses.
- a. Monetary contributions to the Housing Trust Fund shall be recalculated at the time of future extension requests, if any, consistent with the CDD #2023-0004 conditions of approval.
 - b. Make all payments to the City of Alexandria and submit them to the Office of Housing with a cover letter to include the project name, case number, and explanation of the contribution amount, if phased. Each payment shall be made prior to the first Certificate of Occupancy for each respective building type listed above i.-iv. (Housing) ***
329. Pursuant to the Eisenhower West/Landmark Van Dorn Implementation Developer Contributions Policy, a contribution is required to the Eisenhower West/Landmark Van Dorn Implementation Fund. Based on the formula adopted by City Council in 2018, the contribution amount is as follows:
- a. \$3.45 (2023\$) (Catalyst rate) per net square foot of development for this DSUP approval, excluding square footage achieved through the application of Section 7-700 of the Zoning Ordinance;
 - b. Contribution rates are subject to an annual escalation clause equivalent to the CPIU for the Washington Metro area. Contribution rates will be recalculated in January of each year. The final contribution amount shall be calculated and verified by the Neighborhood Planning and Community Development Division of the Department of Planning and Zoning at the time of Certificate of Occupancy. All contributions shall be made via wire transfer to the City of Alexandria. Instructions will be provided by Planning and Zoning staff prior to the time of deposit. Wire transfer documentation must include the source name, receiving department name (Planning & Zoning), applicable fund reference code and the condition number being fulfilled. Payments shall be made prior to the release of the first certificate of occupancy.
 - c. Total contribution is in Park DSUP Condition #497.

VII. PUBLIC ART

330. Work with City Staff to incorporate on-site public art elements or provide an equivalent monetary contribution for public art within the Small Area Plan per the City's Public Art

Policy, adopted December 13, 2014, to the satisfaction of the Directors of P&Z and RP&CA. (P&Z) (RP&CA)

- 331. Identify the location, type, and goals for public art in the Final Site Plan. Select the artist, finalize locations and medium, and provide a schedule for the art installation prior to Final Site Plan release. (P&Z) (RP&CA) *
- 332. Install any on-site art prior to issuance of the first Certificate of Occupancy, to the satisfaction of the Directors of P&Z and/or RP&CA. (P&Z) (RP&CA) ***
- 333. The in-lieu contribution shall be \$0.30 per gross square foot, with a maximum contribution of \$75,000 per building prior to issuance of the first Certificate of Occupancy. On-site public art shall be of an equivalent value to the contribution. (P&Z) (RP&CA) ***

VIII. USES AND SIGNS

A. SIGNAGE

- 334. Incorporate and interpret elements of site environmental features (e.g., innovative stormwater facilities and plantings) into the design of the public realm in consultation with Staff. Provide text, graphics, and materials for interpretive elements prior to Final Site Plan release subject to approval by the Directors of P&Z, RP&CA, and the Climate Action Officer of OCA. Install the interpretative elements prior to issuance of the Certificate of Occupancy. (P&Z) (T&ES) (RP&CA) (OCA) *, ***

B. DISCLOSURE REQUIREMENTS

- 335. Incorporate these elements in the Condominium/Homeowner's Association (HOA) documents to retain trees proposed to be saved: (P&Z)
 - a. Require property owners to sign a disclosure statement acknowledging the presence and required protection of the trees.
 - b. Retain the trees depicted as protected on the released Final Site Plan unless the City Arborist permits removal of any due to the health and safety of the tree.
 - c. Require unanimous approval by the Condominium/HOA and a site plan amendment to remove a tree designated as protected on the Final Site Plan.
 - d. Comply with other restrictions deemed necessary by the City Attorney
- 336. Submit all condominium association covenants for review and approval by the Director of P&Z and the City Attorney prior to applying for the first Certificate of Occupancy. Include the conditions listed below in a dedicated section of the association covenants. The language shall establish and state that these conditions cannot be changed except by an amendment to this DSUP approved by the City Council. (P&Z) (T&ES) (City Attorney) ***
 - a. The principal use of the underground garage and parking spaces shall be for passenger vehicles garaged at the address; storage which interferes with the use of a parking space for a motor vehicle is not permitted.
 - b. All landscaping and open space areas within the development shall be maintained by the Condominium/Homeowner's Association.

- c. Obtain approval for any exterior building improvements or changes from the City, as determined by the Director of P&Z.
 - d. Develop a noise control by-law to control noise levels in the development and resolve noise issues between neighboring occupants and disclose this by-law to all involved at the time of sale or lease agreement.
 - e. Inspect and maintain stormwater facility BMPs to ensure proper functioning.
 - f. Alleys A, B, C, D, E, and F are private streets with public access easement with maintenance performed by the Condominium/Homeowner's Association including maintenance for the sanitary and storm sewers located within the site.
337. Furnish each prospective buyer with a statement disclosing the prior history of the former Vulcan Materials Company site including previous environmental conditions and on-going remediation measures. Disclose this information to the satisfaction of the Director of T&ES. (T&ES)
338. Disclose to potential buyers the items listed below to the satisfaction of the Director of P&Z and the City Attorney: (P&Z) (T&ES) (City Attorney)
- a. Heavy industrial uses, the Virginia Paving and Heavy Railroad Track are within the immediate vicinity of the project, are permitted to continue indefinitely, and will generate truck traffic, including empty garbage trucks emanating odors, on the public streets surrounding the project.
 - b. Alleys A, B, C, D, E, and F are private streets with public access easement with maintenance performed by the Condominium/Homeowner's Association including maintenance for the sanitary and storm sewers located within the site.
 - c. S Van Dorn Street is a major arterial and future traffic is expected to increase significantly as development along S Van Dorn Street continues. (P&Z) (T&ES)
 - d. That this property is along the planned route for the future West End Transitway, which will run along Beaugard Street and Van Dorn Street in an approximately east/west direction.
 - e. Implementing each Transitway corridor may require widening City right-of-way to accommodate related infrastructure.
 - f. Planning and approvals required for development parcels will require (as applicable) compliance with Small Area Plans, including but not limited to dedication of right-of-way for roadway expansion to accommodate Transitway infrastructure, construct streetscape enhancements, and provide for any other frontage improvements.
 - g. The open space along Backlick Run is a Resource Protection Area and has limited uses permitted within it. Potential buyers should refer to <https://www.alexandriava.gov/stormwater-management/resource-protection-areas-rpas> for allowable uses within the RPA.
 - h. Historic land use, prior to remediation this site's location was used as a storage yard for Vulcan Materials Company, an industrial producer of construction aggregates. Environmental site assessments and remediation measures were performed to ensure that the site presents no unacceptable risk for future residents.

XIII. STAFF RECOMMENDATIONS – DSP #2023-00013 **(INFRASTRUCTURE)**

I. SITE PLAN

339. The Final Infrastructure Site Plan shall be in substantial conformance with the preliminary plan dated December 21, 2023, and comply with the following conditions of approval.
340. Per § 11-418 of the Zoning Ordinance, the development site plan shall expire and become null and void, unless the applicant commences substantial construction of the project within 60 months after initial approval and the applicant thereafter pursues such construction with due diligence. The applicant shall provide a written status report to Staff 18 months after initial approval to update the City Council on the project status if they have not yet commenced substantial construction. The applicant may petition to extend the validity period after adequate notice and a public hearing. (P&Z)
341. Submit the plats and associated deeds for all applicable easements, dedications, and subdivisions per the Preliminary Plan dated December 21, 2023, with the first Final Site Plan. The applicant must obtain approval and record the plat(s) prior to or concurrent with Final Site Plan release. (P&Z) (T&ES) (RP&CA) *, ****
- a. Emergency Vehicle Easement(s) (EVE) shall not be painted. When an EVE is shared with a pedestrian walkway or consists of grasscrete or a similar surface treatment, the EVE shall be defined in a manner that is compatible with the surrounding ground plane.
 - b. Temporary public access easements may be granted in areas parallel to private roadways, from back of curb to encompass immediately adjacent interim sidewalks, which are constructed as part of the Infrastructure Site Plan DSP #2023-00013. The applicant shall submit deed(s) and plat(s) to be reviewed, deemed acceptable, and recorded prior to Final Infrastructure Site Plan release. *
 - c. If not provided with the Infrastructure Site Plan DSP #2023-00013, permanent access easements shall replace the temporary access easements as shown in the preliminary plat as part of the Development Special Use Permit (DSUP) or Development Site Plan (DSP) for the adjacent block(s). The deed(s) and plat(s) shall be submitted for review prior to the first Building Permit for the subject DSUP(s) and DSP. To the extent not constructed with the Infrastructure DSP, the applicant for the subject DSUP(s) and DSP shall be responsible for the construction of the final streetscape conditions and the recordation and/or dedication of any permanent public access easements on all building or open spaces facing private streets along the frontage of the DSUP property. *, **
 - d. All public right-of-way is a minimum of 50-ft. wide per requirements of City Code §5-2-4(2). Right-of-way width shall be consistent and labeled on plans and plats. *
 - e. Unless otherwise specified, the plat(s), deed(s), and easement(s) shall be recorded, and a copy of the recorded plat(s), deed(s), and easement(s) shall be submitted prior to release of the Final Infrastructure Site Plan. *

- f. Make all fee simple conveyances to the City with General Warranty of title (unless not available) or provide current ALTA survey and Title Report that includes the areas to be dedicated to City. Include the City as an authorized user of the ALTA survey for any purposes that the City deems necessary, including obtaining title insurance. Submit the ALTA survey and Title Report for review prior to approval of subdivision plat and deed by City. (T&ES) *
 - g. Coordinate and obtain signatures from private easement holder(s) on the deed(s) of vacation/quitclaim (or relocation if appropriate) for all private easements located in the areas to be dedicated for public right-of-way and submit signed deeds of vacation for review and approval, all to the approval of the Director of T&ES prior to release of the Performance Bond. Vacation of existing easement may be included in other required deeds, such as deeds of proposed easement. ****
342. Property rights to be conveyed by easement to the City may instead be conveyed by dedication (fee simple) to the City subject to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES)
343. Show site utilities compatibly with other conditions on the site plan to the satisfaction of the Directors of P&Z, T&ES prior to Final Site Plan release, specifically: (P&Z) (T&ES) *
- a. Locating above grade service openings and required clearances for items such as transformers, telephone, HVAC units, and cable boxes.
 - b. Minimizing conflicts with plantings, pedestrian areas, and major view sheds.
 - c. Excluding above grade utilities from dedicated open space areas and tree wells.
 - d. Screening all utilities from the public right-of-way, accommodating Dominion requirements.
344. Provide a lighting plan with the Final Site Plan, unless otherwise identified below, to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of P&Z, T&ES, Code, and the Climate Action Officer of OCA and shall include: (P&Z) (T&ES) (OCA) (Code) *
- a. The location of all existing and proposed streetlights and site lights, shading back less relevant information.
 - b. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
 - c. A photometric plan with lighting calculations encompassing all existing and proposed streetlights and site light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way.
 - d. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
 - e. The numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.
 - f. Full cut-off lighting as applicable to prevent light spilling onto adjacent properties. Provide a plan distinguishing between the site with all streetlights and other

- pertinent off-site lighting and the site without streetlights and off-site lighting to demonstrate how the plan complies with § 13-1-3 light spill regulations.
- g. Additional lighting to achieve City standards if existing lighting within the City right-of-way adjacent to the site does not meet the minimum standards.
 - h. Basic, approved Dominion LED light fixtures for all proposed light fixtures in the City right-of-way.
 - i. The lighting for the areas not covered by the City of Alexandria's standards, including private streets, shall be designed to the satisfaction of the Directors of T&ES and P&Z.
 - j. All site lights designed to meet City of Alexandria photometric standards shall have photovoltaic switches.
 - k. The location of conduit routing between site lighting fixtures to avoid conflicts with street trees.
 - l. Details indicating proposed light pole and footings relative to the adjacent grade and pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
345. Provide a georeferenced CAD file in AutoCAD 2018.dwg or greater format that adheres to the National CAD Standards prior to Final Site Plan release. (P&Z) (DPI) (GIS) *
- a. The file shall have the dimension plan including existing conditions, proposed conditions, and grading elements.
 - b. The subdivision plat including existing and new parcels and neighboring parcels, and
 - c. Legal lot numbers for each lot and document the square footage. Show adjacent lots and their Tax Map numbers on the subdivision plat.
346. The applicant shall be responsible for maintaining all private common area facilities and elements including the condition of vehicular and bicycle pavements, pedestrian sidewalks, non-city standard paving materials within the right-of-way, raised intersections, streetlights, BMPs, street furniture, public art, and open space elements. Prior to conveying such responsibility to third parties or a sitewide entity, such as a Master Association, the applicant shall provide the City with documentation by which such party or entity assumes this obligation. This documentation shall include exhibits which delineate the obligations of the various entities and private block owners to ensure that all such common area elements and facilities are maintained. The City shall be provided with contact person(s) who are responsible for the various maintenance responsibilities. (P&Z) (T&ES)

A. PHASING

347. The applicant shall construct the infrastructure depicted in the preliminary plan dated December 21, 2023, according to the phases shown in the plan. Partial release of DSP may be approved by Directors of P&Z & T&ES to account for build out of the various phases. Individual block DSUPs or DSP may address and construct the area from the back of curb on an adjacent street to that block's building face with that block's DSUP or DSP approval. The City and the applicant will coordinate on whether such changes will be implemented as an amendment to this DSP final site plan or the final site plan for the subject block DSUP or DSP. (P&Z)
348. In the event that the DSUPs proceed independently, then the applicant may propose

separate phasing and bonding for site infrastructure as part of a DSUP to the satisfaction of the Director of T&ES. (T&ES) *

B. OPEN SPACE/LANDSCAPING

349. Develop, provide, install, and maintain an integrated Landscape Plan for any interim BMPs with the Final Site Plan that is coordinated with other associated site conditions and plans to the satisfaction of the Director of P&Z. Landscape plans shall be submitted in accordance with the City of Alexandria's Landscape Guidelines, available online at: www.alexandriava.gov/uploadedFiles/recreation/ParkPlanning/LandscapeGuidelines/Finalv2Final.pdf (P&Z) *
350. Demonstrate that for all non-BMP site-wide street trees, tree wells, and planters can be installed at grade, to provide a flush condition at the sidewalk level and meet the minimum soil depths, volume, and conditions as established in the City's Landscape Guidelines and to the satisfaction of the Director of P&Z. (P&Z) *

C. TREE PROTECTION AND PRESERVATION

351. Provide a Tree and Vegetation Protection Plan per the City of Alexandria's Landscape Guidelines for approval prior to Final Site Plan release and implement the plan for the duration of construction. (P&Z) (RP&CA) *

D. INTERIM USES AND INTERIM CONDITIONS

352. In coordination with P&Z Staff, provide screening for these interim uses and temporary conditions prior receipt of the first Certificate of Occupancy for a building DSUP: (P&Z) (T&ES)
- a. Loading areas and staging areas for construction shall require construction fencing/screening.
 - b. Interim construction worker parking on vacant/undeveloped blocks.
353. Interim screening shall be considered with the construction management plan and consistent with the following guidelines to the satisfaction of the Directors of P&Z and T&ES: (P&Z) (T&ES) (RP&CA)
- a. Screening may be necessary for blocks with no construction activity within a year of site plan release.
 - b. Treatment of visible portions of structures on blocks intended to be covered by future constructed features may include:
 - i. Installing building or structure-mounted fabric scrims and/or vinyl banners to screen and buffer views of structures (e.g., parking garages, faces of buildings) intended to be covered by future construction.
 - ii. Freestanding fences with vinyl wrap or slat inserts.
 - iii. Installing plantings that are coordinated with and are compatible with the

overall design character of adjacent areas in future development zones.

- c. Blocks or portions thereof that construction has not commenced for five years after the completion of the infrastructure plan shall at a minimum be seeding of grass.
 - d. Temporary sidewalks, walkways, or staircases/ramps shall be constructed around undeveloped parcels. Walkways shall be constructed of asphalt or other approved material and be a minimum of five feet in width.
354. For the construction of interim sidewalks and intersections, provide the following pedestrian improvements to the satisfaction of the Directors of P&Z and T&ES: (P&Z) (T&ES) ***
- a. Location of temporary sidewalks determined to provide pedestrian circulation through the site.
 - b. Install ADA accessible pedestrian crossings serving the site.
 - c. Construct all temporary asphalt sidewalks to City standards. The minimum unobstructed width of a newly constructed temporary asphalt sidewalk shall be 5 feet. Sidewalks shall be flush across all driveway crossings.
 - d. All newly constructed curb ramps in Alexandria shall be concrete with detectable warning and shall conform to current VDOT standards.
 - e. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street to minimize crossing distances. Any changes must be approved by the Director of T&ES.
 - f. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development, which must be designed to the satisfaction of the Director of T&ES.
 - g. All crosswalks shall be standard, 6 inches wide, white thermoplastic parallel lines with reflective material, with 10 feet in width between interior lines. High-visibility crosswalks [white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)] may be required as directed by staff at Final Site Plan. All other crosswalk treatments must be approved by the Director of T&ES.
 - h. All below grade utilities placed within a City sidewalk shall be designed in such a manner as to integrate the overall design of the structure with the adjacent paving materials to minimize any potential visible impacts.
355. The applicant may dedicate right-of-way with interim sidewalk conditions adjacent to blocks scheduled to develop in later phases, with the permanent condition delivered as part of the DSUP for the block, to the satisfaction of the Directors of P&Z and T&ES, per these requirements: (P&Z) (T&ES)
- a. Unless the adjacent blocks are under active construction, sidewalks adjacent to completed road segments of Road D shall be constructed to their final state prior to the first certificate of occupancy for a Phase III DSUP.

- b. During construction of blocks with interim sidewalk conditions, the applicant will not be responsible for T&ES permit fees to close the sidewalk. During construction of individual blocks, the applicant will not be responsible for T&ES permit fees to close the sidewalk within the public right of way. The applicant will still be responsible for obtaining permits for all work in the right-of-way.

E. ARCHAEOLOGY

356. Call Alexandria Archaeology immediately at 703.746.4399 if you discover any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts during development. Cease work in the discovery area until a City archaeologist inspects the site and records the finds. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *
357. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, or allow independent parties to collect or excavate artifacts, unless authorized by Alexandria Archaeology. Failing to comply shall result in project delays. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *

F. PEDESTRIAN/STREETSCAPE

358. For the construction of final intersections, provide the pedestrian improvements listed below to the satisfaction of the Directors of P&Z and T&ES. Complete all pedestrian improvements prior to the issuance of the final Certificate of Occupancy. (P&Z) (T&ES) ***
 - a. Install ADA accessible pedestrian improvements serving the site.
 - b. Construct all concrete and hybrid concrete-brick sidewalks to City standards. The minimum unobstructed width of newly constructed sidewalks shall be six feet.
 - c. Sidewalks must comply with the City's Green Streets and Sidewalks guidance.
 - d. Sidewalks shall be flush across all driveway crossings.
 - e. All newly constructed curb ramps shall be concrete with detectable warning and shall conform to current VDOT standards.
 - f. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street.
 - g. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development.
 - h. All crosswalks shall be standard, 6 inches wide, white thermoplastic parallel lines with reflective material, with 10 feet in width between interior lines. High-visibility crosswalks [white, thermoplastic ladder crosswalks as shown in the Manual on Uniform Traffic Control Devices (MUTCD)] may be required as directed by staff at Final Site Plan. Alternative crosswalk treatments must be approved by the Director of T&ES.
 - i. Depict all crosswalks at the intersection of Road D and S. Van Dorn Street as ladder style.
 - j. Install audible pedestrian countdown signals and pedestrian activated pushbuttons in accordance with City Standards. All pedestrian-activated push buttons shall be accessible per ADA Accessibility Guidelines.

- k. All below grade utilities placed within a City sidewalk shall be integrated with the adjacent paving materials and to minimize any visible impacts.
- 359. Include directional signage at areas where bicycles, pedestrians, and vehicles mix to the satisfaction of the Director of T&ES. (T&ES) *
- 360. Show the final location and approximate dimensions of Capital Bikeshare station(s) on the Final Site Plan. Site station(s) to provide adequate space for maneuvering bikes in and out of docks, to allow access by Capital Bikeshare staff or contractors to rebalance bikes, and to provide adequate sun for solar panels. (T&ES) *

G. PARKING

- 361. Show all interim proposed parking controls and restrictions on the Final Site Plan. All interim on-street parking controls and restrictions within the project area shall be in coordination with the City. Ultimate on-street parking restrictions shall be determined with each block DSUP within the site. (P&Z) (T&ES)
- 362. Up to 52 on-street spaces adjacent to the Condo Flats on Road G, per DSUP #2023-10007 may be reserved for Condo residents and their guests only at sole discretion of the Applicant. Submit a signage or striping plan for these spaces prior to Final Site Plan release for review and approval by T&ES Transportation Planning. (T&ES) *
- 363. Amend the final site plan to show two dedicated parallel parking spaces for RP&CA Staff or their contractors for City Park maintenance during park hours. The parking spaces shall be next to each other, large enough to accommodate a maintenance truck and trailer, and will be signed appropriately. The parking spaces will be located closest to the overlook, per DSP #2023-00014. Show the spaces prior to Final Site Plan release. (RP&CA) *
- 364. For private Road G, provide wayfinding (using a palette of unique materials and signage) to clarify to the public their unique, private nature. Use signage and unique paving materials to adequately identify and direct motorists to the locations of the public and private parking, to the satisfaction of the Director of T&ES. Depict the signage prior to final site plan release and install the signage prior to performance bond release. (T&ES) *, ****
- 365. Provide City-standard 2-hour parking signs for the public street parking (park) and public street parking (retail) per Sheet 04B, Parking Allocation Exhibit. Show the signs prior to Final Site Plan release to the satisfaction of the Director of T&ES and install the signs prior to performance bond release. (T&ES) *, ****

II. TRANSPORTATION

A. STREETS/TRAFFIC

- 366. Provide Signal Design Plans for the Road D and S Van Dorn Street intersection prior to the satisfaction of the Director of T&ES prior to Final Site Plan release. Install a modified signal as part of this project prior to the release of Certificate of Occupancy of the first DSUP built. (T&ES) *
- 367. Repair any of the City’s existing public infrastructure that construction damages per the

most recent version of the T&ES Design and Construction Standards Memo to Industry 23-01, or to the satisfaction of Director of T&ES, prior to Performance Bond release. (T&ES) ****

368. Conduct a pre-construction walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration Staff to document existing conditions prior to Final Site Plan release. (T&ES) (Code) *
369. Mark all private street signs that intersect a public street with a fluorescent green strip to notify the plowing crews, both City and contractor, that they are not to plow those streets, prior to the issuance of the first Certificate of Occupancy. (T&ES) ***
370. Provide full curb to curb restoration for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street prior to Performance Bond release. (T&ES) ****
371. All public streets shall be constructed to the City and VDOT minimum standards, specifications, and materials as applicable. (T&ES)
372. All private streets shall be constructed to City private street minimum standards. (T&ES)
373. Provide traffic calming measures (e.g., speed cushions, speed bumps) as approved by the Director of T&ES along Roads D and G. The specific traffic calming techniques will be determined during review of the final DSUP site plans. (T&ES) *

III. PUBLIC WORKS

A. WASTEWATER/SANITARY SEWERS

374. The Preliminary Infrastructure Plan dated January 4, 2024, estimates a peak sanitary flow of 0.53 MGD from the project site. This flow is equivalent to 31 Townhomes, 292 Multifamily and 256 Room hotel. With each building DSUP submission, the applicant shall provide a table to show the remaining sewer flow and the remaining residential units and hotel/retail space. If the applicant proposes increases to the number of residential units and square footages for hotel/retail uses (or comparable uses) than what is shown above, additional analyses will be required as part of the DSUP process to assess the need for additional infrastructure improvements. (T&ES)

B. UTILITIES

375. If the applicant does not have a franchise agreement with the City, locate all private utilities outside of the public right-of-way and public utility easements. (T&ES)
376. Do not locate transformers and switch gears in the public right-of-way. (T&ES)
377. The City shall own and maintain all new fire hydrants on public streets. The applicant or their representative shall own, inspect, test, and maintain all hydrants on private streets. Install hydrants prior to issuance of the first Certificate of Occupancy. (T&ES) ***

C. SOLID WASTE

378. Purchase and install three public space trash receptacle(s) and three public space recycling receptacle(s) to the satisfaction of the Director of T&ES prior to Performance Bond. (T&ES) ****
- a. Trash receptacles shall be Victor Stanley Ironsites Series model SD-42 black receptacle with Dome Lid
 - b. Recycling receptacles shall be Victor Stanley Ironsites Series Model SD-42 blue receptacle with Dome Lid, approved dome decals, and approved band dedicated to recycling collection.
 - c. Place the receptacle(s) in the right-of-way and parks. In general, locate receptacles along the property frontage and at convenient locations in the vicinity of the site as approved by the Director of T&ES and shown on the Final Site Plan.
 - d. Install a pair of receptacles along Road D at the intersection with Road F across from the proposed hotel, at the intersection of Road D with Road E by the park, and where Road D becomes Road G close to the playground.
 - e. To the extent that the receptacles cannot be located where accessible for public collection, the applicant may agree to placing approved containers on private property and contract for private collection, disposal, and maintenance.

D. INFORMATION TECHNOLOGY

379. Construct a conduit grid per Exhibit E and the specifications listed in the conditions within this section to minimize the need for post-development excavation and/or right-of-way impacts when installing fiber/cables for high-speed internet access, to the satisfaction of the Director of P&Z. (P&Z) (ITS)
380. Construct all conduits using schedule 80 PVC or HDPE and install them to a depth of 3-feet. Install a pull line and tracer within each conduit. (ITS)
381. Unless otherwise specified, the City will own all conduit on public right-of-way. (T&ES) (ITS)
382. Provide a minimum of two 2-inch conduits along proposed roads D, E and F. Install at total of seven VDOT standard JBS3 (24-inch by 36-inch) installed hand hole within the public right-of-way at every intersection and at the ends of the conduits. (ITS)
- a. Provide a fiber optic installation plan that includes the required specifications prior to Final Site Plan release. *
 - b. Submit a digital as-built plan in CAD or GIS that details the fiber conduit installation prior to the issuance of the Certificate of Occupancy. ***

IV. ENVIRONMENTAL

A. STORMWATER MANAGEMENT

383. The City of Alexandria's stormwater management regulations regarding water quality are two-fold: 1) state phosphorus removal requirement and 2) Alexandria Water Quality Volume Default. Compliance with the state phosphorus reduction requirement does not

- relieve the applicant from the Alexandria Water Quality Default requirement. This site plan may include both permanent and interim stormwater BMP facilities that meet, at a minimum, the state phosphorus reduction requirement. Incorporate this site plan into the Stormwater Master Plan per the CDD #2023-00004 conditions of approval prior to release of the Final Site Plan. Any changes to applicable components of this plan will also require a resubmittal of the Stormwater Master Plan for review and approval. (T&ES) *
384. Manholes for underground BMPs must be in/beneath hardscaped areas such as trails and plazas. The BMP facilities must be accessible for inspection and maintenance. (T&ES)
 385. Detention structures and sand filters must be accessible for maintenance from the ground level. Vacuum trucks, dump trucks, concrete trucks, and electrical equipment must have appropriate height clearance and turning movements to be able to access and maintain any proposed facilities. All pumps (if required) must be equipped with alarms for pump failures. All access manholes must be located within drive aisles (not within parking spaces). (T&ES)
 386. Provide a BMP narrative and complete pre- and post-development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance prior to Final Site Plan release. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. (T&ES) *
 387. Design all stormwater (BMPs to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs, including site specific plan views, cross sections, planting plans, and complete design calculations for each BMP prior to Final Site Plan release. (T&ES) *
 388. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees, prior to Final Site Plan release. (T&ES) *
 389. Complete construction inspection checklists and associated photographic documentation for each stormwater BMP and detention facility. Submit all documents required by the City of Alexandria As-Built Stormwater Requirements including as-built plans, CAD data, BMP certifications, and completed construction inspection checklists prior to Performance Bond release. (T&ES) ****
 390. Construct and install the stormwater BMPs required for this project under the direct supervision of the design professional or their designated representative. Submit a written certification from the design professional to the Director of T&ES prior to Performance Bond release certifying that the BMPs are: (T&ES) ****
 - a. Constructed and installed as designed and in accordance with the released Final Site Plan.

- b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized.
- 391. Install descriptive signage for surface-installed stormwater BMPs (e.g., Bio-Retention Filters, Vegetated Swales) prior to the submission of As-Built Plans to the satisfaction of the Director of T&ES. (T&ES) ****
- 392. Submit the stormwater quality BMP and/or Stormwater Detention Facilities Maintenance Agreement to include the BMP Schedule and Guidelines Addendum with the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) *
- 393. The Applicant shall be responsible for maintaining stormwater Best Management Practices (BMPs) until activation of the homeowner's association (HOA), and/or master association, if applicable, or until sale to a private owner. Prior to transferring maintenance responsibility for the BMPs to the HOA, master association, and/or owner, the applicant shall: (T&ES) ****
 - a. Execute a maintenance service contract with a qualified private contractor for a minimum of three years, and transfer the contract to the HOA, master association, and/or owner.
 - b. Include a copy of the contract in the BMP Operation and Maintenance Manual.
 - c. Submit a copy of the maintenance contract to T&ES prior to Performance Bond release.
- 394. Provide the Homeowner's Association (HOA), and/or master association, with an Owner's Operation and Maintenance Manual for all on site BMPs. The manual shall include at a minimum: (T&ES)
 - a. An explanation of the functions and operations of the BMP(s),
 - b. Drawings and diagrams of the BMP(s) and any supporting utilities,
 - c. Catalog cuts on maintenance requirements including any mechanical or electrical equipment,
 - d. Manufacturer contact names and phone numbers,
 - e. A copy of the executed maintenance service contract, and
 - f. A copy of the maintenance agreement with the City.
- 395. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division on digital media prior to release of the performance bond. (T&ES) ****
- 396. Prior to release of the performance bond, the Applicant is required to submit a certification by a qualified professional to the satisfaction of the Director of T&ES that any existing stormwater management facilities adjacent to the project and associated conveyance systems to the first offsite stormwater structure were not adversely affected by construction operations. If maintenance of the facility or systems were required in order to make this certification, provide a description of the maintenance measures performed. (T&ES) ****
- 397. An overall stormwater management master plan will be required per the CDD. As blocks/phases are developed, the SWM master plan shall be updated concurrently before the release of any final site plan.

B. WATERSHED, WETLANDS, & RPAs:

398. Provide Environmental Site Assessment Notes that delineate, map, describe, and/or explain these environmental features (if located on site): (T&ES)
- a. Individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams, and associated buffers,
 - b. Highly erodible and highly permeable soils,
 - c. Steep slopes greater than 15 percent in grade,
 - d. Known areas of contamination; springs, seeps, or related features, and
 - e. A listing of all wetlands permits required by law.
399. Provide documentation on the source of onsite wetland delineation and detail actions to minimize and/or mitigate the effect of the development on existing wetlands as required by Article XIII of the Zoning Ordinance. (T&ES)
400. Prepare a Stormwater Pollution Prevention Plan with enhanced protective measures from site sources to the proximity of the RPA(s) to the project. (T&ES)
401. Mitigate any development effects on water quality due to encroachment into and/or destruction of an existing RPA and mapped wetland area by these methods to the satisfaction of the Director of T&ES. Mitigate RPA encroachments according to the Riparian Buffers Modification & Mitigation Guidance Manual by the Chesapeake Bay Local Assistance Department. (T&ES)

C. CONTAMINATED LAND

402. If required by the VDEQ Voluntary Remediation Program, all non-hardscape areas (pervious) excluding the RPA within the site shall have 2 ft of clean fill and a geotextile cap. (T&ES)
403. If environmental site assessments or investigations discover the presence of additional contamination on site not evaluated in the VDEQ Voluntary Remediation Program, the Final Site Plan shall not be released, and no construction activity shall occur until these items have been submitted and approved by the Director of T&ES: (T&ES) *
- a. A Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
 - b. A Risk Assessment indicating any risks associated with the contamination.
 - c. A Remediation Plan detailing any contaminated soil and/or groundwater excluding the RPA. Describe the environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).
 - d. A Health and Safety Plan with measures to take during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment.
404. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the applicant must notify T&ES, Office of

Environmental Quality immediately. Should unanticipated conditions warrant, stop construction within the affected area until the appropriate environmental reports identified in “a” through “e” above are submitted and approved at the discretion of the Director of T&ES. Include the preceding text as a note on the Final Site Plan. (T&ES) (Code) *

V. AIR POLLUTION

405. No vehicles, including construction vehicles, associated with this project shall be permitted to idle for more than 10 minutes when parked. Post no idling for greater than 10 minutes signs at construction site entrances and exits and interim parking and loading/unloading areas. (T&ES) ****

VI. CONSTRUCTION MANAGEMENT

406. Submit a construction phasing plan to the satisfaction of the Director of T&ES, for review, approval, and partial release of Erosion and Sediment Control for the Final Site Plan. Complete all the requirements of Zoning Ordinance Article XIII (Environmental Management) for quality improvement, quantity control, and the development of Storm Water Pollution Prevention Plan prior to the partial Final Site Plan release. (T&ES) *

407. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements: (P&Z) (T&ES) (Code)

- a. Do not remove streetlights without authorization from the City of Alexandria,
- b. If streetlights are to be removed from the public right-of-way, then provide temporary lights until the installation and commissioning of new lights, *
- c. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed, *
- d. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction, *
- e. Include an overall proposed schedule for construction, *
- f. Include a plan for temporary pedestrian circulation, *
- g. Include the location and size of proposed construction trailers, if any, *
- h. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and *
- i. Post copies of the plan in the construction trailer and give it to each subcontractor before they start work. ***

408. Provide off-street parking for all construction workers without charge and ensure that all workers use these parking spots. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall: (P&Z) (T&ES) *

- a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit, *
 - b. Post information on transit schedules and routes, *
 - c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
 - d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. If the violation is not corrected within five days, a "stop work order" will be issued, with construction halted until the violation has been corrected.
409. Include a chapter on maintaining pedestrian access within the Construction Management Plan. Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project. (T&ES) *
410. Include a chapter on the waste control program in the Construction Management Plan. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. Dispose of all waste offsite per all applicable federal, state, and local laws. Provide documentation as required per the City's Green Building Policy and conditions therein. (T&ES) (Code) *
411. Discuss construction staging activities with T&ES prior to the release of any permits for ground disturbing activities. No major construction staging shall be allowed within the public right-of-way. (T&ES) *
412. Obtain additional City approvals for any structural elements that extend into the public right-of-way, including but not limited to footings, foundations, and tiebacks, from the Director of T&ES as a part of the Sheeting and Shoring permit. (T&ES) **
413. Identify a Certified Land Disturber (CLD) in a letter to the Division Chief of Permits & Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets prior to Final Site Plan release. If the CLD changes during the project, then note that change in a letter to the Division Chief. (T&ES) *
414. Conduct an in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any permits are issued. (P&Z) (T&ES) **
415. To the extent the City establishes a quarterly community meeting for the purpose of providing updates on the status of construction projects in the West End, the applicant shall participate in such meetings or provide written updates to City staff while the project is under substantial construction. Such updates may be provided in coordination with

meetings hosted by the City. (P&Z)

416. Hold an in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z project planner prior to starting work. (P&Z)
417. Identify a community liaison throughout the construction. Provide their name and telephone number, including an emergency contact number, to residents, property managers, and business owners whose property abuts the site, to the satisfaction of the Directors of P&Z and T&ES. Install a temporary informational sign prior to Final Site Plan release with the community liaison's name and contact information. Display the sign until construction finishes. (P&Z) (T&ES) *, ***
418. Temporary construction and/or on-site sales trailer(s) are permitted and subject to the approval of the Directors of P&Z and Code Administration. Remove the trailer(s) prior to the issuance of the final Certificate of Occupancy. (P&Z) (Code) ***
419. If outstanding performance, completion, or other bonds for the benefit of the City as related to Public Improvements, Erosion & Sediment Control, or Landscaping are in effect for the property at such time as it may be conveyed or sold to a party other than the applicant, a substitute bond and associated documents must be provided by that party or, in the alternative, an assignment or other documentation from the bonding company indicating that the existing bond remains in effect despite the change in ownership may be provided. (T&ES) ****

XIV. STAFF RECOMMENDATIONS – DSP #2023-00014 (PUBLIC PARK)

420. The Final Site Plan shall conform substantially with the preliminary plan dated December 21, 2023, and comply with the following conditions of approval.
421. The Developer Contribution per Condition #497 represents the in-kind investment toward construction of the public park. Pursuant to the timing described in Condition #497, if it is projected that the cost of the park improvements would exceed the in-kind contribution, then the City and Applicant shall work together in good faith to develop a reduced scope and/or scale of improvements prior to Final Site Plan Release. The scope may amend, change, or impact the improvements in the conditions below to satisfaction of the Directors of P&Z, T&ES, and RP&CA. If actual costs are less than the scope, then the Applicant shall provide the difference as a contribution or other in-kind work per the Eisenhower West/Landmark Van Dorn Implementation Fund contribution policy. (P&Z) *

I. SITE PLAN

422. Per § 11-418 of the Zoning Ordinance, the development site plan shall expire and become null and void, unless the applicant commences substantial construction of the project within 60 months after initial approval and the applicant thereafter pursues such construction with due diligence. The applicant shall provide a written status report to Staff 18 months after initial approval to update the City Council on the project status if they have not yet commenced substantial construction. The applicant may petition to extend the validity period after adequate notice and a public hearing. (P&Z)
423. Submit the final plat and deed for the conveyance with the first Final Site Plan for approval prior to Final Site Plan release. (P&Z) (T&ES) *
424. Make all fee simple conveyances to the City with General Warranty of title (unless not available) or provide current ALTA survey and Title Report that includes the areas to be dedicated to City. Include the City as an authorized user of the ALTA survey for any purposes that the City deems necessary, including obtaining title insurance. Submit the ALTA survey and Title Report for review prior to approval of subdivision plat and deed by City. (T&ES) *
425. Show site utilities compatibly with other conditions on the site plan to the satisfaction of the Directors of P&Z, T&ES prior to Final Site Plan release, specifically: (P&Z) (T&ES) *
- a. Locating above grade service openings and required clearances for items such as transformers, telephone, HVAC units, and cable boxes.
 - b. Minimizing conflicts with plantings, pedestrian areas, and major view sheds.
 - c. Excluding above grade utilities from dedicated open space areas and tree wells.
 - d. Screening all utilities from the public right-of-way.
426. Provide a lighting plan with the Final Site Plan, unless otherwise identified below, to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of P&Z, T&ES, Code, and the Climate Action Officer of OCA and shall include: (P&Z) (T&ES) (OCA) (Code) *

- a. The location of all existing and proposed streetlights and site lights, shading back less relevant information.
 - b. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
 - c. A photometric plan with lighting calculations encompassing all existing and proposed streetlights and site light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way.
 - d. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
 - e. The numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley, and parking lot, etc.) in the proposed development.
 - f. Full cut-off lighting as applicable to prevent light spilling onto adjacent properties. Provide a plan distinguishing between the site with all streetlights and other pertinent off-site lighting and the site without streetlights and off-site lighting to demonstrate how the plan complies with § 13-1-3 light spill regulations.
 - g. Additional lighting to achieve City standards if existing lighting within the City right-of-way adjacent to the site does not meet the minimum standards.
 - h. Basic, approved Dominion LED light fixtures for all proposed light fixtures in the City right-of-way.
 - i. All site lights designed to meet City of Alexandria photometric standards shall have photovoltaic switches.
 - j. The location of conduit routing between site lighting fixtures to avoid conflicts with street trees.
 - k. Details indicating proposed light pole and footings relative to the adjacent grade and pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
427. Provide a georeferenced CAD file in **AutoCAD 2018**.dwg or greater format that adheres to the National CAD Standards prior to Final Site Plan release. The file shall have the dimension plan including existing conditions, proposed conditions, and grading elements. (P&Z) (DPI) (GIS) *
428. Sheeting and shoring, support of excavation shall not extend beyond the property line, except when the applicant has obtained a written release or encroachment from adjacent property owners which has been reviewed prior to Final Site Plan release and recorded in the Land Records. (P&Z) (Code) *

A. OPEN SPACE/LANDSCAPING

- 429. The park may be constructed in the stages depicted in Exhibit F. (RP&CA)
- 430. The park and its amenities shall comply with RP&CA's Park Facilities Standards Manual, including furniture and design elements. (RP&CA)
- 431. Provide a geotechnical report, including recommendations from a geotechnical professional for the footings for proposed structures including the pedestrian bridge and overlook prior to Final Site plan release to the satisfaction of the Director of RP&CA.

(RP&CA) *

432. Provide designs for the pedestrian and cyclist bridge across Backlick Run prior to Final Site Plan release. The bridge shall have a minimum width of 12 ft., be ADA compliant (including pathways to and from the bridge) and have a permeable path connecting to an existing trail or sidewalk on the north bank of Backlick Run to the satisfaction of the Directors of P&Z, T&ES, and RP&CA. Construct the bridge prior to release of the first certificate of occupancy for a building within Phase III, phase 3 per Sheet 04D and prior to performance bond for stage 1 of the park. (P&Z) (T&ES) (RP&CA) *, ****
433. **CONDITION AMENDED BY PLANNING COMMISSION:** Provide these modifications to the landscape plan and supporting drawings with the Final Site Plan to the satisfaction of the Director of RP&CA: (RP&CA) *
- l. Locate trash and recycling bins within five feet of the curb line at public park entrances.
 - m. Replace the mulch ADA path~~s~~ with a porous pavement ~~from the sidewalk to the overlook.~~
 - n. The observation deck and stairs to Backlick Run shall be made of composite materials with anti-slip treatment.
 - o. Include habitat areas where feasible. Designs shall focus on biodiversity, connectivity, and vertical and horizontal vegetation layering. Plant species with documented pollinator or avian habitat value shall be included in the planting plans.
434. The observation deck and stairs to Backlick Run shall be made with composite materials with anti-slip treatment to the satisfaction of the Director of RP&CA. Provide the material details for review and approval prior to Final Site Plan release. (RP&CA) *
435. Develop a palette of site furnishings for review and approval by Staff prior to Final Site Plan release. (P&Z) (T&ES) *
- a. Provide location, specifications, and details for site furnishings that depict the installation, scale, massing, and character of site furnishings to the satisfaction of the Directors of P&Z and T&ES.
 - b. Site furnishings may include benches, bicycle racks, trash bins, recycling receptacles, and other associated features. City standard materials are mandatory in all public right-of-way.
436. Provide material, finishes, and architectural details for all retaining, seat, decorative, and screen walls prior to Final Site Plan release. Indicate methods for grade transitions, handrails, directional changes, and above and below-grade conditions. Coordinate with adjacent site and building conditions. The design and construction of all walls shall be to the satisfaction of the Directors of P&Z, T&ES, and Code. (P&Z) (T&ES) (Code) *
437. Develop and install the playspace for structured and/or unstructured play that conforms to the City of Alexandria's Playspace Policy, to the satisfaction of the Directors of P&Z and RP&CA. Provide a letter of certification from a certified safety professional attesting that the design meets the policy prior to Final Site Plan release and provide a letter of

certification after construction to confirm that the playground was built per the design prior to issuance of the Certificate of Occupancy. The playspace design, installation, and maintenance shall meet these requirements: (P&Z) (RP&CA) (Code) *, ***

- a. Provide a coordinated array of the play elements.
 - b. Depict the location, scale, massing, and character of the playspace, grade conditions, surfacing, site furnishings, vegetation, and other site features. Consider providing artificial or natural canopies and shade structures for summer heat.
 - c. Play spaces and site equipment shall comply with the most recent guidelines, specifications, and recommendations of the Consumer Product Safety Commission (CPSC) Handbook for Public Playground Safety, ASTM Specification for Playground Equipment for Public Use (ASTM F1487) and ASTM Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment (ASTM F1292).
 - d. Play area and equipment shall comply with Americans with Disabilities Act 2010 ADA Standards for Accessible Design.
 - e. Play spaces shall be regularly inspected and maintained according to CPSC, ASTM, and manufacturer recommendations. Natural play spaces and/or elements shall be maintained and cared for according to landscape standards provided by landscape architect, planner, and/or to relevant CPSC and ASTM standards.
 - f. Play spaces shall have appropriate signage posted with hours of operation and other operational information.
438. Site signage shall include entrance, directional, instructional, informative, educational, interpretative, and other signage to support park operations and functions and shall be installed with each phase prior to acceptance of that phase by the City. (RP&CA)
439. Show the locations and examples for all park signage on a plan sheet, including nature trail signage, for Staff to review and approve prior to Final Site Plan release. Revise the proposed signage in the preliminary plans per: (RP&CA) *
- a. Delete sign type E.
 - b. Add sign type Diamond (Small Double Post Sign). Locate this sign at the center entry of the park within a planted landscape bed.
 - c. Add Sign Type F – Park Rules and Regulations at the center of the park entrance within a planted landscape bed and at the entrance to the playground.
 - d. Place nature trail signs on a 36” tall post (at maximum).
 - e. If requested by the City, place City standard mile markers along the sidewalk adjacent to the park every tenth mile, starting from the street entry to the western end of the park.
440. Develop an educational component, e.g., signs, that identify and describe key sustainability features of the site. Identify the locations and topics prior to final site plan release. Install the site prior to release of the performance bond. (RP&CA) *, ****
441. Provide construction details for all park features and supporting sections as needed to the satisfaction of the Director of RP&CA prior to Final Site Plan release. Submit construction specifications for RP&CA review at 90% design to include materials/manufacture, specifically:

- a. Site paving materials, finishes, and installation of all pavement systems, pathway surfacing, pavers, boardwalks, decks, ramps, and stairs including concrete, asphalt, and specialty paving/pavers.
 - b. Masonry, including retaining and decorative walls and boulders.
 - c. Site furnishings, including trash receptacles, recycling receptacles, benches, chairs, tables, drinking fountains, and bicycle racks.
 - d. Metalwork including shade structures, fences, handrails, and bollards.
442. Prior to acceptance of the park, provide construction and as-built geotechnical reports and construction submittal records, operation, and maintenance manuals; and communicate specialty procedures to designated City staff for all components, systems, subsystems, equipment, and maintenance procedures; including active recreation and fitness facilities, structures, irrigation/water management systems, lighting equipment, electrical systems, and winterization procedures. (RP&CA)
443. The applicant shall prepare an Establishment Maintenance Plan for infrastructure, equipment/furniture, and hardscapes to the satisfaction of the Director of RP&CA prior to Final Site Plan release. The Establishment Maintenance Plan shall detail execution of work, labor, and materials for maintenance of the park until final Performance Bond release. (RP&CA) *
444. Provide a Final Project Maintenance Plan for landscaping for the public park for approval by the City prior to final performance bond release. Staff will collaborate with the applicant to develop the Final Project Maintenance Plan. The Maintenance Plan shall guide execution of work, labor, and materials for maintenance of new and established plantings in a vigorous, flourishing growth, and attractive appearance. The Maintenance Plan shall include scheduling and provision of all labor and materials for: (RP&CA) ****
- a. Daily, weekly, and seasonal facilities maintenance for all applicable project components including irrigation system, lighting, and active recreation and fitness features.
 - b. Daily, weekly, and seasonal grounds maintenance including litter, debris, solid waste, and recycling removal and general policing of grounds.
 - c. Product warranty and anticipated replacement schedules.
445. Each stage shall be accepted upon completion of construction to the satisfaction of the City, at which time the Performance Bond shall be released. Each stage shall be maintained by the applicant per the Establishment Maintenance Plan until release of the maintenance bond, at which time the City shall accept maintenance responsibilities for all improvements. (RP&CA) ****

B. TREE PROTECTION AND PRESERVATION

446. Provide a Tree and Vegetation Protection Plan per the City of Alexandria's Landscape Guidelines for approval prior to Final Site Plan release and implement the plan for the duration of construction. (P&Z) (RP&CA) *
447. For trees intended to be preserved, if soil compaction has occurred near a tree or if bark is accidently scraped off due equipment, contact Urban Forestry immediately to determine steps to mitigate the damage. (RP&CA)

448. Provide an Invasive Species Removal and Management Plan per the City of Alexandria’s Landscape Guidelines for approval prior to Final Site Plan release. Submit an invasive species monitoring and management plan report annually beginning with the request for Performance Bond release and continuing until release of the Maintenance Bond. The invasive species management plan shall: (P&Z) (RP&CA) *, ****
- a. Include the full list of targeted non-native invasive plant species.
 - b. Follow the best practices for invasive species removal outlined in the RP&CA Standard Operating Procedures and Best Practices for Invasive Plant Control and Herbicide Use in the City of Alexandria.
 - c. Remove invasive species from the entirety of the park excluding land underwater.
 - d. Subject to permission of the owner(s), including the portions of 820 and 840 S Pickett Street that extend onto the southern bank of Backlick Run.
 - e. Revegetation of areas where non-native invasive plants were removed/treated shall not occur for at least two years following treatment, with regular follow-up treatments required.
 - f. Stabilize and restore recently treated non-native invasive plant infestations in open areas and along waterways with annual ryegrass (not perennial ryegrass).

C. ARCHAEOLOGY

449. Call Alexandria Archaeology immediately at 703.746.4399 if you discover any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts during development. Cease work in the discovery area until a City archaeologist inspects the site and records the finds. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *
450. The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, or allow independent parties to collect or excavate artifacts, unless authorized by Alexandria Archaeology. Failing to comply shall result in project delays. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *

D. PEDESTRIAN/STREETSCAPE

451. To the extent not already installed, provide the pedestrian improvements within the park DSP limits of disturbance per the approved Infrastructure Plan (DSP #2023-00013) to the satisfaction of the Directors of P&Z and T&ES. Complete all pedestrian improvements prior to Performance Bond release. (P&Z) (T&ES) ****

II. TRANSPORTATION

A. STREETS/TRAFFIC

452. Repair any of the City’s existing public infrastructure that construction damages per the most recent version of the T&ES Design and Construction Standards Memo to Industry

23-01, or to the satisfaction of Director of T&ES, prior to Performance Bond release. (T&ES) ****

- 453. Conduct a pre-construction walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration Staff to document existing conditions prior to Final Site Plan release. (T&ES) (Code) *
- 454. Mark all private street signs that intersect a public street with a fluorescent green strip to notify the plowing crews, both City and contractor, that they are not to plow those streets, prior to the issuance of the first Certificate of Occupancy. (T&ES) ***
- 455. Provide full curb to curb restoration for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street prior to Performance Bond release. (T&ES) ****

III. PUBLIC WORKS

A. UTILITIES

- 456. If the applicant does not have a franchise agreement with the City, locate all private utilities outside of the public right-of-way and public utility easements. (T&ES)
- 457. Do not locate transformers and switch gears in the public right-of-way. (T&ES)
- 458. The City shall own and maintain all new fire hydrants on public streets. The applicant or their representative shall own, inspect, test, and maintain all hydrants on private streets. Install hydrants prior to issuance of the first Certificate of Occupancy. (T&ES) ***

IV. ENVIRONMENTAL

A. STORMWATER MANGEMENT

- 459. The City of Alexandria's stormwater management regulations for water quality are: (1) state phosphorus removal requirement and (2) Alexandria Water Quality Volume Default. Complying with the state phosphorus reduction requirement does not relieve the applicant from the Alexandria Water Quality Default requirement. Treat the Alexandria Water Quality Volume Default, as determined by the site's post-development impervious area, in a Best Management Practice (BMP) facility. (T&ES) *
- 460. Provide a BMP narrative and complete pre- and post-development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance prior to Final Site Plan release. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. (T&ES) *
- 461. Design all stormwater (BMPs to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details

- for all BMPs, including site specific plan views, cross sections, planting plans, and complete design calculations for each BMP prior to Final Site Plan release. (T&ES) *
462. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees, prior to Final Site Plan release. (T&ES) *
463. Complete construction inspection checklists and associated photographic documentation for each stormwater BMP and detention facility. Submit all documents required by the City of Alexandria As-Built Stormwater Requirements including as-built plans, CAD data, BMP certifications, and completed construction inspection checklists prior to Performance Bond release. (T&ES) ****
464. Construct and install the stormwater BMPs required for this project under the direct supervision of the design professional or their designated representative. Submit a written certification from the design professional to the Director of T&ES prior to Performance Bond release certifying that the BMPs are: (T&ES) ****
- a. Constructed and installed as designed and in accordance with the released Final Site Plan.
 - b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized.
465. Install descriptive signage for surface-installed stormwater BMPs (e.g., Bio-Retention Filters, Vegetated Swales) prior to the submission of As-Built Plans to the satisfaction of the Director of T&ES. (T&ES) ****
466. Submit the stormwater quality BMP and/or Stormwater Detention Facilities Maintenance Agreement to include the BMP Schedule and Guidelines Addendum with the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) *
467. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division prior to Performance Bond release. (T&ES) ****
468. Submit a certification by a qualified professional that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not affected adversely by construction operations prior to Performance Bond release to the satisfaction of the Director of T&ES. If maintenance of the facilities or systems were required to make this certification, describe the maintenance measures performed. (T&ES) ****
469. An overall stormwater management master plan will be required per the CDD. As blocks/phases are developed, the SWM master plan shall be updated concurrently before the release of any final site plan. (T&ES) *

B. WATERSHED, WETLANDS, & RPAs

470. Use standard city markers to mark all on-site stormwater curb inlets and public curb inlets within 50 feet of the property line to the satisfaction of the Director of T&ES. (T&ES)

471. Install standard city pet waste stations within the park area to the satisfaction of the Director of T&ES. (T&ES)
472. For sites that contain marine clays, account for marine clay or highly erodible soils in the construction methodology and erosion and sediment control measures. (T&ES)
473. Provide Environmental Site Assessment Notes that delineate, map, describe, and/or explain these environmental features (if located on site): (T&ES)
 - a. Individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams, and associated buffers,
 - b. Highly erodible and highly permeable soils,
 - c. Steep slopes greater than 15 percent in grade,
 - d. Known areas of contamination; springs, seeps, or related features, and
 - e. A listing of all wetlands permits required by law.
474. Provide documentation on the source of onsite wetland delineation and detail actions to minimize and/or mitigate the effect of the development on existing wetlands as required by Article XIII of the Zoning Ordinance. (T&ES)
475. Prepare a Stormwater Pollution Prevention Plan with enhanced protective measures from site sources to the proximity of the RPA(s) to the project. (T&ES)
476. Mitigate any development effects on water quality due to encroachment into and/or destruction of an existing RPA and mapped wetland area by these methods to the satisfaction of the Director of T&ES. Mitigate RPA encroachments according to the Riparian Buffers Modification & Mitigation Guidance Manual by the Chesapeake Bay Local Assistance Department. (T&ES)

C. CONTAMINATED LAND

477. If required by the VDEQ Voluntary Remediation Program, all non-hardscape areas (pervious) excluding the RPA within the site shall have 2 ft of clean fill and a geotextile cap. (T&ES)
478. If environmental site assessments or investigations discover the presence of additional contamination on site not evaluated in the VDEQ Voluntary Remediation Program, the Final Site Plan shall not be released, and no construction activity shall occur until these items have been submitted and approved by the Director of T&ES: (T&ES) *
 - a. A Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
 - b. A Risk Assessment indicating any risks associated with the contamination.
 - c. A Remediation Plan detailing any contaminated soil and/or groundwater excluding the RPA. Describe the environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered).

- d. A Health and Safety Plan with measures to take during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment.
479. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the applicant must notify T&ES, Office of Environmental Quality immediately. Should unanticipated conditions warrant, stop construction within the affected area until the appropriate environmental reports identified in “a” through “d” above are submitted and approved at the discretion of the Director of T&ES. Include the preceding text as a note on the Final Site Plan. (T&ES) *
480. If required by the VDEQ Voluntary Remediation Program, the playground shall have 2-ft. of clean fill cap and geotextile fabric installed, as proposed in the Remedial Action Plan for residential sections of the development to eliminate pathway exposure. Show this detail prior to Final Site Plan release and construct per the plans prior to Performance Bond release. (T&ES) *, ****
481. If required by the VDEQ Voluntary Remediation Program, over-excavate any utility corridors within the RPA by 2-ft. and backfill these areas with clean soil. (T&ES)

D. SOILS

482. Provide a geotechnical report, including recommendations from a geotechnical professional for proposed structures prior to Final Site plan release. (T&ES) *

V. AIR POLLUTION

483. No vehicles, including construction vehicles, associated with this project shall be permitted to idle for more than 10 minutes when parked. Post no idling for greater than 10 minutes signs at construction site entrances and exits and interim parking and loading/unloading areas. (T&ES) ****

VI. CONSTRUCTION MANAGEMENT

484. Submit a construction phasing plan to the satisfaction of the Director of T&ES, for review, approval, and partial release of Erosion and Sediment Control for the Final Site Plan. Complete all the requirements of Zoning Ordinance Article XIII (Environmental Management) for quality improvement, quantity control, and the development of Storm Water Pollution Prevention Plan prior to the partial Final Site Plan release. (T&ES) *
485. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements: (P&Z) (T&ES) (Code)
- a. Do not remove streetlights without authorization from the City of Alexandria,
 - b. If streetlights are to be removed from the public right-of-way, then provide temporary lights until the installation and commissioning of new lights, *
 - c. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed, *

- d. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction, *
 - e. Include an overall proposed schedule for construction, *
 - f. Include a plan for temporary pedestrian circulation, *
 - g. Include the location and size of proposed construction trailers, if any, *
 - h. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and *
 - i. Post copies of the plan in the construction trailer and give it to each subcontractor before they start work. ***
486. Provide off-street parking for all construction workers without charge and ensure that all workers use this parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall: (P&Z) (T&ES) *
- a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit, *
 - b. Post information on transit schedules and routes, *
 - c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
 - d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. If the violation is not corrected within five days, a "stop work order" will be issued, with construction halted until the violation has been corrected.
487. Include a chapter on the waste control program in the Construction Management Plan. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. Dispose of all waste offsite per all applicable federal, state, and local laws. Provide documentation as required per the City's Green Building Policy and conditions therein. (T&ES) (Code) *
488. Discuss construction staging activities with T&ES prior to the release of any permits for ground disturbing activities. No major construction staging shall be allowed within the public right-of-way. (T&ES) *
489. Obtain additional City approvals for any structural elements that extend into the public right-of-way, including but not limited to footings, foundations, and tiebacks, from the Director of T&ES as a part of the Sheeting and Shoring permit. (T&ES) **
490. Identify a Certified Land Disturber (CLD) in a letter to the Division Chief of Permits &

Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets prior to Final Site Plan release. If the CLD changes during the project, then note that change in a letter to the Division Chief. (T&ES) *

491. Conduct an in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any permits are issued. (P&Z) (T&ES) **
492. To the extent the City establishes a quarterly community meeting for the purpose of providing updates on the status of construction projects in the West End, the applicant shall participate in such meetings or provide written updates to City staff while the project is under substantial construction. Such updates may be provided in coordination with meetings hosted by the City. (P&Z)
493. Hold an in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z project planner prior to starting work. (P&Z)
494. Identify a community liaison throughout the construction. Provide their name and telephone number, including an emergency contact number, to residents, property managers, and business owners whose property abuts the site, to the satisfaction of the Directors of P&Z and T&ES. Install a temporary informational sign prior to Final Site Plan release with the community liaison's name and contact information. Display the sign until construction finishes. (P&Z) (T&ES) *, ***
495. Temporary construction and/or on-site sales trailer(s) are permitted and subject to the approval of the Directors of P&Z and Code Administration. Remove the trailer(s) prior to the issuance of the final Certificate of Occupancy. (P&Z) (Code) ***
496. If outstanding performance, completion, or other bonds for the benefit of the City are in effect for the property at such time as it may be conveyed or sold to a party other than the applicant, a substitute bond and associated documents must be provided by that party or, in the alternative, an assignment or other documentation from the bonding company indicating that the existing bond remains in effect despite the change in ownership may be provided. The bond(s) shall be maintained until such time that all requirements are met, and the bond(s) released by the City. (T&ES) ****

VII. CONTRIBUTIONS

497. The cost of the pedestrian bridge, invasive species removal, and park amenities will be credited against the \$2,579,137 (\$2023) Eisenhower West/Landmark Van Dorn (EW/LVD) Implementation Fund contribution subject to final net square footages and an annual escalation clause equivalent to the CPIU for the Washington Metro area per the contribution policy for the Phase III DSUPs at final site plan release, (DSUP #2023-10007, DSUP #2023-10013, and DSUP #2023-10004) to the satisfaction of the Directors of P&Z, T&ES, and RP&CA. (P&Z) (T&ES) (RP&CA) *, ****
 - a. Provide detailed cost estimates and designs with the final site plan submission to

- determine the credit amount.
- b. The amount of credit and CPI adjustment shall be set upon the site plan approval for the park DSP.
 - c. If the cost of all the features shown in the preliminary plan exceed the EW/LVD in-kind contribution in this condition, then the applicant shall coordinate with P&Z and RP&CA Staff to at minimum provide the pedestrian bridge and Stage 1 invasive species removal and amenities per Exhibit F. If the contribution is exceeded, then there will be a reduced scope of improvements to not exceed the contribution.
 - d. The applicant may provide the additional Stage 2 invasive species removal and amenities.
 - e. The total investment in the park must at least equal the EW/LVD contribution for the above referenced DSUPs in Phase III.

XV. STAFF RECOMMENDATIONS – SUP #2023-00100
(COMPREHENSIVE SIGN PLAN)

498. The type and approximate location of signage shall be consistent with the Coordinated Sign Plan dated December 21, 2023. Sign permits may be administratively reviewed by staff to the satisfaction of the Director of P&Z to ensure the final design of signage is consistent with the intent of the coordinated sign plan. (P&Z)
499. The final location of site signage located within public rights-of-way shall be coordinated with City Staff, including the Departments of P&Z, T&ES, and RP&CA, as applicable. (P&Z) (T&ES) (RP&CA)
500. Applicants may request administrative approval of additional signage subject to the satisfaction of the Director of P&Z that the proposed signage design is: (P&Z)
- a. Consistent with the Comprehensive Sign Plan, including the quality of materials, overall design, and scale.
 - b. In response to final building, open space, or streetscape design, or City Policy/Regulations not anticipated at the time of the original Comprehensive Sign Plan approval.
501. Digital signage shall not have an auditory component, excepting audio that provides necessary information to those who are visually impaired. Any auditory components generated by the digital signage shall be less than 55 dBA at 20 feet from the sign. (P&Z) (T&ES)
502. Internally illuminated box signs are prohibited. (P&Z)
503. The applicant is responsible for repairing any damage to City right-of-way that may occur during sign installation. (T&ES)
504. No permanent structure may be constructed over any existing public utility easements. The applicant shall identify all existing easements on plans submitted for approval. (T&ES)
505. Freestanding and monument signage shall not diminish the unobstructed widths of the sidewalks and pathways, as set-forth in the infrastructure plan DSP#2023-00013. (T&ES)

XVI. STAFF RECOMMENDATIONS – SUB #2023-00006

506. The final subdivision plat shall comply with the requirements of § 11-1709 of the Zoning Ordinance. (P&Z) *
507. Depict the location of all easements and reservations, including those required in this approval, on the Final Subdivision Plat. Do not construct any permanent building or retaining wall over any existing private and/or public utility easements. (T&ES) *
508. Provide a georeferenced CAD file in **AutoCAD 2018**.dwg or greater format that adheres to the National CAD Standards with the Signature Set submission. The file shall include the subdivision plat including existing and new parcels and neighboring parcels. Identify legal lot numbers for each lot and document the square footage. Show adjacent lots and their Tax Map numbers on the subdivision plat. (GIS) *
509. Provide these edits prior to approval of the final plat to the satisfaction of the Director of T&ES: (T&ES) *
 - a. Depict the proposed lot number for all proposed lots, including the proposed private street.

XVII. STAFF RECOMMENDATIONS – VAC #2023-00005

510. Contribute \$32,500 (the fair market value, as determined by the Director of Real Estate Assessments) for the requested vacation of a portion of the existing right-of-way. Approval of this vacation shall be subject to: (P&Z) (T&ES)
- a. Utility easements for all public and private utilities shall be provided within the vacated right-of-way. Show such easements on the plat of consolidation.
 - b. Consolidate the vacated right-of-way with the adjoining lot, and the plat of consolidation approved by the Directors of P&Z and T&ES prior to Final Site Plan release. Record the plat in the Land Records of the City of Alexandria. *
 - c. The applicant shall be responsible for perpetual ownership, development, and maintenance of the improvements constructed in the vacated right-of-way.
511. Provide these revisions prior to approval of the final plat to the satisfaction of the Director of T&ES: (T&ES) *
- a. Add the VAC number to the approval block.
 - b. Add the current address to the note and/or body of the plat.
 - c. Add the existing lot number to the plat and remove any superfluous lot numbers that do not pertain to this part of #067.03-01-17.

XVIII. CITY DEPARTMENT CODE COMMENTS

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

A. *Planning and Zoning (P&Z)*

- F - 1. Demonstrate continued compliance with open space, floor area ratio, and setback requirements if a property owner requests future approval to construct a deck on their property.
- C - 1. Submit as-built documents for all landscape and irrigation installations with the as-built plan and request for Performance Bond release. Refer to City of Alexandria Landscape Guidelines. ****
- C - 2. Identify all trees to remove and protect/preserve in the tree conservation and protection plans prior to Final Site Plan release. Detail the construction methods to reduce disturbance within driplines. Schedule an on-site inspection of existing conditions with the City Arborist and Natural Resources Division Staff prior to preparing the Tree Conservation and Protection Plan. *
- C - 3. The landscape elements of this development are subject to Performance and Maintenance bonds, based on criteria established by the City and available through T&ES. Performance and Maintenance Bond release are subject to inspections by City Staff per City Code requirements. A final inspection for landscaping must occur three years after completion. ****
- C - 4. Any parking requirement may be adjusted within five percent of the requirement if the Director of P&Z determines that physical requirements of the building prevent complying with the specific number of required parking spaces per Zoning Ordinance § 8-200(A)(2)(c)(i).

B. *Code Administration (Building Code)*

- F - 1. The review by Code Administration is a preliminary review only. Once the applicant has filed for a building permit, code requirements will be based upon the building permit plans. A preconstruction conference is recommended for large projects. Contact the Code Administration Office, Plan Review Supervisor: 703.746.4200 with any questions.
- C - 1. New construction or alterations to existing structures must comply with the current Uniform Statewide Building Code in effect when applying for building permit(s).
- C - 2. Facilities shall be accessible for persons with disabilities per the current Virginia Uniform Statewide Building Code in effect when applying for building permit(s).
- C - 3. Submit a soils report with the building permit application for all new and existing building structures. **
- C - 4. Submit an abatement plan from a licensed Pest Control Company to prevent rodents from spreading from the construction site to the surrounding community and sewers to the Department of Code Administration prior to receiving a demolition or land disturbance

permit. Code Administration Staff will conduct a pre-demolition site survey to verify that the abatement plan is consistent with the field installation. **

- C - 5. Submit a wall location plat prepared by a land surveyor to the Department of Code Administration prior to any building framing inspection. **

C. *Federal Environmental Reviews:*

- F - 1. Any project that is defined as a federal undertaking, in accordance with the National Historic Preservation Act of 1966 requires a § 106 review and/or other National Environmental Policy Act (NEPA) review. Projects that require federal review, approval or permitting, or projects that include federal funding are generally considered a federal undertaking. Consult with the appropriate federal or state agency to determine the requirements and process relevant to the project and coordinate with the appropriate City Staff and, if necessary, the Virginia Department of Historic Resources.
 - a. Information on the § 106 process is at www.achp.gov or www.dhr.virginia.gov/environmental-review/
 - b. Information on the NEPA process is at www.epa.gov
 - c. Information on the U.S. Department of Housing and Urban Development environmental review process is at <https://www.hudexchange.info/programs/environmental-review/>

D. *Archaeology*

- F - 1. Streams and rivers provided abundant natural resources, and prehistoric peoples often camped along the banks of waterways while foraging for food and other resources. Because the project area is near Backlick Run, the potential for prehistoric archaeological sites on the property is possible. However, recent geological soil borings on the property indicate that between 8 ft. and 20 ft. of fill soils blanket the project area. Furthermore, the buffer along Backlick Run—the most likely location for prehistoric campsites—is protected in the RPA easement and will not be impacted by development. Therefore, the archaeological potential for this property is very low.
- C - 1. All required archaeological preservation measures shall be completed in compliance with Section 11-411 of the Zoning Ordinance.

E. *Transportation & Environmental Services (T&ES)*

- F - 1. Prepare the Final Site Plan per Memo to Industry 02-09, Design Guidelines for Site Plan Preparation, which is available at: <http://alexandriava.gov/uploadedFiles/tes/info/Memo%20to%20Industry%20No.%2002-09%20December%203,%202009.pdf> *
- F - 2. Show and label the sanitary and storm sewer and water line in plan and profile in the first Final Site Plan, cross referencing sheets if plan and profile cannot be on the same sheet. Provide existing and proposed grade elevations plus the rim and invert elevations of all the existing and proposed sanitary and storm sewer at manholes, and water line piping at gate wells on the respective profiles. Use distinctive stationing for various sanitary and storm sewers (if applicable or required by the plan), and water line in plan and use the corresponding stationing in respective profiles. *

- F - 3. Provide a dimension plan with all proposed features, the final property lines, and associated property line annotation. When possible, show all annotations pertaining to the final property line configuration on the site layout sheet (also referred to as the site plan sheet).
*
- F - 4. Construct all storm sewers to the City of Alexandria standards and specifications. The minimum diameter for storm sewers is 18-inches in the public right-of-way and the minimum size storm sewer catch basin lead is 15-inches. Acceptable pipe materials are Reinforced Concrete Pipe (RCP) ASTM C-76 Class IV. Alternatively, the Director of T&ES may approve AWWA C-151 (ANSI A21.51) Class 52. For roof drainage system, Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26 and ASTM 1785-76 Schedule 40 pipes are acceptable. The minimum and maximum velocities are 2.0 fps and 15 fps, respectively. The storm sewers immediately upstream of the first manhole in the public right-of-way shall be owned and maintained privately (i.e., all storm drains not shown within an easement or in a public right-of-way shall be owned and maintained privately).
*, ****
- F - 5. Construct all sanitary sewers to the City of Alexandria standards and specifications. The minimum diameter of sanitary sewers is 10-inches in the public right-of-way and sanitary lateral 6-inches for all commercial and institutional developments; however, a 4-inch sanitary lateral is acceptable for single unit residences. Acceptable pipe materials are Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26, ASTM 1785-76 Schedule 40, Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 or reinforced concrete pipe ASTM C-76 Class IV (For 12-inches or larger diameters); Class III may be acceptable on private properties. Minimum and maximum velocities are 2.5 fps and 10 fps, respectively. Laterals shall be connected to the sanitary sewer through a manufactured “Y” or “T” or approved sewer saddle. Where the laterals are being connected to existing Terracotta pipes, replace the section of main and provide manufactured “Y” or “T,” or else install a manhole. *, ****
- F - 6. Provide a horizontal separation of 10-feet (edge to edge) between a storm or sanitary sewer and a water line. However, if this horizontal separation cannot be achieved, then install the sewer and water main in separate trenches and set the bottom of the water main at least 18-inches above the top of the sewer. If both the horizontal and vertical separations cannot be achieved, then use Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 for the sewer pipe material and pressure test it in place without leakage prior to install. *, ****
- F - 7. Provide at least 18-inches of vertical separation for sanitary sewers and 12-inches for storm sewers when a water main over crosses or under crosses a sanitary/storm sewer. However, if this cannot be achieved, then construct both the water main and the sanitary/storm sewer using Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 with joints that are equivalent to water main standards for 10-feet on each side of the point of crossing. Center a section of water main pipe at the point of crossing and pressure test the pipes in place without leakage prior to installation. Provide adequate structural support for sewers crossing over the water main (i.e., concrete pier support and/or concrete encasement) to prevent damage to the water main. Encase in concrete sanitary sewers under creeks and storm sewer pipe crossings with less than 6-inch clearance. *, ****
- F - 8. No water main pipe shall pass through or touch any part of sanitary/storm sewer manhole. Place manholes at least 10-feet horizontally from the water main whenever possible. When

local conditions prohibit this horizontal separation, ensure that the manhole is watertight and tested in place. *, ****

- F - 9. Maintain at least 12-inches of separation or clearance from water main, sanitary, or storm sewers when crossing underground telephone, cable TV, gas, and electrical duct banks. If this separation cannot be achieved, then use Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 material for the sewer pipe for 10-feet on each side of the point of crossing and pressure test it in place without leakage prior to installation. Provide adequate structural support for sanitary/storm sewers and water main crossing over the utilities (i.e., pier support and/or concrete encasement) to prevent damage to the utilities. *, ****
- F - 10. Design any rip rap per the requirements of Virginia Erosion and Sediment Control Handbook, Latest Edition. *, ****
- F - 11. Provide the dimensions of parking spaces, aisle widths, etc. within the parking garage on the Final Site Plan. Exclude column widths from the dimensions. *, ****
- F - 12. Show the drainage divide areas on the grading plan or on a sheet that includes topography and structures where each sub-area drains. *
- F - 13. Provide proposed elevations (contours and spot shots) in sufficient details on grading plan to clearly show the drainage patterns. *
- F - 14. Show all existing and proposed public and private utilities and easements on the Final Site Plan with a narrative. *
- F - 15. Provide a Maintenance of Traffic Plan with the Construction Management Plan prior to Final Site Plan release that replicates the existing vehicular, pedestrian, and bicycle routes as closely as practical. Maintain pedestrian and bike access adjacent to the site per Memo to Industry 04-18. *
- F - 16. Include these notes on all Maintenance of Traffic Plan Sheets (MOT): *
 - a. FOR INFORMATION ONLY.
 - b. No sidewalks can remain closed for the duration of the project. Temporary sidewalk closures are subject to separate approval from T&ES at the time of permit application.
 - c. The contractor shall apply for all necessary permits for use of the City right-of-way and shall submit MOT Plans with the T&ES Application for final approval at that time.
- F - 17. Add complete streets tabulation to the cover sheet with the Final Site Plan submission. *
- F - 18. Stacked townhouse garages shall contain a minimum unobstructed interior dimension of 18 feet by 18.5 feet to enable two adjacent parking spaces. Units with tandem parking shall have a dimension of 10 feet by 18.5 feet in the garage space and 9 feet by 18 feet for the driveway parking spaces. The parking space dimensions shall not include columns, walls, or obstructions. Dimension lines for interior garages for each of the unit types shall be provided. *
- F - 19. Parking for the residential and commercial uses shall match the Zoning Ordinance requirements in effect at approval by the City Council and/or Planning Commission. *

- F - 20. Indicate on the site plan whether any soil and groundwater contamination are present. Reports for associated environmental investigations or assessments performed to substantiate this determination have been submitted to the City.
- C - 1. Complete a drainage study and adequate outfall analysis for the total drainage area to the receiving sewer that serves the site, per Article XI of the Zoning Ordinance. If the existing storm system is inadequate, design and build on-site or off-site improvements to discharge to an adequate outfall, even if post development stormwater flow from the site is less than pre-development flow. Demonstrate that a non-erosive stormwater outfall is present to the satisfaction of the Director of T&ES. *
- C - 2. Comply with the stormwater quality requirements and provide channel and flood protection per Article XIII of the Zoning Ordinance. Meet the peak flow requirements of the Zoning Ordinance if the development proposes combined uncontrolled and controlled stormwater outfall. If the project site is within the Braddock West watershed or a known flooding area, provide an additional 10 percent storage of the pre-development flows in the watershed to meet detention requirements. *
- C - 3. Design stormwater facilities that require analysis of pressure hydraulic systems, including but not limited to the design of flow control structures and stormwater flow conveyance systems according to Article XIII of the Zoning Ordinance, § 13-114(F), as signed and sealed by a professional engineer registered in Virginia. Include the adequate outfall, inlet, and hydraulic grade line analyses to the satisfaction of the Director of T&ES. Provide the references and/or sources used to complete these analyses. *
- C - 4. Provide additional improvements to adjust lighting levels if the site does not comply with § 13-1-3 of the City Code, to the satisfaction of the Director of T&ES to comply with the Code. *
- C - 5. The location of customer utility services and installing transmission, distribution, and main lines in the public rights-of-way by any public service company shall be governed by franchise agreement with the City per Title 5, Ch. 3, § 5-3-2 and § 5-3-3, respectively. The transformers, switch gears, and boxes shall be outside of the public right-of-way.
- a. All new customer utility services, extensions of existing customer utility services, and existing overhead customer utility services supplied by any existing overhead facilities must be installed underground below the surface of the ground unless exempted by City Code § 5-3-2, to the satisfaction of the Director of T&ES. *, ****
 - b. Install all new installation or relocation of poles, towers, wires, lines, cables, conduits, pipes, mains, and appurtenances used or intended to transmit or distribute any service (electric current, telephone, telegraph, cable television, traffic control, fire alarm, police communication, gas, water, steam, or petroleum) whether or not on streets, alleys, or other public places of the City must be installed underground or below the surface of bridges and elevated highways unless exempted by City Code § 5-3-3, to the satisfaction of the Director of T&ES. *, ****
- C - 6. Discharge flow from downspouts, foundation drains, and sump pumps to the storm sewer per the requirements of Memorandum to Industry 05-14. Pipe discharges from downspouts

and sump pump to the storm sewer outfall, where applicable after treating for water quality per Article XIII of the Zoning Ordinance. *, ****

- C - 7. Place refuse/recycling receptables in the City right-of-way for condominium townhomes for solid waste collection services provided by the City per Title 5: T&ES, § 5-1-41 of the City Charter and Code. *
- C - 8. Provide storage space for both trash and recycling materials containers as outlined in the City's "Solid Waste and Recyclable Materials Storage Space Guidelines" to the satisfaction of the Director of Transportation & Environmental Services. Show the turning movements of the collection trucks, minimizing the need to reverse to perform trash or recycling collection. The City's storage space guidelines are at: <https://www.alexandriava.gov/ResourceRecovery> or by contacting the City's Resource Recovery Division at 703.746.4410 or commercialrecycling@alexandriava.gov. *
- C - 9. Include a note on the Final Site Plan that mandates delivering all solid waste, as defined by the City Charter and Code of the City of Alexandria, to the Covanta Energy Waste Facility located at 5301 Eisenhower Avenue. Stipulate in any future lease or property sales agreement that all tenants and/or property owners shall also comply with this requirement. *
- C - 10. Submit a Recycling Implementation Plan to the Solid Waste Division, as outlined in Article H of Title 5 prior to Final Site Plan release. The form is available at: <https://www.alexandriava.gov/resourcerecovery> or contact the Resource Recovery Division at 703.746.4410 or commercialrecycling@alexandriava.gov. *
- C - 11. Satisfy the City's Minimum Standards for Private Streets and Alleys prior to Final Site Plan Release. *
- C - 12. Post the bond for the public improvements before Final Site Plan release. *
- C - 13. Provide plans and profiles of utilities and roads in public easements and/or public right-of-way for review and approval prior to Final Site Plan release. *
- C - 14. Provide a phased erosion and sediment control plan consistent with the grading and construction plan prior to Final Site Plan release. *
- C - 15. Provide as-built sewer data with the final as-built process per the Memorandum to Industry, dated July 20, 2005, prior to release of the Performance Bond. Prepare initial site survey work and plans using Virginia State Plane (North Zone) coordinates based on NAD 83 and NAVD 88. Reference the control points/benchmarks used to establish these coordinates. ****
- C - 16. Design the thickness of sub-base, base, and wearing course using "California Method" as set forth on page 3-76 of the second edition of a book entitled, "Data Book for Civil Engineers, Volume One, Design" written by Elwyn E. Seelye. Determine the values of California Bearing Ratios used in the design by field and/or laboratory tests. Using an alternate pavement section for Emergency Vehicle Easements to support H-20 loading designed using California Bearing Ratio determined through geotechnical investigation and using VDOT method (Vaswani Method) and standard material specifications is acceptable to the satisfaction of the Director of T&ES. *, ****

- C - 17. Provide all pedestrian, traffic, and wayfinding signage per the Manual of Uniform Traffic Control Devices, latest edition to the satisfaction of the Director of T&ES. *
- C - 18. No overhangs (decks, bays, columns, post, or other obstructions) shall protrude into public rights-of-ways, public easements, and the pedestrian or vehicular travel ways unless otherwise permitted by the City Code or additional City approvals are obtained. *
- C - 19. Design all driveway entrances, curbing, etc. in or abutting public right-of-way per City standards. *
- C - 20. All sanitary laterals and/or sewers not shown in the easements shall be owned and maintained privately.
- C - 21. Comply with the City's Noise Control Code, Title 11, Ch. 5, which sets the maximum permissible noise level as measured at the property line, which includes:
- a. All rooftop HVAC and other mechanical equipment shall comply with the City noise ordinance by equipment design, location, or with noise mitigating devices (e.g., silencers, acoustic plenums, louvers, or enclosures). (T&ES) (Code) *, ***
 - b. Ensuring trash collection occurs during allowable hours. Section 5-1-42 (c) states no collections may be made between the hours of 11:00 p.m. and 7:00 a.m. (6:00 a.m. from May 1, through September 30).
- C - 22. Comply with the City's Noise Control Code Title 11, Ch. 5, § 11-5-4(b)(15), which permits construction activities to occur during these hours:
- i. Monday Through Friday from 7 AM to 6 PM
 - ii. Saturdays from 9 AM to 6 PM
 - iii. No construction activities allowed on Sundays and holidays
- a. § 11-5-4(b)(19) further restricts pile driving to these hours:
 - iv. Monday through Friday from 9 AM to 6 PM
 - v. Saturdays from 10 AM to 4 PM
 - vi. No pile driving is allowed Sundays and holidays
 - b. § 11-5-109 restricts excavating work in the right-of-way to:
 - vii. Monday through Saturday 7 AM to 5 PM
 - viii. No excavation in the right-of-way allowed on Sundays, New Year's Day, Independence Day, Thanksgiving, and Christmas.
- C - 23. Comply with the stormwater pollutant load reduction, treatment of the Alexandria Water Quality Volume Default, and stormwater quantity management per Zoning Ordinance Article XIII. *
- C - 24. Comply with the City's Erosion and Sediment Control Code, Title 5, Ch. 4. *
- C - 25. Obtain all necessary permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, and/or Virginia Marine

Resources for all project construction and mitigation work prior to Final Site Plan release. This condition includes the state requirement for a state General VPDES Permit for Discharges of Stormwater from Construction Activities (general permit) and associated Stormwater Pollution Prevention Plan for land disturbing activities equal to or greater than one acre. Refer to the Memo to Industry 08-14: <http://alexandriava.gov/tes/info/default.aspx?id=3522>. *

- C - 26. Provide a Stormwater Pollution Prevention Plan (SWPPP) Book with the Final Site Plan. The project's stormwater management (SWM) plan and the erosion and sediment control (E&SC) plan must be approved prior to the SWPPP being deemed approved and processed to receive coverage under the VPDES Construction General Permit. Upon approval, provide an electronic copy of the SWPPP Book with the Signature Set submission and a copy of the coverage letter must be added to the plan sheet containing the stormwater management calculations. Include an electronic copy of the SWPPP Binder Book in the released site plans and include a hardcopy of the SWPPP Binder Book with the on-site construction drawings. Separate parcel owners must seek separate VPDES Construction General Permit Coverage unless a blanket entity incorporated in Virginia has control of the entire project. *

F. Information Technology

- F - 1. Provide the locations of all common Fire Closets and Utility Closets in the Final Site Plan. These closets will be assigned individual addresses to comply with Fire Department requirements. *
- R - 1. Coordinate with the GIS Division for address assignments at tenant fit out for all first-floor bays with a street-facing door as their primary access. These uses may not use the primary building address for their address. Contact the Addressing Coordinator in the GIS Division 703.746.3823 for each new tenant to receive the address based on the primary entrance door.

G. Fire Department

- C - 1. Show the location of Fire Department Connections prior to Final Site Plan release. *
- R - 1. Consider letting the Alexandria Fire Department use buildings that will be razed for training exercises. The Fire Department will formulate conditions of use between the parties and provide a hold harmless agreement to the owner or their representative.

H. Police Department

- R - 1. Gate off the section of the underground garage dedicated to residents from the retail section. Control access by electronic means. This design helps prevent tampering with resident's vehicles and other crimes.
- R - 2. Provide controlled access for doors in the garage (garage levels only) that lead to the stairwell. Controlled access must not interfere with the emergency push-bar release located on the inside of the stairwell.

- R - 3. Plant shrubbery that achieves a natural growth height of no more than 2.5 to 3 feet with a maximum height of 3 feet when it matures to avoid obstructing the view of patrolling law enforcement officers.
- R - 4. Use addresses numbers with contrasting colors to the background, at least three inches high, reflective, and visible from the street, and placed on the front and back of each townhome. Avoid using brass or gold numbers. This design aids emergency responders.
- R - 5. Equip all ground floor windows with a device or hardware that enables securing them in a partially open position. This design prevents breaking and entering when the windows are open for air.
- R - 6. Install “door-viewers” (commonly known as peepholes) in all doors on the ground level that lead directly into an apartment to increase security for the occupant.

Asterisks denote:

- * Condition must be fulfilled prior to release of the Final Site Plan
- ** Condition must be fulfilled prior to release of the building permit
- *** Condition must be fulfilled prior to issuance of the Certificate of Occupancy
- **** Condition must be fulfilled prior to release of the bond

XIX. ATTACHMENTS

1. Master Plan Resolution MPA #2023-00007
2. CDD Concept Plan Approval Standards
3. Consistency with Rezoning Criteria
4. CDD #26 Zoning Table
5. Vacation Valuation Memorandum

Attachment 1: Master Plan Amendment Resolution

RESOLUTION NO. MPA 2023-00007

WHEREAS, under the Provisions of Section 9.05 of the City Charter, the Planning Commission may adopt amendments to the Master Plan of the City of Alexandria and submit to the City Council such revisions in said plans as changing conditions may make necessary; and

WHEREAS, the proposed amendment will amend the **Eisenhower West Small Area Plan** chapter of the 1992 Master Plan;

WHEREAS, the Department of Planning and Zoning has analyzed the proposed revisions and presented its recommendations to the Planning Commission; and

WHEREAS, a duly advertised public hearing on the proposed amendment was held on **April 4, 2024** with all public testimony and written comment considered; and

WHEREAS, the Planning Commission finds that:

1. The proposed amendment is necessary and desirable to guide and accomplish the coordinated, adjusted and harmonious development of the **Eisenhower West Small Area Plan** section of the City; and
2. The proposed amendment is generally consistent with the overall goals and objectives of the 1992 Master Plan and with the specific goals and objectives set forth in the **Eisenhower West Small Area Plan** section of the 1992 Master Plan; and
3. The proposed amendment shows the Planning Commission's long-range recommendations for the general development of the **Eisenhower West Small Area Plan**; and
4. Based on the foregoing findings and all other facts and circumstances of which the Planning Commission may properly take notice in making and adopting a master plan for the City of Alexandria, adoption of the amendment to the **Eisenhower West Small Area Plan** chapter of 1992 Master Plan will, in accordance with present and probably future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the residents of the City;

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of the City of Alexandria that:

1. The attached amendment to the **Eisenhower West Small Area Plan** is hereby adopted in its entirety amending the Eisenhower West Small Area Plan chapter of the 1992 Master Plan of the City of Alexandria, Virginia in accordance with Section 9.05 of the Charter of the City of Alexandria, Virginia, to the:
 - Amend Figure 4.26 – Building heights diagram to change height limit for the southern portion of the property from Medium-High to Medium (p. 53).

2. This resolution shall be signed by the Chairman of the Planning Commission and attested by its secretary, and a true copy of this resolution forwarded and certified to the City Council.

ADOPTED the 4th day of April, 2024.

Chair, Alexandria Planning Commission

ATTEST: _____
Karl Moritz, Secretary

Figure 4.26 – Building Heights Diagram, Existing (pg. 53)

6. Outside the ¼-mile, lower heights will be considered with the overall goal of achieving a variety of heights that step down from the Van Dorn Metrorail Station.
7. Minimum heights do not apply to townhouses.
8. Density provisions of Section 7-700 of the Zoning Ordinance apply.

Distinctive Architecture and Placemaking

1. Reinforce Eisenhower Avenue as a “Great Street” by using distinctive architecture, landscaping and streetscape design.
2. Buildings taller than 100 feet will create distinctive architecture and roof top design that are dramatic, deliberate, and add visual interest to the skyline by offering 360 degree sculpted forms with architectural and design flourishes.
3. Highlight special buildings by using contemporary and innovative design, high-quality materials, and special building elements. Potential locations include buildings:
 - Around the Van Dorn Metrorail Station,
 - Fronting public spaces in the future mixed transit-oriented development near the Van Dorn Metrorail Station,
 - At the future terminus of Eisenhower Avenue,
 - At the intersection of Clemont and Eisenhower Avenues,
 - Along Van Dorn Street,
 - At the corner of South Pickett and Duke Streets,
 - At the future mixed-use node at the Trade Center site,
 - At gateways, and
 - Fronting parks and public spaces.

See Fig. 4.23 for all potential locations

Building Sustainability

1. Provide sustainably designed buildings consistent with the City of Alexandria’s green buildings policies and development standards.
2. Roofs will contribute to sustainability by creating opportunities for renewable energy, open space, and/or stormwater management.
3. Buildings will include and celebrate sustainable design features.
4. Where possible, orient buildings to maximize energy efficiency and provide access to daylight.

PARKING

1. Provide a range of parking options. For larger projects, a shared parking strategy is strongly encouraged.
2. Where there is sufficient change in topography, parking may be tucked into the grade. (See Figure 4.27.)
3. When parking is located above grade, the frontage of each level facing an “A,” “B,” or “P” street and park/open space is required to be lined with active uses (residential, office, hotel, and/or retail use) for a minimum depth of 35 feet (50’ preferred).
4. Surface parking areas are prohibited except for interim uses.
5. Provide on-street parking along neighborhood streets. Evaluate on-street parking along Eisenhower Avenue where feasible. On-street parking may not be appropriate for Van Dorn Street.
6. Integrate green building practices in parking design.
7. In the case that underground parking is not permitted due to floodplain restrictions, above ground parking will be permitted subject to architectural screening compatible with design and materials of the building architecture.

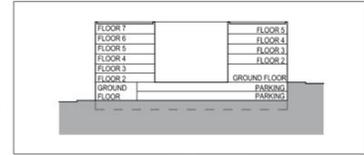


Fig. 4.27 - Parking tucked into grade



Fig. 4.26 - Building heights diagram

Figure 4.26 – Building Heights Diagram, Proposed (pg. 53)

6. Outside the ¼-mile, lower heights will be considered with the overall goal of achieving a variety of heights that step down from the Van Dorn Metrorail Station.
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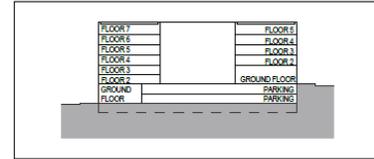


Fig. 4.27 - Parking tucked into grade



Fig. 4.26 - Building heights diagram

Ord. XXXX, allow
Medium

EISENHOWER WEST Small Area Plan | 53

Attachment 2: CDD Concept Plan Approval Standards

The proposal conforms to the six specific standards for CDD Concept Plan approval contained in §5-604 of the Zoning Ordinance:

1. *The proposed development shall substantially conform to the city's master plan with respect to the general type, character, intensity, and location of uses, as reflected in the CDD guidelines of the applicable area plan.*

As noted previously in this report, the proposed development conforms to the broad goals and objectives of the Eisenhower West Small Area Plan, as well as many of its specific recommendations for the CDD at and around the project site referred within Neighborhood 1 – Van Dorn Innovation District. The applicant has requested a Master Plan Amendment for one element of the proposed development and staff recommends approval of the amendment.

2. *The proposed development shall preserve and protect to the extent possible all scenic assets and natural features of the land.*

The proposed public park within the Resource Protection Area associated with Backlick Run encompasses the most significant natural feature within this brownfield, former industrial site. By dedicating over six acres of Backlick Run and its bank to the City, the project helps to ensure the long-term preservation and protection of this resource through a context-sensitive design that provides space for passive recreation.

3. *The proposed development shall be designed to mitigate substantial adverse impacts to the use and value of surrounding lands.*

The applicant has designed the proposed CDD Concept Plan and associated DSUPs and DSPs that are part of this application to mitigate any broad adverse effects on surrounding lands. The applicant has proposed a new street grid, public park, publicly accessible open space, variety of housing types, improved intersection and entrance at S Van Dorn Street, and a pedestrian/cyclist connection across Backlick Run.

4. *The proposed development shall be designed in accordance with public facilities, services, transportation systems, and utilities which are adequate for the development proposed, and which are available, or reasonably probable of achievement, prior to use and occupancy of the development.*

The CDD Concept Plan accommodates the public facilities, services, transportation improvements, and utilities that are adequate and commensurate to the proposed development. The applicant will need to provide new public streets, a public park, open space with public access easements, and utilities serving the site according to the phasing plan provided for in the recommended conditions of approval.

5. *The proposed development shall be designed to provide adequate recreational amenities and, if appropriate to the site, a comprehensive system of pedestrian, bicycle, or other recreational paths which shall be carefully coordinated with the provision of open spaces, public facilities, vehicular access routes, and mass transportation facilities.*

The applicant proposes over 5.4-acres of publicly accessible open spaces encompassing a public park along Backlick Run, a playground adjacent to the condo flats, and linear open spaces within

the townhouse blocks. Consistent with the Eisenhower West Small Area Plan, the proposal includes new interior streets, a shared use path within the public park, and a pedestrian/cyclist bridge across Backlick Run.

6. *The proposed development shall provide a substantial amount of residential units, including an affordable housing component.*

In the maximum development scenario, the applicant proposes up to 810,000 sq. ft. of residential development. With the DSUPs provided with this application, the applicant is proposing to develop the site with nearly 671,000 sq. ft. of residential development, totaling 323 housing units in a mix of townhouse, stacked townhouse, and multi-unit condo flats. The variety of housing types will provide home ownership opportunities at differing price points, thereby giving more households access to the neighborhood. The applicant has also committed to providing a monetary contribution consistent with the City's Procedures Regarding Affordable Housing Contributions.

Attachment 3 – Consistency with Rezoning Criteria

Below is the staff analysis demonstrating that the proposal satisfies the five criteria for rezoning without a Master Plan study for the area.

1. Consistency with Small Area Plan

Although the proposal includes a master plan amendment, the project and its rezoning component are consistent with the broad goals and specific objectives of the Eisenhower West Small Area Plan. As detailed previously in this report, the project proposes a new primarily residential neighborhood, street grid, public and private parks with public access easements. Furthermore, the Small Area Plan specifically identifies the opportunity to use CDD zoning for this project site.

2. Consistency with Type of Area

The former industrial site is vacant, and the Eisenhower West Small Area Plan identifies the site for a range of uses including parks, multi-unit residential, commercial, and production/wholesale/repair. The applicant's rezoning request accommodates these planned uses and is consistent with the Small Area Plan.

3. Isolated Parcel

The third rezoning criterion specifies that a major planning study may be needed if the City Council approved a proposed rezoning at a redevelopment site surrounded by other parcels that could also be redeveloped. However, this proposed rezoning enlarges the existing CDD in-line with the opportunity identified in the Eisenhower West Small Area Plan to establish CDDs that encompass each individual plan neighborhood. Therefore, the rezoning proposal would not impair the Small Area Plan recommendations or trigger other rezoning requests not already contemplated in the Small Area Plan. No new planning studies are necessary.

4. Status of Planning for the Area

This criterion asks whether Staff anticipates any new planning study in this area soon. If so, a site may not be appropriate for a rezoning until such a study is complete. The City Council adopted the Eisenhower West Small Area Plan chapter of the master plan in November 2015, and we do not anticipate any further updates.

5. Applicant's Consistency with City Goals

In addition to advancing the vision of the Eisenhower West Small Area Plan, this proposal meets the goals (or will meet them subject to delivering the projects with the associated DSUPs/DSPs) outlined in other City policies, including those related to multimodality, public art, urban design, green building, and housing.

Attachment 4 – CDD #26 Rezoning Table

CDD No.	CDD Name	Without a CDD Special Use Permit	With a CDD Special Use Permit		
			Maximum FAR and/or Development Levels	Maximum Height	Uses
26	Public Storage / Boat US	I/Industrial regulations shall apply	<p>Maximum FAR: 2.5</p> <p>Minimum open space: A minimum of 10% of the land area occupied by primarily non-residential uses shall be provided as publicly-accessible, ground-level useable open space. A minimum of 30% of the land area within the CDD area occupied by primarily residential uses shall be provided as useable open space, half of which must be publicly-accessible, ground-level useable open space. Publicly-accessible, ground-level useable open space may be provided at any location within the CDD area to meet the open space requirement.</p>	The maximum heights shall conform to the Eisenhower West Small Area Plan as may be amended.	<p>Multi-unit dwelling; self-storage/warehouse ; animal care facility with no overnight accommodation; catering; glass shop; health and athletic club or fitness studio; improved outdoor recreational facilities intended for passive and/or non-congregate recreational activities; light assembly, service and crafts; machine shop; manufacturing; massage establishment; motor vehicle parking or storage; outdoor dining; personal service establishment; printing and publishing services; private school, academic or commercial, with more than 20 students on the premises at any one time; recreational areas consisting of natural and</p>

			<p>Minimum yards: None, except as may be applicable pursuant to the supplemental yard and setback regulations of Section 7-1000.</p> <p>Area Requirements: There are no lot area or frontage requirements.</p> <p>The height-to-setback ratio required in Section 6-403(A) of the Zoning Ordinance and the zone transition requirements of Section 7-900 do not apply.</p>		<p>unimproved geographic features; restaurant; retail shopping establishment; valet parking; wholesale; hotel; and townhouse</p>
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Attachment 5 – Vacation Valuation Memorandum

City of Alexandria, Virginia

MEMORANDUM

DATE: MARCH 21, 2024

TO: KARL MORITZ, DIRECTOR
DEPARTMENT OF PLANNING AND ZONING

FROM: WILLIAM BRYAN PAGE SRA, RM, REAL ESTATE ASSESSOR
OFFICE OF REAL ESTATE ASSESSMENTS (OREA) *WBP*

SUBJECT: 1,842-SQUARE-FOOT VACATION

ADDRESS: 701 SOUTH VAN DORN STREET, ALEXANDRIA, VA

PROJECT: VACATION #2023-10007

Per your request, we have reviewed the proposed vacation of an 1,842 square-foot uninstalled section of right-of-way located along the west side of South Van Dorn Street between that artery's intersection with South Pickett Street and Courtney Street in the West End of the City of Alexandria. The Van Dorn Metro Station is located just east of the subject along the south side of Eisenhower Avenue. The property is currently titled in the name of Vulcan Lands, Inc. Preliminary Development Plans show single-family townhouses, two-over-two stacked townhouse condominiums, and a 256 key hotel with 5,614 square-feet of street level retail. The entire project is proposed to be zoned CDD-24.

The value of the proposed vacation was estimated using other CY 2024 assessed land values of other parcels in the immediate area that possess similar characteristics. Research indicates 2024 land values ranging from **\$25.00** to **\$30.00 per square foot**. The developer, however, will be responsible for significant infrastructure costs including remediation, dynamic compaction, paved streets and gutters, utilities, storm sewer, common open space, and parkland. Based on the for the forgoing, the proposed vacation (VAC-100007) has an estimated value of **\$32,500** (1,842 x \$30.00 x .6400).

Thirty-Two Thousand Five Hundred Dollars

This analysis does not constitute a fully documented real property appraisal report and should not be purported as such. The analysis is based on 2024 assessed land values of similarly zoned parcels intended for multifamily development and complies with City policies and guidelines regarding vacations.

Attachments

Vacation Plat: November 16, 2023
cc: Jared Alves, Planner III
Catherine Miliaras, Principal Planner

Attachment 1: Master Plan Amendment Resolution

RESOLUTION NO. **MPA 2023-00007**

WHEREAS, under the Provisions of Section 9.05 of the City Charter, the Planning Commission may adopt amendments to the Master Plan of the City of Alexandria and submit to the City Council such revisions in said plans as changing conditions may make necessary; and

WHEREAS, the proposed amendment will amend the **Eisenhower West Small Area Plan** chapter of the 1992 Master Plan;

WHEREAS, the Department of Planning and Zoning has analyzed the proposed revisions and presented its recommendations to the Planning Commission; and

WHEREAS, a duly advertised public hearing on the proposed amendment was held on **April 4, 2024** with all public testimony and written comment considered; and

WHEREAS, the Planning Commission finds that:

1. The proposed amendment is necessary and desirable to guide and accomplish the coordinated, adjusted and harmonious development of the **Eisenhower West Small Area Plan** section of the City; and
2. The proposed amendment is generally consistent with the overall goals and objectives of the 1992 Master Plan and with the specific goals and objectives set forth in the **Eisenhower West Small Area Plan** section of the 1992 Master Plan; and
3. The proposed amendment shows the Planning Commission's long-range recommendations for the general development of the **Eisenhower West Small Area Plan**; and
4. Based on the foregoing findings and all other facts and circumstances of which the Planning Commission may properly take notice in making and adopting a master plan for the City of Alexandria, adoption of the amendment to the **Eisenhower West Small Area Plan** chapter of 1992 Master Plan will, in accordance with present and probably future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the residents of the City;

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of the City of Alexandria that:

1. The attached amendment to the **Eisenhower West Small Area Plan** is hereby adopted in its entirety amending the Eisenhower West Small Area Plan chapter of the 1992 Master Plan of the City of Alexandria, Virginia in accordance with Section 9.05 of the Charter of the City of Alexandria, Virginia, to the:
 - Amend Figure 4.26 – Building heights diagram to change height limit for the southern portion of the property from Medium-High to Medium (p. 53).

2. This resolution shall be signed by the Chairman of the Planning Commission and attested by its secretary, and a true copy of this resolution forwarded and certified to the City Council.

ADOPTED the **4th** day of **April, 2024**.

Chair, Alexandria Planning Commission

ATTEST: _____
Karl Moritz, Secretary

Attachments

Figure 4.26 – Building Heights Diagram, Existing (pg. 53)

6. Outside the 1/4-mile, lower heights will be considered with the overall goal of achieving a variety of heights that step down from the Van Dom Metrorail Station.
7. Minimum heights do not apply to townhouses.
8. Density provisions of Section 7-700 of the Zoning Ordinance apply.

Distinctive Architecture and Placemaking

1. Reinforce Eisenhower Avenue as a "Great Street" by using distinctive architecture, landscaping and streetscape design.
2. Buildings taller than 100 feet will create distinctive architecture and roof top design that are dramatic, deliberate, and add visual interest to the skyline by offering 360 degree sculpted forms with architectural and design flourishes.
3. Highlight special buildings by using contemporary and innovative design, high-quality materials, and special building elements. Potential locations include buildings:
 - Around the Van Dom Metrorail Station,
 - Fronting public spaces in the future mixed transit-oriented development near the Van Dom Metrorail Station,
 - At the future terminus of Eisenhower Avenue,
 - At the intersection of Clement and Eisenhower Avenues,
 - Along Van Dom Street,
 - At the corner of South Pickett and Duke Streets,
 - At the future mixed-use node at the Trade Center site,
 - At gateways, and
 - Fronting parks and public spaces.

See Fig. 4.23 for all potential locations.

Building Sustainability

1. Provide sustainably designed buildings consistent with the City of Alexandria's green buildings policies and development standards.
2. Roofs will contribute to sustainability by creating opportunities for renewable energy, open space, and/or stormwater management.
3. Buildings will include and celebrate sustainable design features.
4. Where possible, orient buildings to maximize energy efficiency and provide access to daylight.

PARKING

1. Provide a range of parking options. For larger projects, a shared parking strategy is strongly encouraged.
2. Where there is sufficient change in topography, parking may be tucked into the grade. (See Figure 4.27.)
3. When parking is located above grade, the frontage of each level facing an "A", "B", or "P" street and park/open space is required to be lined with active uses (residential, office, hotel, and/or retail use) for a minimum depth of 35 feet (50' preferred).
4. Surface parking areas are prohibited except for interim uses.
5. Provide on-street parking along neighborhood streets. Evaluate on-street parking along Eisenhower Avenue where feasible. On-street parking may not be appropriate for Van Dom Street.
6. Integrate green building practices in parking design.
7. In the case that underground parking is not permitted due to floodplain restrictions, above ground parking will be permitted subject to architectural screening compatible with design and materials of the building architecture.

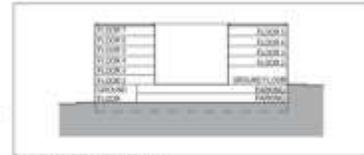


Fig. 4.27 - Parking tucked into grade



Fig. 4.26 - Building heights diagram

EISENHOWER WEST Small Area Plan | 3

Figure 4.26 – Building Heights Diagram, Proposed (pg. 53)

6. Outside the 1/4-mile, lower heights will be considered with the overall goal of achieving a variety of heights that step down from the Van Dom MetroRail Station.
7. Minimum heights do not apply to townhouses.
8. Density provisions of Section 7-700 of the Zoning Ordinance apply.

Distinctive Architecture and Placemaking

1. Reinforce Eisenhower Avenue as a "Great Street" by using distinctive architecture, landscaping and streetscape design.
2. Buildings taller than 100 feet will create distinctive architecture and roof top design that are dramatic, deliberate, and add visual interest to the skyline by offering 360 degree sculpted forms with architectural and design flourishes.
3. Highlight special buildings by using contemporary and innovative design, high-quality materials, and special building elements. Potential locations include buildings:
 - Around the Van Dom MetroRail Station,
 - Fronting public spaces in the future mixed transit-oriented development near the Van Dom MetroRail Station,
 - At the future terminus of Eisenhower Avenue,
 - At the intersection of Clement and Eisenhower Avenues,
 - Along Van Dom Street,
 - At the corner of South Pickett and Duke Streets,
 - At the future mixed-use node at the Trade Center site,
 - At gateways, and
 - Fronting parks and public spaces.

See Fig. 4.23 for all potential locations

Building Sustainability

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2. Roofs will contribute to sustainability by creating opportunities for renewable energy, open space, and/or stormwater management.
3. Buildings will include and celebrate sustainable design features.
4. Where possible, orient buildings to maximize energy efficiency and provide access to daylight.

PARKING

1. Provide a range of parking options. For larger projects, a shared parking strategy is strongly encouraged.
2. Where there is sufficient change in topography, parking may be tucked into the grade. (See Figure 4.27.)
3. When parking is located above grade, the frontage of each level facing an "A," "B," or "P" street and park/open space is required to be lined with active uses (residential, office, hotel, and/or retail) used for a minimum depth of 35 feet (50' preferred).
4. Surface parking areas are prohibited except for interim uses.
5. Provide on-street parking along neighborhood streets. Evaluate on-street parking along Eisenhower Avenue where feasible. On-street parking may not be appropriate for Van Dom Street.
6. Integrate green building practices in parking design.
7. In the case that underground parking is not permitted due to floodplain restrictions, above ground parking will be permitted subject to architectural screening compatible with design and materials of the building architecture.

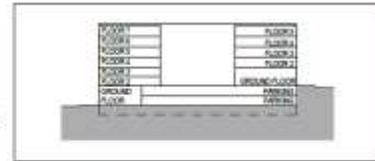


Fig. 4.27 - Parking tucked into grade



Fig. 4.26 - Building heights diagram

Ord. XXXX, allow
 Medium

EISENHOWER WEST Small Area Plan | 53

Attachment 2: CDD Concept Plan Approval Standards

The proposal conforms to the six specific standards for CDD Concept Plan approval contained in §5-604 of the Zoning Ordinance:

1. *The proposed development shall substantially conform to the city's master plan with respect to the general type, character, intensity, and location of uses, as reflected in the CDD guidelines of the applicable area plan.*

As noted previously in this report, the proposed development conforms to the broad goals and objectives of the Eisenhower West Small Area Plan, as well as many of its specific recommendations for the CDD at and around the project site referred within Neighborhood 1 – Van Dorn Innovation District. The applicant has requested a Master Plan Amendment for one element of the proposed development and staff recommends approval of the amendment.

2. *The proposed development shall preserve and protect to the extent possible all scenic assets and natural features of the land.*

The proposed public park within the Resource Protection Area associated with Backlick Run encompasses the most significant natural feature within this brownfield, former industrial site. By dedicating over six acres of Backlick Run and its bank to the City, the project helps to ensure the long-term preservation and protection of this resource through a context-sensitive design that provides space for passive recreation.

3. *The proposed development shall be designed to mitigate substantial adverse impacts to the use and value of surrounding lands.*

The applicant has designed the proposed CDD Concept Plan and associated DSUPs and DSPs that are part of this application to mitigate any broad adverse effects on surrounding lands. The applicant has proposed a new street grid, public park, publicly accessible open space, variety of housing types, improved intersection and entrance at S Van Dorn Street, and a pedestrian/cyclist connection across Backlick Run.

4. *The proposed development shall be designed in accordance with public facilities, services, transportation systems, and utilities which are adequate for the development proposed, and which are available, or reasonably probable of achievement, prior to use and occupancy of the development.*

The CDD Concept Plan accommodates the public facilities, services, transportation improvements, and utilities that are adequate and commensurate to the proposed development. The applicant will need to provide new public streets, a public park, open space with public access easements, and utilities serving the site according to the phasing plan provided for in the recommended conditions of approval.

5. *The proposed development shall be designed to provide adequate recreational amenities and, if appropriate to the site, a comprehensive system of pedestrian, bicycle, or other recreational paths which shall be carefully coordinated with the provision of open spaces, public facilities, vehicular access routes, and mass transportation facilities.*

The applicant proposes over 5.4-acres of publicly accessible open spaces encompassing a public park along Backlick Run, a playground adjacent to the condo flats, and linear open spaces within

the townhouse blocks. Consistent with the Eisenhower West Small Area Plan, the proposal includes new interior streets, a shared use path within the public park, and a pedestrian/cyclist bridge across Backlick Run.

6. *The proposed development shall provide a substantial amount of residential units, including an affordable housing component.*

In the maximum development scenario, the applicant proposes up to 810,000 sq. ft. of residential development. With the DSUPs provided with this application, the applicant is proposing to develop the site with nearly 671,000 sq. ft. of residential development, totaling 323 housing units in a mix of townhouse, stacked townhouse, and multi-unit condo flats. The variety of housing types will provide home ownership opportunities at differing price points, thereby giving more households access to the neighborhood. The applicant has also committed to providing a monetary contribution consistent with the City's Procedures Regarding Affordable Housing Contributions.

Attachment 3 – Consistency with Rezoning Criteria

Below is the staff analysis demonstrating that the proposal satisfies the five criteria for rezoning without a Master Plan study for the area.

1. Consistency with Small Area Plan

Although the proposal includes a master plan amendment, the project and its rezoning component are consistent with the broad goals and specific objectives of the Eisenhower West Small Area Plan. As detailed previously in this report, the project proposes a new primarily residential neighborhood, street grid, public and private parks with public access easements. Furthermore, the Small Area Plan specifically identifies the opportunity to use CDD zoning for this project site.

2. Consistency with Type of Area

The former industrial site is vacant, and the Eisenhower West Small Area Plan identifies the site for a range of uses including parks, multi-unit residential, commercial, and production/wholesale/repair. The applicant's rezoning request accommodates these planned uses and is consistent with the Small Area Plan.

3. Isolated Parcel

The third rezoning criterion specifies that a major planning study may be needed if the City Council approved a proposed rezoning at a redevelopment site surrounded by other parcels that could also be redeveloped. However, this proposed rezoning enlarges the existing CDD in-line with the opportunity identified in the Eisenhower West Small Area Plan to establish CDDs that encompass each individual plan neighborhood. Therefore, the rezoning proposal would not impair the Small Area Plan recommendations or trigger other rezoning requests not already contemplated in the Small Area Plan. No new planning studies are necessary.

4. Status of Planning for the Area

This criterion asks whether Staff anticipates any new planning study in this area soon. If so, a site may not be appropriate for a rezoning until such a study is complete. The City Council adopted the Eisenhower West Small Area Plan chapter of the master plan in November 2015, and we do not anticipate any further updates.

5. Applicant's Consistency with City Goals

In addition to advancing the vision of the Eisenhower West Small Area Plan, this proposal meets the goals (or will meet them subject to delivering the projects with the associated DSUPs/DSPs) outlined in other City policies, including those related to multimodality, public art, urban design, green building, and housing.

Attachment 4 – CDD #26 Rezoning Table

CDD No.	CDD Name	Without a CDD Special Use Permit	With a CDD Special Use Permit		
			Maximum FAR and/or Development Levels	Maximum Height	Uses
26	Public Storage / Boat US	I/Industrial regulations shall apply	<p>Maximum FAR: 2.5</p> <p>Minimum open space: A minimum of 10% of the land area occupied by primarily non-residential uses shall be provided as publicly-accessible, ground-level useable open space. A minimum of 30% of the land area within the CDD area occupied by primarily residential uses shall be provided as useable open space, half of which must be publicly-accessible, ground-level useable open space. Publicly-accessible, ground-level useable open space may be provided at any location within the CDD area to meet the open space requirement.</p>	The maximum heights shall conform to the Eisenhower West Small Area Plan as may be amended.	<p>Multi-unit dwelling; self-storage/warehouse ; animal care facility with no overnight accommodation; catering; glass shop; health and athletic club or fitness studio; improved outdoor recreational facilities intended for passive and/or non-congregate recreational activities; light assembly, service and crafts; machine shop; manufacturing; massage establishment; motor vehicle parking or storage; outdoor dining; personal service establishment; printing and publishing services; private school, academic or commercial, with more than 20 students on the premises at any one time; recreational areas consisting of natural and</p>

			<p>Minimum yards: None, except as may be applicable pursuant to the supplemental yard and setback regulations of Section 7-1000.</p> <p>Area Requirements: There are no lot area or frontage requirements.</p> <p>The height-to-setback ratio required in Section 6-403(A) of the Zoning Ordinance and the zone transition requirements of Section 7-900 do not apply.</p>		<p>unimproved geographic features; restaurant; retail shopping establishment; valet parking; wholesale; hotel; and townhouse</p>
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Attachment 5 – Vacation Valuation Memorandum

City of Alexandria, Virginia

MEMORANDUM

DATE: MARCH 21, 2024

TO: KARL MORITZ, DIRECTOR
DEPARTMENT OF PLANNING AND ZONING

FROM: WILLIAM BRYAN PAGE SRA, RM, REAL ESTATE ASSESSOR
OFFICE OF REAL ESTATE ASSESSMENTS (OREA) *WBP*

SUBJECT: 1,842-SQUARE-FOOT VACATION

ADDRESS: 701 SOUTH VAN DORN STREET, ALEXANDRIA, VA

PROJECT: VACATION #2023-10007

Per your request, we have reviewed the proposed vacation of an 1,842 square-foot uninstalled section of right-of-way located along the west side of South Van Dorn Street between that artery's intersection with South Pickett Street and Courtney Street in the West End of the City of Alexandria. The Van Dorn Metro Station is located just east of the subject along the south side of Eisenhower Avenue. The property is currently titled in the name of Vulcan Lands, Inc. Preliminary Development Plans show single-family townhouses, two-over-two stacked townhouse condominiums, and a 256 key hotel with 5,614 square-feet of street level retail. The entire project is proposed to be zoned CDD-24.

The value of the proposed vacation was estimated using other CY 2024 assessed land values of other parcels in the immediate area that possess similar characteristics. Research indicates 2024 land values ranging from **\$25.00 to \$30.00 per square foot**. The developer, however, will be responsible for significant infrastructure costs including remediation, dynamic compaction, paved streets and gutters, utilities, storm sewer, common open space, and parkland. Based on the for the forgoing, the proposed vacation (VAC-100007) has an estimated value of **\$32,500** (1,842 x \$30.00 x .6400).

Thirty-Two Thousand Five Hundred Dollars

This analysis does not constitute a fully documented real property appraisal report and should not be purported as such. The analysis is based on 2024 assessed land values of similarly zoned parcels intended for multifamily development and complies with City policies and guidelines regarding vacations.

Attachments

Vacation Plat: November 16, 2023
cc: Jared Alves, Planner III
Catherine Miliaras, Principal Planner

Summary of the Request

The Applicant proposes the remediation of the existing Vulcan Materials Company site, 701 S. Van Dorn Street and 698 Burnside Place (the “Property”), in order to provide a new mixed-use development including a hotel and retail fronting on S. Van Dorn Street, condominiums, townhouses, two-over-two units, and a 6-acre Backlick Park dedicated to the City. The redevelopment of the Property is guided by the Eisenhower West Small Area Plan (“SAP”), which includes site specific recommendations. While the proposed development largely achieves the primary redevelopment guidance of the SAP and other City policies, the following is a list of the Applicant’s requested amendments to the SAP filed in conjunction with the requested rezoning to the CDD #26 Zoning District. The Applicant requests an amendment to CDD #26 to include the Property and to amend the CDD #26 Zoning Ordinance text in furtherance of the development. Specifically, the following SAP Master Plan Amendments (“MPA”) are requested:

1. A reduction of the minimum building height (from a minimum of 7 stories to 4stories/50’);
2. The realignment of the Farrington Connector;
3. A use change to allow hotel use; and
4. Above-ground parking, and on-street parking on the park side of Courtney Ave. adjacent to the proposed park.
5. Additional master plan amendments include the omission of the following:
 - a. A direct vehicular connection to the future Farrington Connector;
 - b. Street C connecting the site to S. Pickett Street; and
 - c. Active uses (including the hotel entrance) directly fronting S. Van Dorn Street.

Context and Existing Conditions

The Property, totaling 17.76 acres, is located in the Eisenhower West Small Area Plan, immediately west of Van Dorn Street and south of Backlick Run and north of Norfolk Southern railway line. The Property has been used by Vulcan Materials Company, a concrete manufacturing facility for many years. Given its industrial past, significant site preparations are needed to redevelop. The Property is south of the recently approved Public Storage phased DSUP located at 880-890 S. Pickett Street, also rezoned to CDD #26. The Property is less than one mile from the Van Dorn Metro Station.

Zoning and Planning Guidance

The existing zoning of the Property is I/Industrial District permitting light to medium industrial, warehouse, storage, commercial and service uses. As stated above, the Property is

included in the SAP and is with the Neighborhood 1 Van Dorn Innovation-District (“District”), a primarily residential district but also allows for retail, office, and Production, Wholesale and Repair (“PWR”) uses. The enhancement and protection of Backlick Run as an open space is a primary focus of this District. With regard to specific redevelopment guidance for the Property, it is planned for a grid of streets with three primary blocks. The easternmost block is planned for Mixed Use including residential, office and retail while the two other blocks are planned for residential uses. Since the project is located within ½ mile from the Van Dorn Metro, the building height guidance is 7 to 15 stories. A north-south connection street, the Farrington Connector is planned within the western end of the Property. Parking is to be below grade or tucked into existing grade so as not visible from public rights of way. Restoration of Backlick Run and the improvement of access and use is called for.

With regard to implementation of the SAP, the redevelopment of the Property would fall into the catalyst phase of the plan given development has been slow to take hold in the SAP area since its adoption in 2016. In this phase, DSUPs will more likely favor market conditions, which in this case includes hotel and retail instead of other permitted uses along Van Dorn Street. The SAP also calls for CDD zoning for each of the six neighborhoods to allow for the implementation of the SAP guidance.

Amendment to CDD #26 to Add the Property and Master Plan Amendments

As mentioned above, there are MPAs requested for the proposed redevelopment of the Property; however, the proposed development largely meets the primary site-specific guidance for the Property including the grid of streets, three block pattern of development, enhancement and improvement of Backlick Run, primarily residential development, dedication area to allow for the Farrington Connector as well as the pedestrian bridge over Backlick Run connecting properties in the SAP. The MPAs listed below are necessary and will allow for this catalyst development:

1. A reduction of the minimum building height (from a minimum of 7 stories to 4stories/50’);
2. The realignment of the Farrington Connector;
3. A use change to allow hotel use; and
4. Above-ground parking, and on-street parking on the park side of Courtney Ave. adjacent to the proposed park.
5. Additional master plan amendments include the omission of the following:
 - a. A direct vehicular connection to the future Farrington Connector;
 - b. Street C connecting the site to S. Pickett Street; and
 - c. active uses (including the hotel entrance) directly fronting S. Van Dorn Street.

CDD Amendment Criteria

Below, the Applicant has addressed the CDD submission criteria pursuant to §5-604(C) in italics:

(3) A statement describing the project in narrative form and describing the relationship of the proposed development to the master plan guidelines for the district.

The proposed development substantially conforms with the SAP guidance in terms of residential use, grid of streets and building block layout, Backlick Park, and connection through the Property. As a result of market shifts favoring certain types of residential uses and hotel as detailed above, the Applicant seeks a use change for one block, minimum heights of the building (from 7 stories to 50'¼ stories) and above ground parking, given the remediation necessary on the Property.

(4) A general description of how adjacent and neighboring properties will be protected from any adverse effects prompted by the proposed development.

The proposed development is generally isolated from adjacent through Backlick Run to the north and west, which will be improved, and the Norfolk Southern Railway to the south. To the east, lies S. Van Dorn Street. Given the size and scale of development (approximately 1.0 FAR) and conversion from industrial use to primarily residential and hotel use, the neighboring properties will be improved from this redevelopment.

(5) A statement setting forth the maximum height of buildings to be constructed.

The maximum requested building height for the Property is 150' for the hotel site and up to 100' for residential buildings.

(6) A statement setting forth the maximum overall gross floor area and floor area ratio proposed, and the maximum gross floor area and floor area ratio proposed for each use in the proposed development.

The proposed net floor area of the Property is approximately 1.17 FAR or 905,000 SF; however, the Applicant requests a site-wide maximum of 2.5 FAR which was established with the approved Public Storage 880-890 S. Pickett Street rezoning to CDD #26. The proposed gross floor area is approximately 1,090,000 SF.

(7) A statement setting forth the maximum number of dwelling units proposed, and an approximate breakdown of units by type and size.

The Applicant proposes approximately 400 residential units, including up to 40 townhouses, 110 two-over-two units and 250 condominium flats. Please see DSUP plans under separate cover for the proposed sizes for each unit type. The maximum proposed number of units for the Property is 1,000.

(8) A statement setting forth the maximum number of parking spaces, and the general location and character, whether surface or structured, thereof.

For the proposed development on the Property, the Applicant proposes parking pursuant to the Zoning Ordinance. Parking will be provided above-ground due to site constraints and soil rehabilitation.

(9) A statement identifying those special amenities proposed for the development.

The primary amenity proposed with the development is the improvement of Backlick Run, which includes trails, playgrounds, overlook areas, etc. A network of sidewalks and access to bike share will also be provided for future residents. Residents will also benefit from the retail within the hotel.

(10) A statement setting forth any proposed interim uses of the site or portion thereof, the proposed development schedule and phases for development, and, if applicable, requesting the division of the district into sections for the purpose of subsequent submissions under this section 5-600.

There are no interim uses planned for the site. The Applicant proposes several DSUPs within the development for tracking and phasing purposes.

(11) A statement of the improvements, public or private, on or off site, proposed for construction or dedication, and an estimate of the timing of providing such improvements.

With first phase of development, the dedication of Backlick Park and improvements will be provided. Because the Farrington Connector area is within Backlick Park, it will also be dedicated at that time. Proposed public streets dedications or public access easements will be provided to the City as part of DSP for infrastructure or DSUPs. Note the Applicant requests a reservation for parking for the condominium flats on the southern portion of Road A, shown in the related DSUP.

CDD Amendment Approval Standards

Below, the Applicant has addressed the CDD Standards of approval pursuant to §5-604(H) in italics:

(1) The proposed development shall substantially conform to the city's master plan with respect to the general type, character, intensity, and location of uses, as reflected in the CDD guidelines of the applicable area plan.

The proposed development substantially conforms with the SAP guidance in terms of residential use, grid of streets and building block layout, Backlick Park, and connection through the Property. As a result of market shifts favoring certain types of residential uses and hotel as detailed above, the Applicant seeks a use change for one block, minimum heights of the building (from 7 stories to 50'¼ stories) and above ground parking, given the remediation necessary on the Property.

(2) The proposed development shall preserve and protect to the extent possible all scenic assets and natural features of the land.

The Applicant proposes to improve existing Backlick Park and make it accessible to the public to enjoy by dedicating 6 acres to the City, providing trails, overlooks, playgrounds and other improvements.

(3) The proposed development shall be designed to mitigate substantial adverse impacts to the use and value of surrounding lands.

The proposed development is generally isolated from adjacent properties due to Backlick Run to the north and west, and the Norfolk Southern Railway to the south. To the east, lies S. Van Dorn Street overpass. Given the size and scale of development (approximately 1.0 FAR) and conversion from industrial use to primarily residential and hotel use, the value of neighboring properties will be improved from this redevelopment. Neighboring properties also will not be impacted by industrial uses including trucks, debris, noise, etc. present with the concrete production company.

(4) The proposed development shall be designed in accordance with public facilities, services, transportation systems and utilities which are adequate for the development proposed, and which are available, or reasonably probable of achievement, prior to use and occupancy of the development.

The Property is located within a half-mile radius of the Van Dorn Street Metro Station and it is envisioned the future residents will walk or bike to the Metro Station. The proposed development will improve pedestrian and bicycle routes through the site, including crosswalks and signal improvements at Courtney Avenue across Van Dorn Street. Utilities serving the site will be upgraded and Backlick Park will be dedicated to the City for public use by City residents as well as future residents of the development. Backlick Park and pedestrian/bike improvements will be provided with the first phase of development and/or the infrastructure DSP.

(5) The proposed development shall be designed to provide adequate recreational amenities and, if appropriate to the site, a comprehensive system of pedestrian, bicycle or other recreational paths which shall be carefully coordinated with the provision of open spaces, public facilities, vehicular access routes and mass transportation facilities.

As stated elsewhere, the proposed development will provide improvements to Backlick Park, and the Applicant will dedicate it to the City for public use. Backlick Park will be improved with passive recreational features such as trails, overlooks, seating areas, etc. It will also include two playgrounds. The development will also provide pedestrian and bike connections throughout the site, connecting to and across Van Dorn Street.

(6) The proposed development shall provide a substantial number of residential units, including an affordable housing component.

The proposed development includes up to approximately 400 units with a maximum of 1,000 units. With any future DSUP, a contribution to affordable housing consistent with the current City policy.

Development Contributions

As part of the proposed CDD #26 Amendment, the Applicant agrees to provide a contribution to the Eisenhower West Implementation Fund at the catalyst level of approximately \$3.31/SF. The Applicant also agrees to meet the City's current Green Building Policy and the Affordable Housing policy.

701 S. Van Dorn Street & 698 Burnside Place
DSUP#2023-00012 – Vulcan Site
Preliminary Building Load Reduction Strategies
September 8, 2023

The Applicant, US Home, LLC (dba Lennar) and Potomac Land Group II, LLC proposes a mixed use project with a hotel including retail, and residential use of condominiums, townhouses and two-over-two units. The development includes a new grid of streets and a 6 acre Backlick Park improvement and dedication to the City. The Applicant proposes a rezoning to the CDD #26 zone, a Zoning Ordinance text amendment, Master Plan Amendments, a Subdivision, DSUPs, DSPs and SUPs in furtherance of the proposed project.

The following is a list of the Applicant’s preliminary building load reduction strategies that may change as the designs progress. The Green Building Scorecards are included in the DSUP plan set under separate cover.

For the Hotel, the Applicant proposes the following:

- A. Massing and Orientation items for the project include:
 - 1. A majority of the hotel’s public spaces (i.e. with the most glazing areas) are facing north and east. This will allow the sun to light the east side in the morning, and then there will be indirect sunlight into these spaces for most of the day.
 - 2. The guestrooms and their guest bathrooms are stacked to limit the unnecessary distribution of additional plumbing, hot water, and exhaust systems, that contribute to lowering power usage.
- B. Building envelope attributes for the project include:
 - 1. Exterior insulated double pane windows, with Low-E glass, and storefront frames that have a “thermal break”.
 - 2. Insulated exterior walls systems
 - 3. Insulated roofing systems
 - 4. An efficient building envelope will allow the mechanical systems to be sized smaller, also contributing to the reduction of power usage.
- C. Exterior and interior lighting attributes include:
 - 1. Timers and photovoltaic sensors to control some building exterior lighting so it does not stay on all night.
 - 2. Programmed lighting dimming “scenes” in the public spaces, so that full illumination of the public areas are only occurring when the spaces are being cleaned.
- D. Electrical management for plug and process of loads include:
 - 1. Master override switches in the guestrooms that shut off desk lamps, floor lamps, nightstand lamps, and if other room lighting, for when guests leave the guestrooms. The master override switch above will turn off the “switched” outlets as related to the lamps, but leave on power to the guestroom convenience plugs for charging and using personal electronics, wifi, TV, etc.

E. Mechanical systems for the project will include:

1. 10. Energy efficient HVAC systems
2. 11. An Energy Management System for HVAC. This would also be tied to occupancy sensors in the guestrooms and thermostats. The thermostats would be programmed as a specific temperature range.
3. 12. Hot water recirculation, to limit the cycling of fully having to re-heat water after it is not used for some time.

F. Other strategies being implemented in the building include:

1. Potential area for solar panels in the future on the roof depending on roof use/final mechanical equipment design. Conduit supporting solar panels will be installed.
2. Provide a green roof over the parking garage ramp, that adds to the insulating properties of that roof, and also assists in stormwater management.
3. Provide building level energy metering

For the residential component (condominiums, townhouses and two-over-two units), the Applicant proposes the following:

A. Massing and Orientation items for the project include:

1. The multifamily homes and their kitchen and bathrooms are stacked to limit the unnecessary distribution of additional plumbing, hot water, and exhaust systems, that contribute to lowering power usage. The shared walls of townhomes and two over two homes reduces building envelope area and energy loss.

B. Building envelope attributes for the project include:

1. Exterior insulated double pane windows, with Low-E glass, and storefront frames that have a “thermal break”.
2. Insulated Grade 1 exterior walls systems with R21 insulation.
3. Insulated roofing systems with minimum R38 insulation.
4. An efficient building envelope will allow the mechanical systems to be sized smaller, also contributing to the reduction of power usage.

C. Exterior and interior lighting attributes include:

1. Timers and photovoltaic sensors to control some building exterior lighting so it does not stay on all night.

D. Electrical management for plug and process of loads include:

1. Residential units will include Energy Star Appliances.

E. Mechanical systems for the project will include:

1. Energy efficient HVAC system sized per ACCA Manual J and selected using ACCA Manuals.
2. Thermostats would be programmed as a specific temperature range.

F. Other strategies being implemented in the building include:

1. Provide infrastructure for future potential solar panels on the roof that could be used to power some elements in the building

2. WaterSense low flow fixtures will be used within residential units.
3. All residential buildings to be designed for NGBS Green certification.

The strategies herein compliment the City's 2019 Green Building policy. More detailed information will be available as the design progresses through the entitlement phase and the construction drawing/final site plan and permitting phases of the building.

To:	Emily Baker, Assistant City Manager Karl Moritz, Planning Director
From:	Kenneth W. Wire
Date:	November 17, 2023
RE:	Vulcan Site, 701 S. Van Dorn Street (the “Property”)

As a follow-up to our meeting on August 30, 2023, and in response to Staff Comments #24 and 25 dated October 11, 2023, we provide this parking proposal as a solution allowing for the redevelopment of the Property with for-sale condominiums. The parking proposal will accommodate private parking on a portion of a to-be constructed street adjacent to the proposed condominium portion of the project. This solution provides the opportunity to move forward with a complex project including extensive site remediation of an industrial site and the dedication and improvement of a 6-acre park. Most importantly, the project provides for-sale housing of varying types within ½ mile of the Van Dorn Metro Station.

In August, we discussed three possible solutions with you. Two solutions 1) a residential parking permit system and 2) a private street with access easement, would enable the allocation of 52 on-street parking spaces out of 94 to specific residential units. A third option decreasing density was infeasible due to loss of project revenue and impacts to the developer contribution.

After discussion with you, we agreed the private street with access easement is the best solution. The Applicant proposes the following scheme of a private street with public access easement managed by a property owners association (“Easement Proposal”). The Easement Proposal will address Staff concerns with a private streets which are the following:

- 1) Public Access: It will allow for public access on the roadway through a public access easement. Residents, visitors and the public will be able to use the travelway area as they will other public streets in the development. It will seamlessly tie into the public portion of Road A. Public access will not be provided over the parking spaces located adjacent to the travelway.
- 2) City Standards: It will be designed to City standards, matching public streets in the development. It will be constructed at the same time.
- 3) Maintenance: It will be privately maintained through a development-wide homeowners association that will be initially funded by the developers. It will be maintained to City standards. Maintenance includes snow removal and repairs.
- 4) Precedent: A unique circumstance of the Property is that the development project is, in effect, an island: the proposed roads do not connect to adjacent parcels due to the presence of a railroad tracks along the south property boundary; the difference in elevation of S. Van Dorn Street and the Property along the east; and the presence of Backlick Run along the northern and western property boundary. These natural and

manmade barriers create an island on all sides of the property which is a unique circumstance not typical of development in the City of Alexandria.

- 5) Duration of Easement: The homeowners association will not have the ability to remove the easement so long as the Property is developed per the DSUP.

The following is a more detailed proposal of the Easement Proposal.

Easement Proposal– Private Street With Public Access Easement Managed by A Property Owners Association (the “Association”)

- A. The portion of Road A in front of the condominiums will be a private street with a public access easement. The public access area will include the travelway and not the adjacent parking spaces. Please see attached exhibit.
- a. The public access easement will be written broadly so the function and use of the travel way would be indistinguishable from a dedicated right-of-way elsewhere planned on the Property. The parking spaces will remain private outside of the access easement area.
 - b. 52 parking spaces will be located outside of the public access easement boundary and will be assigned to prospective condominium owners by the Association (or declarant, owner, etc.).
- B. Property Owners Association
- a. The Association will manage the private street and all internal private alleys, open space areas, any other shared amenities and features and maintenance of said shared amenities and features (collectively “Shared Features”) in the development.
 - b. The Hotel and residential unit owners will be members of the Association so that the costs of Shared Features are distributed among more units and thus are not overly burdensome to one class of owner. Please see attached “*Vulcan HOA Projected Costs*” spreadsheet.
 - i. The estimated average monthly HOA dues (in 2023 dollars) per residential unit for Shared Features is approximately \$120.
 - c. Lennar will fund the any operating and/or maintenance expense deficits operating costs until the HOA has enough residents to take over the HOA from Lennar.
 - d. The Association will not allow for removal of the public access easement so long as the Property is developed pursuant to the DSUP.
- C. City Street Standards
- a. The private street will be constructed to City street standards per the Alexandria Complete Streets Design Guidelines that match the public portion of Road A.
- D. Road Maintenance
- a. As shown on the attached “*Vulcan HOA Projected Costs*” spreadsheet, repair and maintenance will be funded by the Association.
 - b. The street will be maintained to City standards per the Alexandria Complete Streets Design Guidelines.

- c. Both snow removal and trash would be provided through the Association for public and private roads and included in the deed of easement. See attached “*Vulcan HOA Projected Costs*” spreadsheet.
- d. The demarcation of the private road with public access easement will be signed or marked in such a way so that the City employees will know where maintenance begins and ends.

The Applicant team and Staff have worked for more than a year to prepare the DSUP submission for completeness. The Applicant looks forward to receipt of the Staff comments on the DSUP and to public hearings in March 2023.

Vulcan Homeowners Association 321 Residential Units									
				Maintenance					
Components	Quantity	Units	Unit Cost	Period (YR)	Maintenance Cost	Annual Contribution	Monthly Contribution Per Residential Unit	Useful Life (YR)	Initial Construction Cost
STORM									
Catch Basins	1.00			1.00	\$ 25,000.00	\$ 25,000.00	\$ 6.49	25.00	\$ 125,000.00
Stormwater Detention	1.00			3.00	15,000.00	5,000.00	1.30	25.00	550,000.00
Concrete Curbs and Gutters, Flatwork									
Concrete Curbs and Gutters, Partial Replacement	7,145.00	LF	36.00	N/A	N/A	N/A	N/A	30.00	257,220.00
H/C ramps, Partial Replacement	10.00	EA	1,800.00	N/A	N/A	N/A	N/A	30.00	18,000.00
Concrete Sidewalk, Partial Replacement	14,325.00	SF	10.00	N/A	N/A	N/A	N/A	30.00	143,250.00
Paving									
Asphalt Pavement - Crack Repair, Patch and Seal Coat	8,438.33	SY		5.00	16,876.00	3,375.20	0.88		
Asphalt Pavement - Repaving, Mill and Overlay, Striping	8,438.33	SY	20.00					20.00	168,766.67
Mailbox Stations									
Cluster Mailbox	4.00	EA	3,200.00	N/A	N/A	N/A	N/A	25.00	12,800.00
Fencing									
Sound Attenuation Fencing	1,250.00	LF	210.00	1.00	1,500.00	1,500.00	0.39	30.00	262,500.00
Miscellaneous Operating									
Management Company	321.00	UN	300.00	1.00	96,300.00	96,300.00	25.00	N/A	N/A
Snow Removal	1.00	LS	10,000.00	1.00	10,000.00	10,000.00	2.60	N/A	N/A
Mowing, trimming, fertilizing, seeding, replacements	1.00	LS	20,000.00	1.00	20,000.00	20,000.00	5.19	N/A	N/A
Trash service - TH & 2/2's	117.00	UN	360.00	1.00	42,120.00	42,120.00	10.93	N/A	N/A
Trash service - Flats	6.00	BLDG	12,000.00	1.00	72,000.00	72,000.00	18.69	N/A	N/A
Misc Expenses (Insurance, taxes, etc.)	1.00	LS	50,000.00	1.00	50,000.00	50,000.00	12.98	N/A	N/A
Reserve Studies	1.00	LS	5,000.00	5.00	1,000.00	200.00	0.05	N/A	N/A
Operating Contingency	1.00	LS	38,520.00	1.00	38,520.00	38,520.00	10.00		

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm



December 20, 2023

US Home Corporation
d/b/a Lennar
14280 Park Meadow Drive, Suite 108
Chantilly, Virginia 20151

Attn: Mr. Jeffrey Edelman

Re: Report of Preliminary Geotechnical Exploration
Vulcan Site – Park Block E
City of Alexandria, Virginia

Dear Mr. Edelman:

At your request, Geo-Technology Associates, Incorporated (GTA) has reviewed the proposed plan for the Park Block E areas for the above referenced project. Based on the subsurface exploration performed at the project site, but not in the RPA area, GTA assumes similar subsurface conditions in the RPA area. In accordance with the proposed plan, park fixtures will have shallow footings which will bear 24-inch below existing grade. Field testing including Dynamic Cone Penetrometer (DCP) will be performed at the footing subgrade to evaluate adequate bearing capacity for the fixture. The remaining areas will be proofrolled for stability and unstable areas will be undercut and replaced with controlled compacted fill.

For the bridge areas, once the alignment and location of the pedestrian bridges are established, a geotechnical report will be required for the foundation design. At that time, GTA will perform the field exploration, laboratory tests and provide recommendations for the bridge foundations.

Thank you for the opportunity to be of assistance on this project. Should you have any questions or require additional information, please do not hesitate to contact our office.

Very truly yours,
GEO-TECHNOLOGY ASSOCIATES, INC.

**Aminur
Rahman**
Amin Rahman, P.E.
Vice President

Digitally signed by
Aminur Rahman
Date: 2023.12.20
08:49:35 -05'00'



(D:\Reports\2023\31200930 Vulcan Site\Park\Park Block E Letter.doc)
J.O. 31190401

43760 Trade Center Place, Suite 110, Sterling, VA 20166 (703) 478-0055 Fax: (703) 478-0137

◆ Abingdon, MD ◆ Baltimore, MD ◆ Laurel, MD ◆ Frederick, MD ◆ Waldorf, MD ◆ Sterling, VA ◆ Malvern, OH
◆ Somerset, NJ ◆ NYC Metro ◆ New Castle, DE ◆ Georgetown, DE ◆ York, PA ◆ Quakertown, PA ◆ Towanda, PA ◆ Charlotte, NC



PLANNERS
ENGINEERS
LANDSCAPE
ARCHITECTS
LAND
SURVEYORS

**Description of a Portion of
South Van Dorn Street
Hereby Vacated
City of Alexandria, Virginia**

Commencing at a point on the northeasterly corner of Parcels A, E, F, & G, Virginia Realty Company, Inc., as recorded in Deed Book 526 at Page 464 and Parcel 3519-01-1, Alexandria Sand and Gravel Corporation and Frank Elban Property, as recorded in Deed Book 482 at Page 328, all among the land records of the City of Alexandria, Virginia; Said point also being on the westerly right-of-way line of South Van Dorn Street, a variable width right-of-way; Thence running with the lines of said Parcels A, E, F, & G, Virginia Realty Company, Inc. and Alexandria Sand and Gravel Corporation and Frank Elban Property;

South 04°00'11" East a distance of 78.92 feet to a point;

South 04°26'45" East a distance of 30.44 feet to a point; Said point being the True Point of Beginning for the portion of land herein described; Thence departing said Parcels A, E, F, & G, Virginia Realty Company, Inc. and Alexandria Sand and Gravel Corporation and Frank Elban Property and running through said South Van Dorn Street;

North 70°22'06" East a distance of 5.20 feet to a point;

39.11 feet along the arc of a curve to the right having a radius of 20.00 feet and subtended by a chord bearing South 53°36'36" East a distance of 33.17 feet to a point;

South 02°24'42" West a distance of 24.05 feet to a point;

South 87°35'18" East a distance of 3.35 feet to a point;

South 01°09'31" East a distance of 64.48 feet to a point on a line of said Parcels A, E, F, & G, Virginia Realty Company, Inc. and Alexandria Sand and Gravel Corporation and Frank Elban Property; Thence running with said Parcels A, E, F, & G, Virginia Realty Company, Inc. and Alexandria Sand and Gravel Corporation and Frank Elban Property;

75.20 feet along the arc of a curve to the left having a radius of 92.00 feet and subtended by a chord bearing North 26°00'09" West a distance of 73.13 feet to a point;

North 04°26'45" West a distance of 40.96 feet to the True Point of Beginning and containing an area of 1,842 square feet or 0.04229 acres, more or less.

COORDINATED DEVELOPMENT DISTRICT 26 CDD AMENDMENT CONCEPT PLAN

EISENHOWER WEST SMALL AREA PLAN CITY OF ALEXANDRIA, VIRGINIA DECEMBER 21, 2023

DEVELOPMENT TEAM INFORMATION

OWNER:

VULCAN LANDS INC.
P.O. BOX 385014
BIRMINGHAM, AL 35238

CIVIL ENGINEER

URBAN ENGINEERING & ASSOC., INC.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
PHONE: (703) 642-2306
CONTACT: CLAYTON TOCK

LEGAL COUNSEL

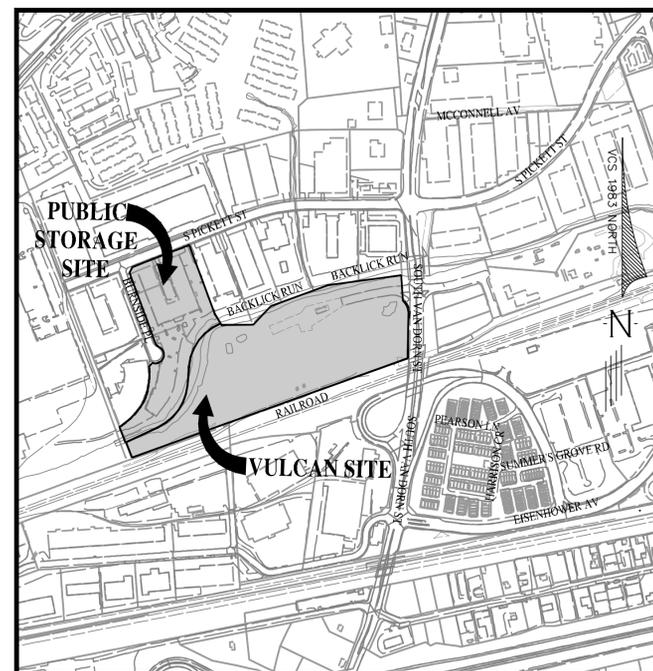
WIRE GILL LLP
PHONE: (703) 677-3129
CONTACT: KENNETH W. WIRE

CONTRACT PURCHASER

LENNAR
14280 PARK MEADOW DRIVE, SUITE 108
CHANTILLY, VA 20151
PHONE: (571)283-1978
CONTACT: JEFFREY EDELMAN

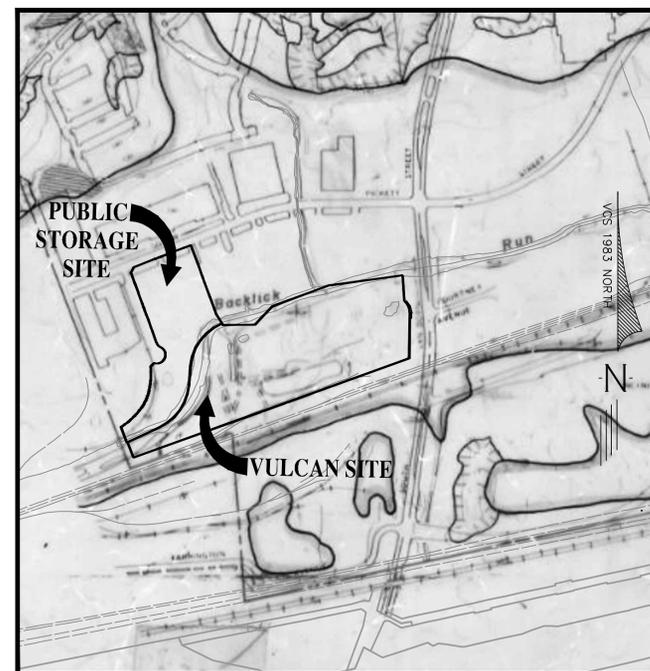
AND

POTOMAC LAND GROUP II, LLC
PHONE: (703) 906-0284
CONTACT: JOHN ELCANO

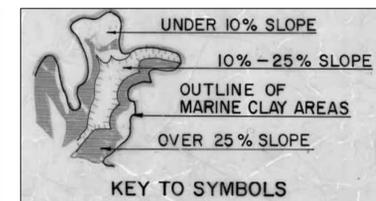


PROPERTIES WITHIN PROPOSED COORDINATED DEVELOPMENT DISTRICT (CDD #26)

VICINITY MAP
SCALE: 1"=500'



MARINE CLAY SOILS MAP
SCALE: 1"=500'



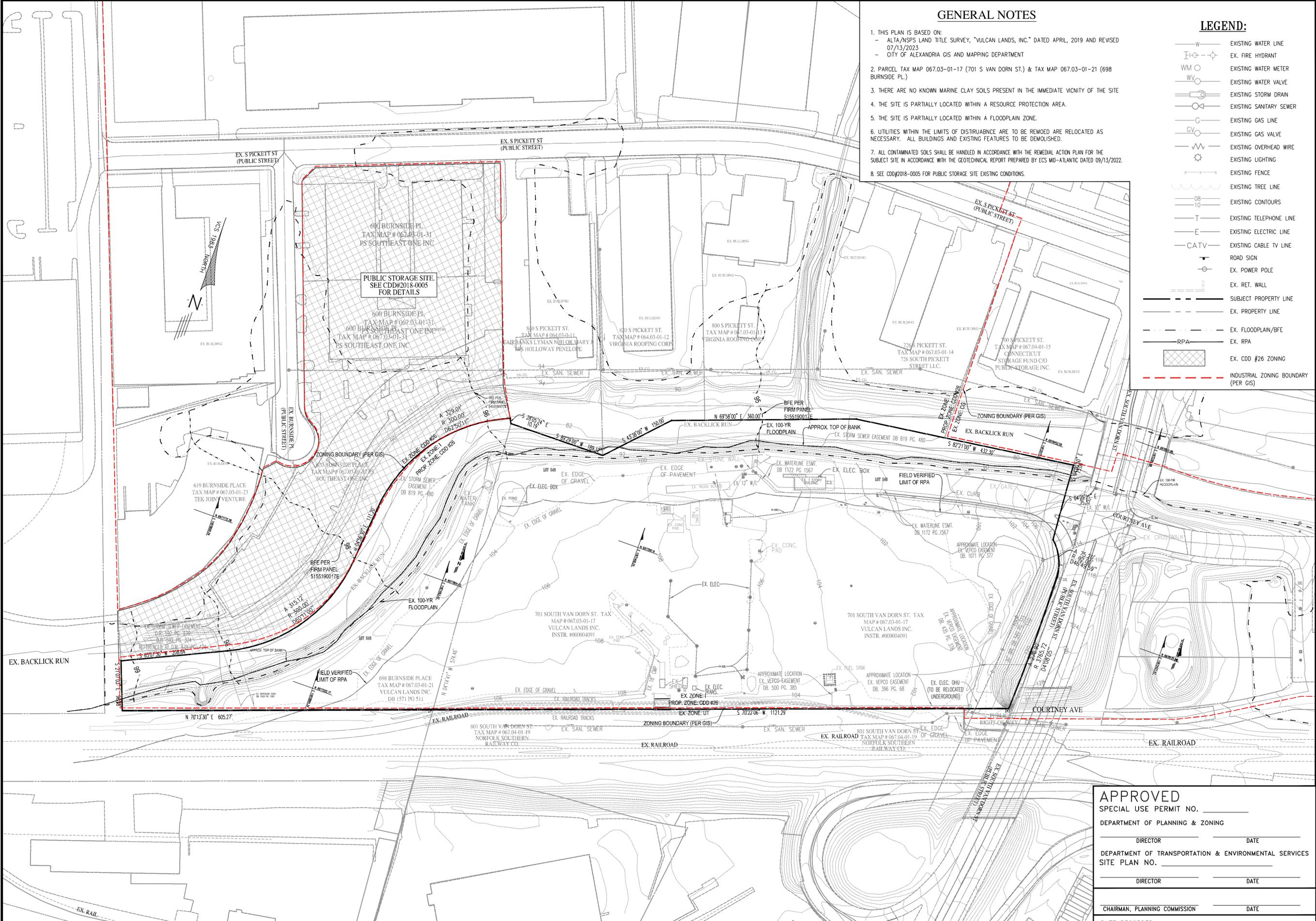
SHEET INDEX

01. COVER SHEET
02. EXISTING CONDITIONS
- 02A. CONTEXT MAP
03. COORDINATED DEVELOPMENT DISTRICT CONCEPT PLAN



Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX 703.378.7888
www.urban-lltd.com

PLAN DATE 09-01-2023 11-17-2023 12-21-2023- - - -	APPROVED SPECIAL USE PERMIT NO. _____ DEPARTMENT OF PLANNING & ZONING _____ DATE _____ DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO. _____ _____ DATE _____
	CHAIRMAN, PLANNING COMMISSION _____ DATE _____
	DATE RECORDED _____
	INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____



GENERAL NOTES

1. THIS PLAN IS BASED ON:
 - ALTA/NSPS LAND TITLE SURVEY, "VULCAN LANDS, INC." DATED APRIL, 2019 AND REVISED 07/13/2023
 - CITY OF ALEXANDRIA GIS AND MAPPING DEPARTMENT
2. PARCEL TAX MAP 067.03-01-17 (701 S VAN DORN ST.) & TAX MAP 067.03-01-21 (698 BURNSIDE PL.)
3. THERE ARE NO KNOWN MARINE CLAY SOILS PRESENT IN THE IMMEDIATE VICINITY OF THE SITE
4. THE SITE IS PARTIALLY LOCATED WITHIN A RESOURCE PROTECTION AREA.
5. THE SITE IS PARTIALLY LOCATED WITHIN A FLOODPLAIN ZONE.
6. UTILITIES WITHIN THE LIMITS OF DISTURBANCE ARE TO BE REMOVED ARE RELOCATED AS NECESSARY. ALL BUILDINGS AND EXISTING FEATURES TO BE DEMOLISHED.
7. ALL CONTAMINATED SOILS SHALL BE HANDLED IN ACCORDANCE WITH THE REMEDIAL ACTION PLAN FOR THE SUBJECT SITE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY ECS MID-ATLANTIC DATED 09/13/2022.
8. SEE CDD#2018-0005 FOR PUBLIC STORAGE SITE EXISTING CONDITIONS.

LEGEND:

- W — EXISTING WATER LINE
- H — EX. FIRE HYDRANT
- WM — EXISTING WATER METER
- WV — EXISTING WATER VALVE
- SD — EXISTING STORM DRAIN
- SS — EXISTING SANITARY SEWER
- G — EXISTING GAS LINE
- GV — EXISTING GAS VALVE
- OW — EXISTING OVERHEAD WIRE
- L — EXISTING LIGHTING
- F — EXISTING FENCE
- TL — EXISTING TREE LINE
- OB — EXISTING CONTOURS
- T — EXISTING TELEPHONE LINE
- E — EXISTING ELECTRIC LINE
- CATV — EXISTING CABLE TV LINE
- RS — ROAD SIGN
- PP — EX. POWER POLE
- RW — EX. RET. WALL
- SP — SUBJECT PROPERTY LINE
- EP — EX. PROPERTY LINE
- EF — EX. FLOODPLAIN/BFE
- RP — EX. RPA
- Z — EX. CDD #26 ZONING
- IB — INDUSTRIAL ZONING BOUNDARY (PER GIS)

PLAN DATE 09-01-2023 11-11-2023 12-21-2023	No. _____ DATE _____ REVISIONS	Urban, Ltd. 4000 D Technology Ct. Quantico, VA, 20151 Tel. 703.642.2306 Fax 703.378.7888 www.urban-llc.com		COMMONWEALTH OF VIRGINIA CLAYTON C. TOCK Lic. No. 098790 12/21/23 PROFESSIONAL ENGINEER	EXISTING CONDITIONS COORDINATED DEVELOPMENT DISTRICT CDD 26 CDD AMENDMENT CONCEPT PLAN CITY OF ALEXANDRIA, VIRGINIA DATE: SEPT. 2023 SCALE: 1"=80' C.I.= 2
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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. _____ PAGE NO. _____

Urban, Ltd. - J:\0685\VULCAN MATERIALS\CDD - Concept - Plan\13005-03-EX CONDITIONS.dwg [EX_COND (1)] December 21, 2023 - 4:01pm anetia

PHASE I & II - PUBLIC STORAGE SITE INFORMATION
(SEE CDD#2018-0005 FOR MORE INFORMATION)

PROJECT TABULATIONS:

MAXIMUM GROSS FLOOR AREA:

PHASE 1 MAXIMUM GROSS FLOOR AREA:
 • STORAGE: 257,830 GSF
 • OFFICE: 1,266 SF
 • RETAIL/PWR: 4,454 SF
 TOTAL: 263,550 GSF MAX

PHASE 2 MAXIMUM GROSS FLOOR AREA:
 • INTERNAL PARKING: 155,000 GSF
 TOTAL: 555,000 GSF MAX

PHASE 2 NET FLOOR AREA: 473,492 SF

PHASE 2 MAXIMUM GROSS FLOOR AREA:
 • INTERNAL PARKING: 155,000 GSF
 TOTAL: 555,000 GSF MAX

PHASE 2 NET FLOOR AREA: 473,492 SF

MAXIMUM RESIDENTIAL UNIT COUNT:

PHASE 2: MAXIMUM RESIDENTIAL UNITS: 350 UNITS

MAXIMUM BUILDING HEIGHT:

PHASE 1: 68 FT

PHASE 2: 175 FT

MAXIMUM FAR:

PHASE 1: 0.81 (259,120 SF/317,947 SF)

PHASE 2: 2.30 (732,612 SF/317,947 SF)

MAXIMUM PARKING COUNT:

PHASE 1:
 • 28 PERMANENT AT GRADE SPACES (PHASE 1-A)
 • 109 INTERIM AT GARAGE SPACES (PHASE 1-B)
 135 TOTAL SPACES

PHASE 2:
 400 TOTAL SPACES INTERNAL TO BUILDING BELOW AND ABOVE GRADE, OR AS OTHERWISE REQUIRED TO SUPPORT THE PROPOSED USES.

PARCEL INFORMATION:

TOTAL AREA INCLUDED IN CDD = 317,947 SF OR 7.30 AC

TOTAL AREA OF PROPOSED TAX PARCELS (PHASE 1):

PARCEL 1: 77,665 SF OR 1.78 AC

PARCEL 2: 75,502 SF OR 1.74 AC

PARCEL 3: 157,157 SF OR 3.61 AC

PUBLIC STREET A: 7,623 SF OR 0.17 AC

TOTAL: 317,947 SF OR 7.30 AC

TOTAL AREA OF PROPOSED TAX PARCELS (PHASE 2):

PARCEL 1: 77,665 SF OR 1.78 AC

PARCEL 2: 70,492 SF OR 1.63 AC

PARCEL 3: 162,167 SF OR 3.72 AC

PUBLIC STREET A: 7,623 SF OR 0.17 AC

TOTAL: 317,947 SF OR 7.30 AC

TOTAL EXISTING AND PROPOSED IMPERVIOUS AREA ON THE TAX PARCEL:

EXISTING = 209,332 SF OR 4.81 AC

PROPOSED = 135,126 SF OR 3.10 AC

APPROXIMATE LIMITS OF DISTURBANCE = 8.00 AC OR 348,450 SF

PHASE III - VULCAN SITE INFORMATION

PROJECT NARRATIVE

THE PROJECT OCCUPIES THE SITE LOCATED AT THE INTERSECTION OF COURTNEY AVENUE AND SOUTH VAN DORN STREET AND IS BOUNDED BY AN EXISTING STREAM (BACKLICK RUN) TO THE NORTH AND WEST AND AN EXISTING ROAD TO THE SOUTH. CURRENTLY THE SITE CONSISTS OF TWO PARCELS, CONTAINING AN INDUSTRIAL MATERIALS YARD WITH ASSOCIATED BUILDINGS/INFRASTRUCTURE, WHICH ARE ZONED I.

THE PROPOSED DEVELOPMENT CONSISTS OF A 9-STORY 308 ROOM HOTEL/COMMERCIAL BUILDING ON TOP OF A 2-STORY PODIUM; SIX 4-STORY CONDO FLAT BUILDINGS ON TOP OF A 1-STORY PODIUM; 106 TWO-OVER-TWO MULTIFAMILY UNITS AND 38 TOWNHOUSES. EXISTING STRUCTURES/UTILITIES ON SITE ARE PROPOSED TO BE REMOVED AND/OR RELOCATED.

THE PROJECT WILL INCLUDE MITIGATION OF AN EXISTING 100-YR FLOODPLAIN WITH ASSOCIATED GRADING ADJACENT TO THE ONSITE PORTION OF THE SOUTH BANK OF BACKLICK RUN.

NATIVE SPECIES TREES IN CONFORMANCE WITH RPA PLANTING GUIDELINES WILL BE PROTECTED AND REMAIN WITH THE EXISTING RPA WHERE POSSIBLE.

DISTURBANCE AND IMPACTS TO ADJACENT PROPERTIES WILL BE MINIMIZED THROUGH THE USE OF EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION PHASING.

PARCEL INFORMATION

TOTAL AREA INCLUDED IN CDD = 774,455 SF OR 17.77 AC.

TOTAL AREA OF PROPOSED TAX PARCELS:

• TM# 067.03-01-17: 384,629 SF OR 8.83 AC.

• TM# 067.03-01-21: 22,405 SF OR .51 AC.

• R.O.W VACATION: 1,840 SF OR .04 AC.

• PUBLIC STREET R.O.W DEDICATION: 100,969 SF OR 2.31 AC.

• RPA DEDICATION: 264,840 SF OR 6.08 AC.

TOTAL: 774,455 SF OR 17.77 AC.

TOTAL EXISTING AND PROPOSED IMPERVIOUS AREA ON THE TAX PARCELS:

EXISTING = 561,052 SF OR 12.88 AC.

PROPOSED = 505,189 SF OR 11.60 AC.

APPROXIMATE LIMITS OF DISTURBANCE = 556,628 SF OR 12.77 AC.

PROJECT TABULATIONS

MAXIMUM GROSS FLOOR AREA:	MAXIMUM FAR:	MAXIMUM BUILDING HEIGHT:	MAX RESIDENTIAL UNIT COUNT:	MAXIMUM PARKING COUNT:
• RESIDENTIAL: 810,000 GSF • COMMERCIAL: 280,000 GSF TOTAL PROVIDED: 1,090,000 GSF MAX MAX NET FLOOR AREA ALLOWABLE: 1,936,140 SF PROVIDED NET FLOOR AREA: 905,000 SF	MAX ALLOWABLE: 2.5 (CDD #26) PROVIDED: 1.17 (905,000/774,455 SF)	MAX ALLOWABLE: • BLOCK A,B,C: 100 FT. • BLOCK D: 150 FT. PROVIDED: • BLOCK A: 60 FT. • BLOCK B: 60 FT. • BLOCK C: 70 FT. • BLOCK D: 140 FT.	MAX ALLOWABLE: 1,000 UNITS PROVIDED: 400 UNITS	MAX ALLOWABLE PER ZONING ORDINANCE
OPEN SPACE TABULATION:				
ONSITE RPA TO BE DEDICATED FOR OPEN SPACE: 6.08 AC. (264,840 SQ FT)				
ONSITE OPEN SPACE (AT-GRADE & ABOVE-GRADE): PER SMALL AREA PLAN				

BLOCK SUMMARY

BLOCK	SITE AREA	PROPOSED USE	GSF	NET FLOOR AREA	UNITS/ROOMS	F.A.R
A	2.45 AC.	RESIDENTIAL	210,000 SF	186,000 SF	80 UNITS	1.73
B	1.80 AC.	RESIDENTIAL	170,000 SF	150,000 SF	70 UNITS	1.91
C	2.58 AC.	RESIDENTIAL	430,000 SF	366,000 SF	250 UNITS	3.26
D	1.08 AC.	COMMERCIAL	280,000 SF	203,000 SF	310 ROOMS	4.35
E	6.08 AC.	PARKS				
STREETS	3.78 AC.					
TOTAL:	17.77 AC.		1,090,000 SF	905,000 SF		1.17

NOTE: MAX ALLOWABLE F.A.R OF 2.5 FOR ENTIRE DEVELOPMENT.

MASTER DEVELOPMENT SUMMARY (VULCAN & PUBLIC STORAGE SITE COMBINED)

SITE	SITE AREA	RESL. GSF	COMM. GSF	NET FLOOR AREA	UNITS/ROOMS	F.A.R
VULCAN SITE	17.77 AC.	810,000 SF	280,000 SF	905,000 SF	400 UNITS	1.17
PUBLIC STORAGE SITE	7.30 AC.	555,000 SF	263,550 SF	473,492 SF	350 UNITS	1.48
TOTAL:	25.07 AC.	1,365,000 SF	543,550 SF	1,378,492 SF	750 UNITS	1.26

NOTE: MAX ALLOWABLE F.A.R OF 2.5 FOR ENTIRE DEVELOPMENT.

LEGEND

- PHASE III - SUBJECT SITE TO BE REZONED CDD #26 (VULCAN)
- EXISTING PUBLIC STORAGE CDD #26
- PARK DEDICATION/PUBLIC OPEN SPACE
- PUBLIC RIGHT-OF-WAY
- PUBLICLY ACCESSIBLE OPEN SPACE (ILLUSTRATIVE)
- PRIVATE OPEN SPACE (ILLUSTRATIVE)
- BLOCK BOUNDARY
- PROPOSED STREET NETWORK
- PRIVATE INTERNAL ALLEY (ILLUSTRATIVE)
- FUTURE CONNECTION
- CITY OF ALEXANDRIA LIMITS
- EXISTING RPA

ENVIRONMENTAL NARRATIVE

ALL CONTAMINATED SOILS SHALL BE HANDLED IN ACCORDANCE WITH THE REMEDIAL ACTION PLAN FOR THE SUBJECT SITE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY ECS MID-ATLANTIC DATED 09/13/2022. THIS SITE IS ENROLLED IN THE VIRGINIA VOLUNTARY REMEDIATION PROGRAM.

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. _____ PAGE NO. _____

OPEN SPACE TABULATION BY BLOCK

BLOCK	SITE AREA (AC.)	PROPOSED USE	PUBLIC OPEN SPACE (S.F.)	PUBLICLY ACCESSIBLE OPEN SPACE (S.F.)	PRIVATE OPEN SPACE (S.F.)	TOTAL OPEN SPACE PROVIDED (S.F. OR %)
A	2.45 AC.	RESIDENTIAL		3,572	14,008	17,580 OR 16.47%
B	1.80 AC.	RESIDENTIAL		3,724	5,746	9,470 OR 12.07%
C	2.58 AC.	RESIDENTIAL		1,930	10,307	12,237 OR 10.88%
D	1.08 AC.	COMMERCIAL			1,374	5,198 OR 11.04%
E	6.08 AC.	PARKS	264,840*			264,840 OR 100%*
STREETS	3.78 AC.					
TOTAL:	17.77 AC.		264,840	13,050	31,435	309,325 OR 39.94%*

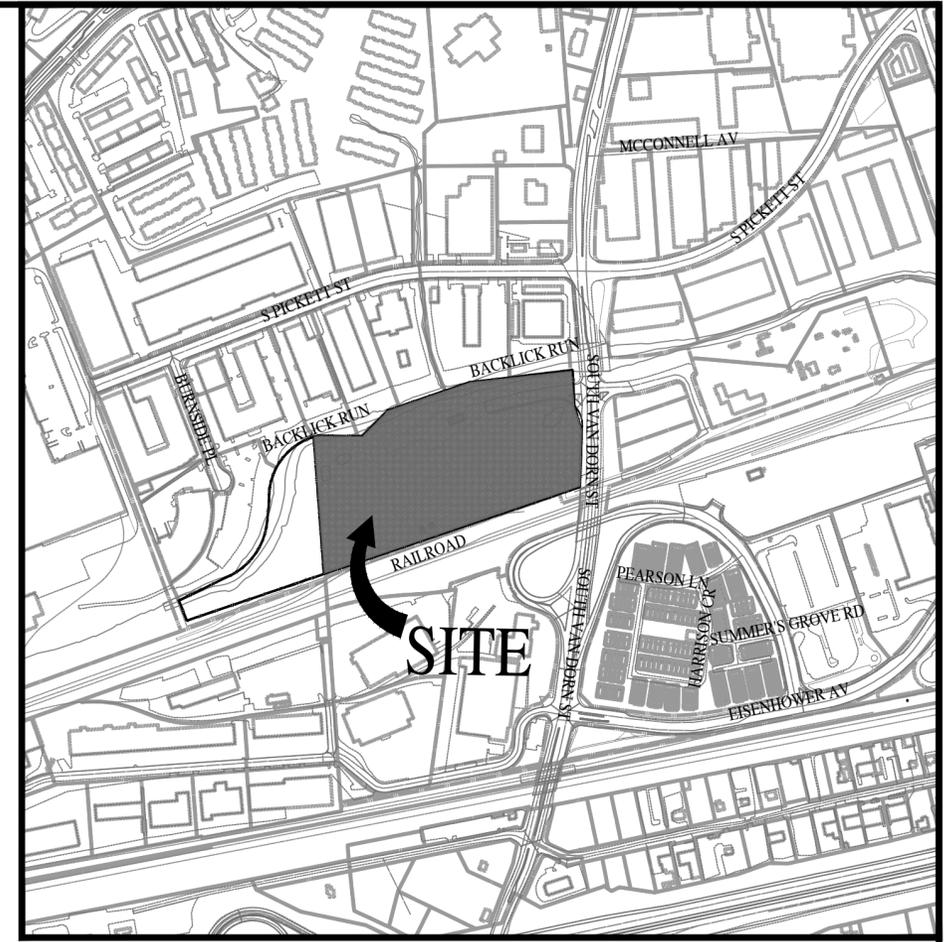
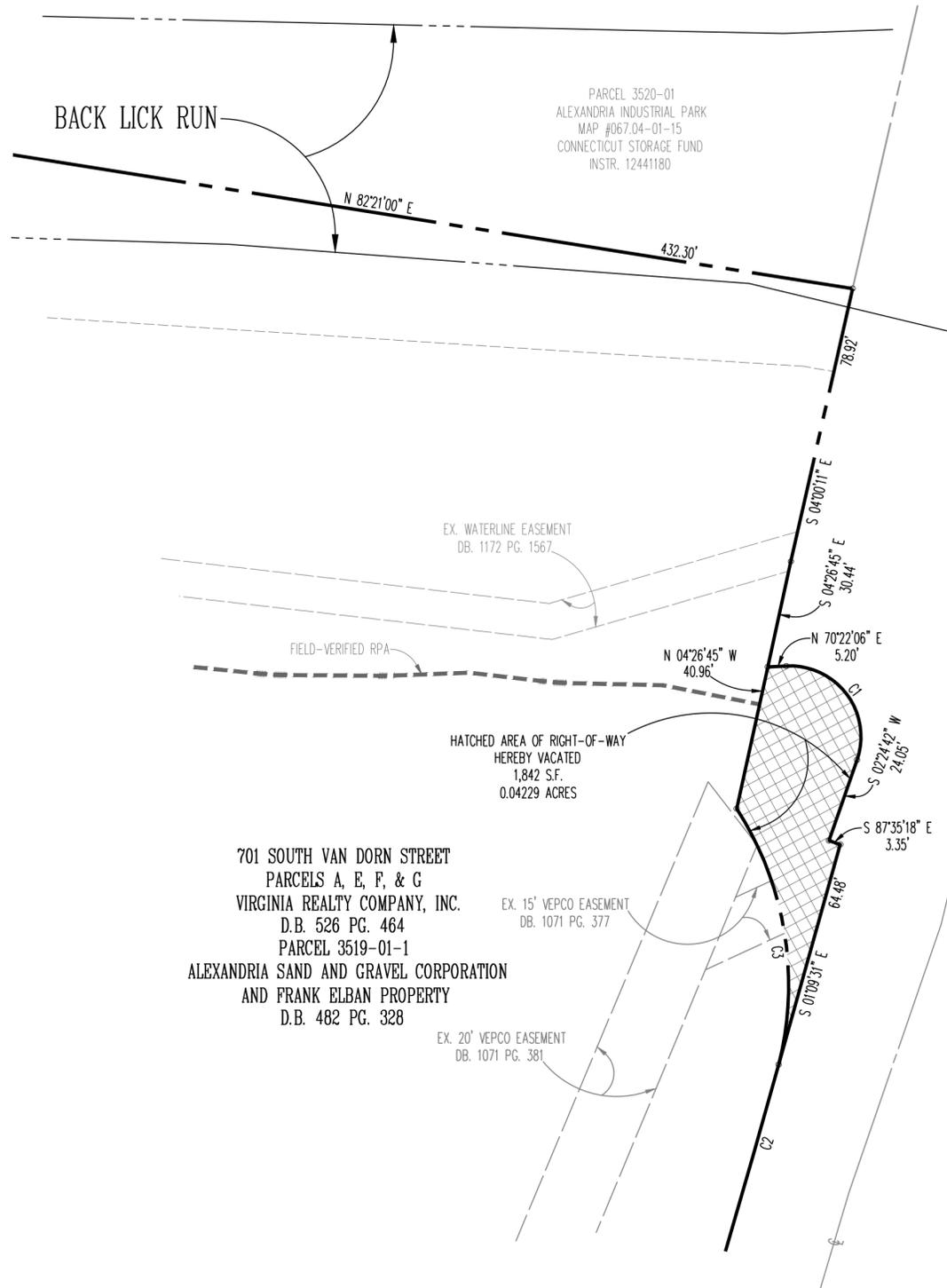
* INCLUDES 72,151 S.F. OF BACKLICK RUN WATER SURFACE

BLOCK	SITE AREA (AC.)	PROPOSED USE	PUBLIC OPEN SPACE (S.F.)	PUBLICLY ACCESSIBLE OPEN SPACE (S.F.)	PRIVATE OPEN SPACE (S.F.)	TOTAL OPEN SPACE PROVIDED (S.F. OR %)
E	2.45 AC.	RESIDENTIAL	192,689**			192,689 OR 72.82%**

**EXCLUDES 72,151 S.F. OR BACKLICK RUN WATER SURFACE

COORDINATED DEVELOPMENT DISTRICT CONCEPT PLAN
 COORDINATED DEVELOPMENT DISTRICT CDD #26
 CDD AMENDMENT CONCEPT PLAN
 CITY OF ALEXANDRIA, VIRGINIA
 CL: N/A
 DATE: SEPT. 2023
 SCALE: 1" = 80'
 SHEET 03 OF 03
 FILE NO. RZ-13005



VICINITY MAP
SCALE: 1" = 500'

AREA TABULATION

BEGINNING AREA TAX MAP 067.03-01-17	601,864 SF OR 13.81690 ACRES
+ AREA RIGHT-OF-WAY VACATION	1,842 SF OR 0.04229 ACRES
ENDING AREA TAX MAP 067.03-01-17	603,706 SF OR 13.85919 ACRES

NOTES

- THE PROPERTY DELINEATED ON THIS PLAT IS LOCATED ON CITY OF ALEXANDRIA TAX ASSESSMENT MAP 067.03-01-17 AND IS CURRENTLY ZONED I WITH A PROPOSED ZONING OF CDD #26.
- APPLICANT: LENNAR
14280 PARK MEADOW DRIVE
SUITE 108
CHANTILLY, VA 20151
OWNER: VULCAN LANDS, INC.
P.O. BOX 385014
BIRMINGHAM, AL 35238
- BOUNDARY INFORMATION SHOWN HEREON WAS DERIVED FROM AN ALTA/NSPS LAND TITLE SURVEY, PREPARED BY URBAN, LTD., AND DATED APRIL, 2021.

CURVE DATA

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C1	20.00'	39.11'	33.17'	S 53°36'36" E	112°02'35.60"	29.68'
C2	3765.72'	270.90'	270.84'	S 00°47'11" W	4°07'18.47"	135.51'
C3	92.00'	75.20'	73.13'	N 26°00'09" W	46°50'10.21"	39.85'



APPROVED
DSUP #2023-00012

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. _____



PLAT SHOWING
VACATION OF A PORTION OF
SOUTH VAN DORN STREET
CITY OF ALEXANDRIA, VIRGINIA
SCALE: 1" = 30' DATE: DECEMBER 19, 2023

Urban, Ltd.
4200 D Technology Court
Chantilly, Virginia 20151
Tel. 703.642.2306
www.urban-ltd.com

Planners • Engineers • Landscape Architects • Land Surveyors

Vulcan
Eisenhower West/Landmark Van Dorn Implementation Developer Contributions Policy
12/20/2023

	Budget	Contingency	Total
Pedestrian Bridge	\$ 862,450.00	\$ 43,123.00	\$ 905,573.00
Invasive Species Removal	\$ 834,500.00	\$ 41,725.00	\$ 876,225.00
Backlick Run Park	\$ 1,369,560.00	\$ 136,956.00	\$ 1,506,516.00
Totals	\$ 3,066,510.00	\$ 221,804.00	\$ 3,288,314.00

LAND DEVELOPMENT DETAIL

PROJECT: Vulcan - Backlick Run Park

DIVISION: Virginia

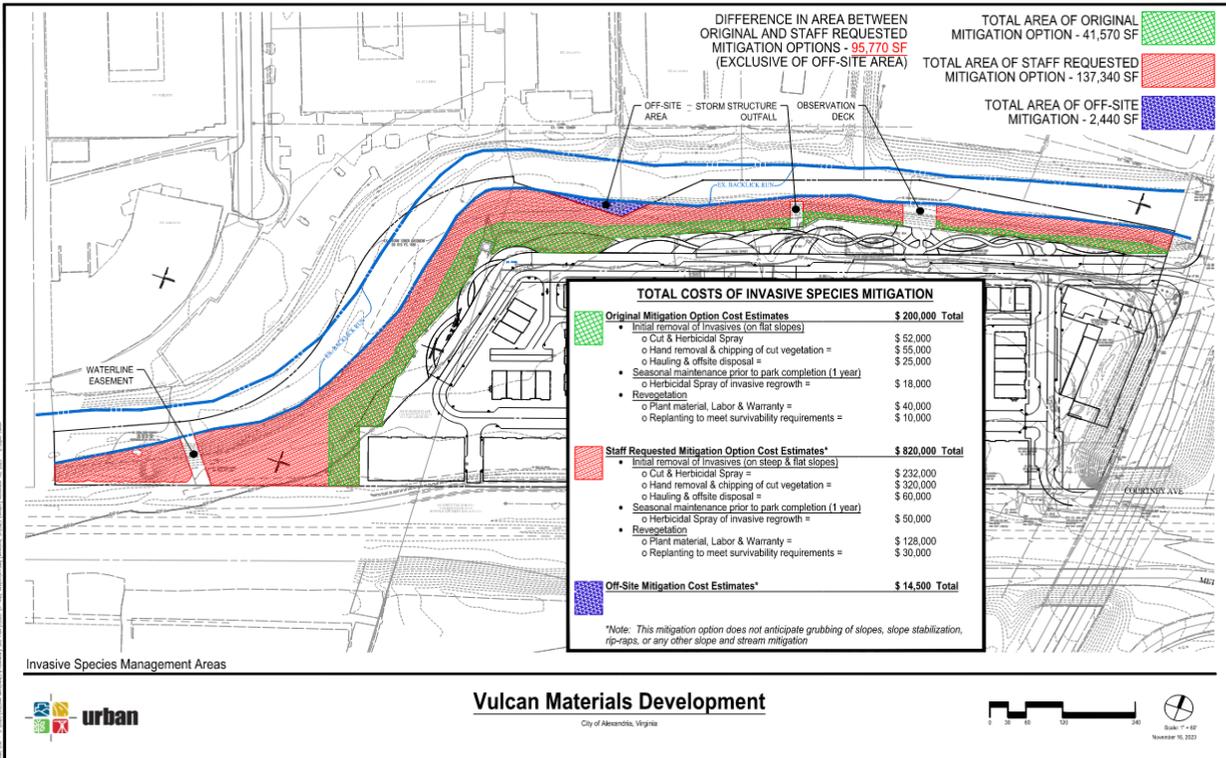
DATE PRINTED: 12/19/2023

PREP BY: JE

Cost Codes	DESCRIPTION	BACKLICK RUN PARK BUDGET				ADDITIONAL INFORMATION
		QTY	UNITS	UNIT PRICE	TOTAL	
2100	PLANNING AND ENGINEERING					
					\$ -	
BRP	Landscape Amenity Plan Backlick Run Park	1	EST	\$ 150,000.00	\$ 150,000.00	
BRP	Survey for BRP	1	EST	\$ 25,000.00	\$ 25,000.00	
BRP	Construction monitoring and testing for Backlick Run Park	160	HR	\$ 125.00	\$ 20,000.00	
BRP	Geotech study/report	1	LS	\$ 15,000.00	\$ 15,000.00	
					\$ -	
					\$ -	
	Subtotal				\$ 210,000.00	
2165	AMENITIES					
BRP	Benches	16	EA	\$ 5,000.00	\$ 80,000.00	
BRP	Picnic tables	8	EA	\$ 5,000.00	\$ 40,000.00	
BRP	Tot Lot/play areas	2	EA	\$ 70,000.00	\$ 140,000.00	
BRP	Trash Receptacles	8	EA	\$ 1,250.00	\$ 10,000.00	
BRP	Observation deck	1	LS	\$ 150,000.00	\$ 150,000.00	
BRP	Signage - interpretive sign, park sign, wayfinding	1	LS	\$ 27,000.00	\$ 27,000.00	
BRP	Dog stations	4	LS	\$ 2,000.00	\$ 8,000.00	
BRP	Woodchip trail - 6'	590	LF	\$ 20.00	\$ 11,800.00	
BRP	Metal edging for trails	1,180	LF	\$ 20.00	\$ 23,600.00	
					\$ -	
					\$ -	
	Subtotal				\$ 490,400.00	
2650	GRADING					
BRP	Strip Topsoil to stockpile	510	CY	\$ 4.00	\$ 2,040.00	
BRP	Cut to Structural Fill	1,500	CY	\$ 4.00	\$ 6,000.00	
BRP	Cut to Nonstructural Fill	5,600	CY	\$ 4.00	\$ 22,400.00	
BRP	Site Grading	13,783	SY	\$ 1.50	\$ 20,674.50	
BRP	DDC amenity area inside RPA	15,300	SF	\$ 5.00	\$ 76,500.00	
BRP	Respread topsoil	510	CY	\$ 6.00	\$ 3,060.00	
BRP	Additional Export Allowance	1,000	CY	\$ 25.00	\$ 25,000.00	
					\$ -	
					\$ -	
	Subtotal				\$ 155,675.00	
2655	CLEARING & DEMO					
BRP	Demo existing concrete structures and cleanup inside BRP	1	LS	\$ 72,000.00	\$ 72,000.00	

					\$	-
					\$	-
	Subtotal				\$	72,000.00
3001	STORM					
BRP	Storm Pipe (15"-36" RCP CL IV)	125	LF	\$ 85.00	\$	10,625.00
BRP	End Sections	1	EA	\$ 1,500.00	\$	1,500.00
BRP	Outlet protection	1	LS	\$ 5,500.00	\$	5,500.00
					\$	-
					\$	-
	Subtotal				\$	17,625.00
3550	LANDSCAPE COMMON AREAS					
BRP	Prep and sod	2,000	SY	\$ 5.00	\$	10,000.00
BRP	3" Understory Trees	80	EA	\$ 550.00	\$	44,000.00
BRP	Woodplant mix understory	3,000	SY	\$ 5.00	\$	15,000.00
BRP	Meadow Garden Mix	1,600	SY	\$ 6.00	\$	9,600.00
BRP	Riparian plant mix	3,500	SY	\$ 6.00	\$	21,000.00
BRP	Grassland NO mix	3,000	SY	\$ 6.00	\$	18,000.00
BRP	Replacements	1	LS	\$ 5,000.00	\$	5,000.00
					\$	-
BRP	Hand watering landscaping	6	MO	\$ 7,500.00	\$	45,000.00
					\$	-
					\$	-
	Subtotal				\$	167,600.00
3600	EROSION CONTROL					
	NPDES/SWPPP				\$	-
BRP	SWPPP inspections for BRP	6	MO	\$ 500.00	\$	3,000.00
BRP	E&S for BRP	1	EST	\$ 25,000.00	\$	25,000.00
					\$	-
					\$	-
	Subtotal				\$	28,000.00
3690	BOND RELEASE					
	Bond Release	20%	LS	\$ 1,141,300.00	\$	228,260.00
					\$	-
					\$	-
	Subtotal				\$	228,260.00
	CONTINGENCY					
	Contingency	10%	LS	\$ 1,369,560.00	\$	136,956.00
					\$	-
					\$	-
	Subtotal				\$	136,956.00
	TOTAL BACKLICK RUN PARK BUDGET				\$	1,506,516.00

Cost Codes	DESCRIPTION	INVASIVE SPECIES REMOVAL BUDGET				ADDITIONAL INFORMATION
		QTY	UNITS	UNIT PRICE	TOTAL	
2655	CLEARING & DEMO					
BRP	Invasive species removal - Onsite	1	LS	\$ 820,000.00	\$ 820,000.00	
BRP	Invasive species removal - Offsite	1	LS	\$ 14,500.00	\$ 14,500.00	
				\$ -	\$ -	
				\$ -	\$ -	
	Subtotal				\$ 834,500.00	
	CONTINGENCY					
	Contingency	5%	LS	\$ 834,500.00	\$ 41,725.00	
				\$ -	\$ -	
				\$ -	\$ -	
	Subtotal				\$ 41,725.00	
	TOTAL INVASIVE SPECIES REMOVAL BUDGET				\$ 876,225.00	



Cost Codes	DESCRIPTION	PEDESTRIAN BRIDGE BUDGET				ADDITIONAL INFORMATION
		QTY	UNITS	UNIT PRICE	TOTAL	
2100	PLANNING AND ENGINEERING					
	Design/Engineering - Site Plan	1	EST	\$ 35,000.00	\$ 35,000.00	Site plan, bridge design included in bridge price
	Survey/As-builts	1	EST	\$ 7,500.00	\$ 7,500.00	
	Construction monitoring and testing for Backlick Run Park	40	HR	\$ 125.00	\$ 5,000.00	
	Geotech study/report (North side)	1	LS	\$ 7,500.00	\$ 7,500.00	
					\$ -	
					\$ -	
					\$ -	
	Subtotal				\$ 55,000.00	
2165	AMENITIES					
	CONTECH 170"x9' Continental AASHTO Express Pedestrian Truss	1	LS	\$ 415,000.00	\$ 415,000.00	CONTECH 12/20/2023; Unpainted, weathering steel; treated wood deck; horizontal safety rails at 4" max to height of 48"
	--Add for Capstone style (architectural/arched truss appearance)		LS	\$ 37,500.00	\$ -	Not included
	--Add for 3-coat painted finish		LS	\$ 185,000.00	\$ -	Not included
					\$ -	
	Bridge Foundation	1	LS	\$ 136,000.00	\$ 136,000.00	WG Construction 12/20/2023
	Bridge Installation	1	LS	\$ 123,000.00	\$ 123,000.00	WG Construction 12/20/2023
					\$ -	
	North side woodchip trail connection - 6'	130	LF	\$ 20.00	\$ 2,600.00	
	Metal edging for North side trail	260	LF	\$ 20.00	\$ 5,200.00	
	North side ramps/switchbacks for ADA	1	LS	\$ 15,000.00	\$ 15,000.00	
					\$ -	
	South side woodchip trail connection - 6'	70	LF	\$ 20.00	\$ 1,400.00	
	Metal edging for South side trail	140	LF	\$ 20.00	\$ 2,800.00	
	South side ramps/switchbacks for ADA	1	LS	\$ 15,000.00	\$ 15,000.00	
					\$ -	
					\$ -	
	Subtotal				\$ 716,000.00	
2650	GRADING					
	North side grading	4	DA	\$ 3,500.00	\$ 14,000.00	
	South side grading	3	DA	\$ 3,500.00	\$ 10,500.00	
					\$ -	
					\$ -	
	Subtotal				\$ 24,500.00	
2655	CLEARING & DEMO					
	North side clearing	2	DA	\$ 7,500.00	\$ 15,000.00	
	South side clearing				\$ -	Included in Invasive Species Removal
					\$ -	
					\$ -	
	Subtotal				\$ 15,000.00	
3600	EROSION CONTROL					
	NPDES/SWPPP inspections				\$ -	Included with Backlick Run Park/Project Site Permit & Inspections
	Erosion & Sediment Controls, street cleaning	1	EST	\$ 7,500.00	\$ 7,500.00	
	Permanent Restoration Seeding	1,500	SY	\$ 4.00	\$ 6,000.00	
					\$ -	
					\$ -	
	Subtotal				\$ 13,500.00	
3690	BOND RELEASE					
	Bond Release	5%	LS	\$ 769,000.00	\$ 38,450.00	
					\$ -	
					\$ -	
	Subtotal				\$ 38,450.00	
	CONTINGENCY					
	Contingency	5%	LS	\$ 862,450.00	\$ 43,123.00	
					\$ -	
					\$ -	
	Subtotal				\$ 43,123.00	
	TOTAL PEDESTRIAN BRIDGE BUDGET				\$ 905,573.00	



9025 Center Pointe Drive
 Suite 400
 West Chester, Ohio 45399
 (513) 645-7000
 (800) 344-2102
 Fax: (513) 645-7000
 www.contechus.com



EXPRESS® Pedestrian Truss

12/20/2023

Project Number: 784-089
 Project Location: City of Alexandria

Subject: Lemnar Vulcan Ped Bridge Budgetary Estimate / Price Range

The following is a Continental Pedestrian Bridge System ENGINEER'S COST ESTIMATE for the subject project. This ESTIMATE is based on preliminary estimating purposes only and should not be interpreted as a final QUOTATION. The information presented is intended for the most current date made available to CONTECH.

CONTECH will fabricate and deliver the following described Continental Pedestrian Bridge components and appurtenances:

DESCRIPTION OF SUPPLIED MATERIALS:

- 1 - 170' x 9' Continental AASHTO Express Pedestrian Truss
- Unpainted Weathering Steel
- Treated Wood Deck
- Design stresses in accordance with AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges
- Horizontal Safety Rails at 4" max to height of 48"
- Steel Channel Rub Rail Provided
- Steel Channel Toe Rail Provided
- Uniform Live Load of 90 psf
- Vehicle Live Load of 10,000 lbs
- Delivered in 3 sections

*ESTIMATE: \$375,000 - \$415,000 Delivered (F.O.B.)

Estimated Haviest Crane Pick: 86,900 lbs

*Note: If a Capstone style is preferred (architectural / arched truss appearance), please add \$37,500.
 If a 3-coat painted finish is preferred (increased durability), please add \$185,000.



These costs do not include the foundation, or installation costs. As part of the construction process, the contractor is to perform the items listed below in accordance with the installation drawings:

- Excavate and/or construction for the structure & foundations
- Provide and install anchor bolts
- Unload and set structure utilizing crane
- Touch-Up paint work
- Third-party testing

Please contact me should you have any questions or need additional information. Thank you for your interest in the Continental Pedestrian Bridge System.

Respectfully,

Scott Koblusnik
(513) 668-6625



** Picture of Express Pedestrian Truss with concrete deck.

WG CONSTRUCTION CO., INC.

9251 INDUSTRIAL COURT MANASSAS, VA 20109
TELEPHONE (703) 335-5599
FAX (703) 335-0890

December 20, 2023

Lennar Corporation
14280 Park Meadow Dr, Suite 108
Chantilly VA 20151

Attention: Jeff Edelman

Reference: Vulcan Bridge - Alexandria, VA - Budget Estimate Bridge Foundation and Installation

Dear Collaborators:

This letter details the estimated costs for the construction of a proposed 170 LF Clearspan x 9' Wide pedestrian bridge for the referenced project. The estimated cost to purchase the prefabricated bridge are detailed on the attached letter from the supplier of the pedestrian bridge (Contech). WG's costs are based on the details provided in Contech's estimate letter with regard to length, pick weights, number of pieces, decking material, etc. in addition to our experience installing similar structures and the preliminary site plan sketch prepared by Urban. The costs for the Bridge Foundation and Installation are detailed below:

1. Bridge Foundation - \$110,000 to \$136,000 (BUDGET)
2. Bridge Installation - \$100,000 to \$123,000 (BUDGET)

Excluded from this cost estimate are the following items:

mass excavation and site grading, pipe work of any kind, access to work area for crane, equipment, and delivery vehicles, sheeting, shoring, SOE, MOT, demolition of any kind, civil and/or geotechnical engineering, structural engineering, accelerated schedule, night operations, temporary support/protection of existing utilities, conflicts with existing structures and/or utilities, stake out, permits, testing, inspection, bond, rip rap, erosion control, trail work of any kind, at grade fencing/handrail/guardrail, architectural finishes on CIP concrete (form finish is quoted), as-builts or related work, "excessively" deep foundation support, concrete bridge deck, low carbon chromium and/or stainless reinforcing steel (rebar is assumed to be "black")

Total budget estimate for foundation and installation - \$ 210,000 to \$259,000*

*Please note, should the width of the bridge exceed 9', and additional longitudinal sections are required to accommodate a wider walking surface, the foundation and installation costs could grow by a factor of 70%-90%, based on the additional materials needed to install the foundation, the additional time assembling the bridge, and the additional weight of the assembled bridge.

Thank you for the opportunity to work with you on this phase of the project. Please do not hesitate to call with questions - 703-335-5599.

Sincerely,

WG CONSTRUCTION CO., INC.

David A. Yergin-Domiger
President

Attachments as note.

cc: File

PRELIMINARY SITE PLAN VULCAN MATERIALS DEVELOPMENT CITY OF ALEXANDRIA

DECEMBER 21, 2023

OWNER:

VULCAN LANDS INC.
P.O. BOX 385014
BIRMINGHAM, AL 35238

CIVIL ENGINEER

URBAN ENGINEERING & ASSOC., INC.
4200 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
PHONE: (703) 642-2306
CONTACT: CLAYTON TOCK

LEGAL COUNSEL

WIRE GILL LLP
PHONE: (703) 677-3129
CONTACT: KENNETH W. WIRE

CONTRACT PURCHASER

LENNAR
14280 PARK MEADOW DRIVE, SUITE 108
CHANTILLY, VA 20151
PHONE: (571)283-1978
CONTACT: JEFFREY EDELMAN

AND

POTOMAC LAND GROUP II, LLC
PHONE: (703) 906-0284
CONTACT: JOHN ELCANO

ZONING REQUIREMENTS

1) ZONING	1 (EXISTING); PROPOSED - CDD #26
2) EXISTING USE	VACANT LAND - INDUST (940)
3) PROPOSED USE	RESIDENTIAL (TOWNHOMES, MULTIFAMILY, HOTEL)
4) TOTAL SITE AREA	774,455* (17.77 AC.) (SQ. FT.)
5) TOTAL DISTURBED AREA	556,628 (12.77 AC.) (SQ. FT.)
6) GROSS FLOOR AREA	897,571 (SQ. FT.)
7) NET FLOOR AREA	747,576 (SQ. FT.)
8) PROPOSED FAR	0.96
9) PROPOSED DENSITY	18.18 D.U./AC.
10) PROP. BUILDING HEIGHT	64 (BLDGS A,B,D) 54.5 (BLDG C,E,F) 47 (BLDGS G-O); 47 (BLDGS P-T); 129 (BLDG U) (FT.)
11) NUMBER OF UNITS	31 TOWNHOMES; 292 FOR-SALE MULTIFAMILY; 256 ROOM HOTEL
	ONE BEDROOM 48 (CONDO FLATS); 256 (HOTEL)
	TWO BEDROOM 108 (CONDO FLATS)
	THREE BEDROOM 31 (TOWNHOMES); 88 (2-OVER-2 UNITS); 48 (CONDO FLATS)
12) OPEN SPACE REQUIRED (RESIDENTIAL)	30% % 232,336 (SQ. FT.)
13) OPEN SPACE REQUIRED (NON-RESIDENTIAL)	10% % 77,445 (SQ. FT.)
14) GROUND LEVEL OPEN SPACE REQ'D	15% % 116,168 (SQ. FT.)
15) GROUND LEVEL OPEN SPACE PROV.	30%** % 235,818 (SQ. FT.)
16) ABOVE-GROUND LEVEL OPEN SPACE PROV.	0.1% % 1,374 (SQ. FT.)
17) TOTAL OPEN SPACE PROVIDED	30%** % 237,174 (SQ. FT.)
18) EXISTING TRIP GENERATION	15 V.P.D.
19) PROPOSED TRIP GENERATION	3,591 V.P.D.

*SITE AREA INCLUDES 1,840 SQ FT OF RIGHT-OF-WAY VACATION.
** TOTAL PROVIDED INCLUDES RESIDENTIAL AND NON-RESIDENTIAL OPEN SPACE.

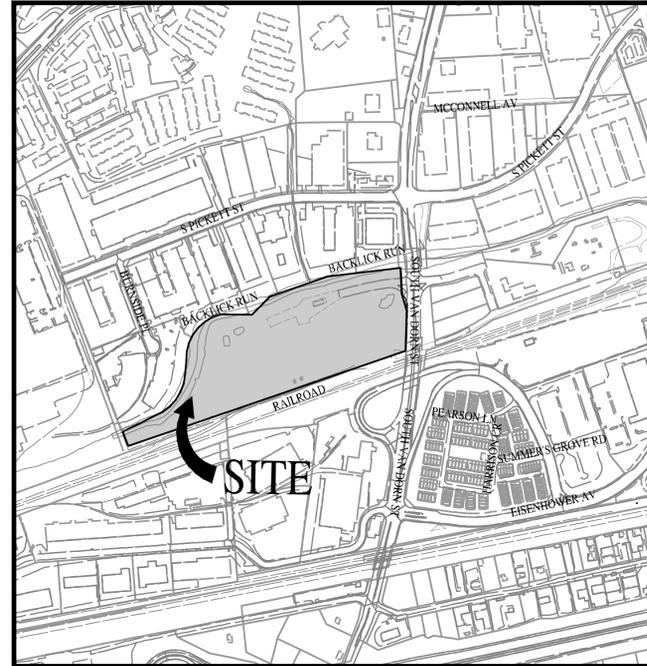
DSUP/DSP AREA TABULATION

APPLICATION	SITE AREA	PROPOSED USE
DSUP #1 (DSUP2023-10007)	2.58 AC.	RESIDENTIAL (CONDO)
DSUP #2 (DSUP2023-10013)	1.08 AC.	COMMERCIAL (HOTEL)
DSUP #3 (DSUP2023-10014)	4.25 AC.	RESIDENTIAL (TH, 2/2)
DSP #1 (DSP2023-10013)	3.78 AC.	INFRASTRUCTURE
DSP #2 (DSP2023-10014)	6.08 AC.	PARKS
TOTAL:	17.77 AC.	

PARKING TABS (CONT.):

BICYCLE PARKING REQUIRED:
RESIDENTIAL (CONDO): 3 SP/10 UNITS (204) = 62 SPACES
RESIDENTIAL (TH, 2-OVER-2): 1 SP/50 UNITS (119) = 3 SPACES
HOTEL: 6 SP/HOTEL WITH 75+ ROOMS (256) = 6 SPACES
RETAIL: 2 SP/10,000 SF (5,416 SF)
+ ADDITIONAL 1 EMPLOYEE SP/25,000 RETAIL = 3 SPACES

BICYCLE PARKING PROVIDED:
RESIDENTIAL (CONDO): 66 SPACES
RESIDENTIAL (TH, 2-OVER-2): 8 SPACES
HOTEL: 12 SPACES
RETAIL: 4 SPACES



PROJECT NARRATIVE:

APPLICANT PROPOSES TO REDEVELOP THE PROPERTY WITH A 9-STORY 256 ROOM HOTEL BUILDING WITH RETAIL ON TOP OF A 2-STORY PODIUM; SIX 4-STORY CONDO FLAT BUILDINGS ON TOP OF A 1-STORY PODIUM; 88 TWO-OVER-TWO MULTIFAMILY UNITS AND 31 TOWNHOUSES.

EXISTING SPECIAL USE PERMITS THAT APPLY TO THE SUBJECT SITE:

EXISTING/IMMEDIATE PRIOR USE AT THE SITE WAS APPROVED UNDER SUP#2812 AND REVISED UNDER SUP#95-0019.

APPLICATIONS REQUESTED WITH THIS SUBMISSION:

- 1) MASTER PLAN AMENDMENTS: MINIMUM BUILDING HEIGHT; FARRINGTON CONNECTOR ALIGNMENT; LAND USE CHANGE FROM OFFICE/RESIDENTIAL TO HOTEL FOR EASTERN BUILDING.
- 2) TEXT AMENDMENT
- 3) REZONING TO CDD #26.
- 4) COORDINATED DEVELOPMENT DISTRICT CONCEPT PLAN AMENDMENT
- 5) DSUP FOR CONDO FLATS
- 6) DSUP FOR HOTEL
- 7) DSUP FOR TOWNHOUSES/STACKED TOWNHOUSES
- 8) DSP FOR THE INFRASTRUCTURE AND PUBLIC STREETS
- 9) DSP FOR THE PUBLIC PARK
- 10) COORDINATED SIGN PLAN SUP FOR HOTEL
- 11) SUBDIVISION
- 12) VACATION OF CITY RIGHT-OF-WAY (COURTNEY AVE.)

BUILDING CODE ANALYSIS:

BUILDING CODE ANALYSIS	BUILDING A-F (CONDO)	BUILDING G-O (2-OVER-2)	BUILDING P-T (TH)
USE GROUP:	R-2, S-2	R-3	R-5
NUMBER OF STORIES:	4	4	3
TYPE OF CONSTRUCTION:	IA/VA	VA	VB
FLOOR AREA PER FLOOR:	SEE A7.0	SEE A7.0	SEE A7.0
FIRE PROTECTION PLAN:	NFPA 13	NFPA 13R	UNSPRINKLERED

*THE APPLICANT HAS REQUESTED A PARKING REDUCTION OF 134 SPACES WITH THIS APPLICATION.
**PROVIDED TOTAL INCLUDES TANDEM PARKING SPACES.
***CONDO FLATS/HOTEL GARAGES SHALL ACCOUNT FOR SEPARATE HANDICAPPED PARKING SPACES PER FACILITY.
****THE APPLICANT SHALL REQUEST A PARKING REDUCTION FOR LOADING SPACES.

SEE SHEET H-001 FOR HOTEL BUILDING CODE ANALYSIS

Sheet List Table

Sheet Number	Sheet Title	Sheet Number	Sheet Title
01	COVER SHEET	H-001	HOTEL PLANS - COVER
02	GENERAL NOTES & DETAILS	H-002	HOTEL PLANS - SITE PLAN
02A	GENERAL NOTES & DETAILS	H-003	HOTEL PLANS - FIRST FLOOR PLAN
02B	GENERAL NOTES & DETAILS	H-004	HOTEL PLANS - 2ND FLOOR PLAN
03	CONTEXT PLAN	H-005	HOTEL PLANS - 3RD FLOOR PLAN
04	FARRINGTON CONNECTOR EXHIBIT	H-006	HOTEL PLANS - 4TH-11TH FLOOR PLAN
04A	VAN DORN EXPANSION EXHIBIT	H-007	HOTEL PLANS - ROOF PLAN
04B	PARKING ALLOCATION EXHIBIT	H-008	HOTEL PLANS - FLOOR AREA CALCULATIONS
04C	COORDINATED DEVELOPMENT DISTRICT CONCEPT PLAN	H-009	HOTEL PLANS - GREEN BUILDING NARRATIVE
04D	CONSTRUCTION PHASING PLAN	H-010	HOTEL PLANS - EAST ELEVATION
04E	APPLICATION AREA EXHIBIT	H-011	HOTEL PLANS - NORTH ELEVATION
05	EXISTING CONDITIONS	H-012	HOTEL PLANS - WEST ELEVATION
06	EXISTING CONDITIONS	H-013	HOTEL PLANS - SOUTH ELEVATION
07	EXISTING CONDITIONS	H-014	HOTEL PLANS - BUILDING SECTION
08	GEOMETRY PLAN	H-015	HOTEL PLANS - ENLARGED ELEVATION
09	GEOMETRY PLAN	H-016	HOTEL PLANS - CSP
10	GEOMETRY PLAN	A1.1-A1.9	ELEVATIONS - TOWNHOUSES
10A	SITE PLAN	A2.1-A2.3	FLOOR PLANS - TOWNHOUSES
10B	SITE PLAN	A2.4	BUILDING SECTION - TOWNHOUSES
10C	SITE PLAN	A3.1-A3.10	ELEVATIONS - 2-OVER-2
11	UTILITY PLAN	A4.1-A4.2	FLOOR PLANS - 2-OVER-2
12	UTILITY PLAN	A4.3	BUILDING SECTION - 2-OVER-2
13	UTILITY PLAN	A5.1-A5.18	ELEVATIONS - CONDO FLATS
14	GRADING PLAN	A6.1-A6.6	FLOOR PLANS - CONDO FLATS
15	GRADING PLAN	A6.7A-6.10	BUILDING SECTIONS - CONDO FLATS
16	GRADING PLAN	A7.0	F.A.R. DIAGRAMS
17	AUTOTURN EXHIBIT		
18	AUTOTURN EXHIBIT		
19	AUTOTURN EXHIBIT		
20	AUTOTURN EXHIBIT		
20A	AUTOTURN EXHIBIT		
21	PRE-DEVELOPMENT SWM DIVIDES		
22	PRE-DEVELOPMENT SWM COMPUTATIONS		
23	POST-DEVELOPMENT SWM DIVIDES		
24	POST-DEVELOPMENT SWM COMPUTATIONS		
25	POST-DEVELOPMENT SWM DETAILS		
26	BEST MANAGEMENT PRACTICES - PRE-DEVELOPMENT		
27	BEST MANAGEMENT PRACTICES - POST-DEVELOPMENT		
27A	BEST MANAGEMENT PRACTICES - POST-DEVELOPMENT		
27B	BMP PLAN & COMPUTATIONS		
27C	WQVD		
28	SANITARY SEWER PLAN		
28A	SANITARY OUTFALL ANALYSIS		
29	OPEN SPACE PLAN		
30	SITE SECTIONS		
31	SIGHT DISTANCE PROFILES		
31A	SIGHT DISTANCE PROFILES		
31B	SIGHT DISTANCE PROFILES		
31C	SIGHT DISTANCE PROFILES		
32	TREE AND VEGETATION PROTECTION PLAN		
32A	TREE AND VEGETATION PROTECTION PLAN		
32B	TREE AND VEGETATION PROTECTION PLAN		
32C	TREE PRESERVATION NOTES AND DETAILS		
33	LANDSCAPE PLAN		
33A	LANDSCAPE PLAN		
33B	DETAILED LANDSCAPE PLAN		
34	BACKLICK GREENWAY PARK LANDSCAPE PLAN		
34A	BACKLICK GREENWAY PARK LANDSCAPE PLAN		
34B	LANDSCAPE COMPUTATIONS		
34C	LANDSCAPE COMPUTATIONS		
34D	LANDSCAPE NOTES AND DETAILS		
35	LANDSCAPE NOTES AND DETAILS		
35A	LANDSCAPE NOTES AND DETAILS		
35B	LANDSCAPE NOTES AND DETAILS		
36	FIRE SERVICE PLAN		
37	GIS DIMENSION PLAN		
38	SIGNAGE & STRIPING PLAN		

GROSS FLOOR AREA:

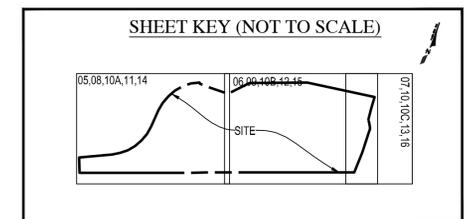
HOTEL (BLDG U)	
GARAGE = 32,555 SQ FT	
HOTEL = 194,096 SQ FT	
SUBTOTAL = 226,651 SQ FT	
CONDO FLAT BUILDING (BLDGS A-F)	
GARAGE = 74,532 SQ FT	
CONDOS = 281,430 SQ FT	
SUBTOTAL = 355,962 SQ FT	
TWO-OVER-TWO UNITS (BLDGS G-N)	
GARAGE = 20,724 SQ FT	
UNITS = 186,912 SQ FT	
SUBTOTAL = 207,636 SQ FT	
TOWNHOUSE UNITS (BLDGS O-T)	
GARAGE = 15,097 SQ FT	
UNITS = 92,225 SQ FT	
SUBTOTAL = 107,322 SQ FT	
TOTAL G.F.A. = 897,571 SQ FT	

PARKING TABULATIONS:

HOTEL/RETAIL	
REQUIRED(HOTEL: 2 SP/ROOM (256)): 52 SPACES	
REQUIRED(RETAIL: 0.25 SP/1000 SF (5,416 SF): 2 SPACES	
TOTAL REQUIRED: 54 SPACES	
PROVIDED: 65 SPACES (61 STANDARD, 4 H/C)	
CONDO FLAT BUILDINGS	
REQUIRED: (.95 SP/BEDROOM (360)): 342 SPACES	
PROVIDED:	
•132 TANDEM GARAGE SPACES SERVING 66 UNITS (2 SP/UNIT)	
•90 GARAGE SPACES SERVING 90 UNITS (1 SP/UNIT)	
•52 RESERVED SURFACE PARKING SPACES	
TOTAL: 208 SPACES SERVING 204 UNITS** (172 STANDARD, 96 COMPACT, 6 H/C)	
2-OVER-2 UNITS	
REQUIRED (.95 SP/3BR (176)): 168 SPACES	
PROVIDED: 176 SPACES** (STANDARD)	
TOWNHOUSE UNITS	
REQUIRED: (2 SP/TH(31)): 62 SPACES	
PROVIDED: 62 SPACES (STANDARD)	
SURFACE PARKING PROVIDED:	
•4 SPACES (HOTEL/RETAIL)	
•26 SPACES (RESTRICTED FOR PARK VISITORS; SUNRISE-SUNSET)	
•52 SPACES (RESERVED CONDO PARKING)	
•12 SPACES (PUBLIC, UNALLOCATED)	
TOTAL: 94 SURFACE PARKING SPACES (91 STANDARD, 4 H/C)	
REQUIRED HANDICAPPED PARKING: 4 (BASED ON 94 SURFACE PARKING SPACES)	
PROPOSED HANDICAPPED PARKING: 4***	
REQUIRED LOADING SPACES: 9 SPACES (HOTEL)	
PROPOSED LOADING SPACES: 2 SPACES (HOTEL)****	
EXISTING TRIP GENERATION: 15	
PROPOSED TRIP GENERATION: 3,591	

NET FLOOR AREA:

HOTEL (BLDG U)	
163,462 SQ FT	
CONDO FLAT BUILDING (BLDGS A-F)	
51,370 SF/BLDG A B & D (3) = 154,110 SF	
50,170 SF/BLDG C, E & F (E) = 150,510	
SUBTOTAL = 304,620	
TWO-OVER-TWO UNITS (BLDGS G-O)	
2,080.5 SF/UNIT(88) = 183,084 SF	
TOWNHOUSE UNITS (BLDGS P-T)	
3,110 SF/UNIT(31) = 96,410 SF	
TOTAL NET FLOOR AREA = 747,576 SQ FT	



SHEET
01
OF
38

PLAN DATE

06-02-2023
09-08-2023
11-17-2023
12-21-2023-

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. _____ PAGE NO. _____



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CHANTILLY, VA, 20151
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GENERAL NOTES

1. THE SUBJECT SITE IS LOCATED ON CITY OF ALEXANDRIA ASSESSMENT MAP NO. 067.03-01-17 (701 S VAN DORN ST.) & MAP NO. 067.03-01-21 (698 BURNSIDE PL.), AND IS ZONED I (INDUSTRIAL).
2. OWNER: VULCAN LANDS INC.
3. ADDRESS: ATTN: FAS DEPT 1401 843 PO BOX 385014 BIRMINGHAM AL 35238-5014
4. AREA TABULATION: REFER TO COVER SHEET.
5. THE NATURAL SOILS AT THE SITE CONSIST OF COODRUS & HATBORO SOILS, WHEATON-COODRUS COMPLEX, URBAN LAND & GRIST MILL SANDY LOAM PER THE USDA SOIL MAP.
6. THE SITE IS LOCATED IN THE BACKLICK RUN & CAMERON RUN (WEST) WATERSHEDS.
7. 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.
8. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS, MUST BE IDENTIFIED AND NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC AND/OR PRIVATE EASEMENTS UNLESS OTHERWISE APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.
9. PLAT SUBJECT TO RESTRICTIONS OF RECORD.
10. BUILDING HEIGHT SHALL NOT EXCEED THE ALLOWABLE LIMIT BY CITY OF ALEXANDRIA ZONING ORDINANCE OR AS APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.
11. 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).
12. FLOOR AREA CALCULATIONS WITH ALLOWABLE LIMITS, AS APPROVED BY PLANNING COMMISSION AND CITY COUNCIL, ARE DEMONSTRATED HEREIN.
13. 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, ALLEYS, 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.
14. 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.
15. 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).
16. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.
17. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDNR, 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 (VSM) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSM GENERAL PERMIT CAN BE FOUND ONLINE AT: http://www.dcr.virginia.gov/soil_and_water/vsmip.shtml.
18. 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 SHALL CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
19. 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.
20. 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.
21. 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.
22. ROOF DRAINAGE SYSTEM, SUMP PUMP DISCHARGE, AND FOUNDATION DRAIN SYSTEM MUST BE INSTALLED SO AS NEITHER TO ADVERSELY IMPACT UPON, NOR CAUSE EROSION DAMAGE TO ADJACENT PROPERTIES OR THE PUBLIC RIGHT-OF-WAY.
23. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
24. IN THE EVENT, THE PROPOSED ROOF DRAINAGE AND/OR SUMP PUMP DISCHARGE, AND FOUNDATION DRAIN SYSTEMS AND/OR GRADING ADVERSELY IMPACTS AND/OR CREATES A NUISANCE ON PUBLIC RIGHT-OF-WAY OR PRIVATE PROPERTIES THEN THE APPLICANT SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL IMPROVEMENTS TO THE ROOF DRAINAGE AND/OR SUMP PUMP DISCHARGE AND FOUNDATION DRAIN SYSTEMS AND/OR GRADING TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
25. PER THE REQUIREMENTS OF SECTION 8-1-12 OF THE CITY CHARTER AND CODE; WHEN THE BUILDING FOOTING HAS BEEN PLACED AND THE WALLS HAVE BEEN RAISED TO THE FIRST JOIST BEARING OR STORY HEIGHT ABOVE GRADE, A PLOT PLAN SHOWING THE EXACT LOCATION OF THE WALLS SHALL BE PREPARED BY A LICENSED, CERTIFIED PUBLIC LAND SURVEYOR OR PROFESSIONAL ENGINEER AND FILED WITH THE BUILDING OFFICIAL FOR APPROVAL BEFORE PROCEEDING FURTHER WITH CONSTRUCTION.
26. A SEPARATE DESIGN IS REQUIRED FOR ALL WALLS 24" AND OVER IN HEIGHT FROM THE GRADE AND SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS, GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS. THIS FINAL SITE PLAN SHOWS LOCATION, PROPOSED GRADING, AND DESIGN OF ALL THE WALLS.
27. SUBMIT A SURVEY, CONSISTENT WITH THE REQUIREMENTS FOR CERTIFICATE OF OCCUPANCY CHECKLIST, TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO REQUESTING AN INSPECTION FOR A CERTIFICATE OF OCCUPANCY.
28. ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENTS SHALL BE OWNED AND MAINTAINED PRIVATELY.
29. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT-OF-WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.
30. 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.
31. THE SIDEWALKS SHALL REMAIN OPENED DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
32. 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.
33. A CERTIFICATE OF OCCUPANCY SHALL BE OBTAINED PRIOR TO ANY OCCUPANCY OF THE BUILDING OR PORTION THEREOF, IN ACCORDANCE WITH VIRGINIA USBC 115.0.
34. THIS SITE IS NOT LOCATED WITHIN A COMBINED SEWER AREA.
35. THE APPLICANT SHALL BE RESPONSIBLE TO DELIVER THE SOLID WASTE, AS DEFINED BY THE CITY CHARTER AND CODE OF THE CITY OF ALEXANDRIA TO THE CONWANTA ENERGY WASTE FACILITY LOCATED AT 5301 EISENHOWER AVENUE. THE DEVELOPER/FURTHER AGREES TO STIPULATE IN ANY FUTURE LEASE OR PROPERTY SALES
36. FIRE HYDRANTS SHALL REMAIN IN SERVICE AND UNOBSTRUCTED DURING CONSTRUCTION.
37. NO MARINE CLAYS EXIST ON-SITE.
38. THE APPLICANT WILL MAKE THE REQUIRED CONTRIBUTION TO THE CITY OF ALEXANDRIA HOUSING TRUST FUND PER THE APPROVED DEVELOPMENT CONDITIONS.
39. NO POTW PERMITS ARE REQUIRED.
40. THE RESIDENTIAL AND HOTEL BUILDINGS SHALL MEET THE REQUIRED LEED CERTIFICATION LEVELS PER CITY'S GREEN BUILDING POLICY.

EXISTING CONDITIONS SURVEY NOTES

1. HORIZONTAL DATUM* NORTH AMERICAN DATUM OF 1983, NAD83
2. VERTICAL DATUM* NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88*
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.

* PER MEMORANDUM TO INDUSTRY, JULY 20, 2005, THE PLAN SHALL BE PREPARED USING VIRGINIA STATE PLANE (NAD83ZONE) COORDINATES BASED ON NAD83 AND NAVD88. HOWEVER, IF THE CURRENT DRAWINGS ARE PREPARED USING NORTH AMERICAN DATUM OF 1927 (NAD27) AND NORTHEODETIC 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. THERE IS EXISTING MAPPED RPA AND FLOODPLAINS ALONG BACKLICK RUN ON SITE. ADDITIONALLY, THERE ARE STEEP SLOPES GREATER THAN 15% IN GRADE ALONG S. VAN DORN ST & ADJACENT TO BACKLICK RUN ALONG THE NORTHERN SITE BOUNDARY. THE APPLICANT IS CURRENTLY COORDINATING WITH AN ENVIRONMENTAL ENGINEER TO ASSESS ADDITIONAL ENVIRONMENTAL ISSUES OR CONTAMINATION PRESENT ON SITE.
2. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS, AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.
3. ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWCB) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIALIST AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4996.
4. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND SATURDAYS FROM 9 AM TO 6 PM
NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND SATURDAYS FROM 10 AM TO 4 PM.

SANITARY FLOW COMPUTATIONS

TOTAL AVERAGE FLOW FROM BUILDINGS =
300 GPD/UNIT * 292 UNITS(MULTIFAMILY; CONDOS & 2/2) + 350 GPD/UNIT * 31 UNITS(TH) + 130 GPD/ROOM * 256 ROOMS(HOTEL) = 131,730 GPD
PEAK FACTOR FLOW FROM BUILDINGS = 131,730 GPD * 4.0 = 526,920 GPD

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

1. THE APPLICANT FOR DEVELOPMENT/REDEVELOPMENT 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 SF.
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. (GIS INFORMATION LOCATION)
4. THE APPLICANT SHALL USE THE CRITERIA ESTABLISHED BY THE ENGINEERS AND SURVEYORS (ES) INSTITUTE, AS SHOWN ON THE CHECKLIST AND APPLICABLE INCLUDING MANNING'S ROUGHNESS COEFFICIENTS AND MINIMUM PIPE SLOPED. ALL SEWERS SHALL BE DESIGNED TO FLOW BY GRAVITY SUCH THAT A HYDRAULIC GRADE LINE (HGL) IS CONTAINED WITHIN THE CROWN OF THE PIPE.
5. THE APPLICANT SHALL PROVIDE ALL THE MEASURED DATA AND CALCULATIONS ON THE ADEQUATE SANITARY SEWER OUTFALL ANALYSIS ON THE PLANS FOR REVIEW BY T&ES STAFF. IN ADDITION, THE APPLICANT IS REQUIRED TO SHOW THE FOLLOWING:
A. DELINEATION OF THE SANITARY SEWERSHAD THAT SHOWS THE EXISTING SANITARY SEWERS AND ALL CONNECTIONS UPSTREAM OF THE PROPOSED DEVELOPMENT AND ALL CONNECTIONS THAT TIE-IN DOWNSTREAM OF THE PROPOSED DEVELOPMENT TO THE SEWER SPECIFIED BY T&ES STAFF.
B. CALCULATION OF ALL EXISTING AVERAGE AND PEAK FLOWS JUST UPSTREAM OF THE PROPOSED DEVELOPMENT SHOWING TOTAL NUMBER OF RESIDENTIAL UNITS AND TYPE AND TOTAL NON-RESIDENTIAL AREA (IN SQ. FT.) AND TYPE. IF EXISTING FLOWS HAVE BEEN PROVIDED BY T&ES STAFF, THEN JUST THE PEAK FLOW IS REQUIRED. NOTE THAT ESTIMATION OF SEWER CAPACITY IS NOT REQUIRED FOR SEWERS UPSTREAM OF THE PROPOSED DEVELOPMENT.
C. CALCULATION OF EXISTING AND PROPOSED SANITARY SEWER AVERAGE AND PEAK FLOWS FROM THE PROPOSED DEVELOPMENT SITE.
D. CALCULATION OF ALL EXISTING AVERAGE AND PEAK FLOWS DOWNSTREAM OF THE PROPOSED DEVELOPMENT. IF EXISTING PEAK FLOWS ARE PROVIDED BY T&ES STAFF, THEN JUST THE PEAK FLOWS ARE REQUIRED. INCOMING SANITARY SEWER FLOWS SHALL BE COMPUTED AT EACH MANHOLE STARTING AT THE PROPOSED DEVELOPMENT AND CONTINUING DOWNSTREAM AS SPECIFIED ABOVE. NOTE THAT ESTIMATION OF SEWER CAPACITY IS NOT REQUIRED ON SEWERS THAT DO NOT SERVE OR ARE NOT IMPACTED BY THE PROPOSED DEVELOPMENT SITE.
E. SUMMARY TABLE SHOWING PIPE CAPACITY, PIPE DIAMETERS, MATERIAL, MANNING'S ROUGHNEES COEFFICIENTS, SLOPES, AND FLOWS UTILIZED IN ESTIMATING SEWER CAPACITY SHALL BE INCLUDED.
F. IN CASES WHERE THERE IS NO SUFFICIENT CAPACITY, BASED ON MANNING'S EQUATION, THE APPLICANT SHALL BE REQUIRED TO INCLUDE HGL COMPUTATIONS AND A PROFILE SHOWING THE HGL STARTING TAILWATER ELEVATIONS WILL BE PROVIDED BY T&ES STAFF.
6. IF ADEQUATE SEWER CAPACITY DOES NOT EXIST, BASED ON MANNING'S EQUATION AND THE HGL BEING ABOVE THE CROWN OF THE PIPE, THEN THE APPLICANT SHALL BE RESPONSIBLE FOR PROVIDING THE REQUIRED UPGRADES TO ACCOMMODATE THE FLOWS TO THE SATISFACTION OF THE DIRECTOR OF T&ES. THE APPLICANT MAY BE REQUIRED TO DO ONE OF THE FOLLOWING:
A. CONSTRUCT THE REQUIRED SANITARY SEWER INFRASTRUCTURE IN ORDER TO ACCOMMODATE THE DEVELOPMENT PROJECT SUBJECT TO THE APPROVAL OF AND TO THE SATISFACTION OF THE DIRECTO OF T&ES. THE REQUIRED INFRASTRUCTURE SHALL MEET ULTIMATE BUILD-OUT CONDITIONS AS DETERMINED BY T&ES STAFF. IN THE CASES WHERE THE REQUIRED INFRASTRUCTURE WILL BENEFIT OTHER PLANNED AND/OR ANTICIPATED DEVELOPMENT, A CREDIT TOWARDS THE SEWER CONNECTION FEE SHALL BE AVAILABLE AS PER THE CITY'S CODE OF ORDINANCES SEC. 5-6-25.1(b).

(CONTINUED.)

SANITARY FLOW COMPUTATIONS (CONT.)

- B. IF THE REQUIRED SANITARY SEWER INFRASTRUCTURE IS BEING IMPLEMENTED AS PART OF THE CITY'S CAPITAL IMPROVEMENT PROGRAM, THEN THE APPLICANT SHALL BE REQUIRED TO PAY A FEE BASED ON THE COST OF THE INFRASTRUCTURE AND THE APPLICANT'S SHARE OF THAT COST. THE COST SHARE SHALL BE DETERMINED BY THE DIRECTOR OF T&ES.
7. SANITARY SEWER SYSTEMS THAT SERVE OVER 400 PEOPLE REQUIRE THE APPROVAL OF THE VIRGINIA DEPARTMENT OF ENVIRONMENT QUALITY (VDEQ). THEREFORE, THE APPLICANT SHALL COMPLY WITH ALL THE REGULATORY REQUIREMENTS OF THE STATE OF VIRGINIA.
8. NO FOUNDATION DRAIN, BASEMENT DRAIN, OR STAIRWELL BASEMENT ACCESS DRAIN OR OTHER NON-SANITARY CONNECTION SHALL BE CONNECTED TO THE SANITARY SEWER SYSTEM.

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 OBTAINING 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 ARCHAEOLOGICAL 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 ARCHAEOLOGICAL 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 BAT 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 EXIST ON SITE.

ARCHAEOLOGY NOTES

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

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.

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 FAVORABLE TO 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 SOODED 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 SPECIFICATIONS.
9. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS.
10. PRIOR TO BEGINNING OF CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSIONS, DETAILS, AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
11. THE CONTRACTOR IS TO VERIFY INVERT, SIZE, AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL PLANS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES.
12. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONSTRUCTION.
13. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
14. ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
15. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS, IF REQUIRED, SHALL BE MADE IN THE FIELD WITH THE APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
16. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA ZONING ORDINANCE AND DESIGN AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, AND PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENT OR THE PERMITS SHALL BE DEEMED A VIOLATION.
17. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR AN ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA.
18. CONSTRUCTION TAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.
19. THE CONTRACTOR IS REFERRED TO STRUCTURAL, GEOTECHNICAL, MECHANICAL, AND ARCHITECTURAL PLANS FOR FOUNDATION TREATMENT INCLUDING, BUT NOT LIMITED TO, SHEETING AND SHORING FOR BUILDING EXCAVATION, WATERPROOFING FOR FILL AGAINST BUILDINGS, LOCATION OF MECHANICAL EQUIPMENT, AND CONNECTIONS AT THE FACES OF BUILDINGS.
20. THE CONTRACTOR SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR PONDING OF WATER ON THE ROADWAY.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.
22. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF IN-SITU MATERIALS SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESSES OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL/LICENSED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.
23. THE THICKNESSES OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATABOOK FOR CIVIL ENGINEERS, VOLUME ONE, DESIGN" WRITTEN BY ELWYN E. SEELYE. AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CBR AND VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWANI METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE.
24. AMERICAN WITH DISABILITY (ADA) ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH PAVEMENT MARKINGS PER THE CITY OF ALEXANDRIA STANDARD SIGNAGE AND AMERICAN WITH ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
25. ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
26. UNLESS OTHERWISE APPROVED THE CONTRACTOR SHALL PROVIDE THERMOPLASTIC LADDER STYLE / STANDARD PEDESTRIAN CROSS WALKS AT ALL CROSSINGS AT THE PROPOSED DEVELOPMENT, WHICH MUST BE DESIGNED TO THE SATISFACTION OF THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE DESIGN OF LADDER STYLE OR STANDARD PEDESTRIAN CROSS WALK SHALL BE EVALUATED ON A CASE BY CASE BASIS AND SHALL COMPLY WITH THE REQUIREMENTS OF POLICY MANUAL SECTION 30.18, PEDESTRIAN CROSSWALKS, JULY 13,2006. A COPY OF THE POLICY MANUAL CAN BE OBTAINED FROM YON LAMBERT, BICYCLE AND PEDESTRIAN COORDINATOR / TRANSPORTATION PLANNER, TELEPHONE (703) 746-4081.

UTILITY WORKS

- A. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 4VAC50-30-40 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND ADDITIONAL APPLICABLE PRACTICES FOLLOEED BY THE CITY OF ALEXANDRIA.
- B. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS / CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.
- C. ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN.
- D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.
- E. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
- F. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
- G. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
- H. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
- I. SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1551) COMPACTION IN ALL TRENCH BACKFILL.
- J. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS 84VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH)
- K. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- L. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CITY OF ALEXANDRIA.
- M. NO CONTAMINATION HAS BEEN FOUND ON-SITE.
- N. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "CLEAN" SOIL.
- O. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.
- P. ALL NEW INSTALLATIONS AND/OR REINSTALLATIONS OF UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES INCLUDING WATER AND SEWER LATERAL BOTH ON PRIVATE PROPERTY AND IN THE PUBLIC RIGHT OF WAY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH 3" AND 6" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPES (DUWT). THE 3" DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" AND 6" WIDE AT A DEPTH OF 24" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE (LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS. THE FOLLOWING ARE THE APWA COLOR CODES:
Q. EX FIRE HYDRANT SHALL REMAIN IN SERVICE AND UNOBSTRUCTED DURING CONSTRUCTION.

UTILITY COLOR CODES

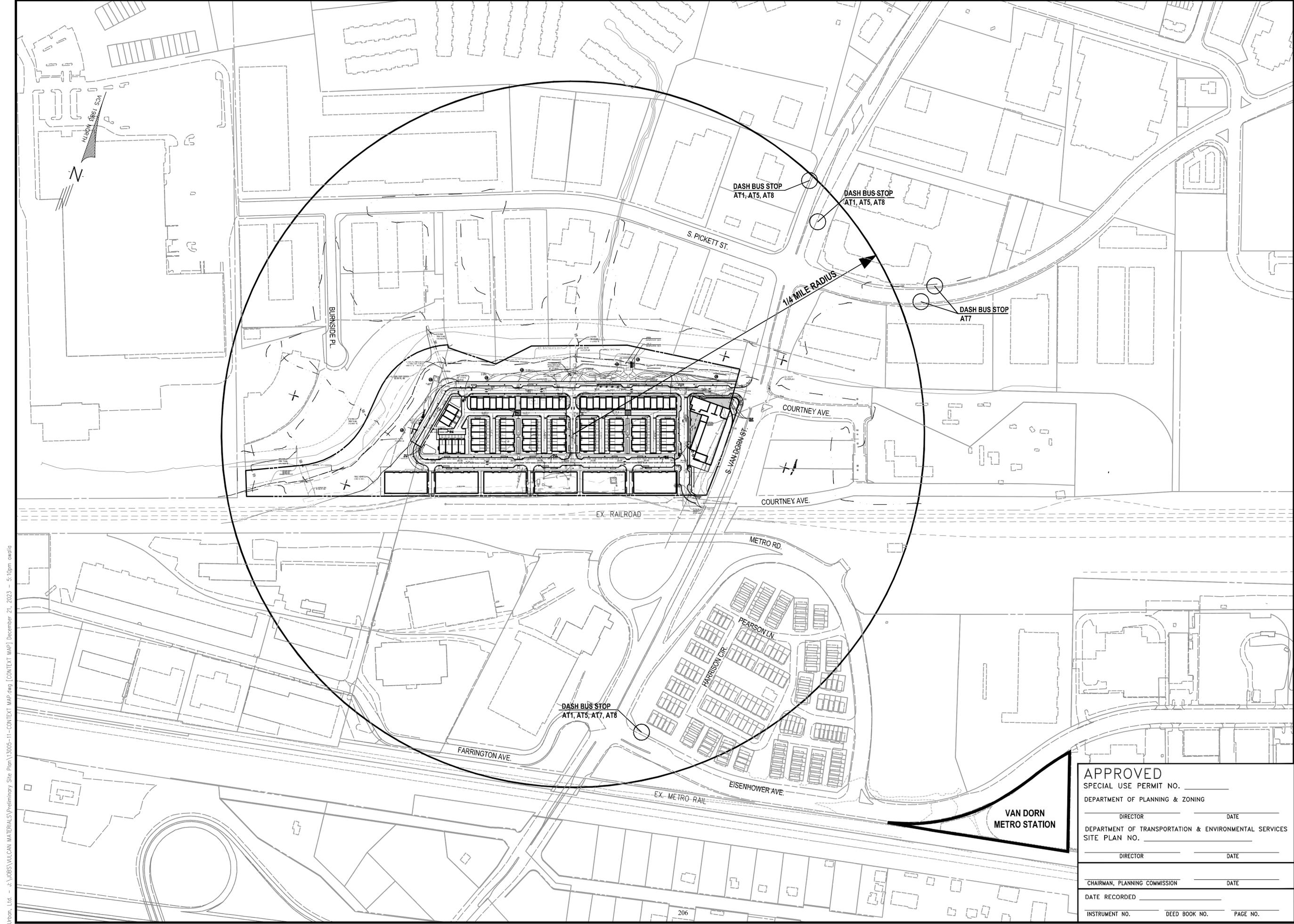
COLOR	CODES
RED	CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTING CABLES
YELLOW	CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES, OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AND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

TRANSPORTATION NOTES

THE APPLICANT HAS PROVIDED ATRANSPORTATION SCOPING FORM PREPARED BY WELLS ASSOCIATES WITH THIS SUBMISSION.

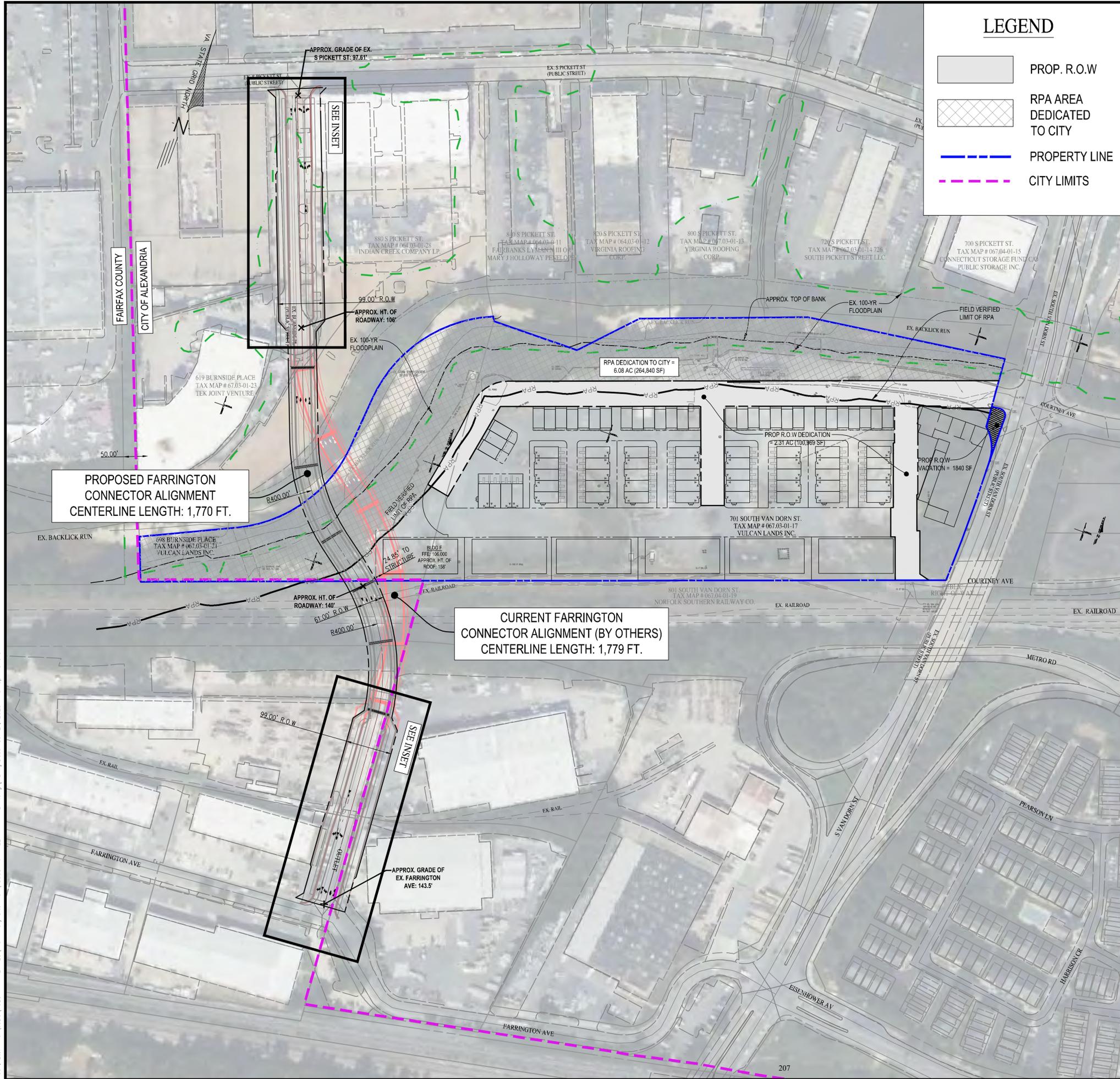
MOSQUITO CONTROL NOTES

1. SINCE STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICE (BMP) SYSTEMS THAT HOLD WATER FOR MORE THAN 5 DAYS BETWEEN THE MONTHS OF MAY - OCTOBER HAVE THE POTENTIAL TO CAUSE MOSQUITO BREEDING HABITATS SUCH BMPs SHALL BE TREATED WITH A REGISTERED MOSQUITO LARVAL CONTROL PRODUCT. ALL LABELS SHOULD BE FOLLOWED FOR APPLICATION RATES AND AMOUNTS.
2. CONTACT THE CITY OF ALEXANDRIA ENVIRONMENTAL HEALTH VECTOR BORNE ILLNESS PROGRAM (703-746-4910) FOR QUESTIONS OR TREATMENT ASSISTANCE.



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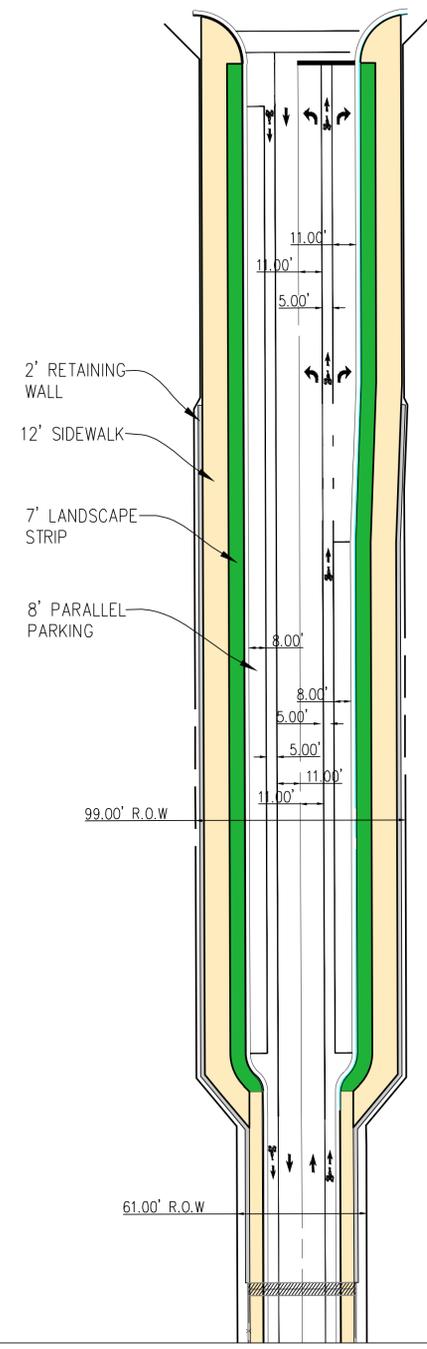
<p>PLAN DATE</p> <p>06-02-2023 09-17-2023 12-21-2023</p> <p>Urban, Ltd. 4000 TECHNOLOGY CT. CHANTILLY, VA. 20151 TEL. 703.642.2306 FAX 703.678.7888 www.urban-llc.com</p> <p>urban Planners • Engineers • Landscape Architects • Land Services</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">No.</th> <th style="width: 50%;">DATE</th> <th style="width: 50%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	DATE	DESCRIPTION																	
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<p>CONTEXT PLAN</p> <p>PRELIMINARY SITE PLAN</p> <p>VULCAN MATERIALS DEVELOPMENT</p> <p>CITY OF ALEXANDRIA, VIRGINIA</p> <p>SCALE: 1" = 150'</p>																					
<p>DATE: JUNE, 2023</p>																					
<p>C.I. = N/A</p>																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">APPROVED</td> <td style="width: 50%;">SPECIAL USE PERMIT NO. _____</td> </tr> <tr> <td colspan="2" style="text-align: center;">DEPARTMENT OF PLANNING & ZONING</td> </tr> <tr> <td style="text-align: center;">_____ DIRECTOR</td> <td style="text-align: center;">_____ DATE</td> </tr> <tr> <td colspan="2" style="text-align: center;">DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES</td> </tr> <tr> <td colspan="2" style="text-align: center;">SITE PLAN NO. _____</td> </tr> <tr> <td style="text-align: center;">_____ DIRECTOR</td> <td style="text-align: center;">_____ DATE</td> </tr> <tr> <td colspan="2" style="text-align: center;">CHAIRMAN, PLANNING COMMISSION</td> </tr> <tr> <td style="text-align: center;">_____ DATE RECORDED</td> <td style="text-align: center;">_____ DATE</td> </tr> <tr> <td style="text-align: center;">INSTRUMENT NO. _____</td> <td style="text-align: center;">DEED BOOK NO. _____</td> </tr> <tr> <td style="text-align: center;">PAGE NO. _____</td> <td style="text-align: center;">PAGE NO. _____</td> </tr> </table>		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 RECORDED	_____ DATE	INSTRUMENT NO. _____	DEED BOOK NO. _____	PAGE NO. _____	PAGE NO. _____
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PAGE NO. _____	PAGE NO. _____																				
<p>SHEET 03 OF 38</p> <p>FILE No. SP-13005</p>																					



LEGEND

- PROP. R.O.W
- RPA AREA DEDICATED TO CITY
- PROPERTY LINE
- CITY LIMITS

INSET
SCALE: 1"=40'



NOTE: ASSUMED DESIGN SPEED FOR FARRINGTON CONNECTOR = 25 MPH

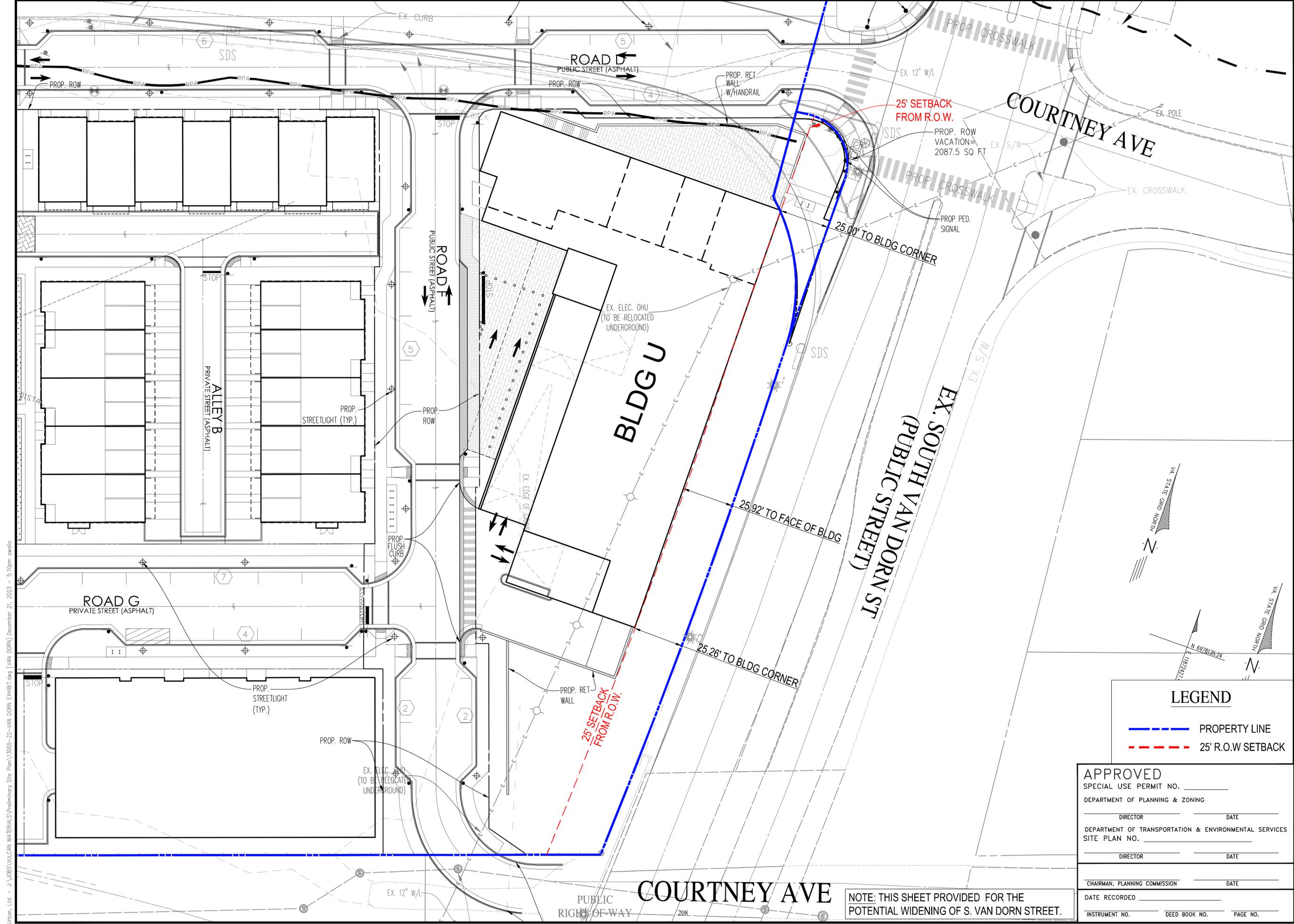
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SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED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

FARRINGTON CONNECTOR EXHIBIT
VULCAN MATERIALS DEVELOPMENT PRELIMINARY SITE PLAN
 CITY OF ALEXANDRIA, VIRGINIA
 SCALE: 1" = 100'
 DATE: JUNE, 2023
 C.I. = N/A

PLANNING DATE	DESCRIPTION	DATE	REVISIONS
06-02-2023			
09-19-2023			
12-21-2023			

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 COMMONWEALTH OF VIRGINIA
 CLAYTON C. TOOK
 Lic. No. 038790
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 PROFESSIONAL ENGINEER

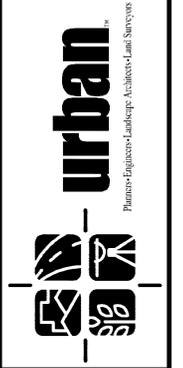
Urban, Ltd. - J. VOSSE/VULCAN MATERIALS Preliminary Site Plan 13005-16-PR-01 PRELIMINARY PLAT.dwg [PLAT] December 21, 2023 - 5:10pm avelio



Urban, Ltd. - J:\085\VULCAN MATERIALS\ Preliminary Site Plan\13005-22-VAN DORN Exhibit.dwg [VAN DORN] December 21, 2023 - 5:10pm, cwelch

PLAN DATE	DESCRIPTION
06-02-2023	
09-11-2023	
12-21-2023	

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CHANTILLY, VA, 20151
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VAN DORN EXPANSION EXHIBIT
VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
C.I. = N/A

DATE: JUNE, 2023
SCALE: 1" = 20'

SHEET 04A OF 38
FILE No. SP-13005

LEGEND

	PROPERTY LINE
	25' R.O.W. SETBACK

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. _____ PAGE NO. _____

NOTE: THIS SHEET PROVIDED FOR THE POTENTIAL WIDENING OF S. VAN DORN STREET.

PHASE I & II - PUBLIC STORAGE SITE INFORMATION
(SEE CDD#2018-0005 FOR MORE INFORMATION)

PROJECT TABULATIONS:

MAXIMUM GROSS FLOOR AREA:
 PHASE 1 MAXIMUM GROSS FLOOR AREA:
 • STORAGE: 257,830 GSF
 • OFFICE: 1,266 SF
 • RETAIL/PWR: 4,454 SF
 TOTAL: 263,550 GSF MAX
 PHASE 1 NET FLOOR AREA: 259,120 SF
 PHASE 2 MAXIMUM GROSS FLOOR AREA:
 • RESIDENTIAL: 400,000 GSF
 • INTERNAL PARKING: 155,000 GSF
 TOTAL: 555,000 GSF MAX
 PHASE 2 NET FLOOR AREA: 473,492 SF

MAXIMUM RESIDENTIAL UNIT COUNT:
 PHASE 2: MAXIMUM RESIDENTIAL UNITS: 350 UNITS

MAXIMUM BUILDING HEIGHT:
 PHASE 1: 68 FT
 PHASE 2: 175 FT

MAXIMUM FAR:

OVERALL	PARCEL 1	PARCEL 2	PARCEL 3
PHASE 1: 0.81 (259,120 SF/317,947 SF)	3.34 (259,120 SF/77,665 SF)	0 (0/75,502 SF)	0 (0/157,167 SF)
PHASE 2: 2.30 (732,612 SF/317,947 SF)	3.34 (259,120 SF/77,665 SF)	6.72 (473,492 SF/70,492 SF)	0 (0/162,167 SF)

MAXIMUM PARKING COUNT:
 PHASE 1:
 • 26 PERMANENT AT GRADE SPACES (PHASE 1-A)
 • 109 INTERMEDIATE GARAGE SPACES (PHASE 1-B)
 135 TOTAL SPACES
 PHASE 2:
 400 TOTAL SPACES INTERNAL TO BUILDING BELOW AND ABOVE GRADE, OR AS OTHERWISE REQUIRED TO SUPPORT THE PROPOSED USES.

PARCEL INFORMATION:
 TOTAL AREA INCLUDED IN CDD = 317,947 SF OR 7.30 AC
 TOTAL AREA OF PROPOSED TAX PARCELS (PHASE 1):
 PARCEL 1: 77,865 SF OR 1.78 AC
 PARCEL 2: 75,502 SF OR 1.74 AC
 PARCEL 3: 157,167 SF OR 3.61 AC
 PUBLIC STREET A: 7,623 SF OR 0.17 AC
 TOTAL: 317,947 SF OR 7.30 AC
 TOTAL AREA OF PROPOSED TAX PARCELS (PHASE 2):
 PARCEL 1: 77,865 SF OR 1.78 AC
 PARCEL 2: 70,492 SF OR 1.63 AC
 PARCEL 3: 162,167 SF OR 3.72 AC
 PUBLIC STREET A: 7,623 SF OR 0.17 AC
 TOTAL: 317,947 SF OR 7.30 AC
 TOTAL EXISTING AND PROPOSED IMPERVIOUS AREA ON THE TAX PARCEL:
 EXISTING = 209,332 SF OR 4.81 AC
 PROPOSED = 135,128 SF OR 3.10 AC
 APPROXIMATE LIMITS OF DISTURBANCE = 8.00 AC OR 348,450 SF

PHASE III - VULCAN SITE INFORMATION

PROJECT NARRATIVE

THE PROJECT OCCUPIES THE SITE LOCATED AT THE INTERSECTION OF COURTNEY AVENUE AND SOUTH VAN DORN STREET AND IS BOUNDED BY AN EXISTING STREAM (BACKLICK RUN) TO THE NORTH AND WEST AND AN EXISTING ROAD TO THE SOUTH. CURRENTLY THE SITE CONSISTS OF TWO PARCELS, CONTAINING AN INDUSTRIAL MATERIALS YARD WITH ASSOCIATED BUILDINGS/INFRASTRUCTURE, WHICH ARE ZONED I.

THE PROPOSED DEVELOPMENT CONSISTS OF A 9-STORY 308 ROOM HOTEL/COMMERCIAL BUILDING ON TOP OF A 2-STORY PODIUM; SIX 4-STORY CONDO FLAT BUILDINGS ON TOP OF A 1-STORY PODIUM; 106 TWO-OVER-TWO MULTIFAMILY UNITS AND 38 TOWNHOUSES. EXISTING STRUCTURES/UTILITIES ON SITE ARE PROPOSED TO BE REMOVED AND/OR RELOCATED.

THE PROJECT WILL INCLUDE MITIGATION OF AN EXISTING 100-YR FLOODPLAIN WITH ASSOCIATED GRADING ADJACENT TO THE ONSITE PORTION OF THE SOUTH BANK OF BACKLICK RUN.

NATIVE SPECIES TREES IN CONFORMANCE WITH RPA PLANTING GUIDELINES WILL BE PROTECTED AND REMAIN WITH THE EXISTING RPA WHERE POSSIBLE.

DISTURBANCE AND IMPACTS TO ADJACENT PROPERTIES WILL BE MINIMIZED THROUGH THE USE OF EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION PHASING.

PARCEL INFORMATION
 TOTAL AREA INCLUDED IN CDD = 774,455 SF OR 17.77 AC.
 TOTAL AREA OF PROPOSED TAX PARCELS:
 • TM# 067.03-01-17: 384,629 SF OR 8.83 AC.
 • TM# 067.03-01-21: 22,405 SF OR .51 AC.
 • R.O.W VACATION: 1,840 SF OR .04 AC.
 • PUBLIC STREET R.O.W DEDICATION: 100,969 SF OR 2.31 AC.
 • RPA DEDICATION: 264,840 SF OR 6.08 AC.
 TOTAL: 774,455 SF OR 17.77 AC.
 TOTAL EXISTING AND PROPOSED IMPERVIOUS AREA ON THE TAX PARCELS:
 EXISTING = 561,052 SF OR 12.88 AC.
 PROPOSED = 505,189 SF 11.60 AC.
 APPROXIMATE LIMITS OF DISTURBANCE = 556,628 SF OR 12.77 AC.

PROJECT TABULATIONS

MAXIMUM GROSS FLOOR AREA:	MAXIMUM FAR:	MAXIMUM BUILDING HEIGHT:	MAX RESIDENTIAL UNIT COUNT:	MAXIMUM PARKING COUNT:
• RESIDENTIAL: 810,000 GSF • COMMERCIAL: 280,000 GSF TOTAL PROVIDED: 1,090,000 GSF MAX MAX NET FLOOR AREA ALLOWABLE: 1,936,140 SF PROVIDED NET FLOOR AREA: 905,000 SF	MAX ALLOWABLE: 2.5 (CDD #26) PROVIDED: 1.17 (905,000/774,455 SF)	MAX ALLOWABLE: • BLOCK A,B,C: 100 FT. • BLOCK D: 150 FT. PROVIDED: • BLOCK A: 60 FT. • BLOCK B: 60 FT. • BLOCK C: 70 FT. • BLOCK D: 140 FT.	MAX ALLOWABLE: 1,000 UNITS PROVIDED: 400 UNITS	MAX ALLOWABLE PER ZONING ORDINANCE

OPEN SPACE TABULATION:
 ONSITE RPA TO BE DEDICATED FOR OPEN SPACE: 6.08 AC. (264,840 SQ FT)
 ONSITE OPEN SPACE (AT-GRADE & ABOVE-GRADE): PER SMALL AREA PLAN

BLOCK SUMMARY

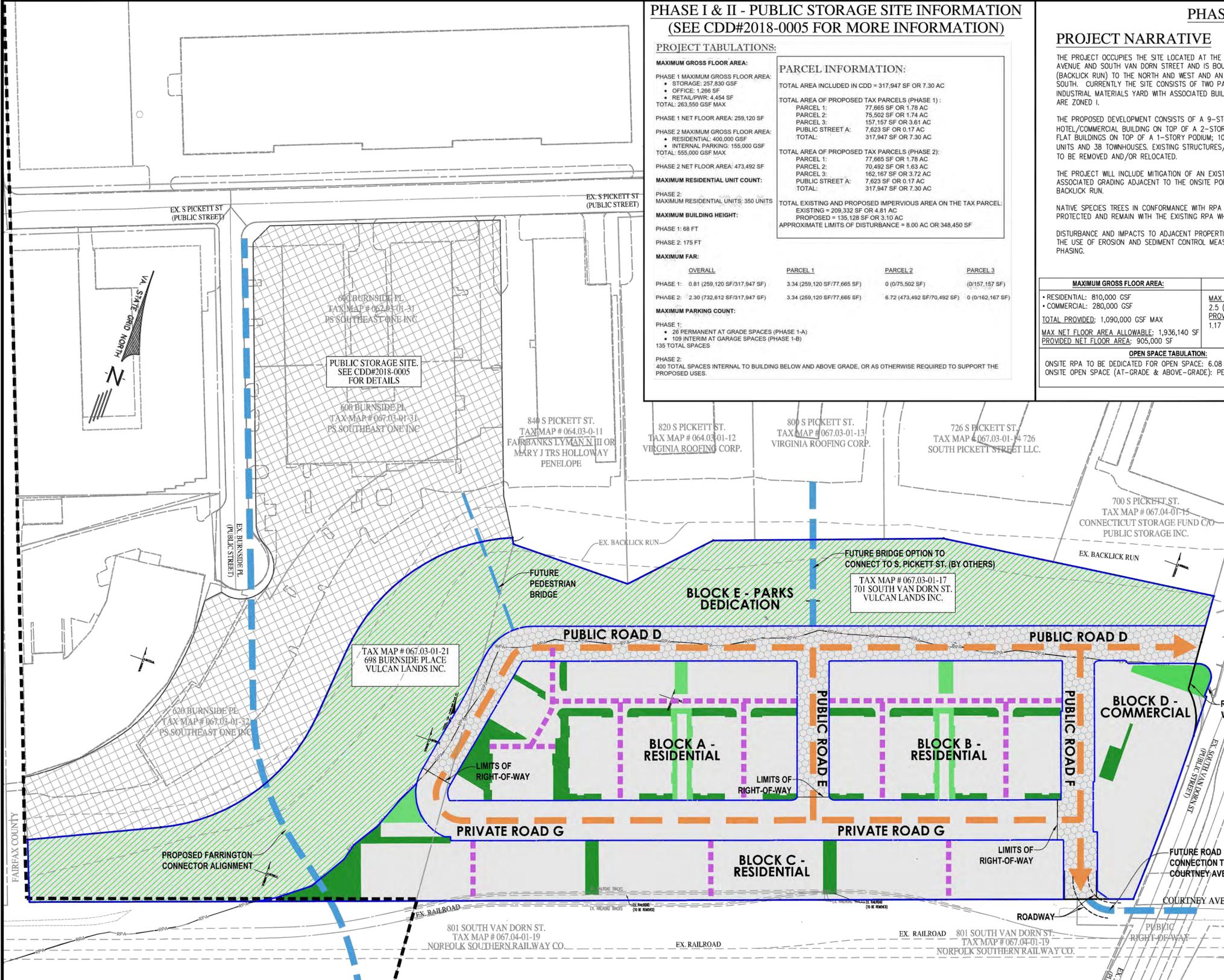
BLOCK	SITE AREA	PROPOSED USE	GSF	NET FLOOR AREA	UNITS/ROOMS	F.A.R
A	2.45 AC.	RESIDENTIAL	210,000 SF	186,000 SF	80 UNITS	1.73
B	1.80 AC.	RESIDENTIAL	170,000 SF	150,000 SF	70 UNITS	1.91
C	2.58 AC.	RESIDENTIAL	430,000 SF	366,000 SF	250 UNITS	3.26
D	1.08 AC.	COMMERCIAL	280,000 SF	203,000 SF	310 ROOMS	4.35
E	6.08 AC.	PARKS				
STREETS	3.78 AC.					
TOTAL:	17.77 AC.		1,090,000 SF	905,000 SF		1.17

NOTE: MAX ALLOWABLE F.A.R OF 2.5 FOR ENTIRE DEVELOPMENT.

MASTER DEVELOPMENT SUMMARY
(VULCAN & PUBLIC STORAGE SITE COMBINED)

SITE	SITE AREA	RESL. GSF	COMM. GSF	NET FLOOR AREA	UNITS/ROOMS	F.A.R
VULCAN SITE	17.77 AC.	810,000 SF	280,000 SF	905,000 SF	400 UNITS	1.17
PUBLIC STORAGE SITE	7.30 AC.	555,000 SF	263,550 SF	473,492 SF	350 UNITS	1.48
TOTAL:	25.07 AC.	1,365,000 SF	543,550 SF	1,378,492 SF	750 UNITS	1.26

NOTE: MAX ALLOWABLE F.A.R OF 2.5 FOR ENTIRE DEVELOPMENT.

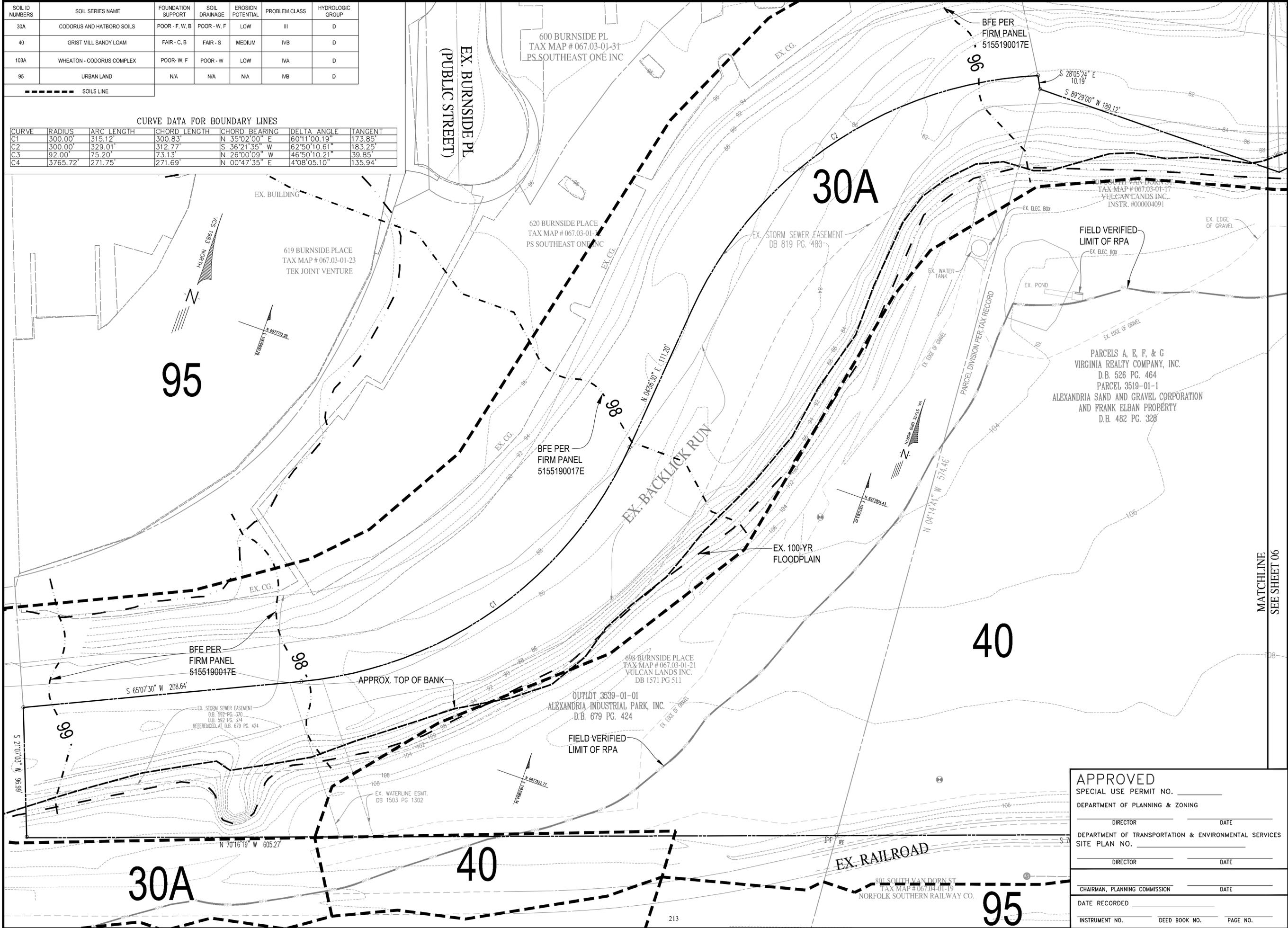


SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS	HYDROLOGIC GROUP
30A	CODORUS AND HATBORO SOILS	POOR - F, W, B	POOR - W, F	LOW	III	D
40	GRIST MILL SANDY LOAM	FAIR - C, B	FAIR - S	MEDIUM	IVB	D
103A	WHEATON - CODORUS COMPLEX	POOR - W, F	POOR - W	LOW	IVA	D
95	URBAN LAND	N/A	N/A	N/A	IVB	D

----- SOILS LINE

CURVE DATA FOR BOUNDARY LINES

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C1	300.00'	315.12'	300.83'	N 35°02'00" E	60°11'00.19"	173.85'
C2	300.00'	329.01'	312.77'	S 36°21'35" W	62°50'10.61"	183.25'
C3	92.00'	75.20'	73.13'	N 26°00'09" W	46°50'10.21"	39.85'
C4	3765.72'	271.75'	271.69'	N 00°47'35" E	4°08'05.10"	135.94'



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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. _____ PAGE NO. _____

PLANNING & ZONING DEPARTMENT
CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE, 2023
SCALE: 1"=30'

EXISTING CONDITIONS
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT

DATE: JUNE, 2023
SCALE: 1"=30'

REVISIONS

No.	DATE	DESCRIPTION

PLAN DATE: 06-02-2023
06-09-2023
09-17-2023
12-21-2023

Urban, Ltd.
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Chantilly, VA, 20151
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Parsons Engineering Landscape Architects - Land Services

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PLANNING & ZONING DEPARTMENT
CITY OF ALEXANDRIA, VIRGINIA

12/21/2023
CLAYTON C. TOCK
Lic. No. 098790
PROFESSIONAL ENGINEER

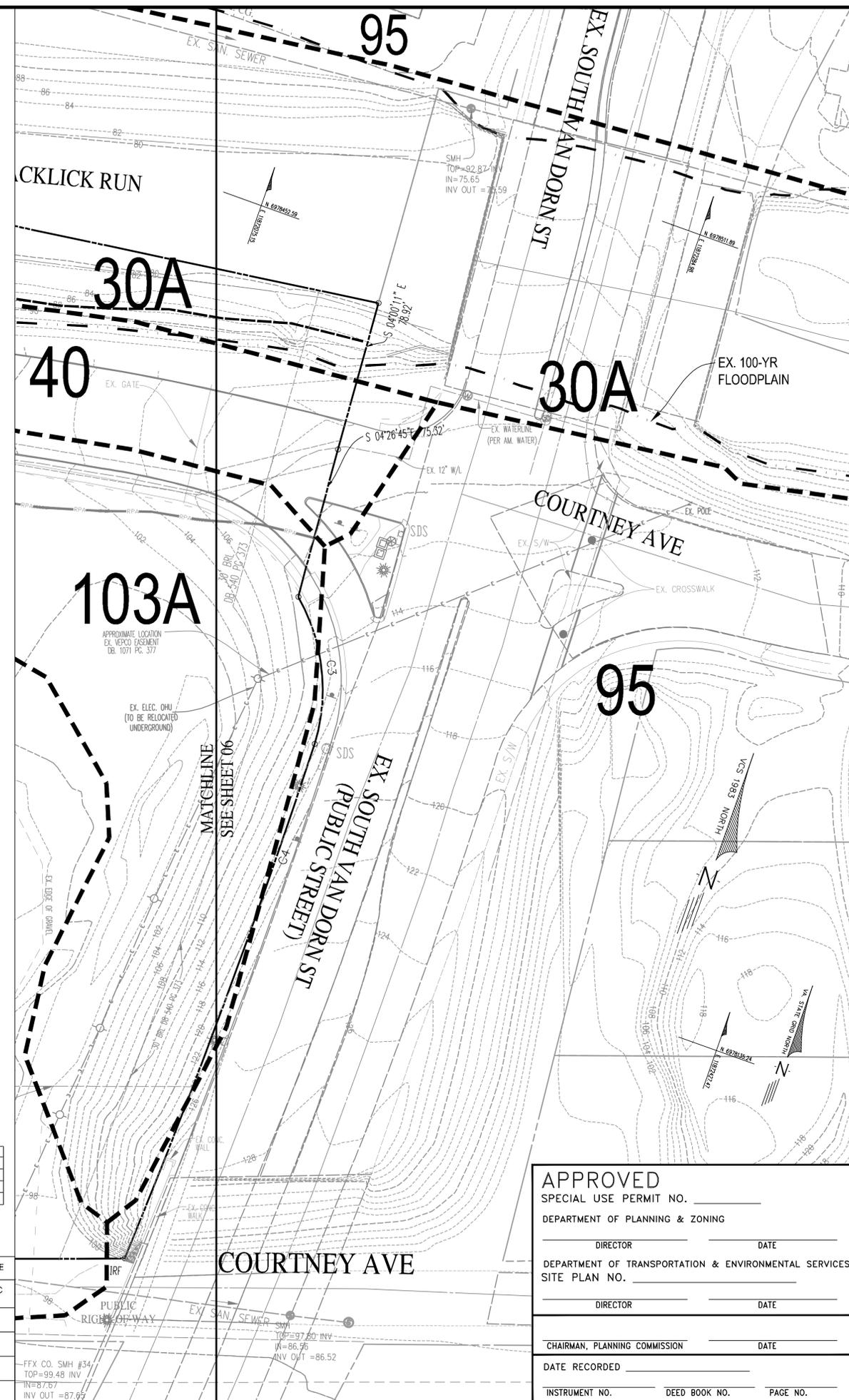
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Urban, Ltd. - J:\065\VULCAN MATERIALS\ Preliminary Site Plan\3005-03-EX-CONDITIONS.dwg [EX. COND. (3)] December 21, 2023 - 5:12pm avello

CURVE DATA FOR BOUNDARY LINES

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C1	300.00'	315.12'	300.83'	N 35°02'00" E	60°11'00.19"	173.85'
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40	GRIST MILL SANDY LOAM	FAIR - C, B	FAIR - S	MEDIUM	IVB	D
103A	WHEATON - CODORUS COMPLEX	POOR - W, F	POOR - W	LOW	IVA	D
95	URBAN LAND	N/A	N/A	N/A	IVB 215	D



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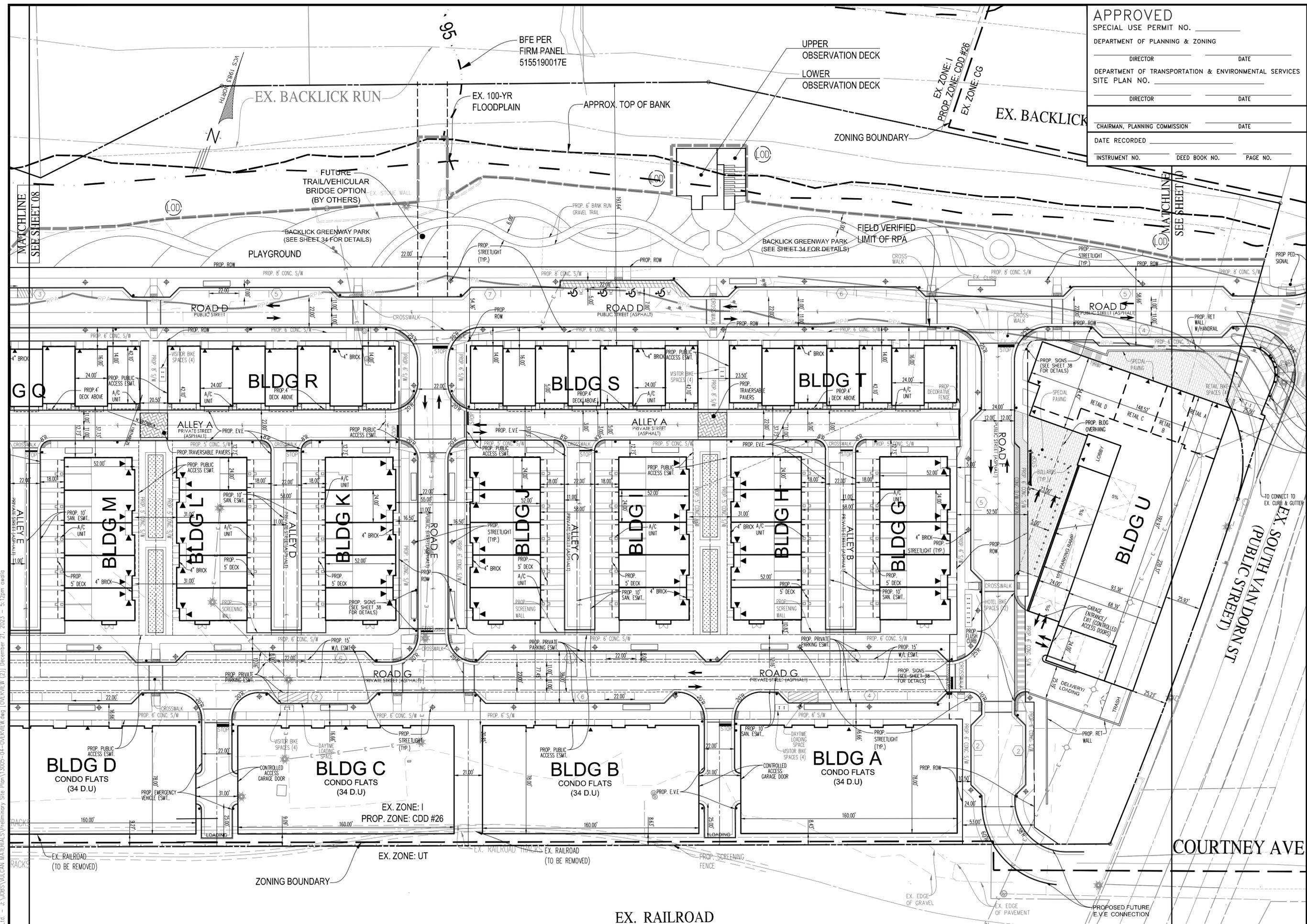
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VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1"=30'
 SHEET 07 OF 38
 FILE NO. SP-12984

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 COMMONWEALTH OF VIRGINIA
 CLAYTON C. TOCK
 Lic. No. 098790
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 PROFESSIONAL

PLANDATE	REVISIONS
06-02-2023	
09-11-2023	
12-21-2023	

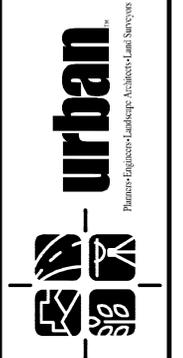
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PLANNING DATE	DESCRIPTION
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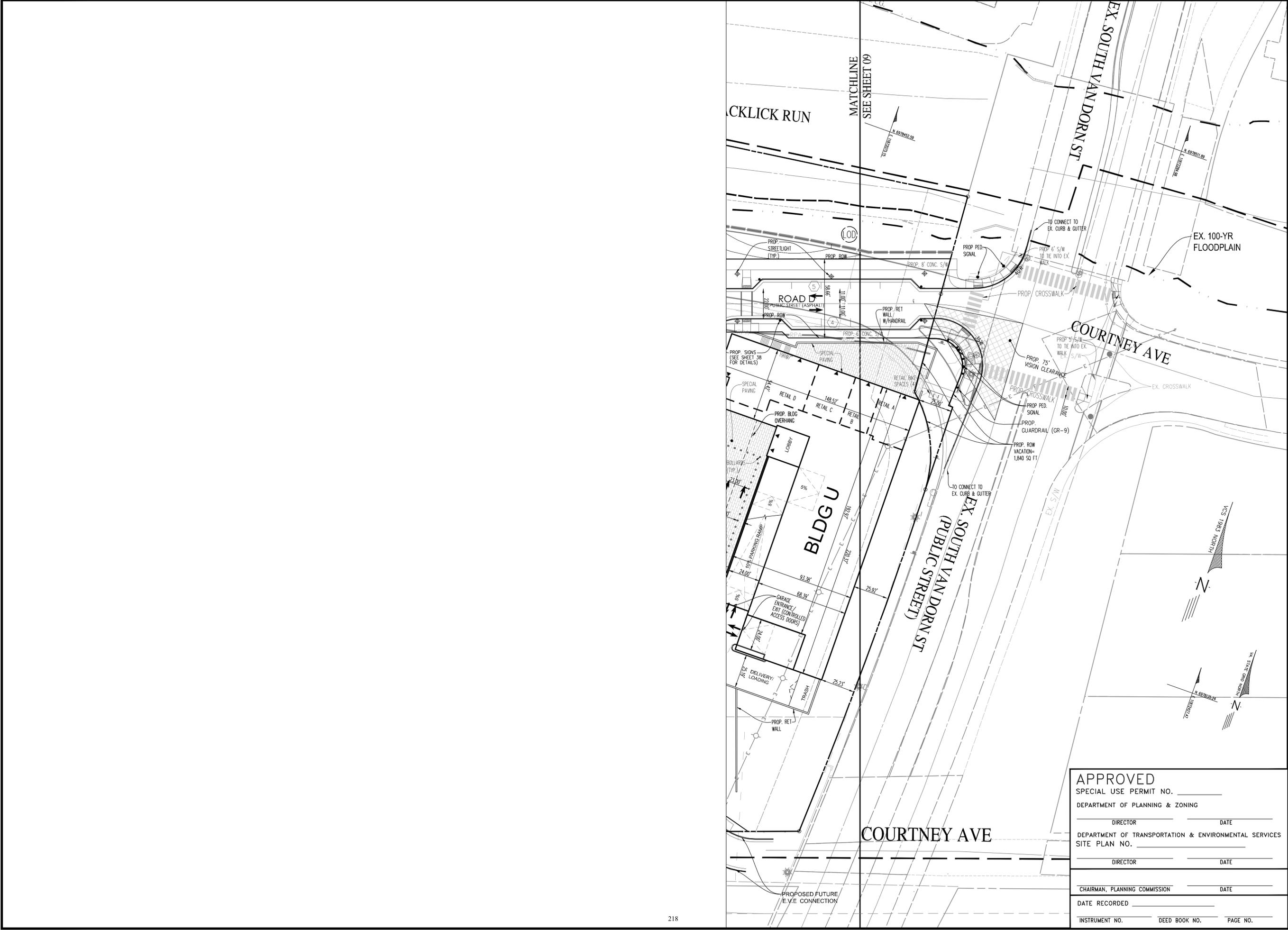
COMMONWEALTH OF VIRGINIA
 CLAYTON C. ROCK
 Lic. No. 098790
 12/21/2023
 PROFESSIONAL ENGINEER

GEOMETRY PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1"=30'
 C.I.= 2'

SHEET
 09
 OF
 38
 FILE No.
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 DIRECTOR _____ DATE _____
 CHAIRMAN, PLANNING COMMISSION _____ DATE _____
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 INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

GEOMETRY PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 SCALE: 1"=30'
 DATE: JUNE, 2023
 SHEET 10 OF 38
 FILE No. SP-13005

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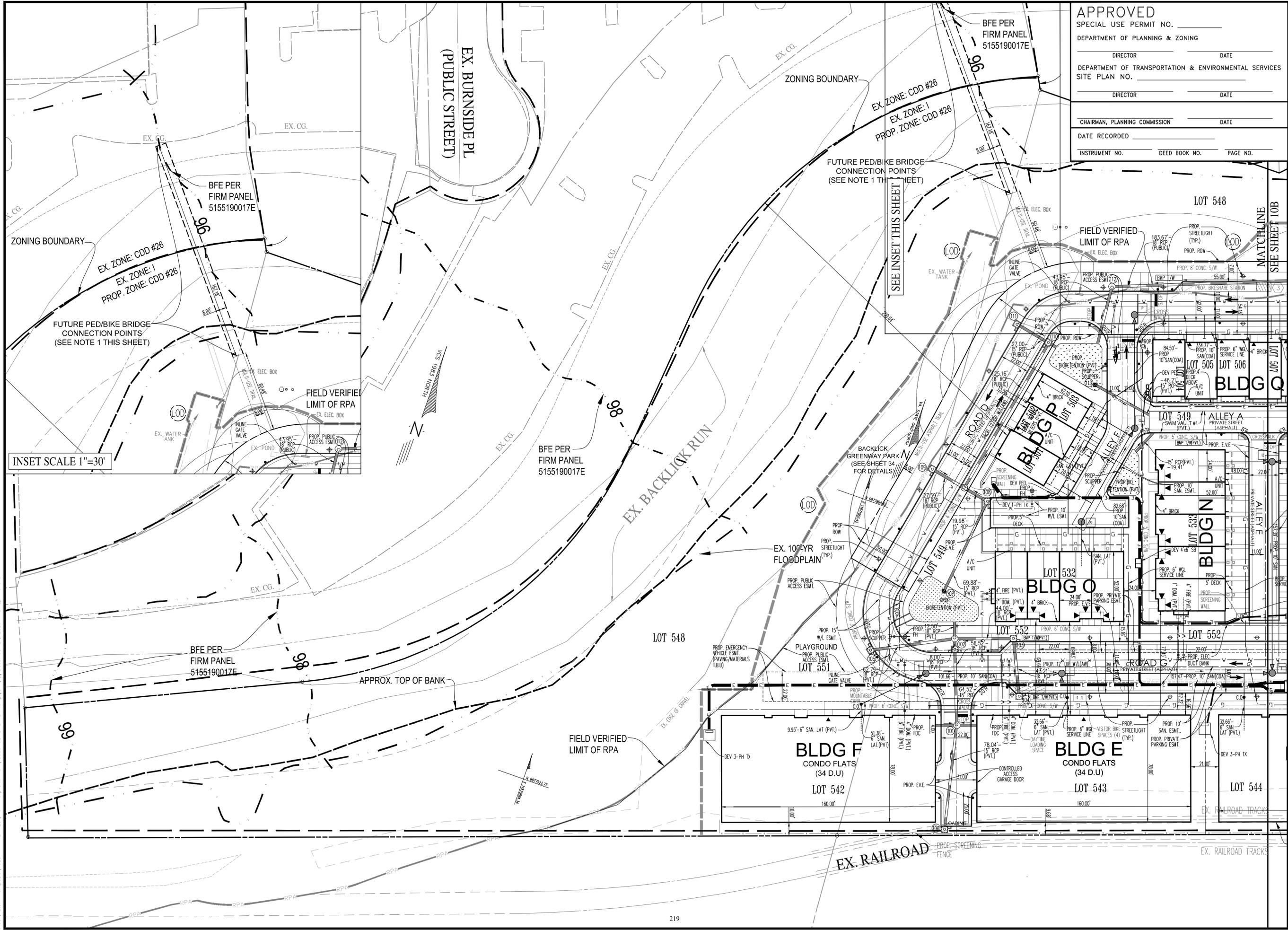
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Professional Engineer
 Commonwealth of Virginia
 CLAYTON C. TOOK
 Lic. No. 098790
 12/21/2023

PLANNING DATE	REVISIONS
06-02-2023	
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No.	DATE	DESCRIPTION

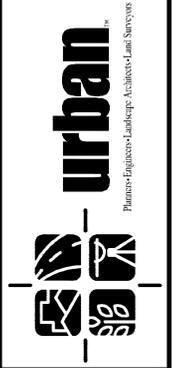
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DIRECTOR _____	DATE _____	
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES		
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DIRECTOR _____	DATE _____	
CHAIRMAN, PLANNING COMMISSION _____		
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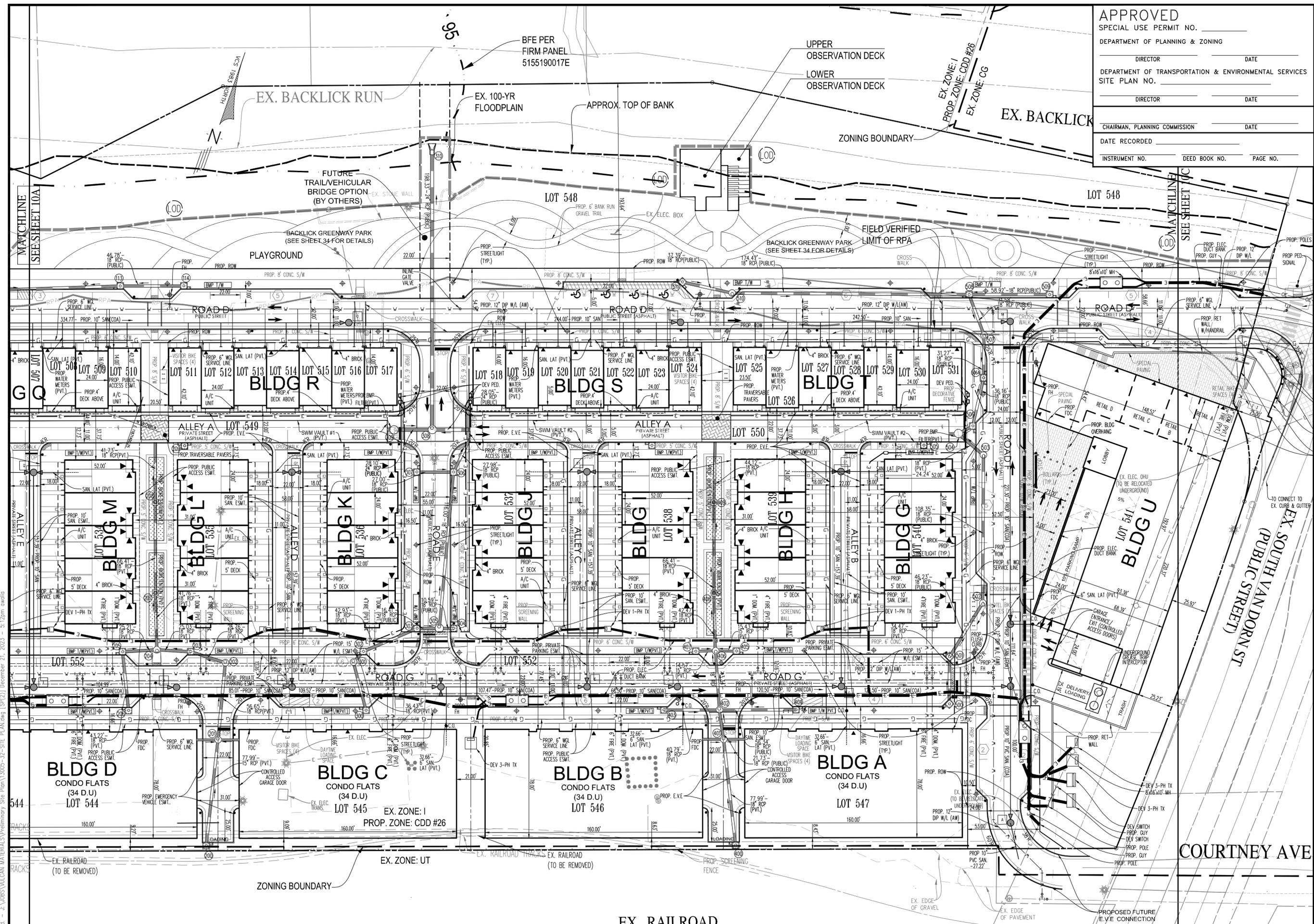
PLAN DATE	DESCRIPTION
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09-17-2023	
12-21-2023	

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SITE PLAN
**PRELIMINARY SITE PLAN
 VULCAN MATERIALS DEVELOPMENT**
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1"=30'
 C.I.= 2

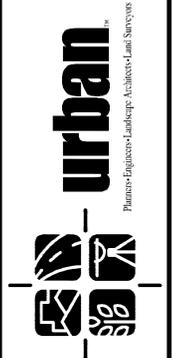
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 OF
 38
 FILE No.
 SP-13005



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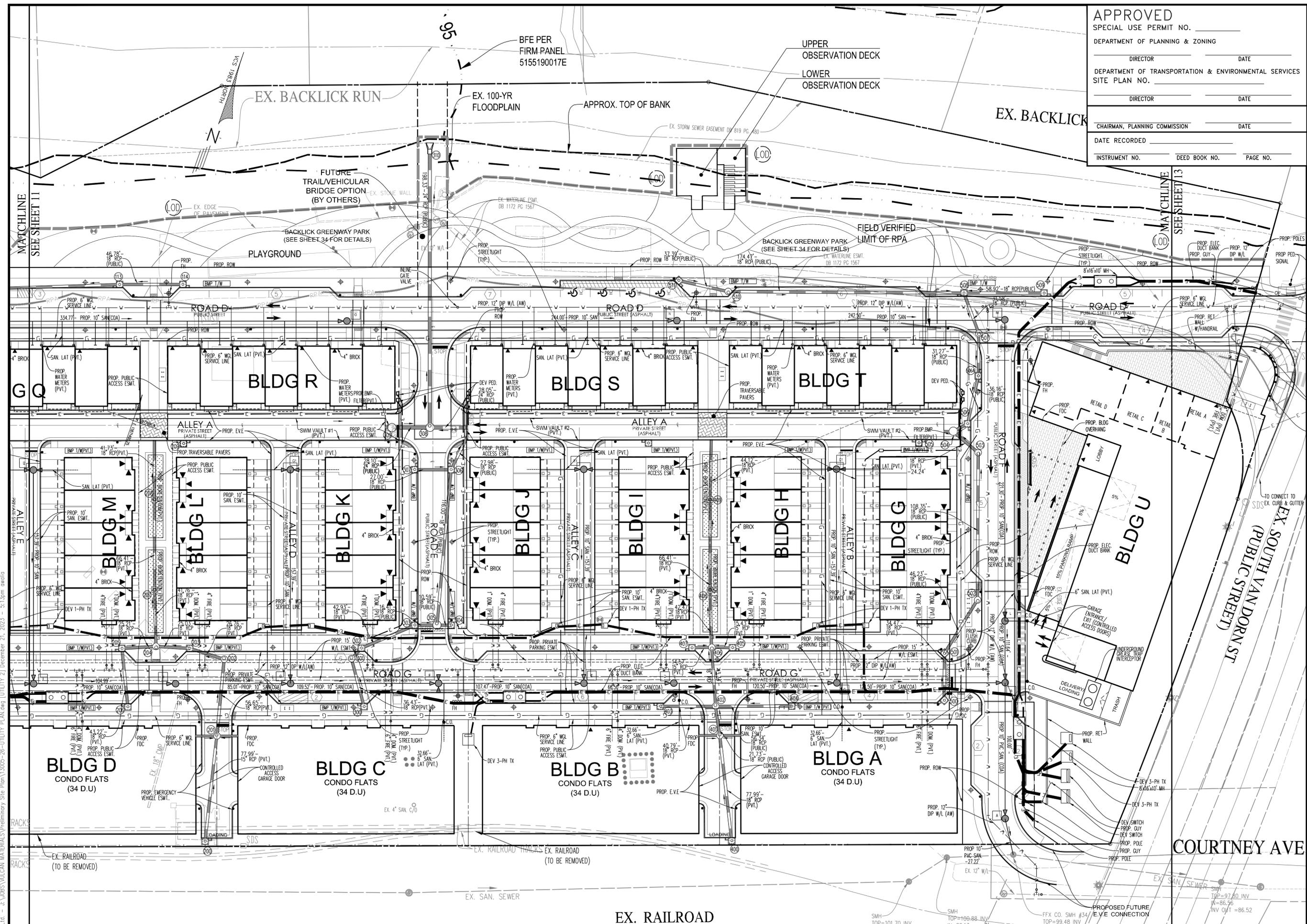


PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1" = 30'

SITE PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1" = 30'

SHEET 10B OF 38
 FILE No. SP-13005

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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. _____ PAGE NO. _____

PLAN DATE	DESCRIPTION
06-02-2023	
09-17-2023	
12-21-2023	

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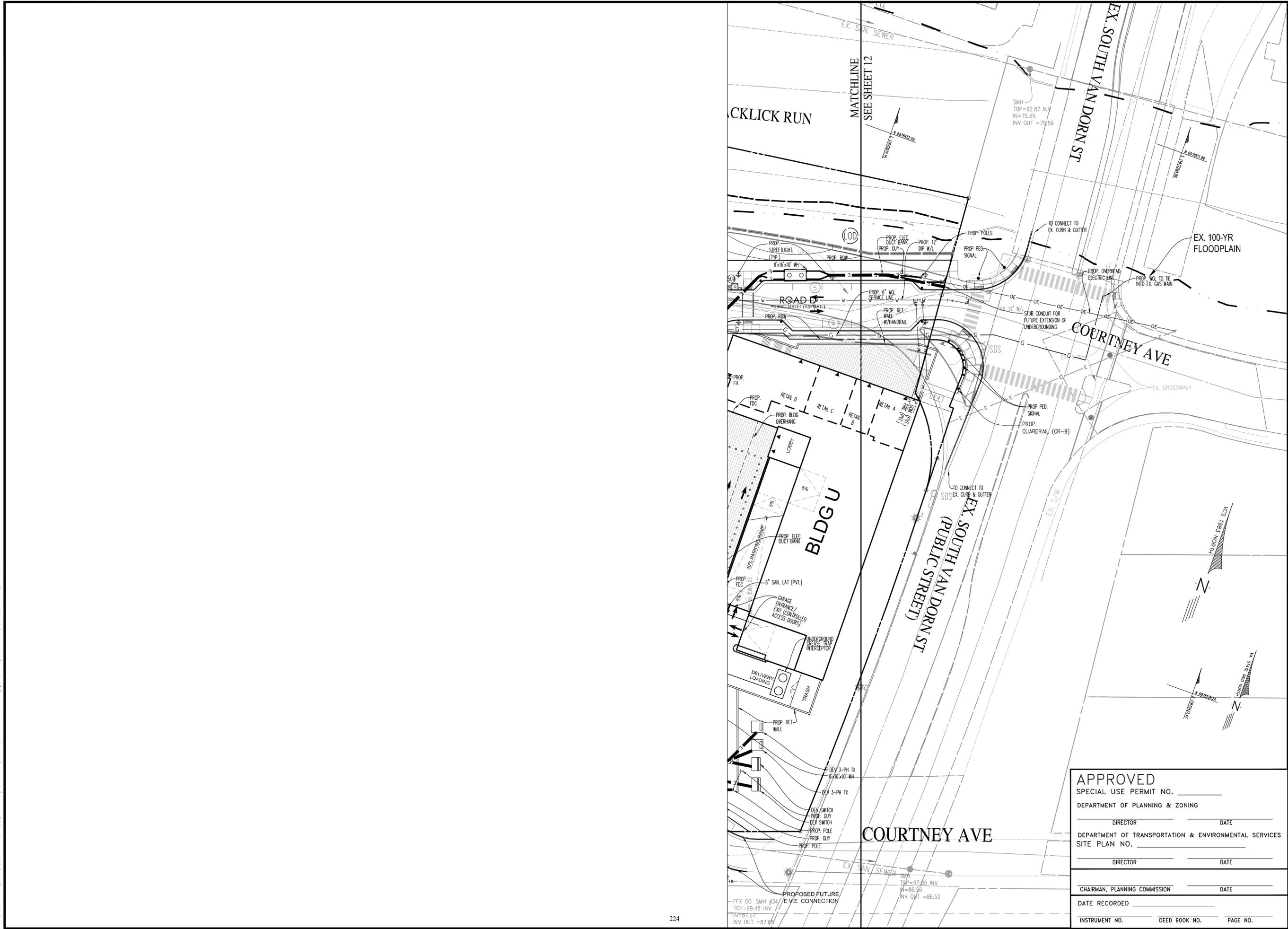
urban
 Planning Engineers Landscape Architects Land Services

Professional Seal: COMMONWEALTH OF VIRGINIA, REGISTERED PROFESSIONAL ENGINEER, CLAYTON C. TOOK, Lic. No. 098790, 12/21/2023

UTILITY PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1"=30'

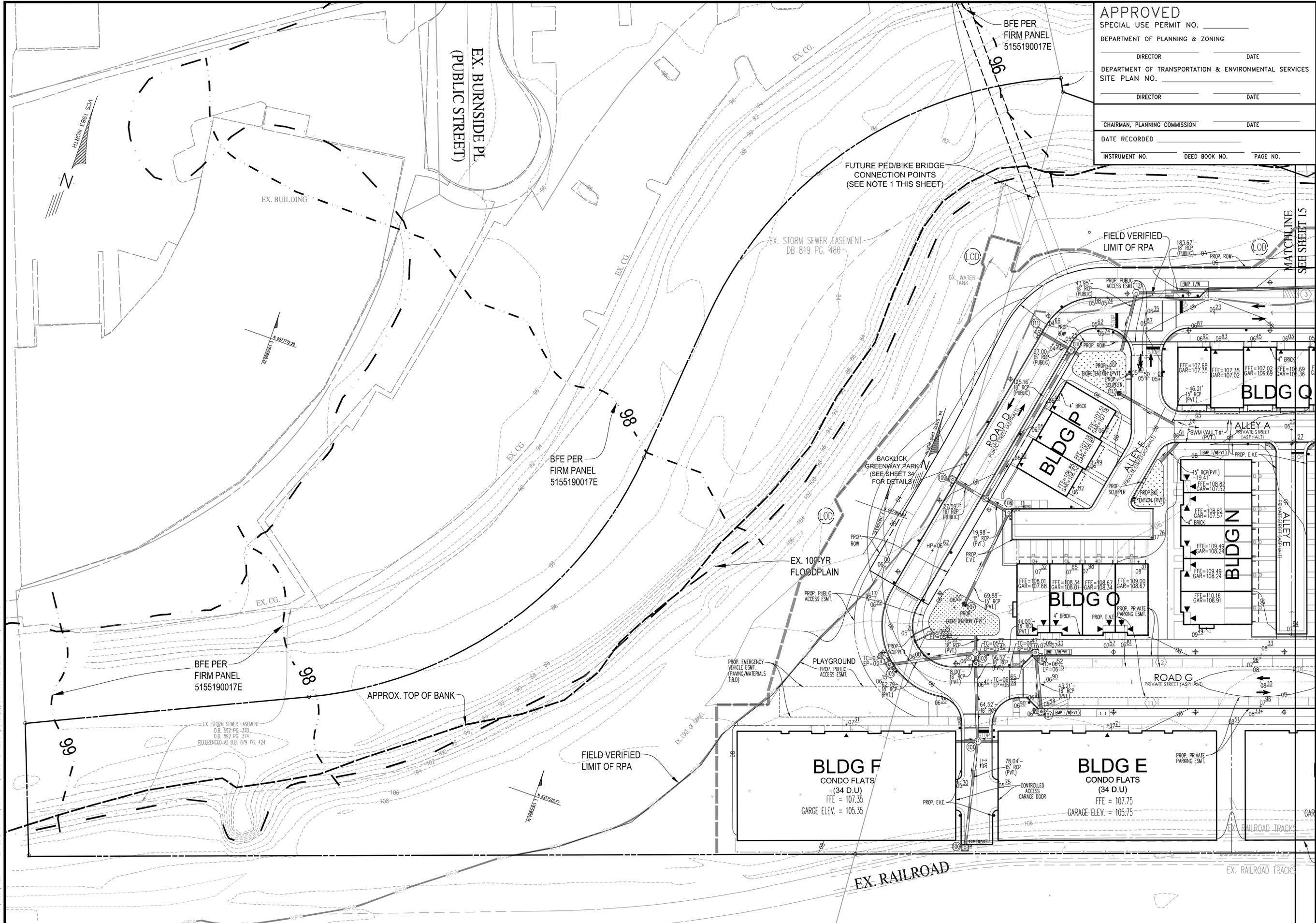
SHEET 12 OF 38
 FILE No. SP-13005

Urban, Ltd. - F:\0855\VULCAN MATERIALS\ Preliminary Site Plan\3005-26-UTILITY PLAN.dwg (UTILITY 2) December 21, 2023 - 5:13pm anolis



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

<p>UTILITY PLAN</p> <p>PRELIMINARY SITE PLAN</p> <p>VULCAN MATERIALS DEVELOPMENT</p> <p>CITY OF ALEXANDRIA, VIRGINIA</p> <p>SCALE: 1"=30'</p>	<p>DATE: JUNE, 2023</p> <p>C.I.= N/A</p>									
<p>SHEET 13 OF 38</p> <p>FILE NO. SP-13005</p>	<p>DATE: JUNE, 2023</p> <p>C.I.= N/A</p>									
<p>Urban, Ltd. 4000 TECHNOLOGY CT. CHANTILLY, VA. 20151 TEL. 703.642.2306 FAX 703.642.2888 www.urban-ltd.com</p>										
<p>PLAN DATE</p> <p>06-02-2023</p> <p>09-17-2023</p> <p>12-21-2023</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No.</th> <th style="width: 15%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	DATE	DESCRIPTION						
No.	DATE	DESCRIPTION								



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SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

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

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

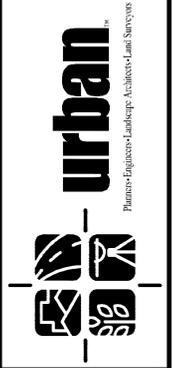
DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

NO.	DATE	DESCRIPTION

PLAN DATE
06-02-2023
09-17-2023
12-21-2023

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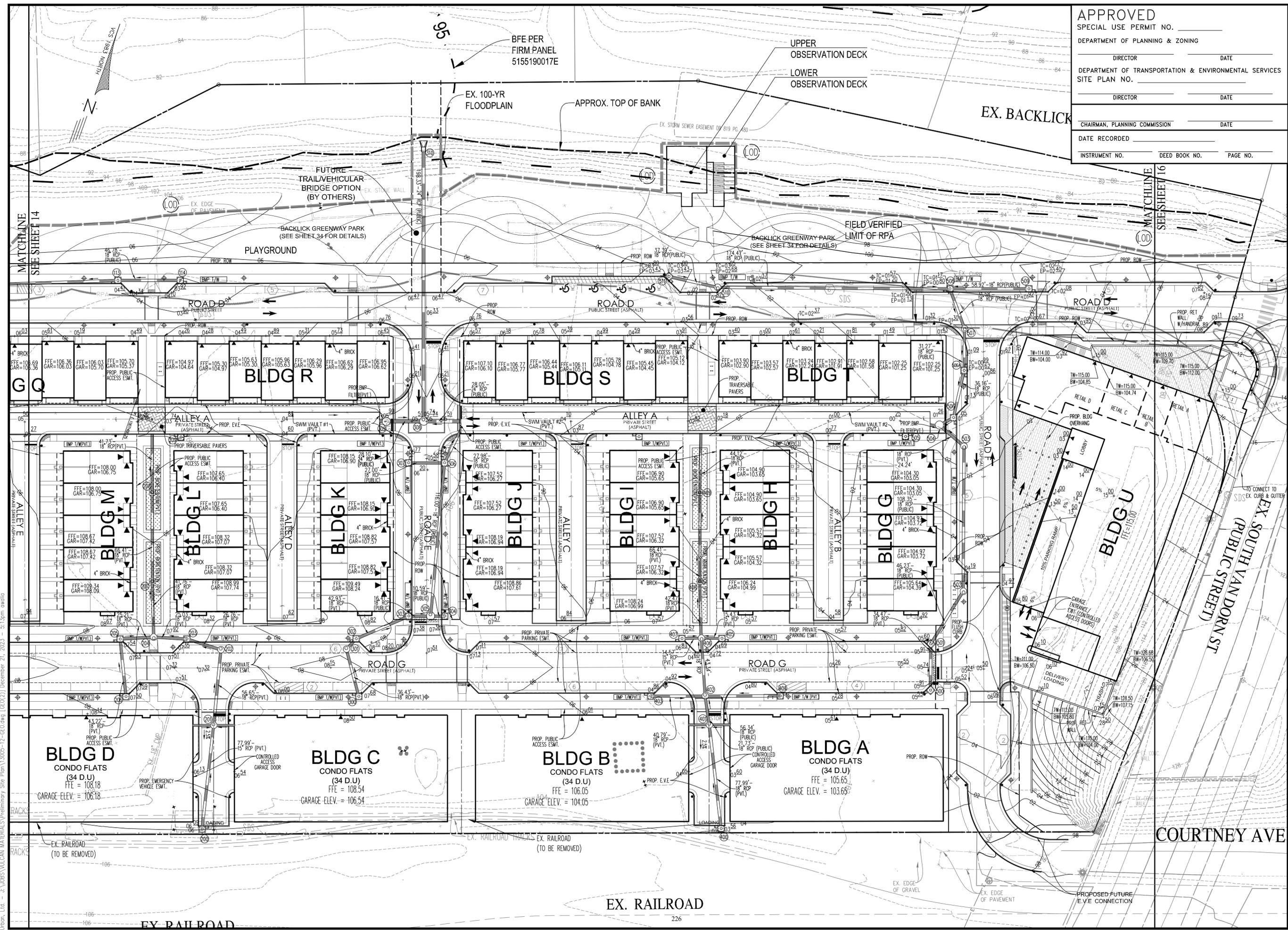
GRADING PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1"=30'
C.I.= 2'

SHEET
14
OF
38

FILE No.
SP-13005

Urban, Ltd. - J:\085\13005\12-CEO.dwg (CE01) December 21, 2023 - 5:13pm avelia



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DEPARTMENT OF PLANNING & ZONING

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

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PLANNING DATE	DESCRIPTION
06-02-2023	
09-19-2023	
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GRADING PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA

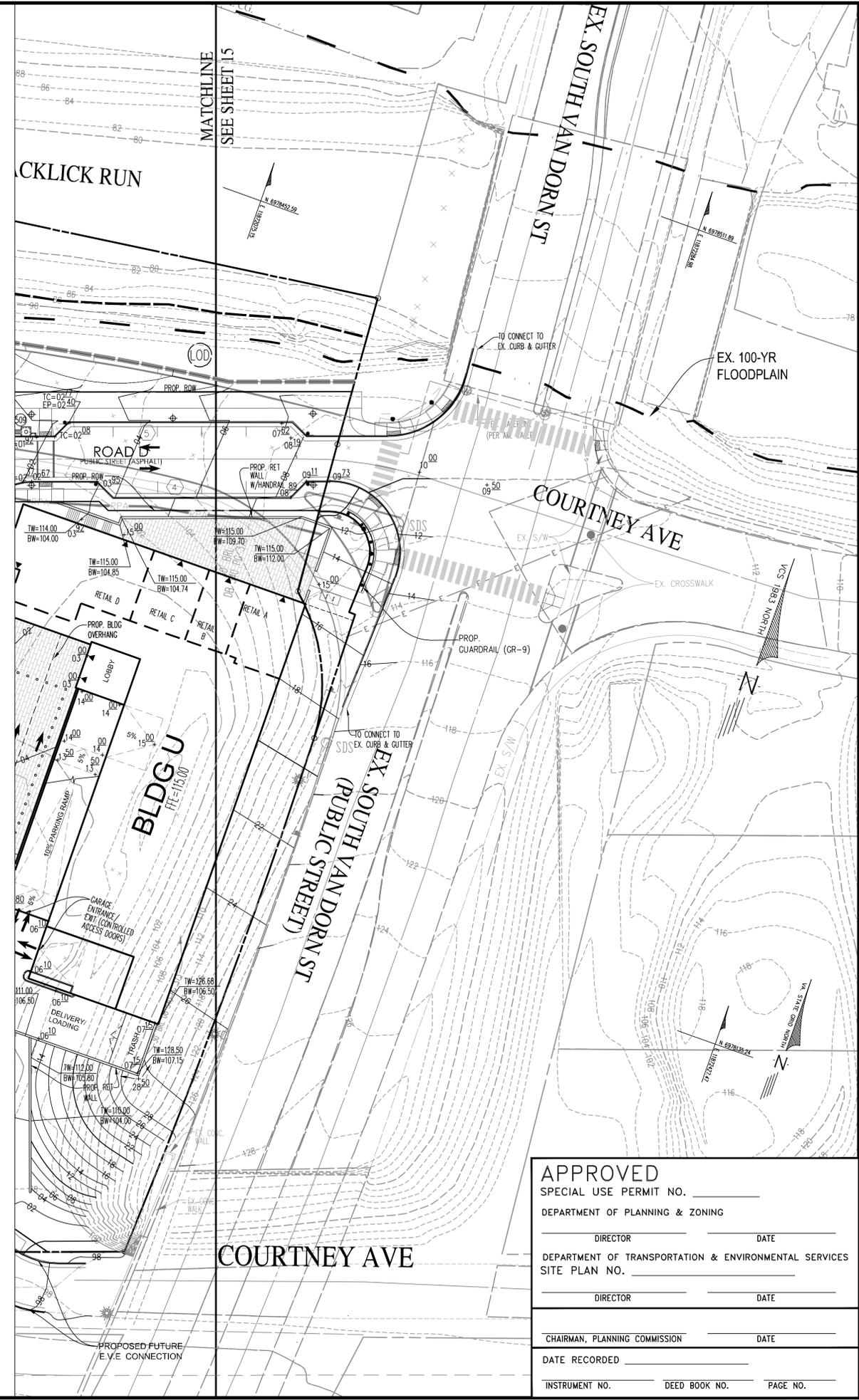
DATE: JUNE, 2023

SCALE: 1"=30'

SHEET 15 OF 38

FILE No. SP-13005

Urban, Ltd. - J:\085\VULCAN MATERIALS\ Preliminary Site Plan\13005-12-CEO.dwg (CEC\23) December 21, 2023 - 5:13pm aetia



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. PAGE NO.

GRADING PLAN

**PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT**

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE, 2023

SCALE: 1"=30'

SHEET
16
OF
38

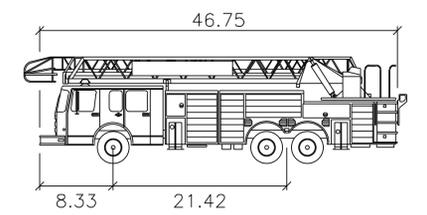
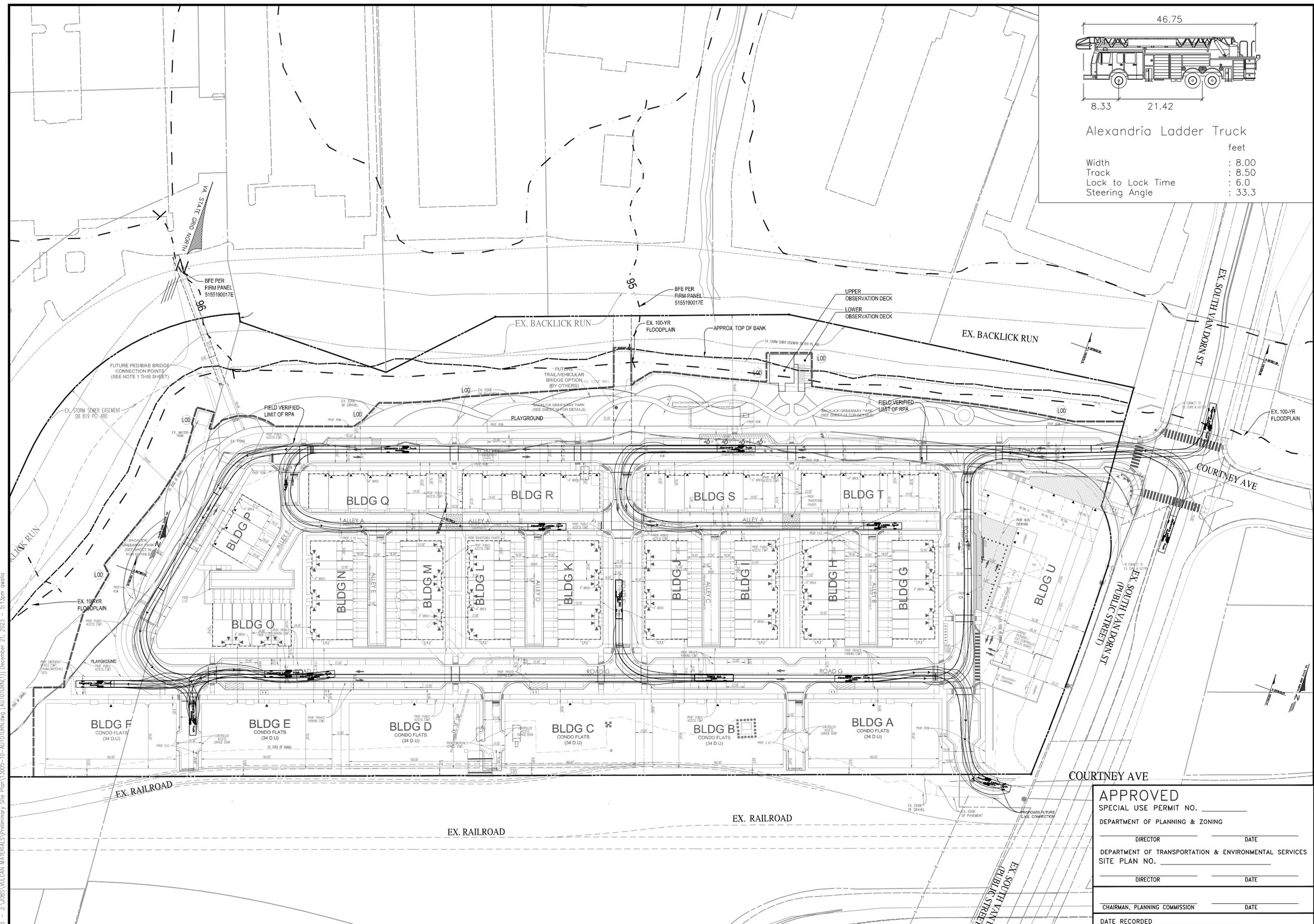
FILE No.
SP-13005

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PLAN DATE
06-02-2023
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12-21-2023

NO.	DATE	DESCRIPTION



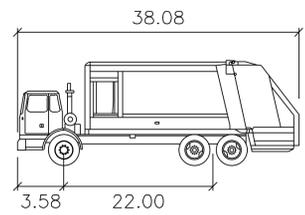
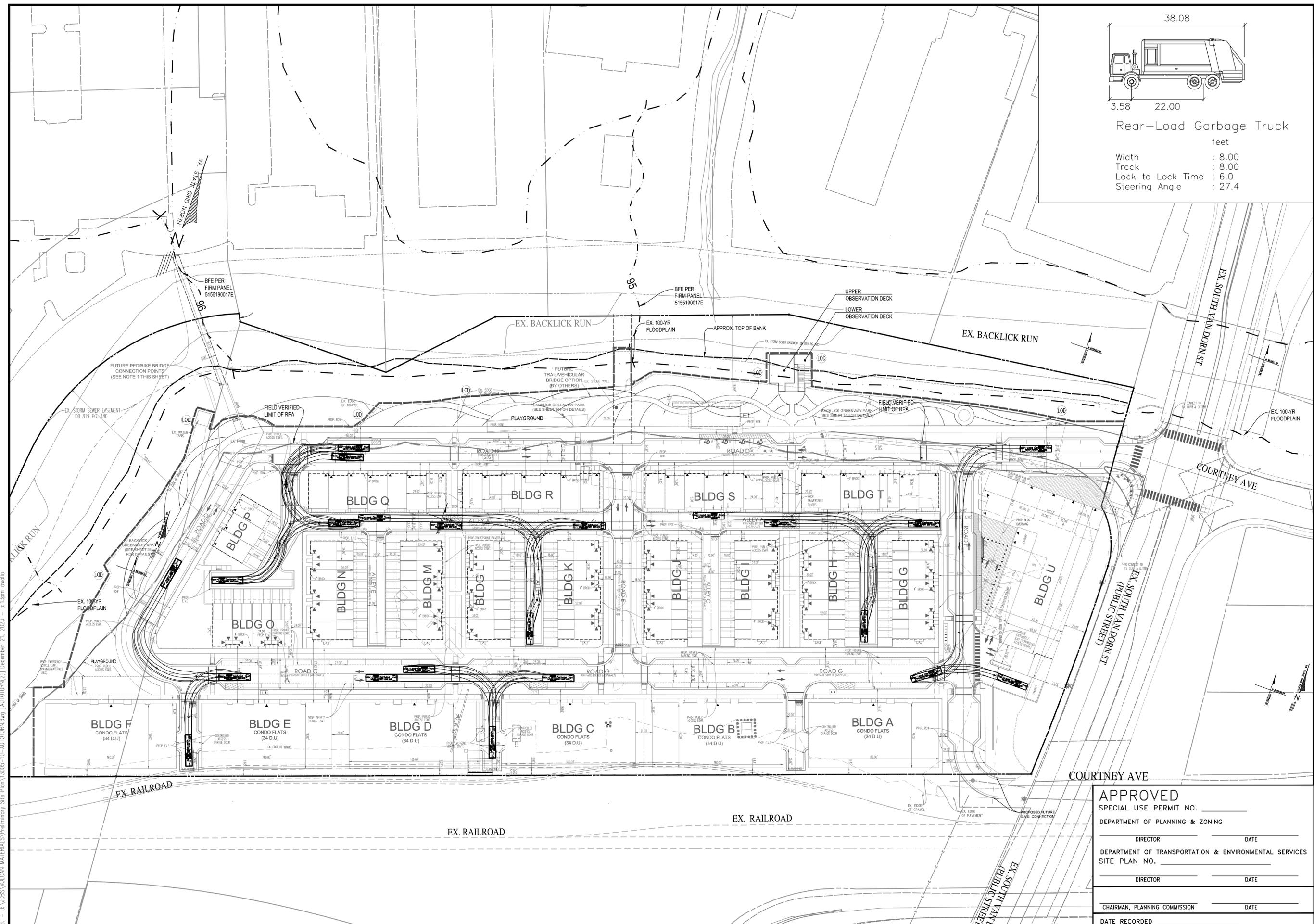
Alexandria Ladder Truck

feet

Width : 8.00
 Track : 8.50
 Lock to Lock Time : 6.0
 Steering Angle : 33.3

PLAN DATE 06-02-2023 11-17-2023 12-21-2023		DESCRIPTION REVISIONS
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AUTOTURN EXHIBIT PRELIMINARY SITE PLAN VULCAN MATERIALS DEVELOPMENT CITY OF ALEXANDRIA, VIRGINIA DATE: JUNE, 2023 SCALE: 1"=50' C.I.= N/A		
APPROVED SPECIAL USE PERMIT NO. _____ DEPARTMENT OF PLANNING & ZONING DIRECTOR _____ DATE _____ DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO. _____ DIRECTOR _____ DATE _____		SHEET 17 OF 38 FILE No. SP-13005
CHAIRMAN, PLANNING COMMISSION _____ DATE _____ DATE RECORDED _____ INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____		

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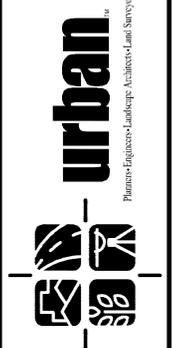
Rear-Load Garbage Truck

feet

Width : 8.00
Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 27.4

PLN DATE	DESCRIPTION
06-02-2023	
11-17-2023	
12-21-2023	

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PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1"=50'

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SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

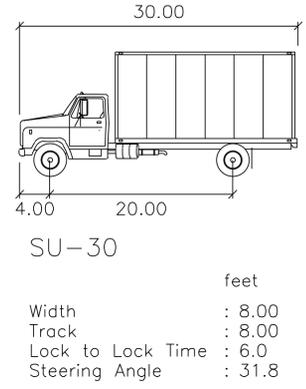
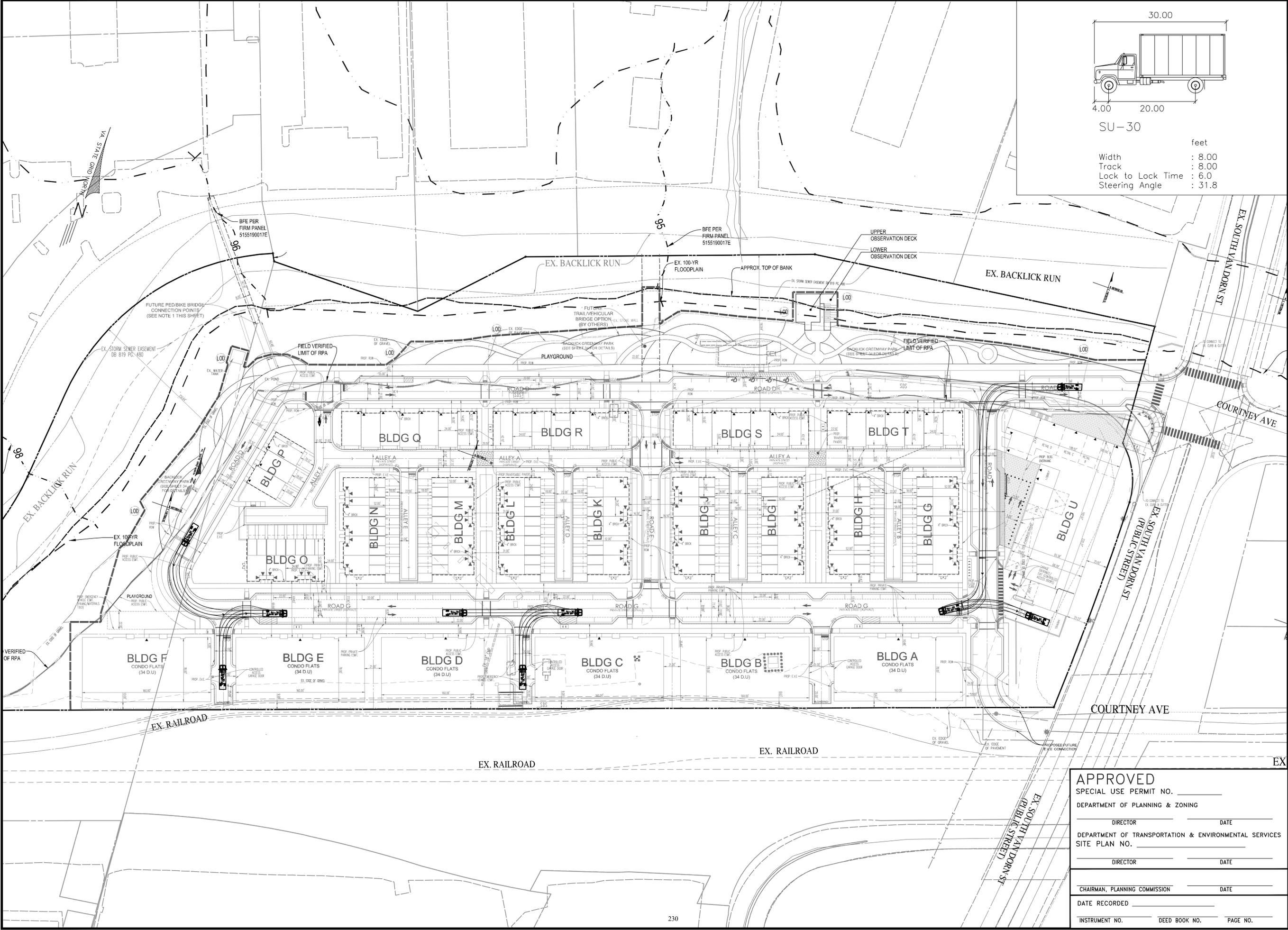
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR _____ DATE _____

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DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

SHEET
18
OF
38
FILE No.
SP-13005

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PLAN DATE 06-02-2023 11-17-2023 12-21-2023		REVISIONS No. DATE DESCRIPTION
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DATE: JUNE, 2023 SCALE: 1"=30'		SHEET 19 OF 38 FILE No. SP-13005

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DEPARTMENT OF PLANNING & ZONING

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

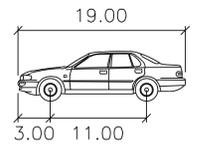
DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

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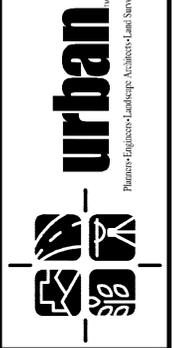


PASSENGER VEHICLE

Width : 7.00 feet
 Track : 6.00 feet
 Lock to Lock Time : 6.0
 Steering Angle : 31.6

PLN DATE	DESCRIPTION
06-02-2023	
11-17-2023	
12-21-2023	

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AUTOTURN EXHIBIT

PRELIMINARY SITE PLAN

VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE, 2023

SCALE: 1"=30'

C.I.= N/A

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SPECIAL USE PERMIT NO. _____

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

DIRECTOR _____ DATE _____

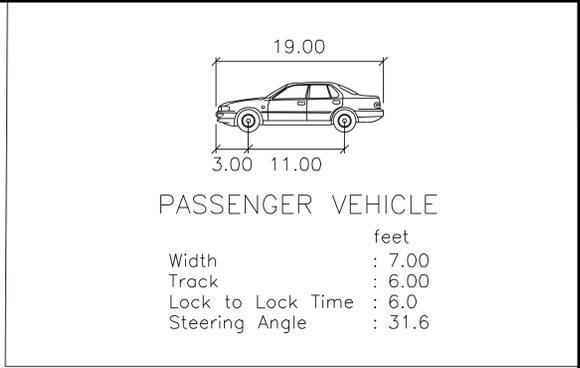
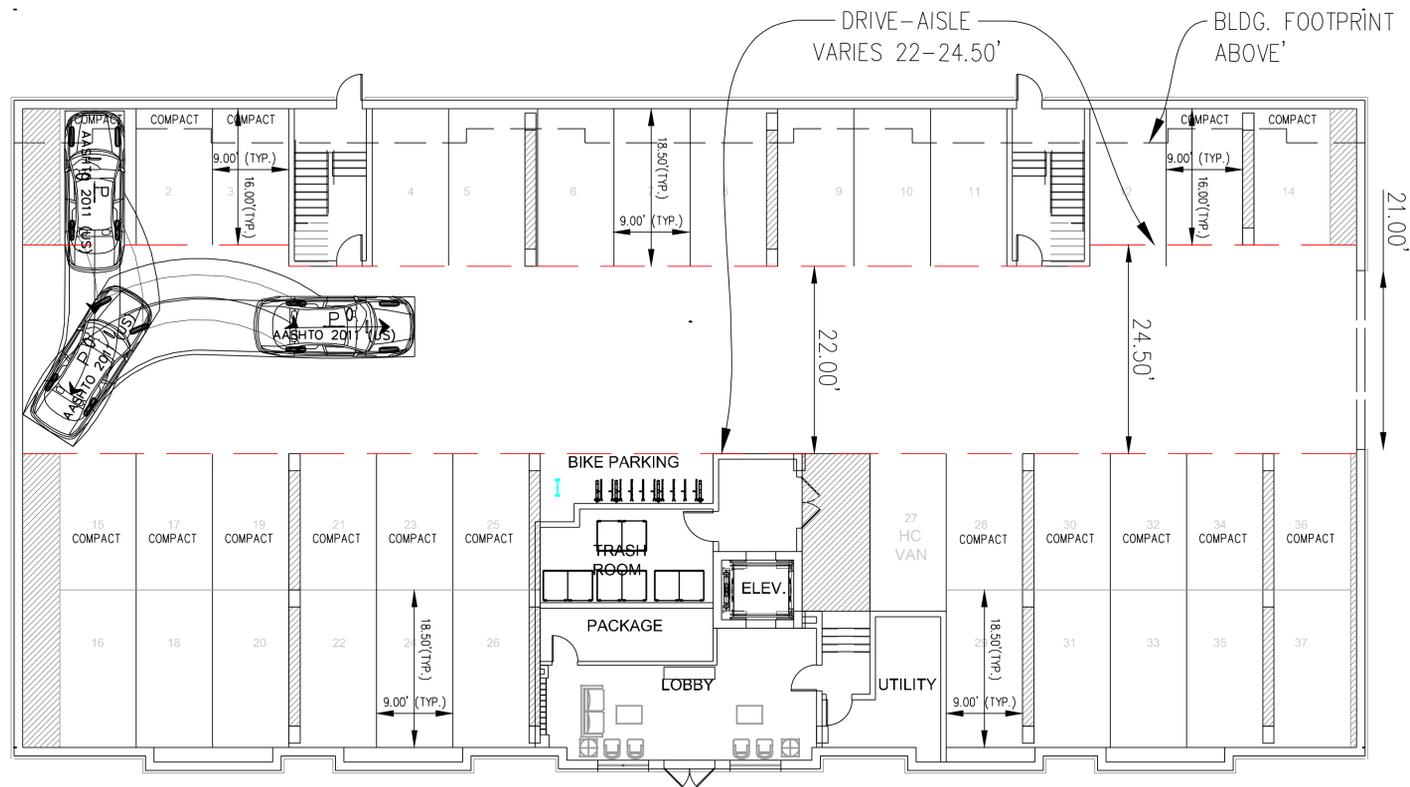
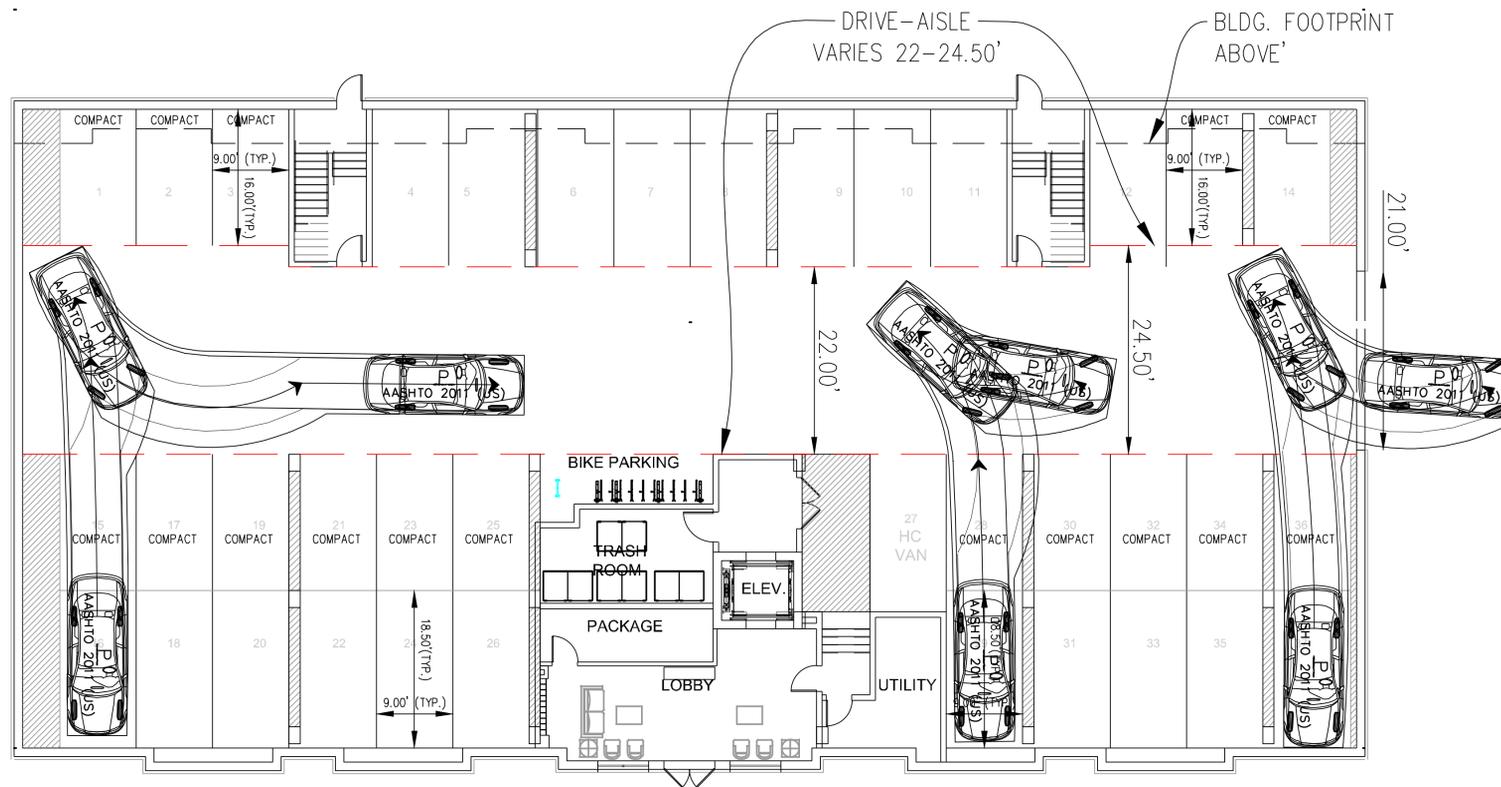
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INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

SHEET 20 OF 38

FILE No. SP-13005



No.	DATE	DESCRIPTION

PLAN DATE
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PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1" = 10'

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

SHEET
 20A
 OF
 38
 FILE No.
 SP-13005

TO STUDY POINT A - PRE

1 YEAR CALCULATIONS

Runoff = 54.56 cfs@ 12.01 hrs Volume= 130,312 cf Depth>2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=2.70"

Area (ac)	CN	Description
12.550	98	Paved parking, HSG D
5.210	89	<50% Grass cover, Poor, HSG D
17.760	95	Weighted Average
5.210		29.34% Pervious Area
12.550		70.66% Impervious Area

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

2 YEAR CALCULATIONS

Runoff = 66.07 cfs@ 12.01 hrs Volume= 159,685 cf Depth>2.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.20"

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

10 YEAR CALCULATIONS

Runoff = 111.56 cfs@ 12.01 hrs Volume= 277,398 cf Depth>4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.20"

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

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06-02-2023		
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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. _____

PRE-DEVELOPMENT SWM COMPUTATIONS
**PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT**
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A
DATE: JUNE, 2023

SHEET
22
OF
38
FILE No.
SP-13005

SWM/OUTFALL NARRATIVE

THIS APPLICATION PROPOSES THE REDEVELOPMENT OF THE VULCAN LANDS PROPERTY LOCATED ON MAP# 067.03-01-17 & MAP# 067.03-01-21 FOR RESIDENTIAL USES CONSISTING OF MULTIFAMILY, SINGLE FAMILY UNITS AND HOTEL USES.

THE EXISTING SITE CONTAINS D TYPE SOILS. THE EXISTING SOILS HAVE BEEN REPRESENTED AND GRAPHICALLY DEPICTED ON SHEET 05-07. BACKLICK RUN STREAM RUNS WEST-EAST ALONG THE NORTHERN PROPERTY BOUNDARY. THE PRE-DEVELOPMENT CONDITIONS OF THE SITE CONSISTS OF 12.88 ACRES OF EXISTING GRAVEL/PAVEMENT AREAS AND AREAS OF THE BACKLICK RUN STREAM, 0.99 ACRES OF GRASS AREAS AND 3.89 ACRES OF FORESTED AREAS. TWO STORMWATER PONDS ARE LOCATED ON THE NORTHWESTERN SIDE OF THE PROPERTY. SEE SHEET 21 FOR PRE-DEVELOPMENT DRAINAGE DIVIDES AND SHEET 22 FOR PRE-DEVELOPMENT SWM COMPUTATIONS.

DURING POST-DEVELOPMENT CONDITIONS, TWO UNDERGROUND SWM VAULTS ARE PROPOSED ALONG WITH VEGETATED GREEN ROOFS AND BIORETENTION AREAS TO PROVIDE PARTIAL DETENTION AND RUNOFF REDUCTION BEFORE OUTFALLING INTO BACKLICK RUN. THESE VAULTS SERVE TO REDUCE THE POST-DEVELOPMENT FLOW THAT WILL OUTFALL INTO BACKLICK RUN IN ORDER TO LOWER THE PRE-DEVELOPMENT CONDITIONS. THE DRAINAGE AREA GOING TO VAULT #1 IS 4.08 ACRES AND THE DRAINAGE AREA GOING TO VAULT #2 IS 6.44 ACRES. CRITICAL VELOCITIES SHALL NOT BE CAUSED TO DOWNSTREAM CHANNELS AND SWM COMPUTATIONS ARE PROVIDED ON SHEET 24. SEE SHEET 25 FOR SWM VAULT DETAILS.

POSTDEVELOPMENT ONSITE RUNOFF CALCULATION SUMMARY

THE TOTAL AREA TO STUDY POINT A IS: 17.77 AC

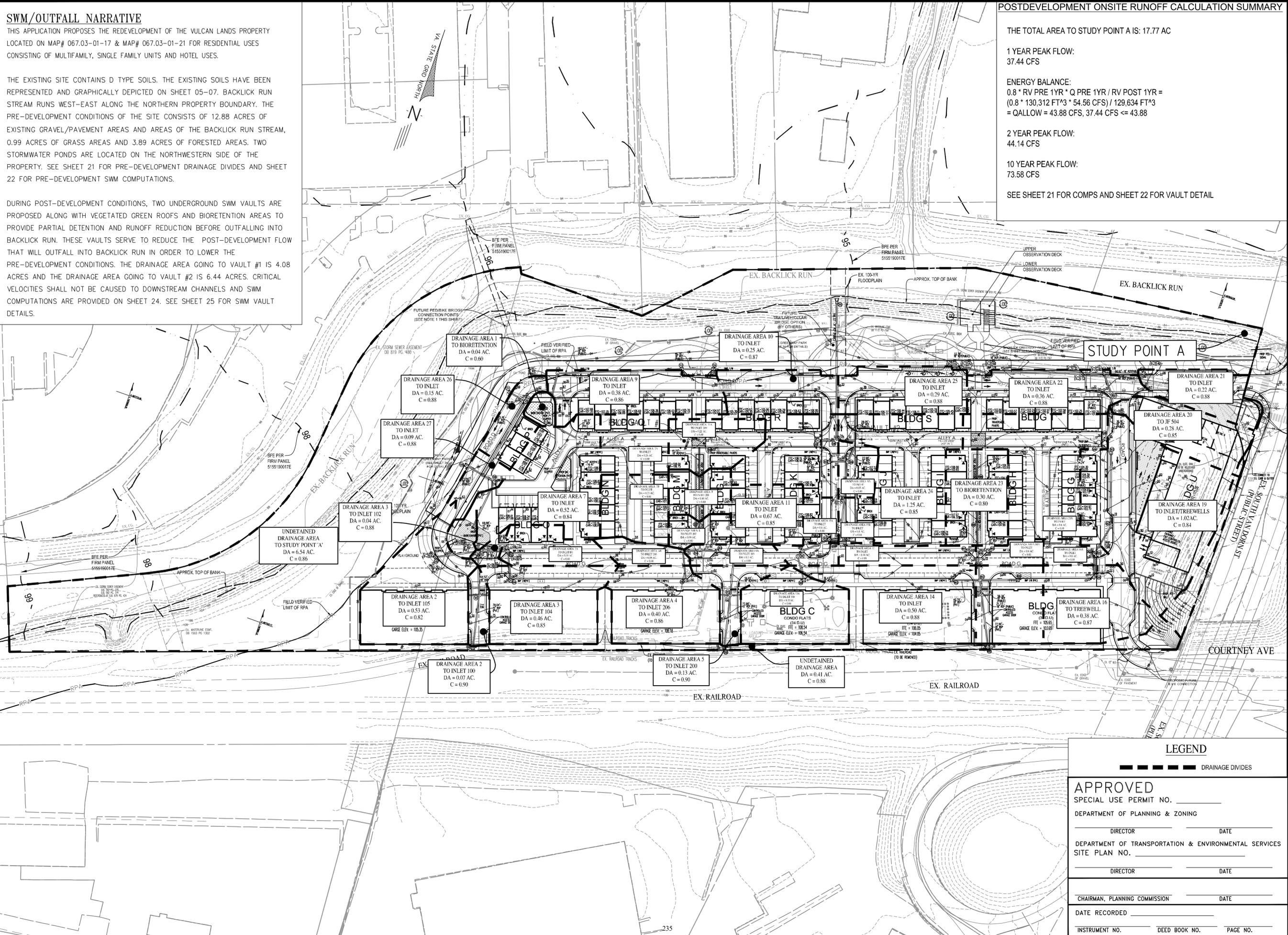
1 YEAR PEAK FLOW:
37.44 CFS

ENERGY BALANCE:
0.8 * RV PRE 1YR * Q PRE 1YR / RV POST 1YR =
(0.8 * 130,312 FT³ * 54.56 CFS) / 129,634 FT³
= QALLOW = 43.88 CFS, 37.44 CFS <= 43.88

2 YEAR PEAK FLOW:
44.14 CFS

10 YEAR PEAK FLOW:
73.58 CFS

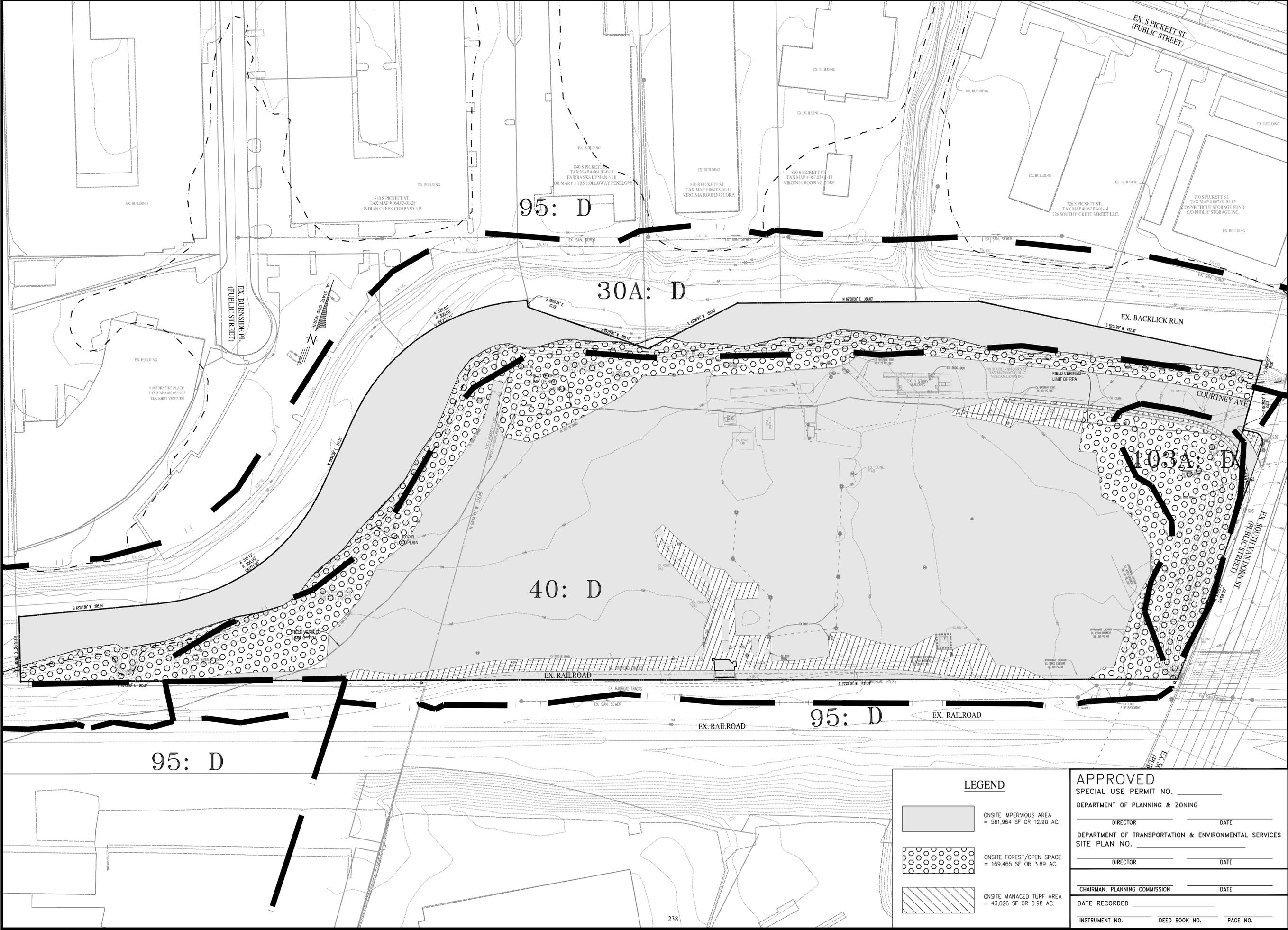
SEE SHEET 21 FOR COMPS AND SHEET 22 FOR VAULT DETAIL



PLAN DATE 06-02-2023 09-17-2023 1-2-21-2023	DESCRIPTION REVISIONS
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urban Planning • Engineering • Landscape Architecture • Land Services	
COMMONWEALTH OF VIRGINIA CLAYTON C. TOOK Lic. No. 038790 12/21/2023 PROFESSIONAL	
POST-DEVELOPMENT SWM DIVIDES PRELIMINARY SITE PLAN VULCAN MATERIALS DEVELOPMENT CITY OF ALEXANDRIA, VIRGINIA SCALE: 1"=60'	DATE: JUNE, 2023
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. _____ PAGE NO. _____	SHEET 23 OF 38 FILE No. SP-13005

Urban, Ltd. - J. VOBES | VULCAN MATERIALS | Preliminary Site Plan | 13005-14 - SWM - POST.dwg [SWM - POST] | December 21, 2023 - 5:15pm - rca/sls

Urban, Ltd. - J. VOBES VULCAN MATERIALS Preliminary Site Plan 13005-13-RUP-PRC.dwg [BMP PRE (1)] December 21, 2023 - 5:15pm amls



LEGEND	
	ONSITE IMPERVIOUS AREA = 561,964 SF OR 12.90 AC.
	ONSITE FOREST/OPEN SPACE = 169,465 SF OR 3.89 AC.
	ONSITE MANAGED TURF AREA = 43,026 SF OR 0.98 AC.

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

<p>PLANNING</p> <p>Urban, Ltd. 1000 D Technology Ct. Chantilly, VA, 20151 Tel: 703.642.2306 Fax: 703.378.1888 www.urban-ld.com</p> <p style="text-align: center;">urban Planning • Engineering • Landscape Architecture • Land Services</p> <p style="text-align: center;"></p> <p style="text-align: center;">BEST MANAGEMENT PRACTICES - PRE-DEVELOPMENT PRELIMINARY SITE PLAN VULCAN MATERIALS DEVELOPMENT</p> <p style="text-align: center;">CITY OF ALEXANDRIA, VIRGINIA</p> <p style="text-align: right;">DATE: JUNE, 2023</p> <p style="text-align: right;">SCALE: 1"=60'</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PLANNING DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>4/05/2019</td> <td></td> </tr> <tr> <td>09-19-2023</td> <td></td> </tr> <tr> <td>12-21-2023</td> <td></td> </tr> </tbody> </table>	PLANNING DATE	DESCRIPTION	4/05/2019		09-19-2023		12-21-2023	
PLANNING DATE	DESCRIPTION								
4/05/2019									
09-19-2023									
12-21-2023									

BMP NARRATIVE

THIS APPLICATION PROPOSES THE REDEVELOPMENT OF THE VULCAN LANDS PROPERTY LOCATED ON MAP# 067.03-01-17 & MAP# 067.03-01-21 FOR RESIDENTIAL USES CONSISTING OF MULTIFAMILY, SINGLE FAMILY UNITS AND HOTEL USES. THE RESULT OF THE IMPROVEMENTS PROVIDES A TOTAL IMPERVIOUS AREA OF APPROXIMATELY 11.67 ACRES. PER THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM) NEW DEVELOPMENT REQUIREMENTS, A COMBINATION OF PROPOSED BMP FACILITIES SHALL PROVIDE THE MINIMUM POLLUTANT REDUCTIONS AS COMPUTED ON SHEET 27B.

BMP REQUIREMENTS FOR THIS SITE MAY INCLUDE BUT ARE NOT LIMITED TO VEGETATED GREEN ROOFS, BIORETENTION BASINS, JELLYFISH FILTERS, BMP TREEWELLS. BY TREATING APPROXIMATELY 7.33 ACRES OF IMPERVIOUS AREA AND APPROXIMATELY 1.51 ACRES OF MANAGED TURF WITH THE VARIOUS AFOREMENTIONED TREATMENT METHODS, THE REQUIRED PHOSPHORUS REMOVAL CAN BE ACHIEVED.

ALL BMP/SWM COMPUTATIONS SHOWN ON THIS APPLICATION ARE PRELIMINARY AND ARE SUBJECT TO CHANGE UPON RETRIEVAL OF NEW INFORMATION AND/OR IDENTIFICATION OF ADDITIONAL SITE CONSTRAINTS. AS SUCH, THE APPLICANT RESERVES THE RIGHT TO CHANGE AND/OR MODIFY THE PROPOSED WATER QUALITY DEVICES AT THE TIME OF FINAL SITE PLAN TO MEET WATER QUALITY REQUIREMENTS.



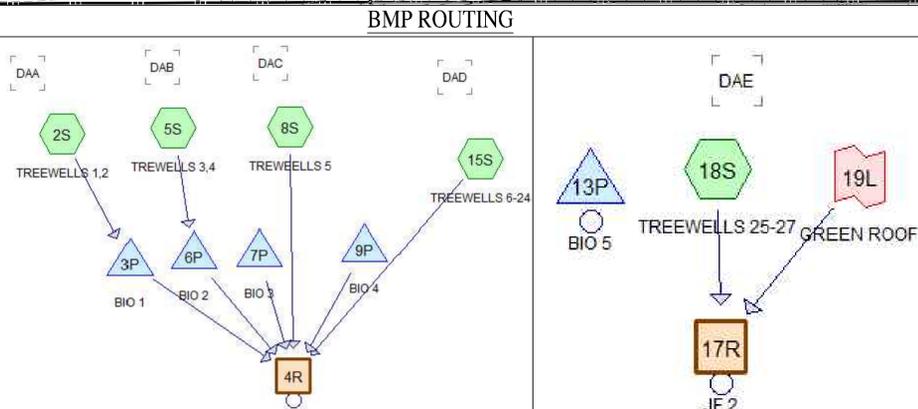
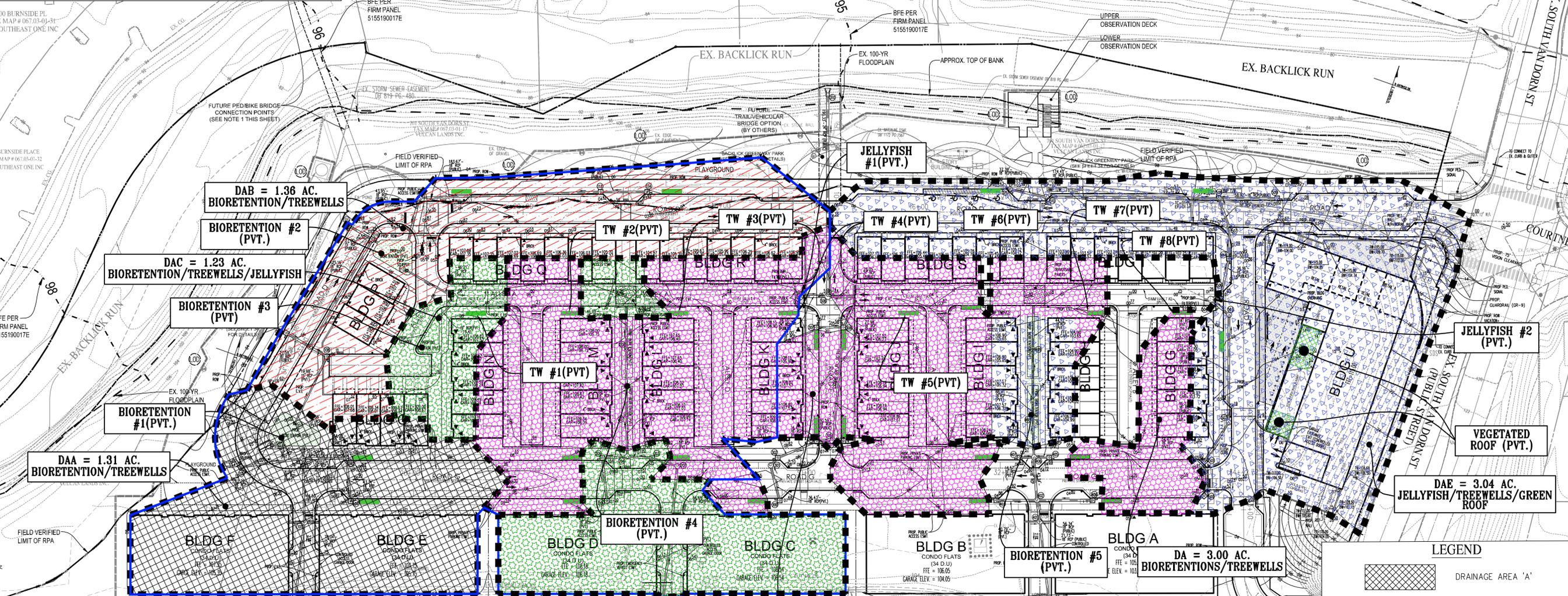
EXAMPLE: LINEAR BIORETENTION AREA (BIO #4, BIO #5)



EXAMPLE: BIORETENTION AREA (BIO #1, BIO #2, BIO #3)



EXAMPLE: VEGETATED ROOF



BMP/SWM FACILITIES SUMMARY TABLE

Name of Practice	BIORETENTION #1	BIORETENTION #2	BIORETENTION #3	BIORETENTION #4	BIORETENTION #5	JELLYFISH #1	JELLYFISH #2	
Geographic Coordinates	38.8013 -77.1377	38.8019 -77.1375	38.8017 -77.1373	38.8017 -77.1366	38.8021 -77.1353	38.8021 -77.1361	38.8025 -77.1347	
Name of Practice	TW #1 (PVT)	TW #2 (PVT)	TW #3 (PVT)	TW #4 (PVT)	TW #5 (PVT)	TW #6 (PVT)	TW #7 (PVT)	TW #8 (PVT)
Geographic Coordinates	38.8018 -77.1372	38.8019 -77.1369	38.8020 -77.1365	38.8020 -77.1362	38.8022 -77.1357	38.8022 -77.1355	38.8023 -77.1351	38.8024 -77.1348

LEGEND

- DRAINAGE AREA 'A'
- DRAINAGE AREA 'B'
- DRAINAGE AREA 'C'
- DRAINAGE AREA 'D'
- DRAINAGE AREA 'E'
- VEGETATED ROOF
- BIORETENTION
- BMP TREEWELL
- DRAINAGE DIVIDES
- JELLYFISH #1 DRAINAGE AREA

PLANDATE: 06-02-2023, 09-19-2023, 12-21-2023

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COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL ENGINEER CLAYTON C. TOOK Lic. No. 098790 2/21/2023

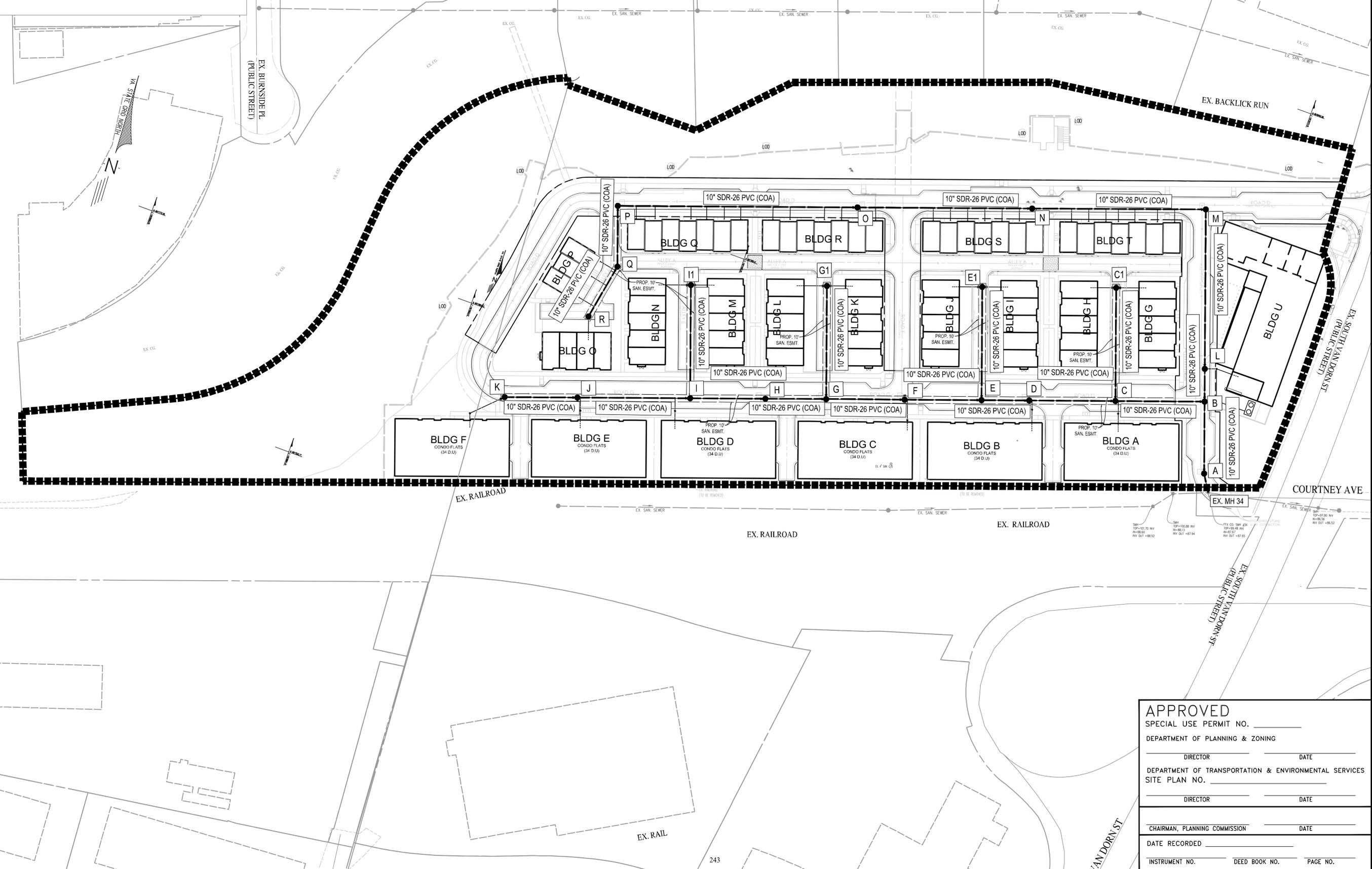
BEST MANAGEMENT PRACTICES - POST-DEVELOPMENT PRELIMINARY SITE PLAN VULCAN MATERIALS DEVELOPMENT CITY OF ALEXANDRIA, VIRGINIA DATE: JUNE, 2023 SCALE: 1"=50'

SHEET 27A OF 38 FILE No. SP-13005

REVISIONS: No., DATE, DESCRIPTION

NOTES

1. RESIDENTIAL AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 300 GPD PER UNIT
2. HOTEL AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 130 GPD PER ROOM
3. RETAIL AREA SANITARY FLOW IS COMPUTED AT THE RATE OF 130 GPD PER 1,000 SF.
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. HGL ANALYSIS WILL BE PROVIDED WITH THE FINAL SITE PLAN.



Urban, Ltd. - J:\0685\ULCAN MATERIALS\ Preliminary Site Plan\13005-18-SAN PLAN & COMPS.dwg [SANITARY SEWER SHED MAP] December 21, 2023 - 5:16pm onalio

PLAN DATE	DESCRIPTION	REVISIONS
06-02-2023		
09-11-2023		
12-21-2023		

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12/21/2023

SANITARY SEWER PLAN

**VULCAN MATERIALS DEVELOPMENT
 PRELIMINARY SITE PLAN**

CITY OF ALEXANDRIA, VIRGINIA

DATE: FEB. 2021

SCALE: 1"=60'

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. _____ PAGE NO. _____

SHEET
28
OF
38

FILE No.
SP-13005

PROPOSED SANITARY SEWER FLOW COMPUTATIONS

Project: Vulcan Concept 3

From Point	To Point	RESIDENTIAL 300 GPD/UNIT	OFFICE/RETAIL 200 GPD/1000 SF	SFA/SFD DWEELLINGS 350 GPD/UNIT	HOTEL 130 GPD/UNIT	PEAK FACTOR	INCR q MGD	FLOW q MGD	FLOW q C.F.S.	Invert Elevation		Length FT	Slope %	Dia. IN	Capacity Q MGD	VEL F.P.S.	Capacity q/Q %	Pipe Coefficient	Pipe Material	BLOCKS TO STR	Remarks
										Upper End	Lower End										
K	J	34				4.0	0.04	0.04	0.06	102.84	101.17	101.66	1.65%	10	2.37	2.78	1.72	0.010	PVC		BLDG F (34 CONDO UNITS)
J	I	68				4.0	0.08	0.12	0.19	101.07	99.49	157.47	1.00%	10	1.85	2.93	6.63	0.010	PVC		BLDG D&E (68 CONDO UNITS)
I	H	20				4.0	0.02	0.15	0.23	99.39	98.29	157.39	1.00%	10	1.85	3.11	7.93	0.010	PVC		BLDG M&N (20 2/2 UNITS)
H	G					4.0	0.00	0.15	0.23	97.35	96.76	85.01	0.70%	10	1.54	2.70	9.48	0.010	PVC		
G1	G	20				4.0	0.02	0.17	0.26	96.66	95.09	157.39	1.00%	10	1.85	3.32	9.23	0.010	PVC		BLDG K&L (20 2/2 UNITS)
G	F					4.0	0.00	0.17	0.26	94.99	94.33	109.52	0.50%	10	1.43	2.77	11.92	0.010	PVC		
F	E	34				4.0	0.04	0.21	0.33	94.23	93.69	107.47	0.50%	10	1.31	2.70	16.18	0.010	PVC		BLDG C (34 CONDO UNITS)
E1	E	20				4.0	0.02	0.24	0.36	93.59	92.02	157.39	1.00%	10	1.85	3.65	12.74	0.010	PVC		BLDG I&J (20 2/2 UNITS)
E	D					4.0	0.00	0.24	0.36	91.92	91.59	66.50	0.50%	10	1.31	2.84	18.02	0.010	PVC		
D	C	34				4.0	0.04	0.28	0.43	91.49	90.88	120.50	0.50%	10	1.31	2.93	21.14	0.010	PVC		BLDG B (34 CONDO UNITS)
C1	C	20				4.0	0.02	0.30	0.46	90.78	89.21	157.39	1.00%	10	1.85	3.88	16.25	0.010	PVC		BLDG G&H (20 2/2 UNITS)
C	B	34				4.0	0.04	0.34	0.53	89.11	88.49	124.50	0.50%	10	1.31	3.10	26.11	0.010	PVC		BLDG A (34 CONDO UNITS)
B	A					4.0	0.18	0.52	0.81	89.39	87.89	100.00	0.50%	10	1.31	3.47	39.90	0.010	PVC		
A	EX 34					4.0	0.00	0.52	0.81	87.79	87.65	27.22	0.50%	10	1.31	3.47	39.90	0.010	PVC		
R	Q	8				4.0	0.01	0.01	0.01	118.78	117.88	80.08	1.00%	10	1.85	2.93	0.52	0.010	PVC		BLDG O (8 2/2 UNITS)
Q	P			3		4.0	0.00	0.01	0.02	117.88	117.46	84.50	5.00%	10	4.13	3.02	0.33	0.010	PVC		BLDG P(3 TH)
P	O			12		4.0	0.02	0.03	0.05	117.36	100.62	334.77	5.00%	10	4.13	3.34	0.74	0.010	PVC		BLDG Q&R (12 TH)
O	N			8		4.0	0.01	0.04	0.06	100.52	96.50	244.00	1.65%	10	2.37	2.85	1.76	0.010	PVC		BLDG R&S (8 TH)
N	M			8		4.0	0.01	0.05	0.08	96.40	92.52	242.50	1.60%	10	2.34	2.82	2.27	0.010	PVC		BLDG S&T (8 TH)
M	L					4.0	0.00	0.05	0.08	92.42	89.13	205.16	1.60%	10	2.34	2.82	2.27	0.010	PVC		
L	B		5416		256	4.0	0.14	0.19	0.29	89.03	88.49	109.62	0.50%	10	1.31	2.65	14.59	0.010	PVC		256 R (HOTEL) 5,416 SF RETAIL

BUILDING	UNITS	RATE	FLOW
BLDG A	34	300 GPD/UNIT	10200
BLDG B	34	300 GPD/UNIT	10200
BLDG C	34	300 GPD/UNIT	10200
BLDG D	34	300 GPD/UNIT	10200
BLDG E	34	300 GPD/UNIT	10200
BLDG F	34	300 GPD/UNIT	10200
BLDG G	10	300 GPD/UNIT	3000
BLDG H	10	300 GPD/UNIT	3000
BLDG I	10	300 GPD/UNIT	3000
BLDG J	10	300 GPD/UNIT	3000
BLDG K	10	300 GPD/UNIT	3000
BLDG L	10	300 GPD/UNIT	3000
BLDG M	10	300 GPD/UNIT	3000
BLDG N	10	300 GPD/UNIT	3000
BLDG O	8	300 GPD/UNIT	2400
BLDG P	3	350 GPD/UNIT	1050
BLDG Q	7	350 GPD/UNIT	2450
BLDG R	7	350 GPD/UNIT	2450
BLDG S	7	350 GPD/UNIT	2450
BLDG T	7	350 GPD/UNIT	2450
BLDG U	256 ROOMS (HOTEL)	130 GPD/ROOM	33280
BLDG U RETAIL	5,416	200 GPD/1000 SF	1083
TOTAL:			135813

SANITARY SEWER ADEQUATE OUTFALL NARRATIVE:

THE OVERALL DEVELOPMENT CONNECTS TO AN EXISTING M.H. "34" THEN TIES TO AN EXISTING M.H. 188 AT THE HOLMES RUN TRUNK. AS THE EXISTING TRUNK MAIN IS OWNED AND MAINTAINED BY FAIRFAX COUNTY WATER SERVICE AUTHORITY, THE SANITARY SEWER CAPACITY WAS ANALYZED TO THE POINT OF THE DOWNSTREAM 16" MAIN. THE PROPOSED SITE, VULCAN, WILL UTILIZE EXISTING SMHS 34 AND 188 AS A CONNECTION POINT TO THE SANITARY SYSTEM AS SHOWN ON SHEET 28. A TOTAL OF 589 UNITS AND 5,416 GSF RETAIL HAVE BEEN INCLUDED.

PLAN DATE
06-02-2023
13-17-2023
1-2-21-2023

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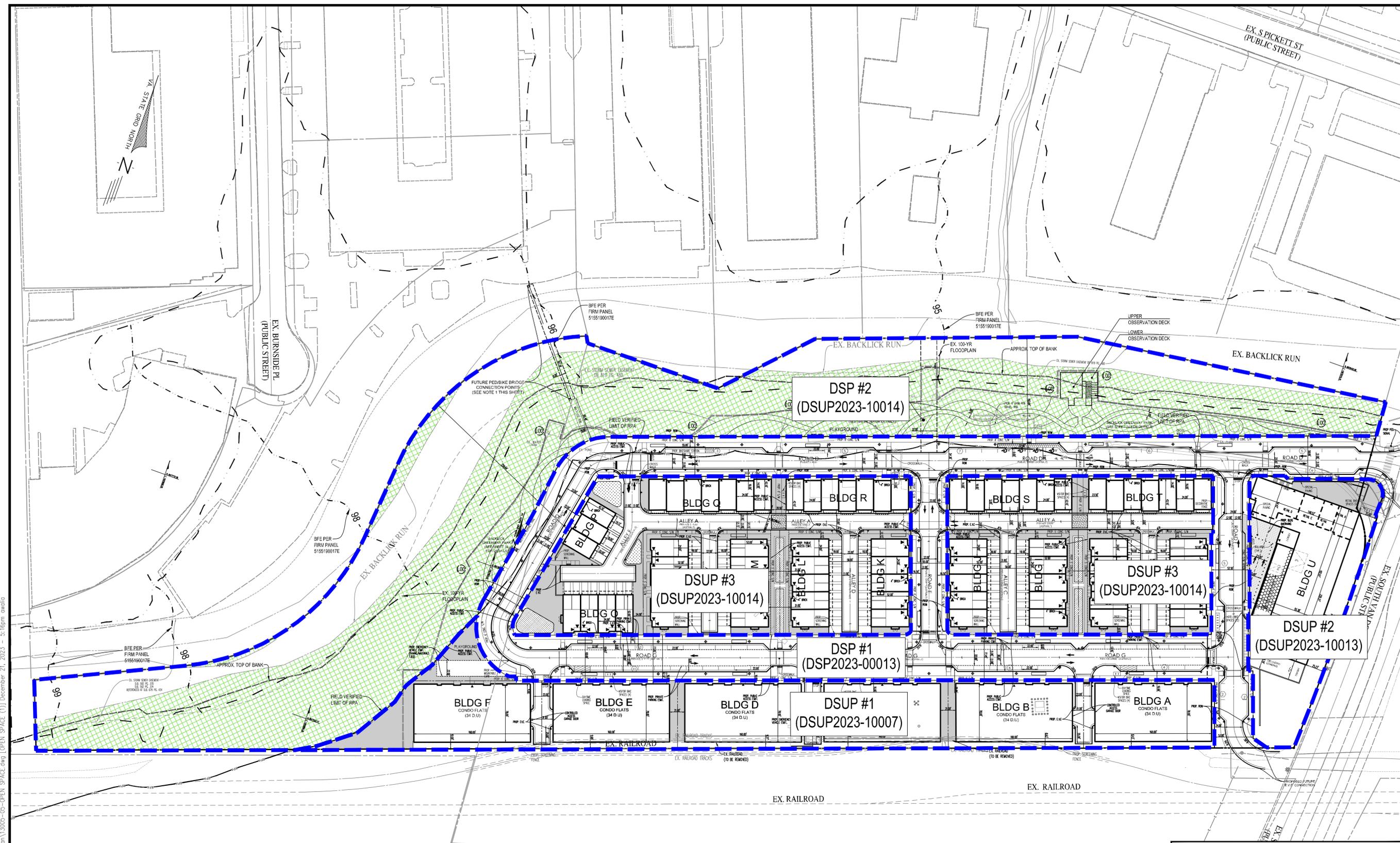
SANITARY OUTFALL ANALYSIS
**VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN**
CITY OF ALEXANDRIA, VIRGINIA
DATE: FEB. 2021
SCALE: N/A

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. _____ PAGE NO. _____

SHEET
28A
OF
38
FILE No.
SP-13005



Urban, Ltd. - J:\0855\VULCAN MATERIALS\ Preliminary Site Plan\13005-05-OPEN SPACE.dwg (OPEN SPACE) (1) December 21, 2023 - 5:16pm enavio

OPEN SPACE PER DSUP/DSP	
DSUP #1 (CONDO FLATS) DSUP AREA: 112,590 SF OR 2.58 AC. OPEN SPACE PROVIDED: 12,236 SF (10.9%)	DSUP #2 (PARKS) DSUP AREA: 264,840 SF OR 6.07 AC. OPEN SPACE PROVIDED (INCLUDING BACKLICK RUN): 264,840 SF (100.00%) OPEN SPACE PROVIDED (EXCLUDING BACKLICK RUN): 192,689 SF (75.75%)
DSUP #2 (HOTEL) DSUP AREA: 46,924 SF OR 1.07 AC. OPEN SPACE PROVIDED: 5,198 SF (11%)	
DSUP #3 (TOWNHOMES/STACKED TOWNHOMES) DSUP AREA: 185,508 SF OR 4.2 AC. OPEN SPACE PROVIDED: 27,050 SF (14.5%)	

OPEN SPACE CALCULATION	
	ONSITE RPA TO BE DEDICATED FOR OPEN SPACE: 4.42 AC. (192,689 SQ FT)**
	ONSITE AT-GRADE OPEN SPACE (EXCLUDING RPA): 0.98 AC. (43,111 SQ FT)
	ONSITE ABOVE-GRADE OPEN SPACE: 0.31 AC. (1,374 SQ FT)
	TOTAL ONSITE OPEN SPACE PROVIDED (EXCLUDING RPA) = 1.02 AC. (44,485 SQ FT) OR 8.7%*
	TOTAL ONSITE OPEN SPACE PROVIDED (INCLUDING RPA) = 5.44 AC. (237,174 SQ FT) OR 30%
	TOTAL SITE AREA = 17.77 AC. OR 774,455 SQ FT
	TOTAL AREA OF RPA DEDICATION = 6.08 AC. OR 264,840 SQ FT
	*ADJUSTED SITE AREA = 11.69 AC. OR 509,615 SQ FT (AFTER RPA DEDICATION)
	**TOTAL PROVIDED EXCLUDES BACKLICK RUN WATER SURFACE OF 72,151 SF

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 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. _____

OPEN SPACE PLAN
 PRELIMINARY SITE PLAN
 VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 C.I. = N/A
 DATE: JUNE, 2023
 SCALE: 1"=60'
 SHEET 29 OF 38
 FILE No. SP-13005

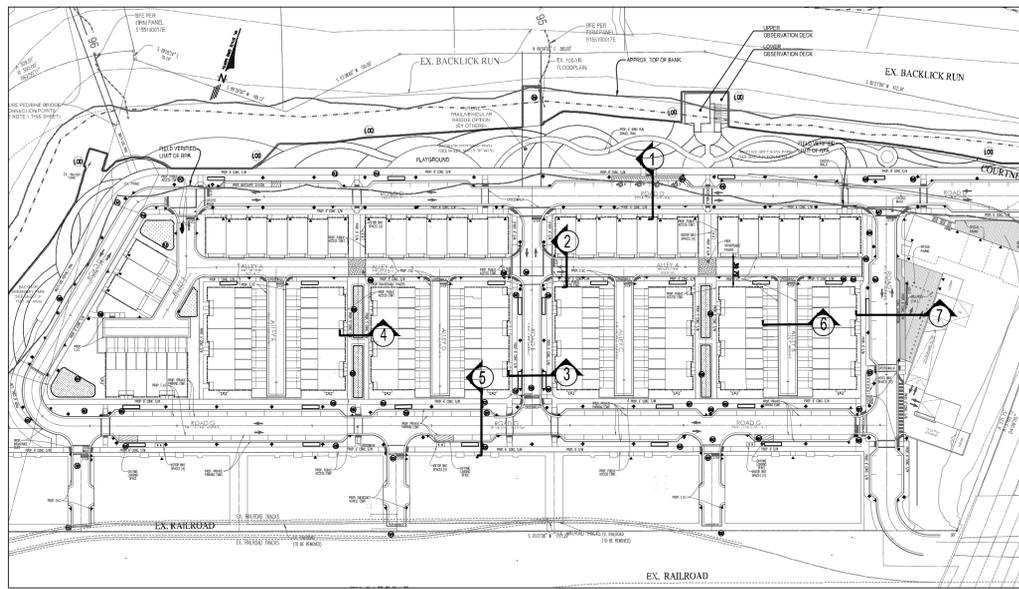
PLAN DATE
 06-02-2023
 09-17-2023
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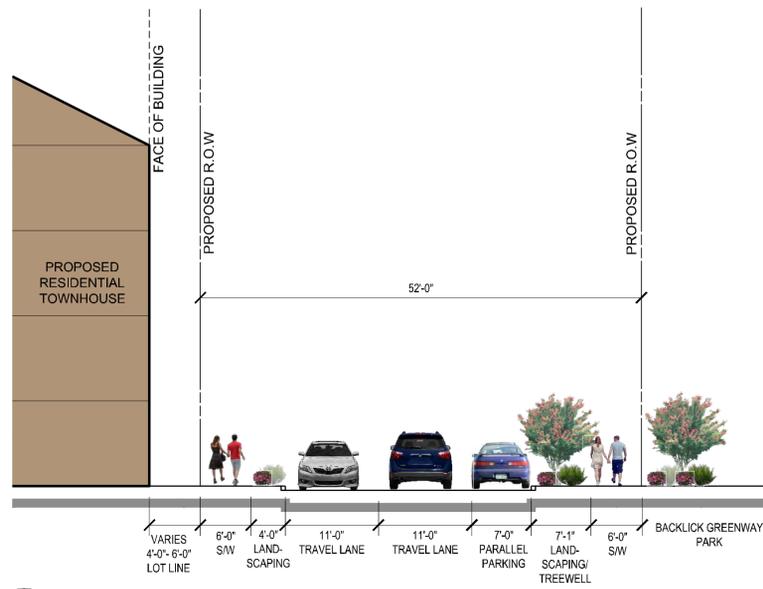
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COMMONWEALTH OF VIRGINIA
 CLAYTON C. TOOK
 Lic. No. 098790
 12/21/2023
 PROFESSIONAL ENGINEER

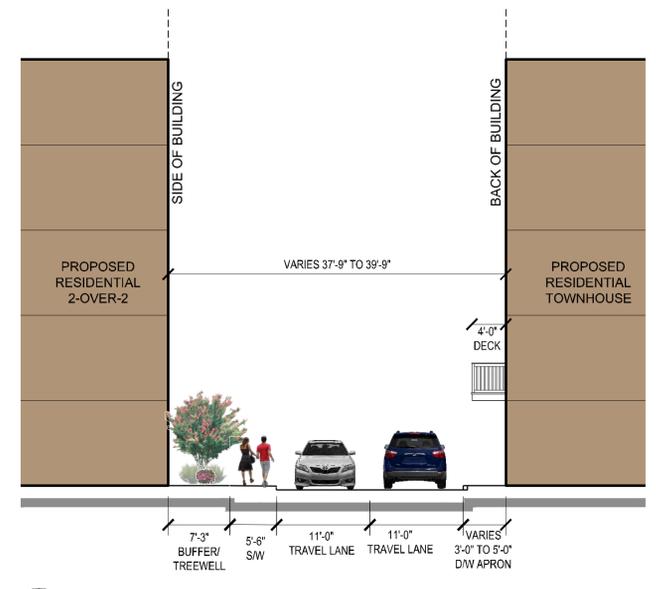
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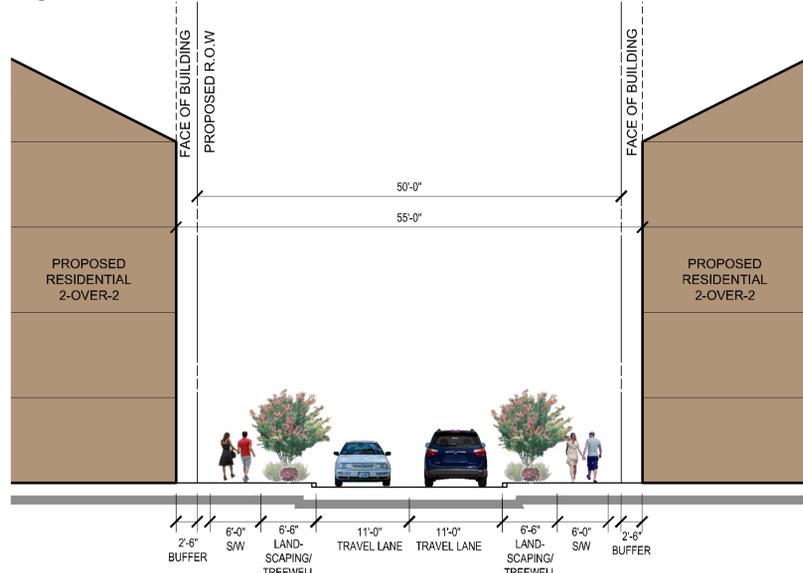
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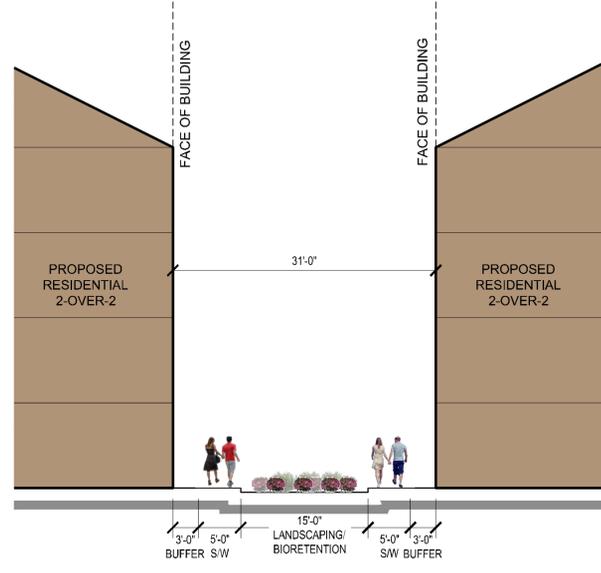
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SCALE: 1"=10'



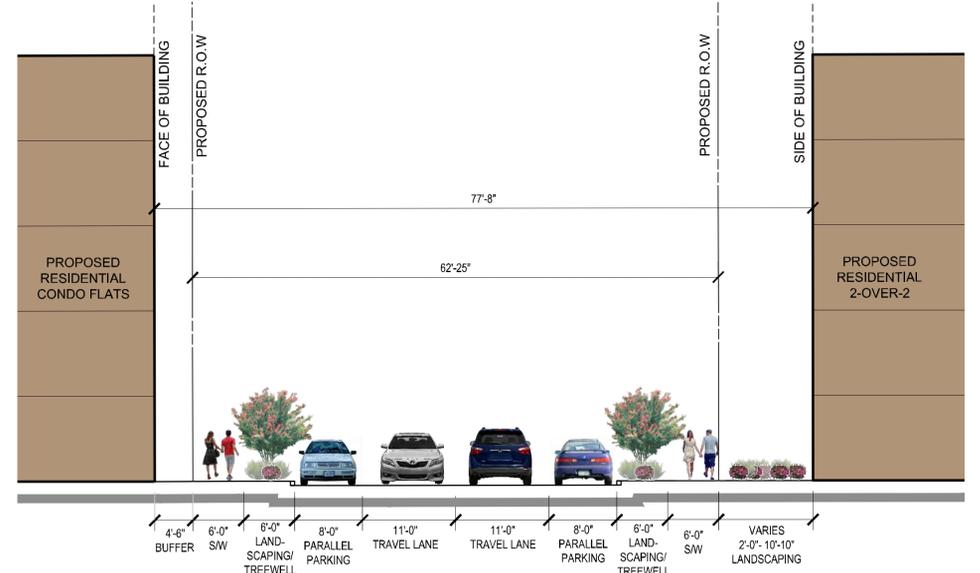
2 SECTION: ALLEY A
SCALE: 1"=10'



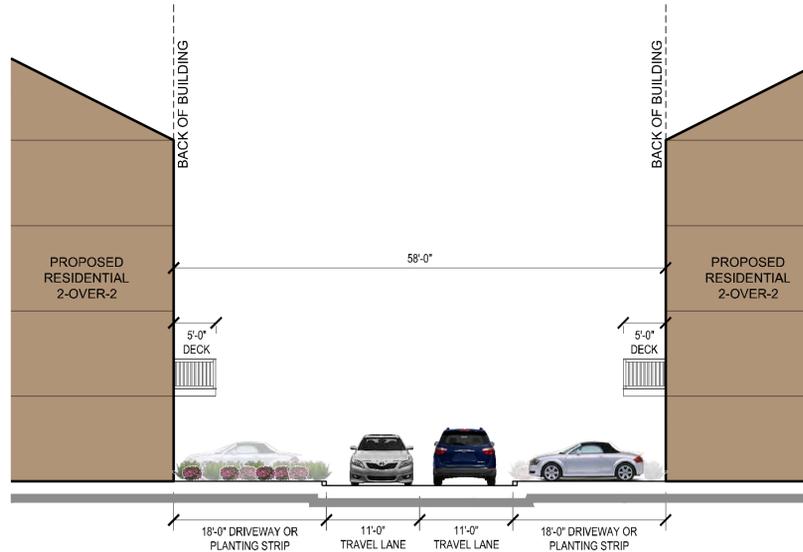
3 SECTION: ROAD B
SCALE: 1"=10'



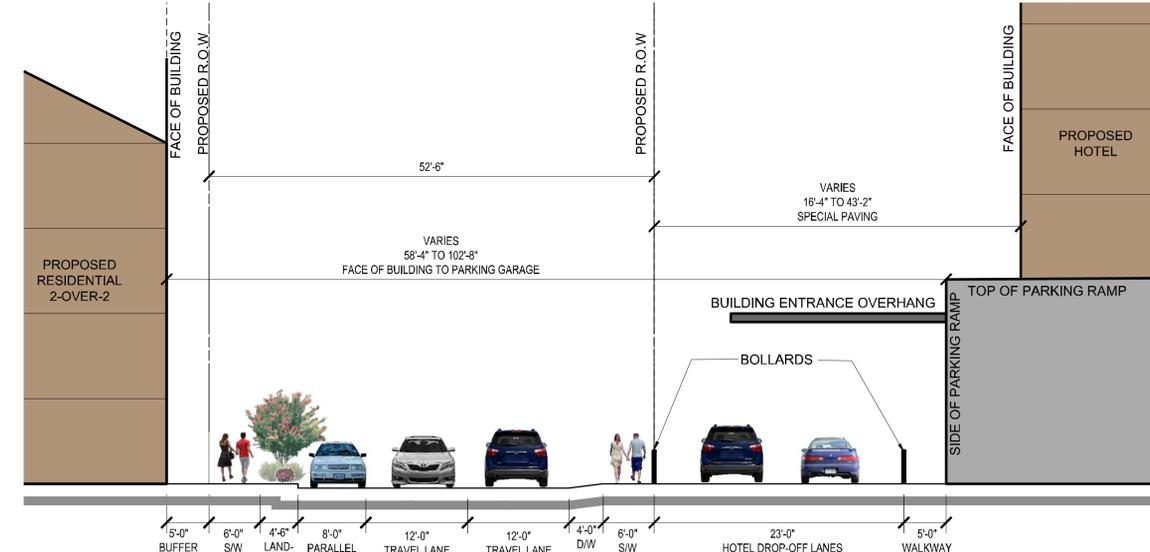
4 SECTION: PEDESTRIAN GREEN STREET
SCALE: 1"=10'



5 SECTION: ROAD A (CONT.)
SCALE: 1"=10'



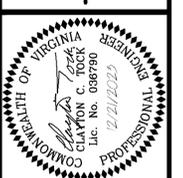
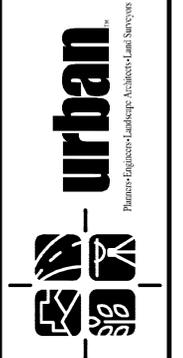
6 SECTION: ALLEY B NOTE: SECTION 6 SHOWS TYPICAL SECTION FOR ALLEYS C, D, & E.
SCALE: 1"=10'



7 SECTION: ROAD C
SCALE: 1"=10'

PLAN DATE	DESCRIPTION
06-02-2023	
09-17-2023	
12-21-2023	

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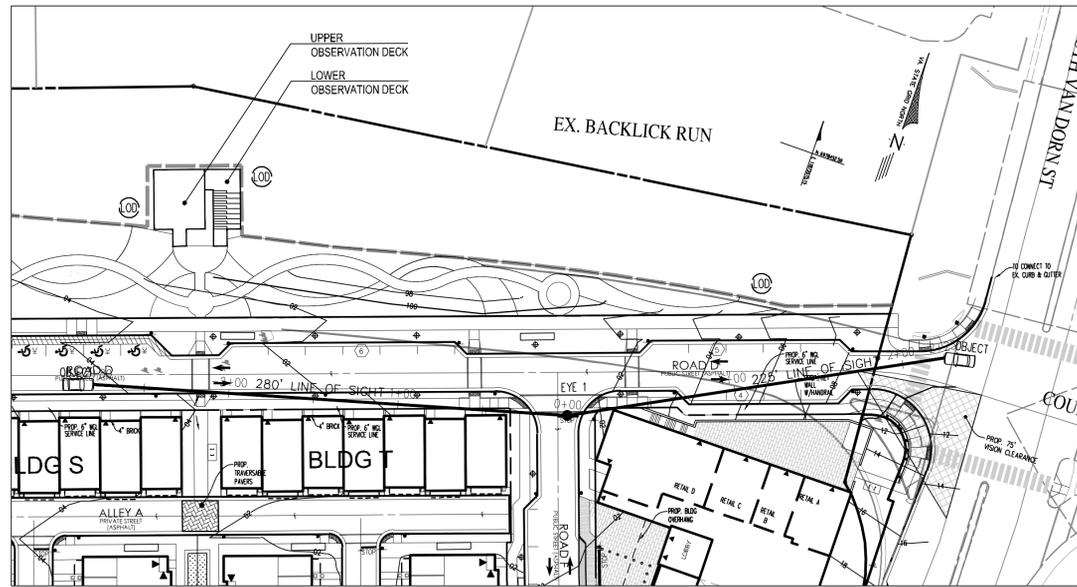
SITE SECTIONS
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: AS NOTED
C.I. = N/A

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. _____ PAGE NO. _____

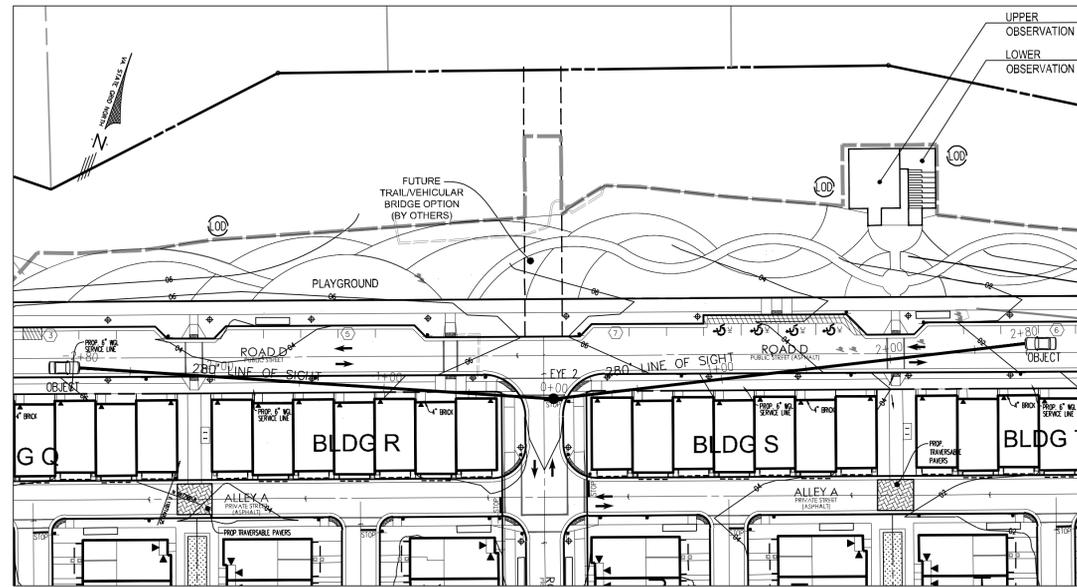
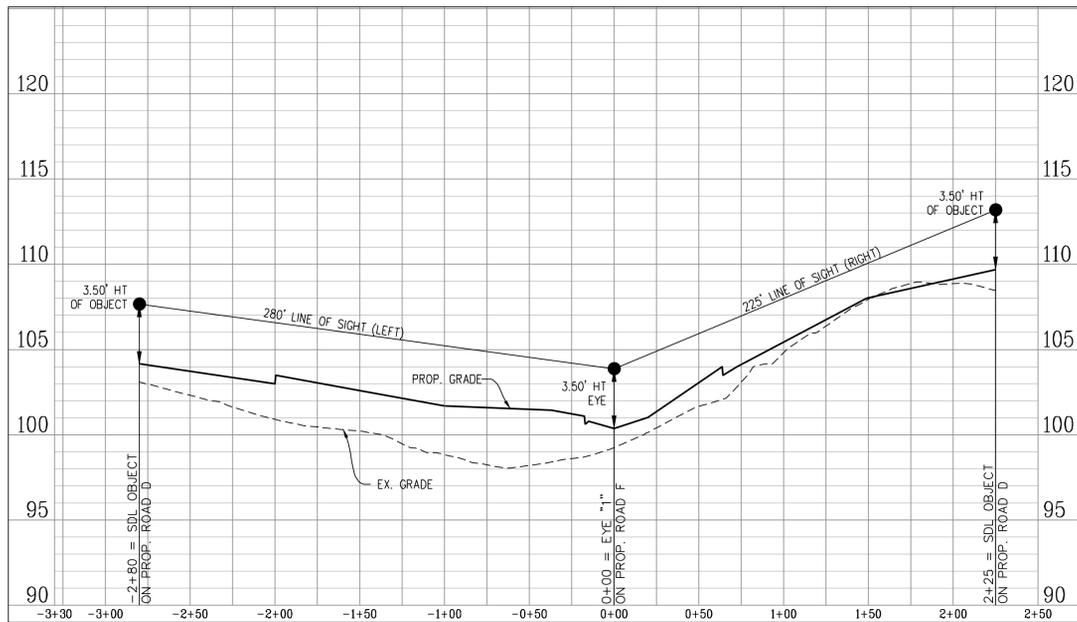
SHEET
30
OF
38
FILE NO.
SP-13005

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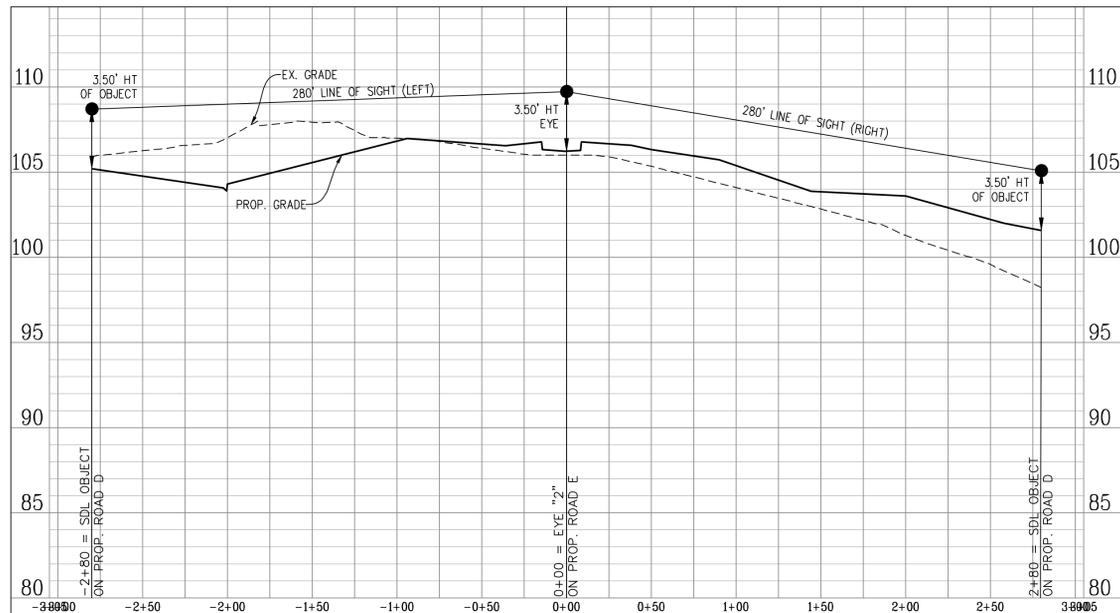
PLAN VIEW
SCALE: 1"=50'

SIGHT DISTANCE PROFILE
ROAD D
EYE "1"
DESIGN SPEED = 25 MPH



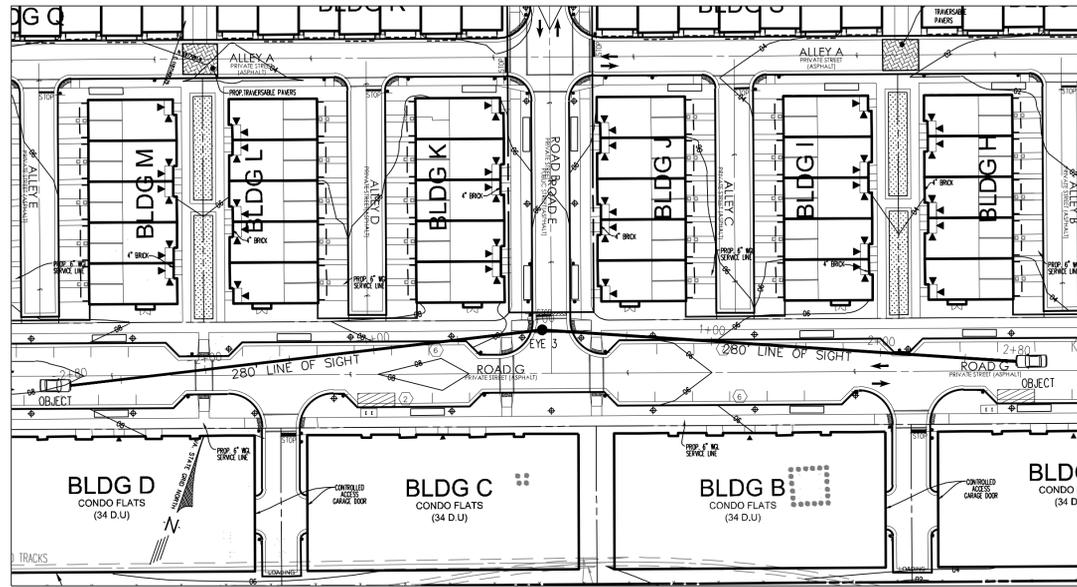
PLAN VIEW
SCALE: 1"=50'

SIGHT DISTANCE PROFILE
ROAD D
EYE "2"
DESIGN SPEED = 25 MPH



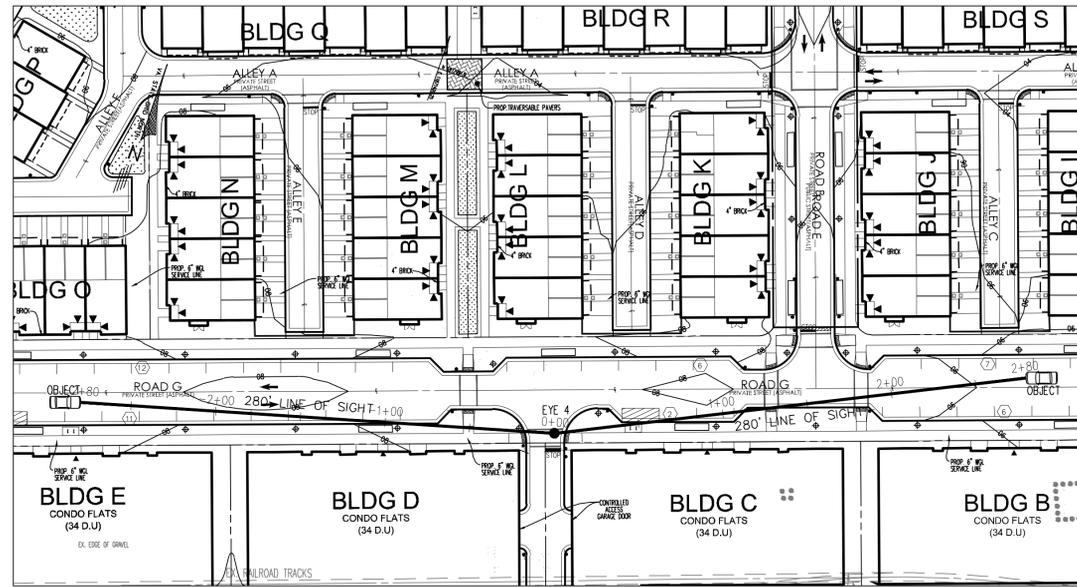
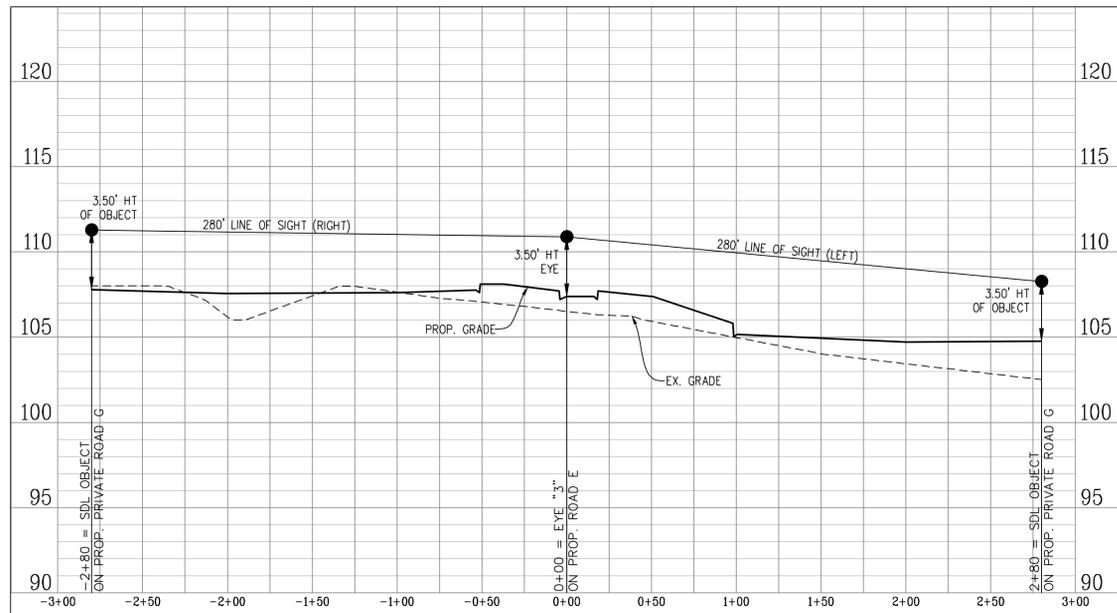
Urban, Ltd. - J:\085\VULCAN MATERIALS\ Preliminary Site Plan\13005-30-SIGHT DISTANCE.dwg [SD-1] December 21, 2023 - 5:17pm onslin

<p>Urban, Ltd. 4000 TECHNOLOGY CT. CHANTILLY, VA, 20151 TEL: 703.642.2306 FAX: 703.642.2888 www.urban-ld.com</p> <p style="text-align: center;">urban Planners-Engineers-Landscape Architects-Land Services</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">REVISIONS</th> <th style="width: 50%;">DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS	DATE								
REVISIONS	DATE										
<p>COMMONWEALTH OF VIRGINIA CLAYTON C. TOCK Lic. No. 088790 12/21/2023 PROFESSIONAL ENGINEER</p>											
<p>SIGHT DISTANCE PROFILES VULCAN MATERIALS DEVELOPMENT PRELIMINARY SITE PLAN CITY OF ALEXANDRIA, VIRGINIA SCALE: 1"= H:1"=50'; V:1"=5' DATE: JUNE, 2023 C.I.= 2</p>											
<p>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. _____ PAGE NO. _____</p>											
<p>SHEET 31 OF 38 FILE No. SP-13005</p>											



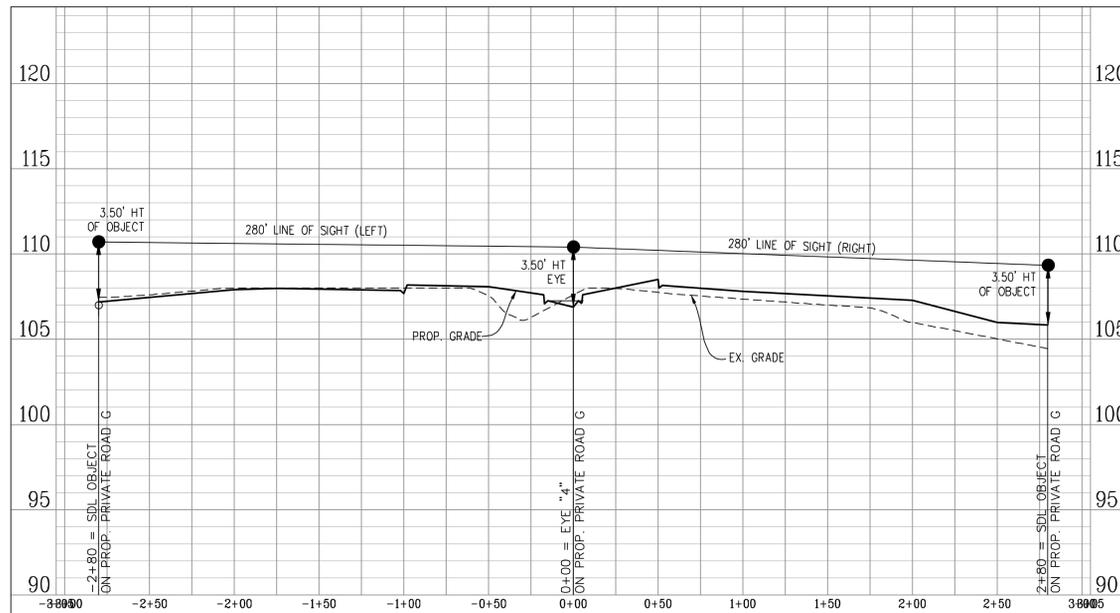
PLAN VIEW
SCALE: 1"=50'

SIGHT DISTANCE PROFILE
ROAD G
EYE "3"
DESIGN SPEED = 25 MPH



PLAN VIEW
SCALE: 1"=50'

SIGHT DISTANCE PROFILE
ROAD G
EYE "4"
DESIGN SPEED = 25 MPH

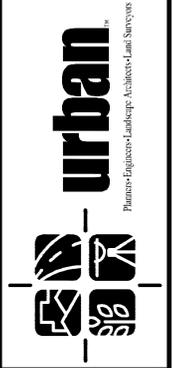


Urban, Ltd. - J:\085\VULCAN MATERIALS\ Preliminary Site Plan\13005-30-SIGHT DISTANCE.dwg [SD-2] December 21, 2023 - 5:17pm onwilo

NO.	DATE	DESCRIPTION

PLAN DATE	06-02-2023
	09-17-2023
	12-21-2023

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CHANTILLY, VA, 20151
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FAX: 703.642.2888
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SIGHT DISTANCE PROFILES
**VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN**
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1" = H"=50; V"=1"=5' C.I.= 2'

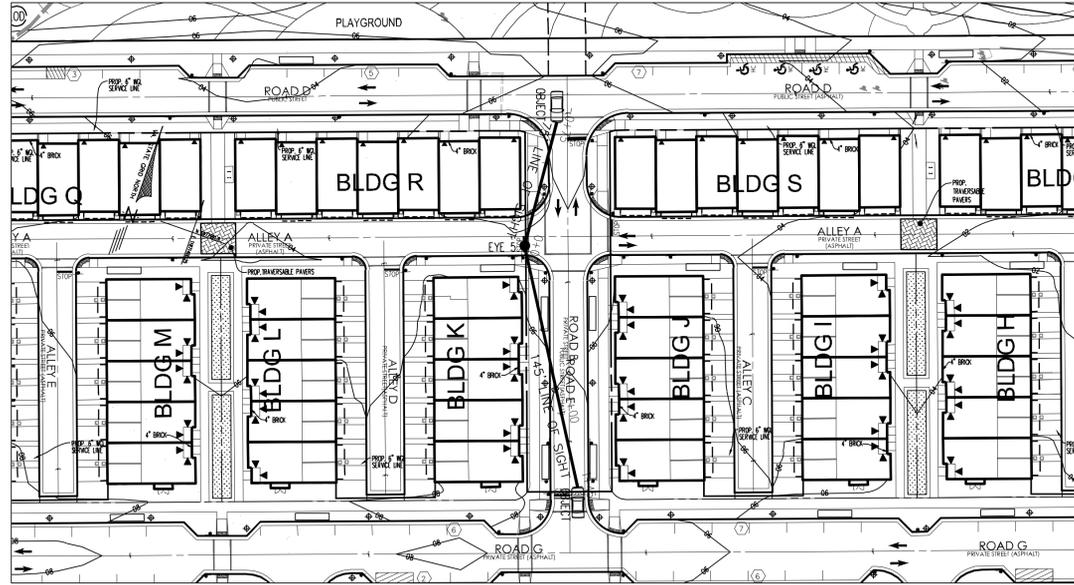
APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

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

DIRECTOR DATE _____

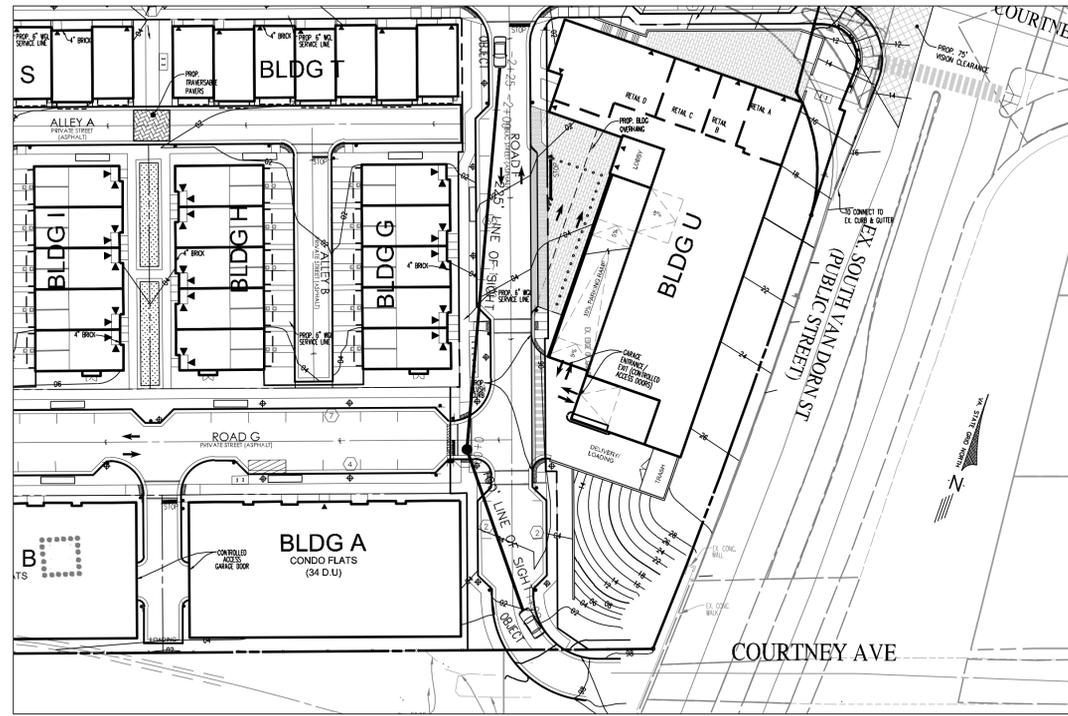
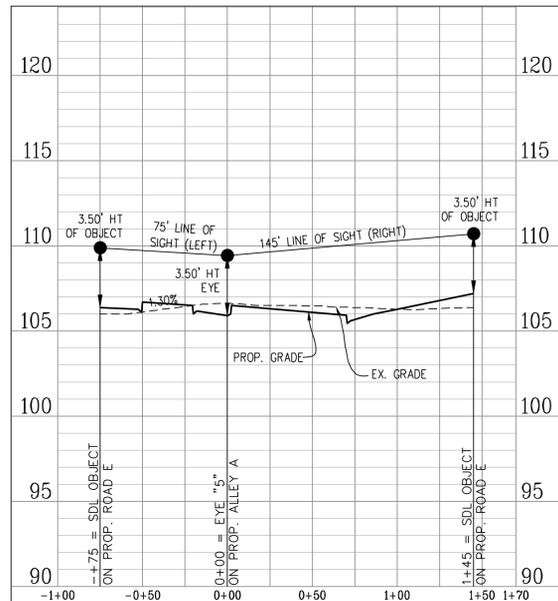
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

SHEET
31A
OF
38
FILE NO.
SP-13005



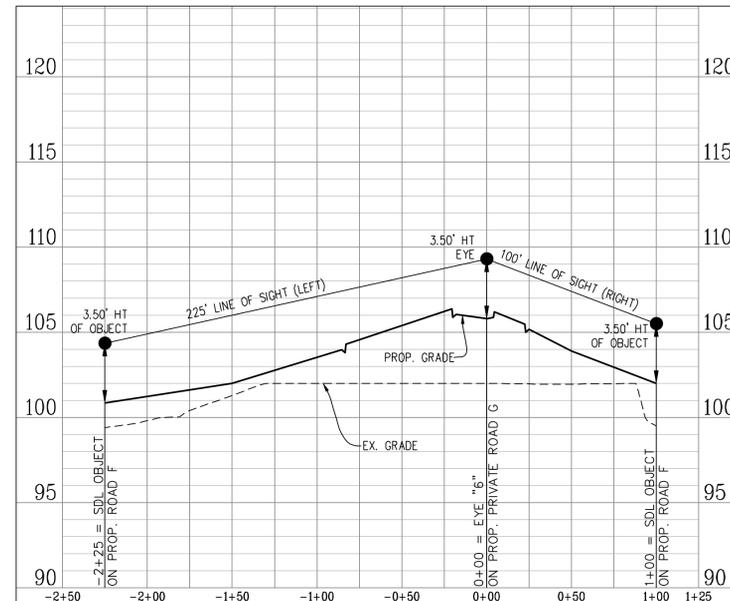
PLAN VIEW
SCALE: 1"=50'

SIGHT DISTANCE PROFILE
ROAD E
EYE "5"
DESIGN SPEED = 25 MPH



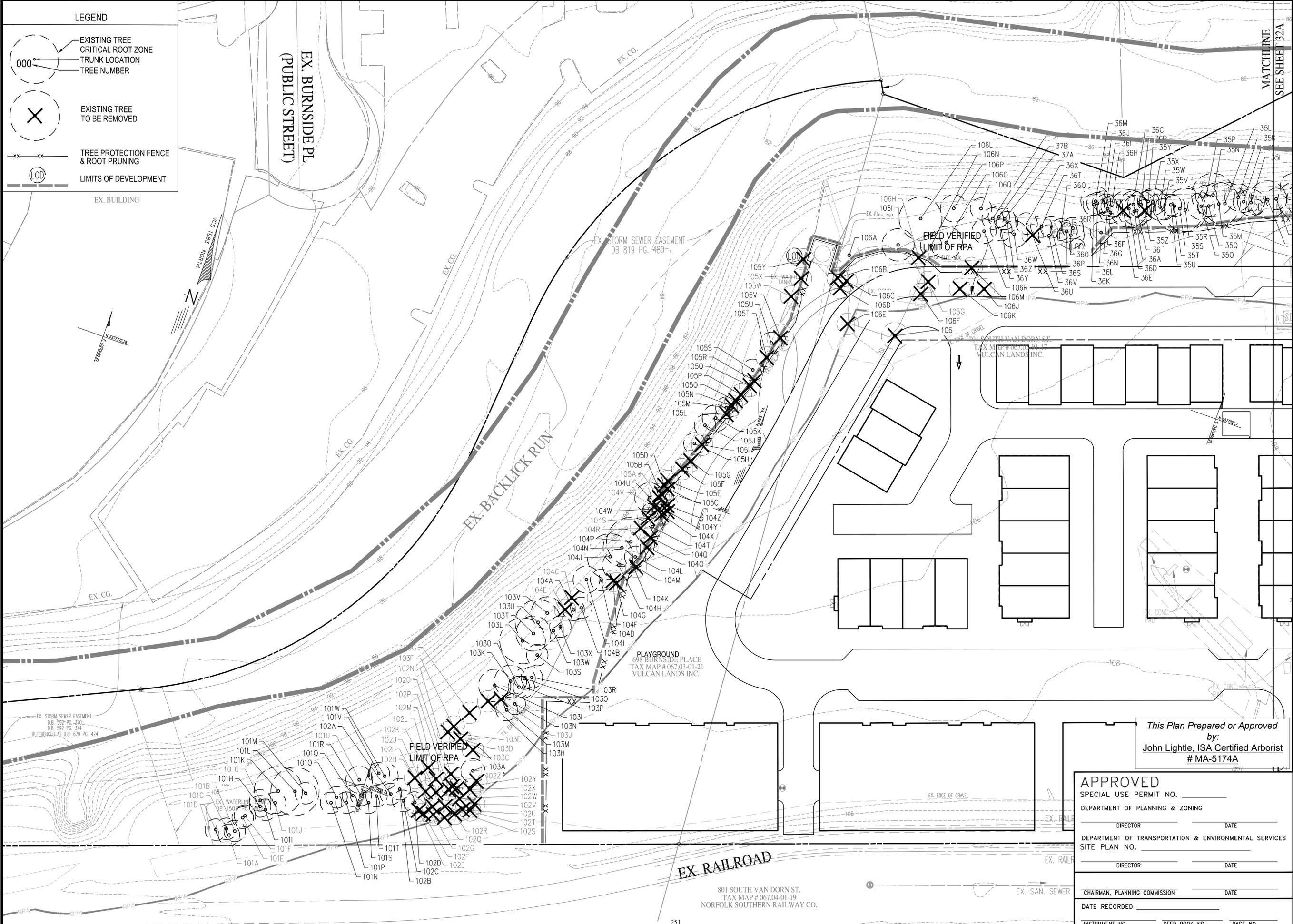
PLAN VIEW
SCALE: 1"=50'

SIGHT DISTANCE PROFILE
ROAD F
EYE "6"
DESIGN SPEED = 25 MPH



Urban, Ltd. - J:\085\VULCAN MATERIALS\ Preliminary Site Plan\13005-30-SIGHT DISTANCE.dwg [SD-3] December 21, 2023 - 5:18pm onolis

<p>Urban, Ltd. 4000 TECHNOLOGY CT. CHANTILLY, VA. 20151 TEL. 703.642.2306 FAX 703.378.7888 www.urban-ld.com</p> <p>urban Planning-Engineers-Landscape-Architects-Land Services</p>		<p>PLAN DATE 06-02-2023 09-17-2023 12-21-2023</p>	<p>REVISIONS</p>
<p>COMMONWEALTH OF VIRGINIA CLAYTON C. TOCK Lic. No. 088790 12/21/2023 PROFESSIONAL ENGINEER</p>			
<p>SIGHT DISTANCE PROFILES VULCAN MATERIALS DEVELOPMENT PRELIMINARY SITE PLAN</p>		<p>DATE: JUNE, 2023 SCALE: 1"= H:1"=50'; V:1"=5'</p>	
<p>CHAIRMAN, PLANNING COMMISSION _____ DATE _____</p>		<p>SHEET 31B OF 38</p>	
<p>DATE RECORDED _____</p>		<p>FILE No. SP-13005</p>	
<p>INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____</p>		<p>APPROVED SPECIAL USE PERMIT NO. _____ DEPARTMENT OF PLANNING & ZONING DIRECTOR _____ DATE _____ DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO. _____ DIRECTOR _____ DATE _____</p>	



LEGEND

- EXISTING TREE
CRITICAL ROOT ZONE
TRUNK LOCATION
TREE NUMBER
- EXISTING TREE
TO BE REMOVED
- TREE PROTECTION FENCE
& ROOT PRUNING
- LIMITS OF DEVELOPMENT

EX. BUILDING

EX. BURNSIDE PL
(PUBLIC STREET)

EX. BACKLICK RUN

EX. STORM SEWER EASEMENT
DB 819 PG. 480

PLAYGROUND
698 BURNSIDE PLACE
TAX MAP # 067.03-01-21
VULCAN LANDS INC.

801 SOUTH VAN DORN ST.
TAX MAP # 067.04-01-19
NORFOLK SOUTHERN RAILWAY CO.

FIELD VERIFIED
LIMIT OF RPA

EX. SAN. SEWER

MATCHLINE
SEE SHEET 32A



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

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. _____ PAGE NO. _____

TREE AND VEGETATION PROTECTION PLAN
 PRELIMINARY SITE PLAN
 VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1"=30'
 SHEET 32 OF 38
 FILE NO. SP-13005

PLAN DATE
 06-02-2023
 09-17-2023
 12-21-2023

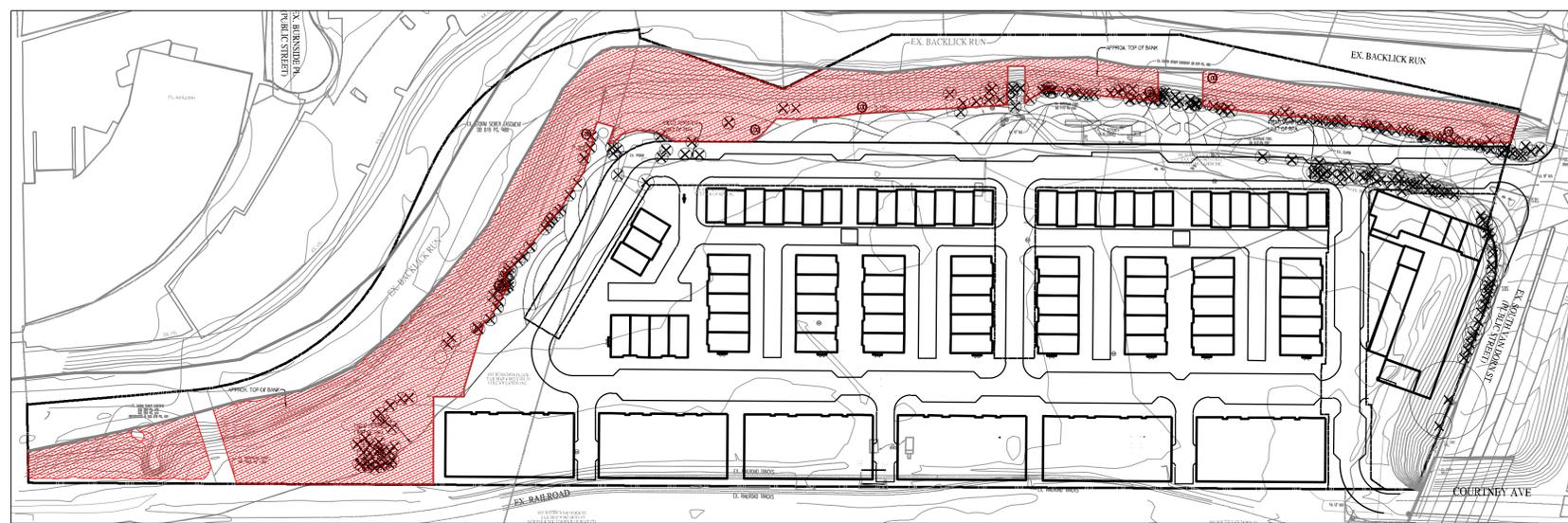
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 John Lightle
 Lic. No. 1957
 LANDSCAPE ARCHITECT

No.	DATE	DESCRIPTION

Urban, Ltd. - J:\0685\VULCAN MATERIALS\ Preliminary Site Plan\13005-2-TREE INVENTORY.dwg [TREE(0)] December 21, 2023 - 5:18pm oandis



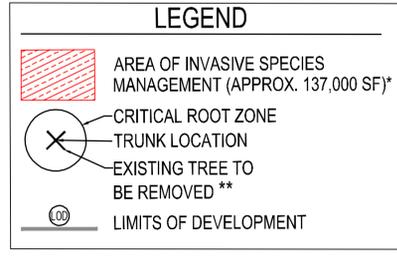
1 INVASIVE SPECIES MANAGEMENT AREAS DIAGRAM

1" = 100'

INVASIVE SPECIES MANAGEMENT NOTES

*1. SPECIFIC PARK IMPROVEMENTS, INCLUDING AREA OF INVASIVE SPECIES MANAGEMENT, ARE SUBJECT TO THE EISENHOWER WEST/LANDMARK VAN DORN IMPLEMENTATION DEVELOPER CONTRIBUTIONS POLICY AND THE DSP #2023-00014 CONDITIONS OF APPROVAL.

*2. ADDITIONAL TREES AND/OR REVISIONS TO TREES IDENTIFIED HEREON TO BE REMOVED MAY BE ADJUSTED AT TIME OF FINAL ENGINEERING.



Invasive Species Management Plan
 Vulcan Material Development
 City of Alexandria, Virginia
 November 9, 2023

Purpose: To identify the invasive and noxious plants to be managed, the area of management control, methods of plant management, disposal, timing of plan implementation, and reforestation opportunities in order to help prevent human health problems and preserve native vegetation.

Targeted plant species:

- Tree of Heaven (Ailanthus sp.)
- Rose of Sharon (Hibiscus sp.)
- Multiflora Rose (Rosa sp.)
- Amur Honeysuckle (Lonicera sp.)
- Mimosa Tree (Albizia sp.)
- Callery Pear (Pyrus sp.)

Area of management control: As noted on Invasive Species Management Diagram on this sheet; and all Tree of Heaven (Ailanthus altissima) noted within the Tree Inventory and Condition Analysis on Sheet 32B.

Methods of plant management:
 Due to the slopes within the RPAs and other varied terrain within the delineated management area, the removal of the root mass of the target species is not recommended. Methods of plant management may include:

- Removal by hand / small tools
- Application of herbicides
- Animal Grazing (i.e. Goats)

Methods will be further outlined at time of final engineering.

All herbicide applications shall be performed by or under direct supervision of a Virginia Certified Pesticide Applicator or Registered Technician.

In addition to the removal of all invasive species, the management area shall also be cleared of all man-made refuse, including firewood, lumber, tires, plastics, and other man-made debris. Such refuse shall be removed by hand in a manner that minimizes soil disturbance and impact on trees to be preserved, and disposed of off-site.

Disposal: All parts of each invasive species that are hand removed shall be bagged and disposed of off-site.

Timing of management plan: Implementation shall begin with the commencement of, and occur simultaneously with, construction. Duration of management shall be determined at time of final engineering.

Revegetation: In consultation with the City Arborist and in compliance with Appendix D of the VA Riparian Buffers Modification & Mitigation Guidance Manual, revegetation will be determined on the amount of disturbance determined at final engineering within the Invasive Species Management Areas.

Please note that it is understood total eradication of the invasive species identified within this management plan is nearly impossible and not expected of the contractors. Substantial and reasonable removal is, however, expected.

Prepared and/or approved by:
 John Lightle, ISA Certified Arborist
 #MA-5174A
 Urban, Ltd.
 Ph: 703.642.8080
 Email: jlightle@urban-ltd.com



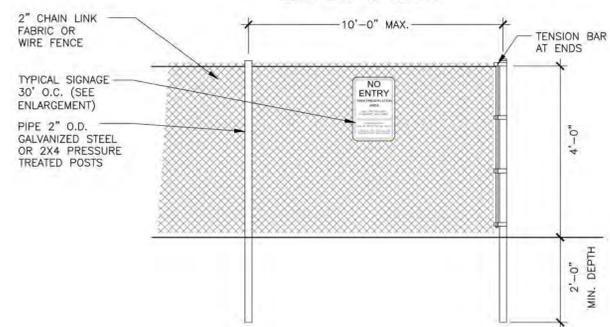
TREE PRESERVATION NOTES

- Vegetation designated for protection and/or preservation shall continuously receive an enhanced level of maintenance throughout the entire construction period.
 - Maintenance shall be pro-active.
 - Maintenance operations shall aggressively monitor the health, growth and vigor of vegetation and prescribe selective pruning, removal of volunteer and/or invasive species, including vines, watering, fertilization and installation of mulch/topdressing.
 - When preserved vegetation is located on city property, maintenance shall be performed to the satisfaction of the City.
- Areas designated for protection and/or preservation of vegetation shall not be entered or utilized (approved maintenance procedures and watering excepted) throughout the entire construction period. Prohibited items/activities include, but are not limited to:
 - Modifying site topography in a manner that directly or indirectly alters existing site drainage within protection zone including trenching or grading operations and placing, storing or stockpiling soil or construction related supplies.
 - Felling and storing vegetation. iii. Incinerating materials within or in close proximity.
 - Operating machinery or equipment, including vehicle/equipment parking or storage.
 - Temporary or permanent utility construction, paving or impervious surface installation.
 - Disposal of debris or chemicals. vii. Temporary facilities or occupation by work force.
 - Storage of construction materials or waste.



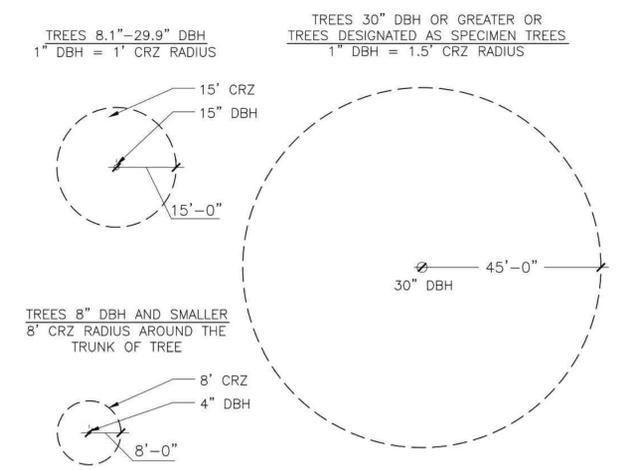
NOTES

- TREE PROTECTION DETAIL SHALL APPLY TO ALL TREES INCLUDING STREET TREES.
- TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION. CITY STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO INSTALLATION OR ANY OTHER TREE PRESERVATION MEASURE SPECIFIED IN PLANS AND SHALL APPROVE LAYOUT.
- NO PERSONNEL, VEHICLES, EQUIPMENT, CONSTRUCTION MATERIALS OR DEBRIS ALLOWED IN TREE PROTECTION AREAS. REFER TO LANDSCAPE GUIDELINES FOR ADDITIONAL RESTRICTIONS.
- REMOVE TREE PROTECTION FENCE ONLY WITH APPROVAL FROM CITY STAFF AFTER ALL SITE WORK HAS BEEN COMPLETED.
- SIGN MATERIAL TO BE WEATHER RESISTANT.
- FENCE FABRIC MAY ALSO BE 2X4 WELDED WIRE FABRIC MIN. 12.5 GAUGE LAYERED WITH ORANGE SNOW FENCE FOR VISIBILITY



2 TREE PROTECTION FENCE

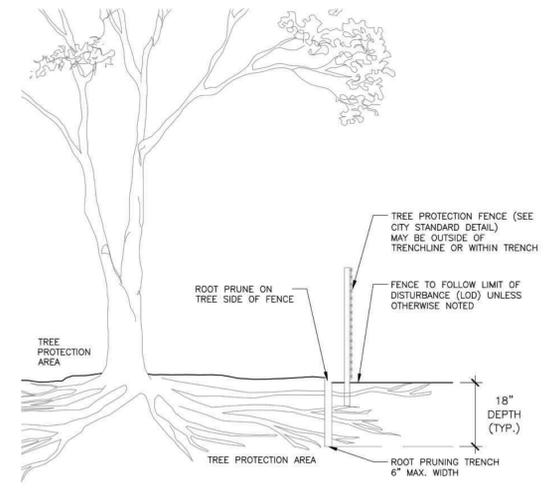
NTS



- ### NOTES:
- GRAPHICALLY, THE CRITICAL ROOT ZONE (CRZ) IS REPRESENTED AS A CIRCULAR REGION MEASURED OUTWARD FROM A TREE TRUNK REPRESENTING THE AREA OF ROOTS THAT MUST BE MAINTAINED OR PROTECTED FOR THE TREE'S SURVIVAL.
 - PLOT ACCURATE TRUNK LOCATIONS OF ALL TREES GREATER THAN 2" DIAMETER AT 54" ABOVE GRADE AND/OR TREE STANDS WITHIN DEVELOPMENT AREAS ON ALL PLANS FOR THE PROJECT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.
 - PLOT ACCURATE TRUNK LOCATIONS OF OFFSITE TREES WHICH WILL HAVE THEIR CRZ AFFECTED BY DEVELOPMENT AND DELINEATE THEIR ESTIMATED CRITICAL ROOT ZONE.

3 TREE PROTECTION DETAIL FOR DETERMINING CRITICAL ROOT ZONE

NTS



- ### NOTES
- ROOT PRUNING SHALL BE DONE WITH TRENCHER OR VIBRATORY PLOW TO DEPTH OF 18". ROOTS OVER 1.5" IN DIAMETER SHALL HAVE A CLEAN CUT MADE BY A CLEAN SAW ON THE SURFACE OF THE ROOT, WHICH IS STILL ATTACHED TO THE TREE. DO NOT BREAK OR CHOP; DO NOT PAINT THE CUT ROOT END. IF EXCAVATION IS FOR INSTALLATION OF UNDERGROUND UTILITIES, LEAVE THE ROOT INTACT AND THREAD THE LINES UNDERNEATH.
 - ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING AND SHALL BE APPROVED BY CITY STAFF.
 - ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF AN ISA CERTIFIED ARBORIST. CERTIFICATION SHALL BE PROVIDED TO THE CITY UPON COMPLETION.
 - BACKFILL THE ROOT-PRUNING TRENCH WITH APPROVED LOOSE TOPSOIL MIX AND TOP WITH 3-4" BARK MULCH AND MARK LOCATION FOR FUTURE REFERENCE. SILT FENCE MAY BE INSTALLED IN TRENCH PRIOR TO BACKFILLING AS LONG AS THE TRENCH IS NOT OPEN FOR LONGER THAN 48 HOURS WITHOUT WATERING.
 - ROOT PRUNING WORK SHALL NOT BE DONE WHEN MORE THAN THE TOP 1 INCH OF SOIL IS FROZEN. ROOT PRUNING SHALL NOT BE UNDERTAKEN WHEN THE SOIL IS WET AND CONDITIONS ARE MUDDY.
 - CITY OF ALEXANDRIA STAFF SHALL BE NOTIFIED 72 HOURS PRIOR TO TRENCHING AND WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

4 ROOT PRUNING

NTS

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

NOTE:
 THE APPLICANT/DEVELOPER SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
 THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.
 ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

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. _____ PAGE NO. _____

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COMMONWEALTH OF VIRGINIA
 John Lightle
 Lic. No. 1957
 12/21/2023

TREE PRESERVATION NOTES AND DETAILS
**PRELIMINARY SITE PLAN
 VULCAN MATERIALS DEVELOPMENT**
 CITY OF ALEXANDRIA, VIRGINIA
 SCALE: N/A

DATE: JUNE, 2023
 C.I. = N/A

PLANNING DATE	DESCRIPTION	DATE	REVISIONS
06-02-2023			
09-19-2023			
12-21-2023			

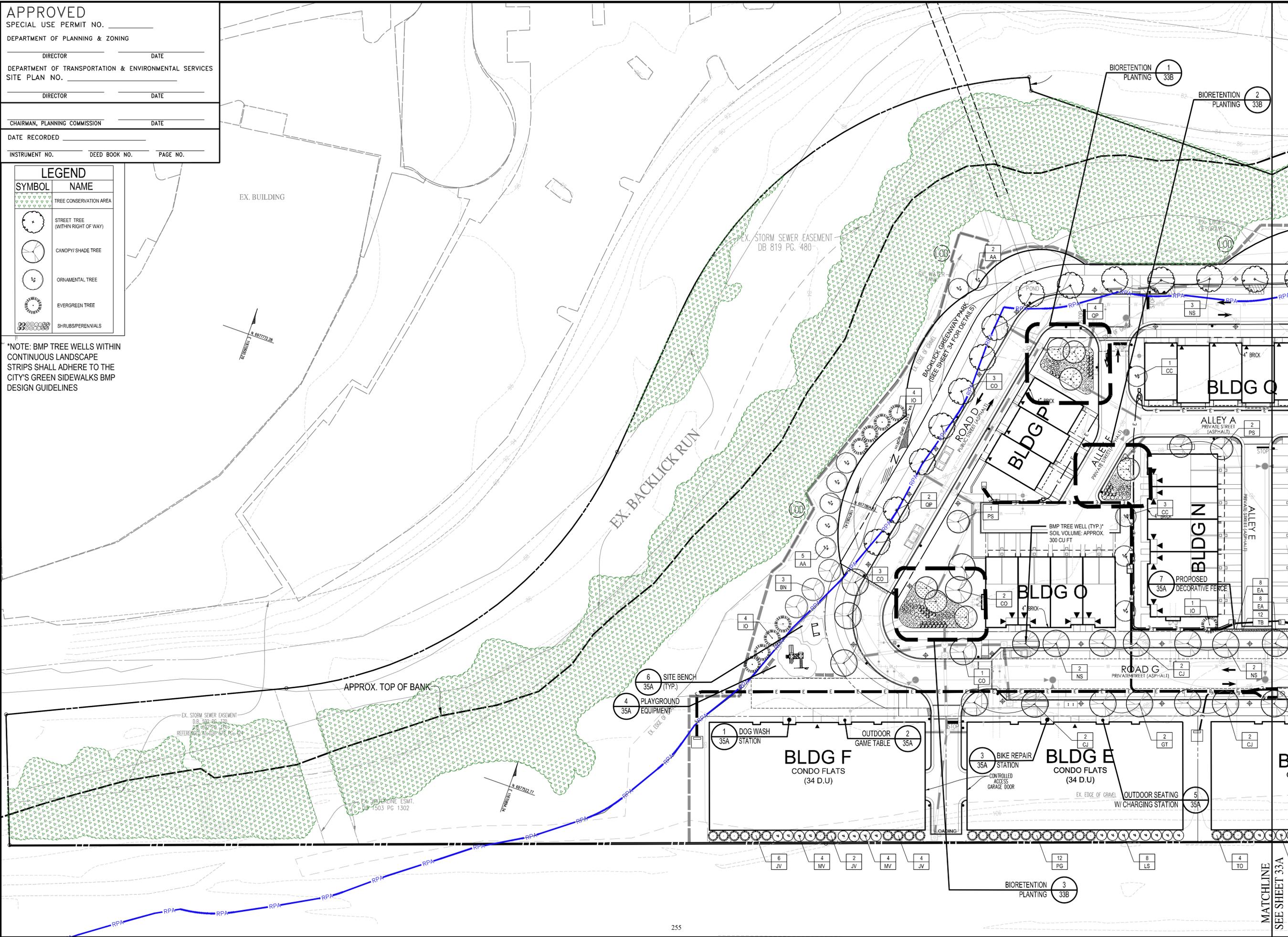
SHEET 32C OF 38
 FILE NO. SP-13005

Urban, Ltd. - J:\0685\VULCAN MATERIALS\ Preliminary Site Plan\13005-2-Tree_Inventory.dwg [TREE(4)] December 21, 2023 - 5:19pm oac@o

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. _____ PAGE NO. _____

SYMBOL	NAME
	TREE CONSERVATION AREA
	STREET TREE (WITHIN RIGHT OF WAY)
	CANOPY SHADE TREE
	ORNAMENTAL TREE
	EVERGREEN TREE
	SHRUBS/PERENNIALS

*NOTE: BMP TREE WELLS WITHIN CONTINUOUS LANDSCAPE STRIPS SHALL ADHERE TO THE CITY'S GREEN SIDEWALKS BMP DESIGN GUIDELINES



No.	DATE	DESCRIPTION	REVISIONS

PLAN DATE
 06-02-2023
 09-17-2023
 12-21-2023

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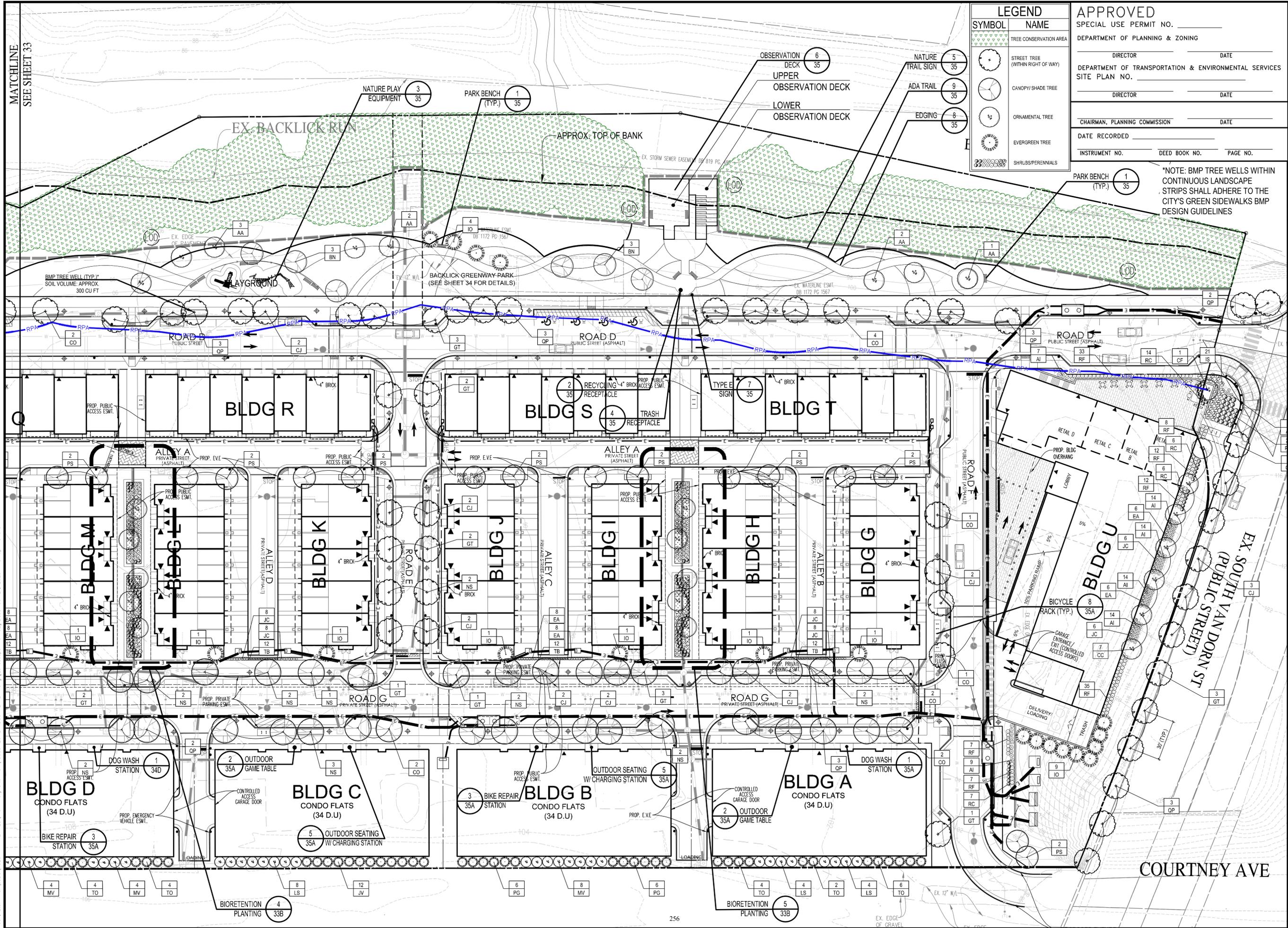


COMMONWEALTH OF VIRGINIA
 John Lightle
 Lic. No. 1957
 LANDSCAPE

LANDSCAPE PLAN
 PRELIMINARY SITE PLAN
 VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1" = 30'
 C.I. = N/A

SHEET
 33
 OF
 38
 FILE No.
 SP-13005

Urban, Ltd. - J:\0685\VULCAN MATERIALS\ Preliminary Site Plan\13005-20-LANDSCAPE PLAN.dwg [Landscape Plan 01] December 21, 2023 - 5:19pm amlg



LANDSCAPE PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1" = 30'

FILE NO. SP-13005
SHEET 33A OF 38

LANDSCAPE ARCHITECT
John Lightle
Lic. No. 1997

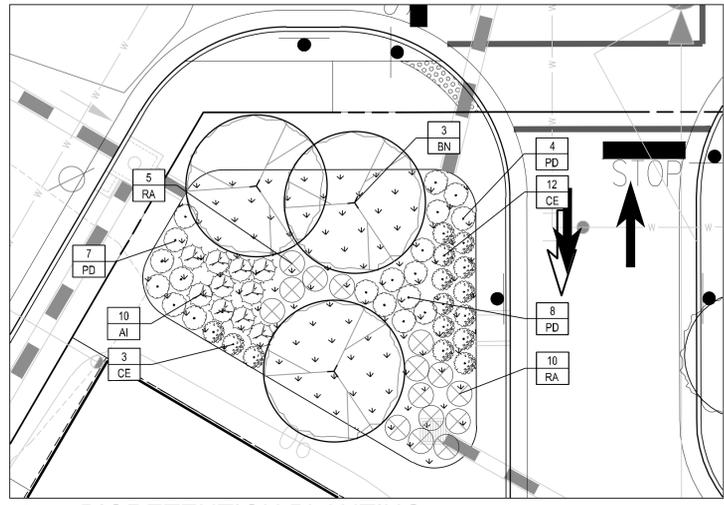
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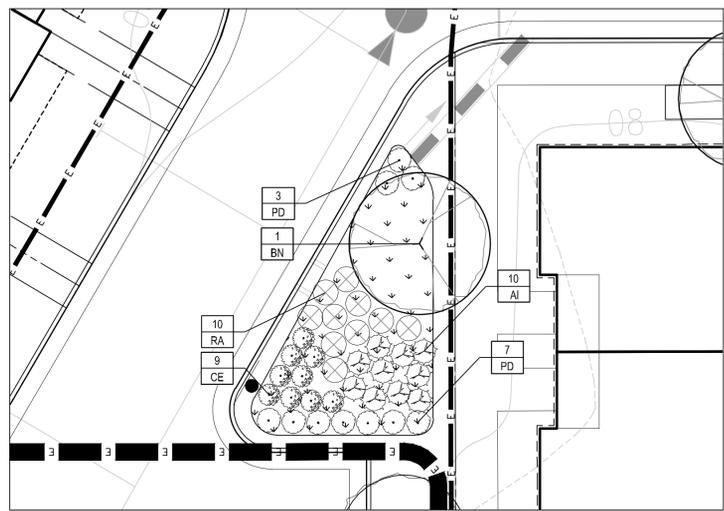
PLAN DATE:
06-02-2023
09-17-2023
12-21-2023

NO.	DATE	DESCRIPTION

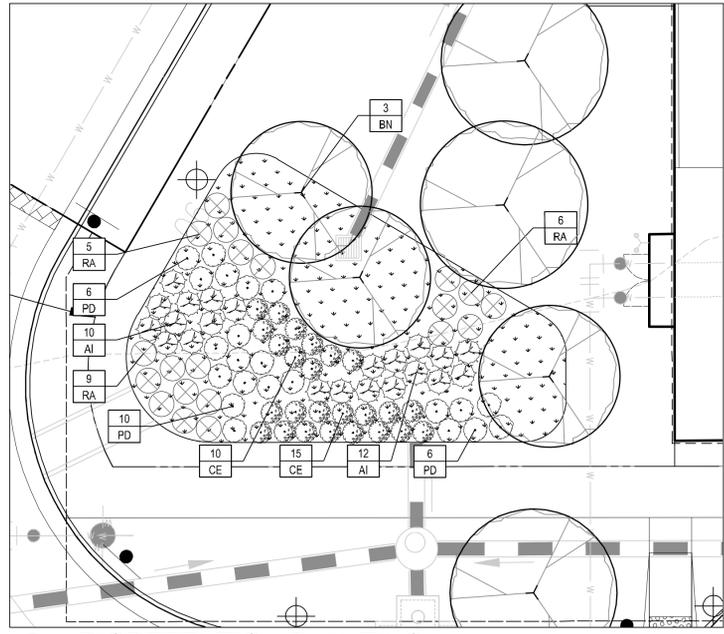
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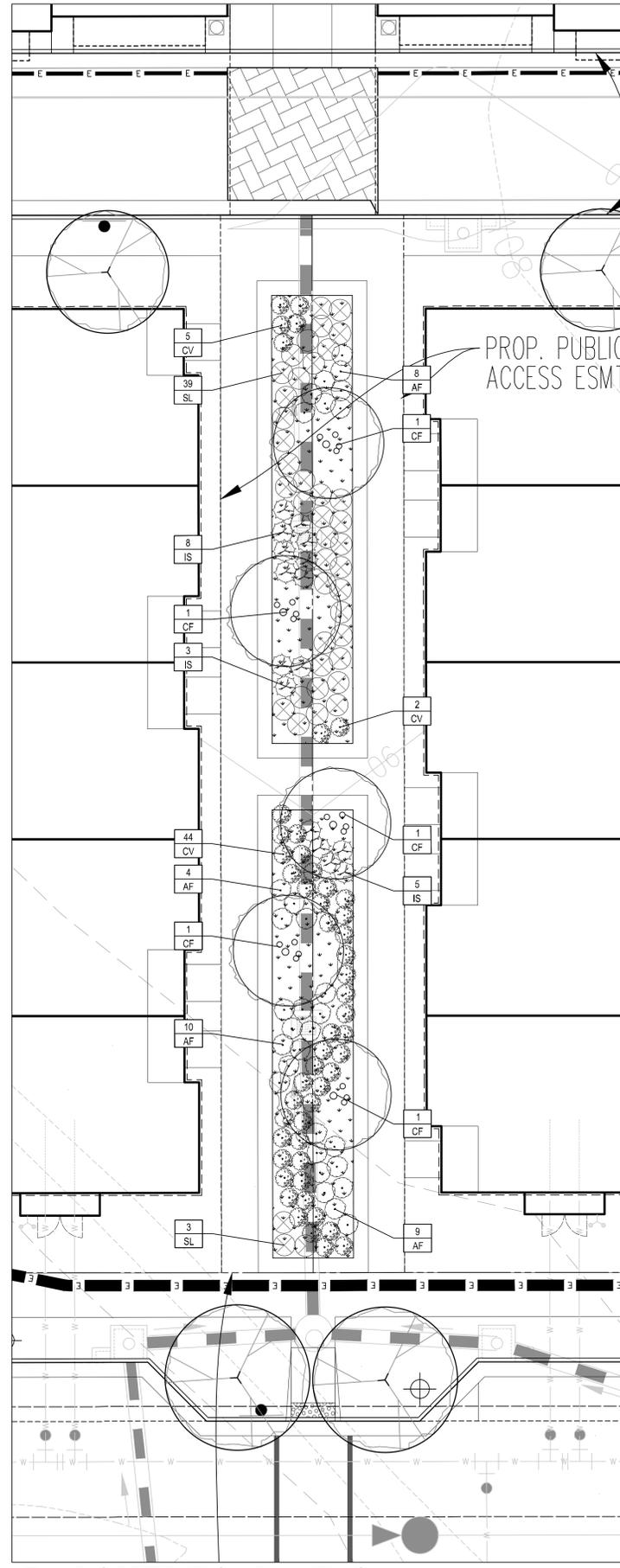
1 BIORETENTION PLANTING



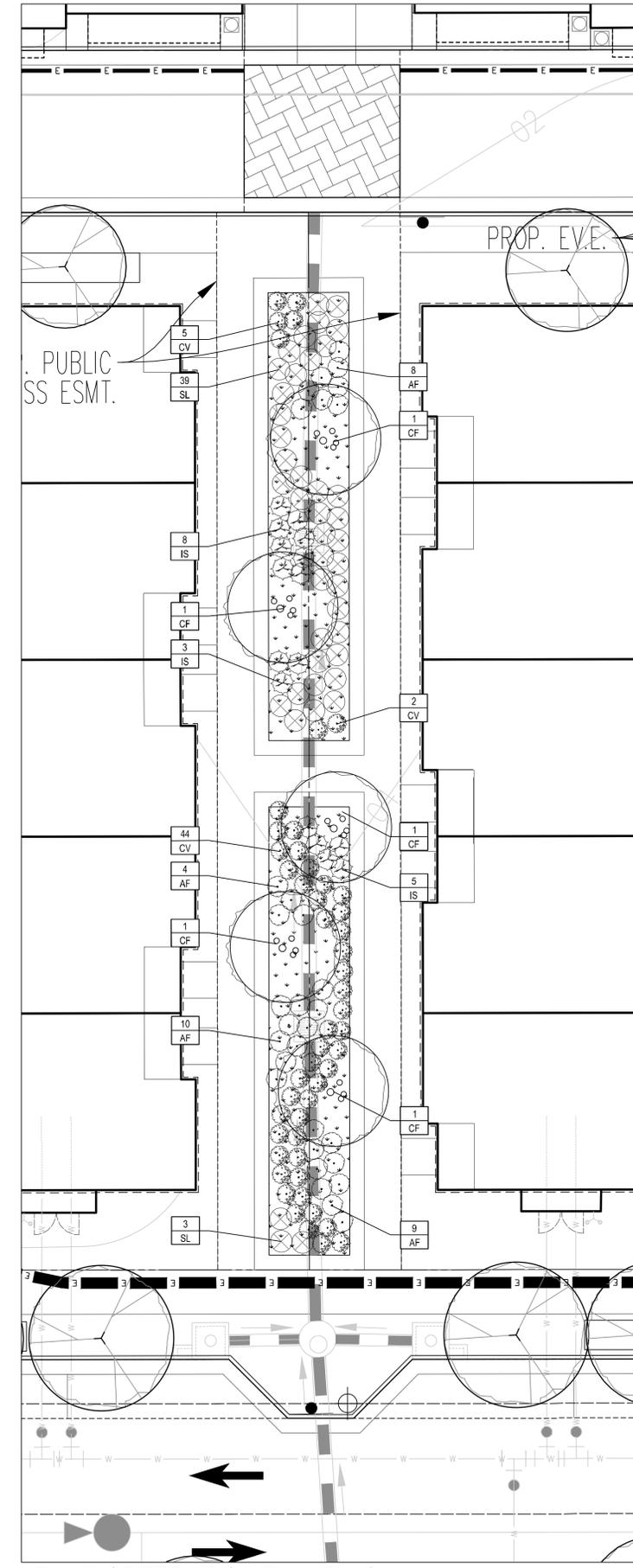
2 BIORETENTION PLANTING



3 BIORETENTION PLANTING



4 BIORETENTION PLANTING



5 BIORETENTION PLANTING

LEGEND	
SYMBOL	NAME
	TREE CONSERVATION AREA
	STREET TREE (WITHIN RIGHT OF WAY)
	CANOPY/ SHADE TREE
	ORNAMENTAL TREE
	EVERGREEN TREE
	SHRUBS/PERENNIALS

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. _____ PAGE NO. _____

PLANNING COMMISSION

06-02-2023

09-17-2023

12-21-2023

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COMMONWEALTH OF VIRGINIA

John Lightle

Lic. No. 1957

LANDSCAPE ARCHITECT

DETAILED LANDSCAPE PLAN

PRELIMINARY SITE PLAN

VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA

C.I. = N/A

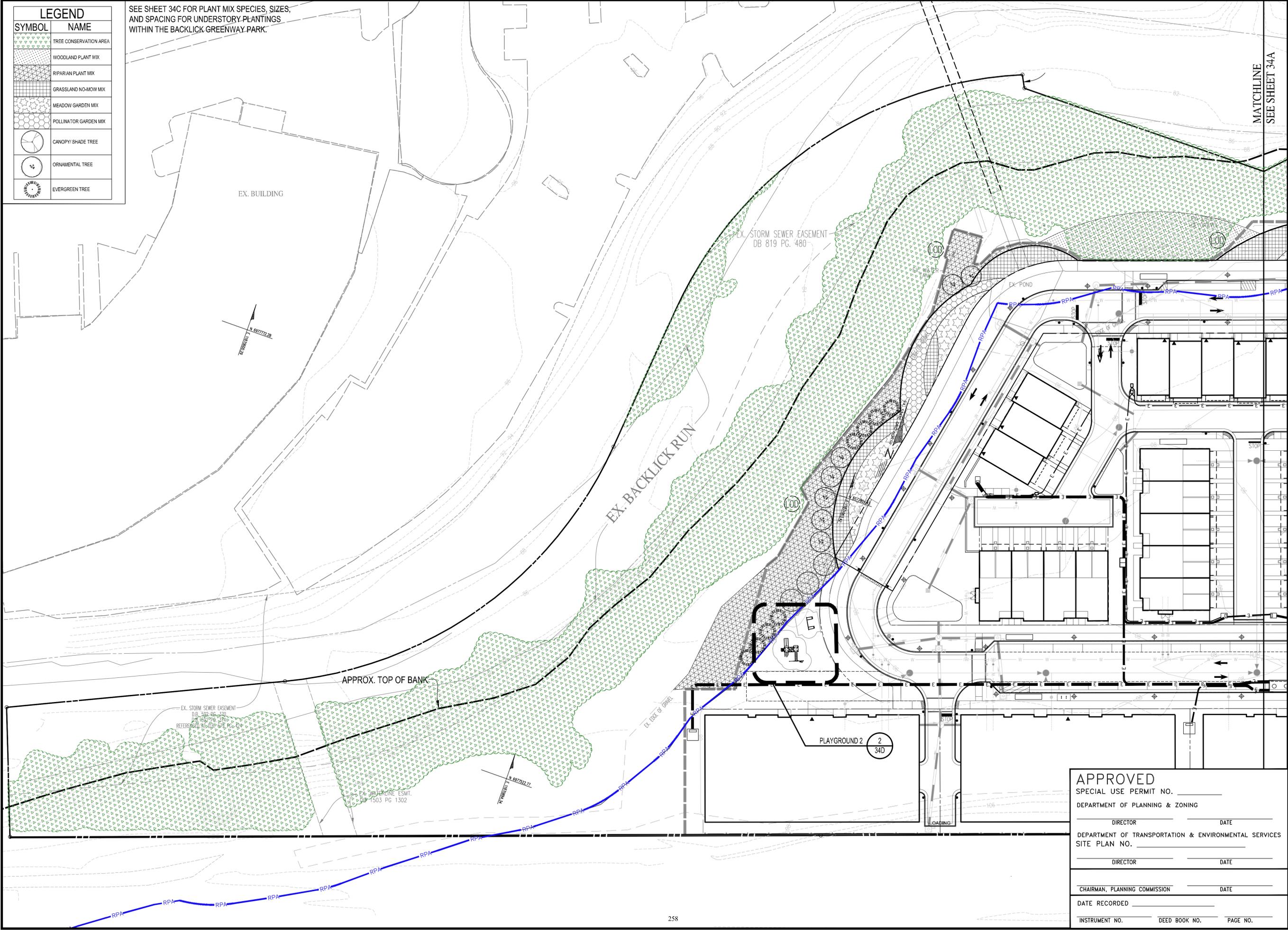
DATE: JUNE, 2023

SHEET 33B OF 38

FILE No. SP-13005

LEGEND	
SYMBOL	NAME
	TREE CONSERVATION AREA
	WOODLAND PLANT MIX
	RIPARIAN PLANT MIX
	GRASSLAND NO-MOW MIX
	MEADOW GARDEN MIX
	POLLINATOR GARDEN MIX
	CANOPY/SHADE TREE
	ORNAMENTAL TREE
	EVERGREEN TREE

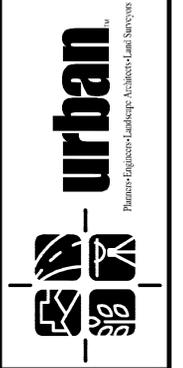
SEE SHEET 34C FOR PLANT MIX SPECIES, SIZES, AND SPACING FOR UNDERSTORY PLANTINGS WITHIN THE BACKLICK GREENWAY PARK.



MATCHLINE
SEE SHEET 34A

PLAN DATE	DESCRIPTION	REVISIONS
06-02-2023		
09-17-2023		
12-21-2023		

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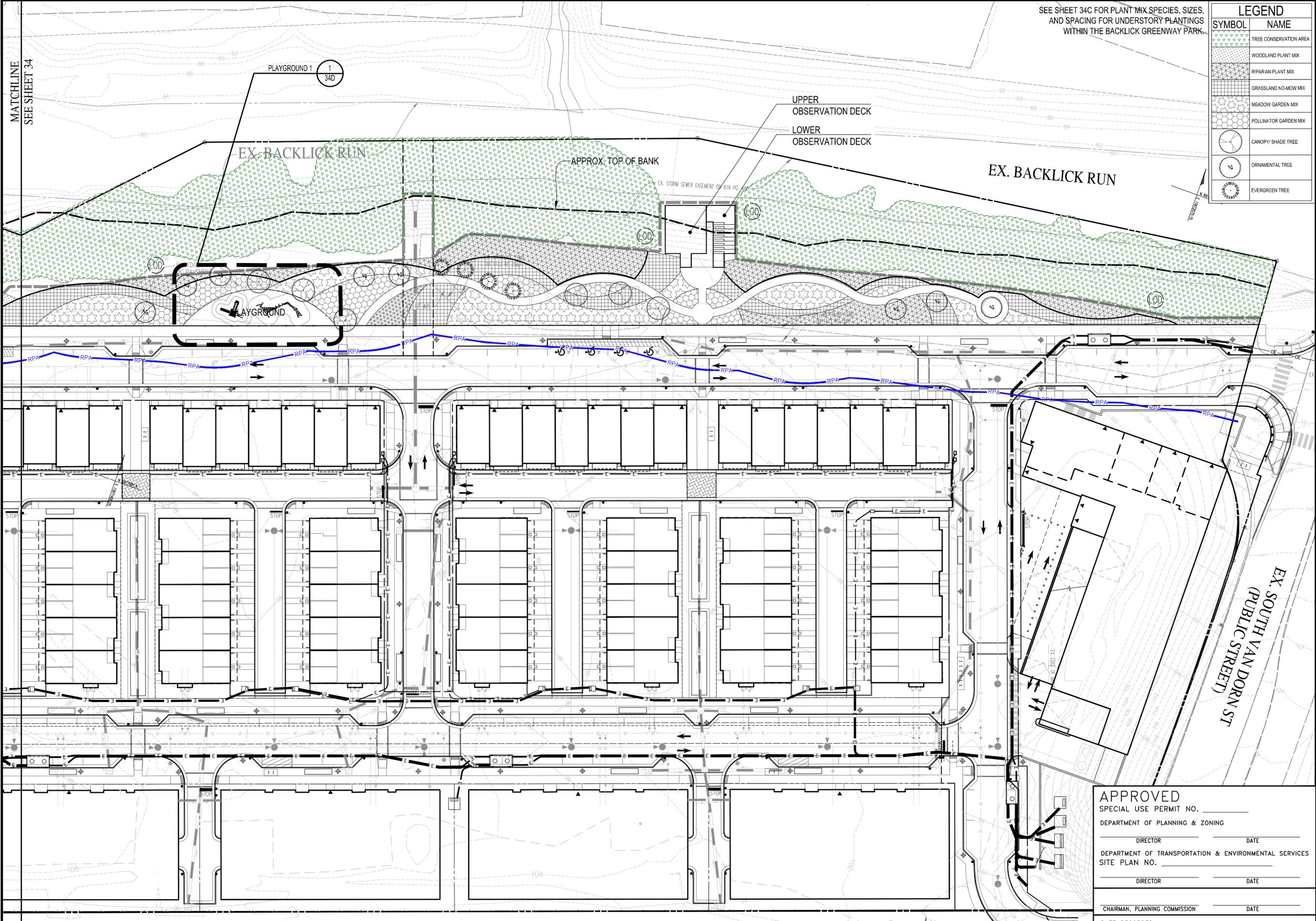


BACKLICK GREENWAY PARK LANDSCAPE PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1" = 30'
C.I. = N/A

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. _____ PAGE NO. _____

SHEET
34
OF
38
FILE No.
SP-13005

Urban, Ltd. - J:\0685\VULCAN MATERIALS\ Preliminary Site Plan\13005-20-LANDSCAPE PLAN.dwg [Backlick Run Park Plan 1] December 21, 2023 - 5:20pm avelia



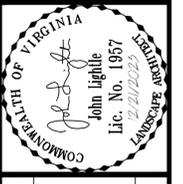
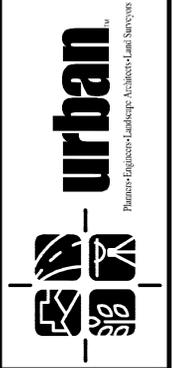
SEE SHEET 34C FOR PLANT MIX SPECIES, SIZES, AND SPACING FOR UNDERSTORY PLANTINGS WITHIN THE BACKLICK GREENWAY PARK.

LEGEND	
SYMBOL	NAME
	TREE CONSERVATION AREA
	WOODLAND PLANT MIX
	RIPARIAN PLANT MIX
	GRASSLAND NO-MOW MIX
	MEADOW GARDEN MIX
	POLLINATOR GARDEN MIX
	CANOPY/ SHADE TREE
	ORNAMENTAL TREE
	EVERGREEN TREE

NO.	DATE	DESCRIPTION	REVISIONS

PLAN DATE
06-02-2023
09-17-2023
12-21-2023

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BACKLICK GREENWAY PARK LANDSCAPE PLAN
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1" = 30'

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. _____ PAGE NO. _____

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PLANT SCHEDULE: URBAN TREES, SHRUBS, AND BIORETENTION													
PLANT TYPE	PLAN INFORMATION		BOTANIC/Common Name				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)		NATIVE PLANTS PROVIDED		
	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME			CALIPER/HEIGHT	CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)
URBAN TREES	CO	23	Carya	cordiformis		Bitternut Hickory	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader (Majority ROW tree)	1,250	28,750	23	0	23
	CJ	23	Carpinus	caroliniana		American Hornbeam	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader (ROW tree)	500	11,500	23	0	23
	GT	23	Gleditsia	triacanthos	var. inermis	Thornless Honey Locust	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader (ROW tree)	750	17,250	23	0	23
	NS	23	Nyssa	sylvatica		Blackgum	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader (ROW tree)	750	17,250	23	0	23
	PS	19	Prunus	serotina		Wild Black Cherry	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	750	14,250	19	0	19
	QP	25	Quercus	palustris		Pin Oak	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader (ROW tree)	1,250	31,250	25	0	25
	TOTAL	136							URBAN TREE CCA:	120,250	136	0	136
										100.0%	0.0%	100.0%	
STANDARD TREES	AA	15	Amelanchier	arborea		Downy Serviceberry	1.5"-1.75" cal./6-10 ft. ht.	B&B, multistem, branching	500	7,500	15	0	15
	BN	16	Betula	nigra		River Birch	1.5"-1.75" cal./6-10 ft. ht.	B&B, multistem, branching	750	12,000	16	0	16
	CC	11	Cercis	canadensis		Eastern Redbud	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	2,750	11	0	11
	CF	11	Cornus	florida		Flowering Dogwood	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	2,750	11	0	11
	IO	29	Ilex	opaca		American Holly	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	7,250	29	0	29
	JV	24	Juniperus	virginiana		Eastern Red Cedar	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	6,000	24	0	24
	LS	24	Liquidambar	styraciflua	'Slender Silhouette'	Slender Silhouette Sweetgum	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	1,250	30,000	24	0	24
	PG	24	Picea	glauca		White Spruce	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	6,000	0	24	24
	MV	24	Magnolia	virginiana		Sweetbay Magnolia	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	6,000	24	0	24
	TO	24	Thuja	occidentalis		Arborvitae	1.5"-1.75" cal./6-10 ft. ht.	B&B; symmetrical, single leader	250	6,000	24	0	24
	TOTAL	202							STANDARD TREE CCA:	86,250	178	24	202
											88.1%	11.9%	100.0%
	EVERGREEN SHRUBS	EA	44	Euonymus	americanus		American strawberrybush	18"-24" ht.		440	440	44	0
JC		44	Juniperis	communis		Common Juniper	18"-24" ht.		440	440	44	0	44
TB		48	Taxus	baccata		English Yew	18"-24" ht.		480	480	0	0	0
IS		53	Ilex	glabra		Inkberry	18"-24" ht.		1,325	53	0	53	
TOTALS		189							EVERGREEN SHRUB CCA:	2,685	141	0	141
										74.6%	0.0%	74.6%	
DECIDUOUS SHRUBS	CE	49	Ceanothus	americanus		New Jersey Tea	18"-24" ht.		490	490	49	0	49
	AF	62	Amorpha	fruticosa		Faise Indigo	18"-24" ht.		1,550	62	0	62	
	RA	45	Rhododendron	atlanticum		Dwarf Azalea	18"-24" ht.		450	45	0	45	
	RC	55	Rhus	copallinum		Winged Sumac	18"-24" ht.		1,375	55	0	55	
	TOTALS	211							DECIDUOUS SHRUB CCA:	3,865	211	0	211
										100.0%	0.0%	100.0%	
PERENNIALS, FERNS, ORNAMENTAL GRASSES	AI	118	Asclepias	incarnata		Swamp Milkweed	1 qt.	24" o.c.			118	0	118
	CV	102	Coreopsis	verticillata		Threadleaf Coreopsis	1 qt.	24" o.c.	N/A		102	0	102
	PD	51	Penstemon	digitalis		Beardtongue	1 qt.	24" o.c.			51	0	51
	RF	114	Rudbeckia	fulgida		Black-Eyed Susan	1 qt.	24" o.c.			114	0	114
	SL	84	Salvia	lyrata		Lyre-leaf Sage	1 qt.	24" o.c.			84	0	84
	TOTAL	469									469	0	469
										100.0%	0.0%	100.0%	
LAWN	SOD	61239 s.y.				Grass Sod: Tall Fescue/Kentucky Blue Grass Blend					0.0%	0.0%	0.0%
										0.0%	0.0%	0.0%	

URBAN TREE TABULATIONS					
PLAN KEY	QUANTITY	PLAN LOCATION	PROJECTED 20 YR. CANOPY* (PER TREE)	IMPERVIOUS AREA UNDER CANOPY (PER TREE)	IMPERVIOUS AREA GREATER THAN 50% OF PROJECTED 20 YR. CANOPY? (Y/N)
CO	21	STREET TREE	1,250	669 SF	Y
CO	2	STREET TREE	1,250	0 SF	N
CJ	23	STREET TREE	500	302 SF	Y
GT	23	STREET TREE	750	420 SF	Y
NS	23	STREET TREE	750	410 SF	Y
PS	19	STREET TREE	750	700 SF	Y
QP	25	STREET TREE	1,250	735 SF	Y
AA	15	PARK	500	0	N
BN	16	BIORETENTION/PARK	750	0	N
CC	11	FRONT LAWN	250	0	N
CF	11	BIORETENTION	250	0	N
PG	24	SCREENING	250	0	N
IO	29	FRONT LAWN	250	0	N
JV	24	SCREENING/PARK	250	0	N
LS	24	SCREENING	1,250	0	N
MV	24	SCREENING	250	0	N
TO	24	SCREENING	250	0	N
TOTAL URBAN TREES			134		

Street Tree Tabulations: South Van Dorn Street			
Street Trees Required:	Lot Frontage= 348 LF		
City Required	12		
Street Trees Provided:			
Proposed Street Trees	12		
Total	12		

TOTAL CROWN COVER TABULATIONS	
TOTAL SITE AREA (SF)	774,455
25% CROWN COVER REQUIRED (SF)	193,614
EXISTING CROWN COVER (SF)	206,546
REMOVED CROWN COVER (SF)	-71,231
PRESERVED CROWN COVER (SF)	135,315
Crown Cover from Preserved Trees	135,315
Crown Cover from Preserved Shrubs	0
PROPOSED CROWN COVER (SF)	206,500
Crown Cover from Proposed Trees	206,500
Crown Cover from Proposed Shrubs	16,000
DEDUCTION: Crown Cover within Public ROW	-58,500
TOTAL PROPOSED CROWN COVER (SF)	164,000
TOTAL CROWN COVER PROVIDED (SF)	299,315
TOTAL CROWN COVER PROVIDED (%)	38.6%

BIODIVERSITY TABULATIONS						
TREES (URBAN AND STANDARD)						
TOTAL NUMBER OF TREES PROPOSED: 338						
GENUS	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED	SPECIES	QTY.	PERCENT OF TOTAL PROPOSED
Carya	23	6.8%	33%	cordiformis	23	6.8%
Carpinus	23	6.8%	33%	caroliniana	23	6.8%
Gleditsia	23	6.8%	33%	triacanthos	23	6.8%
Nyssa	23	6.8%	33%	sylvatica	23	6.8%
Ostrya	19	5.6%	33%	virginiana	19	5.6%
Prunus	25	7.4%	33%	serotina	25	7.4%
Quercus	20	5.9%	33%	palustris	20	5.9%
Amelanchier	15	4.4%	33%	arborea	15	4.4%
Betula	16	4.7%	33%	nigra	16	4.7%
Cercis	11	3.3%	33%	canadensis	11	3.3%
Cornus	11	3.3%	33%	florida	11	3.3%
Ilex	53	15.7%	33%	opaca	29	8.6%
Juniperus	24	7.1%	33%	virginiana	24	7.1%
Liquidambar	24	7.1%	33%	styraciflua	24	7.1%
Picea	24	7.1%	33%	glauca	24	7.1%
Magnolia	24	7.1%	33%	virginiana	24	7.1%
Thuja	24	7.1%	33%	occidentalis	24	7.1%
SHRUBS						
TOTAL NUMBER OF SHRUBS PROPOSED: 750						
GENUS	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED	SPECIES	QTY.	PERCENT OF TOTAL PROPOSED
Euonymus	44	5.9%	33%	americanus	44	5.9%
Juniperis	44	5.9%	33%	communis	44	5.9%
Taxus	48	6.4%	33%	baccata	48	6.4%
Ilex	53	7.1%	33%	glabra	53	7.1%
				verticillata	70	9.3%
				vomitaria	70	9.3%
Ceanothus	49	6.5%	33%	americanus	49	6.5%
Amorpha	62	8.3%	33%	fruticosa	62	8.3%
Rhododendron	45	6.0%	33%	atlanticum	45	6.0%
Rhus	125	16.7%	33%	copallinum	55	7.3%
				glabra	70	9.3%
Hydrangea	70	9.3%	33%	arborescens	70	9.3%
Cornus	70	9.3%	33%	amomum	70	9.3%

Note: All proposed shrubs that are within urban bioretention planters and per Landscape Design Guidelines Chapter 3 Specification of Plant Species section 1.b are not required to meet diversity standards.

NATIVE PLANT TABULATIONS					
PLANT TYPE	QUANTITY	NATIVE TYPE	JANUARY 2, 2020 - JANUARY 1, 2024		
			REQUIRED	PROVIDED	%
Urban Trees	134	Regional/Local	15%	134	100%
		Total Natives	25%	134	100%
Standard Trees	204	Regional/Local	25%	180	88%
		Total Natives	60%	204	100%
Evergreen Shrubs	259	Regional/Local	8%	211	81%
		Total Natives	30%	211	81%
Deciduous Shrubs	491	Regional/Local	15%	491	100%
		Total Natives	60%	491	100%
Groundcovers		Regional/Local	10%	0	100%
		Total Natives	20%	0	100%
Perennials, Ferns, Ornamental Grasses	11419	Regional/Local	15%	11419	100%
		Total Natives	40%	11419	100%
Vines		Regional/Local	100%	0	100%
		Total Natives	100%	0	100%
TOTALS					
TOTAL PLANTS SPECIFIED			TOTAL SUM OF REGIONAL/LOCAL NATIVE	TOTAL SUM OF NATIVE PLANTS	
12507			12435	12435	
			99.4%	99.6%	

NOTES:
1) Percentages apply to the total quantity of each plant type specified on Completeness/Preliminary Plans and Final #1 Grading Plans submitted during the listed time frames.
2) Total Natives is the sum of Eastern U.S. Native, Regionally Native, and Locally Native vegetation specified on the plans for each plant type.
3) Non-native vegetation for the purposes of providing edible fruits, seeds, or nuts may be planted and shall not be calculated in the above-stated requirements for native species regardless of plant type.

*NOTE: THE CROWN COVER COMPUTATIONS BELOW ARE SEPARATED BY APPLICATION AREA AS SHOWN ON SHEETS 04D AND 04E.

DSUP #1 CROWN COVER TABULATIONS		DSP #1 CROWN COVER TABULATIONS	
AREA TO BE COUNTED (SF)	112,589 (2.58 AC.)	AREA TO BE COUNTED (SF)	164,601 (3.78 AC.)
25% CROWN COVER REQUIRED (SF)	28,147	25% CROWN COVER REQUIRED (SF)	41,150
PROPOSED CROWN COVER (SF)		PROPOSED CROWN COVER (SF)	
Crown Cover from Proposed Trees	54,000	Crown Cover from Proposed Trees	103,500
Crown Cover from Proposed Shrubs	0	Crown Cover from Proposed Shrubs	0
DEDUCTION: Crown Cover within Public ROW	0	DEDUCTION: Crown Cover within Public ROW	-58,500
TOTAL PROPOSED CROWN COVER (SF)	54,000	TOTAL PROPOSED CROWN COVER (SF)	45,000
TOTAL CROWN COVER PROVIDED (SF)	54,000	TOTAL CROWN COVER PROVIDED (SF)	45,000
TOTAL CROWN COVER PROVIDED (%)	48.0%	TOTAL CROWN COVER PROVIDED (%)	27.3%
DSUP #2 CROWN COVER TABULATIONS		DSP #2 CROWN COVER TABULATIONS	
AREA TO BE COUNTED (SF)	46,924 (1.08 AC.)	AREA TO BE COUNTED (SF)	264,840 (6.08 AC.)
25% CROWN COVER REQUIRED (SF)	11,731	25% CROWN COVER REQUIRED (SF)	66,210
PROPOSED CROWN COVER (SF)		EXISTING CROWN COVER (SF)	206,546
Crown Cover from Proposed Trees	5,750	REMOVED CROWN COVER (SF)	-71,231
Crown Cover from Proposed Shrubs	2,140	PRESERVED CROWN COVER (SF)	
DEDUCTION: Crown Cover within Public ROW	0	Crown Cover from Preserved Trees	135,315
TOTAL PROPOSED CROWN COVER (SF)	7,890	Crown Cover from Preserved Shrubs	0
TOTAL CROWN COVER PROVIDED (SF)	7,890	PROPOSED CROWN COVER (SF)	
TOTAL CROWN COVER PROVIDED (%)	16.8%	Crown Cover from Proposed Trees	17,250
		Crown Cover from Proposed Shrubs	9,450
		DEDUCTION: Crown Cover within Public ROW	0
		TOTAL PROPOSED CROWN COVER (SF)	26,700
		TOTAL CROWN COVER PROVIDED (SF)	162,015
		TOTAL CROWN COVER PROVIDED (%)	61.2%
DSUP #3 CROWN COVER TABULATIONS		DSP #3 CROWN COVER TABULATIONS	
AREA TO BE COUNTED (SF)	185,308 (4.25 AC.)	AREA TO BE COUNTED (SF)	46,377
2			

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WOODLAND PLANT MIX

PLANT SCHEDULE: BACKLICK RUN PARK WOODLAND PLANT MIX													
PLANT TYPE	PLAN INFORMATION		BOTANIC/Common Name				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)		NATIVE PLANTS PROVIDED		
	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME			HEIGHT	CCA PER SHRUB (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)
DECIDUOUS SHRUBS	HA	70	Hydrangea	arborescens		Wild Hydrangea	18"-24" ht.		10	700	70	0	70
	RG	70	Rhus	glabra		Smooth Sumac	18"-24" ht.		25	1,750	70	0	70
	TOTALS	140							DECIDUOUS SHRUB CCA:	2,450	140	0	140
											100.0%	0.0%	100.0%
									TOTAL PROPOSED CCA (SF):	2,450			
PERENNIALS, FERNS, ORNAMENTAL GRASSES	AV	170	Anemone	virginiana		Tall Anemone	1 qt.	18" o.c.	N/A		170	0	170
	OS	185	Onoclea	sensibilis		Sensitive Fern	1 qt.	18" o.c.			185	0	185
	PP	170	Phlox	paniculata		Garden Phlox	1 qt.	18" o.c.			170	0	170
	PA	185	Polystichum	acrostichoides		Christmas Fern	1 qt.	18" o.c.			185	0	185
	PT	220	Pycnanthemum	tenuifolium		Narrow-leaf Mountain-mint	1 qt.	18" o.c.			220	0	220
	TOTALS	930									930	0	930
											100.0%	0.0%	100.0%

RIPARIAN PLANT MIX

PLANT SCHEDULE: BACKLICK RUN PARK RIPARIAN PLANT MIX													
PLANT TYPE	PLAN INFORMATION		BOTANIC/Common Name				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)		NATIVE PLANTS PROVIDED		
	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME			HEIGHT	CCA PER SHRUB (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)
EVERGREEN SHRUBS	IV	70	Ilex	vomitaria		Yaupon Holly	18"-24" ht.		25	1,750	70	0	70
	TOTALS	70							EVERGREEN SHRUB CCA:	1,750	70	0	70
											100.0%	0.0%	100.0%
DECIDUOUS SHRUBS	CA	70	Cornus	amomum		Silky Dogwood	18"-24" ht.		50	3,500	70	0	70
	IV	70	Ilex	verticillata		Winterberry	18"-24" ht.		25	1,750	70	0	70
	TOTALS	140							DECIDUOUS SHRUB CCA:	5,250	140	0	140
											100.0%	0.0%	100.0%
									TOTAL PROPOSED CCA (SF):	7,000			
PERENNIALS, FERNS, ORNAMENTAL GRASSES	AI	400	Asclepias	incarnata		Swamp Milkweed	1 qt.	24" o.c.	N/A		400	0	400
	EP	375	Eupatorium	perfoliatum		Common Boneset	1 qt.	24" o.c.			375	0	375
	HA	400	Helenium	autumnale		Common Sneezeweed	1 qt.	24" o.c.			400	0	400
	MF	450	Monarda	fistulosa		Wild Bergamot	1 qt.	24" o.c.			450	0	450
	PV	400	Panicum	virgatum		Switchgrass	1 qt.	24" o.c.			400	0	400
	RH	400	Rudbeckia	hirta		Black-Eyed Susan	1 qt.	24" o.c.			400	0	400
	SR	350	Solidago	rugosa		Wrinkleleaf Goldenrod	1 qt.	24" o.c.			350	0	350
	VH	425	Verbena	hastata		Blue Vervain	1 qt.	24" o.c.			425	0	425
	ZA	400	Zizia	aurea		Golden Alexanders	1 qt.	24" o.c.			400	0	400
	TOTALS	3600									3600	0	3600
											100.0%	0.0%	100.0%

GRASSLAND NO-MOW MIX

PLANT SCHEDULE: BACKLICK RUN PARK GRASSLAND NO-MOW MIX													
PLANT TYPE	PLAN INFORMATION		BOTANIC/Common Name				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)	NATIVE PLANTS PROVIDED			
	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME				SIZE/CONT.	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
PERENNIALS, FERNS, ORNAMENTAL GRASSES	EV	880	Elymus	virginicus		Virginia Wildrye	1 qt.	18" o.c.	N/A		880	0	880
	ES	800	Eragrostis	spectabilis		Purple Lovegrass	1 qt.	18" o.c.			800	0	800
	SL	840	Salvia	lyrata		Lyre-Leaf Sage	1 qt.	18" o.c.			840	0	840
	TOTALS	2520									2520	0	2520
										100.0%	0.0%	100.0%	

MEADOW GARDEN MIX

PLANT SCHEDULE: BACKLICK RUN PARK MEADOW GARDEN MIX													
PLANT TYPE	PLAN INFORMATION		BOTANIC/Common Name				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)	NATIVE PLANTS PROVIDED			
	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME				SIZE/CONT.	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
PERENNIALS, FERNS, ORNAMENTAL GRASSES	CR	420	Coreopsis	verticillata		Threadleaf Coreopsis	1 qt.	18" o.c.	N/A		420	0	420
	GM	440	Geranium	maculatum		Wild Geranium	1 qt.	18" o.c.			440	0	440
	LP	460	Liatris	pilosa		Grass-Leaved Blazing Star	1 qt.	18" o.c.			460	0	460
	PH	500	Penstemon	digitalis		Beardtongue	1 qt.	18" o.c.			500	0	500
	SY	480	Symphoricarichum	puniceum		Purple-Stem Aster	1 qt.	18" o.c.			480	0	480
	TOTALS	2300									2300	0	2300
								100.0%	0.0%	100.0%			

POLLINATOR GARDEN MIX

PLANT SCHEDULE: BACKLICK RUN PARK POLLINATOR GARDEN MIX													
PLANT TYPE	PLAN INFORMATION		BOTANIC/Common Name				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)	NATIVE PLANTS PROVIDED			
	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME				SIZE/CONT.	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
PERENNIALS, FERNS, ORNAMENTAL GRASSES	AT	480	Asclepias	tuberosa		Butterfly Milkweed	1 qt.	18" o.c.	N/A		480	0	480
	BT	500	Baptisia	tinctoria		Yellow False Indigo	1 qt.	18" o.c.			500	0	500
	RU	220	Rudbeckia	hirta		Black-Eyed Susan	1 qt.	18" o.c.			220	0	220
	SN	400	Solidago	nemorialis		Gray Goldenrod	1 qt.	18" o.c.			400	0	400
	TOTALS	1600									1600	0	1600
								100.0%	0.0%	100.0%			

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. _____ PAGE NO. _____

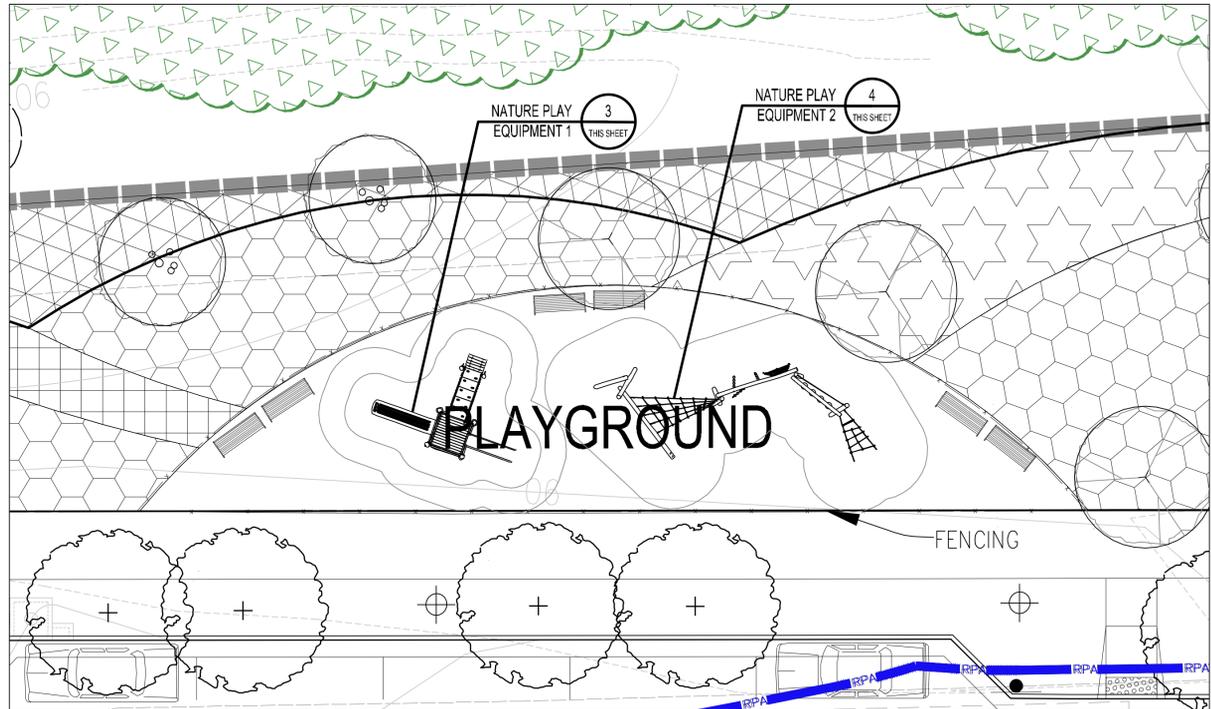
LANDSCAPE COMPUTATIONS
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1"=10'
SHEET 34C OF 38
FILE No. SP-13005

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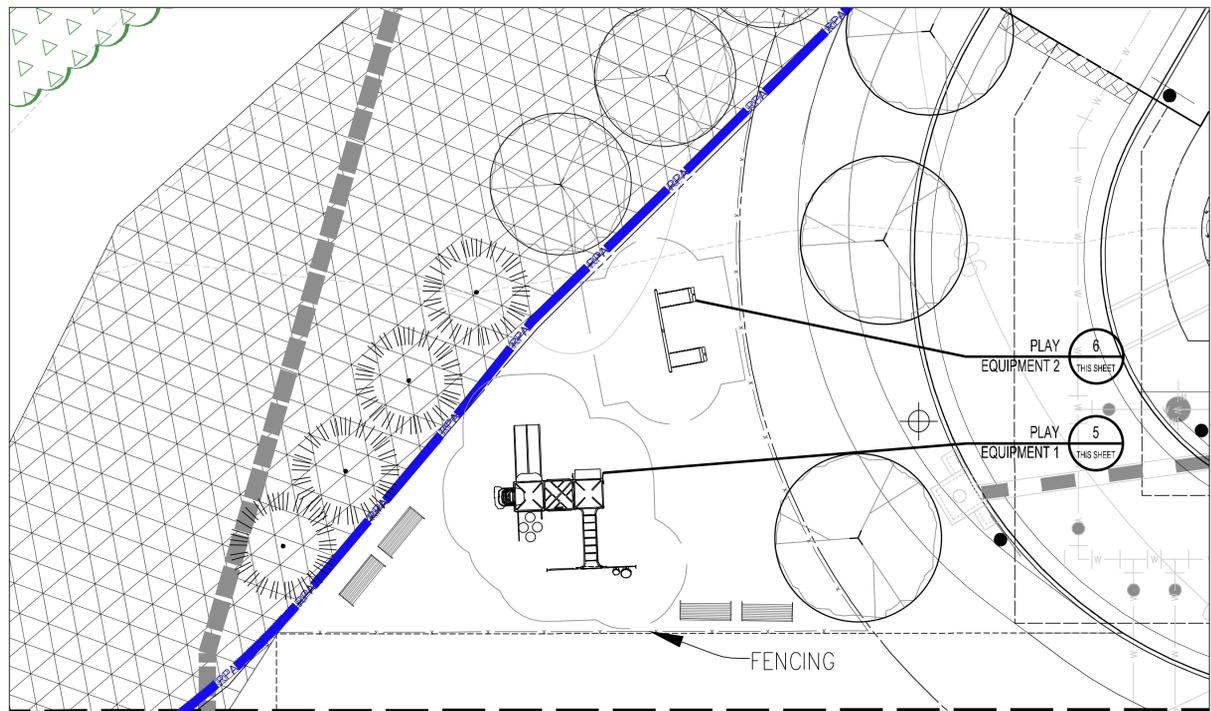
COMMONWEALTH OF VIRGINIA
John Lightle
Lic. No. 1397
LANDSCAPE ARCHITECT

PLANT DATE: 06-02-2023
06-09-2023
09-07-2023
12-21-2023

No. DATE DESCRIPTION REVISIONS



1 PLAYGROUND 1 (APPROX. 2,070 SF)
SCALE: 1" = 10'



2 PLAYGROUND 2 (APPROX. 1,930 SF)
SCALE: 1" = 10'

PLAYGROUNDS NARRATIVE:

PLAYGROUND 1 WILL BE LOCATED ENTIRELY WITHIN THE AREA TO BE DEDICATED TO FOR PUBLIC PARKS. PLAYGROUND 2 WILL BE LOCATED ON A PRIVATE LOT UNDER A PUBLIC ACCESS EASEMENT. BOTH PLAYGROUNDS SHALL PROVIDE FENCING AROUND THE PERIMETER WITH ACCESSIBLE GATES DUE TO THE PROXIMITY OF THE ROADWAY. PLAYGROUND EQUIPMENT SHOWN HEREON IS SUBJECT TO CHANGE AT TIME OF FINAL SITE PLAN.

Play Tower with Slide & Banister Bars

Item no. NRO1018-1021
General Product Information
Dimensions LxWxH 177"x129"x91"
Age group 5 - 12
Play capacity (users) 9
Color options

The Play Tower with Slide & Banister Bars is a varied play motivator for children. The targeted selection of popular play activities stimulates children to play for a long time, again and again. The accessible stairway leads to the choice of a slide or a glide event. Both are thrilling, but daredevils may prefer the more challenging banister bars. They both train the senses of balance and space, important for judging distance and navigating through spaces confidently and securely. The fast access via the accessible stairway provides a loop, running up and sliding or gliding down, repeating the action providing great cardio training. This encourages turn-taking skills in children and builds social-emotional awareness. The play desk adds a ground level destination for socializing.

1 / 07/10/2023

3 NATURE PLAY EQUIPMENT 1
NTS

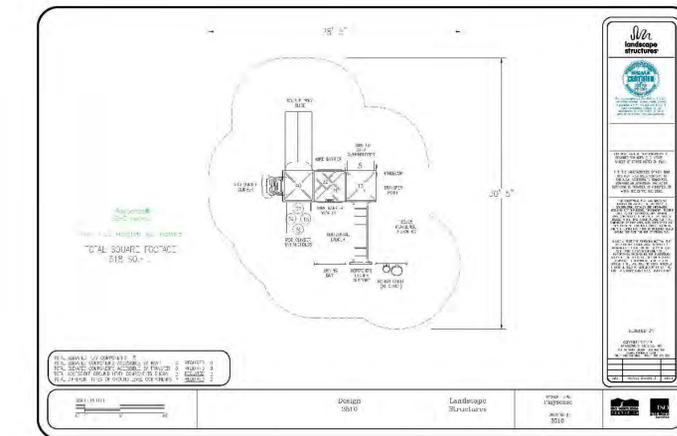
Parkour 4

Item no. NRO854-1001
General Product Information
Dimensions LxWxH 153"x329"x81"
Age group 5 - 12
Play capacity (users) 12
Color options

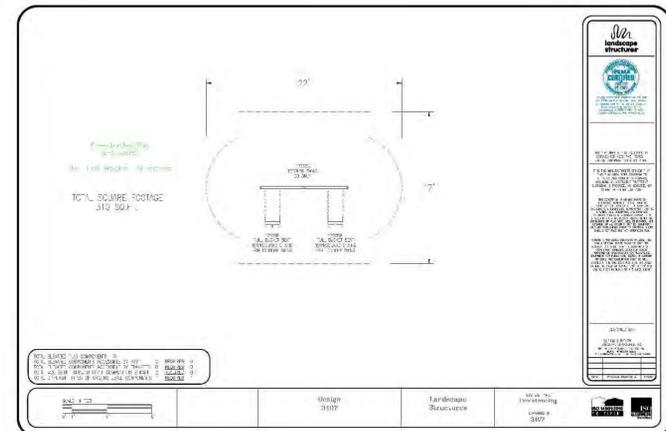
The Parkour 4 is a hugely appealing play piece. Exactly what 5-12 year olds want: a trim trail that's fun. The variation in climbing, crawling and balancing activities will make children come back again and again. The many inclined, twisted and vertical nets and the different mesh directions make great play challenges. Climbing or crawling up, down and through the big meshes greatly stimulates coordination and proprioception. Both are skills necessary to navigate the world confidently and to achieve physical confidence. The lovely rubber seating points and the inclined beams are great for meeting and exchanging. Their bouncy or inclined character make them a constant balance and muscle trainer, even when seated. When climbing through the Parkour 4 children train their cooperation and turn-taking skills. These skills are difficult to teach, but they are easily learned in play.

1 / 07/04/2023

4 NATURE PLAY EQUIPMENT 2
NTS



5 PLAY EQUIPMENT 1
NTS



6 PLAY EQUIPMENT 2
NTS

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. _____ PAGE NO. _____

LANDSCAPE NOTES AND DETAILS

PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE, 2023

SCALE: 1" = 10'

C.I. = N/A

urban
Planners+Engineers+Landscape Architects+Land Services

Urban, Ltd.
4000 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
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FAX: 703.642.7888
www.urban-llc.com

PLANNING & ZONING DEPARTMENT
06-02-2023
09-17-2023
12-21-2023

NO.	DATE	DESCRIPTION

SHEET 34D OF 38
FILE No. SP-13005

PARK DETAILS



1 PARK BENCH
 NTS
 APPROVED BY THE CITY OF ALEXANDRIA'S DEPARTMENT OF RECREATION, PARKS, AND CULTURAL ACTIVITIES.



2 RECYCLING RECEPTACLE
 NTS
 APPROVED BY THE CITY OF ALEXANDRIA'S DEPARTMENT OF RECREATION, PARKS, AND CULTURAL ACTIVITIES.



3 NATURE PLAY EQUIPMENT
 NTS
 APPROVED BY THE CITY OF ALEXANDRIA'S DEPARTMENT OF RECREATION, PARKS, AND CULTURAL ACTIVITIES.



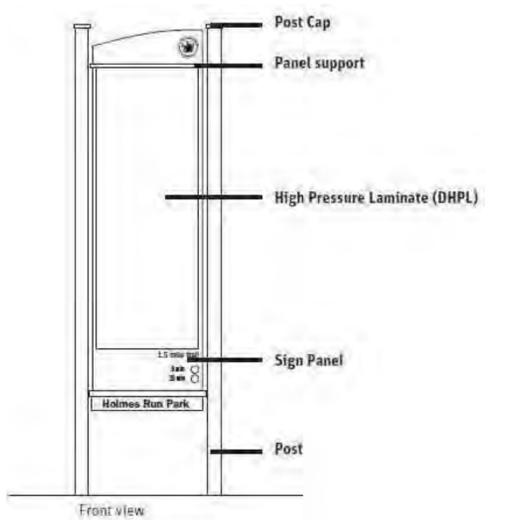
4 TRASH RECEPTACLE
 NTS
 APPROVED BY THE CITY OF ALEXANDRIA'S DEPARTMENT OF RECREATION, PARKS, AND CULTURAL ACTIVITIES.



5 NATURE TRAIL SIGN
 NTS
 APPROVED BY THE CITY OF ALEXANDRIA'S DEPARTMENT OF RECREATION, PARKS, AND CULTURAL ACTIVITIES.



6 OBSERVATION DECK
 NTS



7 TYPE E SIGN
 NTS
 APPROVED BY THE CITY OF ALEXANDRIA'S DEPARTMENT OF RECREATION, PARKS, AND CULTURAL ACTIVITIES.



8 EDGING
 NTS
 APPROVED BY THE CITY OF ALEXANDRIA'S DEPARTMENT OF RECREATION, PARKS, AND CULTURAL ACTIVITIES.

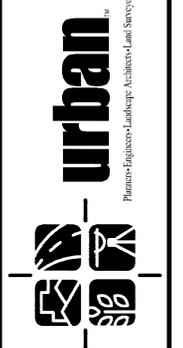


9 ADA TRAIL
 NTS
 NOTE: SURFACE MATERIAL SHALL BE ADA COMPLIANT ENGINEERED WOOD FIBER (e.g. FIBAR) AND CONTAINED BY EDGING.

Urban, Ltd. - J:\0851\VULCAN MATERIALS\ Preliminary Site Plan\13005-20-LANDSCAPE PLAN.dwg [work details] December 21, 2023 - 5:21pm caecilia

PLAN DATE	DESCRIPTION	REVISIONS
06-02-2023		
09-11-2023		
11-17-2023		
12-21-2023		

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LANDSCAPE NOTES AND DETAILS
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: 1"=10'

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. _____ PAGE NO. _____

SHEET
 35
 OF
 38
 FILE No.
 SP-13005

SITE DETAILS



1 DOG WASH STATION
NTS



2 OUTDOOR GAME TABLE
NTS



3 BIKE REPAIR STATION
NTS



4 PLAYGROUND EQUIPMENT
NTS



5 OUTDOOR SEATING W/ CHARGING STATION
NTS



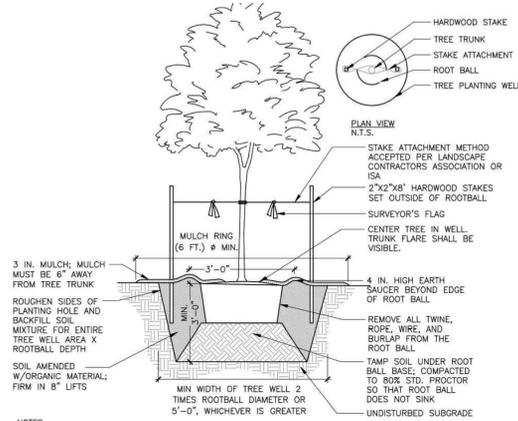
6 SITE BENCH (TYP.)
NTS



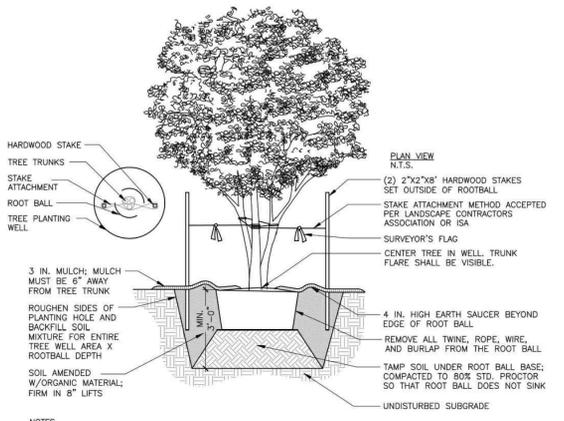
7 PROPOSED DECORATIVE FENCE
NTS



8 BICYCLE RACK (TYP.)
NTS



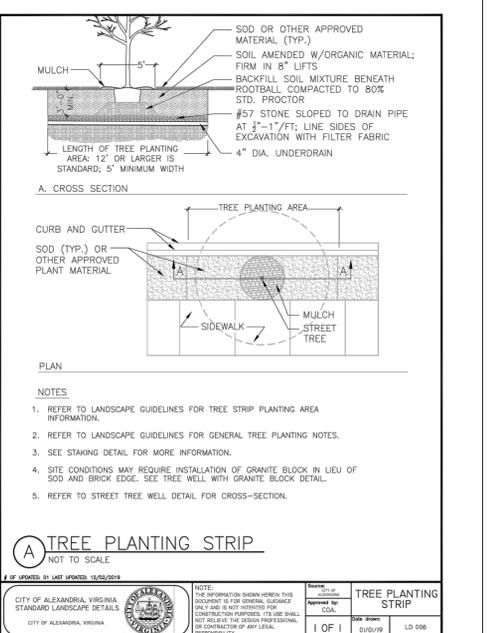
- NOTES
1. AT PLANTING PRUNE ONLY CROSSING LIMBS, BROKEN OR DEAD BRANCHES, AND ANY BRANCHES THAT POSE A HAZARD TO PEDESTRIANS PER ANSI STANDARDS A300. DO NOT PRUNE INTO OLD WOOD ON EVERGREENS.
 2. CONTRACTOR SHALL MAXIMIZE EXCAVATED AREA FOR TREE WELL WITHOUT ADVERSELY IMPACTING ADJACENT SITE FEATURES
 3. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
 4. TREES PLANTED WITHOUT THE TRUNK FLARE VISIBLE WILL BE REJECTED.
 5. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION. ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.
 6. STAKES WILL BE INSTALLED USING ARBORICULTURE PRACTICES, TREES SHALL STAND PLUM AFTER STAKING.
 7. INSTALLATION WILL INCLUDE THE REMOVAL OF ALL STAKING MATERIAL ONE YEAR AFTER INSTALLATION, ANY HOLES LEFT BY REMOVING STAKING SHALL BE FILLED WITH APPROVED TOPSOIL / BACKFILL MIXTURE.
 8. CONTRACTOR SHALL USE GALVANIZED EYESCREW & TURNBUCKLE INSTEAD OF ARBOR TIE ONLY FOR TREES OF SIGNIFICANT SIZE AS DIRECTED BY CITY STAFF.



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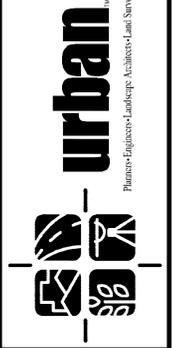


- NOTES
1. REFER TO LANDSCAPE GUIDELINES FOR TREE STRIP PLANTING AREA INFORMATION.
 2. REFER TO LANDSCAPE GUIDELINES FOR GENERAL TREE PLANTING NOTES.
 3. SEE STAKING DETAIL FOR MORE INFORMATION.
 4. SITE CONDITIONS MAY REQUIRE INSTALLATION OF GRANITE BLOCK IN LIEU OF SOD AND BRICK EDGE. SEE TREE WELL WITH GRANITE BLOCK DETAIL.
 5. REFER TO STREET TREE WELL DETAIL FOR CROSS-SECTION.

NO.	DATE	DESCRIPTION

PLAN DATE	06-02-2023
	06-02-2023
	06-02-2023
	06-02-2023

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LANDSCAPE NOTES AND DETAILS
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1" = 10'

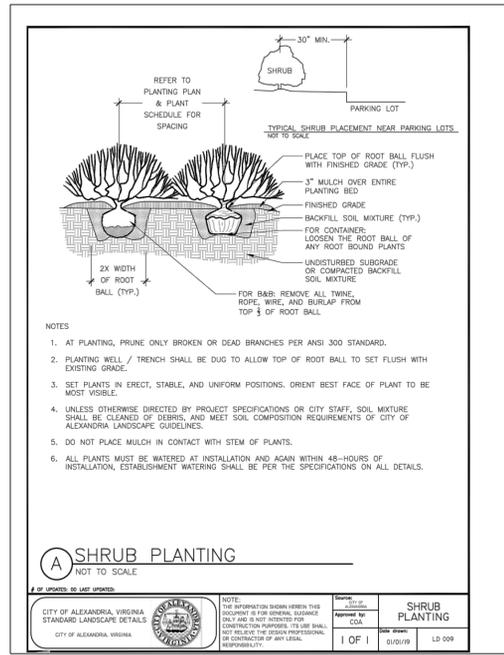
APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
DIRECTOR _____ DATE _____
CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____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

SHEET 35A OF 38
FILE No. SP-13005

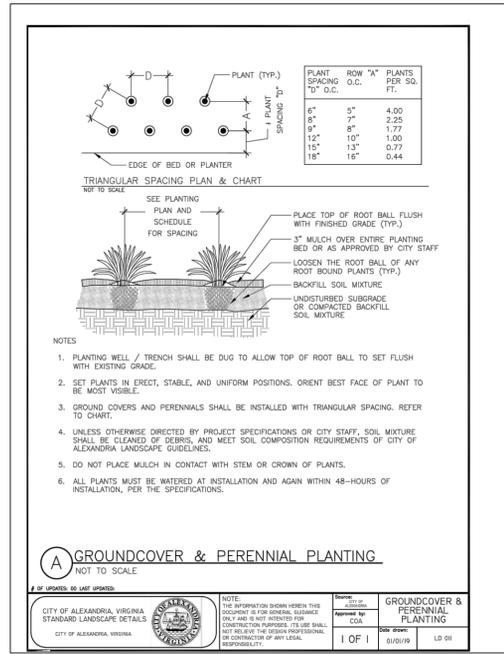
PLANTING SPECIFICATIONS

- General Conditions: The intent of this landscape plan is to renovate / replace the existing landscape plantings on the office building property. The majority of the landscape plantings to be provided with this plan are to be installed in existing planting areas over an existing parking garage roof slab, which extends nearly to the property lines on all sides. Existing planting soil depths over the garage range from less than one foot to approximately three feet in depth. As such, Contractor shall:
 - Take every precaution to prevent damage to the top of the existing roof slab and waterproofing.
 - Motorized machinery shall not be operated across landscape and hardscape areas, except for on existing vehicular areas. Materials shall be hand carried or transported by non-mechanized carts or wheelbarrows across the rooftop or may be lifted over and in from vehicular access ways and non-roof areas to the planting locations.
 - Excavation for planting shall be done by hand with care to prevent damage to the underlying rooftop slab, waterproofing and any subsurface utility lines including electrical conduits, irrigation lines, drains or other subsurface items.
 - Should the waterproofing be damaged, cut or compromised, contractor shall provide repairs prior to covering or filling excavations or planting as directed by the architect.
 - Planting soil depths shall not be increased beyond what is shown on the plans without confirmation of by a structural engineer that additional planting soil weight can be safely accommodated.
- Quality Assurance:
 - Landscape planting and related work shall be performed by a firm with a minimum of five years' experience specializing in this type and scale of work.
 - Applicable Specifications and Standards:
 - City of Alexandria Zoning Ordinance,
 - City of Alexandria Landscape Guidelines,
 - American Joint Committee on Horticultural Nomenclature,
 - American Standard for Nursery Stock, ANSI-Z60.1, latest edition,
 - American Association of Nurserymen,
 - Landscape Specification Guidelines for Baltimore Washington Metropolitan Areas, latest edition,
 - Landscape Contractors Association.
- Submittals: Submit the following to the Owner's Representative prior to beginning work:
 - Copies of manufacturer's data for all materials required.
 - Samples of required mulch material.
 - Chemical and mechanical analysis and samples of all existing soil, and proposed topsoil, organic matter, and soil mixes to be used. Analyses shall include recommended amendments for landscape tree and shrub plantings.
 - Planting schedule showing the dates (earliest and latest) proposed for each type of plant specified, schedule each type of planting within the normal planting seasons for such work. Include requests for any proposed changes in the approved planting season and a list of proposed sources for all plant materials.
 - List of proposed sources for all plant material.
- Delivery, Storage, and Handling:
 - Deliver packaged materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type, weight, and analysis. Store packaged materials in such a manner as to prevent damage or intrusion of foreign matter.
 - Dig balled and burlapped (B&B) plants with firm, natural balls of earth, of a diameter not less than that shown on the plant list nor less than recommended by the American Standard for Nursery Stock, and of sufficient depth to include the fibrous and feeding roots. B&B plants will not be accepted if the ball is cracked or broken before or during planting operation.
 - Deliver trees and shrubs after preparations for planting have been completed. Do not bend, bind, or tie trees or shrubs in such a manner as to damage bark, break branches or destroy natural shape. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by heeling-in bare root stock and covering plant balls with soil, peat moss or other acceptable material for balled stock. Plants shall be kept well watered and shall not remain unplanted for longer than ten (10) days after delivery.
 - Plants shall be lifted and handled from the bottom of the ball only.
 - Do not remove container-grown stock from containers until planting time.
- Planting shall be done only within the following dates except as approved by Owner.
 - Deciduous trees and shrubs: March 1 to June 15 and September 15 to November 15.
 - Evergreen trees, shrubs, and vines: March 1 to June 15 and September 15 to November 15.
- All plant material shall be guaranteed by the Contractor for a period of 1 year from the date of final acceptance to be in good, healthy, and flourishing condition.
- Materials for Planting:
 - Mulch shall be double shredded hardwood bark. Submit sample for approval. Material shall be mulching grade, uniform in size and free from foreign matter.
 - Leaf compost shall be screened and free of trash.
 - Coir Mesh (geo-textile blanket) shall be natural fiber geo-textile woven mesh composed of 100% coir (spun from coconut fiber) yarn, containing 45% lignin and 55% cellulose. Opening in the mesh shall be 1 inch square (nominal) by .3 inches thick. Yarn count per yard 10. shall be 42 wrap x 37 weft. Fabric tensile strength shall be 432 lb/ft x 138 lb/ft.
 - 12 inch hardwood stakes shall be Eco-STAKES by North American Green or equal.
 - Fertilizer shall be commercial fertilizer for ornamental trees, shrubs, and ground cover. Fertilizer shall be provided in accordance with the recommendations of the soil tests. As a basis for bidding, Contractors shall assume a fertilizer with an analysis of 10% Nitrogen, 6% Phosphorus, and 4% Potassium. This fertilizer shall be granular with a minimum of 50% of the total Nitrogen in organic form.
 - Topsoil: If required, shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their root debris and other extraneous matter of 1 inch in diameter, and capable of sustaining vigorous plant growth. Topsoil shall have a pH range of 6.0 to 6.5, with a pH range of 5.0 to 5.5 for plants requiring acid soils. Contractor shall have soil tested at an approved agricultural laboratory, and submit results and recommendations for acceptance by the Owner before providing topsoil for use.
 - Composted pine bark fines shall be approved composted ground pine bark, having no particle with a dimension greater than ¼ inch. Soil mix shall consist of ¼ existing soil and ¾ composted pine bark fines or other approved organic matter, by volume.
 - Lightweight soil mix for areas over the roof structure shall consist of 32% Topsoil, 25% Composted Pine Bark Fines, 12% Perlite, 12% Sand and 12% Humus. Mix shall have a pH of 5.5 to 6.5, and an organic matter content of between 3 and 5%. Mix shall contain a maximum of 55% sand. The maximum saturated density of the mix shall be 92 lbs./cubic foot, with testing done in accordance with ASTM C29.
- Plant Materials (Refer to the PLANT LIST on the drawings for specific types and quantities of plants):
 - Plants shall be nursery grown in accordance with good horticultural practices. Plants shall either be obtained from local nurseries and/or others, which have soil (heavy clay) and climatic conditions similar to those in the locality of the project. Provenance of plant material must be from within the following states: Virginia, Maryland, District of Columbia, Pennsylvania, Delaware, New Jersey,

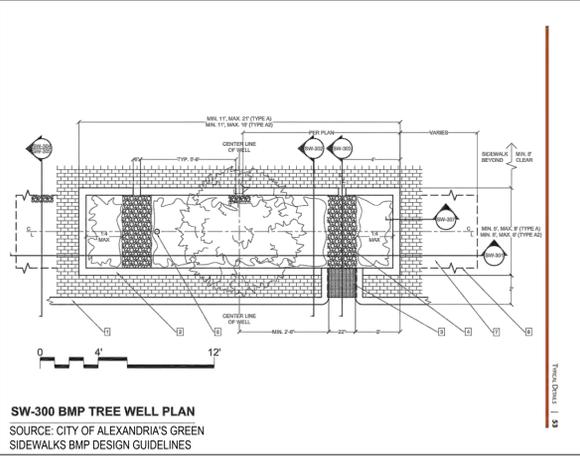
- West Virginia, North Carolin, and/or eastern Tennessee. Plant material grown in sandy, well-drained soil will not be approved for this project. Wild-collected plant material is not acceptable except in the case of transplanted material within the project site.
 - Plants shall be true to species and variety and unless specifically noted otherwise, all plants shall be of specimen quality, exceptionally heavy, symmetrical, tightly-knit plants, so trained or favored in their development and appearance as to be superior in form, number of branches, compactness, and symmetry.
 - Plants shall be sound, healthy, and vigorous, well branched and densely foliated when in leaf, free of disease, insect pests, eggs or larvae and shall have healthy, well-developed root systems. They shall be free from physical damage or any conditions that would prevent thriving health and the desired appearance.
 - Trees which have a damaged or crooked leader, or multiple leaders, unless specified in the plant list, will be rejected. Trees with abrasion of the bark, sun scald, disfiguring knots, or pruning cuts more than 1 ¼ inch diameter which have not completely callused will be rejected.
 - Plants shall conform to measurements specified in the plant schedules except that plants larger than specified may be used if acceptable to the Landscape Architect or owner. Use of such plants shall not increase the contract price. If larger plants are accepted, the root ball shall be sized for the larger plant.
 - Caliper Measurement: Shall be taken at a point on the trunk 6 inches above the natural ground line for trees up to 4 inches diameter, and at a point 12 inches above the natural ground line for trees over 4 inches diameter.
 - Plants shall be measured when branches are in the normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to tip.
- Preparation of Areas for Planting:
 - Stake out all plant material beds and tree locations for approval of Landscape Architect or owner prior to any bed preparation.
 - Shrubs, Shrub Beds, and Hedges on slopes of 3:1 or less: Loosen soil in the area of entire plant bed or hedgerow to a depth of 6 inches minimum with a rototiller. Add soil amendments and rototill again to a depth of 6 inches. Excavate plant pit and hedge trenches a minimum of 12 inches wider than the root ball or bare root on all sides. The depth shall be sufficient to allow shrub to sit 2 inches above finished grade.
 - Shrub Beds on Slopes of greater than 3:1: Amend soil as above. Spread coir mesh across entire area of shrub bed in steep slope area per manufacturer's specifications. Excavate plant pit through coir mesh a minimum of 12 inches wider than the root ball or bare root on all sides. The depth shall be sufficient to allow shrub to sit 2 inches above finished grade.
 - Ground Covers and Seasonal Plantings: Loosen soil to a depth of 4 inches minimum with a rototiller. Add amendments to the soil and/or specified planting soil mix and rototill again to a depth of 6 inches. Install plants directly into prepared bed, and firm the soil mix around them.
 - Groundcover on Slopes of greater than 3:1: Amend soil as above or by hand as required. Spread leaf compost to 2 inches in depth immediately prior to placing coir mesh. Spread coir mesh across entire area of groundcover bed in steep slope area per manufacturer's specifications. Each ground cover shall be placed in an individual planting pit planted through the biodegradable netting.
 - Trees: Excavate plant pit walls vertical and scarify sides. Plant pit depth shall be sufficient to allow 2 inch maximum of root ball to be above finished grade. Tree pit shall be 12 inches wider than the ball on all sides.
 - Erosion Control Material and Planting on Steep Slopes:
 - Material meeting the requirements of the specifications shall be installed and maintained on the designated areas as shown and specified. The areas to be covered shall be prepared and fertilized as specified before the erosion material is placed. Immediately prior to the planting operations, the material shall be laid evenly, smoothly, and in contact with the soil throughout.
 - Lay erosion control materials with 1 inch nominal openings in accordance with manufacturer's instructions. Unroll in direction of water flow. Overlap sheets by at least 6 inches. Where strips are to be spliced lengthwise, overlap strips by 8 inches. Upgrade section shall be on top of all splices.
 - The Contractor shall maintain and protect the erosion control material until the final inspection. Maintenance shall consist of repairs made necessary by erosion, wind, or any other cause. Following the restoration of damaged areas under plant and turf guarantee and establishment requirements for applicable underlying items, the erosion control material shall be repaired or replaced to meet the original requirements and maintained until the final inspection.
 - Plant Installation:
 - Excavate all tree pits and planting areas to the width and depth shown in the planting details.
 - Center plant in pit and orient for the best visual effect. Set plants plumb and hold rigidly in position until soil has been tamped firmly around root ball.
 - Mix any soil amendments and fertilizers with existing soil in accordance with soil recommendations for plant type based upon soil test results as approved by Owner. Delay mixing of fertilizer if planting will not occur within a few days.
 - Backfill pit with planting soil mix, consisting of 2/3 existing soil and 1/3 organic material, and fertilizer, until two-thirds full. Tamp and water each layer thoroughly to settle soil. After soil settles, fill pit with remaining planting soil mix, water and shape surface so that it slopes to drain from trunk and matches ground at edge of planting pit.
 - Mulch within 48 hours after planting and after applying a pre-emergent herbicide, except ground cover areas (which shall have organic material placed before planting) with a 3 inch layer of mulch immediately after planting. Keep mulch out of the crowns of shrubs and off buildings, sidewalks, light standards, and other structures.
 - All planting areas shall conform to specified grades after full settlement has occurred and mulch has been applied. Provide saucers around tree pits as shown on planting details. Remove all tags, labels, strings, etc. from all plants.
 - Installation of Planting Soil Mix Over Structure
 - Coordinate installation of lightweight planting soil mix with the installation of drains, drain pipes, waterproofing, protection board, drainage board and filter fabric. Do not begin any planting soil backfilling operations until irrigation system specified elsewhere is installed. Do not place landscapefill until planters have been approved by Owner and authorization to proceed has been given. Do not damage drainage system and ensure drains are covered with filter fabric when placing soil mix so they do not become clogged.
 - Install specified soil in 12" - 18" maximum lifts. Compact each lift sufficiently to prevent settling but not enough to prevent the movement of water and feeder roots through the soil. The soils in each lift should feel firm to the foot in all areas and only make slight heel prints.
 - During placement of lightweight planting soil mix over structure, contractor shall take great care to ensure proper drainage with said after placement and compaction.
 - When new lightweight planting soil is added to areas of existing soil, contractor shall ensure that new soil is progressively mixed to existing soil so as not have distinct separate/divided soil lenses.
 - Permanent Sodding for Grass Lawn Areas:
 - Unless otherwise specified by these plans, all disturbed areas within the limits of clearing and grading shall be planted as lawn with permanent grass lawn sodding.
 - Lawn sod varieties shall be an improved variety turf-type tall fescue blend. The Landscape Contractor shall select from varieties approved by the Maryland or Virginia Department of Agriculture.
 - Refer to the Virginia Erosion and Sediment Control Handbook for guidelines, specifications, and installation techniques of sod installation.
 - Maintenance shall begin immediately after each lawn area is installed and shall continue until 90 days after final acceptance of the last section.



1 SHRUB PLANTING
NTS



2 GROUNDCOVER & PERENNIAL PLANTING
NTS



3 BMP TREE WELL
NTS

LANDSCAPE PLAN NOTES

- 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.
- The City approved 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.
- The contractor 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.
- 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.
- Installation of plant material may only occur during the planting seasons identified in the landscape guidelines.
- 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.
- Substitutions to the approved plant material shall not occur until written approval is provided by the City.
- 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.
- 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.
- 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.
- 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:
 - 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
 - a copy of the soil bulk density test report verifying that maximum compression rates are met.
- All construction waste shall be removed prior to planting.
- 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 plant 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.
- 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.

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

DIRECTOR DATE _____
CHAIRMAN, PLANNING COMMISSION DATE _____
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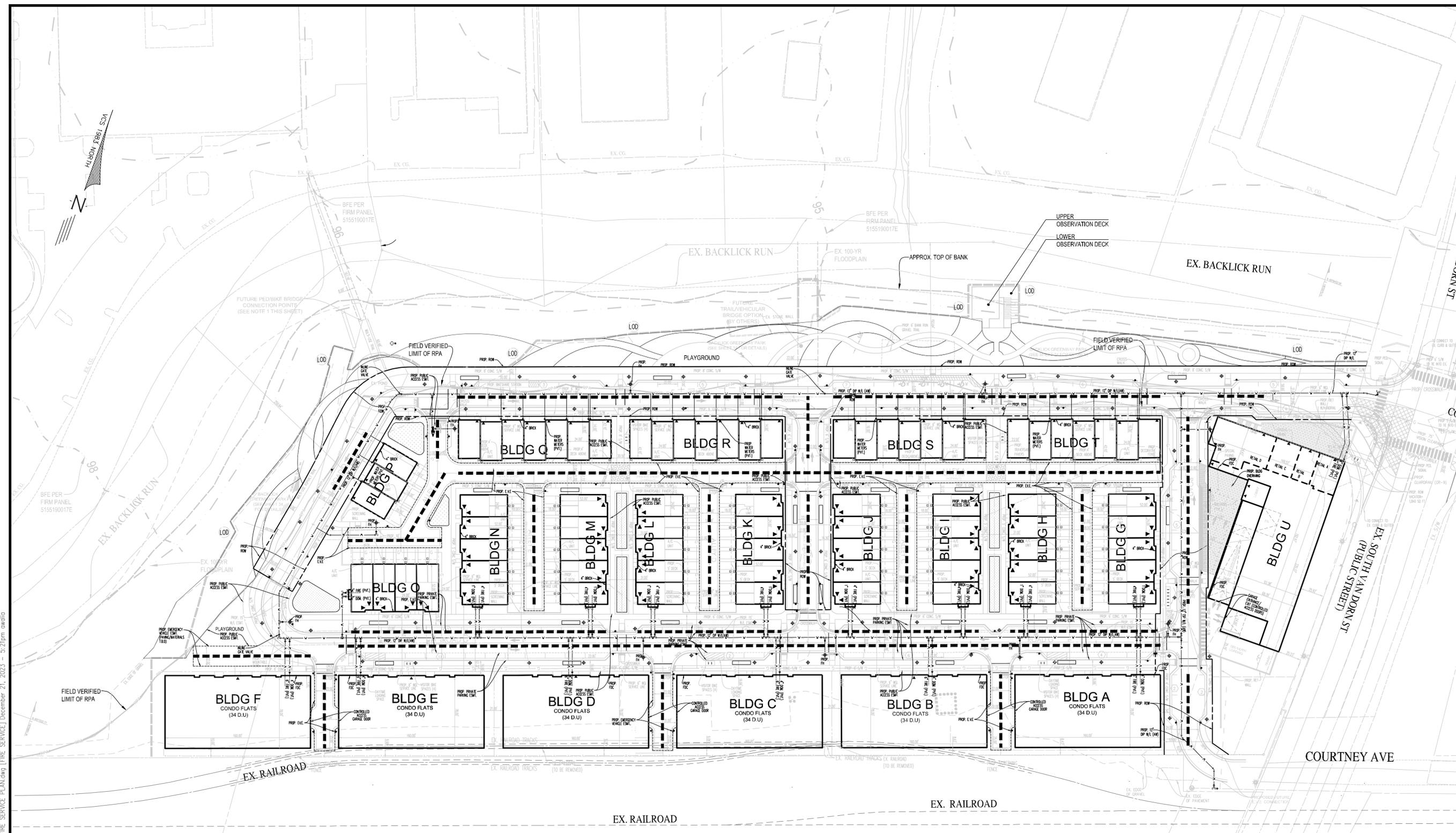
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Planning & Zoning - Landscape Architects - Land Services

COMMONWEALTH OF VIRGINIA
John Lightle
Lic. No. 1957
Landscape Architect

LANDSCAPE NOTES AND DETAILS
PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1" = 10'

SHEET
35B
OF
38
FILE No.
SP-13005

REVISIONS
No. DATE DESCRIPTION



CONDO FLATS:
 PERIMETER PER BLDG A-F: 480 FT.

- BLDG A COVERAGE: 240 FT. (50%)
- BLDG B COVERAGE: 240 FT. (50%)
- BLDG C COVERAGE: 240 FT. (50%)
- BLDG D COVERAGE: 240 FT. (50%)
- BLDG E COVERAGE: 240 FT. (50%)
- BLDG F COVERAGE: 209FT. (43.5%)

2-OVER-2 STACKED TOWNHOUSES:
 PERIMETER PER BLDG G-N: 344 FT.

- BLDG G COVERAGE: 344 FT. (100%)
- BLDG H COVERAGE: 224 FT. (65%)
- BLDG I COVERAGE: 224 FT. (66%)
- BLDG J COVERAGE: 344 FT. (100%)
- BLDG K COVERAGE: 344 FT. (100%)
- BLDG L COVERAGE: 224 FT. (66%)
- BLDG M COVERAGE: 224 FT. (66%)
- BLDG N COVERAGE: 224 FT. (66%)

BLDG O PERIMETER: 296 FT.
 •BLDG O COVERAGE: 192 FT. (65%)

TOWNHOUSES:
 BLDG P PERIMETER: 232 FT.

- BLDG P COVERAGE: 144 FT. (62%)

PERIMETER PER BLDG G-N: 424 FT.

- BLDG Q COVERAGE: 380 FT. (89%)
- BLDG R COVERAGE: 380 FT. (89%)
- BLDG S COVERAGE: 380 FT. (89%)
- BLDG T COVERAGE: 380 FT. (89%)

HOTEL:
 BLDG U PERIMETER: 730 FT.
 •BLDG U COVERAGE: 255 FT. (35%)

LEGEND
 FIRE SERVICE ACCESS ■■■■■■

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 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. _____

URBAN, LTD. - J. VOBS | VULCAN MATERIALS | Preliminary Site Plan | 13005-27-FIRE SERVICE PLAN.dwg | [FIRE SERVICE] | December 21, 2023 - 5:21pm mcdido

FIRE SERVICE PLAN
 PRELIMINARY SITE PLAN
 VULCAN MATERIALS DEVELOPMENT
 CITY OF ALEXANDRIA, VIRGINIA
 C.I. = N/A

SHEET
 36
 OF
 38
 FILE No.
 SP-13005

DATE: JUNE, 2023

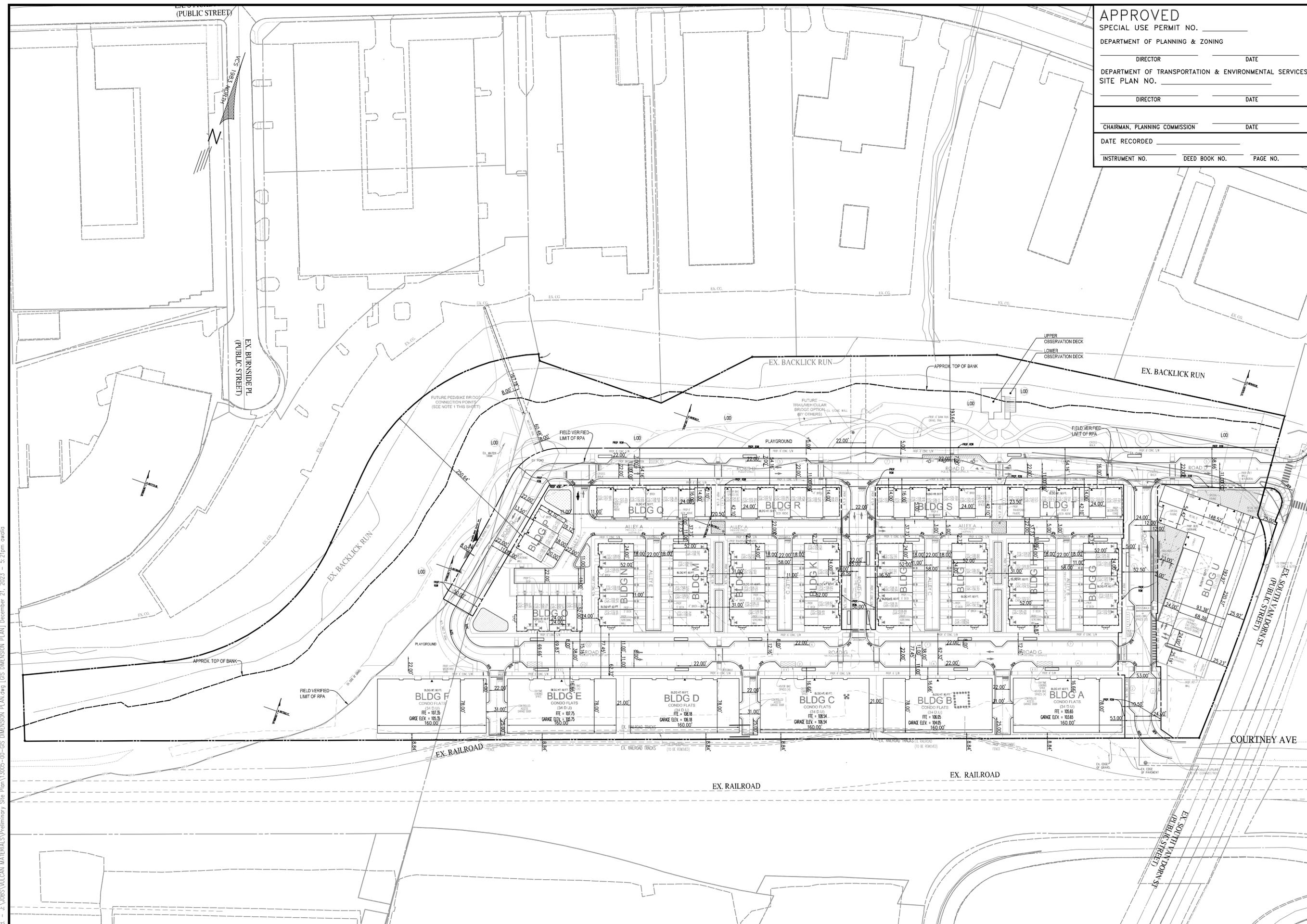
REVISIONS
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DIRECTOR _____ DATE _____
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SITE PLAN NO. _____

DIRECTOR _____ DATE _____

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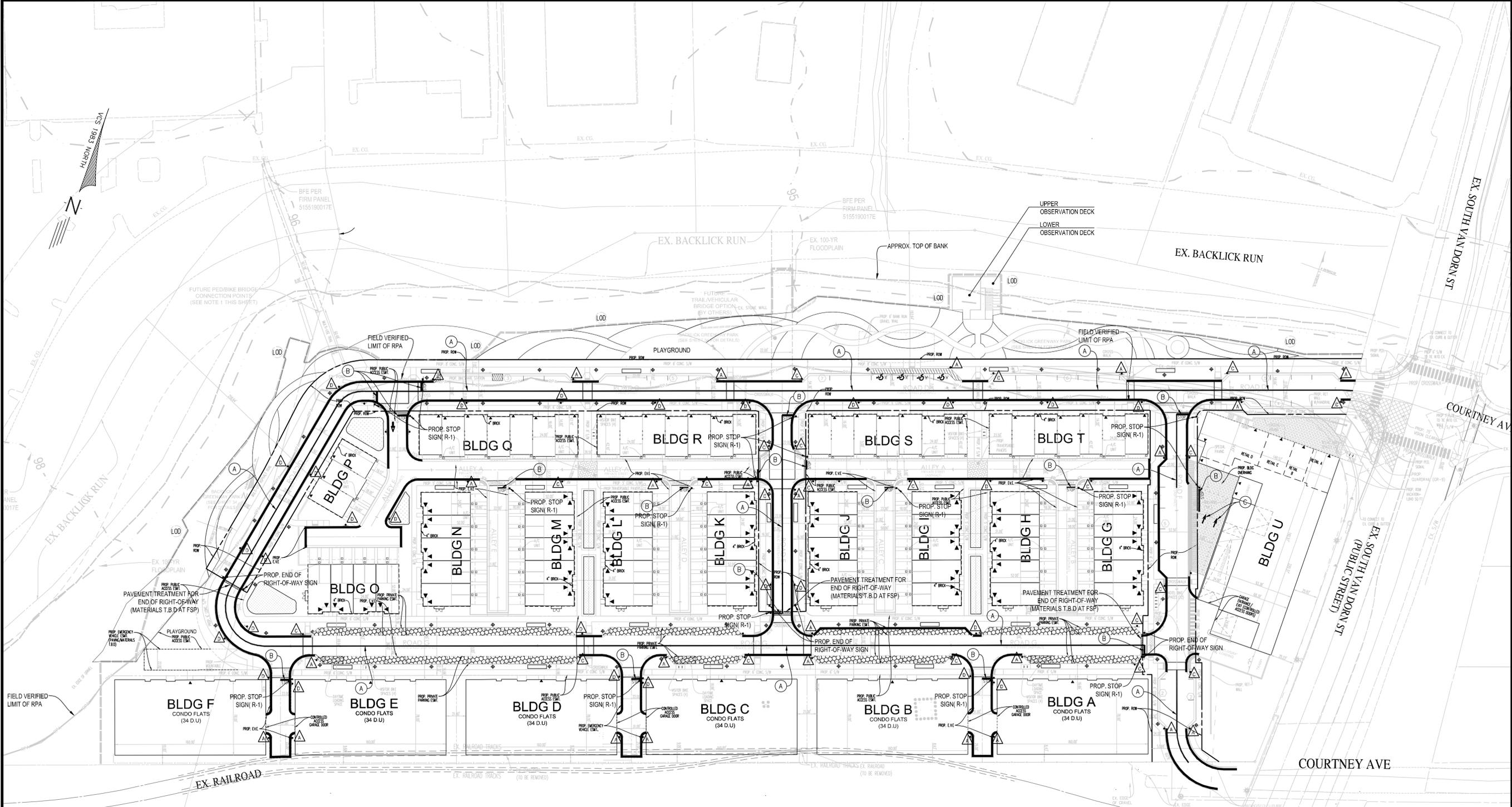


GIS DIMENSION PLAN
**PRELIMINARY SITE PLAN
VULCAN MATERIALS DEVELOPMENT**
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: 1"=30'
C.I.= 2'

SHEET
37
OF
38
FILE NO.
SP-13005

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LEGEND

FIRE LANE CURB

PRIVATE PARKING SPACES

PAVEMENT MARKING INDEX:

(A) TYPE B, CLASS I, DOUBLE YELLOW, 4" WIDTH, SOLID CONTINUOUS

(B) TYPE B, CLASS I, WHITE, 24" WIDTH.

(C) ↑ TYPE B, CLASS I, WHITE, ELONGATED ARROW (THRU).

NO PARKING FIRE LANE
EX. VEH. E.A.S. →

NO PARKING FIRE LANE
EX. VEH. E.A.S. ←

NO PARKING FIRE LANE
EX. VEH. E.A.S. ↑

GRADE LEVEL

NOTES:

1) PRIVATE PARKING SPACES TO BE CLEARLY DEMARCATED WITH A COMBINATION OF SIGNAGE AND STRIPING TREATMENTS.

2) STRIPING PATTERN/MARKINGS AND APPLICABLE SIGNS FOR PRIVATE PARKING SPACES TO BE DETERMINED AT TIME OF FINAL SITE PLAN FOR INFRASTRUCTURE DSP.

FIRE LANE SIGN DIMENSIONS:

SIGN DIMENSIONS - 12" x 18"

3/8" RED TRIM NEAR OUTSIDE BORDER

LETTERING : RED ON WHITE BACKGROUND

"NO PARKING" - 2" HIGH

"FIRE LANE" - 2 1/2" HIGH

"EX. VEH. E.A.S." - 1" HIGH

"CITY OF ALEX" - 0.30" HIGH

DIRECTIONAL ARROWS - 1" BY 6" SOLID SHAFT WITH SOLID HEAD - 1 1/2" WIDE AND 2" DEEP POST (IF USED) - WOOD (4" x 4" TREATED) OR METAL CONSTRUCTION USE HIGHWAY GOTHIC STYLE "C" LETTERING

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SITE PLAN NO. _____

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SIGNAGE & STRIPING PLAN

PRELIMINARY SITE PLAN

VULCAN MATERIALS DEVELOPMENT

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE, 2023

SCALE: 1"=50'

SHEET 38 OF 38

FILE No. SP-13005

PLAN DATE	DATE	DESCRIPTION
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Lic. No. 038790
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PROFESSIONAL ENGINEER

ALEXANDRIA DUAL-BRANDED HOTEL

South Van Dorn Street
Alexandria, Virginia 22304

Table of Contents

- H-001 Code & Square Footage Analysis
- H-002 Architectural Site Plan
- H-003 1st Floor Plan
- H-004 2nd Floor Plan
- H-005 3rd Floor Plan
- H-006 4th - 11th Floor Plan
- H-007 Roof Plan
- H-008 Floor Area Calculations
- H-009 Green Narrative - LEED
- H-010 East Elevation (Van Dorn Street)
- H-011 North Elevation (Courtney Avenue)
- H-012 West Elevation (Road C)
- H-013 South Elevation (at Loading Dock)
- H-014 Building Section
- H-015 Enlarged Elevations
- H-016 Coordinated Site Plan

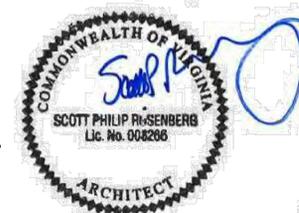
Façade details and materials to be determined with brand at the time of final site plan.



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Code Analysis:

Use Group: R-1/B (Hotel & Retail)
Type of Construction: I-B
Number of Stories: 11

Gross Floor Area:

- 1st Floor 22,933 SF (parking, "jump" hotel lobby, and support)
- 2nd Floor 22,933 SF (parking, retail, and support)
- 3rd Floor 20,289 SF (hotel lobby and support)
- 4th Floor 19,748 SF (hotel guest rooms)
- 5th Floor 19,748 SF (hotel guest rooms)
- 6th Floor 19,748 SF (hotel guest rooms)
- 7th Floor 19,748 SF (hotel guest rooms)
- 8th Floor 19,748 SF (hotel guest rooms)
- 9th Floor 19,748 SF (hotel guest rooms)
- 10th Floor 19,748 SF (hotel guest rooms)
- 11th Floor 19,748 SF (hotel guest rooms)
- Roof 2,512 SF (mechanical spaces)

TOTAL: 226,651 SF (Gross SF)

Gross Floor Area (without parking garage):

- 1st Floor 3,503 SF ("jump" hotel lobby and other enclosed spaces)
- 2nd Floor 9,808 SF (retail and other enclosed spaces)
- 3rd Floor 20,289 SF (hotel lobby, support, and other enclosed spaces)
- 4th Floor 19,748 SF (hotel guest rooms)
- 5th Floor 19,748 SF (hotel guest rooms)
- 6th Floor 19,748 SF (hotel guest rooms)
- 7th Floor 19,748 SF (hotel guest rooms)
- 8th Floor 19,748 SF (hotel guest rooms)
- 9th Floor 19,748 SF (hotel guest rooms)
- 10th Floor 19,948 SF (hotel guest rooms)
- 11th Floor 19,948 SF (hotel guest rooms)
- Roof 2,512 SF (stairs and mechanical)

TOTAL: 194,096 SF (Gross SF without parking garage)

Net Floor Area (with all deductions listed on Sheet 007):

- 1st Floor 1,820 SF ("jump" hotel lobby)
- 2nd Floor 7,773 SF (retail)
- 3rd Floor 17,765 SF (hotel lobby & hotel support)
- 4th Floor 17,013 SF (hotel guest rooms)
- 5th Floor 17,013 SF (hotel guest rooms)
- 6th Floor 17,013 SF (hotel guest rooms)
- 7th Floor 17,013 SF (hotel guest rooms)
- 8th Floor 17,013 SF (hotel guest rooms)
- 9th Floor 17,013 SF (hotel guest rooms)
- 10th Floor 17,013 SF (hotel guest rooms)
- 11th Floor 17,013 SF (hotel guest rooms)
- Roof 0 SF (stairs and mechanical)

TOTAL: 163,462 SF (Net SF with all deductions listed on Sheet 007)

FOR DETAILED FLOOR AREA RATIO (F.A.R.) CALCULATIONS WITH DEDUCTIONS, SEE SHEET H-008

Fire Protection Plan. Will comply at building permit submission (with a building internal egress plan), and then will comply during construction (with sprinkler/fire alarm shop drawings by subcontractor) to be submitted to fire marshal at the appropriate time.

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12-21-2023		

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HOTEL PLANS - COVER

VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VIRGINIA

DATE: JUNE, 2023

SCALE: AS NOTED

SHEET

H-001

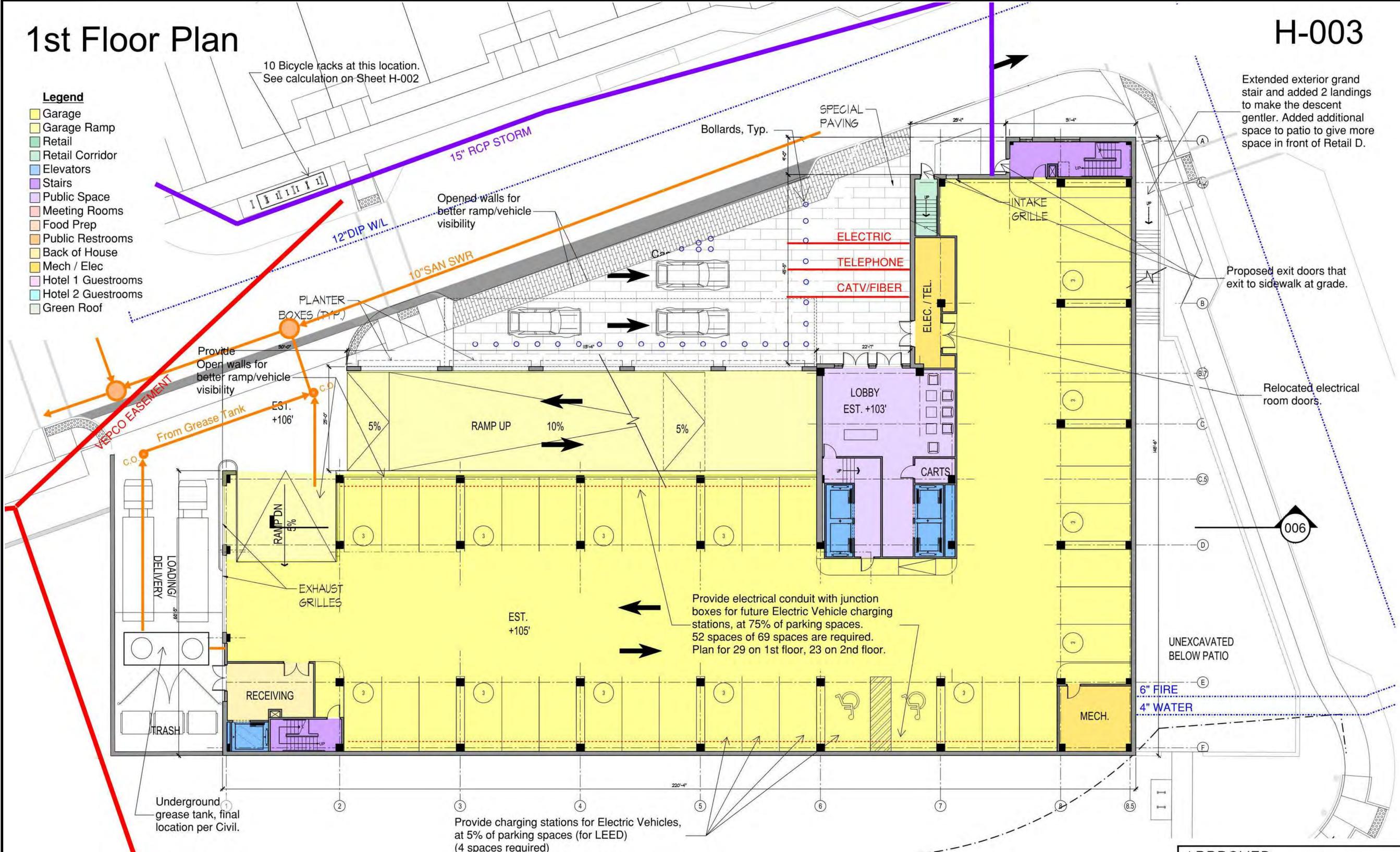
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SP-13005

1st Floor Plan

H-003

- Legend**
- Garage
 - Garage Ramp
 - Retail
 - Retail Corridor
 - Elevators
 - Stairs
 - Public Space
 - Meeting Rooms
 - Food Prep
 - Public Restrooms
 - Back of House
 - Mech / Elec
 - Hotel 1 Guestrooms
 - Hotel 2 Guestrooms
 - Green Roof

10 Bicycle racks at this location. See calculation on Sheet H-002



Extended exterior grand stair and added 2 landings to make the descent gentler. Added additional space to patio to give more space in front of Retail D.

Proposed exit doors that exit to sidewalk at grade.

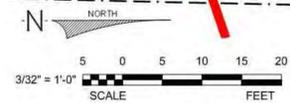
Relocated electrical room doors.

Provide electrical conduit with junction boxes for future Electric Vehicle charging stations, at 75% of parking spaces. 52 spaces of 69 spaces are required. Plan for 29 on 1st floor, 23 on 2nd floor.

Provide charging stations for Electric Vehicles, at 5% of parking spaces (for LEED) (4 spaces required)

Facade details and materials to be determined with brand at the time of final site plan.

UTILITIES SHOWN ON THIS PLAN ARE FOR CONCEPT CONNECTION LOCATIONS ONLY. SEE CIVIL ENGINEERING DRAWINGS FOR FINAL LOCATIONS.



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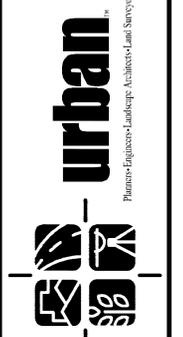
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HOTEL PLANS - FIRST FLOOR PLAN
VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
SCALE: AS NOTED
DATE: JUNE, 2023

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H-003
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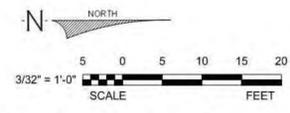


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3rd Floor Plan

H-005

- Legend**
- Garage
 - Garage Ramp
 - Retail
 - Retail Corridor
 - Elevators
 - Stairs
 - Public Space
 - Meeting Rooms
 - Food Prep
 - Public Restrooms
 - Back of House
 - Mech / Elec
 - Hotel 1 Guestrooms
 - Hotel 2 Guestrooms
 - Green Roof

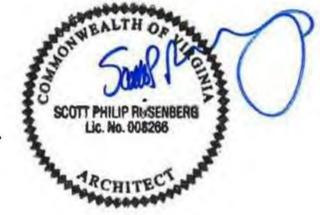


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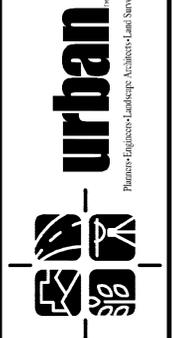
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 Van Dorn Street - Alexandria, Virginia



Façade details and materials to be determined with brand at the time of final site plan.

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HOTEL PLANS - 3RD FLOOR PLAN
**VULCAN MATERIALS DEVELOPMENT
 PRELIMINARY SITE PLAN**
 CITY OF ALEXANDRIA, VIRGINIA
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4th - 11th Floor Plans

H-006

FINAL BRANDS TO BE DETERMINED
 HILTON GARDEN INN | HOMEWOOD SUITES

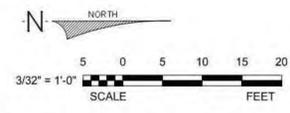
- Legend**
- Garage
 - Garage Ramp
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 - Retail Corridor
 - Elevators
 - Stairs
 - Public Space
 - Meeting Rooms
 - Food Prep
 - Public Restrooms
 - Back of House
 - Mech / Elec
 - Hotel 1 Guestrooms
 - Hotel 2 Guestrooms
 - Green Roof

Added windows on south elevation.



Façade details and materials to be determined with brand at the time of final site plan.

FINAL BRANDS TO BE DETERMINED
 HILTON GARDEN INN | HOMEWOOD SUITES



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DIRECTOR _____

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HOTEL PLANS - 4TH - 11TH FLOOR PLAN
**VULCAN MATERIALS DEVELOPMENT
 PRELIMINARY SITE PLAN**
 CITY OF ALEXANDRIA, VIRGINIA
 DATE: JUNE, 2023
 SCALE: AS NOTED
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H-006
 FILE No.
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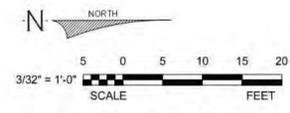
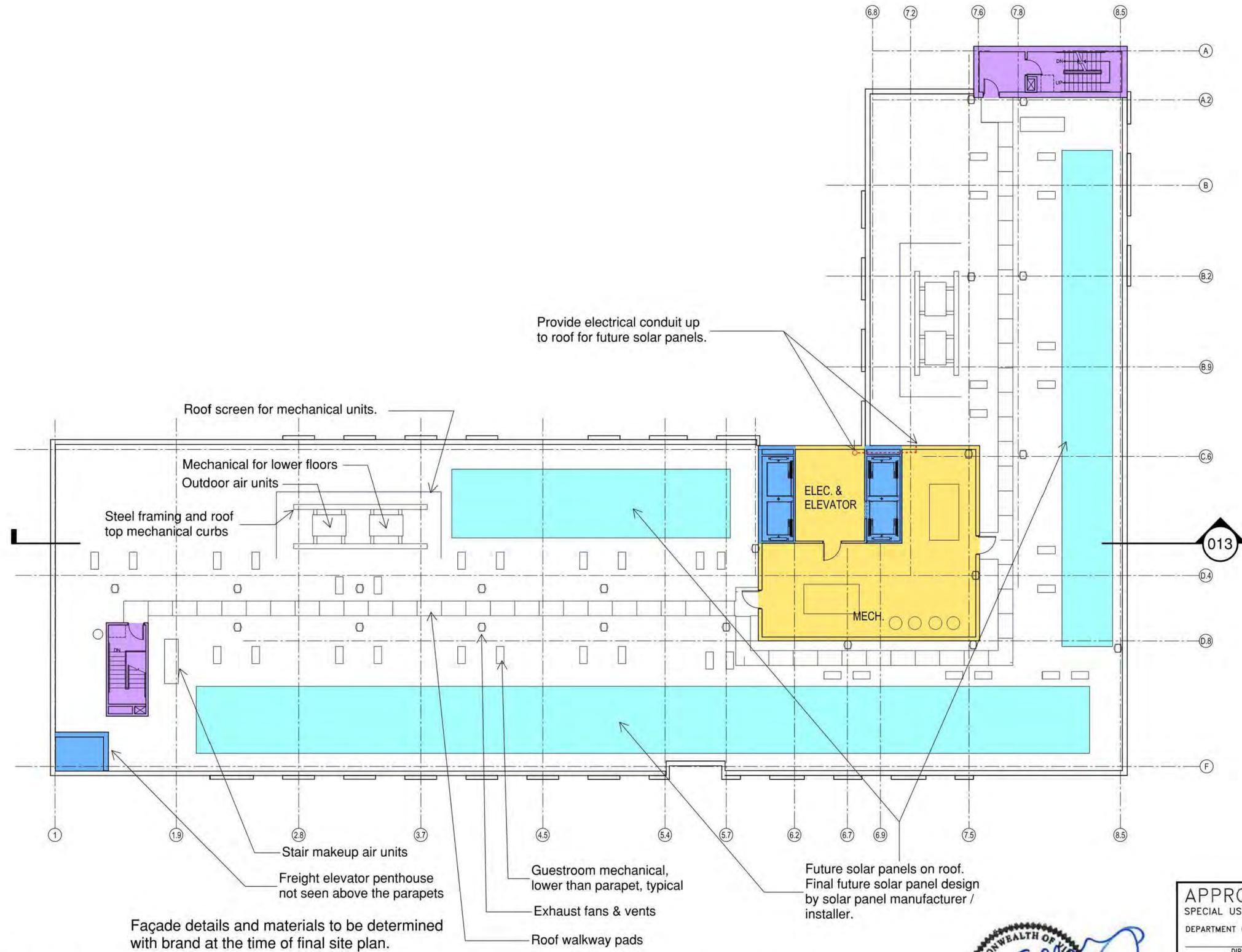
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Roof Plan

H-007

- Legend**
- Garage
 - Garage Ramp
 - Retail
 - Retail Corridor
 - Elevators
 - Stairs
 - Public Space
 - Meeting Rooms
 - Food Prep
 - Public Restrooms
 - Back of House
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HOTEL PLANS - ROOF PLAN

**VULCAN MATERIALS DEVELOPMENT
 PRELIMINARY SITE PLAN**

CITY OF ALEXANDRIA, VIRGINIA

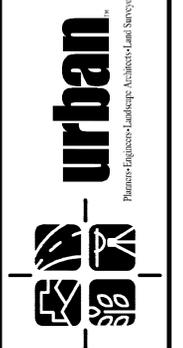
SCALE: AS NOTED

DATE: JUNE, 2023

C.I. = N/A

SHEET
H-007

FILE No.
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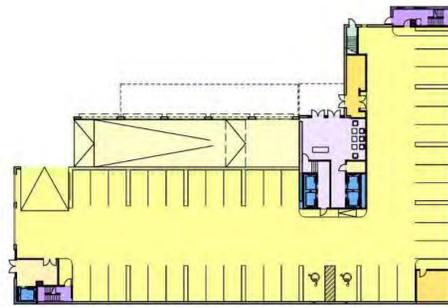
PLAN DATE	DESCRIPTION	REVISIONS
06-02-2023		
09-11-2023		
12-21-2023		

Urban, Ltd. - J:\085\VULCAN MATERIALS\ Preliminary Site Plan\13005-31-HOTEL PLANS.dwg [HOTEL] December 21, 2023 - 5:22pm anelis

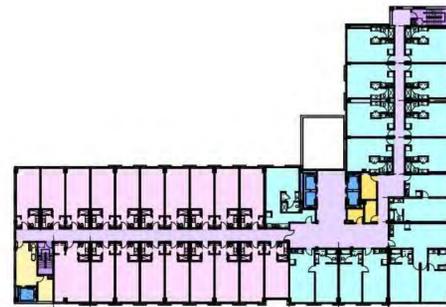
Floor Area Calculations

H-008

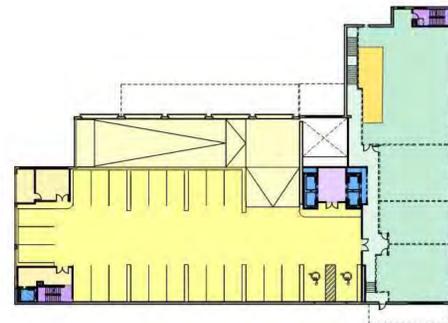
- Legend**
- Garage
 - Garage Ramp
 - Retail
 - Retail Corridor
 - Elevators
 - Stairs
 - Public Space
 - Meeting Rooms
 - Food Prep
 - Public Restrooms
 - Back of House
 - Mech / Elec
 - Hotel 1 Guestrooms
 - Hotel 2 Guestrooms
 - Green Roof



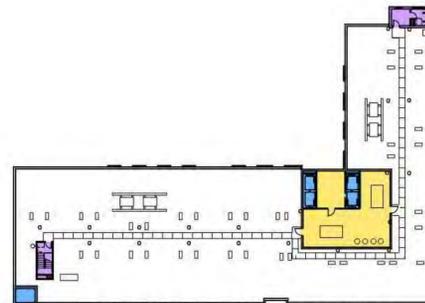
1st Floor



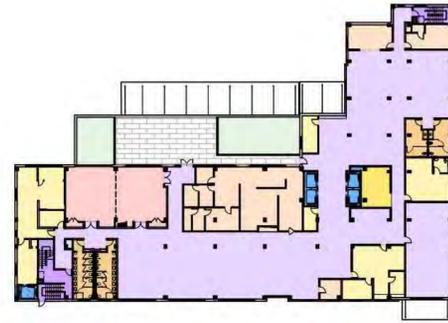
4th-11th Floor



2nd Floor



Roof



3rd Floor



Façade details and materials to be determined with brand at the time of final site plan.

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PROPOSED FLOOR AREA RATIO (FAR) DEDUCTION SUMMARY									
RESTROOM CALCULATIONS		NO. OF UNITS	MAX. DEDUCT PER UNIT	MECH (SF)	NO. OF LAV'S PER UNIT	TOTAL LAVS	AREA DEDUCTED PER UNIT	TOTAL LAVATORIES DEDUCTIONS	
RETAIL UNITS		4	50	N/A	1	4	50	200	
HOTEL PUBLIC SPACE RESTROOMS		15	50	N/A	1	15	50	750	
HOTEL STANDARD UNITS ("KEYS")		248	50	N/A	1	248	50	12,400	
HOTEL 2 BEDROOM SUITE UNITS ("KEYS")		8	50	N/A	2	16	100	800	
TOTAL UNIT DEDUCTIONS		275				283		14,150	

COMMON SPACE CALCULATIONS		Gross SF	Mech/Elec	Garage	Atrium	Stairs	Elevators	Lavatories	Total Deductions per Floor	TOTAL SF
1ST FLOOR		22,933	(750)	(19,430)	-	(471)	(462)	-	(21,113)	1,820
2ND FLOOR		22,933	(400)	(13,125)	(607)	(369)	(459)	(200)	(15,160)	7,773
3RD FLOOR (HOTEL COMMON & SUPPORT)		20,289	(477)	-	-	(612)	(685)	(750)	(2,524)	17,765
4TH FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
5th FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
6th FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
7th FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
8th FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
9th FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
10th FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
11th FLOOR (GUESTROOMS)		19,748	(197)	-	-	(475)	(413)	(1,650)	(2,735)	17,013
ROOF		2,512	(1,548)	-	-	(557)	(407)	-	(2,512)	-
TOTAL COMMON SPACE DEDUCTIONS		226,651	(4,751)	(14,550)	(607)	(5,809)	(5,317)	(14,150)	(63,189)	163,462

SUMMARIES OF CALCULATIONS			
TOTAL FLOOR GROSS AREA (See Note 4)			226,651
TOTAL DEDUCTIONS FOR LAVATORIES (See Note 1)			(14,150)
LAVATORIES DEDUCTIONS AS % OF GROSS AREA			6.2%
TOTAL DEDUCTIONS PROPOSED (See Note 3)			(63,189)
DEDUCTIONS AS % OF GROSS AREA (See Note 3)			n/a
TOTAL FLOOR GROSS AREA (See Note 4)			226,651
ART SPACE (Outside N/A, None Indoors)			n/a
TOTAL DEDUCTIONS PROPOSED (See Note 3)			(63,189)
TOTAL FLOOR NET AREA			163,462

- GENERAL NOTES**
- Lavatory of which only a maximum of 50 square feet of each lavatory can be excluded. The maximum area of excludable area for lavatories shall be no greater than 10 percent of gross floor area, per Alexandria Ordinance Sections 2-145-Floor Area, Subsection (B).
 - Deductions include stairways/space used for utilities/elevators/space under balconies or similar projections less than 8 feet deep / architectural features up to a maximum projection of 30 inches/vertical chases/lavatoeis of which a maximum of 50 SF of each lavatory per Alexandria Ordinance Section 2-145-Floor Area, Subsection (B). Total deductions proposed are summarized in the charts above.
 - Total deductions for non-residential areas do not have a maximum percentage of gross non-residential area per Alexandria Ordinance Section 2-145-Floor Area, Subsection (B). There are no residential uses in this building.
 - The Sum or all gross horizontal areas under roof on a lot. These areas shall be measured from the exterior faces of walls or any extended area under roof and are to be measured from the shared lot line in the case of a party wall. This space shall be based on permanent construction whether or not provided with a finished floor or ceiling, per Alexandria Ordinance Section 2-145-Floor Area, Subsection (B).

SQUARE FOOTAGE CALCULATION															
Floor	Gross Square Footage	Deduct Garage	Gross SF without Garage	DEDUCTIONS								Housing Sq. Ft. Calc.	No. of Lav.		
				Atrium	Stair 1	Stair 2	Freight Elev	Elev's 1&2	Elev's 3&4	Deduct for Lavs	Mech			Elec & Tel	
1st	22,933	(19,430)	3,503	-	(310)	(161)	(106)	(165)	(191)	-	-	(321)	(429)	1,820	4
2nd	22,933	(13,125)	9,808	(607)	(208)	(161)	(106)	(165)	(188)	(200)	(250)	(150)		7,773	4
3rd	20,289	-	20,289	-	(208)	(404)	(106)	(310)	(269)	(750)	(100)	(377)		17,765	15
4th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
5th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
6th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
7th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
8th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
9th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
10th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
11th	19,748	-	19,748	-	(208)	(267)	(106)	(169)	(138)	(1,650)	(112)	(85)		17,013	33
Roof	2,512	-	2,512	-	(208)	(349)	(106)	(150)	(151)	-	(1,230)	(318)		-	-
TOTAL	226,651	(32,555)	194,096	(607)	(2,598)	(3,211)	(1,272)	(1,977)	(1,903)	(14,150)	(2,797)	(1,954)		163,462	283

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

PLAN DATE: 06-02-2023
06-02-2023
09-17-2023
12-21-2023

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HOTEL PLANS - FLOOR AREA CALCULATIONS
VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: AS NOTED
C.I. = N/A

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No. DATE DESCRIPTION

SHEET
H-008
FILE No.
SP-13005

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East Elevation

S. VAN DORN STREET

H-010

Gray Brick
(3 5/8" x 7 5/8" bricks, for Hotel 1)

Red Brick
(3 5/8" x 7 5/8" bricks for Hotel 1)
Sits back from Gray Brick

Signage. Final brands to be selected. This corner can be seen from I-495 when traveling West

Terra Cotta Brick
(3 5/8" x 7 5/8" bricks for Hotel 2. Sits back from Ivory Brick.)

Metal copings to closely match adjacent brick

Signage. Final brands to be selected.

Ivory Brick
(3 5/8" x 7 5/8" bricks for Hotel 2.)

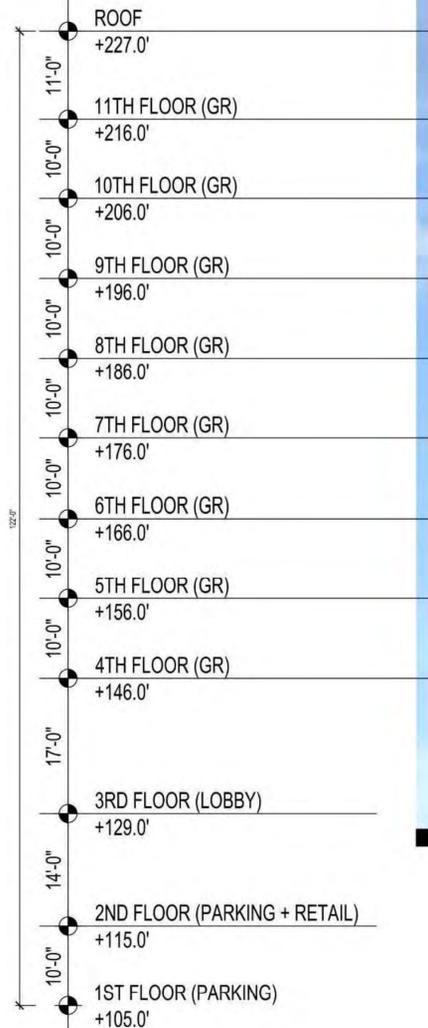
Clear Anodized Aluminum (silver color) window frames with LoE insulated glazing. (Window glazing color is not shown, as this represents how most glass will reflect the sky)

Denotes enlarged elevation on Sheet H-015

Pre-Cast Water Table Band

Metal Suspended Canopy, w/clear or frosted glass, metal, or similar covering

Pre-Cast or Stone or similar, base building material. (i.e. Arriscraft, Perdiema, and other similar brands)



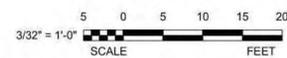
Freestanding Stone planters within the 25' setback

Exit doors to match adjacent materials

Proposed Grade, see Civil.

Exterior wall mounted building light fixture, narrow spread light to wash the face of the building up and down, to avoid light leak per LEED requirements, by BEGA 66-516 black anodized aluminum finish.

Façade details and materials to be determined with brand at the time of final site plan.



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HOTEL PLANS - EAST ELEVATION
VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: AS NOTED
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SP-13005

PLAN DATE	DESCRIPTION	REVISIONS
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09-17-2023		
12-21-2023		

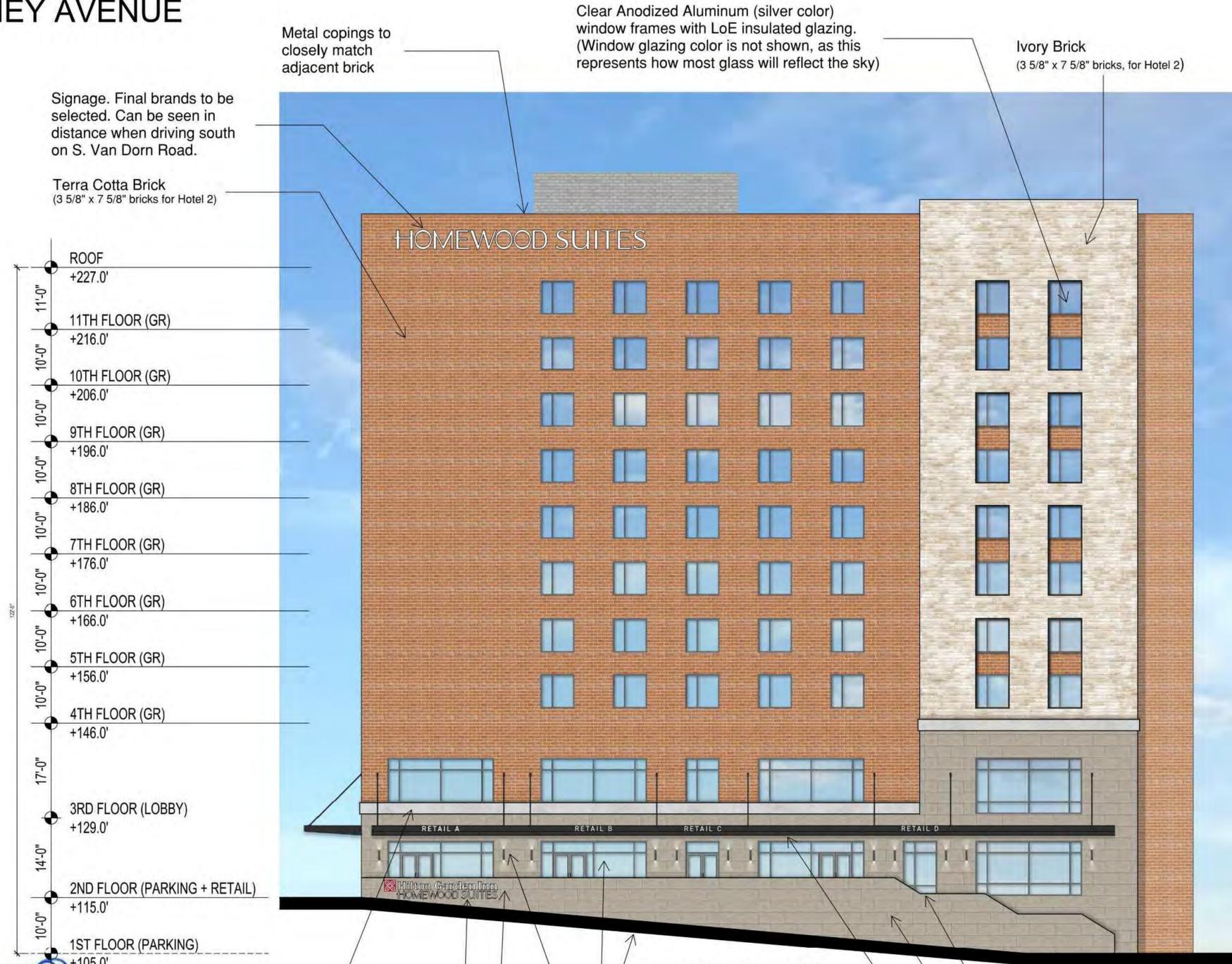
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PROFESSIONAL ENGINEER

North Elevation COURTNEY AVENUE

H-011



Signage. Final brands to be selected. Can be seen in distance when driving south on S. Van Dorn Road.

Terra Cotta Brick
(3 5/8" x 7 5/8" bricks for Hotel 2)

Metal copings to closely match adjacent brick

Clear Anodized Aluminum (silver color) window frames with LoE insulated glazing. (Window glazing color is not shown, as this represents how most glass will reflect the sky)

Ivory Brick
(3 5/8" x 7 5/8" bricks, for Hotel 2)

- ROOF +227.0'
- 11'-0" 11TH FLOOR (GR) +216.0'
- 10'-0" 10TH FLOOR (GR) +206.0'
- 10'-0" 9TH FLOOR (GR) +196.0'
- 10'-0" 8TH FLOOR (GR) +186.0'
- 10'-0" 7TH FLOOR (GR) +176.0'
- 10'-0" 6TH FLOOR (GR) +166.0'
- 10'-0" 5TH FLOOR (GR) +156.0'
- 10'-0" 4TH FLOOR (GR) +146.0'
- 17'-0" 3RD FLOOR (LOBBY) +129.0'
- 14'-0" 2ND FLOOR (PARKING + RETAIL) +115.0'
- 10'-0" 1ST FLOOR (PARKING) +105.0'

HOMEWOOD SUITES

RETAIL A RETAIL B RETAIL C RETAIL D

Proposed Grade, see Civil

S. Van Dorn Street Level Plaza/Patio Area to Retail

Exterior wall mounted building light fixture, narrow spread light to wash the face of the building up and down, to avoid light leak per LEED requirements, by BEGA 66-516 black anodized aluminum finish.

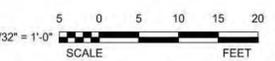
Outdoor staircase from S. Van Dorn level down to Courtney Ave. level, with 2 landings.

Proposed retaining wall, in foreground. See Civil.

Metal Suspended Canopy, w/clear or frosted glass, metal, or similar covering

Pre-Cast or Stone or similar, base building material. (i.e. Arriscraft, Perdiema, and other similar brands)

Façade details and materials to be determined with brand at the time of final site plan.



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BUILDING LIGHT FIXTURE Specifications

BEGA Surface wall - dual narrow beam lig 66 516

Wall luminaire



Light emission on two sides
Narrow beam upward - Narrow beam downward
Wall mounted luminaires with light emission on two sides. The narrow beam light distribution of the luminaires is identical in both directions.
Die-cast aluminum - Safety glass - Reflector made of pure anodized aluminum
LED color temperatures: 2700K, 3000K, 3500K, 4000K

BEGA Installation and Technical Information Surface wall - dual narrow beam lighting 66 516

Tools Required:
3mm hex key
4mm hex key
Phillips medium screwdriver

Protection Class: IP65
Weight: 7.5 lbs.

Notice to installer for 66 516:

- See page 2 for specific product safety warnings.
 - Attachment directly to vertically oriented linear wiring box (19 537 provided).
 - Wiring box needs to be recessed into wall and must be flush with the finished surface.
 - In conformance with UL Standard 158, a silicone based sealant MUST be used between luminaire and supporting wall.
- 19 537 - wiring box installation:
1. Recess (cast) wall construction - Secure wiring box to wood or metal vertical blocking. Connect conduit to wiring box (if needed) and pull wires for electrical connections to be made later.
2. Poured concrete construction - Attach wiring box to the concrete form. Connect conduit to wiring box (if needed) and pull wires for electrical connections to be made later. Pour concrete and remove form.
IMPORTANT: Do not pour concrete directly on to bead!

66 516 - Installation:

- Loosen 3mm set screw on underside of mounting base and remove mounting plate.
- Route luminaire wires through mounting plate and into linear wiring box.
- Make supply wiring and luminaire wiring connections inside the small opening linear wiring box.
MAIN VOLTAGE SUPPLY WIRE TO BLACK LUMINAIRE WIRE
NEUTRAL (COMMON) SUPPLY WIRE TO WHITE LUMINAIRE WIRE
GREEN GROUND WIRE TO GREEN LUMINAIRE WIRE
- Mount luminaire mounting plate to 19 537 (linear wiring box provided).
- Place small bead of silicone around the edge of the luminaire back plate, where it meets the finished wall.
- Place luminaire over mounting plate and tighten set screw to secure.

Relamping/Maintenance
Clean luminaire regularly with solvent-free cleansers from dirt and debris. Do not use high pressure cleaners.

Lamp: 15.8W LED

Accessories
Please refer to the appropriate accessory installation sheet for further instruction when applicable.

Narrow opening wiring box (included) 19 537
Surface mounted linear wiring box 79 547

Replacement Parts
LED Driver (120-277V) (1) V1 7004-01
LED Module (2700K) (2X) LED 0733827
LED Module (3000K) (2X) LED 0733828
LED Module (3500K) (2X) LED 0733835
LED Module (4000K) (2X) LED 0733840
Lens Gasket (2X) 830664

In the interest of product improvement, BEGA reserves the right to make technical changes without notice.
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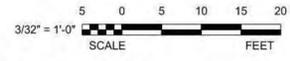
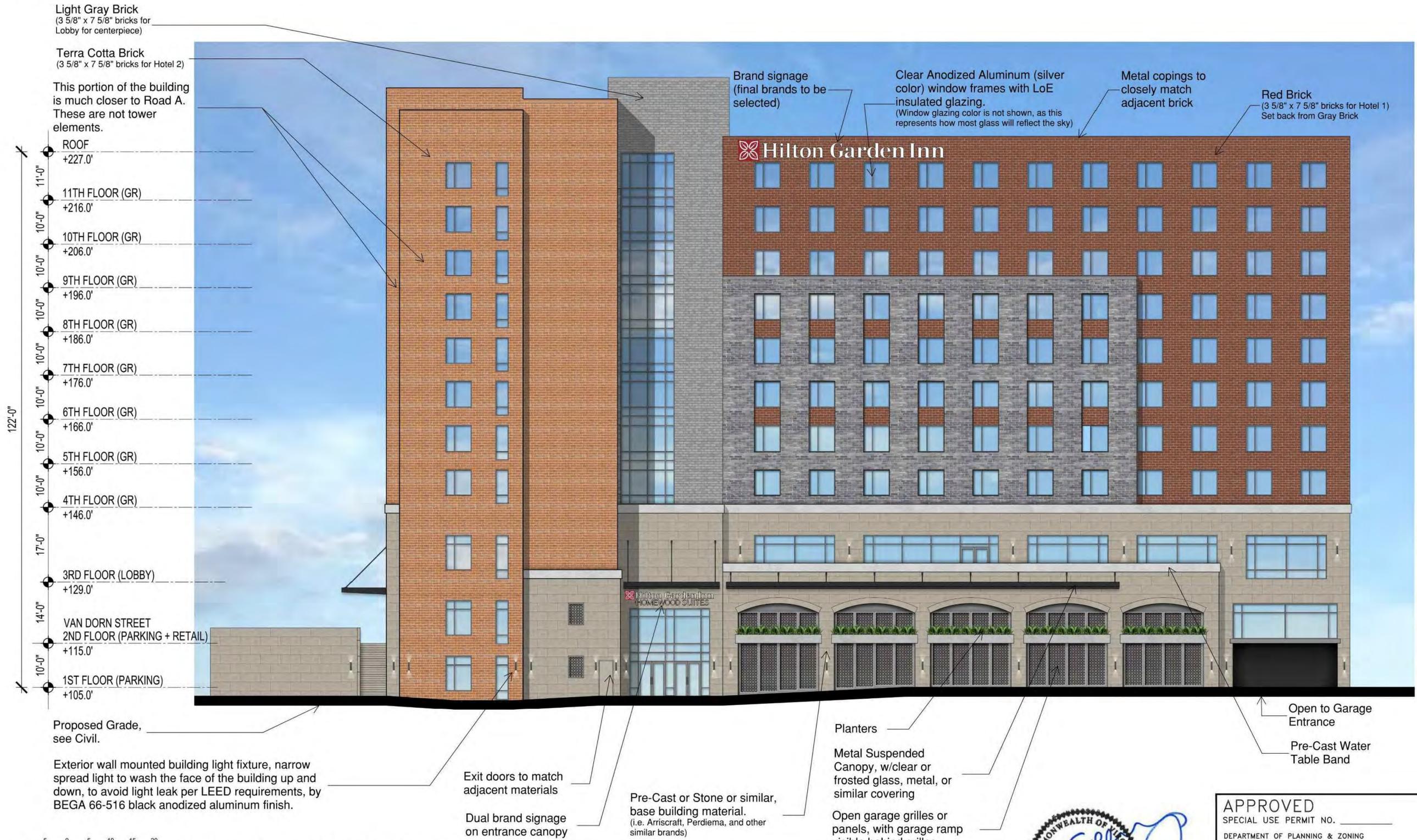
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12/21/2023
PROFESSIONAL ENGINEER

HOTEL PLANS - NORTH ELEVATION
VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: AS NOTED
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West Elevation ROAD C

H-012



Façade details and materials to be determined with brand at the time of final site plan.

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HOTEL PLANS - WEST ELEVATION
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PRELIMINARY SITE PLAN
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FILE No.
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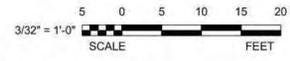
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11-17-2023	
1-2-21-2023	

No.	DATE	REVISIONS

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South Elevation LOADING DOCK

H-013



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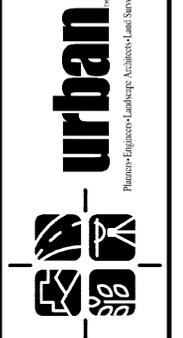
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HOTEL PLANS - SOUTH ELEVATION
VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
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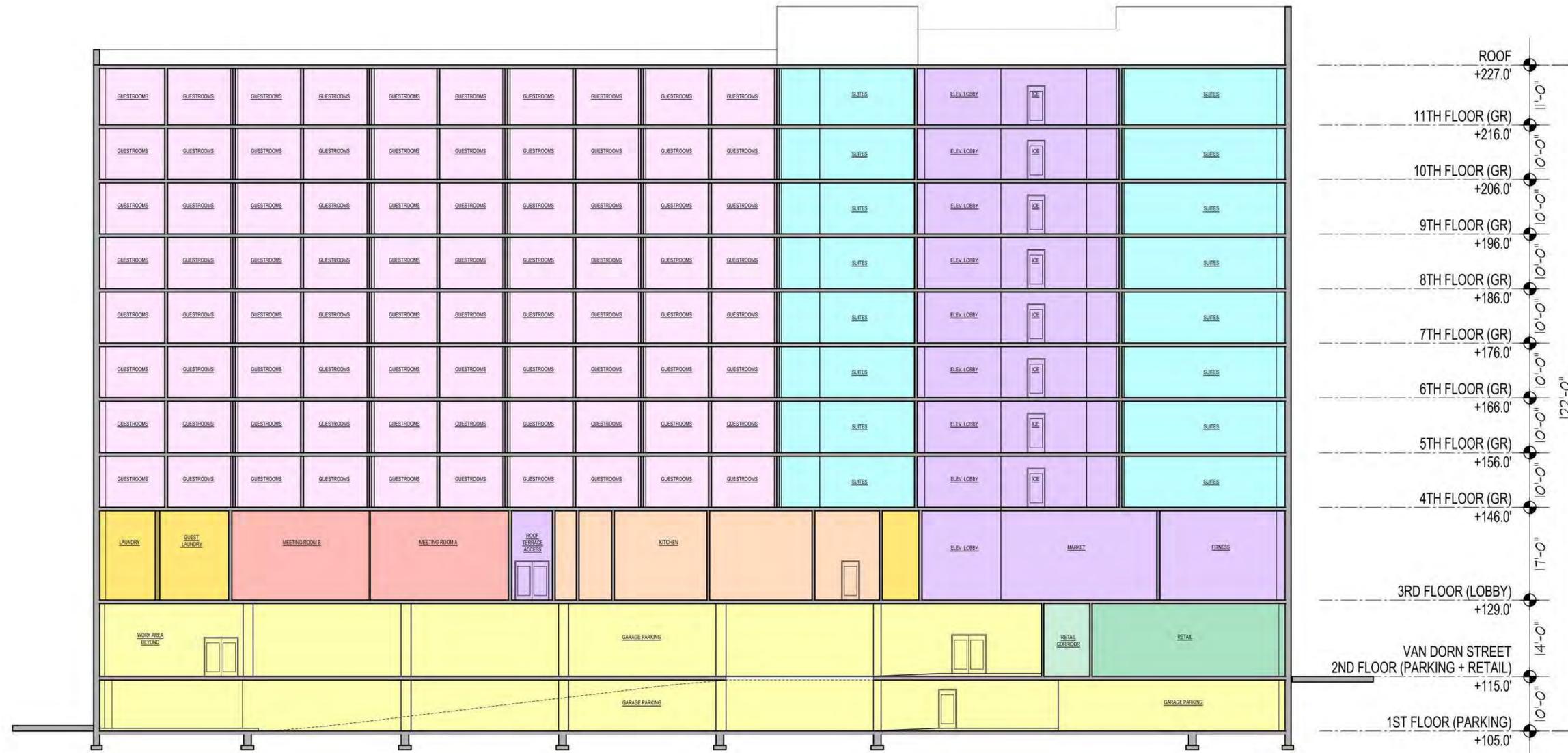
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09-17-2023	
12-21-2023	

No.	DATE	DESCRIPTION

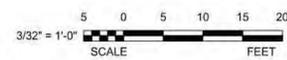
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Building Section

H-014



Façade details and materials to be determined with brand at the time of final site plan.



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Dual-Branded Hotel
Van Dorn Street - Alexandria, Virginia



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

HOTEL PLANS - BUILDING SECTION
**VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN**
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: AS NOTED
C.I. = N/A



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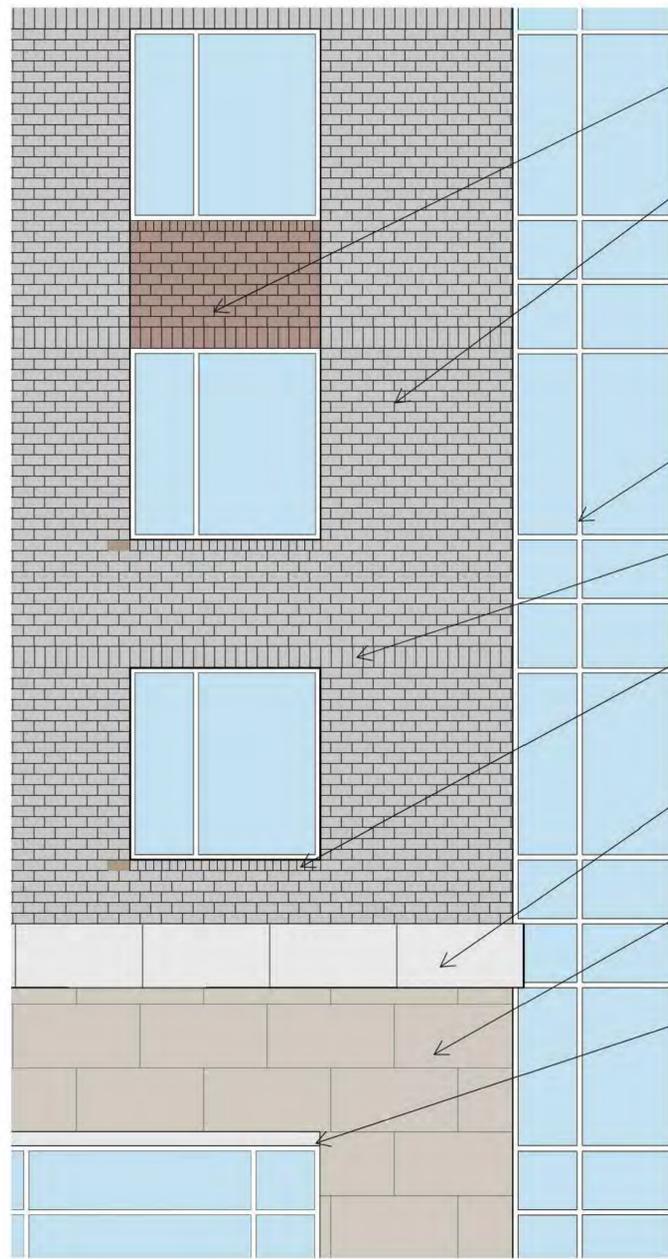
PLAN DATE	DESCRIPTION
06-02-2023	
09-17-2023	
12-21-2023	

No.	DATE	REVISIONS

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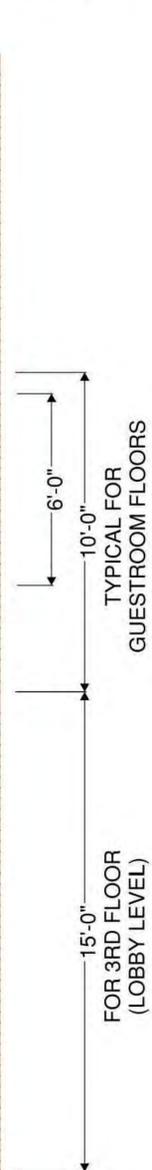
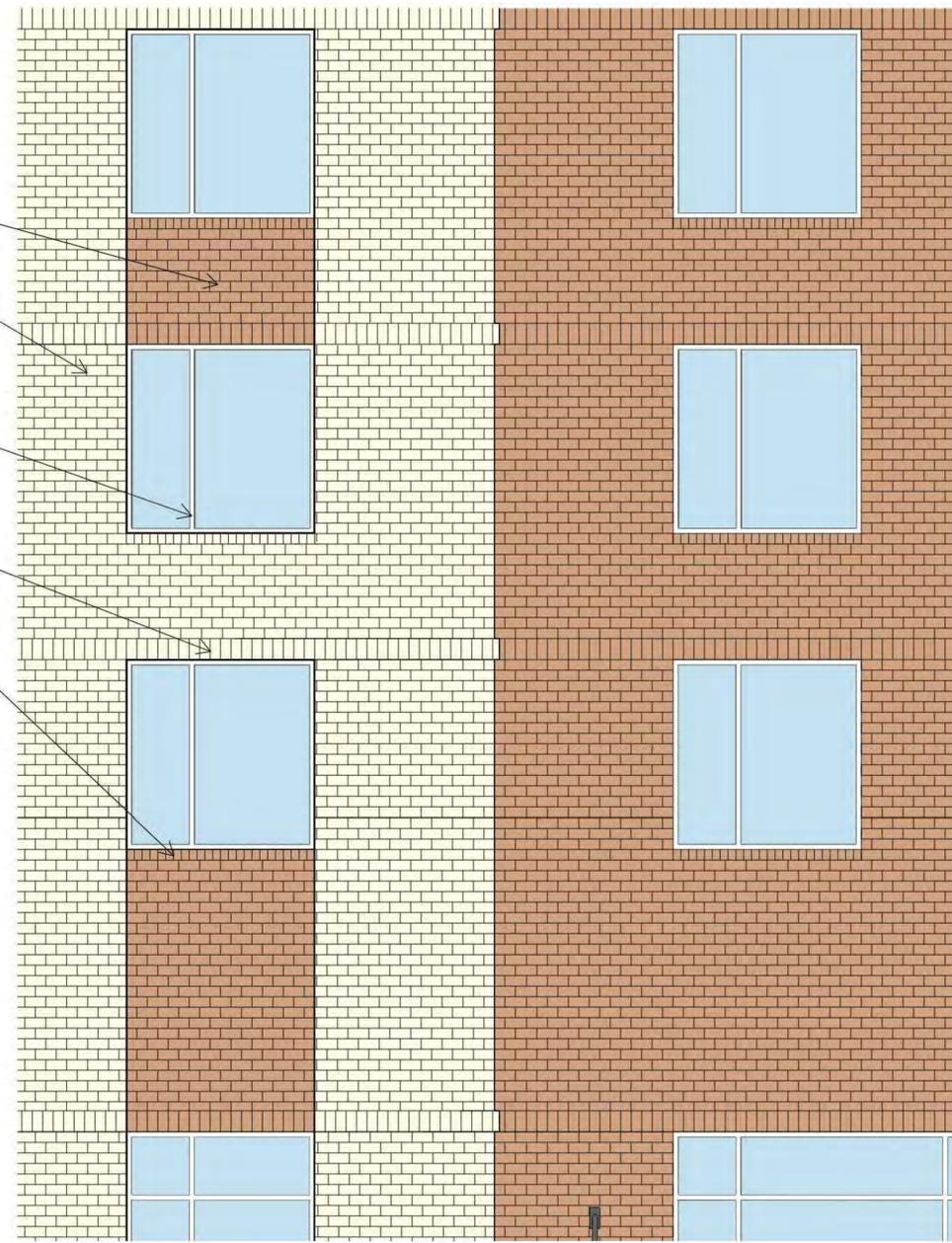
Enlarged Elevations

H-015



- Red Brick
(3 5/8" x 7 5/8" bricks for Hotel 1)
- Gray Brick
(3 5/8" x 7 5/8" bricks, for Hotel 1)
- Terra Cotta Brick
(3 5/8" x 7 5/8" bricks for Hotel 2)
- Ivory Brick
(3 5/8" x 7 5/8" bricks, for Hotel 2)
- Clear Anodized Aluminum
(silver color) window frames
with LoE insulated glazing.
- Header brick course at
window head
- Rowlock brick sill
- Pre-Cast Water
Table Band
- Pre-Cast or Stone or similar,
base building material.
(i.e. Stone panels, Arriscraft, Perdiema, and
other similar brands)
- Pre-Cast header

Note: These enlargements show the brick and stone drawn to scale. This sheet is not for final color and texture.



Partial Enlarged East Elevation A (S. Van Dorn)

Partial Enlarged East Elevation B (S. Van Dorn)



Façade details and materials to be determined with brand at the time of final site plan.

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HOTEL PLANS - ENLARGED ELEVATION
**VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN**
CITY OF ALEXANDRIA, VIRGINIA
SCALE: AS NOTED

SHEET
H-015
FILE No.
SP-13005



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PLAN DATE	DESCRIPTION	REVISIONS
06-02-2023		
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12-21-2023		

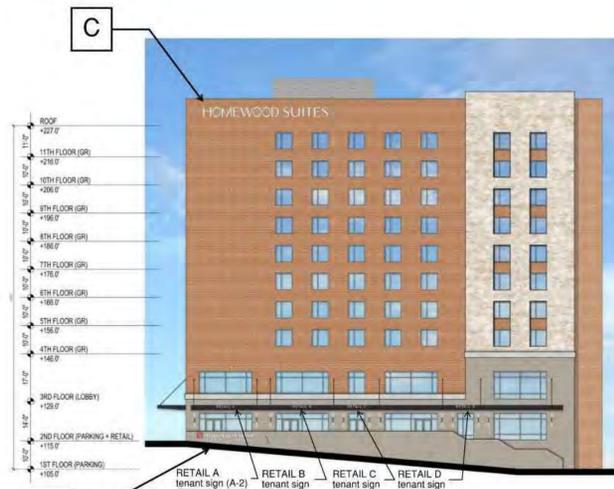
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Coordinated Signage Plan - Hotel

H-016



East Elevation - South Van Dorn Street
See Sheet H-010



North Elevation - Courtney Avenue
See Sheet H-011



West Elevation - Road C
See Sheet H-012

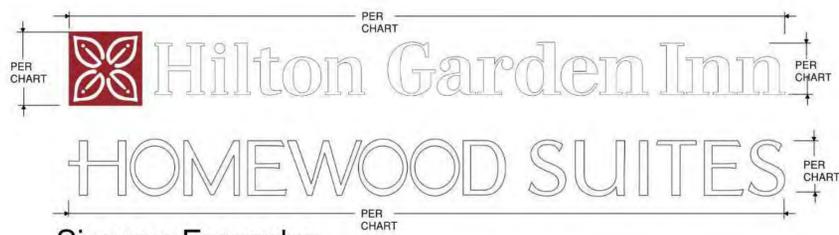


South Elevation - Loading Dock
See Sheet H-013

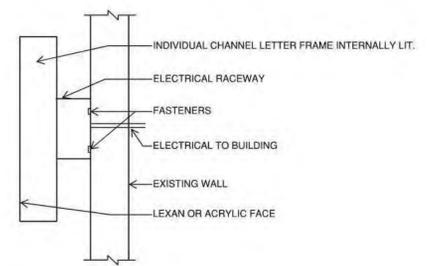
PROPOSED HOTEL BUILDING SIGNAGE CALCULATION SQUARE FOOTAGE PER LINEAR FEET

SIGNAGE ABOVE 20'													
Façade	Street	Linear Ft.	Designation	Name	Where	Height	Length	Square Ft.	SF per LF				
EAST	S. Van Dorn Street	220.33	lf.	A	Brand 1	Top	4.00	52.00	208.00				
				B	Brand 2	Top	4.00	52.00	208.00				
								416.00	s.f.	1.89	s.f. per lf.		
NORTH	Courtney Ave.	148.50	lf.	C	Brand 2	Top	4.00	52.00	208.00				
												208.00	s.f.
WEST	North part of Road C	54.41	lf.	n/a	n/a	n/a	n/a	0.00	0.00				
												0.00	s.f.
SOUTH	West part of Loading Dock	80.08	lf.	G	Brand 2	Top, at entry	3.50	45.50	159.25				
												159.25	s.f.
SOUTH	East part of Loading Dock	68.42	lf.	H	Brand 1	Top	3.25	41.44	134.67				
												134.67	s.f.
TOTAL								737.66	lf.	1,126.92	s.f.	1.53	Avg SF per LF

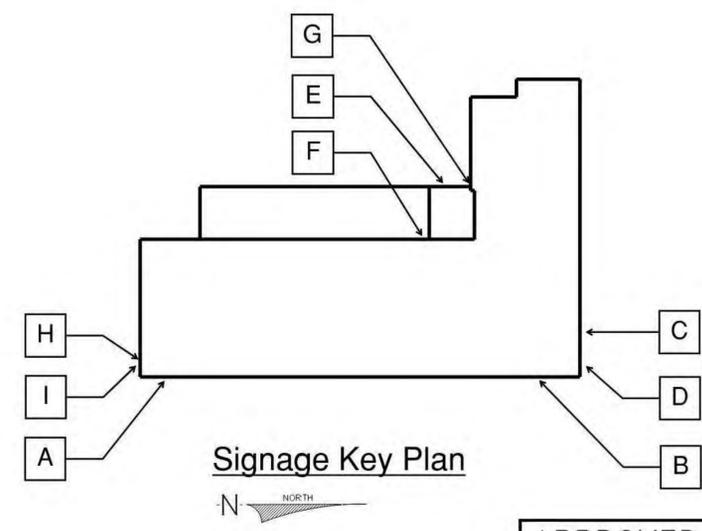
SIGNAGE BELOW 20'													
Façade	Street	Linear Ft.	Designation	Name	Where	Height	Length	Square Ft.	SF per LF				
EAST	S. Van Dorn Street	220.33	lf.	Retail A-1	Retail A-1	Sidewalk	3.00	30.00	90.00				
												90.00	s.f.
NORTH	Courtney Ave.	148.50	lf.	Retail A-2	Retail A-2	Patio	2.00	20.00	40.00				
				Retail B	Retail B	Patio	2.00	20.00	40.00				
				Retail C	Retail C	Patio	2.00	20.00	40.00				
				Retail D	Retail D	Patio	2.00	20.00	40.00				
								134.44	s.f.	0.90	s.f. per lf.		
WEST	North part of Road C	54.41	lf.	n/a	n/a	n/a	n/a	0.00	0.00				
												0.00	s.f.
WEST	South part of Road C	165.92	lf.	E	Brand 1 & 2	At Entry	5.00	50.00	250.00				
												250.00	s.f.
SOUTH	West part of Loading Dock	80.08	lf.	n/a	n/a	n/a	n/a	0.00	0.00				
												0.00	s.f.
SOUTH	East part of Loading Dock	68.42	lf.	I	Brand 1 & 2	Street	3.67	36.67	134.44				
												134.44	s.f.
TOTAL								737.66	lf.	768.88	s.f.	1.04	Avg SF per LF



Signage Examples
Note: Brand names may change. These are shown as examples.



Signage Detail/Section
Note: Not to scale.

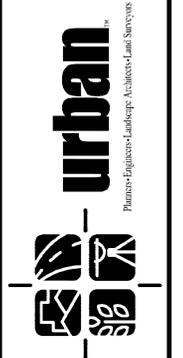


Signage Key Plan



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INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

COORDINATED SIGNAGE PLAN - HOTEL
VULCAN MATERIALS DEVELOPMENT
PRELIMINARY SITE PLAN
CITY OF ALEXANDRIA, VIRGINIA
DATE: JUNE, 2023
SCALE: AS NOTED
SHEET H-016
FILE No. SP-13005

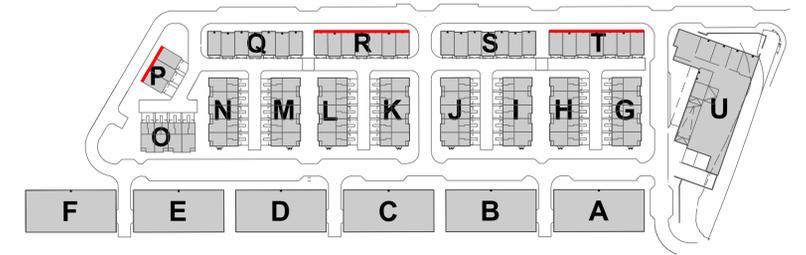


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06-02-2023		
09-19-2023		
12-21-2023		

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



Scale: 1/8"=1'-0"

**FRONT ELEVATION - SCHEME 1
BUILDINGS R & T**



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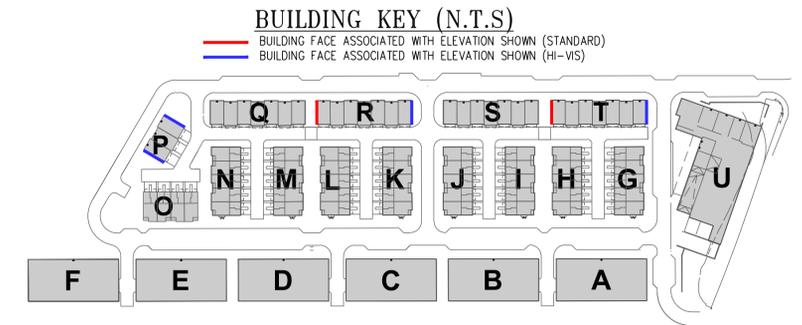
VULCAN SITE TOWNHOUSES
ALEXANDRIA, VA # 20191175.01

CONCEPTUAL DESIGN
June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

7-UNIT STICK

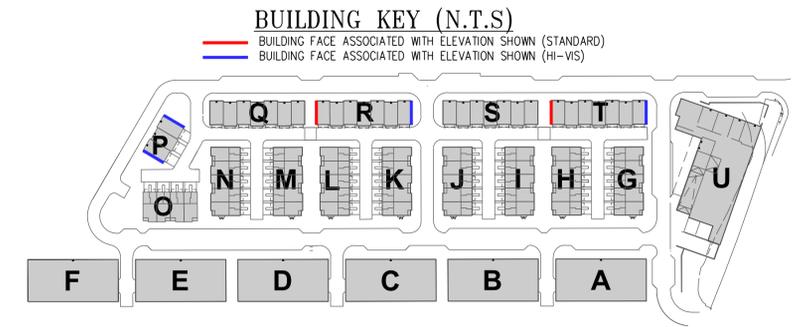
A1.1



**HIGH VIS SIDE ELEVATION - SCHEME 1
 BUILDINGS P, R & T**

**STANDARD SIDE ELEVATION - SCHEME 1
 BUILDINGS R & T**

Scale: 1/8"=1'-0"



Scale: 1/8"=1'-0"

**HIGH VIS SIDE ELEVATION - SCHEME 1
 BUILDING P ONLY**



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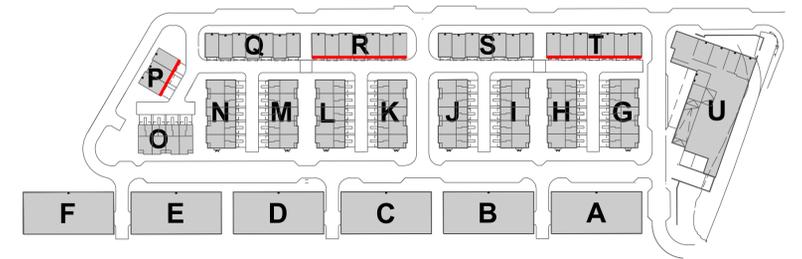
CONCEPTUAL DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

7-UNIT STICK

A1.3

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



Shown with optional loft

Shown with optional loft

Shown with optional loft

Scale: 1/8"=1'-0"

**REAR ELEVATION - SCHEME 1
 BUILDING R**



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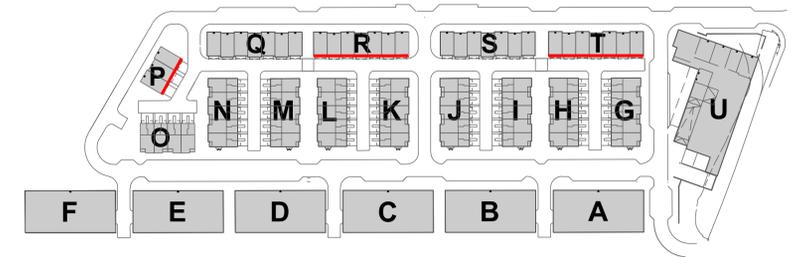
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

7-UNIT STICK

A1.4

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



Shown with optional loft

Shown with optional loft

Shown with optional loft

Scale: 1/8"=1'-0"

**REAR ELEVATION - SCHEME 1
BUILDING T**



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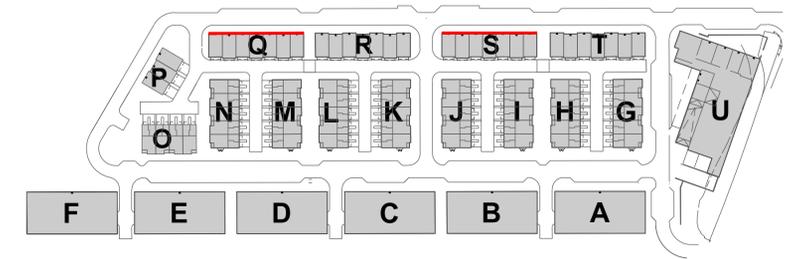
ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

7-UNIT STICK
1/8" = 1'-0"

A1.5

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



Scale: 1/8"=1'-0"

**FRONT ELEVATION - SCHEME 2
BUILDINGS Q & S**



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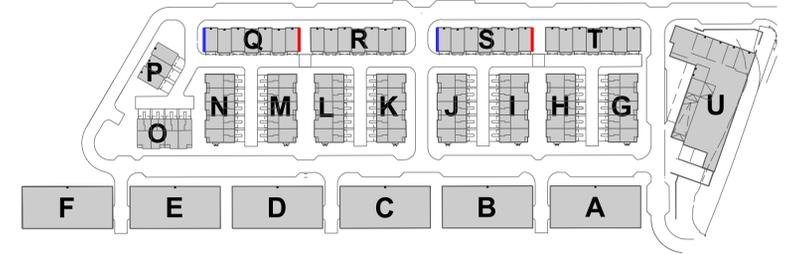
ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

7-UNIT STICK

A1.6

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN (STANDARD)
 — BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN (HI-VIS)



Scale: 1/8"=1'-0"

**HIGH VIS SIDE ELEVATION - SCHEME 2
BUILDINGS Q & S**

**STANDARD SIDE ELEVATION - SCHEME 2
BUILDINGS Q & S**



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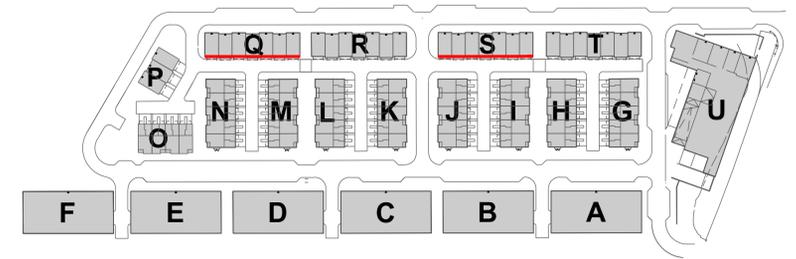
ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

7-UNIT STICK

A1.7

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



Shown with optional loft

Shown with optional loft

Shown with optional loft

Scale: 1/8"=1'-0"

**REAR ELEVATION - SCHEME 2
BUILDING Q**



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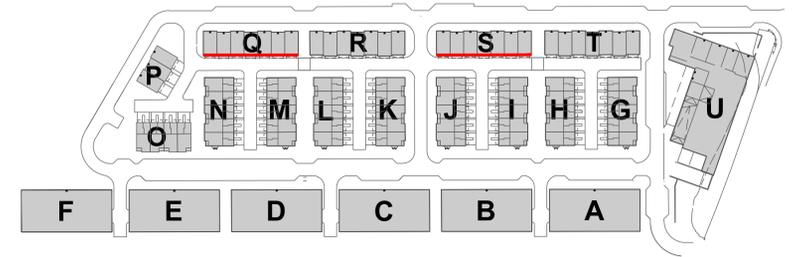
ELEVATIONS DEPICTED ARE SCHEMATIC
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OF CONSTRUCTION DRAWINGS

7-UNIT STICK
1/8" = 1'-0"

A1.8

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



Shown with optional loft

Shown with optional loft

Shown with optional loft

Scale: 1/8"=1'-0"

**REAR ELEVATION - SCHEME 2
BUILDING S**



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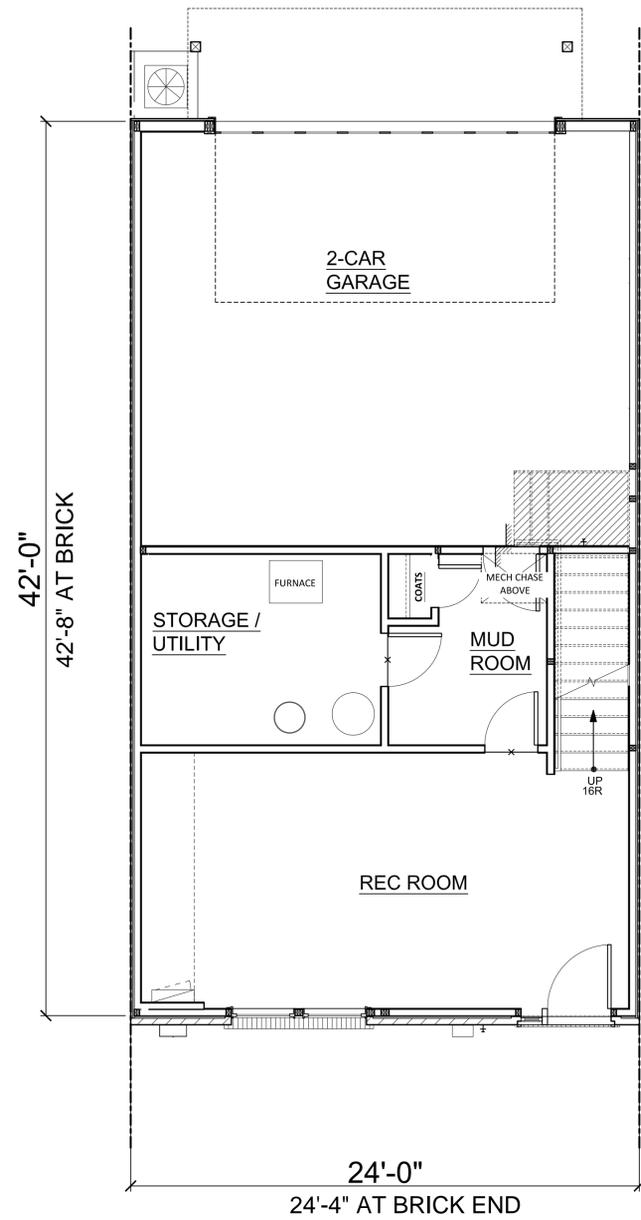
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June 2, 2023

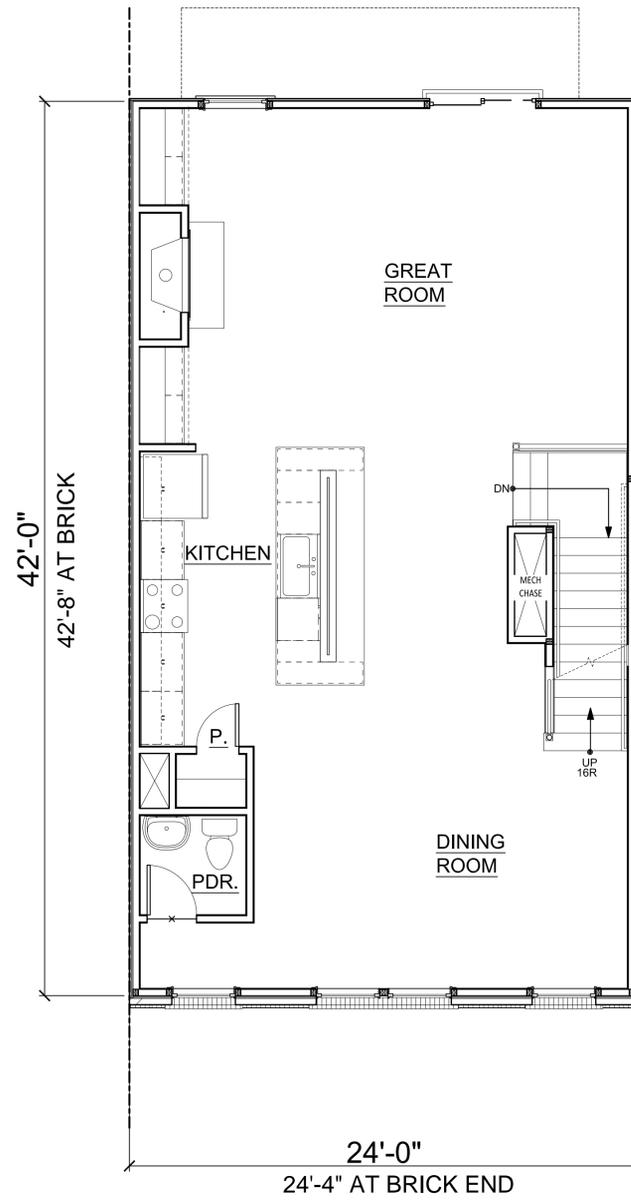
ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

7-UNIT STICK
1/8" = 1'-0"

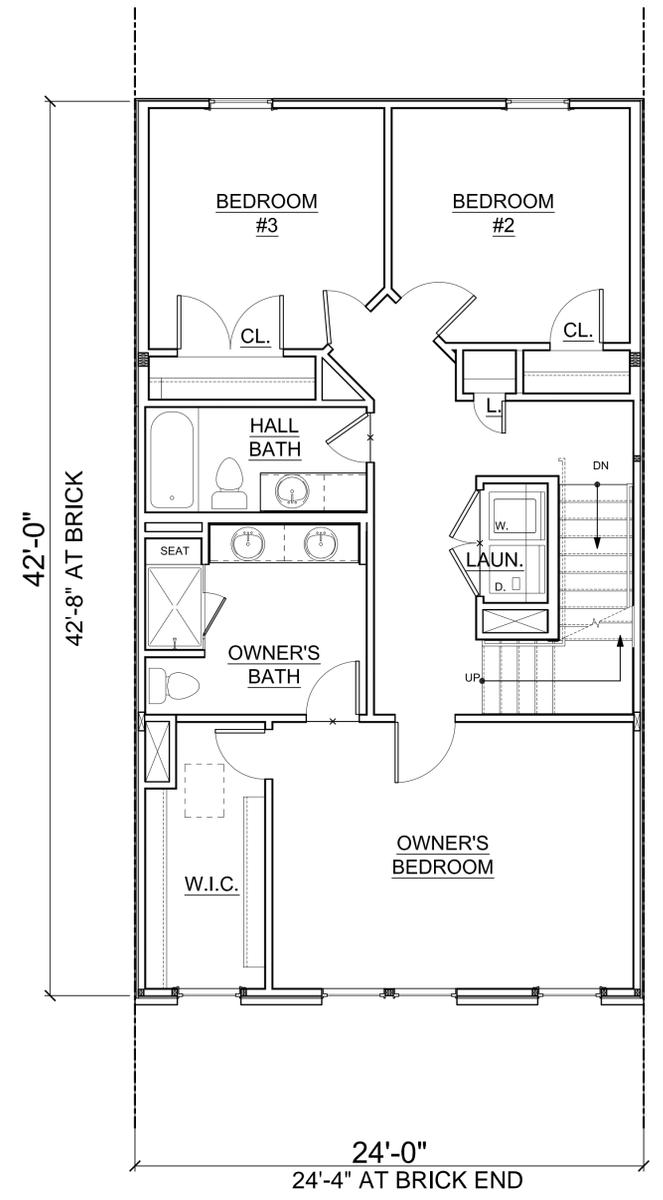
A1.9



GROUND FLOOR: AREA 511 S.F. SCALE: 1/4"=1'-0" 1



SECOND FLOOR: AREA 994 S.F. SCALE: 1/4"=1'-0" 2



THIRD FLOOR: AREA 994 S.F. SCALE: 1/4"=1'-0" 3



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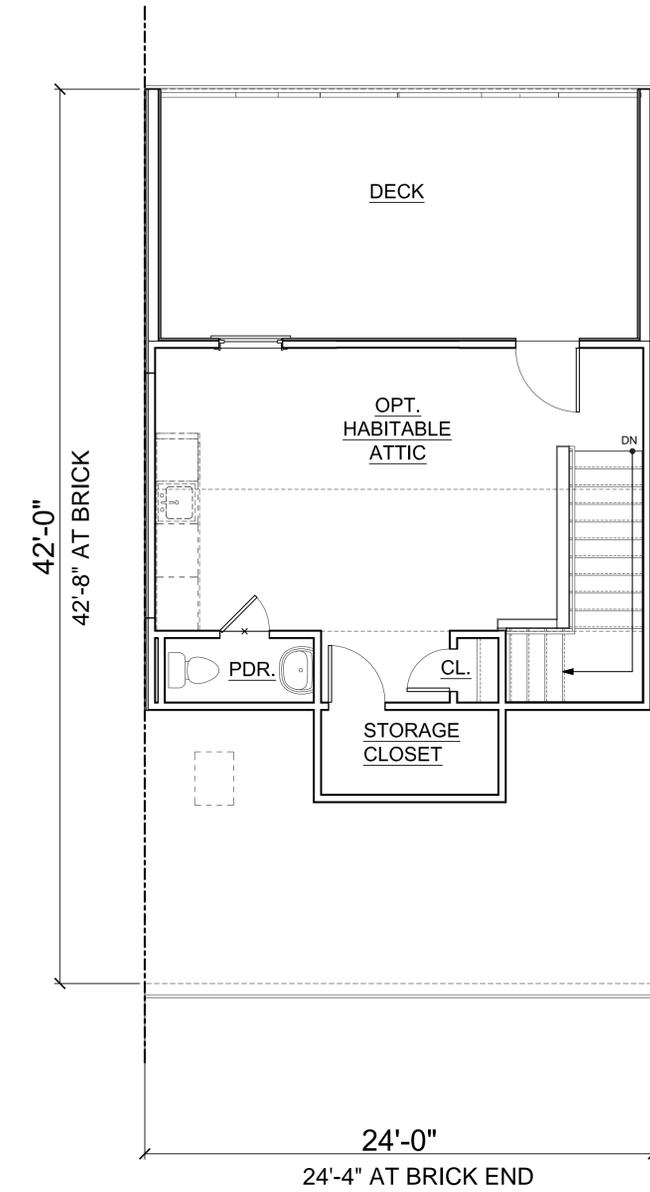


VULCAN SITE TOWNHOUSES
ALEXANDRIA, VA # 20191175.01

SCHEMATIC DESIGN
June 2, 2023

2,583 TOTAL AREA

A2.1



ATTIC FLOOR: AREA 354 S.F.

SCALE: 1/4"=1'-0" 1



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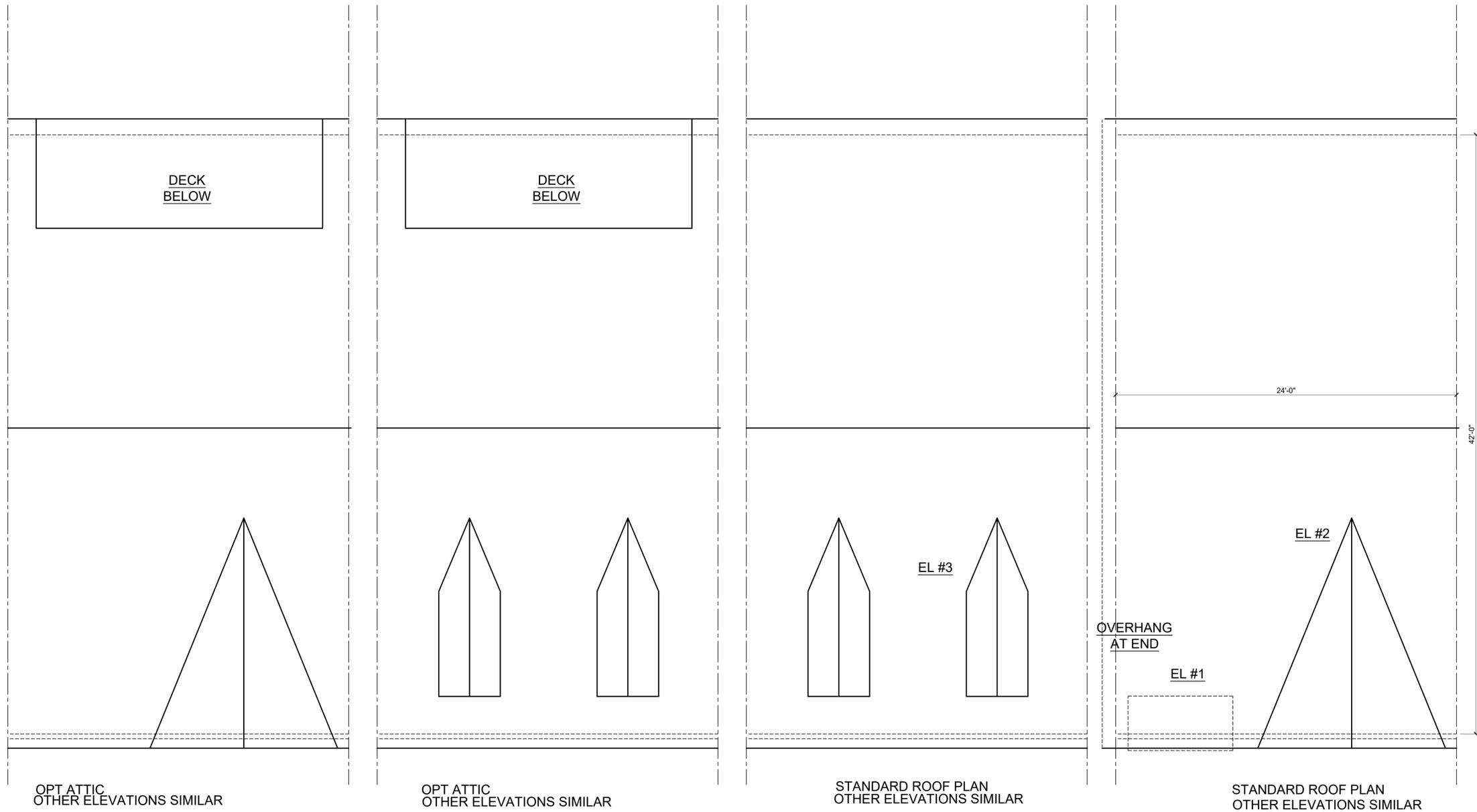


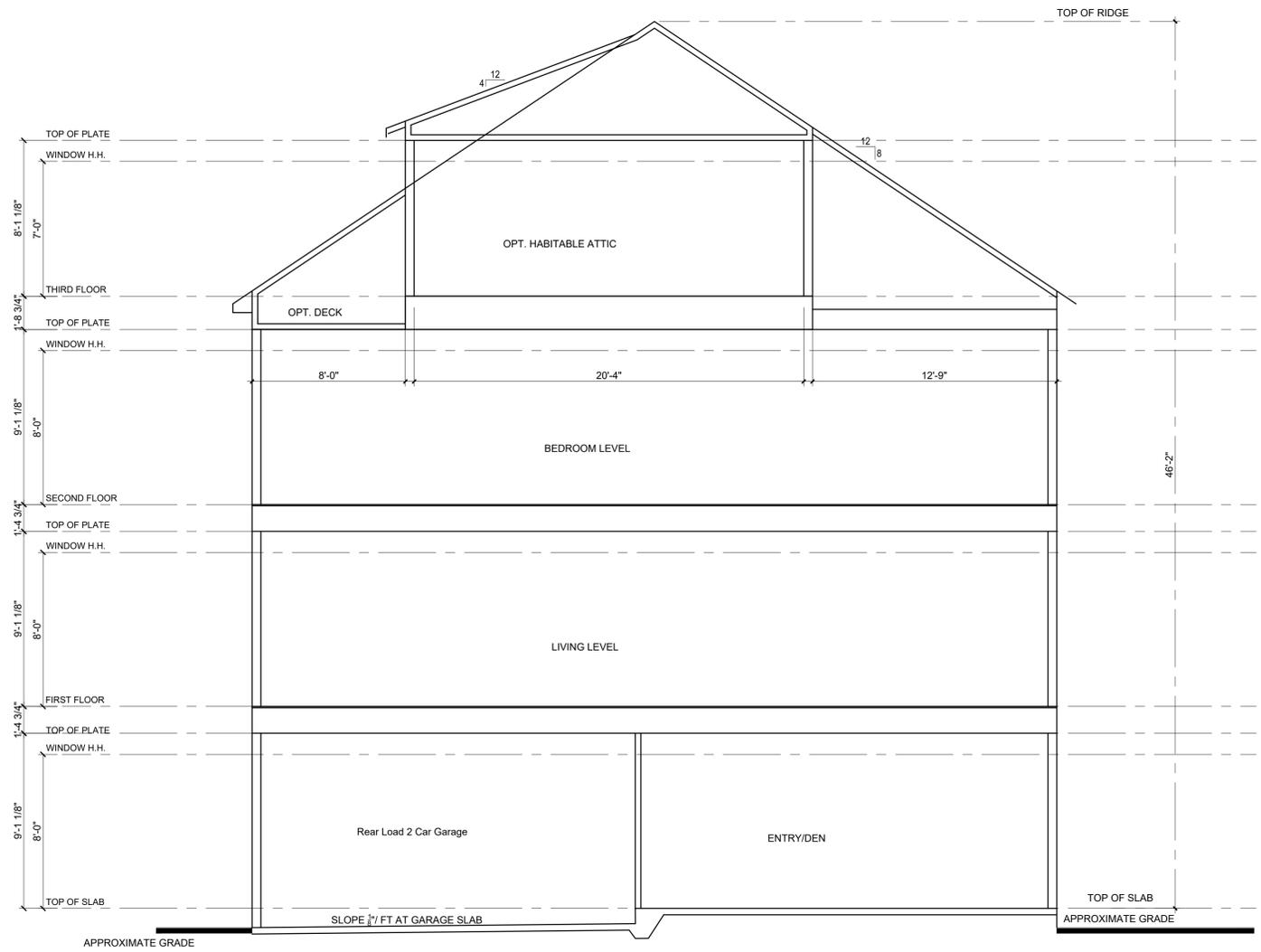
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SCHEMATIC DESIGN
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FLOOR PLANS

A2.2





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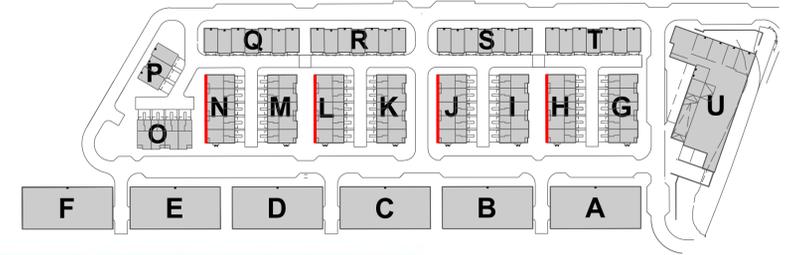
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ALEXANDRIA, VA # 20191175.01

SCHEMATIC DESIGN
June 2, 2023

SECTION
1/4" = 1'-0"

A2.4



Scale: 3/16"=1'-0"

SCHEME 1: FRONT ELEVATION
 BUILDING H, J, L, & N TYP.



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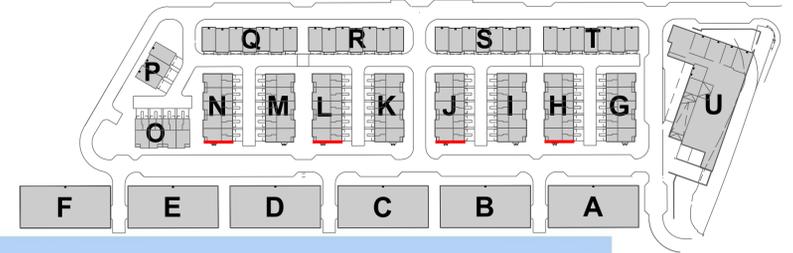
VULCAN SITE 2 OVER 2
 ALEXANDRIA, VA # 20210203.002

CONCEPTUAL DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

5-UNIT STICK
 SCHEME 1 3/16" = 1'-0"

A3.1



HEEL HEIGHT
 TOP OF PLATE
 WINDOW H.H.
 9'-1.18"
 7'-0"
 FOURTH FLOOR
 TOP OF PLATE
 WINDOW H.H.
 9'-1.18"
 8'-0"
 THIRD FLOOR
 TOP OF PLATE
 WINDOW H.H.
 9'-1.18"
 8'-0"
 SECOND FLOOR
 TOP OF PLATE
 WINDOW H.H.
 9'-1.18"
 8'-0"
 TOP OF SLAB

Scale: 3/16"=1'-0"

SCHEME 1: RIGHT SIDE ELEVATION - HI-VIS
BUILDING H, J, L, & N, TYP.



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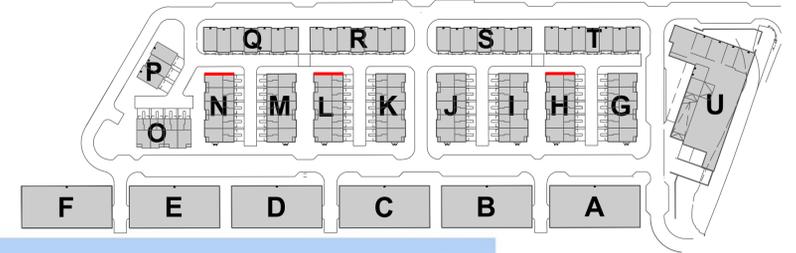
VULCAN SITE 2 OVER 2
 ALEXANDRIA, VA # 20191175.02

CONCEPTUAL DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

5-UNIT STICK
 SCHEME 1 3/16" = 1'-0"

A3.2



Scale: 3/16"=1'-0"

**SCHEME 1: STANDARD LEFT SIDE ELEVATION - LOW-VIS
 BUILDING H, L, N TYP.**



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VULCAN SITE 2 OVER 2
 ALEXANDRIA, VA # 20191175.02

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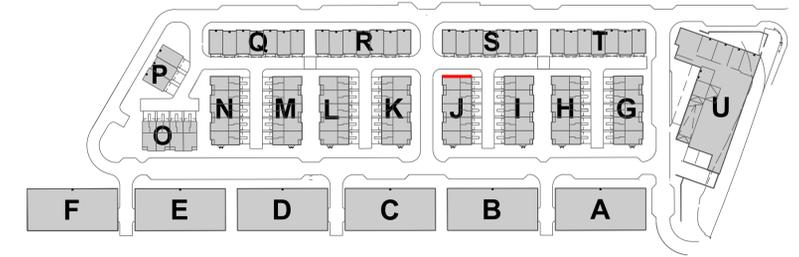
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

5-UNIT STICK
 SCHEME 1 3/16" = 1'-0"

A3.3

BUILDING KEY (N.T.S)

BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



HEEL HEIGHT
1'-2"
TOP OF PLATE
WINDOW H.H.
9'-1.18"
7'-6"
FOURTH FLOOR
TOP OF PLATE
1'-9.34"
WINDOW H.H.
8'-1.18"
8'-0"
THIRD FLOOR
TOP OF PLATE
1'-9.34"
WINDOW H.H.
8'-1.18"
8'-0"
SECOND FLOOR
TOP OF PLATE
1'-9.34"
WINDOW H.H.
8'-1.18"
8'-0"
TOP OF SLAB

Scale: 3/16"=1'-0"

SCHEME 1: LEFT SIDE ELEVATION - HI-VIS
BUILDING J ONLY



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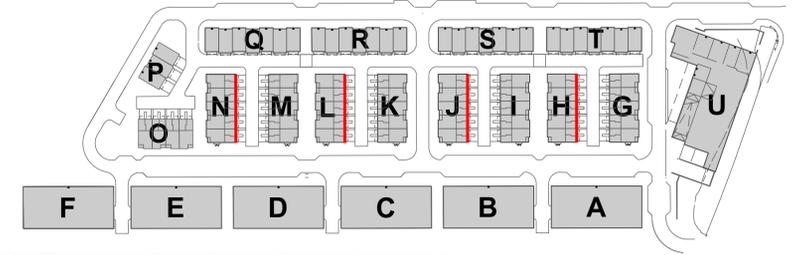
VULCAN SITE 2 OVER 2
ALEXANDRIA, VA # 20191175.02

CONCEPTUAL DESIGN
June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

5-UNIT STICK
SCHEME 1 3/16" = 1'-0"

A3.4



Scale: 3/16"=1'-0"

SCHEME 1: REAR ELEVATION
BUILDING H, J, L, & N TYP.



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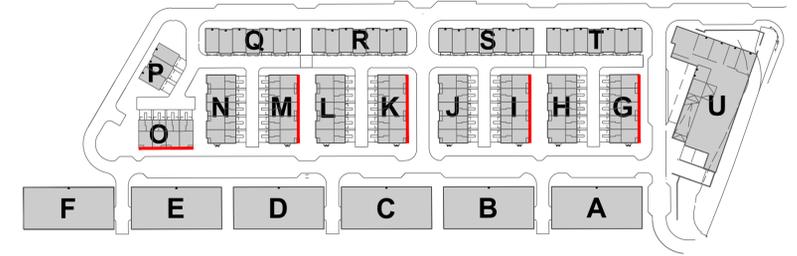
VULCAN SITE 2 OVER 2
 ALEXANDRIA, VA # 20210203.002

CONCEPTUAL DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

5-UNIT STICK
 SCHEME 1 3/16" = 1'-0"

A3.5



Scale: 3/16"=1'-0"

SCHEME 2: FRONT ELEVATION
BUILDING G, I, K, & M TYP.



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VULCAN SITE 2 OVER 2
 ALEXANDRIA, VA # 20210203.002

CONCEPTUAL DESIGN
 June 2, 2023

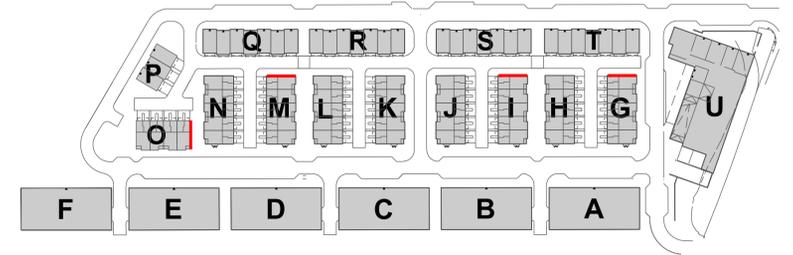
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

5-UNIT STICK
 SCHEME 2 3/16" = 1'-0"

A3.6

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



HEEL HEIGHT
1'-5"
TOP OF PLATE
WINDOW H.H.
9'-1.18"
7'-6"
FOURTH FLOOR
TOP OF PLATE
1'-0.34"
WINDOW H.H.
9'-1.18"
8'-0"
THIRD FLOOR
TOP OF PLATE
1'-0.34"
WINDOW H.H.
9'-1.18"
8'-0"
SECOND FLOOR
TOP OF PLATE
1'-0.34"
WINDOW H.H.
9'-1.18"
8'-0"
TOP OF SLAB

Scale: 3/16"=1'-0"

**SCHEME 2: STANDARD RIGHT SIDE ELEVATION - LOW-VIS
BUILDING G, I, & M TYP.**



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VULCAN SITE 2 OVER 2
ALEXANDRIA, VA # 20191175.02

CONCEPTUAL DESIGN
June 2, 2023

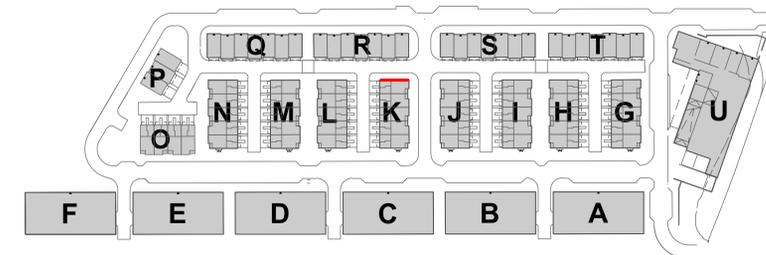
ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

5-UNIT STICK
SCHEME 2 3/16" = 1'-0"

A3.7

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



Scale: 3/16"=1'-0"

**SCHEME 2: RIGHT SIDE ELEVATION - HI-VIS
BUILDING K ONLY**



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VULCAN SITE 2 OVER 2
ALEXANDRIA, VA # 20191175.02

CONCEPTUAL DESIGN
June 2, 2023

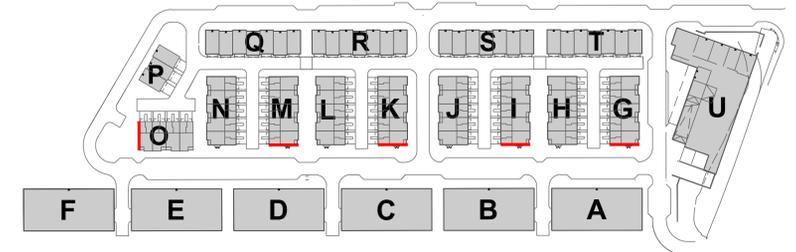
ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

5-UNIT STICK
SCHEME 2 3/16" = 1'-0"

A3.8

BUILDING KEY (N.T.S)

BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



HEEL HEIGHT
1'-2"
TOP OF PLATE
WINDOW H.H.
9'-1.18"
7'-6"
FOURTH FLOOR
TOP OF PLATE
1'-9.34"
WINDOW H.H.
8'-1.18"
8'-0"
THIRD FLOOR
TOP OF PLATE
1'-9.34"
WINDOW H.H.
8'-1.18"
8'-0"
SECOND FLOOR
TOP OF PLATE
1'-9.34"
WINDOW H.H.
8'-1.18"
8'-0"
TOP OF SLAB

Scale: 3/16"=1'-0"

**SCHEME 2: LEFT SIDE ELEVATION - HI-VIS
BUILDING G, I, K, & M TYP.**



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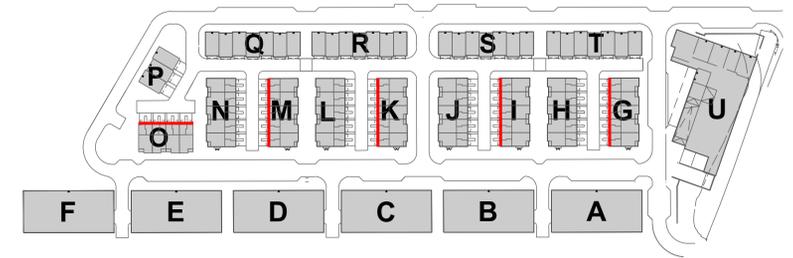
VULCAN SITE 2 OVER 2
ALEXANDRIA, VA # 20191175.02

CONCEPTUAL DESIGN
June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

5-UNIT STICK
SCHEME 2 3/16" = 1'-0"

A3.9



Scale: 3/16"=1'-0"

**SCHEME 2: REAR ELEVATION
 BUILDING G, I, K, & M TYP.**



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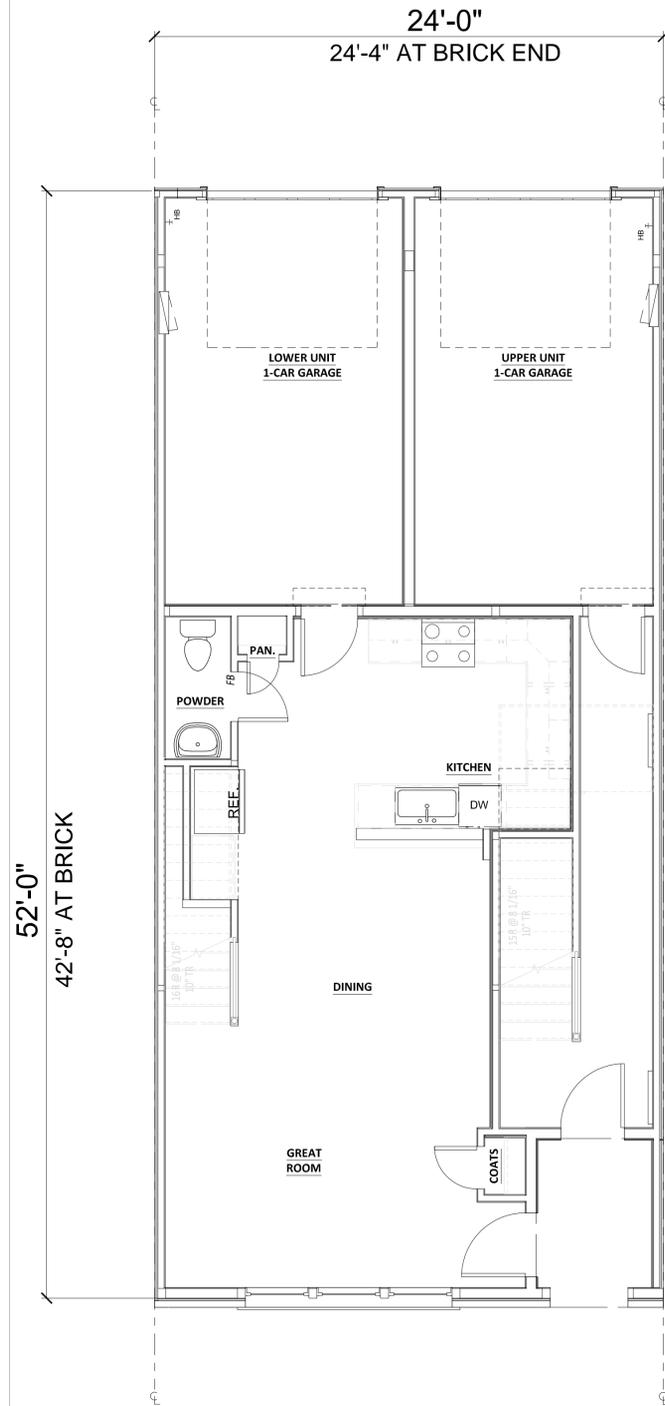
VULCAN SITE 2 OVER 2
 ALEXANDRIA, VA # 20210203.002

CONCEPTUAL DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

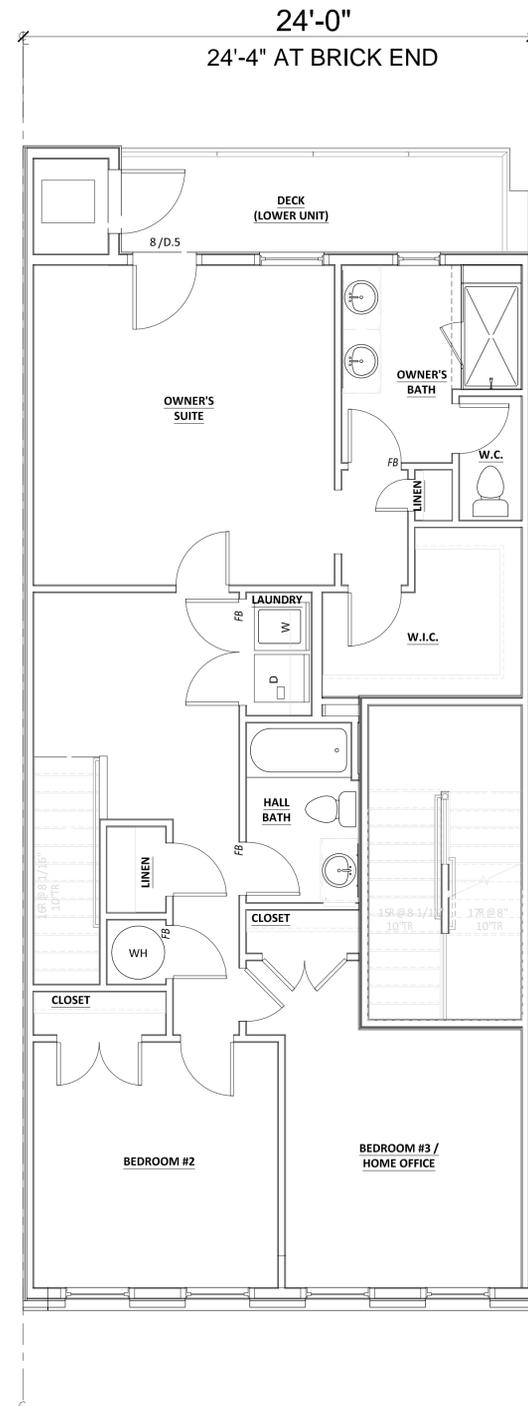
5-UNIT STICK
 SCHEME 2 3/16" = 1'-0"

A3.10



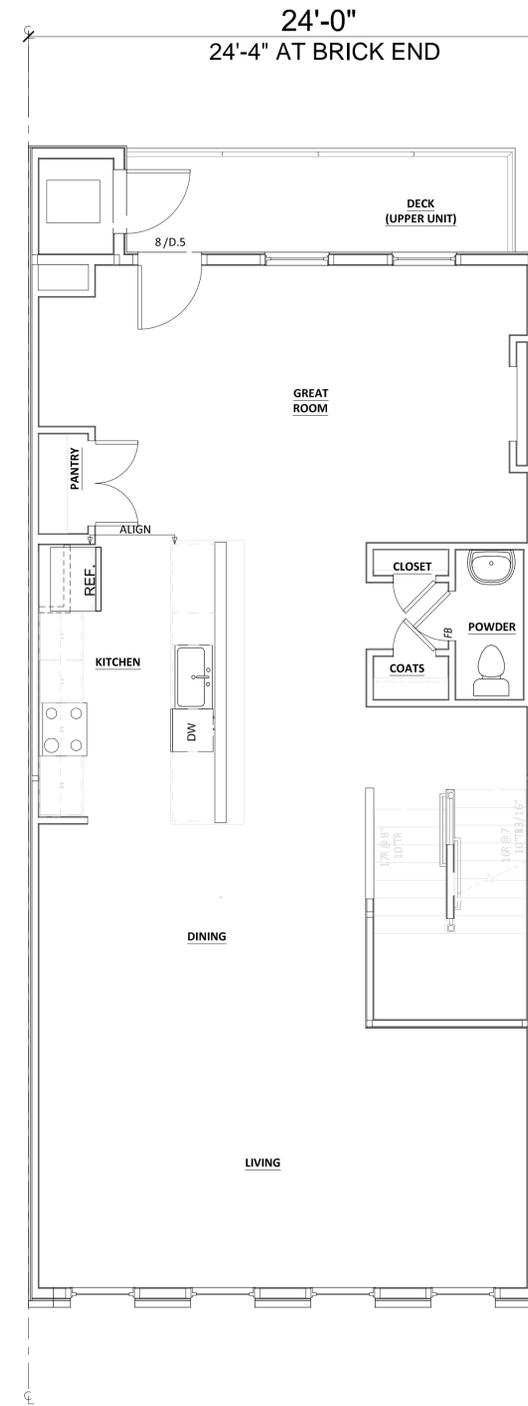
AREA:
 TARARA= 588 S.F.
 BLUEMONT= 157 S.F.

FIRST FLOOR PLAN SCALE: 1/4"=1'-0" 1



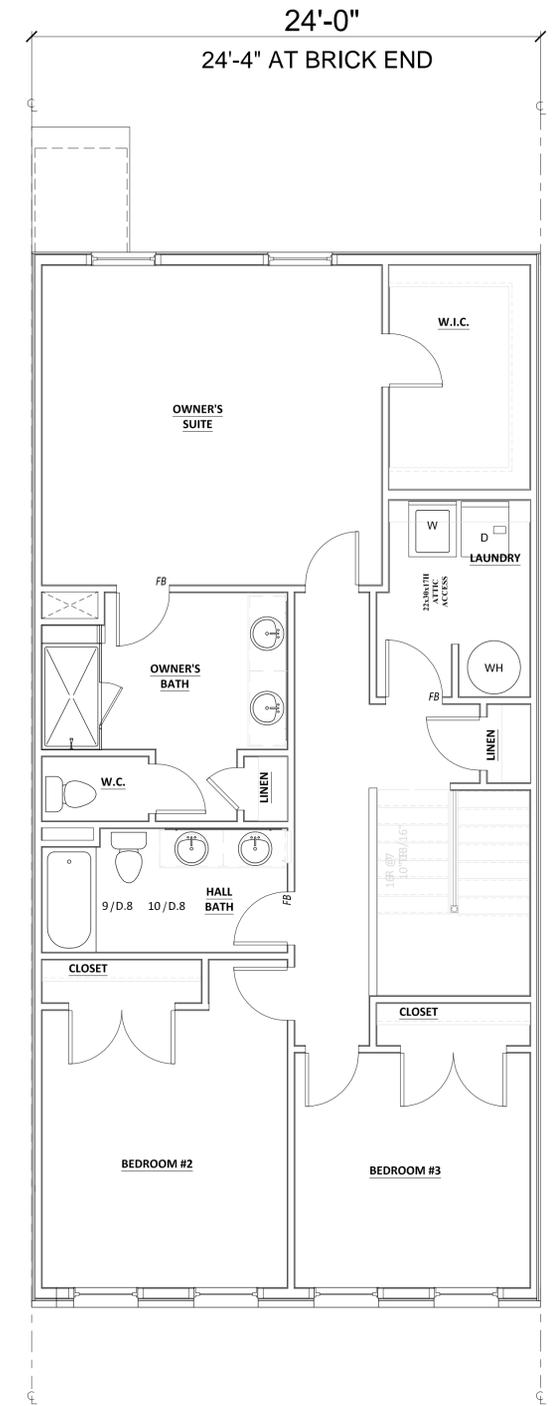
AREA:
 TARARA= 1,095 S.F.
 BLUEMONT= 120 S.F.

SECOND FLOOR PLAN SCALE: 1/4"=1'-0" 2



AREA:
 BLUEMONT= 1,212 S.F.

THIRD FLOOR PLAN SCALE: 1/4"=1'-0" 3



AREA:
 BLUEMONT= 1,115 S.F.

FOURTH FLOOR PLAN SCALE: 1/4"=1'-0" 4



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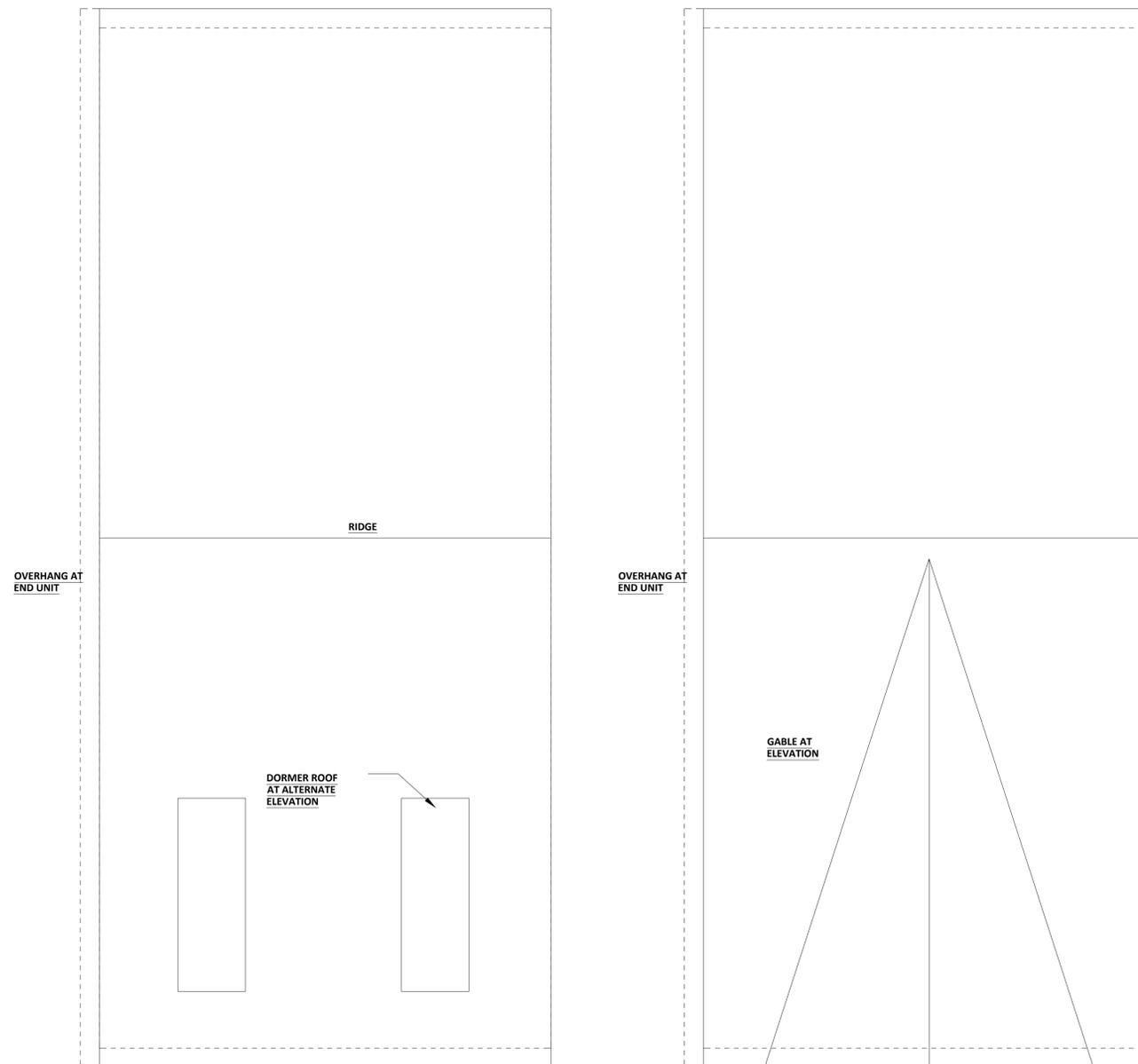
VULCAN SITE; 2 over 2
 ALEXANDRIA, VA # 20191175.02

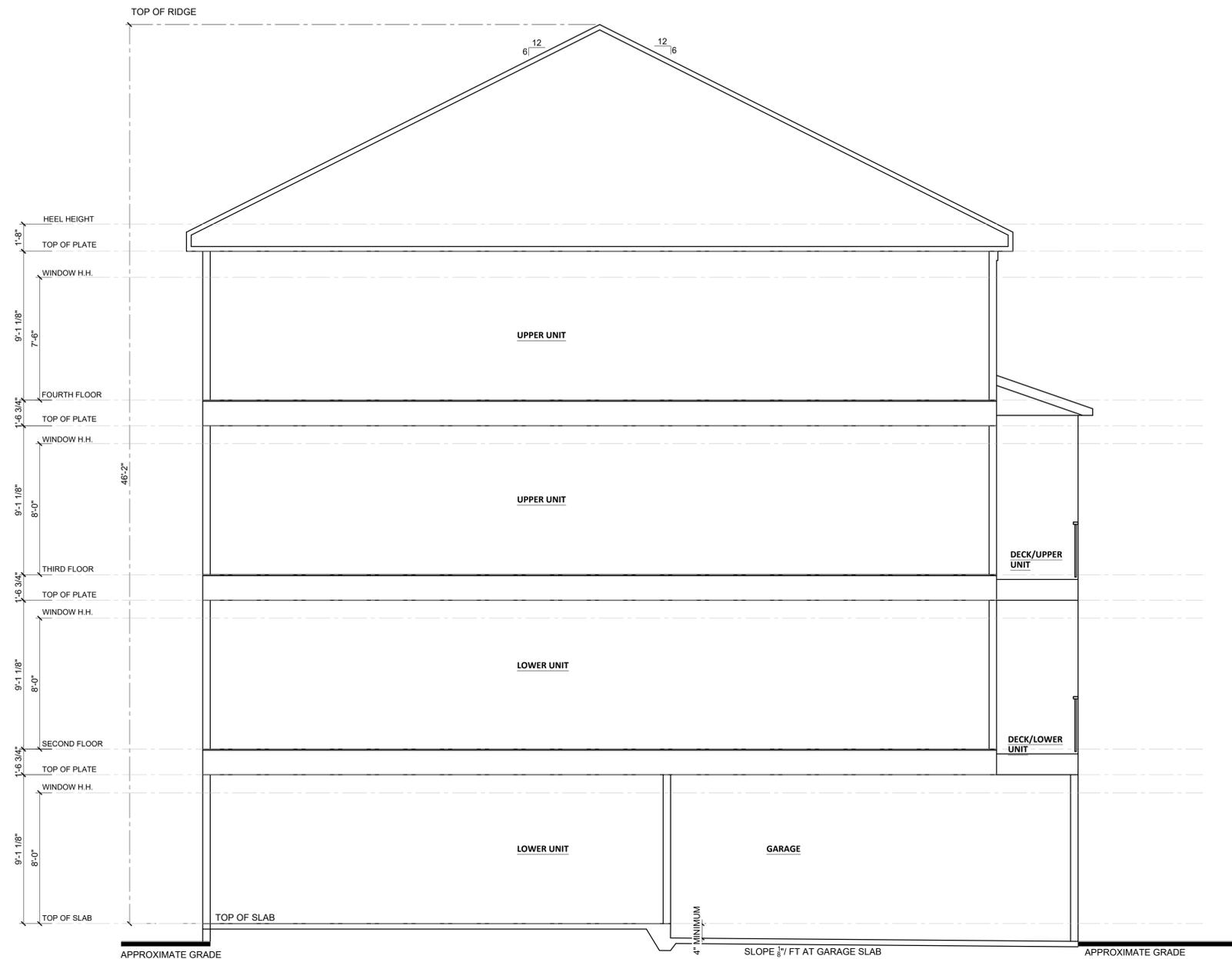
SCHEMATIC DESIGN
 June 2, 2023

TARARA: TOTAL AREA 1,683
 BLUEMONT: TOTAL AREA 2,604

TARARA & BLUEMONT

A4.1





SECTION SCALE: 3/16"=1'-0" 1



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VULCAN SITE; 2 over 2
ALEXANDRIA, VA # 20191175.02

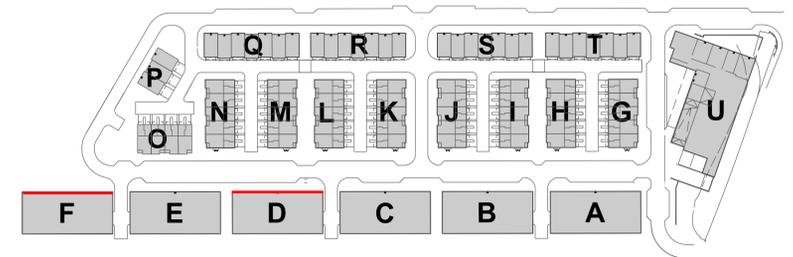
SCHEMATIC DESIGN
June 2, 2023

24' REAR LOAD

A4.3

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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VULCAN SITE CONDO FLATS
 ALEXANDRIA, VA # 20191175.02

SCHEMATIC DESIGN
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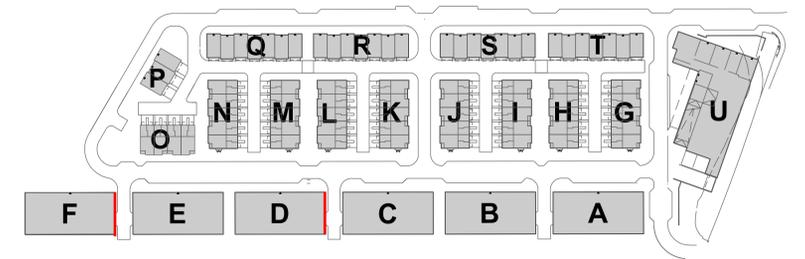
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

FRONT ELEVATION
 SCHEME 1 1/8" = 1'-0"
 NO MEZZANINE

A5.1

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:

- SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
- SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT.



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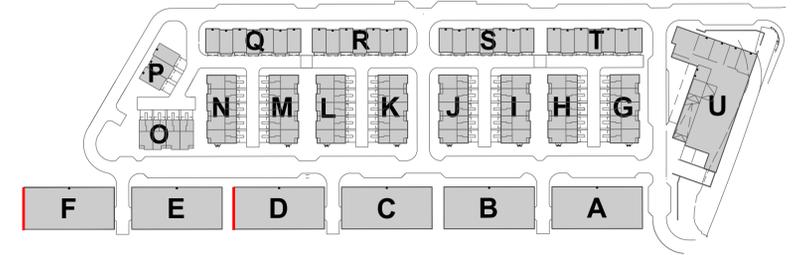
SCHEMATIC DESIGN
June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 1
SCHEME 1 1/8" = 1'-0"
NO MEZZANINE

A5.2

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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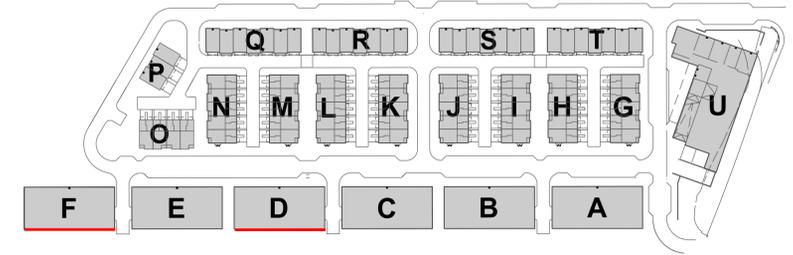
SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 2
 SCHEME 1 1/8" = 1'-0"
 NO MEZZANINE

A5.3

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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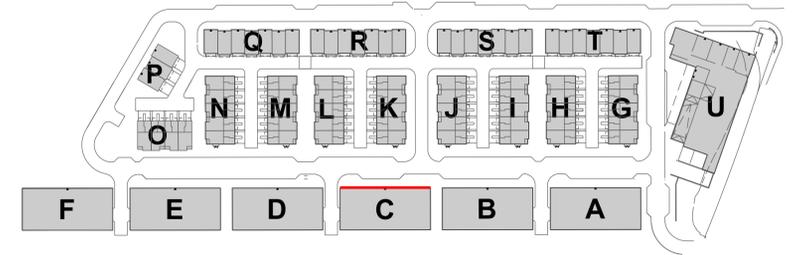
SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

REAR ELEVATION
SCHEME 1 1/8" = 1'-0"
NO MEZZANINE

A5.4

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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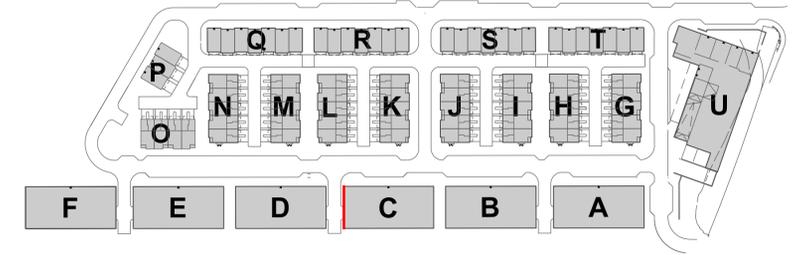
SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

FRONT ELEVATION
SCHEME 2 1/8" = 1'-0"
NO MEZZANINE

A5.5

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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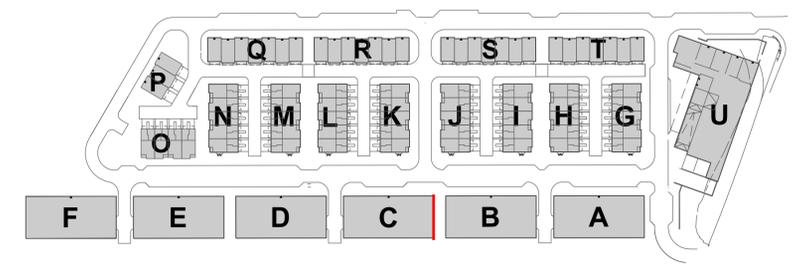
SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 1
 SCHEME 2 1/8" = 1'-0"
 NO MEZZANINE

A5.6

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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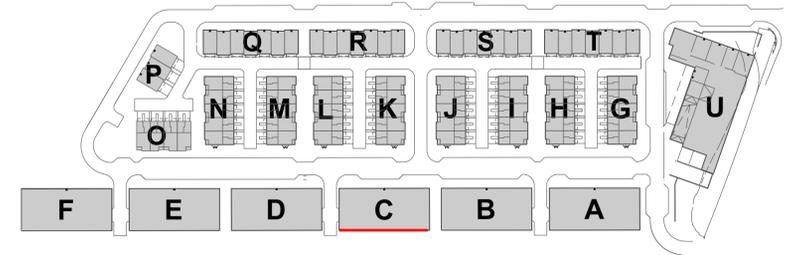
SCHEMATIC DESIGN
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ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 2
 SCHEME 2 1/8" = 1'-0"
 NO MEZZANINE

A5.7

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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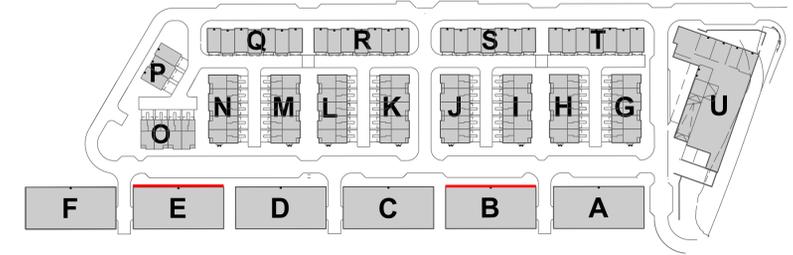
SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

REAR ELEVATION
SCHEME 2 1/8" = 1'-0"
NO MEZZANINE

A5.8

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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VULCAN SITE CONDO FLATS
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SCHEMATIC DESIGN
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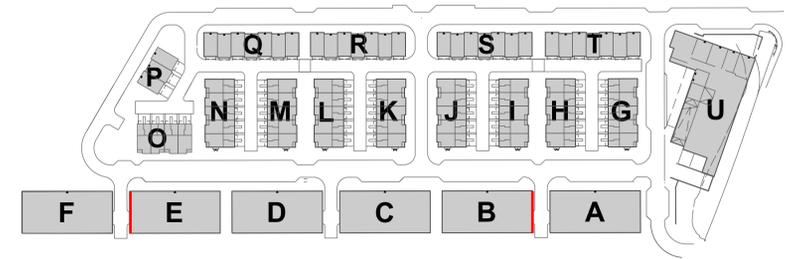
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

FRONT ELEVATION
SCHEME 3 1/8" = 1'-0"
WITH MEZZANINE

A5.9

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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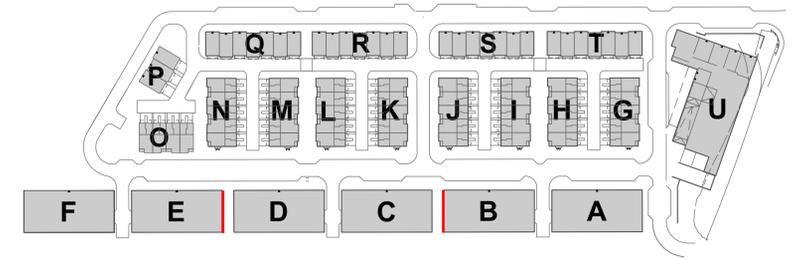
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 1
SCHEME 3 1/8" = 1'-0"
WITH MEZZANINE

A5.10

BUILDING KEY (N.T.S)

BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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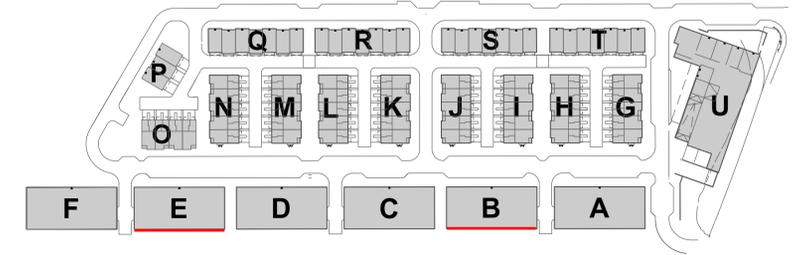
SCHEMATIC DESIGN
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ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 2
SCHEME 3 1/8" = 1'-0"
WITH MEZZANINE

A5.11

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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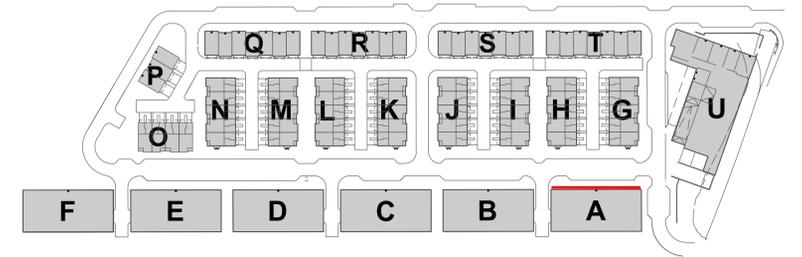
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

REAR ELEVATION
SCHEME 3 1/8" = 1'-0"
WITH MEZZANINE

A5.12

BUILDING KEY (N.T.S)

— BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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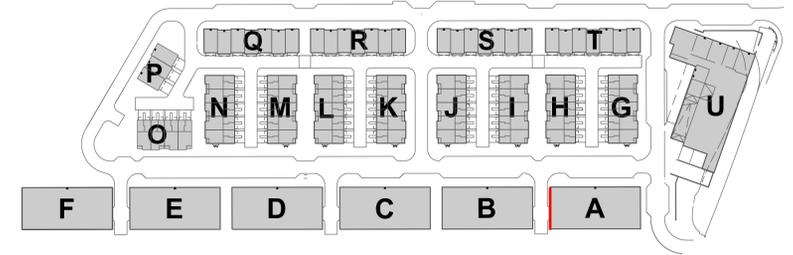
ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

FRONT ELEVATION
SCHEME 4 1/8" = 1'-0"
WITH MEZZANINE

A5.13

BUILDING KEY (N.T.S)

BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



PANEL

METAL CANOPY

METAL RAILING

BRICK SOLDIER COURSE

BRICK ROWLOCK

METAL GRILL

ROLL UP GARAGE DOOR

BRICK VENEER

NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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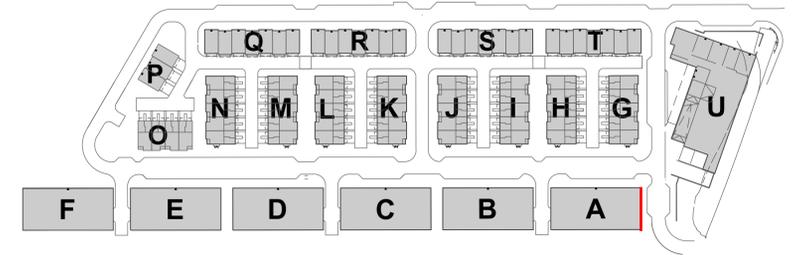
SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 1
SCHEME 4 1/8" = 1'-0"
WITH MEZZANINE

A5.14

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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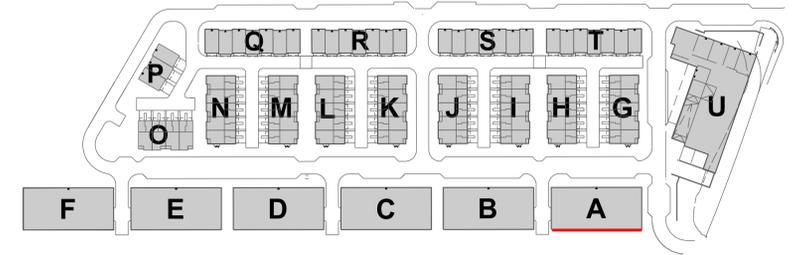
SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

SIDE ELEVATION 2
SCHEME 4 1/8" = 1'-0"
 WITH MEZZANINE

A5.15

BUILDING KEY (N.T.S)
 BUILDING FACE ASSOCIATED WITH ELEVATION SHOWN



NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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VULCAN SITE CONDO FLATS
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SCHEMATIC DESIGN
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ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

REAR ELEVATION
SCHEME 4 1/8" = 1'-0"
WITH MEZZANINE

A5.16



HOTEL

SCHEME 4
WITH MEZZANINE

SCHEME 3
WITH MEZZANINE

SCHEME 2
NO MEZZANINE

SCHEME 1
NO MEZZANINE

SCHEME 3
WITH MEZZANINE

SCHEME 1
NO MEZZANINE



SCHEME 1
NO MEZZANINE



SCHEME 3
WITH MEZZANINE



SCHEME 2
NO MEZZANINE



SCHEME 4
WITH MEZZANINE

NOTE:
- SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
- SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT.



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ELEVATIONS DEPICTED ARE SCHEMATIC
& MAY CHANGE ON FINAL DEVELOPMENT
OF CONSTRUCTION DRAWINGS

FRONT ELEVATION STRIPS
SCHEMES 1/16" = 1'-0"

A5.17



**SCHEME 1
NO MEZZANINE**

**SCHEME 3
WITH MEZZANINE**

**SCHEME 1
NO MEZZANINE**

**SCHEME 2
NO MEZZANINE**

**SCHEME 3
WITH MEZZANINE**

**SCHEME 4
WITH MEZZANINE**

HOTEL



**SCHEME 1
NO MEZZANINE**



**SCHEME 3
WITH MEZZANINE**



**SCHEME 2
NO MEZZANINE**



**SCHEME 4
WITH MEZZANINE**

NOTE:
 - SCHEME 1 & 2 FACADES COMPRISED OF 23% BRICK AND 77% FIBER CEMENT.
 - SCHEME 3 & 4 FACADES COMPRISED OF 30% BRICK AND 70% FIBER CEMENT,



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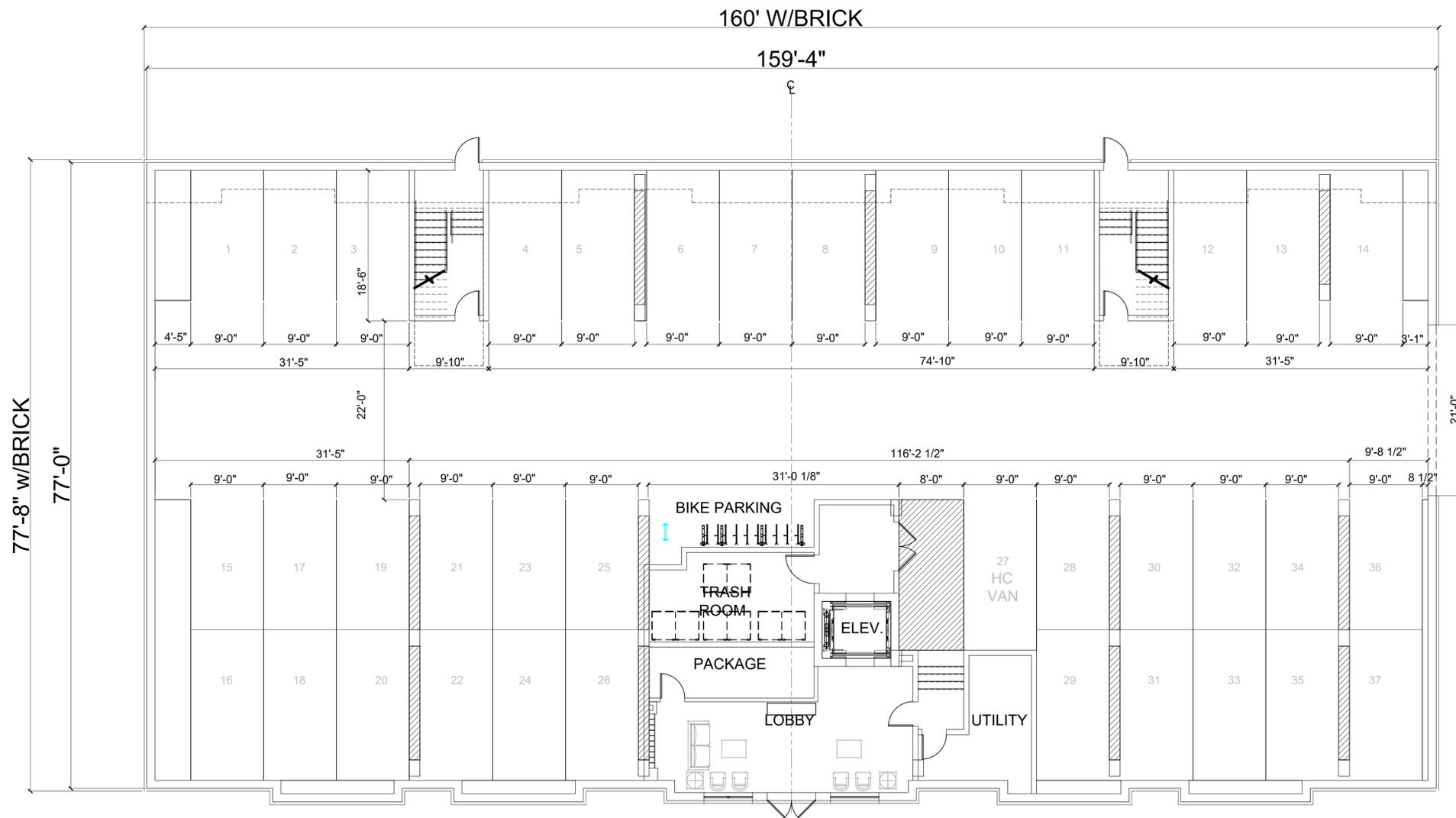
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SCHEMATIC DESIGN
 June 2, 2023

ELEVATIONS DEPICTED ARE SCHEMATIC
 & MAY CHANGE ON FINAL DEVELOPMENT
 OF CONSTRUCTION DRAWINGS

**REAR ELEVATION STRIPS
 SCHEMES**
 1/16" = 1'-0"

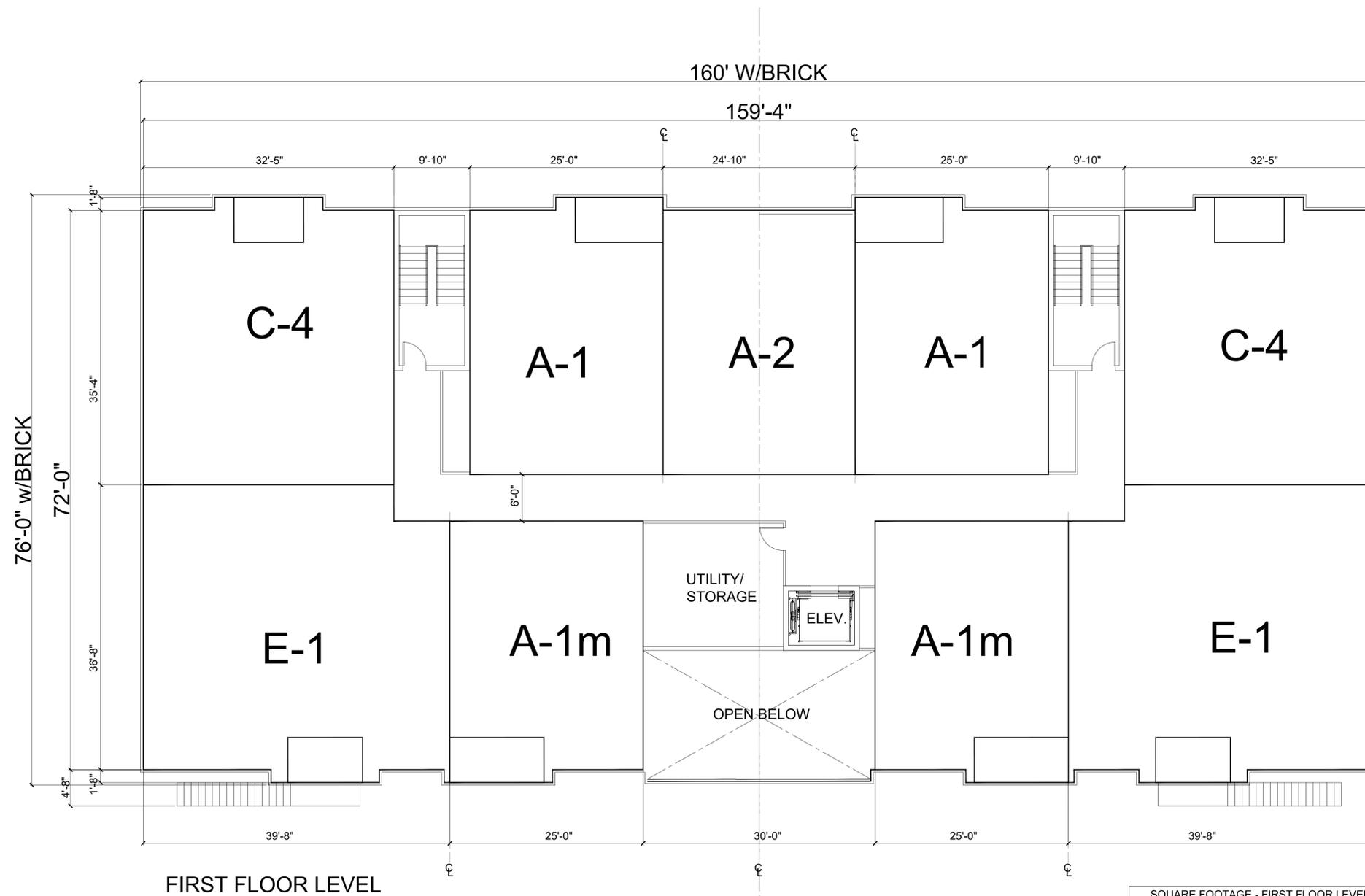
A5.18



GARAGE LEVEL

UNIT COUNTS	
37	COVERED PARKING SPACES
8	1 BEDROOM
18	2 BEDROOM
8	3 BEDROOM
34	TOTAL

BUILDING AREA (PER FLOOR)	11,702 SQ. FT.
TOTAL GROSS AREA	46,808 SQ. FT.



SQUARE FOOTAGE - FIRST FLOOR LEVEL		
UNIT TYPE	AREA	NO OF UNITS
A1	803 SQ. FT.	2
A1m	888 SQ. FT.	2
A2	844 SQ. FT.	1
C4	1,105 SQ. FT.	2
E1	1,380 SQ. FT.	2
TOTAL UNITS		9

FIRST FLOOR LEVEL SCALE: 1/8"=1'-0" 1



Architecture + Planning
888.456.5849
ktgy.com

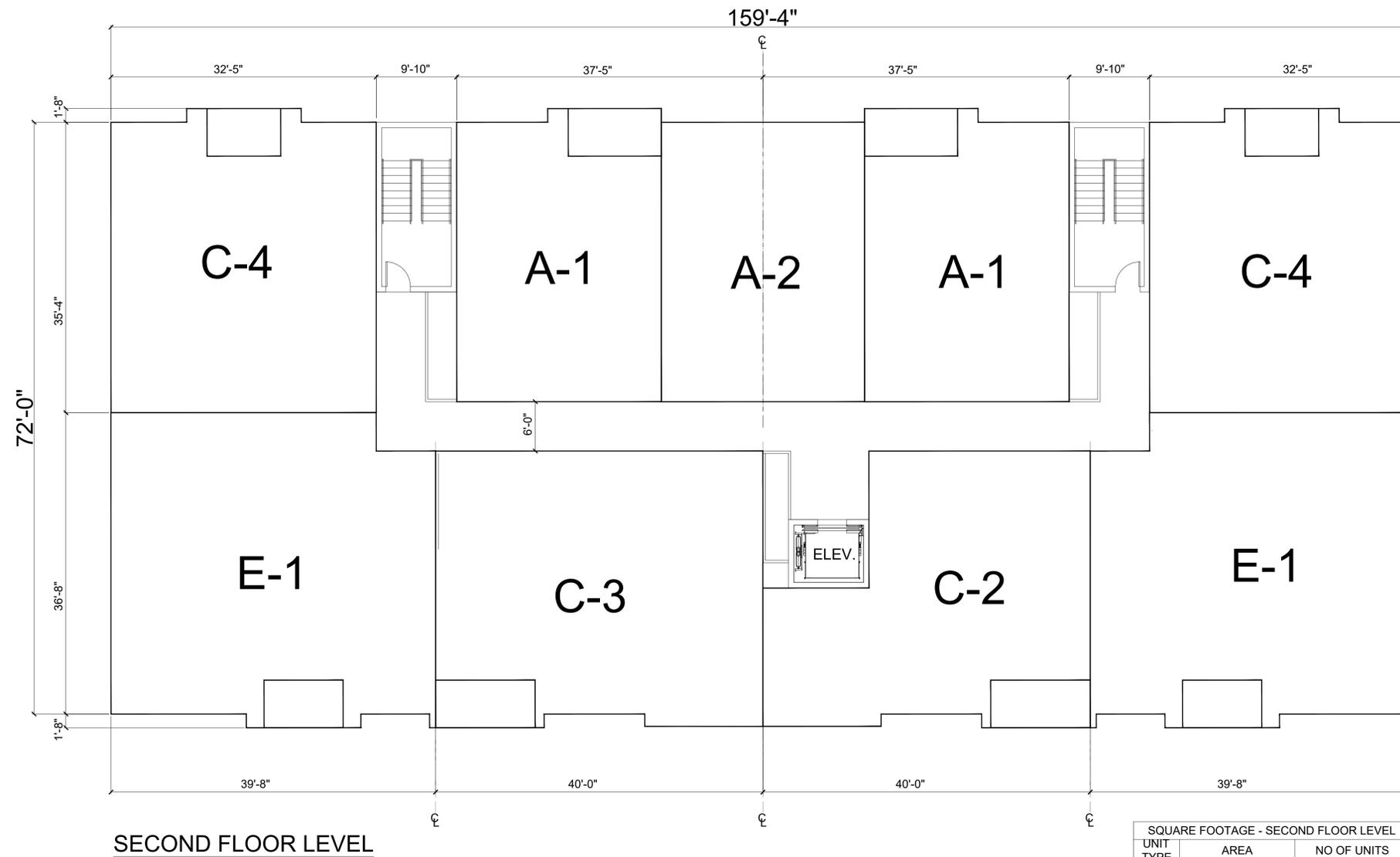


VULCAN SITE CONDO FLATS
ALEXANDRIA, VA # 20191175.02

SCHEMATIC DESIGN
June 2, 2023

BUILDING PLANS

A6.2



SQUARE FOOTAGE - SECOND FLOOR LEVEL		
UNIT TYPE	AREA	NO OF UNITS
A1	803 SQ. FT.	2
A2	844 SQ. FT.	1
C2	1,035 SQ. FT.	1
C3	1,323 SQ. FT.	1
C4	1,105 SQ. FT.	2
E1	1,380 SQ. FT.	2
TOTAL UNITS		9

SECOND FLOOR LEVEL SCALE: 1/8"=1'-0" 1



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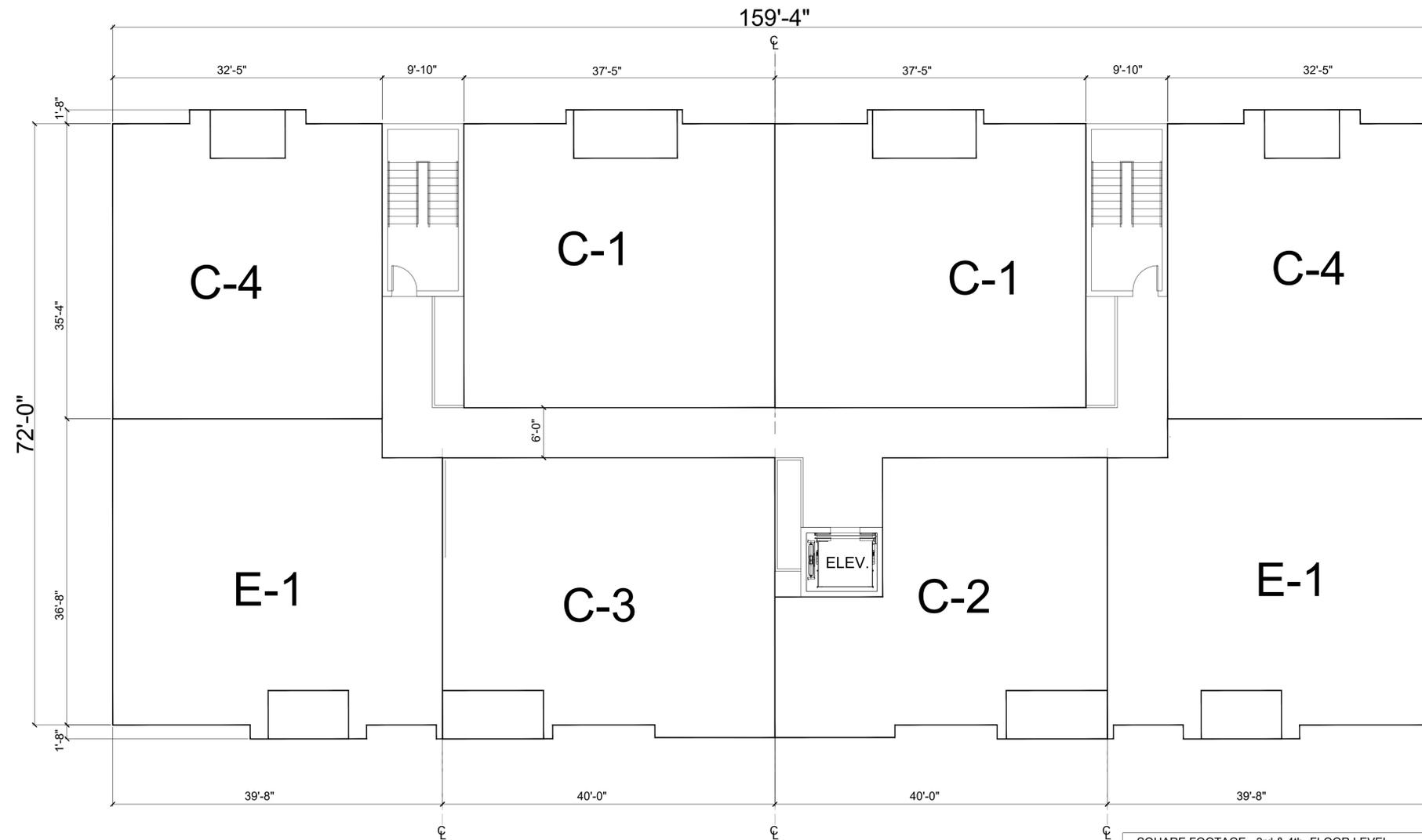


VULCAN SITE CONDO FLATS
ALEXANDRIA, VA # 20191175.02

SCHEMATIC DESIGN
June 2, 2023

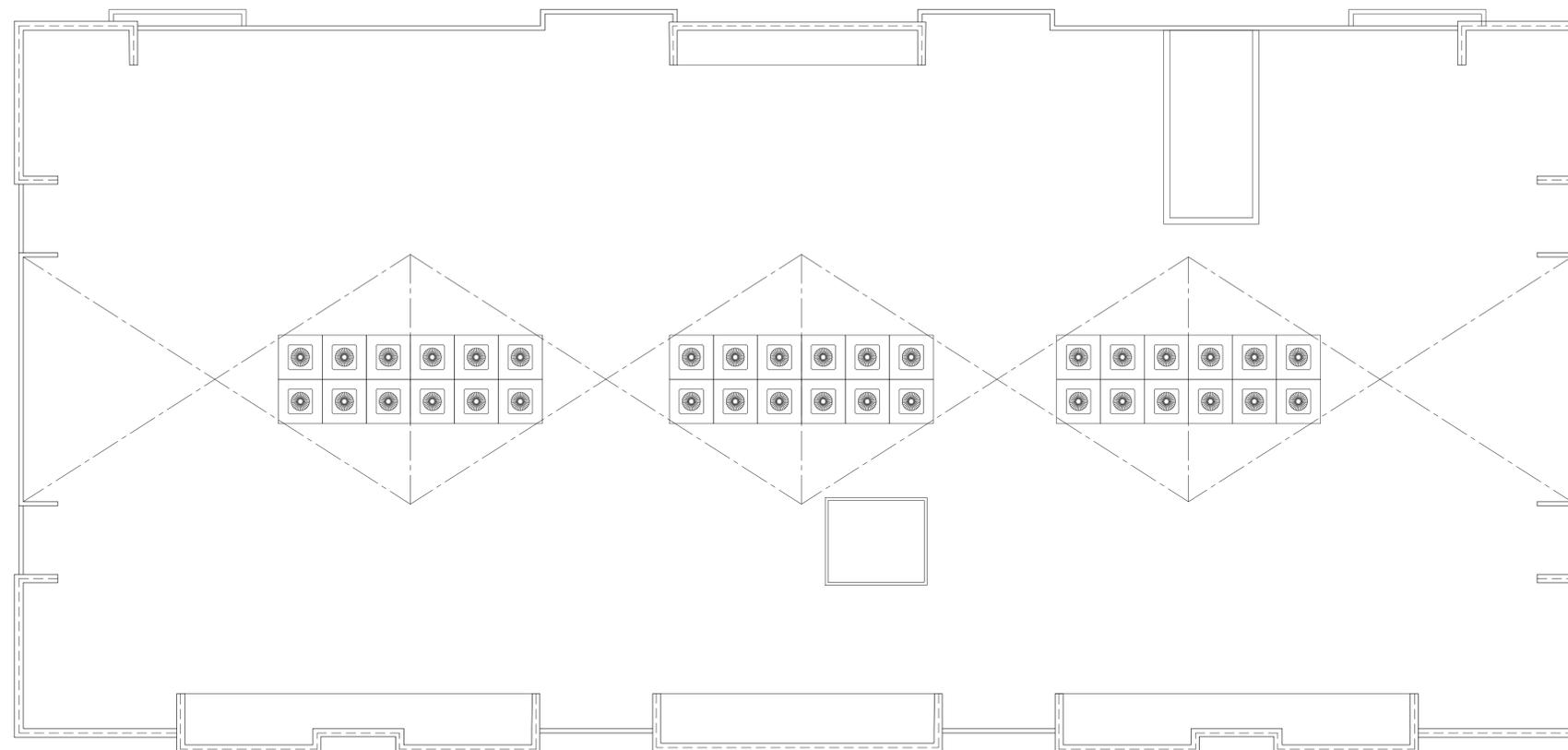
BUILDING PLANS

A6.3

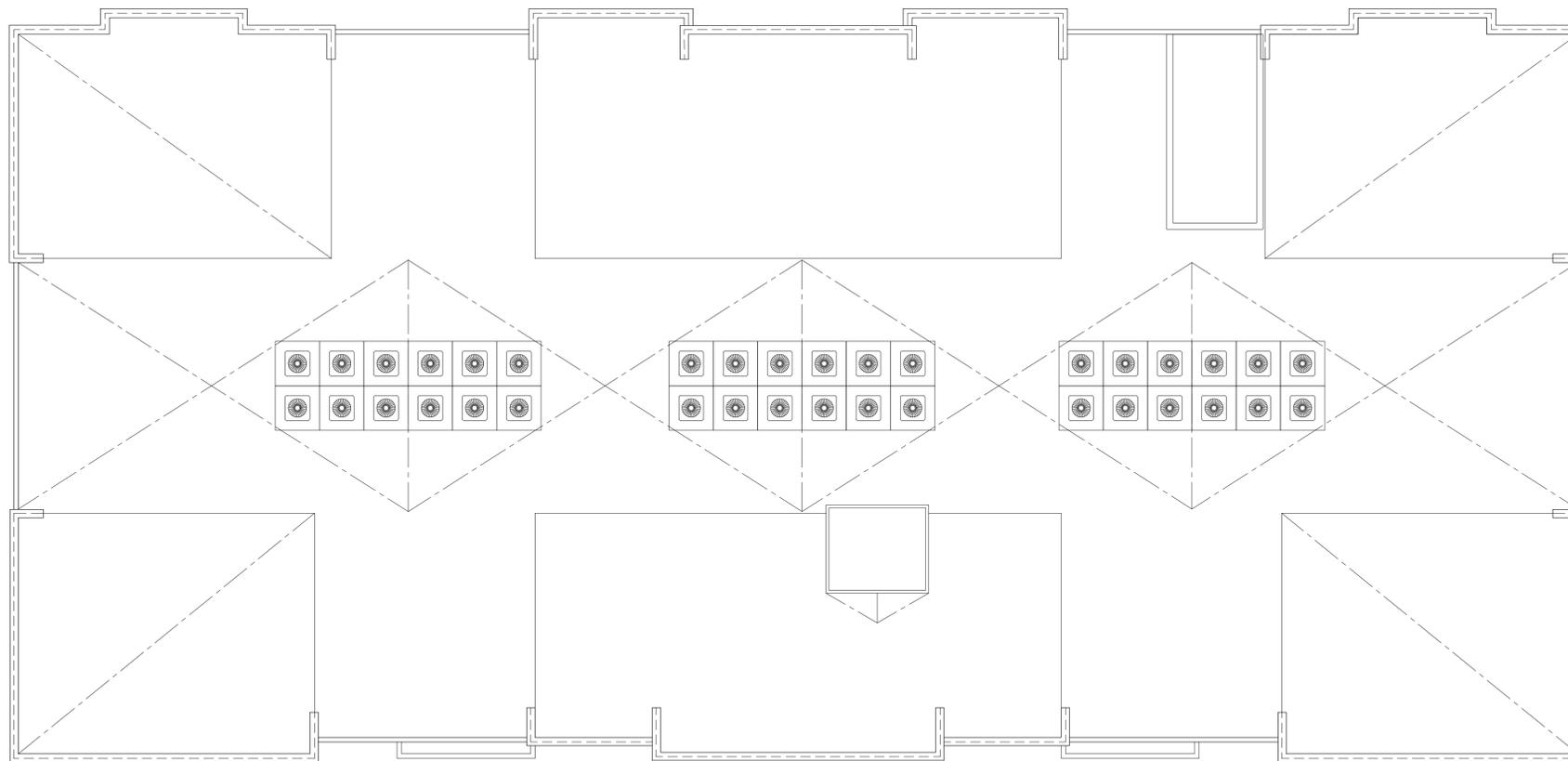


THIRD & FOURTH FLOOR LEVEL

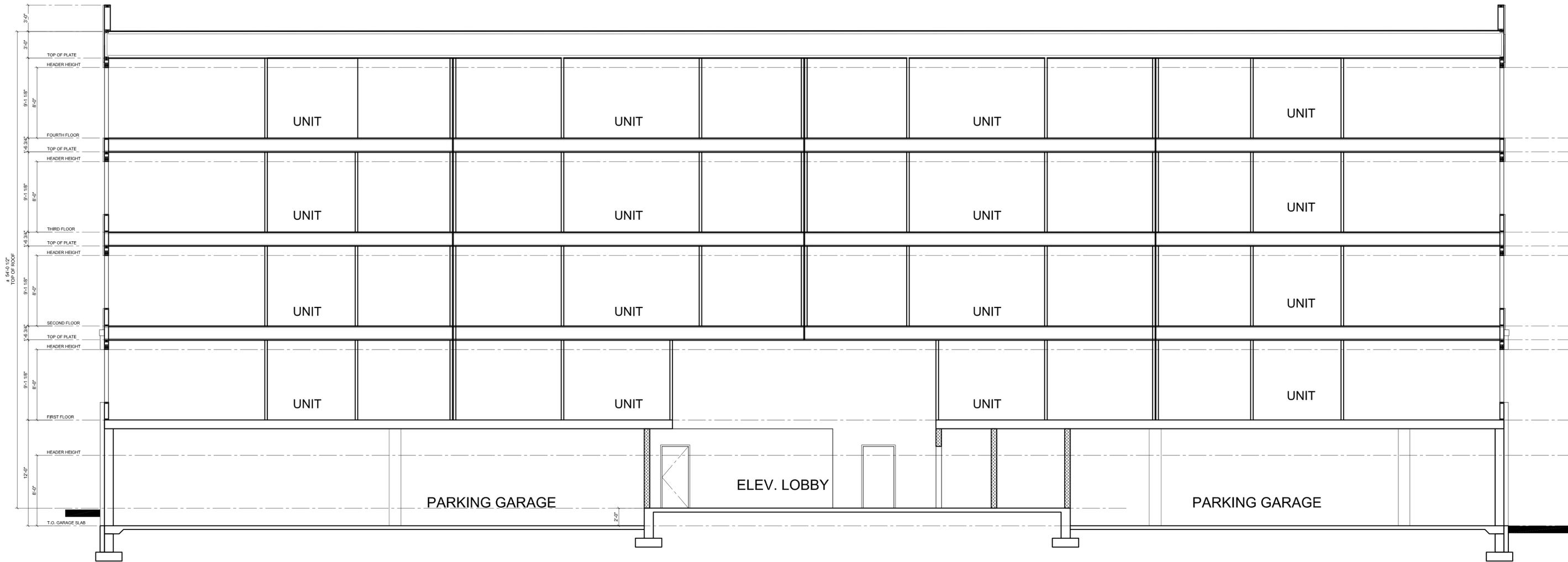
SQUARE FOOTAGE - 3rd & 4th FLOOR LEVEL		
UNIT TYPE	AREA	NO OF UNITS
C1	1,220 SQ. FT.	4
C2	1,035 SQ. FT.	2
C3	1,323 SQ. FT.	2
C4	1,105 SQ. FT.	4
E1	1,380 SQ. FT.	4
TOTAL UNITS		16
TOTAL NET AREA (PER FLR.)		9,768 SQ. FT.
TOTAL GROSS AREA		11,702 SQ. FT.



ROOF PLAN



ROOF PLAN (W/ LOFT OPTION)



SECTION

W/O LOFT CONDITION

HORIZONTAL SECTION SCALE: 3/16"=1'-0" 1



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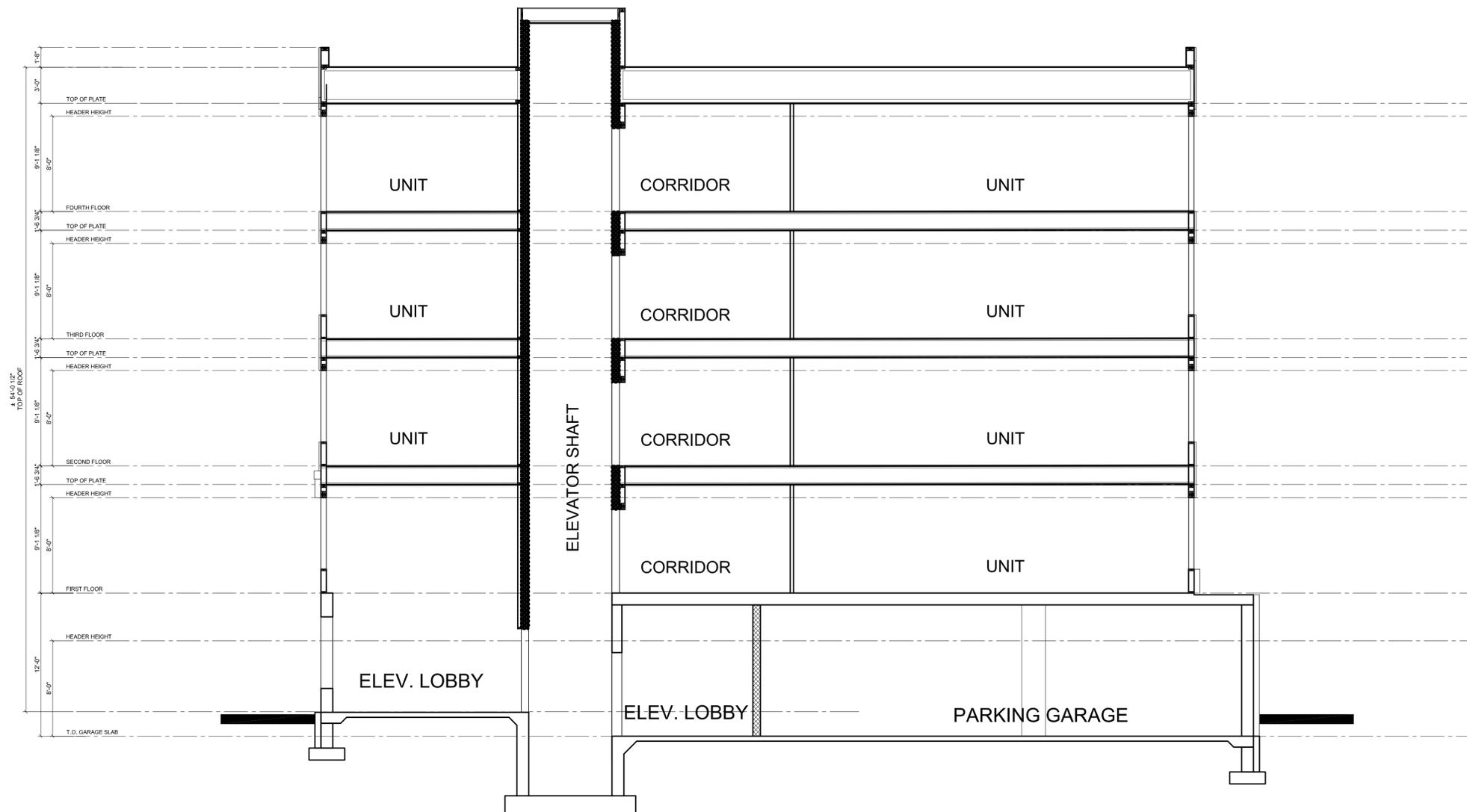


VULCAN SITE CONDO FLATS
ALEXANDRIA, VA # 20191175.02

SCHEMATIC DESIGN
June 2, 2023

HORIZONTAL SECTION

A6.7



SECTION

W/O LOFT CONDITION

VERTICAL SECTION SCALE: 3/16"=1'-0" 1



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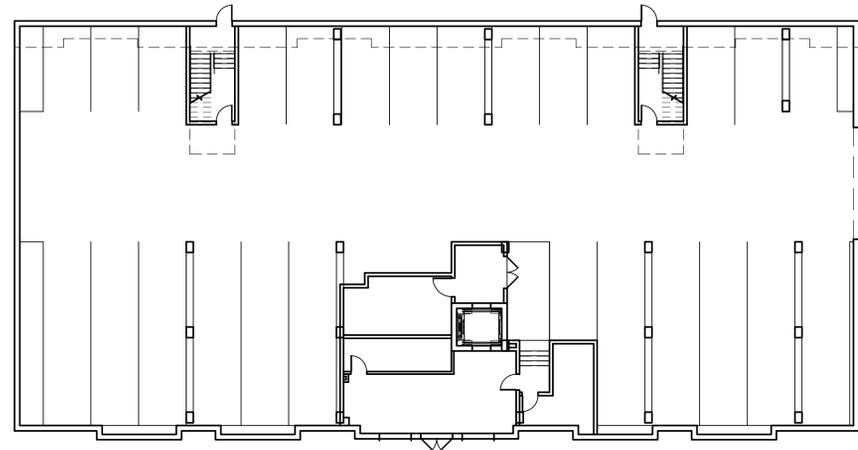


VULCAN SITE CONDO FLATS
ALEXANDRIA, VA # 20191175.02

SCHEMATIC DESIGN
June 2, 2023

VERTICAL SECTION

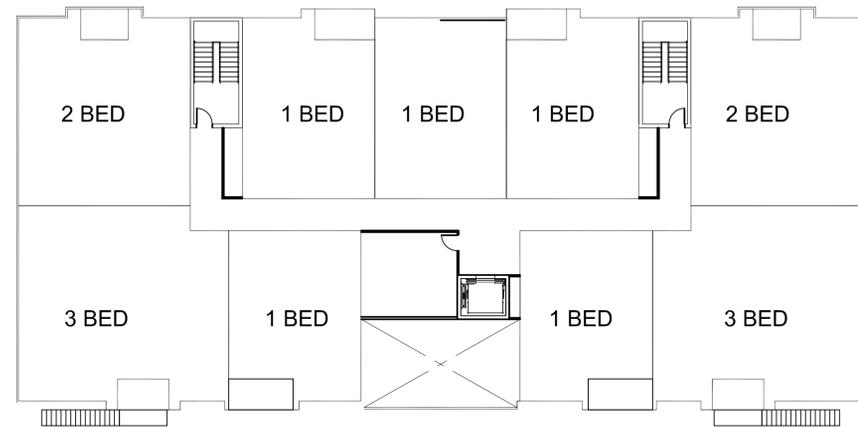
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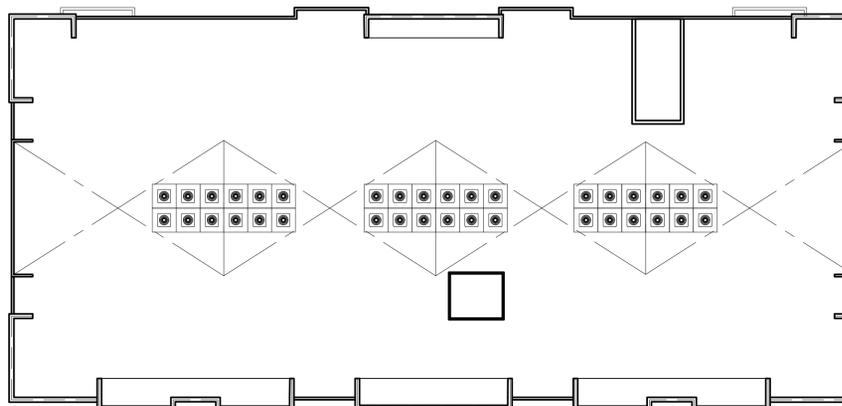
GARAGE LEVEL



THIRD & FOURTH FLOOR LEVEL



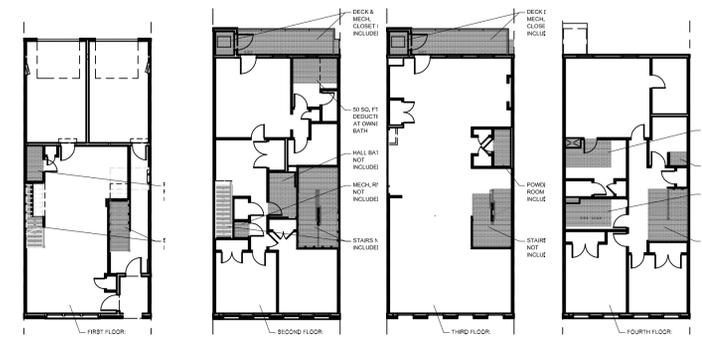
FIRST FLOOR LEVEL



ROOF PLAN

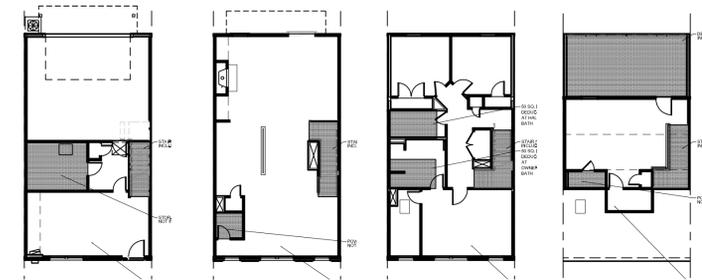


SECOND FLOOR LEVEL



FIRST FLOOR PLAN FLOOR AREA (LOWER UNIT) = 1,683 SQ. FT.
SECOND FLOOR PLAN FLOOR AREA (UPPER UNIT) = 2,447 SQ. FT.
THIRD FLOOR PLAN
FOURTH FLOOR PLAN

TWO OVER TWO



FIRST FLOOR PLAN FLOOR AREA = 2,853 SQ. FT.
SECOND FLOOR PLAN
THIRD FLOOR PLAN
FOURTH FLOOR PLAN

TOWNHOUSE

VULCAN SITE CONDO FLATS BUILDINGS A, B, & D							
POTENTIAL FLOOR AREA DEDUCTIONS	UNITS CALCULATION	NUMBER OF UNITS	MECH (SF)	BATH (SF)	BALC (SF)	# BATHS	TOTAL DEDUCTION (SF)
2 BEDROOM (2 BATH)	18	14	104	60	2	174	3,132
3 BEDROOM (2 BATH)	8	18	128	55	2	173	1,384
TOTAL UNIT DEDUCTIONS		34					5,428
POTENTIAL FLOOR AREA DEDUCTIONS	COMMON SPACE CALCULATION	MECH/ELEC/WATER	LOBBY / PACKAGE	STAIRS	ELEVS	TOTAL/FLOOR	TOTAL DEDUCTION (SF)
1st FLOOR		102		328	60	490	11,199
2nd FLOOR		102		328	60	490	11,702
3rd FLOOR		102		328	60	490	11,702
4th FLOOR		102		328	60	490	11,702
LOFT							1,200
ROOF							
TOTAL COMMON SPACE DEDUCTION							3,129
TOTAL POTENTIAL REDUCTION (SEE NOTE #3)							8,557
DEDUCTION AS % OF GROSS AREA (SEE NOTE #1)							14.3%
PROPOSED GROSS AREA DEDUCTIVE	TOTAL FLOOR GROSS AREA						59,927
	TOTAL DEDUCTION PROPOSED						8,557
	TOTAL FLOOR NET AREA						51,370

VULCAN SITE CONDO FLATS BUILDINGS C, E, & F							
POTENTIAL FLOOR AREA DEDUCTIONS	UNITS CALCULATION	NUMBER OF UNITS	MECH (SF)	BATH (SF)	BALC (SF)	# BATHS	TOTAL DEDUCTION (SF)
2 BEDROOM (2 BATH)	18	14	104	60	2	174	3,132
3 BEDROOM (2 BATH)	8	18	128	55	2	173	1,384
TOTAL UNIT DEDUCTIONS		34					5,428
POTENTIAL FLOOR AREA DEDUCTIONS	COMMON SPACE CALCULATION	MECH/ELEC/WATER	LOBBY / PACKAGE	STAIRS	ELEVS	TOTAL/FLOOR	TOTAL DEDUCTION (SF)
1st FLOOR		102		328	60	490	11,199
2nd FLOOR		102		328	60	490	11,702
3rd FLOOR		102		328	60	490	11,702
4th FLOOR		102		328	60	490	11,702
ROOF							
TOTAL COMMON SPACE DEDUCTION							3,129
TOTAL POTENTIAL REDUCTION (SEE NOTE #3)							8,557
DEDUCTION AS % OF GROSS AREA (SEE NOTE #1)							14.6%
PROPOSED GROSS AREA DEDUCTIVE	TOTAL FLOOR GROSS AREA						58,727
	TOTAL DEDUCTION PROPOSED						8,557
	TOTAL FLOOR NET AREA						50,170

- GENERAL NOTES:
- TOTAL DEDUCTIONS FOR RESIDENTIAL AREA WILL NOT EXCEED 15% OF GROSS RESIDENTIAL AREA.
 - THE SUM OF ALL GROSS HORIZONTAL AREAS UNDER ROOF ON A LOT. THESE AREAS SHALL BE MEASURED FROM THE EXTERIOR FACES OF WALLS OR ANY EXTENDED AREA UNDER ROOF AND ARE TO BE MEASURED FROM THE SHARED LOT LINE IN THE CASE OF A PARTY WALL. PER ALEXANDRIA ORDINANCE SECTION 2-145-FLOOR AREA.
 - DEDUCTIONS INCLUDES STAIRWAYS / SPACE USED FOR UTILITIES / ELEVATORS / SPACE UNDER BALCONIES OR SIMILAR PROJECTIONS LESS THAN 8'-0" DEEP ARCHITECTURAL FEATURES UP TO AN MAXIMUM PROJECTION OF 30 INCHES / VERTICAL CHASES / LAVATORIES OF WHICH ONLY MAX OF 50 SF OF EACH LAVATORY PER ALEXANDRIA ORDINANCE SECTION 2-145-FLOOR AREA.

NOTES

- THE PROPERTIES DELINEATED ON THIS PLAT ARE LOCATED ON CITY OF ALEXANDRIA TAX ASSESSMENT MAPS 067.03-01-21 AND 067.03-01-17 AND ARE CURRENTLY ZONED I WITH A PROPOSED ZONING OF CDD #26.
- APPLICANT: LENNAR
14280 PARK MEADOW DRIVE
SUITE 108
CHANTILLY, VA 20151
OWNER: VULCAN LANDS, INC.
P.O. BOX 385014
BIRMINGHAM, AL 35238
- BOUNDARY INFORMATION SHOWN HEREON WAS DERIVED FROM AN ALTA/NSPS LAND TITLE SURVEY, PREPARED BY URBAN, LTD., AND DATED APRIL, 2021.

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I HAVE CAREFULLY SURVEYED THE PROPERTIES DELINEATED BY THIS PLAT, AND THAT IT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF; THAT THIS IS A SUBDIVISION OF ALL OF THE LAND CONVEYED BY AIP ASSOCIATES LIMITED PARTNERSHIP BY WILLIAM N. CAFRITZ TRUST DATED 12/21/92 GENERAL PARTNER, WILLIAM N. CAFRITZ, TRUSTEE, ANITA B. CAFRITZ, TRUSTEE, CHARLES CAFRITZ WILKES, TRUSTEE TO VULCAN LANDS, INC. BY DEED DATED MAY 23, 1996 AND RECORDED AMONG THE LAND RECORDS OF THE CITY OF ALEXANDRIA IN DEED BOOK 1571 AT PAGE 511 AND A SUBDIVISION OF ALL OF THE LAND CONVEYED BY VULCAN MATERIALS COMPANY TO VULCAN LANDS, INC. BY DEED DATED DECEMBER 31, 1999 AND RECORDED AMONG THE LAND RECORDS OF THE CITY OF ALEXANDRIA IN INSTRUMENT 00004091 AND IS WITHIN THOSE BOUNDARIES; AND THAT ALL REQUIRED MONUMENTS HAVE BEEN INSTALLED WHERE INDICATED; EXCEPT THOSE THAT WILL BE INSTALLED AT A LATER DATE BUT BEFORE COMPLETION OF THE PROJECT.

KEVIN P. O'CONNOR CLS #1967

DATE



LOT AREAS

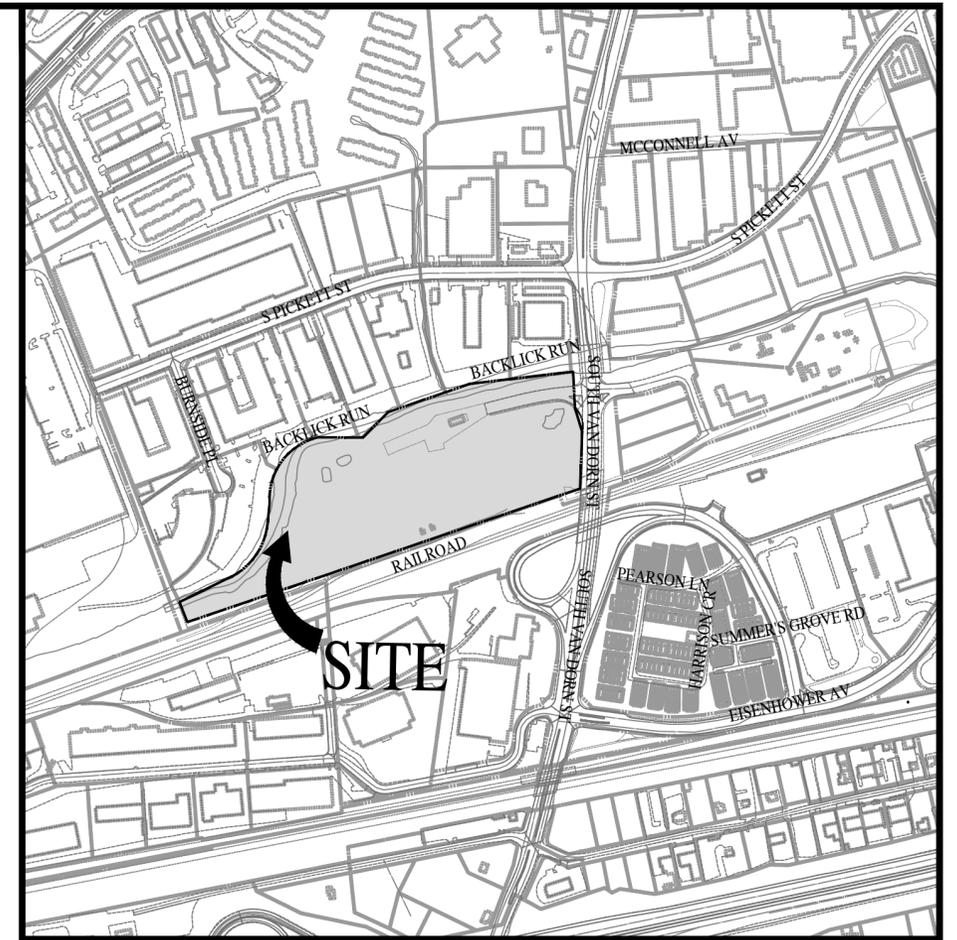
LOT	S.F.	ACRES	LOT	S.F.	ACRES
**LOT 501	1630	0.03742	LOT 532	7009	0.16089
**LOT 502	1609	0.03694	LOT 533	11469	0.26328
**LOT 503	1585	0.03639	LOT 534	12261	0.28147
**LOT 504	1243	0.02854	LOT 535	12262	0.28148
**LOT 505	1226	0.02815	LOT 536	10383	0.23836
**LOT 506	1226	0.02815	LOT 537	10384	0.23837
**LOT 507	1226	0.02815	LOT 538	12259	0.28143
**LOT 508	1226	0.02815	LOT 539	12260	0.28145
**LOT 509	1226	0.02815	LOT 540	10768	0.2472
**LOT 510	1243	0.02854	LOT 541	46928	1.07733
**LOT 511	1243	0.02854	LOT 542	21838	0.50133
**LOT 512	1226	0.02815	LOT 543	17463	0.4009
**LOT 513	1226	0.02815	LOT 544	17311	0.39741
**LOT 514	1226	0.02815	LOT 545	17300	0.39716
**LOT 515	1226	0.02815	LOT 546	17219	0.39528
**LOT 516	1226	0.02815	LOT 547	16607	0.38125
**LOT 517	1377	0.0316	LOT 548	264840	6.07989
**LOT 518	1377	0.0316	LOT 549	31210	0.71647
**LOT 519	1226	0.02815	LOT 550	15573	0.3575
**LOT 520	1226	0.02815	LOT 551	4853	0.11141
**LOT 521	1226	0.02815	LOT 552	63622	1.46054
**LOT 522	1226	0.02815			
**LOT 523	1226	0.02815			
**LOT 524	1243	0.02854			
**LOT 525	1243	0.02854			
**LOT 526	1226	0.02815			
**LOT 527	1226	0.02815			
**LOT 528	1226	0.02815			
**LOT 529	1226	0.02815			
**LOT 530	1226	0.02815			
**LOT 531	1354	0.03108			

AREA TABULATION

AREA LOTS 501-552	673,486 SF OR 15.46113 ACRES
AREA STREET DEDICATION	100,969 SF OR 2.31792 ACRES
TOTAL AREA SUBDIVISION	774,455 SF OR 17.77905 ACRES
BEGINNING AREA OUTLOT 3539-01-01 (TAX MAP 067.03-01-21)	170,749 SF OR 3.91986 ACRES
-SUBDIVISION	170,749 SF OR 3.91986 ACRES
ENDING AREA OUTLOT 3539-01-01 (TAX MAP 067.03-01-21)	0 SF OR 0.0000 ACRES
BEGINNING AREA PARCELS A, E, F, & G & PARCEL 3519-01-1 (TAX MAP 067.03-01-17)	601,864 SF OR 13.81690 ACRES
+AREA RIGHT-OF-WAY VACATION	1,842 SF OR 0.04229 ACRES
-SUBDIVISION	603,706 SF OR 13.85919 ACRES
ENDING AREA PARCELS A, E, F, & G & PARCEL 3519-01-1 (TAX MAP 067.03-01-17)	0 SF OR 0.0000 ACRES

EASEMENT LEGEND

	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (4,575 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (2,171 SF HEREBY GRANTED)
	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (5,224 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (2,176 SF HEREBY GRANTED)
	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (222 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (1,120 SF HEREBY GRANTED)
	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (222 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (592 SF HEREBY GRANTED)
	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (5,040 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (1,296 SF HEREBY GRANTED)
	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (220 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (1,120 SF HEREBY GRANTED)
	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (1,905 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (1,296 SF HEREBY GRANTED)
	VARIABLE WIDTH PUBLIC ACCESS EASEMENT (52,906 SF HEREBY GRANTED)		VARIABLE WIDTH PRIVATE PARKING EASEMENT (944 SF HEREBY GRANTED)
	22' EMERGENCY VEHICLE EASEMENT (1,814 SF HEREBY GRANTED)		
	VARIABLE WIDTH EMERGENCY VEHICLE EASEMENT (34,090 SF HEREBY GRANTED)		
	22' PUBLIC INGRESS/EGRESS AND EMERGENCY VEHICLE EASEMENT (15,573 SF HEREBY GRANTED)		
	22' PUBLIC INGRESS/EGRESS AND EMERGENCY VEHICLE EASEMENT (31,209 SF HEREBY GRANTED)		
	10' SANITARY SEWER EASEMENT (15,711 SF HEREBY GRANTED)		
	10' SANITARY SEWER EASEMENT (1,551 SF HEREBY GRANTED)		
	10' WATERLINE EASEMENT (185 SF HEREBY GRANTED)		
	10' WATERLINE EASEMENT (610 SF HEREBY GRANTED)		
	10' WATERLINE EASEMENT (15,328 SF HEREBY GRANTED)		



VICINITY MAP

SCALE: 1" = 500'

PLAT LEGEND

- IRF IRON ROD FOUND
- IPF IRON PIPE FOUND
- ⊕ IRON PIPE TO BE SET

SHEET INDEX

- SHEET 1 - COVER SHEET
- SHEETS 2 & 3 - LOTS, STREET DEDICATION, PUBLIC ACCESS EASEMENTS, EMERGENCY VEHICLE EASEMENTS, PUBLIC INGRESS/EGRESS AND EMERGENCY VEHICLE EASEMENTS, AND PRIVATE PARKING EASEMENTS
- SHEETS 4 & 5 - SANITARY SEWER EASEMENTS AND WATERLINE EASEMENTS
- SHEETS 6 & 7 - LINE AND CURVE DATA AND SHEET KEY

PLAT SHOWING
 LOTS 501-552
VULCAN MATERIALS SUBDIVISION
 BEING A SUBDIVISION OF
 OUTLOT 3539-01-01
 ALEXANDRIA INDUSTRIAL PARK, INC.
 D.B. 679 PG. 424
 PARCELS A, E, F, & G
 VIRGINIA REALTY COMPANY, INC.
 D.B. 526 PG. 464
 PARCEL 3519-01-1
 ALEXANDRIA SAND AND GRAVEL CORPORATION
 AND FRANK ELBAN PROPERTY
 D.B. 482 PG. 328
 CITY OF ALEXANDRIA, VIRGINIA
 SCALE: N/A DATE: DECEMBER 19, 2023



urban
 Planners-Engineers-Landscape Architects-Land Surveyors
 Urban, Ltd.
 4200 D Technology Court
 Chantilly, Virginia 20151
 Tel. 703.642.2306
 www.urban-ltd.com

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DSUP #2023-00012

DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

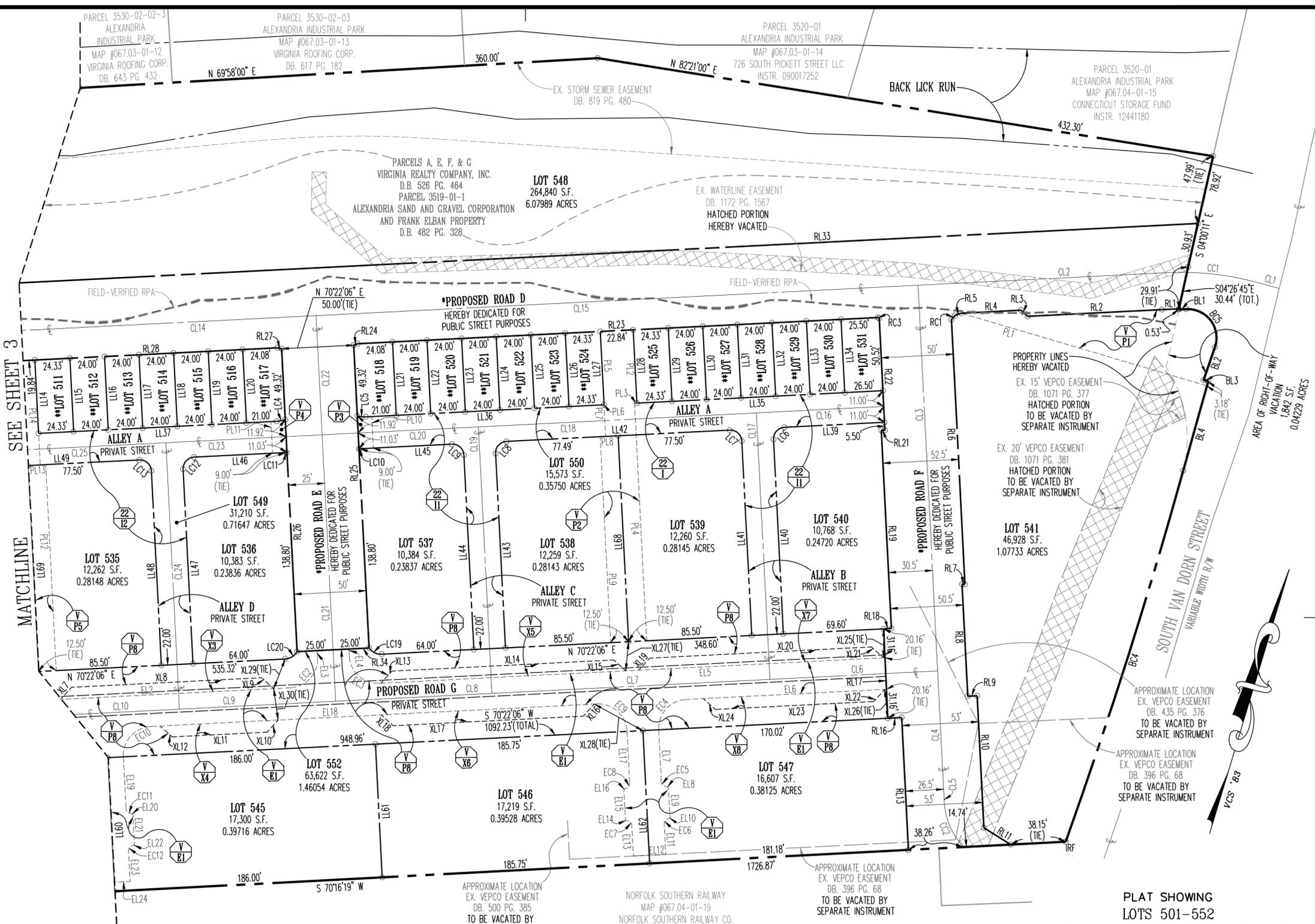
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
 SITE PLAN NO.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED

INSTRUMENT NO. DEED BOOK NO. PAGE NO.



APPROVED
 DSUP #2023-00012
 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. _____

* SEE AREA TABULATION ON SHEET 1 FOR STREET DEDICATION AREA
 ** SEE LOT AREAS ON SHEET 1 FOR AREAS OF LOTS 501-531



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 AND FRANK ELBAN PROPERTY
 D.B. 482 PG. 328
 CITY OF ALEXANDRIA, VIRGINIA
 SCALE: 1" = 50' DATE: DECEMBER 19, 2023

R.P.# 2022-205

APPROVED

DSUP #2023-00012

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____

DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

DIRECTOR _____

DATE _____

CHAIRMAN, PLANNING COMMISSION _____

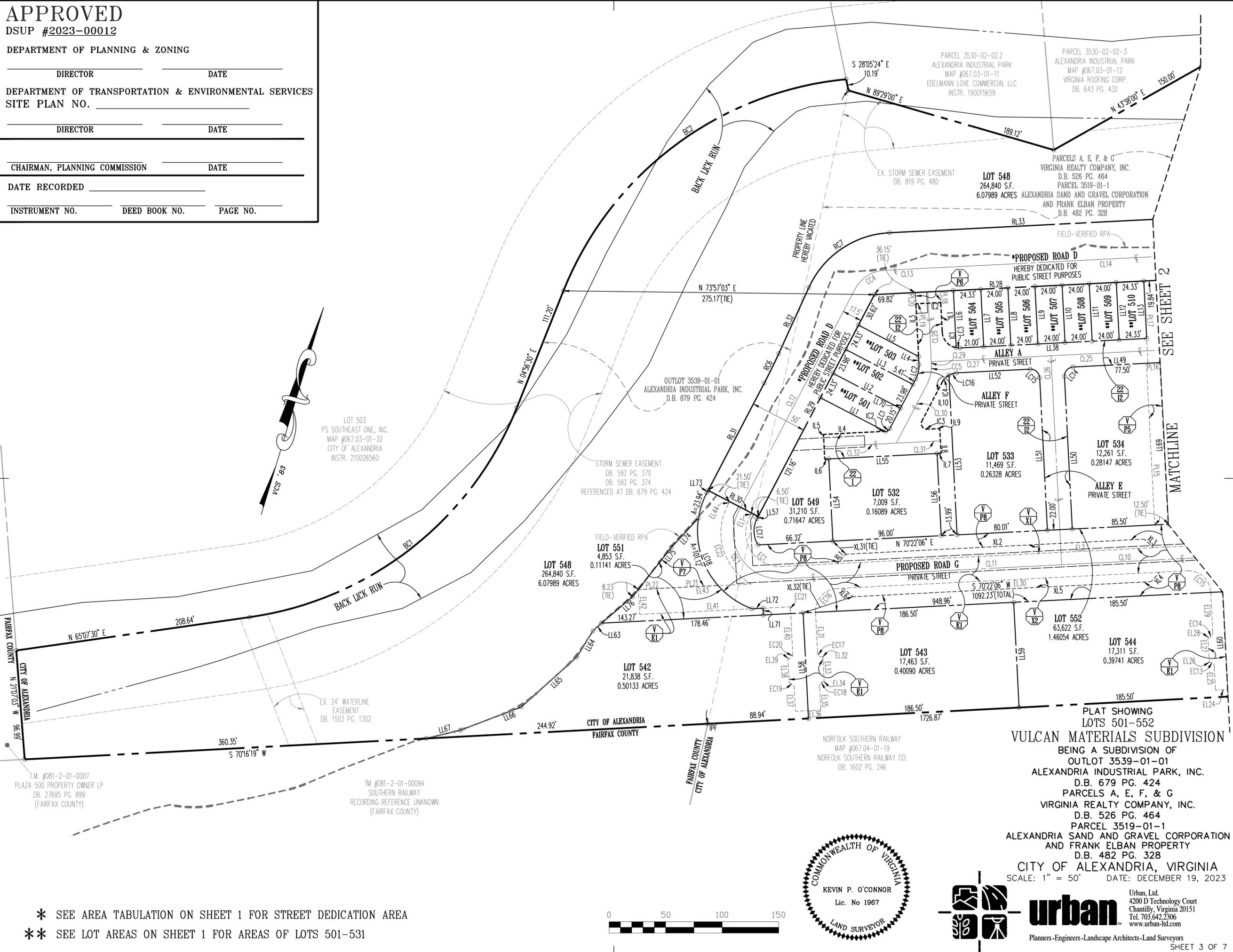
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DATE RECORDED _____

INSTRUMENT NO. _____

DEED BOOK NO. _____

PAGE NO. _____

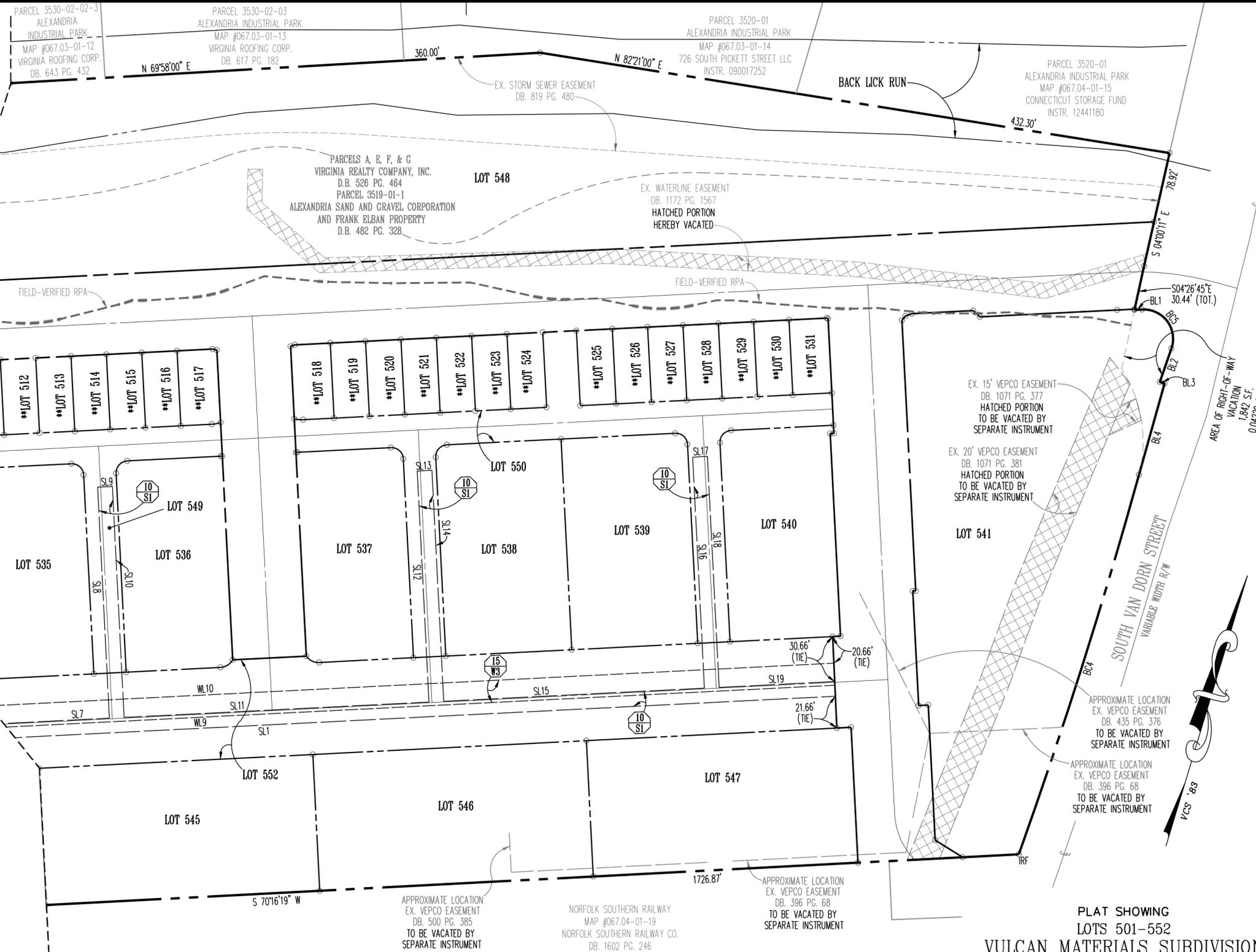


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* SEE AREA TABULATION ON SHEET 1 FOR STREET DEDICATION AREA
 ** SEE LOT AREAS ON SHEET 1 FOR AREAS OF LOTS 501-531



SEE SHEET 3
MATCHLINE

APPROVED
 DSUP #2023-00012
 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. _____

* SEE AREA TABULATION ON SHEET 1 FOR STREET DEDICATION AREA
 ** SEE LOT AREAS ON SHEET 1 FOR AREAS OF LOTS 501-531



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PLAT SHOWING
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 CITY OF ALEXANDRIA, VIRGINIA
 SCALE: 1" = 50' DATE: DECEMBER 19, 2023

R.P.# 2022-205

APPROVED

DSUP #2023-00012

DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____

DATE _____

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____

DIRECTOR _____

DATE _____

CHAIRMAN, PLANNING COMMISSION _____

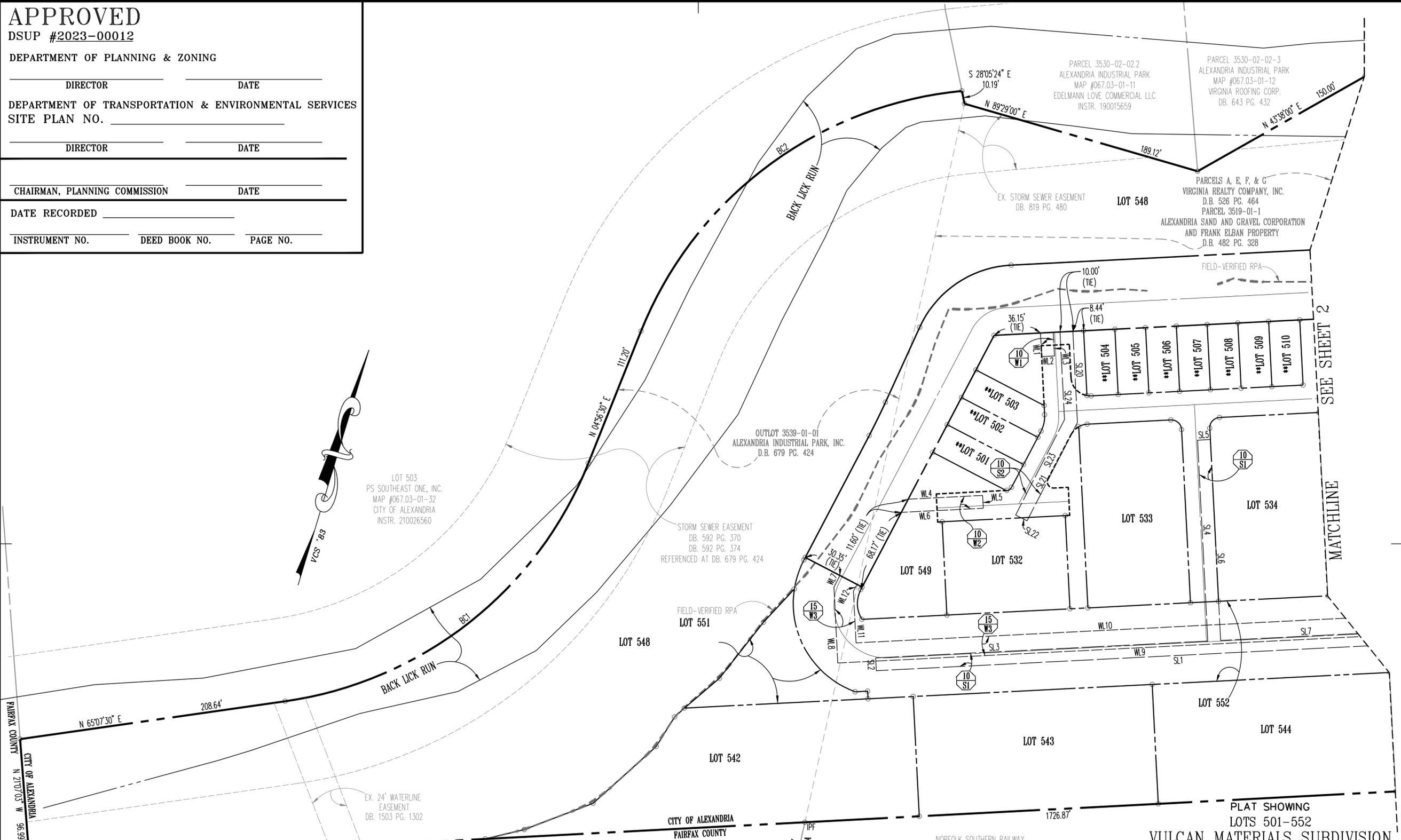
DATE _____

DATE RECORDED _____

INSTRUMENT NO. _____

DEED BOOK NO. _____

PAGE NO. _____



PLAT SHOWING
 LOTS 501-552
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* SEE AREA TABULATION ON SHEET 1 FOR STREET DEDICATION AREA
 ** SEE LOT AREAS ON SHEET 1 FOR AREAS OF LOTS 501-531



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SEE SHEET 2
MATCHLINE

CURVE DATA FOR BOUNDARY LINES

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
BC1	300.00'	315.12'	300.83'	N 35°02'00" E	60°11'00.19"	173.85'
BC2	300.00'	329.01'	312.77'	S 36°21'35" W	62°50'10.61"	183.25'
BC3	---	---	---	---	---	---
BC4	3765.72'	271.75'	271.69'	N 00°47'35" E	4°08'05.10"	135.94'
BC5	20.00'	39.11'	33.17'	N 53°36'36" W	112°02'35.60"	29.68'

CURVE DATA FOR RIGHT-OF-WAY LINES

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
RC1	18.50'	3.89'	3.89'	S 22°13'16" W	12°03'31.18"	1.95'
RC2	---	---	---	---	---	---
RC3	17.00'	1.15'	1.15'	N 79°36'47" W	3°53'32.19"	0.58'
RC4	10.00'	10.16'	9.73'	S 80°31'35" E	58°12'46.70"	5.57'
RC5	10.00'	10.16'	9.73'	N 41°15'46" E	58°12'43.15"	5.57'
RC6	525.00'	29.01'	29.00'	N 09°16'00" E	3°09'56.45"	14.51'
RC7	83.00'	90.81'	86.35'	S 39°01'43" W	62°41'24.79"	50.55'

CURVE DATA FOR CENTERLINES OF STREETS

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
CC1	200.00'	63.14'	62.88'	S 79°24'46" W	18°05'20.51"	31.84'
CC2	50.00'	35.01'	34.30'	S 39°41'25" E	40°07'01.00"	18.26'
CC3	41.00'	86.22'	71.19'	S 49°23'25" E	120°28'57.87"	71.71'
CC4	31.00'	32.20'	30.77'	S 40°36'32" W	59°31'07.75"	17.72'
CC5	36.00'	19.15'	18.93'	N 04°23'28" W	30°28'52.26"	9.81'

CURVE DATA FOR LOT LINES

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
LC1	5.00'	4.90'	4.71'	N 38°11'05" E	56°12'02.00"	2.67'
LC2	25.00'	13.30'	13.15'	N 04°23'28" W	30°29'22.25"	6.81'
LC3	15.00'	3.36'	3.35'	N 76°46'54" E	12°49'36.00"	1.69'
LC4	20.00'	6.09'	6.07'	N 61°38'23" E	17°27'26.87"	3.07'
LC5	20.00'	6.09'	6.07'	N 79°05'49" E	17°27'29.93"	3.07'
LC6	8.00'	12.57'	11.31'	S 25°22'02" W	90°00'13.97"	8.00'
LC7	8.00'	12.57'	11.31'	N 64°38'01" W	90°00'00.00"	8.00'
LC8	8.00'	12.57'	11.31'	S 25°22'08" W	89°59'41.73"	8.00'
LC9	8.00'	12.57'	11.31'	N 64°37'49" W	90°00'16.91"	8.00'
LC10	15.00'	1.00'	1.00'	S 68°27'25" W	3°49'21.19"	0.50'
LC11	15.00'	1.00'	1.00'	S 72°16'47" W	3°49'21.19"	0.50'
LC12	8.00'	12.57'	11.31'	S 25°22'06" W	90°00'00.00"	8.00'
LC13	8.00'	12.57'	11.31'	N 64°37'55" W	90°00'01.86"	8.00'
LC14	8.00'	12.57'	11.31'	S 25°22'06" W	90°00'00.00"	8.00'
LC15	8.00'	12.57'	11.31'	N 64°37'54" W	90°00'00.00"	8.00'
LC16	15.00'	7.04'	6.97'	S 56°55'52" W	26°52'32.06"	3.58'
LC17	23.50'	24.34'	23.26'	S 18°49'02" E	59°20'00.42"	13.39'
LC18	73.50'	125.06'	110.51'	S 37°53'38" E	97°29'13.04"	83.79'
LC19	10.00'	10.16'	9.73'	S 80°31'35" E	58°12'46.70"	5.57'
LC20	10.00'	10.16'	9.73'	N 41°15'46" E	58°12'43.15"	5.57'

LINE DATA FOR BOUNDARY LINES

LINE	BEARING	DISTANCE
BL1	S 70°22'06" W	5.20'
BL2	N 02°24'42" E	24.05'
BL3	N 87°35'18" W	3.35'
BL4	N 01°09'31" W	64.48'

LINE DATA FOR INGRESS/EGRESS AND EMERGENCY VEHICLE EASEMENTS

LINE	BEARING	DISTANCE
IL2	N 70°22'06" E	22.00'
IL3	N 19°37'54" W	47.19'
IL4	N 70°22'34" E	54.72'
IL5	N 19°37'26" W	22.00'
IL6	S 70°22'34" W	3.50'
IL7	S 70°22'34" W	3.50'
IL8	S 19°37'26" E	22.00'
IL9	N 70°22'34" E	11.14'
IL10	S 10°50'58" W	39.03'

LINE DATA FOR LOT LINES

LINE	BEARING	DISTANCE
LL1	N 79°09'02" W	64.94'
LL2	S 79°09'02" E	67.10'
LL3	S 79°09'02" E	67.10'
LL4	S 19°37'54" E	7.24'
LL5	N 79°09'02" W	59.97'
LL6	N 19°37'54" W	50.73'
LL7	S 19°37'54" E	51.10'
LL8	S 19°37'54" E	51.10'
LL9	S 19°37'54" E	51.10'
LL10	S 19°37'54" E	51.10'
LL11	S 19°37'54" E	51.10'
LL12	S 19°37'54" E	51.10'
LL13	N 19°37'54" W	51.10'
LL14	N 19°37'54" W	51.10'
LL15	S 19°37'54" E	51.10'
LL16	S 19°37'54" E	51.10'
LL17	S 19°37'54" E	51.10'
LL18	S 19°37'54" E	51.10'
LL19	S 19°37'54" E	51.10'
LL20	S 19°37'54" E	51.10'
LL21	S 19°37'54" E	51.10'
LL22	S 19°37'54" E	51.10'
LL23	S 19°37'54" E	51.10'
LL24	S 19°37'54" E	51.10'
LL25	S 19°37'54" E	51.10'
LL26	S 19°37'54" E	51.10'
LL27	N 19°37'54" W	51.10'
LL28	N 19°37'54" W	51.10'
LL29	S 19°37'54" E	51.10'
LL30	S 19°37'54" E	51.10'
LL31	S 19°37'54" E	51.10'
LL32	S 19°37'54" E	51.10'
LL33	S 19°37'54" E	51.10'
LL34	S 19°37'54" E	51.10'
LL35	N 70°22'06" E	170.83'
LL36	N 70°22'06" E	165.33'
LL37	N 70°22'06" E	165.33'
LL38	N 70°22'06" E	165.33'
LL39	N 70°22'06" E	69.50'
LL40	N 19°38'01" W	135.56'
LL41	S 19°38'01" E	135.55'
LL42	N 70°21'59" E	154.99'
LL43	N 19°37'40" W	135.55'
LL44	N 19°37'40" W	135.56'
LL45	S 70°22'06" W	63.51'
LL46	S 70°22'06" W	63.50'
LL47	S 19°37'54" E	135.56'
LL48	N 19°37'54" W	135.56'
LL49	S 70°22'06" W	155.00'
LL50	S 19°37'54" E	135.56'
LL51	N 19°37'54" W	135.56'
LL52	S 70°22'06" W	65.21'
LL53	N 19°37'26" W	141.94'
LL54	S 19°37'26" E	73.01'
LL55	S 70°22'34" W	96.00'
LL56	N 19°37'26" W	73.00'
LL57	S 10°50'58" W	2.28'
LL58	S 19°37'54" E	93.79'
LL59	S 19°37'54" E	93.48'
LL60	S 19°37'54" E	93.17'
LL61	S 19°37'54" E	92.85'
LL62	S 19°37'54" E	92.54'
LL63	S 30°55'22" W	10.32'
LL64	S 15°06'56" W	27.18'
LL65	S 31°11'57" W	66.21'
LL66	S 52°17'38" W	57.46'
LL67	S 59°39'44" W	31.34'
LL68	N 19°37'54" W	143.55'
LL69	S 19°37'54" E	143.56'
LL70	S 10°50'58" W	49.54'
LL71	N 19°37'54" W	6.00'
LL72	S 70°22'06" W	9.77'
LL73	N 10°50'58" E	2.28'
LL74	S 26°01'11" W	35.41'
LL75	S 21°21'14" W	55.66'
LL76	S 32°43'17" W	35.93'

LINE DATA FOR RIGHT-OF-WAY LINES

LINE	BEARING	DISTANCE
RL1	S 70°20'01" W	11.87'
RL2	S 70°22'06" W	93.10'
RL3	N 64°37'54" W	6.36'
RL4	S 70°22'06" W	41.53'
RL5	S 53°55'52" W	4.51'
RL6	S 19°37'54" E	184.33'
RL7	S 70°22'06" W	2.00'
RL8	S 19°37'54" E	77.98'
RL9	N 70°22'06" E	6.50'
RL10	S 19°37'54" E	92.04'
RL11	S 74°43'41" E	21.99'
RL12	---	---
RL13	N 19°37'54" W	92.24'
RL14	---	---
RL15	---	---
RL16	S 70°22'06" W	9.72'
RL17	N 19°19'42" W	62.32'
RL18	N 70°22'06" E	5.39'
RL19	N 19°37'54" W	138.06'
RL20	---	---
RL21	N 70°22'06" E	2.50'
RL22	N 19°37'54" W	78.02'
RL23	S 70°22'06" W	361.08'
RL24	S 53°55'52" W	3.05'
RL25	S 19°37'54" E	211.07'
RL26	S 19°37'54" E	211.07'
RL27	N 86°48'20" E	3.05'
RL28	N 70°22'06" E	426.73'
RL29	N 10°50'58" E	222.14'
RL30	N 79°09'02" W	50.00'
RL31	N 10°50'58" E	107.57'
RL32	N 07°41'02" E	64.41'
RL33	N 70°22'06" E	1052.62'
RL34	N 70°22'06" E	50.00'

LINE DATA FOR CENTERLINES OF STREETS

LINE	BEARING	DISTANCE
CL1	N 88°27'26" E	16.13'
CL2	N 70°22'06" E	172.65'
CL3	N 19°37'54" W	268.82'
CL4	N 19°37'54" W	87.50'
CL5	N 19°37'54" W	3.62'
CL6	S 70°22'06" W	116.50'
CL7	S 70°22'06" W	193.00'
CL8	S 70°22'06" W	108.50'
CL9	S 70°22'06" W	108.50'
CL10	S 70°22'06" W	193.00'
CL11	S 70°22'06" W	247.62'
CL12	N 10°50'58" E	222.50'
CL13	N 70°22'06" E	34.19'
CL14	N 70°22'06" E	407.50'
CL15	N 70°22'06" E	418.00'
CL16	N 70°22'06" E	88.50'
CL17	N 19°38'01" W	185.72'
CL18	N 70°22'06" E	192.99'
CL19	S 19°37'40" E	185.72'
CL20	N 70°22'06" E	108.51'
CL21	S 19°37'54" E	185.72'
CL22	S 19°37'54" E	83.10'
CL23	N 70°22'06" E	108.49'
CL24	N 19°37'40" W	185.72'
CL25	N 70°22'06" E	193.01'
CL26	N 19°37'54" W	185.72'
CL27	N 70°22'06" E	106.00'
CL28	N 19°37'54" W	83.10'
CL29	N 19°37'54" W	1.95'
CL30	N 10°50'58" E	58.42'
CL31	N 70°22'34" E	39.12'
CL32	N 70°22'34" E	63.87'

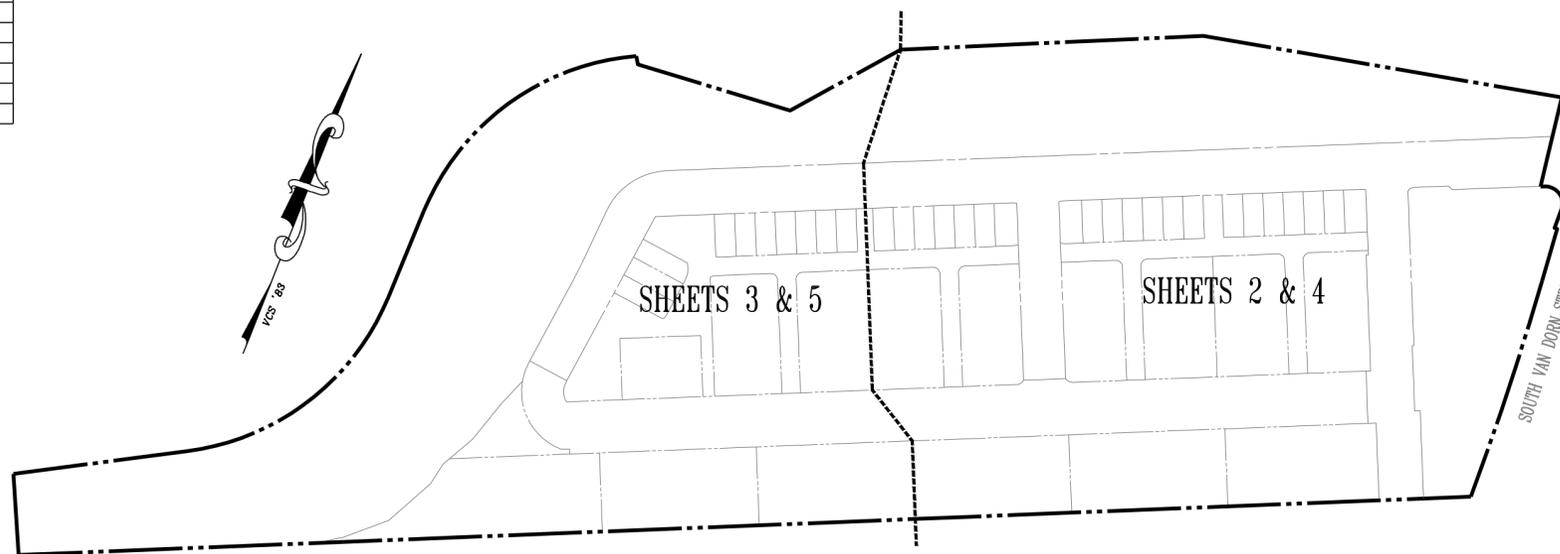
LINE DATA FOR EMERGENCY VEHICLE EASEMENTS

LINE	BEARING	DISTANCE
EL1	N 10°50'58" E	4.02'
EL2	S 70°22'06" W	518.12'
EL3	S 19°37'54" E	4.89'
EL4	N 19°37'54" W	4.89'
EL5	S 70°22'06" W	351.00'
EL6	N 70°22'06" E	139.13'
EL7	N 19°37'54" W	35.99'
EL8	S 70°22'06" W	0.75'
EL9	N 19°37'54" W	22.00'
EL10	N 70°22'06" E	0.25'
EL11	N 19°37'54" W	21.00'
EL12	N 70°22'06" E	22.50'
EL13	S 19°37'54" E	21.00'
EL14	N 70°22'06" E	0.25'
EL15	S 19°37'54" E	22.00'
EL16	S 70°22'06" W	0.25'
EL17	S 19°37'54" E	35.99'
EL18	N 70°22'06" E	309.75'
EL19	N 19°37'54" W	35.99'
EL20	S 70°22'06" W	0.50'
EL21	N 19°37'54" W	22.00'
EL22	N 70°22'06" E	0.25'
EL23	N 19°37'54" W	21.00'
EL24	N 70°22'06" E	22.50'
EL25	S 19°37'54" E	21.00'
EL26	N 70°22'06" E	0.25'
EL27	S 19°37'54" E	22.00'
EL28	S 70°22'06" W	0.50'
EL29	S 19°37'54" E	35.99'
EL30	N 70°22'06" E	310.00'
EL31	N 19°37'54" W	35.99'
EL32	S 70°22'06" W	0.50'
EL33	N 19°37'54" W	22.00'
EL34	N 70°22'06" E	0.25'
EL35	N 19°37'54" W	21.00'
EL36	N 70°22'06" E	22.50'
EL37	S 19°37'54" E	21.00'
EL38	S 20°16'58" E	22.00'
EL39	S 70°22'06" W	0.50'
EL40	S 19°37'54" E	37.34'
EL41	N 70	

CURVE DATA FOR EMERGENCY VEHICLE EASEMENTS

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
EC1	30.00'	63.08'	52.09'	S 49°23'27" E	120°28'53.76"	52.47'
EC2	20.00'	31.42'	28.28'	N 25°22'06" E	90°00'00.00"	20.00'
EC3	20.00'	31.42'	28.28'	S 64°37'54" E	90°00'02.87"	20.00'
EC4	20.00'	31.42'	28.28'	S 25°22'06" W	90°00'00.00"	20.00'
EC5	4.00'	6.28'	5.66'	S 64°37'51" E	90°00'05.12"	4.00'
EC6	4.00'	6.28'	5.66'	S 25°22'06" W	90°00'00.00"	4.00'
EC7	4.00'	6.28'	5.66'	N 64°37'54" W	90°00'00.00"	4.00'
EC8	4.00'	6.28'	5.66'	N 25°22'06" E	90°00'00.00"	4.00'
EC9	20.00'	31.42'	28.28'	N 64°37'54" W	90°00'00.95"	20.00'
EC10	20.00'	31.42'	28.28'	S 25°22'07" W	90°00'01.03"	20.00'
EC11	4.00'	6.28'	5.66'	S 64°37'52" E	90°00'04.03"	4.00'
EC12	4.00'	6.28'	5.66'	S 25°22'06" W	90°00'00.00"	4.00'
EC13	4.00'	6.28'	5.66'	N 64°37'52" W	90°00'03.70"	4.00'
EC14	4.00'	6.28'	5.66'	N 25°22'07" E	90°00'02.59"	4.00'
EC15	20.00'	31.42'	28.28'	N 64°37'54" W	90°00'00.00"	20.00'
EC16	20.00'	31.42'	28.28'	S 25°22'06" W	90°00'00.00"	20.00'
EC17	4.00'	6.28'	5.66'	S 64°37'54" E	90°00'00.01"	4.00'
EC18	4.00'	6.28'	5.66'	S 25°22'04" W	90°00'03.97"	4.00'
EC19	4.00'	6.28'	5.66'	N 64°37'54" W	90°00'00.00"	4.00'
EC20	4.00'	6.28'	5.66'	N 25°22'08" E	90°00'04.04"	4.00'
EC21	20.00'	4.53'	4.52'	N 26°07'04" W	12°58'19.76"	2.27'
EC22	52.00'	80.42'	72.64'	S 33°27'18" E	88°36'33.42"	50.75'

SHEET KEY
NOT TO SCALE



LINE DATA FOR
SANITARY SEWER EASEMENTS

LINE	BEARING	DISTANCE
SL1	N 70°22'06" E	941.55'
SL2	S 19°37'54" E	10.00'
SL3	S 70°22'06" W	259.16'
SL4	S 19°37'54" E	157.39'
SL5	S 70°21'52" W	10.00'
SL6	N 19°37'54" W	157.39'
SL7	S 70°22'06" W	180.00'
SL8	S 19°37'54" E	157.39'
SL9	S 70°21'52" W	10.00'
SL10	N 19°37'54" W	157.39'
SL11	S 70°22'06" W	207.00'
SL12	S 19°37'54" E	157.39'
SL13	S 70°21'52" W	10.00'
SL14	N 19°37'54" W	157.39'
SL15	S 70°22'06" W	177.00'
SL16	S 19°37'54" E	157.39'
SL17	S 70°21'52" W	10.00'
SL18	N 19°37'54" W	157.39'
SL19	S 70°22'06" W	78.44'
SL20	S 19°37'54" E	71.34'
SL21	S 10°17'14" W	86.41'
SL22	N 79°42'46" W	10.00'
SL23	N 10°17'14" E	83.74'
SL24	N 19°37'54" W	68.66'

LINE DATA FOR
WATERLINE EASEMENTS

LINE	BEARING	DISTANCE
WL1	N 19°37'54" W	18.53'
WL2	S 70°22'06" W	10.00'
WL3	S 19°37'54" E	18.53'
WL4	N 70°22'06" E	58.07'
WL5	S 19°37'54" E	10.00'
WL6	S 70°22'06" W	63.96'
WL7	S 10°50'58" W	10.18'
WL8	S 19°37'54" E	59.50'
WL9	N 70°22'06" E	971.23'
WL10	N 70°22'06" E	956.31'
WL11	S 19°37'54" E	40.41'
WL12	S 10°50'58" W	6.09'

LINE DATA FOR
PRIVATE PARKING EASEMENTS

LINE	BEARING	DISTANCE
XL1	N 25°22'06" E	11.26'
XL2	N 70°21'37" E	264.04'
XL3	S 64°37'54" E	11.31'
XL4	N 25°22'06" E	11.31'
XL5	N 70°22'06" E	264.00'
XL6	S 64°37'54" E	11.31'
XL7	N 25°22'06" E	11.31'
XL8	N 70°22'06" E	132.00'
XL9	S 64°37'54" E	11.31'
XL10	N 25°22'06" E	11.31'
XL11	N 70°22'06" E	66.00'
XL12	S 64°37'54" E	11.31'
XL13	N 25°22'06" E	11.31'
XL14	N 70°22'06" E	154.00'
XL15	S 64°37'54" E	11.31'
XL16	N 25°39'24" E	11.37'
XL17	N 70°22'06" E	132.00'
XL18	S 64°37'54" E	11.31'
XL19	S 25°22'06" W	11.31'
XL20	S 70°22'06" W	154.00'
XL21	N 64°37'54" W	11.31'
XL22	S 25°22'06" W	11.31'
XL23	S 70°22'06" W	110.00'
XL24	N 64°37'54" W	11.31'
XL25	N 16°29'21" W	20.19'
XL26	N 22°41'02" W	20.19'
XL27	N 11°10'04" W	20.38'
XL28	N 77°57'11" W	38.39'
XL29	N 04°20'31" E	22.06'
XL30	S 24°43'00" E	22.09'
XL31	N 61°29'21" W	16.38'
XL32	N 55°09'59" E	46.37'



APPROVED

DSUP #2023-00012

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. _____

PLAT SHOWING
LOTS 501-552
VULCAN MATERIALS SUBDIVISION
BEING A SUBDIVISION OF
OUTLOT 3539-01-01
ALEXANDRIA INDUSTRIAL PARK, INC.
D.B. 679 PG. 424
PARCELS A, E, F, & G
VIRGINIA REALTY COMPANY, INC.
D.B. 526 PG. 464
PARCEL 3519-01-1
ALEXANDRIA SAND AND GRAVEL CORPORATION
AND FRANK ELBAN PROPERTY
D.B. 482 PG. 328
CITY OF ALEXANDRIA, VIRGINIA
SCALE: N/A DATE: DECEMBER 19, 2023



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WELLS + ASSOCIATES

VULCAN MATERIALS DEVELOPMENT

TRAFFIC IMPACT STUDY

November 4, 2022

Revised November 17, 2023



Vulcan Materials Development

Traffic Impact Study

Alexandria, Virginia

November 17, 2023

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TABLE OF CONTENTS

	<u>PAGE</u>
SECTION 1: INTRODUCTION _____	1
STUDY SCOPE	1
PURPOSE	2
STUDY OBJECTIVE/METHODOLOGY	2
STUDY AREA	3
SECTION 2: BACKGROUND INFORMATION _____	4
DESCRIPTION OF PROPOSED DEVELOPMENT	4
DESCRIPTION OF PARCEL	4
EISENHOWER WEST SMALL AREA PLAN	4
ROADWAY NETWORK.....	4
S. Van Dorn Street	4
S. Pickett Street	5
Eisenhower Avenue	5
Metro Road	5
Edsall Road	5
Courtney Avenue.....	5
SECTION 3: ANALYSIS OF EXISTING (2022) CONDITIONS _____	9
TRAFFIC VOLUMES	9
OPERATIONAL ANALYSIS	10
LEVELS OF SERVICE	10
QUEUES	11
SECTION 4: ANALYSIS OF FUTURE CONDITIONS WITHOUT DEVELOPMENT ____	17
TRAFFIC VOLUMES	17
Methodology/Assumptions	17
Regional Growth	17
Pipeline Developments	17
Pipeline Distributions	17
Future Traffic Volumes without Development	18
OPERATIONAL ANALYSIS	18
LEVELS OF SERVICE	18
QUEUES	18
SECTION 5: TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT _____	25
TRIP GENERATION	25
SITE TRIP DISTRIBUTION	25
SITE ACCESS & CIRCULATION	25
EXISTING REMOVED TRIPS	26
SITE TRIP ASSIGNMENTS	26

SECTION 6: ANALYSIS OF FUTURE CONDITIONS WITH DEVELOPMENT	31
TRAFFIC VOLUMES	31
CAPACITY ANALYSIS	31
LEVELS OF SERVICE	31
POTENTIAL MITIGATION IMPROVEMENTS	31
QUEUES	32
SECTION 7: NON-AUTO FACILITIES EVALUATION	36
INTRODUCTION	36
PUBLIC TRANSIT SERVICE	36
Bus Service	36
WMATA Metrorail	37
PEDESTRIAN TRAFFIC VOLUMES	37
BICYCLE/PEDESTRIAN ACCESS	37
SECTION 8: TRANSPORTATION MANAGEMENT PLAN (TMP)	40
INTRODUCTION	40
TMP CONDITIONS AND REQUIREMENTS	40
TMP Coordinator	40
TMP Contribution	40
SECTION 9: CONCLUSIONS AND RECOMMENDATIONS	41

LIST OF FIGURES

FIGURE	TITLE	<u>PAGE</u>
2-1	Site Location	6
2-2	Concept Site Plan.....	7
2-3	Existing Lane Use and Traffic Controls.....	8
3-1	Existing Peak Hour Traffic Volumes	14
3-2	Existing Pedestrian Counts	15
3-3	Existing Bicycle Counts	16
4-1	Regional Growth (2022-2026)	22
4-2	2027 Peak Hour Pipeline Development Traffic Forecasts	23
4-3	2027 Future Peak Hour Traffic Forecasts without Development.....	24
5-1	Future Conditions with Development Lane Use and Traffic Controls	28
5-2	Existing Site Trips Removed	29
5-3	Proposed Site Generated Trips	30
6-1	2027 Future Peak Hour Traffic Forecasts with Development	35
7-1	Multimodal Transportation Facilities	38
7-2	City of Alexandria Bicycle Map	39

LIST OF TABLES

TABLE	TITLE	<u>PAGE</u>
3-1	Existing Intersection Level of Service Summary	12
3-2	Existing Intersection Queuing Summary	13
4-1	Pipeline Trip Generation Analysis	19
4-2	Future without Development Level of Service Summary	20
4-3	Future without Development Queueing Summary	21
5-1	Site Trip Generation	27
6-1	Future with Development Level of Service Summary	33
6-2	Future with Development Queueing Summary	34

LIST OF APPENDICES

APPENDIX	TITLE
A	Scoping Agreement
B	Count Worksheets
C	2022 Existing Synchro Worksheets
D	2026 Background Condition without Development Synchro Worksheets
E	2026 Future Condition with Development Synchro Worksheets
F	2026 Future Condition with Development and Improvements Synchro Worksheets

Vulcan Materials

Multimodal Transportation Impact Analysis

SECTION 1 INTRODUCTION

Study Scope

This report presents a revised Multimodal Traffic Impact Analysis (TIA) for the proposed redevelopment of the Vulcan Materials site located in the City of Alexandria, Virginia in support of the DSUP application, incorporating revisions based on comments received from City of Alexandria staff on October 11, 2023.

The site is located in the southwest quadrant of the S. Van Dorn Street/Courtney Avenue intersection. The development is proposed to be primarily served by one (1) access point at the existing signalized intersection of S. Van Dorn Street/Courtney Avenue, similar to existing conditions. The proposed redevelopment is part of and consistent with the Eisenhower West Small Area plan that was adopted in 2015 and amended April 2019.

As proposed, the existing site which is currently occupied by the Vulcan Van Dorn Sales Yard would be razed and redeveloped with a mixed-use development containing a 256-room hotel, 204 condominiums, 88 back-to-back multifamily units, and 31 townhomes. The site would have an internal street network connecting the various areas and parking would be provided throughout. The condominiums would have on-site parking provided in individual condominium garages and on-street spaces within the development.

The scope of this multimodal traffic study was established in consultation with the City of Alexandria Transportation & Environmental Services (T&ES) and evaluates existing conditions (2022), future conditions (2026) without development, and future conditions (2026) with development. Based on trip generation estimates, the development would not meet the 5,000-daily vehicle trip threshold requiring a formal VDOT Chapter 870 review.

Based on the proposed number of dwelling units the project would be required to adhere to a Tier 2 Transportation Management Plan (TMP).

Purpose

The purpose of this traffic study is to evaluate the adequacy of the existing transportation network in conjunction with the proposed redevelopment and identify any potential mitigation measures to offset its traffic impacts, if needed.

This study was conducted in accordance with City of Alexandria's Zoning Ordinance, Section 11-700. The study area and scope of the project was determined with City of Alexandria staff based on a review of key study intersections and roadways that would be potentially affected by the proposed redevelopment and the number of new trips expected to be generated by the site. A copy of the agreed scope is included in Appendix A. Given the number of new peak hour trips, this study was performed under the Medium Development guidelines per the *Transportation Planning Administrative Guidelines*, last updated June 2017.

Study Objective/Methodology

Tasks undertaken in this study included the following:

- Confirmation of the traffic study scope and parameters from the City of Alexandria T&ES staff that must be addressed in this study.
- Review of the proposed development plans, development schedule, parking plans, and other background materials.
- A field reconnaissance of the subject site, adjacent properties, surrounding public roadways, and traffic conditions.
- Collection of AM and PM peak hour traffic counts on a typical weekday from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM at key off-site intersections.
- Obtained the existing traffic signal phasing/timing plans and electronic analysis files from T&ES staff.
- Compiled an inventory of transit services and other non-auto facilities in the site vicinity.
- Calculated the existing AM and PM peak hour levels of service and 50th and 95th percentile queues at study intersections.
- Identified near-term background traffic volumes for the study area based on the existing traffic counts, ambient traffic growth, and un-built developments (pipeline developments) adjacent to the site.

- Estimated the number of AM and PM peak hour trips that would be generated by the pipeline developments and the proposed development.
- Analyzed future intersection levels of service and 50th and 95th percentile queues in 2026 without and with the proposed development.

Sources of data for this study included information provided by the City of Alexandria; VDOT; traffic data collected and field surveys conducted by Wells + Associates Inc.; Institute of Transportation Engineers (ITE); the Highway Capacity Manual (HCM); Lennar; Urban; and the files of Wells + Associates Inc.

Study Area

This traffic study includes the following existing and planned intersections as agreed to with City staff through the scoping process and are listed below. The traffic impacts were evaluated at these intersections for baseline conditions (2022), future conditions (2026) without development, and future conditions (2026) with development.

1. S. Van Dorn Street/Edsall Road
2. S. Van Dorn Street/Pickett Street
3. S. Van Dorn Street/Courtney Avenue
4. S. Van Dorn Street/On-Off Ramp to Metro Road
5. S. Van Dorn Street/Eisenhower Avenue
6. Edsall Road/Pickett Street/Cameron Station Boulevard
7. Metro Road/Summer Grove Road/Metro Kiss-N-Ride Lot
8. Metro Road/Eisenhower Avenue

SECTION 2

BACKGROUND INFORMATION

Description of Proposed Development

The Applicant, Lennar, proposes to raze the existing the Vulcan Van Dorn Sales Yard to redevelop the site with a 256-room hotel, 204 condominiums, 88 back-to-back multifamily units, and 31 townhomes.

As mentioned previously, the site is located within the Landmark Area within the City of Alexandria and located to the west of S. Van Dorn Street, as shown on Figure 2-1. The development would be primarily served by one (1) access point via the west leg of the existing signalized intersection of Courtney Avenue/S. Van Dorn Street. For reference, the site plan is shown on Figure 2-2.

For purposes of this study, the entire development was assumed to be fully constructed and occupied by 2026.

Description of Parcel

The subject site consists of one (1) parcel totaling 14.50 acres. The parcel is identified as Tax Map Number 0.67-03-01-17. The site is currently zoned I (Industrial). The site is proposed to be rezoned to CDD (Coordinated Development District) to facilitate the proposed redevelopment.

Eisenhower West Small Area Plan

The area of the proposed development plan is located adjacent to three (3) arterials; Edsall Road, S. Van Dorn Street, and Eisenhower Avenue. The subject site is also located within close proximity (approximately 0.5 miles) to Interstate 495.

The Eisenhower West Small Area Plan dated December 12, 2015 and amended April 13, 2019 provides a vision for the transportation goals for the area. The focus of the vision are regional improvements to the transit, pedestrian, and bicycle systems with targeted capacity issues in the area. Further, the plan focuses on ideal uses for the area.

Roadway Network

Regional and local access to the subject site is provided by S. Van Dorn Street, Eisenhower Avenue, and Edsall Road.

S. Van Dorn Street in the site vicinity is a four-lane divided roadway and is classified as an Urban Minor Arterial with a posted speed limit of 35 mph. Traffic signals exist at the intersections with Edsall Road, Pickett Street, Courtney Avenue, and Eisenhower Avenue. S. Van Dorn Street provides access to Duke Street and I-495. Van Dorn Street has been designated in the

Transportation Master Plan as a dedicated transit corridor, and the planned street sections depict a multimodal boulevard with dedicated bike and transit lanes.

S. Pickett Street is a two-lane roadway in the vicinity of the site that is classified as a major collector. It contains on street adjacent parking along the segment between S. Van Dorn Street and Edsall Road. S. Pickett Street provides local access to the site via S. Van Dorn Street and runs east to west to the north of the site. The posted speed limit for S. Pickett Street is 35 mph.

Eisenhower Avenue is a four-lane minor arterial with a posted speed of 35 mph in the vicinity of the site. Eisenhower Avenue provides local access to the site beginning at S. Van Dorn Street south of the site.

Metro Road is a four-lane minor collector that runs from S. Van Dorn Street to Eisenhower Avenue. This roadway serves as a ramp to enter and exit S. Van Dorn Street. The posted speed limit for this roadway is 25 mph.

Edsall Road is a four-lane minor arterial with a posted speed of 35 mph in the vicinity of the site. Edsall Road provides local access from I-395 to S. Van Dorn Street.

Courtney Avenue is a two-lane local road with a posted speed limit of 35 mph. Courtney Avenue runs east to west serving as a site access for the existing site as well as the Virginia Paving Company on the east side of S. Van Dorn Street.

Refer to Figure 2-3 for the existing lane use and traffic controls at the study intersections.

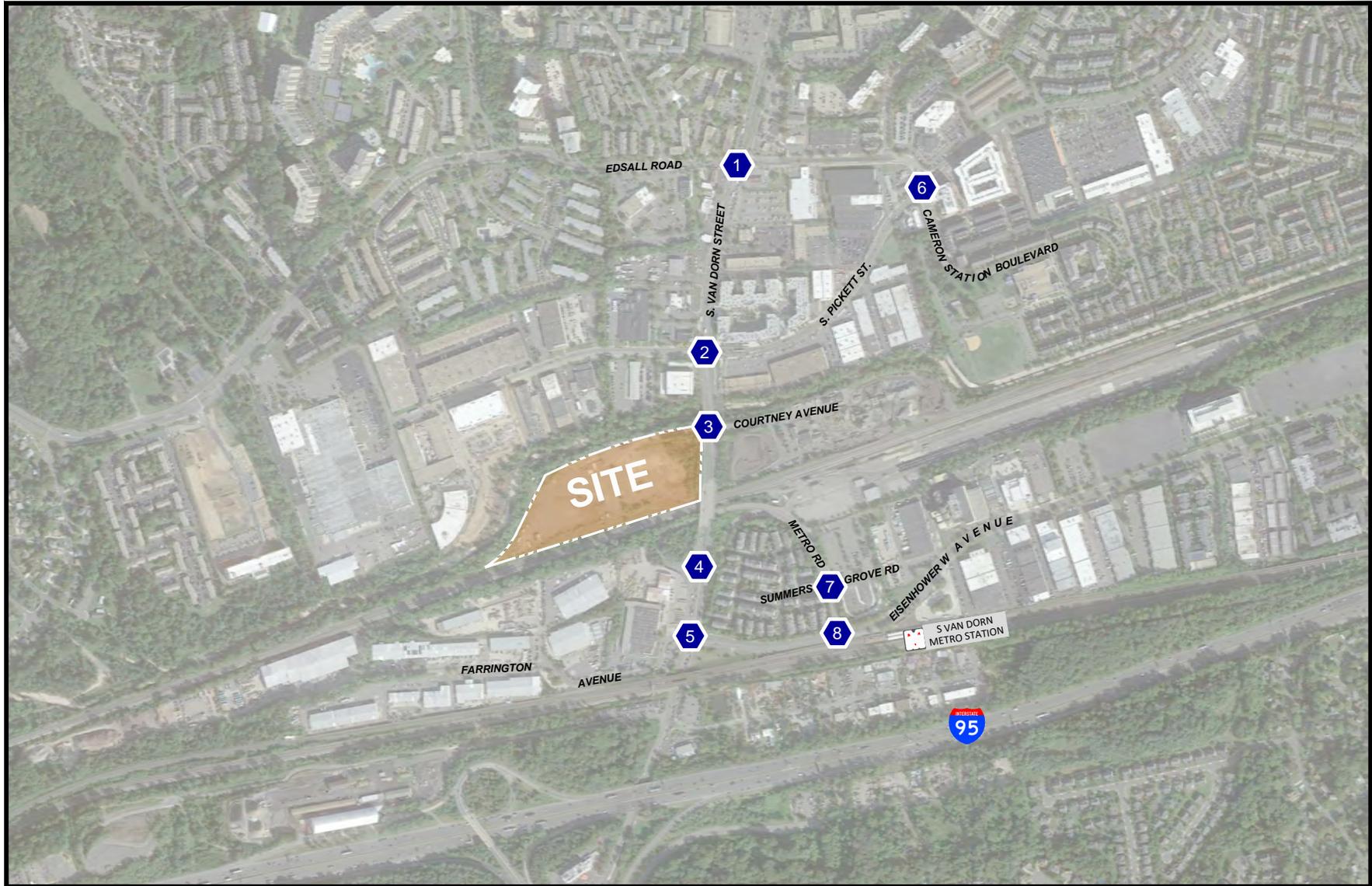


Figure 2-1
Site Location and Study Intersections

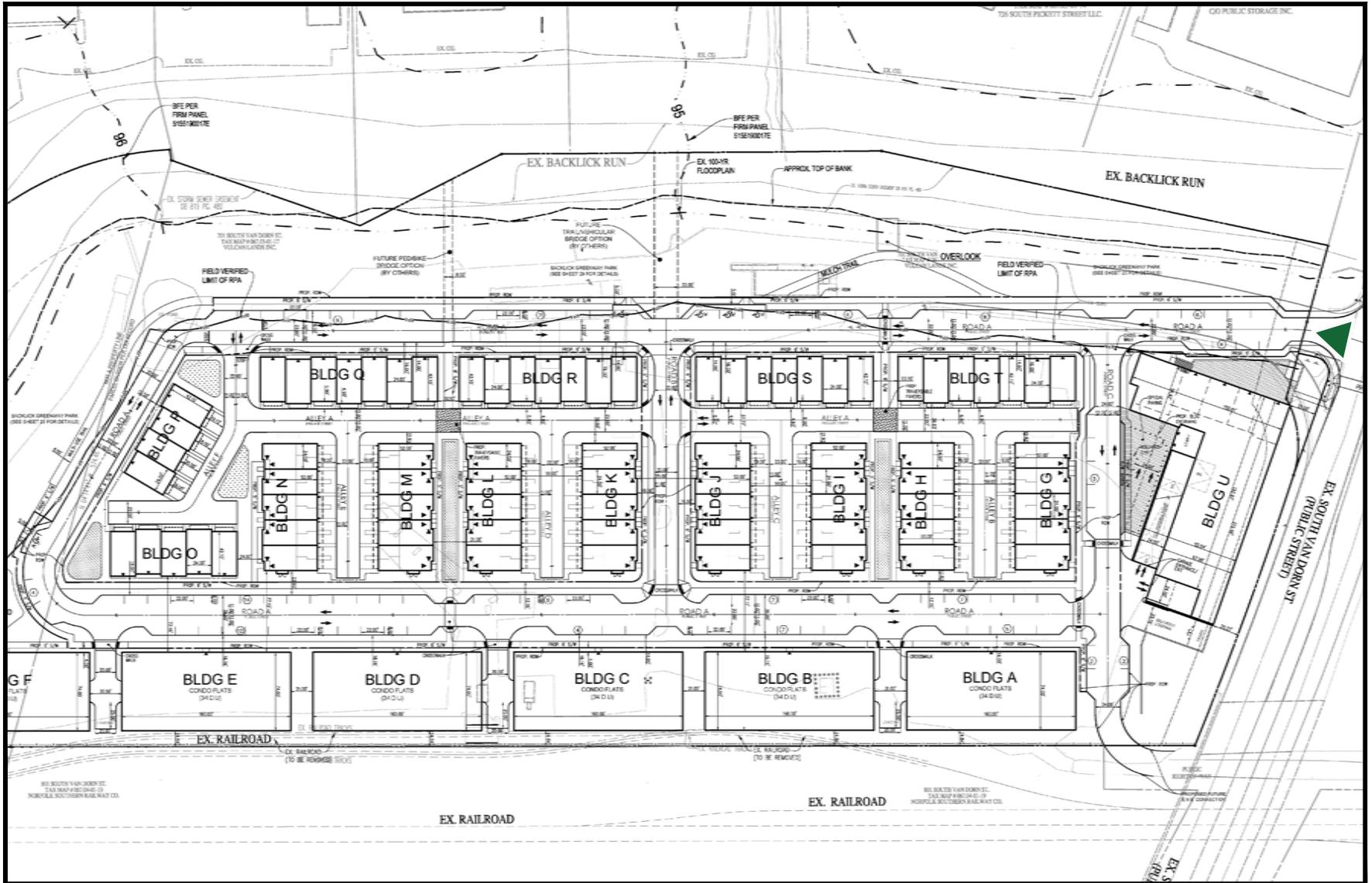
-  Study Intersection
-  Site Location



NORTH

Vulcan Materials
City of Alexandria, VA





PLAN PROVIDED BY: URBAN

Figure 2-2
Concept Site Plan

▲ Site Access



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City of Alexandria, VA



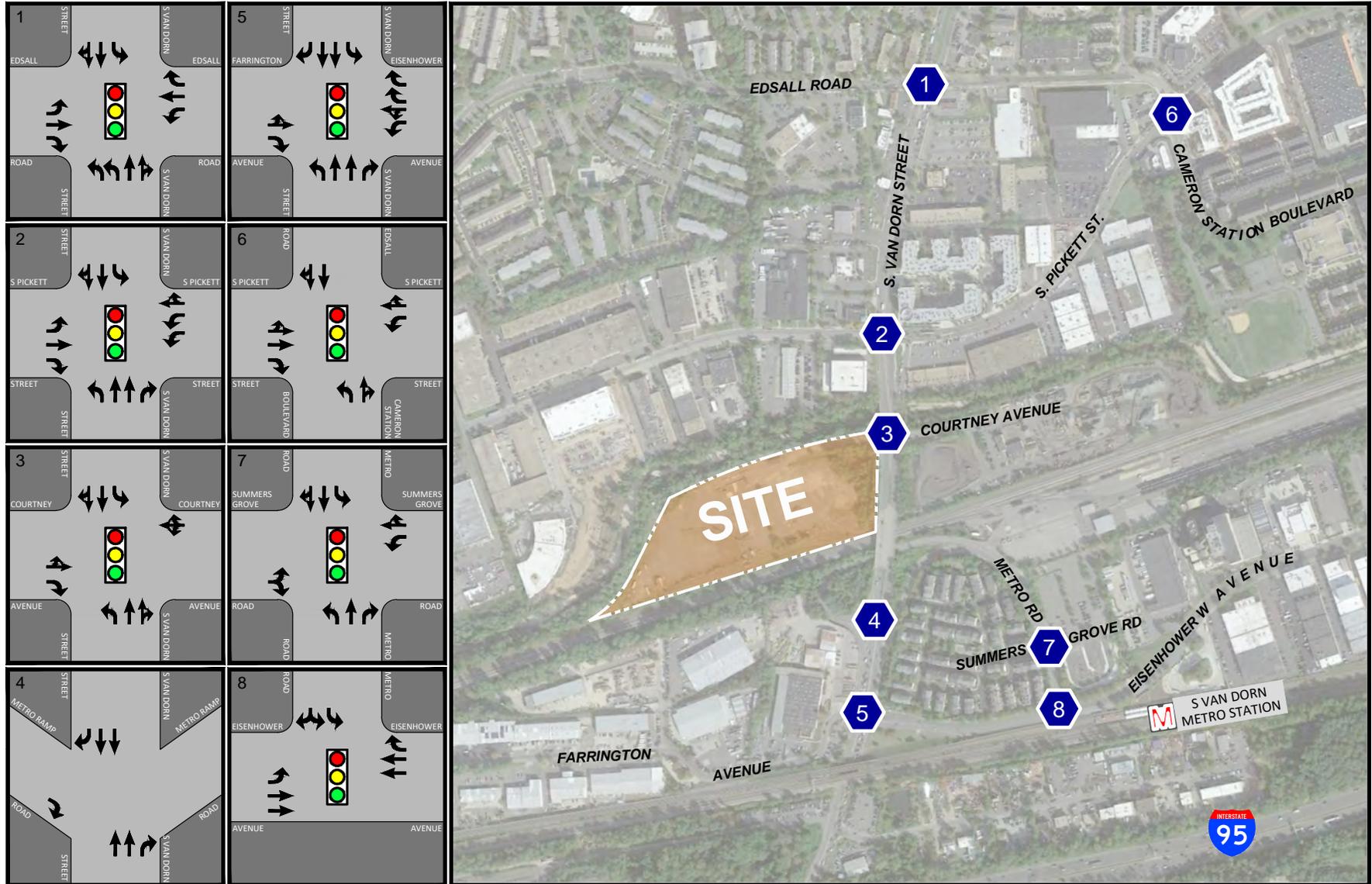


Figure 2-3
Existing (2022) Lane Use and Traffic Controls

-  Represents One Travel Lane
-  Signalized Intersection
-  Stop Sign



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Vulcan Materials
City of Alexandria, VA



SECTION 3

ANALYSIS OF BASELINE (2022) CONDITIONS

Traffic Volumes

Wells + Associates conducted vehicular, pedestrian, and bicycle counts on Wednesday, October 13, 2021 from 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM at the following intersections:

- S. Van Dorn Street/Edsall Road*
- S. Van Dorn Street/Pickett Street*
- S. Van Dorn Street/Courtney Avenue
- S. Van Dorn Street/On-Off Ramp to Metro Road
- S. Van Dorn Street/Eisenhower Avenue*
- Edsall Road/Pickett Street/Cameron Station Boulevard
- Metro Road/Summer Grove Road/Metro Kiss-N-Ride Lot
- Metro Road/Eisenhower Avenue

Counts were collected during Covid-19 and therefore adjusted based on previously collected counts provided by the City of Alexandria staff at the noted (*) intersections. An adjustment rate of 10 percent in the AM and three (3) percent in the PM was applied to the counts recorded in 2021. Along with the Covid adjustment, a growth rate of 0.5% to establish baseline 2022 turning movement traffic volumes at the study intersections. Detailed adjustment information is located in Appendix B.

The existing baseline peak hour vehicular volumes are shown in Figure 3-1, the existing pedestrian volumes are shown on Figure 3-2, and the existing bicycle volumes are shown on Figure 3-3. For purposes of this traffic impact analysis, a common peak hour (7:00 AM – 8:00 AM and 5:00 PM – 6:00 PM) was identified among the study intersections and were balanced to within 10 percent of each other where no break in the network exists. The detailed count worksheets are included in Appendix B.

Operational Analysis

Existing peak hour levels of service (LOS) and the 50th and 95th percentile queues were calculated at key study intersections based on the existing lane use and traffic control shown on Figure 2-3, existing traffic signal phasings/timings obtained from T&ES, existing peak hour traffic volumes shown on Figure 3-1, and the HCM 6th and 2000 edition methodologies, as reported by Synchro version 11. Delays and their corresponding LOS letter are defined below. The base Synchro files were provided by T&ES and were reviewed and modified to account for on-street parking maneuvers, pedestrian calls, and bus blockages. Additionally, peak hour factors (PHF) of 0.85 or higher were utilized based on the existing peak hour traffic counts.

Level of Service Criteria for Signalized Intersections

Level of Service	Stopped Delay Per Vehicle (sec)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

Level of Service Criteria for Stop Sign Controlled Intersections

Level of Service	Average Control Delay (sec/veh)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

Levels of Service. The existing LOS results are summarized in Table 3-1 and indicate the following:

- All of the signalized study intersections operate at overall acceptable levels of service (LOS “D” or better) during the AM and PM peak hours with the exception of the following:
 - Edsall Road/S. Van Dorn Street during the PM peak hour (LOS “E”)
 - Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street during the AM peak hour (LOS “E”)

Several movements at the study intersections operate at or beyond capacity during the peak hours. The failing movements and intersections can be observed in Table 3-1.

The existing baseline conditions level of service Synchro capacity analysis worksheets are included in Appendix C.

Queues. The 50th and 95th percentile queues of existing conditions are used to establish a datum against which to compare future conditions. The 50th percentile (or average) queue is defined as the maximum back of queue associated with a typical signal cycle. The 95th percentile queue is defined as the maximum back of queue with 95th percentile traffic volumes. The 95th percentile queue is not necessarily ever observed, it is simply based on statistical calculations.

As shown on Table 3-2, peak hour queuing at the study intersections is adequately accommodated within the turn lane storage provided with the exception of the following:

- Westbound left turn at S. Pickett Street/S. Van Dorn Street (AM/PM)
- Northbound right turn at S. Pickett Street/S. Van Dorn Street (AM/PM)
- Westbound Left turn at Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street (AM/PM)
- Westbound through-right at Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street (AM/PM)
- Southbound left turn at Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street (AM/PM)
- Eastbound left-through-right at S. Pickett Street/Edsall Road/Cameron Station Boulevard (AM/PM)
- Northbound left turn at S. Pickett Street/Edsall Road/Cameron Station Boulevard (AM/PM)

The existing conditions queuing analysis worksheets are included in Appendix C.

Table 3-1
Vulcan Materials
Existing (2022) Conditions Levels of Service Summary ¹

Approach/ Lane Group	Existing Conditions			
	AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
1. Edsall Road/S. Van Dorn Street - Signalized				
EBL	D	49.0	E	56.8
EBT	E	65.1	E	64.6
EBR	F	126.3	F	286.7
WBL	D	52.9	E	64.3
WBT	E	60.8	E	61.0
WBR	E	59.2	E	59.2
NBL	E	79.0	E	67.9
NBTR	A	8.3	A	5.7
SBL	F	84.5	E	66.7
SBTR	D	35.7	D	35.6
Overall	D	44.1	E	61.5
2. S. Pickett Street/S. Van Dorn Street - Signalized				
EBL	E	73.5	D	50.3
EBT	E	76.7	D	54.5
EBR	E	78.0	E	64.4
WBL	F	93.6	F	100.8
WBTR	E	61.4	D	42.8
NBL	B	11.4	B	18.0
NBT	A	1.2	A	3.3
NBR	A	1.4	A	5.7
SBL	A	8.2	B	13.3
SBTR	A	1.4	A	4.9
Overall	B	14.3	C	21.6
3. Courtney Avenue/S. Van Dorn Street - Signalized				
EBLT/EBLTR	A	0.0	A	0.0
WBLTR	F	86.0	E	71.0
NBL	A	0.0	A	0.0
NBTR	A	2.7	B	12.2
SBL	A	9.8	A	4.4
SBTR	A	2.4	A	2.4
Overall	A	3.1	A	7.2
4. S. Van Dorn Street/Metro Road Ramp - Unsignalized ²				
5. Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street - Signalized				
EBLT	F	89.9	E	69.6
EBR	E	78.3	E	66.3
WBL	F	92.9	E	55.2
WBT	F	93.5	E	67.1
WBR	E	61.6	D	52.2
NBL	F	83.3	E	75.8
NBT	D	41.2	D	48.6
NBR	C	22.6	C	25.6
SBL	F	187.6	F	173.2
SBT	C	33.3	C	25.1
SBR	C	21.0	B	13.2
Overall	E	55.2	D	50.1
6. S. Pickett Street/Edsall Road/Cameron Station Boulevard - Signalized				
EBLT	B	19.0	B	19.7
EBTR	B	20.0	C	20.4
WBL	B	13.7	B	14.3
WBTR	B	12.6	B	14.5
NBL	B	15.1	B	16.1
NBTR	C	20.5	C	20.6
SBL	B	14.9	B	15.2
SBTR	C	21.5	B	18.7
Overall	B	17.7	B	17.5
7. Summers Grove Road/Metro Road - Signalized				
EBLTR	C	30.9	C	30.1
WBL	C	31.7	C	25.0
WBTR	B	19.3	C	22.0
NBL	B	11.2	A	6.9
NBT	B	11.4	A	6.9
NBR	B	11.1	A	6.8
SBL	B	11.8	A	7.1
SBTR	B	11.6	A	7.3
Overall	B	17.7	B	10.7
8. Eisenhower Avenue/Metro Road - Signalized				
EBL	A	5.9	A	2.7
EBT	A	6.3	A	2.0
WBT	B	13.9	B	16.8
WBR	A	0.0	A	0.0
SBLR	C	29.6	C	27.2
Overall	B	13.6	B	12.7

Note(s):

- Capacity analysis based on Highway Capacity Manual methodology, using Synchro 11.
- Synchro analysis unavailable for intersection

Table 3-2
 Vulcan Materials
 Existing (2022) Conditions Queuing Summary ^{1,2,3,4}

Approach/ Lane Group	Storage Length (ft)	Existing Conditions			
		AM Peak Hour		PM Peak Hour	
		50th Percentile	95th Percentile	50th Percentile	95th Percentile
1. Edsall Road/S. Van Dorn Street - Signalized					
EBL	-	154	201	87	141
EBT	-	351	424	205	297
EBR	-	104	189	63	185
WBL	-	103	144	124	190
WBT	-	195	267	222	319
WBR	240	0	0	0	67
NBL	420	131	181	182	235
NBTR	-	766	534	155	381
SBL	340	74	122	156	234
SBTR	-	348	422	509	612
2. S. Pickett Street/S. Van Dorn Street - Signalized					
EBL	215	31	52	50	72
EBT	-	26	51	33	59
EBR	320	21	65	141	184
WBL	265	233	294	~284	#410
WBTR	-	30	67	67	117
NBL	240	22	m39	28	98
NBT	-	306	817	330	537
NBR	115	128	269	89	207
SBL	450	13	m37	19	m33
SBTR	-	327	481	238	#896
3. Courtney Avenue/S. Van Dorn Street - Signalized					
EBLT	-	0	0	0	0
WBLTR	-	0	1	0	1
NBL	130	0	0	0	0
NBTR	-	15	338	621	758
SBL	130	1	m3	0	m0
SBTR	-	290	326	96	m100
4. S. Van Dorn Street/Metro Road Ramps - Unsignalized ⁵					
5. Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street - Signalized					
EBLTR	-	91	145	36	71
WBL	120	149	#249	81	#158
WBTR	120	346	401	223	317
NBL	140	78	120	28	63
NBT	-	794	895	662	772
NBR	120	34	78	1	47
SBL	385	~380	#534	~479	#682
SBT	-	553	837	833	#931
SBR	-	0	6	0	m0
6. S. Pickett Street/Edsall Road/Cameron Station Boulevard - Signalized					
EBLTR	150	121	196	95	#267
WBL	-	9	27	6	23
WBTR	-	106	201	185	407
NBL	60	45	91	31	77
NBTR	-	86	160	39	96
SBL	-	42	84	54	121
SBTR	-	101	178	42	104
7. Summers Grove Road/Metro Road - Signalized					
EBLTR	-	3	29	0	0
WBL	-	21	55	11	29
WBTR	-	0	0	0	8
NBL	-	2	10	1	13
NBT	-	12	32	4	24
NBR	-	0	0	0	0
SBL	70	17	40	5	28
SBTR	-	20	37	14	49
8. Eisenhower Avenue/Metro Road - Signalized					
EBL	230	3	8	1	m1
EBT	-	33	45	12	m16
WBT	-	131	176	142	202
WBR	400	0	0	0	0
SBLR	-	27	53	29	54

Note(s):

- ~ Volume exceeds capacity, queue is theoretically infinite.
- # 95th percentile volume exceeds capacity, queue may be longer.
- m Volume for 95th percentile queue is metered by upstream signal.
- Highlighting means the existing storage lane has been exceeded.
- Queuing summary unavailable for intersection

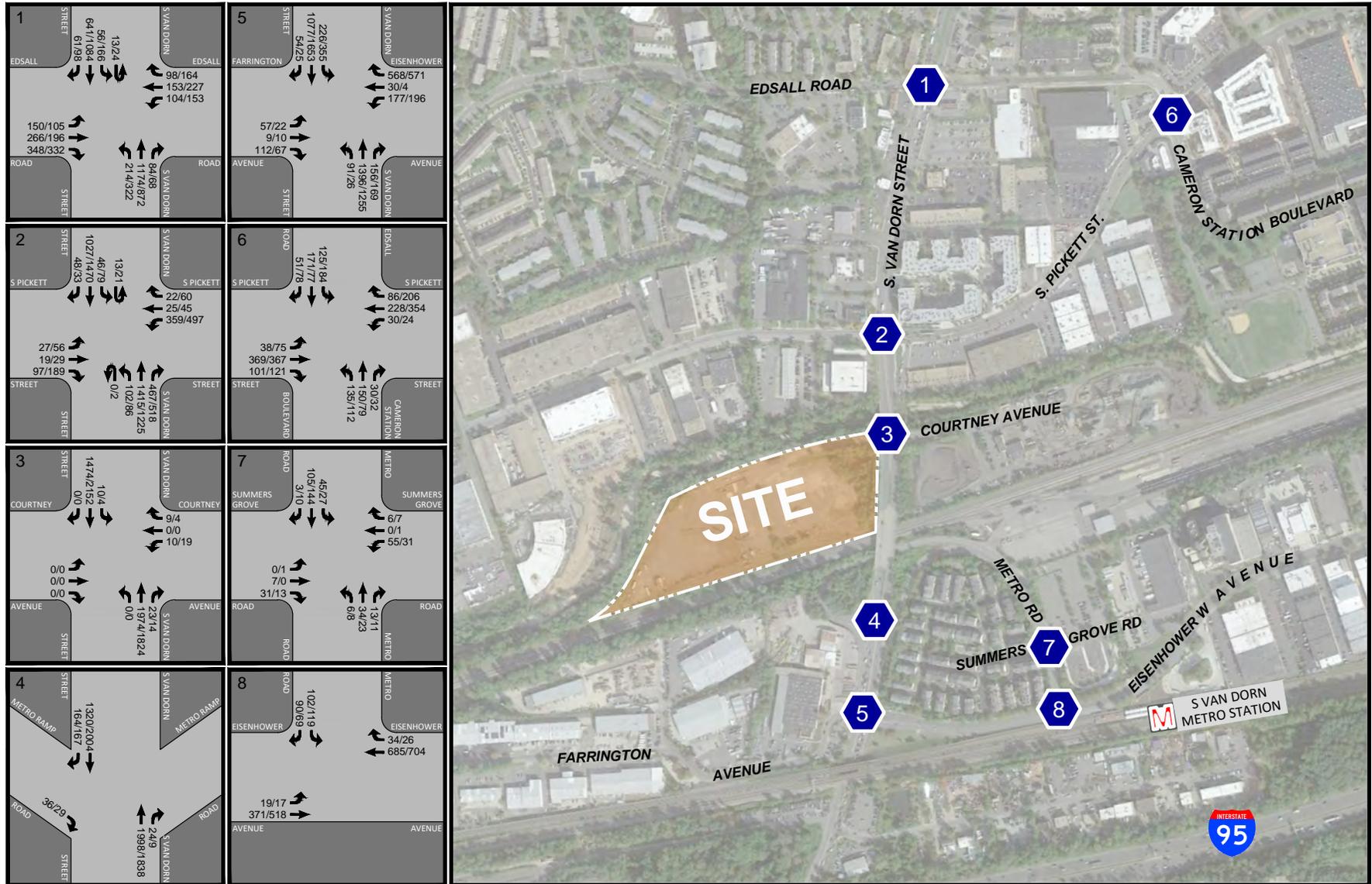


Figure 3-1
Baseline Existing (2022) Peak Hour Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000 / 000



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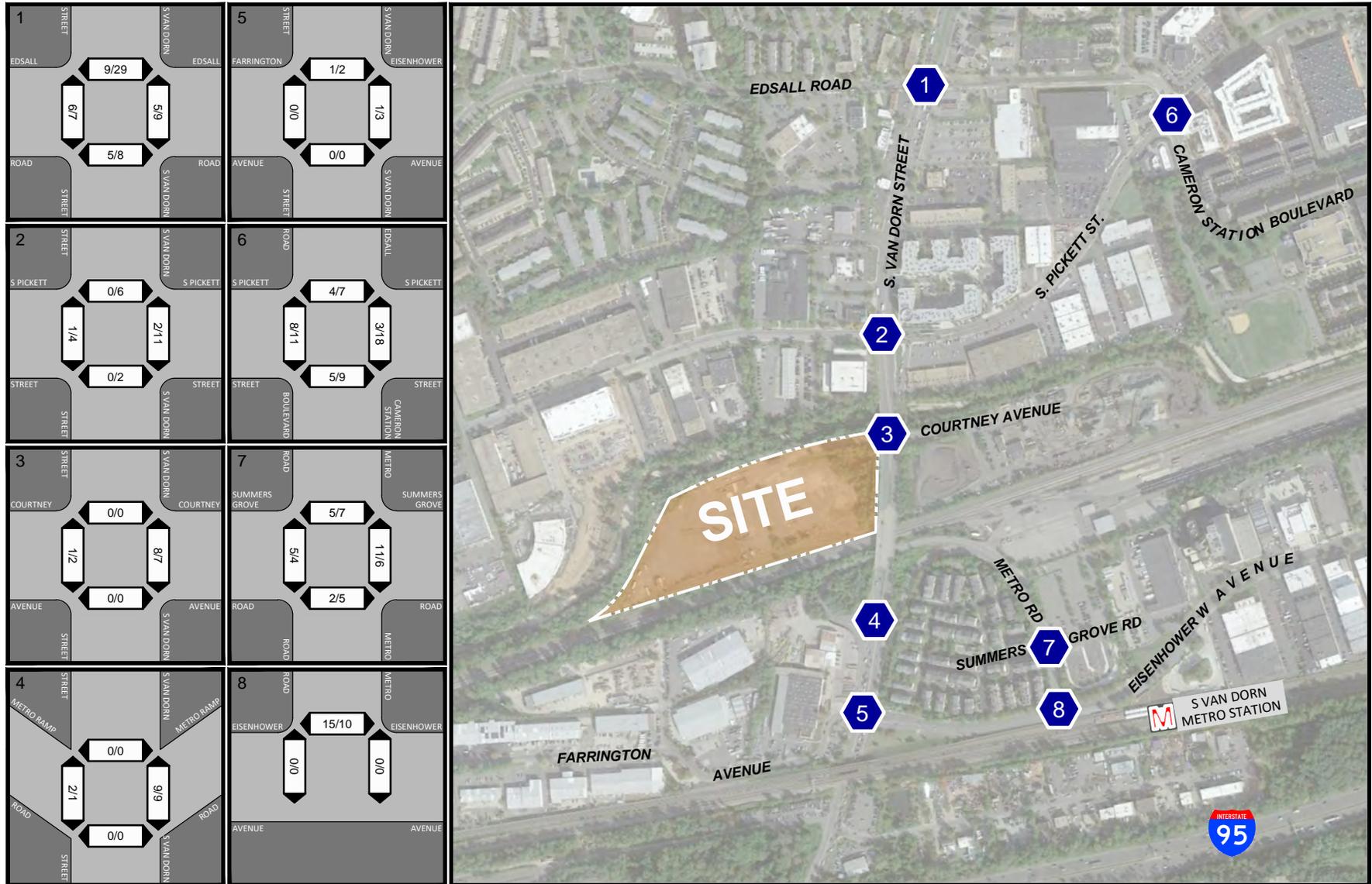


Figure 3-2
Existing (2021) Pedestrian Volumes

AM/PM Peak Hour



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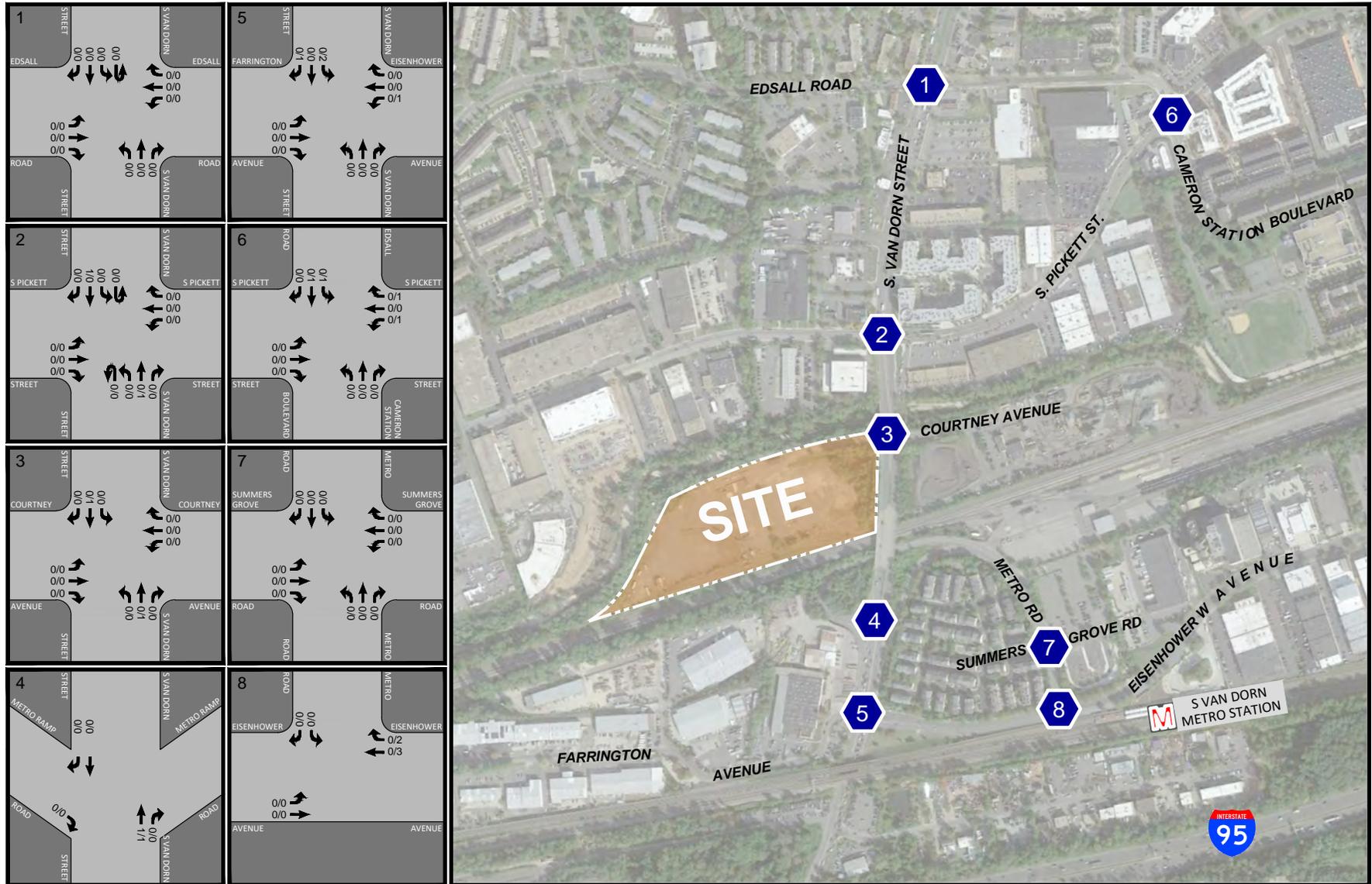


Figure 3-3
Existing (2021) Bicycle Volumes

AM PEAK HOUR
PM PEAK HOUR
000 / 000



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SECTION 4

ANALYSIS OF 2026 FUTURE CONDITIONS WITHOUT DEVELOPMENT

Traffic Volumes

This section presents an analysis of future transportation conditions including projections of 2026 future traffic forecasts without the proposed development, as well as capacity and queuing analyses.

Methodology/Assumptions. It was assumed that the proposed development would be complete and fully occupied by 2026, as specified in the traffic scoping document found in Appendix A. Future traffic forecasts without the proposed development were derived based on baseline traffic counts, regional traffic growth, and approved pipeline developments near the site.

Regional Growth. An increase in traffic associated with regional growth from 2022 to 2026 was estimated at 0.5 percent per year compounded annually along all roadways excluding residential and commercial driveways. This growth rate was applied to turning movements and accounts for increases in traffic resulting from potential development and influences outside of the immediate study area. Baseline volumes were grown for four (4) years, with the resultant growth in trips are shown on Figure 4-1.

Pipeline Developments. One (1) pipeline development, the Winchester Eisenhower Avenue Townhomes development, was identified during scoping and was included in the future analyses. This pipeline development is located along Eisenhower Avenue, to the southeast of the proposed site. Trips were obtained from the Winchester Eisenhower Avenue Townhomes Traffic Impact Study dated October 30, 2020. The pipeline trip generation is shown on Table 4-1.

Pipeline Distributions. The distribution of peak hour trips generated by the proposed development was based on a review of access, existing traffic patterns in the study area, local knowledge, and the previously prepared traffic study for the pipeline development. The following distributions for the proposed development were used in this study:

- 25% to/from the north on S. Van Dorn Street
- 15% to/from the east on Eisenhower Avenue
- 50% to/from the east on Eisenhower Avenue Connector
- 10% to/from the south on S. Van Dorn Street

The development program and corresponding vehicle trips are shown on Table 4-1. The vehicle trips were assigned to roadway network using the above trip distributions from the project's traffic study. The pipeline development trips for 2026 are shown on Figure 4-3.

Future Traffic Volumes without Development. Future traffic forecasts without the proposed development were prepared for 2026 based on existing traffic counts shown on Figure 3-1, regional traffic growth shown on Figure 4-1, and pipeline development trips shown on Figure 4-2. The resulting 2026 future traffic forecasts without development are shown on Figure 4-3.

Operational Analysis

Future peak hour levels of service without the proposed development in 2026 were calculated at the key study intersections based on the existing lane use and traffic control shown on Figure 2-3, the future traffic forecasts without the proposed development shown on Figure 4-3, the existing traffic signal phasings/timings obtained from T&ES, and the HCM methodologies using Synchro 11. Peak hour factors were changed to minimum 0.92 for future conditions. Based on comments provided by the City of Alexandria on October 11, 2023, signal timings were optimized to reflect planned upgrades to signalization equipment within the study area by the City.

Levels of Service. The 2026 levels of service results, without the proposed development, assuming the addition of regional growth, pipeline development trips, and optimization of signal timings are summarized in Table 4-2 and indicate that the study intersections would generally improve from existing conditions. These overall improvements are largely attributed to the optimization of signal timings. Slight increases in delay on some movements would be experienced across the network as a result of the increased traffic volumes and reallocation of signal timing. Some movements experience a decrease due to the planned signal timing optimization and the increase in the peak hour factor for future scenarios. Synchro capacity analyses worksheets for 2026 future conditions without redevelopment are included in Appendix D.

Queues. The 2026 future conditions without redevelopment peak hour queue results are presented in Appendix D and summarized in Table 4-3. As shown in Table 4-3, the queues are consistent with those of the existing conditions.

Table 4-1

Vulcan Materials Development
Pipeline Site Trip Generation¹

Development	Land Use Code	Amount	Units	AM Peak Hour			PM Peak Hour			ADT		
				In	Out	Total	In	Out	Total			
Winchester Eisenhower Townhomes												
Existing												
		Surface Parking Lot		-	-	-	-	-	-	-		
Proposed												
		Multifamily Residential (Mid-Rise)	221	139	DU	12	35	47	37	24	61	756
		<i>35% Non-Auto Reduction</i>				-4	-12	-16	-13	-8	-21	-265
Total Proposed/Net New Trips				8	23	31	24	16	40	491		

- Notes: 1. Trip generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition
2. Trip generation based on *Winchester Eisenhower Townhomes* Traffic Impact Study dated October 30, 2020

Table 4-2
Vulcan Materials
Background (2026) Conditions Levels of Service Summary ¹

Approach/ Lane Group	Existing Conditions				Future Conditions without Development			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
1. Edsall Road/S. Van Dorn Street - Signalized								
EBL	D	49.0	E	56.8	D	49.2	D	46.3
EBT	E	65.1	E	64.6	E	66.1	E	57.2
EBR	F	126.3	F	286.7	F	124.8	F	189.9
WBL	D	52.9	E	64.3	D	49.7	D	48.2
WBT	E	60.8	E	61.0	E	58.4	E	55.4
WBR	E	59.2	E	59.2	E	56.9	D	54.0
NBL	E	79.0	E	67.9	E	77.7	E	61.5
NBTR	A	8.3	A	5.7	A	4.1	A	7.2
SBL	F	84.5	E	66.7	F	92.9	E	75.4
SBTR	D	35.7	D	35.6	C	33.1	D	42.4
Overall	D	44.1	E	61.5	D	41.2	D	52.3
2. S. Pickett Street/S. Van Dorn Street - Signalized								
EBL	E	73.5	D	50.3	E	70.1	D	47.7
EBT	E	76.7	D	54.5	E	75.0	D	53.1
EBR	E	78.0	E	64.4	E	73.4	E	56.0
WBL	F	93.6	F	100.8	F	84.8	F	80.5
WBTR	E	61.4	D	42.8	E	59.8	D	41.2
NBL	B	11.4	B	18.0	A	9.8	B	15.6
NBT	A	1.2	A	3.3	A	1.2	A	2.1
NBR	A	1.4	A	5.7	A	1.3	A	4.4
SBL	A	8.2	B	13.3	B	10.2	B	15.8
SBTR	A	1.4	A	4.9	A	1.4	A	6.3
Overall	B	14.3	C	21.6	B	13.4	B	18.3
3. Courtney Avenue/S. Van Dorn Street - Signalized								
EBLT/EBLTR	A	0.0	A	0.0	A	0.0	A	0.0
WBLTR	F	86.0	E	71.0	F	83.6	E	68.7
NBL	A	0.0	A	0.0	A	0.0	A	0.0
NBTR	A	2.7	B	12.2	A	3.6	B	10.7
SBL	A	9.8	A	4.4	A	5.2	A	4.0
SBTR	A	2.4	A	2.4	A	2.3	A	3.6
Overall	A	3.1	A	7.2	A	3.5	A	7.1
4. S. Van Dorn Street/Metro Road Ramp - Unsignalized ²								
5. Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street - Signalized								
EBLT	F	89.9	E	69.6	F	93.1	E	68.1
EBR	E	78.3	E	66.3	E	79.4	O	65.5
WBL	F	92.9	E	55.2	F	80.2	E	67.3
WBT	F	93.5	E	67.1	F	80.2	E	66.4
WBR	E	61.6	D	52.2	D	52.4	D	45.5
NBL	F	83.3	E	75.8	F	81.9	E	72.0
NBT	D	41.2	D	48.6	D	41.6	D	45.7
NBR	C	22.6	C	25.6	C	22.4	C	24.8
SBL	F	187.6	F	173.2	F	88.3	E	74.5
SBT	C	33.3	C	25.1	C	23.0	B	13.5
SBR	C	21.0	B	13.2	B	16.4	A	9.1
Overall	E	55.2	D	50.1	D	44.6	D	36.4
6. S. Pickett Street/Edsall Road/Cameron Station Boulevard - Signalized								
EBLT	B	19.0	B	19.7	B	16.7	B	18.6
EBTR	B	20.0	C	20.4	B	16.9	B	18.8
WBL	B	13.7	B	14.3	B	11.0	B	12.6
WBTR	B	12.6	B	14.5	B	11.1	B	13.9
NBL	B	15.1	B	16.1	B	10.8	B	11.8
NBTR	C	20.5	C	20.6	B	16.2	B	16.7
SBL	B	14.9	B	15.2	B	10.7	B	10.8
SBTR	C	21.5	B	18.7	B	16.6	B	15.6
Overall	B	17.7	B	17.5	B	14.4	B	15.3
7. Summers Grove Road/Metro Road - Signalized								
EBLTR	C	30.9	C	30.1	C	27.6	C	28.3
WBL	C	31.7	C	25.0	C	28.5	C	23.5
WBTR	B	19.3	C	22.0	B	19.6	C	20.4
NBL	B	11.2	A	6.9	A	8.1	A	6.0
NBT	B	11.4	A	6.9	A	8.3	A	6.0
NBR	B	11.1	A	6.8	A	8.1	A	6.0
SBL	B	11.8	A	7.1	A	8.5	A	6.1
SBTR	B	11.6	A	7.3	A	8.4	A	6.3
Overall	B	17.7	B	10.7	B	14.7	A	9.7
8. Eisenhower Avenue/Metro Road - Signalized								
EBL	A	5.9	A	2.7	A	4.5	A	1.7
EBT	A	6.3	A	2.0	A	4.6	A	1.5
WBT	B	13.9	B	16.8	B	12.1	B	14.9
WBR	A	0.0	A	0.0	A	0.0	A	0.0
SBLR	C	29.6	C	27.2	C	27.8	C	25.4
Overall	B	13.6	B	12.7	B	11.8	B	11.1

Note(s):

- Capacity analysis based on Highway Capacity Manual methodology, using Synchro 11.
- Synchro analysis unavailable for intersection

Table 4-3
Vulcan Materials

Background (2026) Conditions Queuing Summary ^{1,2,3,4}

Approach/ Lane Group	Storage Length (ft)	Existing Conditions				Future Conditions without Development			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile
1. Edsall Road/S. Van Dorn Street - Signalized									
EBL	-	154	201	87	141	146	209	84	135
EBT	-	351	424	205	297	329	433	199	286
EBR	-	104	189	63	185	128	256	68	191
WBL	-	103	144	124	190	98	150	124	186
WBT	-	195	267	222	319	175	250	225	317
WBR	240	0	0	0	67	0	19	0	65
NBL	420	131	181	182	235	122	197	185	239
NBTR	-	766	534	155	381	566	63	176	377
SBL	340	74	122	156	234	71	129	163	243
SBTR	-	348	422	509	612	323	398	556	660
2. S. Pickett Street/S. Van Dorn Street - Signalized									
EBL	215	31	52	50	72	28	51	46	72
EBT	-	26	51	33	59	24	52	31	60
EBR	320	21	65	141	184	15	68	87	148
WBL	265	233	294	~284	#410	235	297	277	#385
WBTR	-	30	67	67	117	30	67	62	109
NBL	240	22	m39	28	98	22	m40	19	m91
NBT	-	306	817	330	537	295	764	330	515
NBR	115	128	269	89	207	120	219	96	183
SBL	450	13	m37	19	m33	12	m34	19	m39
SBTR	-	327	481	238	#896	324	421	242	#935
3. Courtney Avenue/S. Van Dorn Street - Signalized									
EBLTR	-	0	0	0	0	0	0	0	0
WBLTR	-	0	1	0	1	0	2	0	1
NBL	130	0	0	0	0	0	0	0	0
NBTR	-	15	338	621	758	264	368	600	790
SBL	130	1	m3	0	m0	1	m1	0	m1
SBTR	-	290	326	96	m100	286	326	167	179
4. S. Van Dorn Street/Metro Road Ramps - Unsignalized ⁵									
5. Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street - Signalized									
EBLTR	-	91	145	36	71	86	#153	33	72
WBL	120	149	#249	81	#158	137	217	89	#197
WBTR	120	346	401	223	317	308	388	274	197
NBL	140	78	120	28	63	79	128	27	62
NBT	-	794	895	662	772	821	926	659	768
NBR	120	34	78	1	47	11	54	2	49
SBL	385	~380	#534	~479	#682	314	415	400	#540
SBT	-	553	837	833	#931	316	773	491	507
SBR	-	0	6	0	m0	0	5	0	m0
6. S. Pickett Street/Edsall Road/Cameron Station Boulevard - Signalized									
EBLTR	150	121	196	95	#267	103	194	84	243
WBL	-	9	27	6	23	8	28	5	23
WBTR	-	106	201	185	407	91	201	172	431
NBL	60	45	91	31	77	43	87	27	88
NBTR	-	86	160	39	96	79	161	36	115
SBL	-	42	84	54	121	40	81	47	139
SBTR	-	101	178	42	104	99	190	42	131
7. Summers Grove Road/Metro Road - Signalized									
EBLTR	-	3	29	0	0	3	30	0	0
WBL	-	21	55	11	29	18	50	10	29
WBTR	-	0	0	0	8	0	0	0	9
NBL	-	2	10	1	13	2	11	1	12
NBT	-	12	32	4	24	11	32	4	23
NBR	-	0	0	0	0	0	0	0	0
SBL	70	17	40	5	28	15	39	4	27
SBTR	-	20	37	14	49	18	36	12	48
8. Eisenhower Avenue/Metro Road - Signalized									
EBL	230	3	8	1	m1	2	8	1	m0
EBT	-	33	45	12	m16	28	41	11	m19
WBT	-	131	176	142	202	114	167	126	194
WBR	400	0	0	0	0	0	0	0	0
SBLR	-	27	53	29	54	24	54	26	54

Note(s):

- ~ Volume exceeds capacity, queue is theoretically infinite.
- # 95th percentile volume exceeds capacity, queue may be longer.
- m Volume for 95th percentile queue is metered by upstream signal.
- Highlighting means the existing storage lane has been exceeded.
- Queuing summary unavailable for intersection

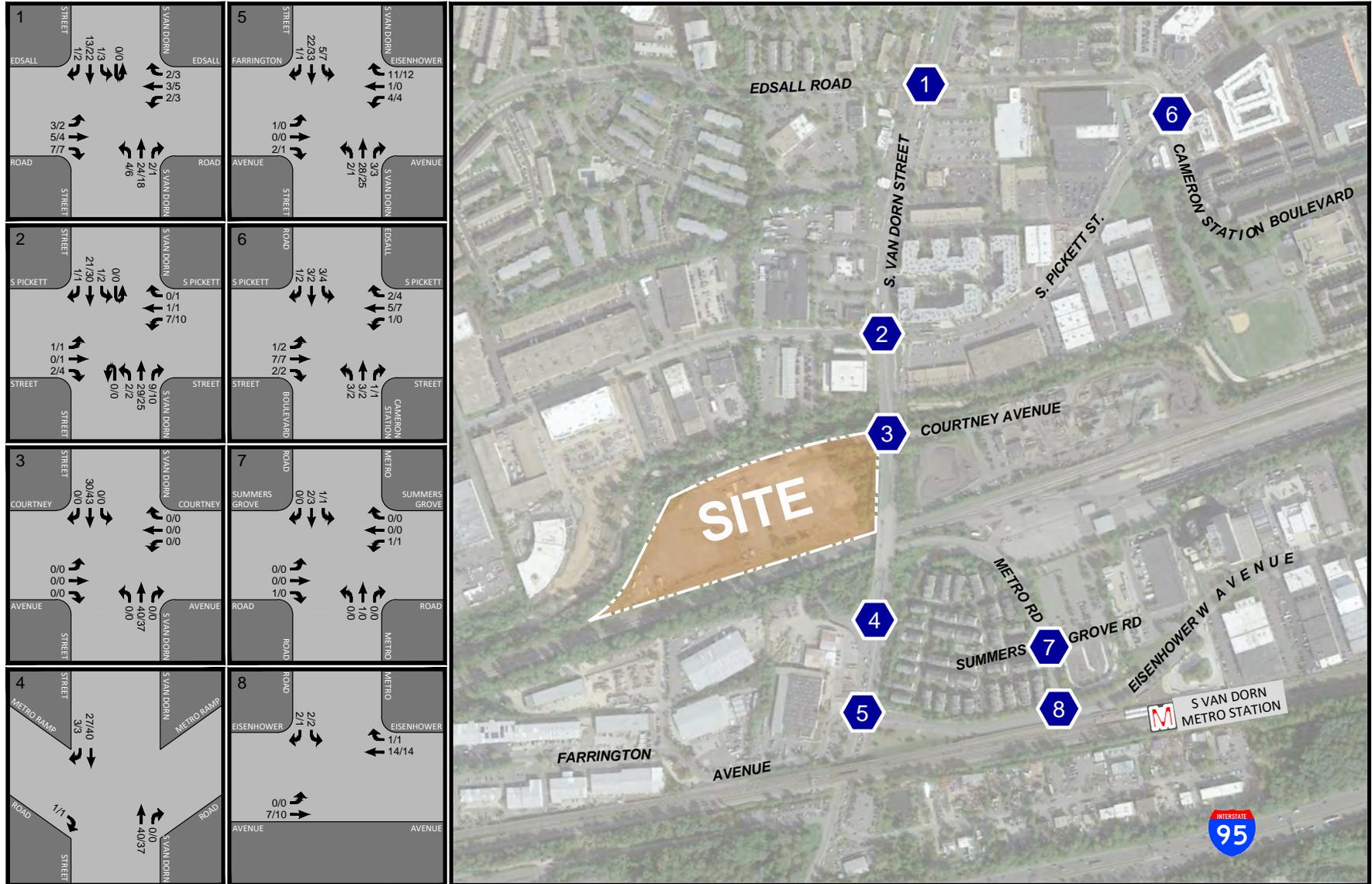


Figure 4-1
Regional Growth (2022-2026)

AM PEAK HOUR
PM PEAK HOUR
000 / 000



Vulcan Materials
City of Alexandria, VA



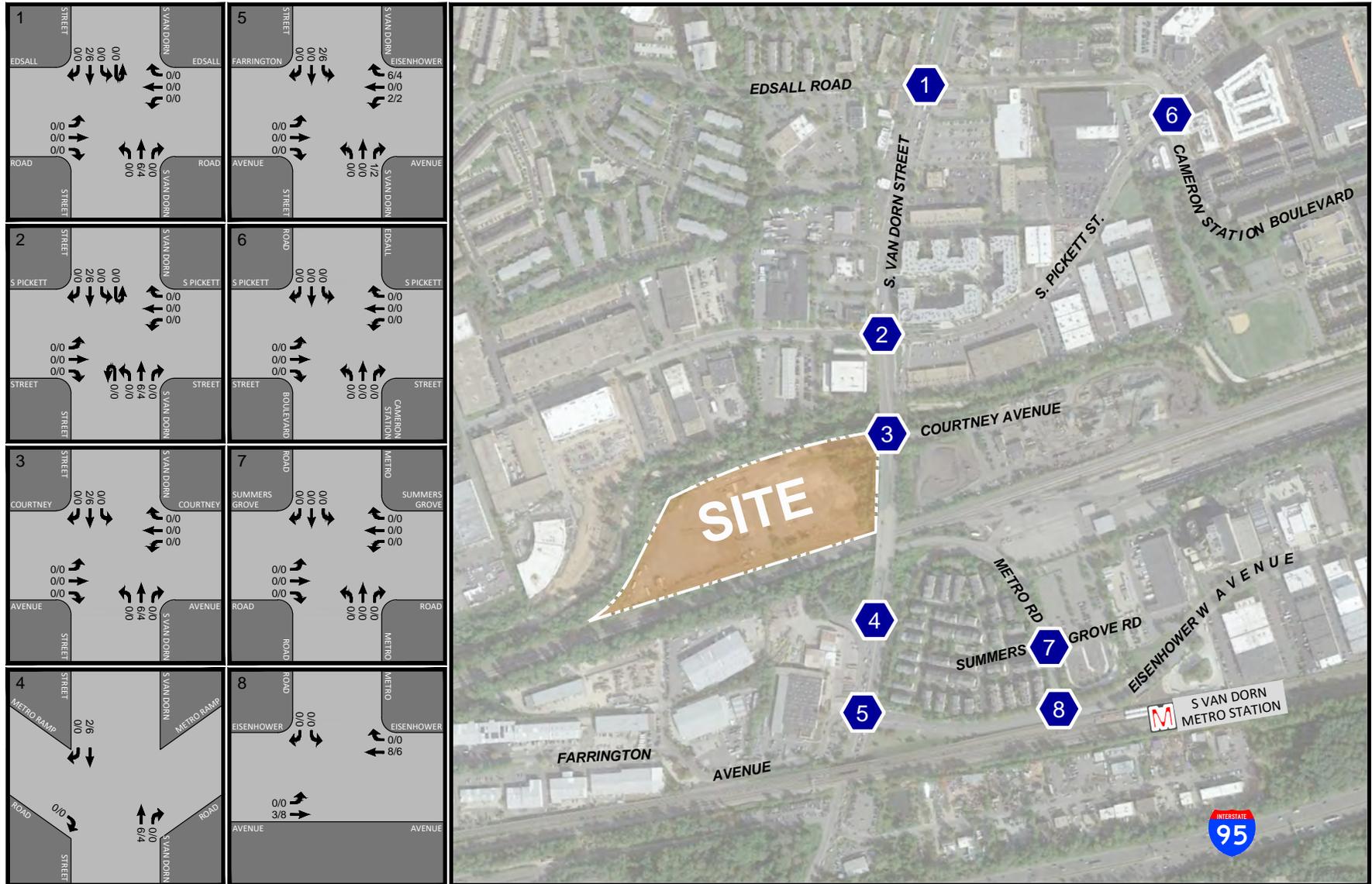


Figure 4-2
2026 Peak Hour Pipeline Development Traffic Forecasts

— AM PEAK HOUR
- - - PM PEAK HOUR
000 / 000



Vulcan Materials
City of Alexandria, VA



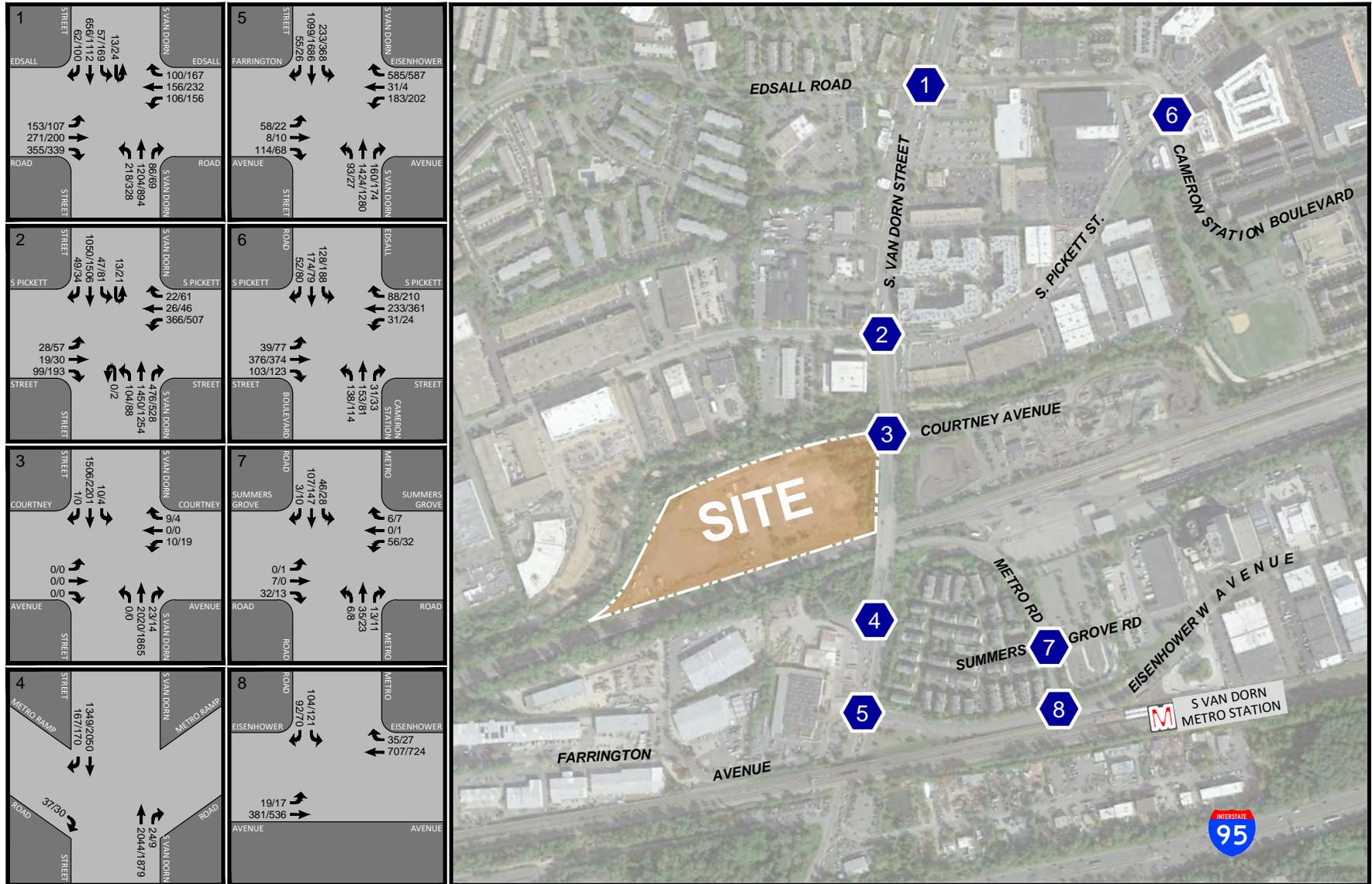


Figure 4-3
2026 Future Peak Hour Traffic Forecasts without Development

AM PEAK HOUR
PM PEAK HOUR
000 / 000



NORTH

Vulcan Materials
City of Alexandria, VA



SECTION 5 TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

Trip Generation

The number of AM and PM peak hour trips expected to be generated by the proposed development were estimated based on the ITE Trip Generation Manual, 10th Edition trip rates and equations.

As shown in Table 5-1, the proposed mixed-use development is expected to generate 162 AM peak hour trips (71 in and 91 out), 215 PM peak hour trips (120 in and 95 out), and 2,943 daily (24-hour) trips upon buildout after a 30% non-auto reduction was applied, as agreed upon during scoping.

Site Trip Distribution

The distribution of peak hour trips generated by the proposed development was based on a review of the proposed access, existing traffic patterns in the study area, local knowledge, and previously prepared traffic studies in the vicinity. The following distributions for the mixed-use development, as agreed to upon during the scoping process, were used in this study:

<u>Direction (To/From)</u>	<u>Percentage</u>
North on S. Van Dorn Street	30 percent
East on S. Pickett Street	5 percent
South on S. Van Dorn Street	40 percent
East on Eisenhower W	15 percent
<u>West on Edsall Road</u>	<u>10 percent</u>
Total	100 percent

Site Access & Circulation

As described previously, the subject site is located in the southwest quadrant of the S. Van Dorn Street/Courtney Avenue intersection. Access to the site is from the existing signalized Courtney Avenue/S. Van Dorn Street intersection. Once within the site, a small grid of streets is proposed to serve the individual condominium blocks, apartment buildings, and the hotel.

As part of the subject redevelopment, the Applicant has committed to improving the intersection of S. Van Dorn Street/Courtney Avenue by removing the eastbound right turn channelization, installing marked crosswalks across S. Van Dorn Street, providing protected-only phasing for the southbound left turn movement, and split phasing timings for the Courtney Avenue approaches. This improvement will enhance the pedestrian connectivity and allow residents of the new development the ability to cross S. Van Dorn Street to utilize the sidewalk on the east side of the road. The Future Lane Use and Traffic Controls with Development is shown on Figure 5-1.

Existing Removed Trips

The trips associated with the existing driveway were backed off and removed from the network using existing volume distributions. The removed trips from the existing development are shown on Figure 5-2.

Site Trip Assignments

The trips generated by the proposed development, shown on Table 5-1, were assigned to the road network using the site trip distributions listed above. The resulting peak hour traffic forecasts for the site generated trips at the study intersections are shown on Figure 5-3.

Table 5-1
Vulcan Site
Trip Generation Comparison ¹

Land Use	ITE Land Use Code	Size	Units	AM Peak Hour			PM Peak Hour			Weekday ADT
				In	Out	Total	In	Out	Total	
Existing Use										
Existing Counts				1	-	1	-	-	-	10
Future Use										
Multifamily Housing (Mid-Rise) - General Urban/Suburban	221	204	DU	18	51	69	54	34	88	1,110
Multifamily Housing (Mid-Rise) - General Urban/Suburban	221	88	DU	8	22	30	24	15	39	478
Multifamily Housing (Mid-Rise) - General Urban/Suburban	221	31	DU	3	8	11	9	5	14	167
Hotel - General Urban/Suburban	310	256	Rooms	73	50	123	85	81	166	2,463
Subtotal				102	131	233	172	135	307	4,218
<i>Non-Auto Reduction (30%)</i>				<i>(31)</i>	<i>(39)</i>	<i>(70)</i>	<i>(52)</i>	<i>(41)</i>	<i>(92)</i>	<i>(1,265)</i>
Total				71	92	163	120	95	215	2,953
Comparison: Future minus Existing				70	92	162	120	95	215	2,943

Notes:

1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition.

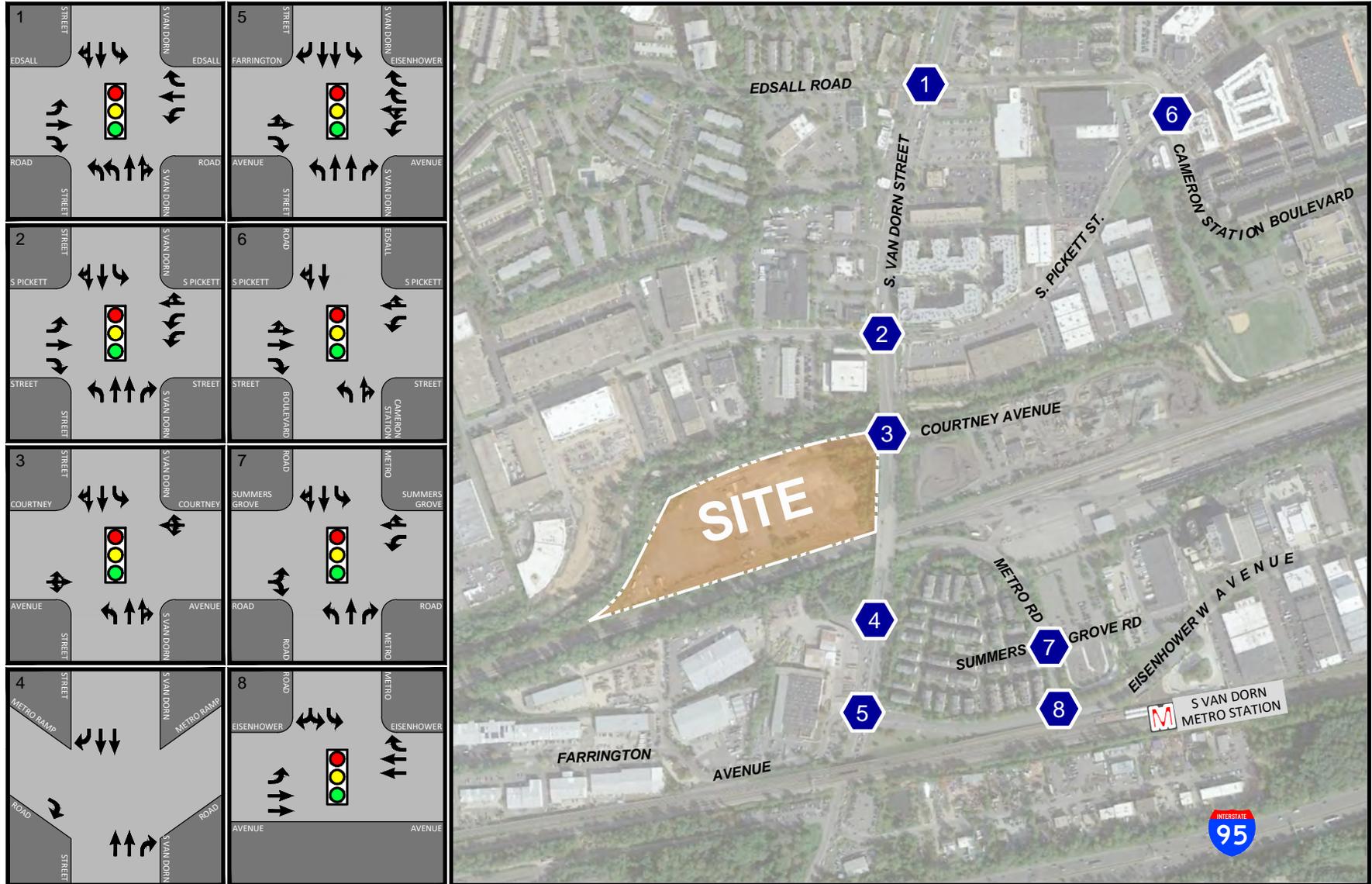


Figure 5-1
Future Conditions with Development Lane Use and Traffic Controls

-  Represents One Travel Lane
-  Signalized Intersection
-  Stop Sign



NORTH

Vulcan Materials
City of Alexandria, VA



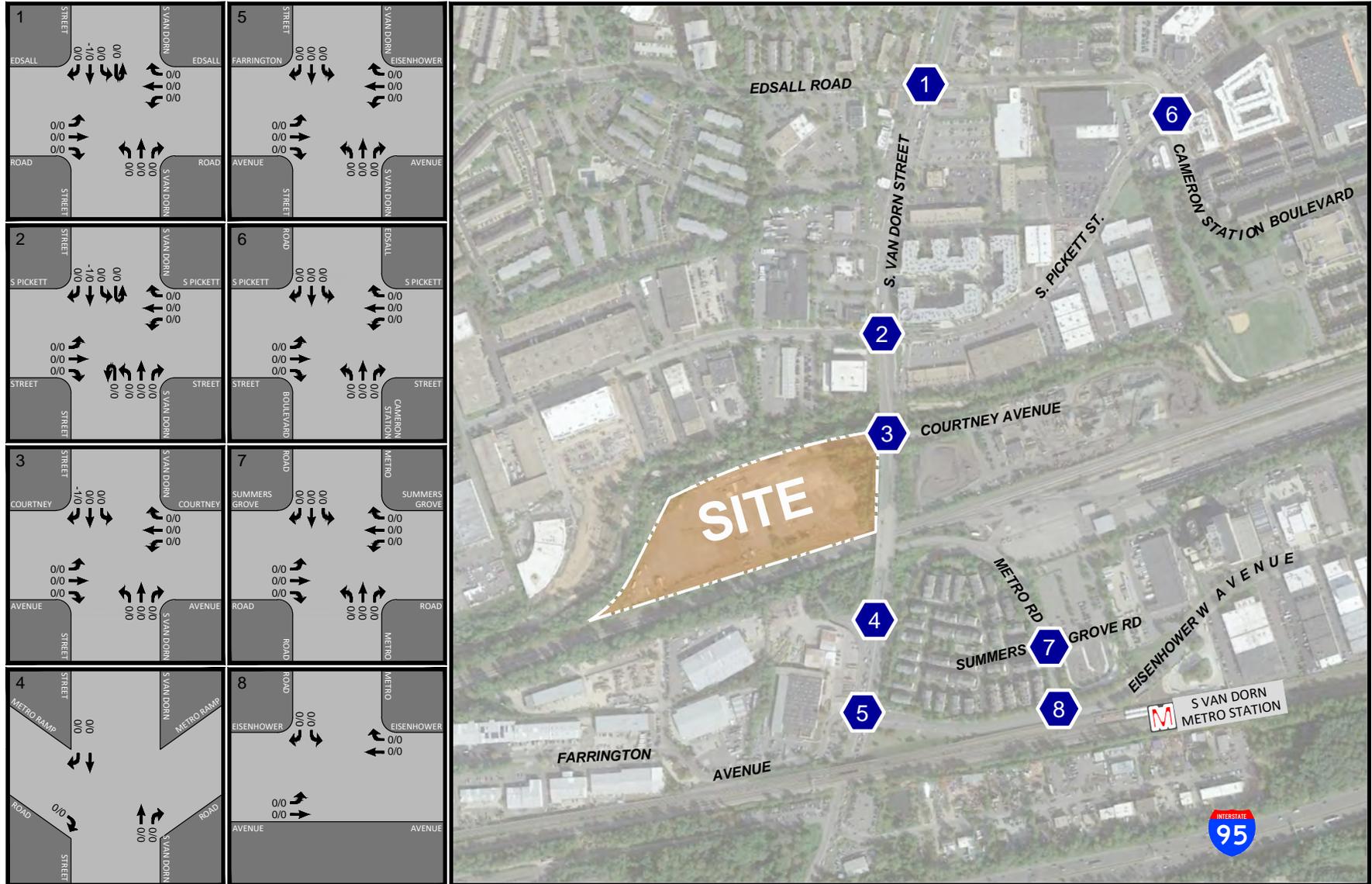


Figure 5-2
Peak Hour Existing (2022) Site Trips Removed

AM PEAK HOUR
PM PEAK HOUR
000 / 000



Vulcan Materials
City of Alexandria, VA



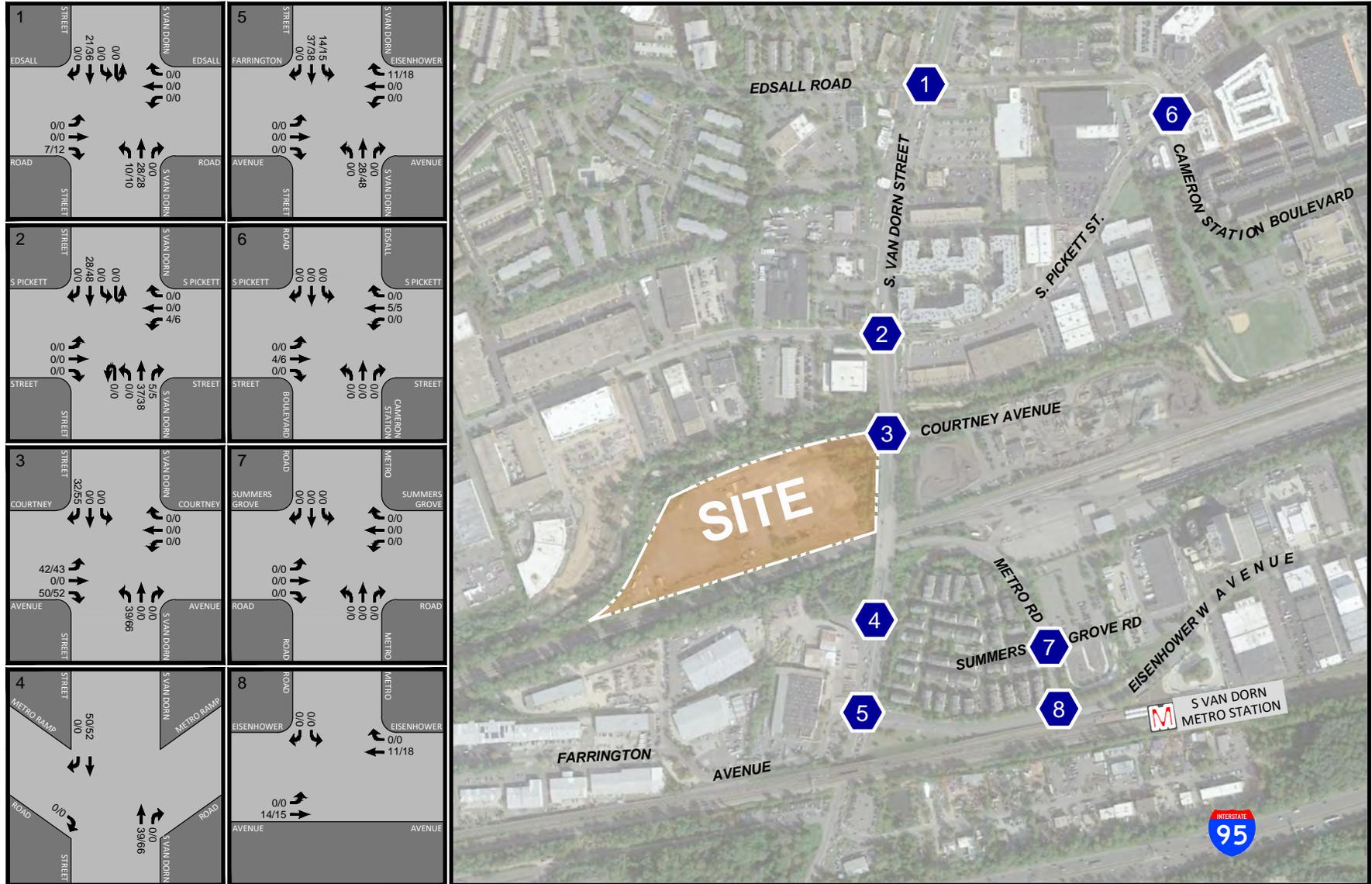


Figure 5-3
Proposed Site Generated Trips

AM PEAK HOUR
PM PEAK HOUR
000 / 000



Vulcan Materials
City of Alexandria, VA



SECTION 6

ANALYSIS OF FUTURE CONDITIONS WITH DEVELOPMENT

Traffic Volumes

Future traffic forecasts with the proposed development were prepared for buildout conditions in 2026. Future forecasts are a composite of the future traffic forecasts without development shown on Figure 4-3, the existing site removed trips shown on Figure 5-2, and the proposed site trips shown on Figure 5-3. The resulting future 2026 conditions with development are shown on Figure 6-1.

Capacity Analysis

Future peak hour levels of service with the proposed redevelopment of the site were calculated at the key study intersections based on the 2026 total future lane use and traffic controls shown on Figure 5-1, the future traffic forecasts with the proposed redevelopment shown on Figure 6-1, the optimized traffic signal phasings/timings assumed in the Future Conditions Without the Development, and the HCM methodologies, using Synchro 11.

Future peak hour levels of service and 50th and 95th percentile queues with the proposed redevelopment are summarized in Tables 6-1 and 6-2, respectively. Capacity analysis worksheets for 2026 conditions with development are included in Appendix E.

Levels of Service. The 2026 level of service results with the proposed redevelopment are summarized in Table 6-1 and indicate the following:

The 2026 levels of service results, with the proposed development, assuming the addition of the proposed site trips, indicate that the study intersections would continue to generally operate consistently with future without development conditions.

Slight increases in delays would be experienced across the network as a result of the increased traffic volumes from the proposed redevelopment. Particularly, increased delays are observed at the S. Van Dorn Street/Courtney Avenue intersection.

Synchro capacity analyses worksheets for 2026 future conditions with redevelopment are included in Appendix E.

Queues. The future peak hour queue results with the proposed development are presented in Appendix E and summarized in Table 6-2. The results indicate that queueing would be consistent with conditions without redevelopment at the study intersections. Increases in peak hour queues of one (1) vehicle length or less would be experienced at the study intersections.

Potential Mitigation Improvements. To offset the impacts of the proposed development,

mitigation improvements were evaluated at two (2) study intersections as shown below:

1. Edsall Road/S. Van Dorn Street. Given that this intersection operates at a LOS “D” during the PM peak hour with the eastbound right turn operating at LOS “F”, mitigation options were explored. The introduction of an eastbound right turn overlap would reduce that movement’s delay by approximately 63 seconds in the AM and 144 seconds in the PM, improving the intersection’s overall level of service.
2. Courtney Avenue/S. Van Dorn Street. Multiple improvements have been included in coordination with City staff including closure of the eastbound channelized right turn, introduction of the new crosswalks across S. Van Dorn Street with median extensions to create pedestrian refuge areas, providing protected-only phasing for the southbound left turn movement, and split phasing of the Courtney Avenue approaches. While these improvements reduce the level of service and increase delays on some movements, the enhanced pedestrian infrastructure will encourage pedestrian activity and provide a safer connection from the proposed development to the east side of Van Dorn Street and the Metrorail station.

These improvements are summarized on Table 6-2 and presented in Appendix F as possible mitigation options that should be evaluated with City of Alexandria staff to determine feasibility of each within the larger network.

Table 6-1
 Vulcan Materials
 Build (2026) Conditions Levels of Service Summary ¹

Approach/ Lane Group	Existing Conditions				Future Conditions without Development				Future Conditions with Development			
	AM Peak		PM Peak Hour		AM Peak		PM Peak		AM Peak		PM Peak	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
1. Edsall Road/S. Van Dorn Street - Signalized												
EBL	D	49.0	E	56.8	D	49.2	D	46.3	D	49.2	D	46.3
EBT	E	65.1	E	64.6	E	66.1	E	57.2	E	66.1	E	57.2
EBR	F	126.3	F	286.7	F	124.8	F	189.9	F	130.4	F	208.6
WBL	D	52.9	E	64.3	D	49.7	D	48.2	D	49.7	D	48.3
WBT	E	60.8	E	61.0	E	58.4	E	55.4	E	58.4	E	55.4
WBR	E	59.2	E	59.2	E	56.9	D	54.0	E	56.9	D	54.0
NBL	E	79.0	E	67.9	E	77.7	E	61.5	E	77.7	E	61.4
NBTR	A	8.3	A	5.7	A	4.1	A	7.2	A	4.5	A	7.4
SBL	F	84.5	E	66.7	F	92.9	E	75.4	F	92.9	E	75.4
SBTR	D	35.7	D	35.6	C	33.1	D	42.4	C	33.9	D	45.1
Overall	D	44.1	E	61.5	D	41.2	D	52.3	D	41.9	D	54.8
Improvements												
EBL									D	50.9	E	56.8
EBT									E	66.7	E	64.1
EBR									E	63.7	E	67.1
WBL									D	53.3	E	65.5
WBT									E	60.9	E	61.8
WBR									E	59.4	E	59.8
NBL									E	78.4	E	67.3
NBTR									A	5.1	O	6.0
SBL									F	84.8	E	66.8
SBTR									C	33.5	D	38.7
Overall									D	35.6	D	41.8
2. S. Pickett Street/S. Van Dorn Street - Signalized												
EBL	E	73.5	D	50.3	E	70.1	D	47.7	E	70.1	D	47.7
EBT	E	76.7	D	54.5	E	75.0	D	53.1	E	75.0	D	53.1
EBR	E	78.0	E	64.4	E	73.4	E	56.0	E	73.3	E	56.0
WBL	F	93.6	F	100.8	F	84.8	F	80.5	F	84.9	F	82.6
WBTR	E	61.4	D	42.8	E	59.8	D	41.2	E	59.7	D	41.2
NBL	B	11.4	B	18.0	A	9.8	B	15.6	A	9.9	B	15.6
NBT	A	1.2	A	3.3	A	1.2	A	2.1	A	1.1	A	2.2
NBR	A	1.4	A	5.7	A	1.3	A	4.4	A	1.2	A	4.0
SBL	A	8.2	B	13.3	B	10.2	B	15.8	B	10.3	B	15.8
SBTR	A	1.4	A	4.9	A	1.4	A	6.3	A	1.4	A	7.5
Overall	B	14.3	C	21.6	B	13.4	B	18.3	B	13.2	B	18.6
3. Courtney Avenue/S. Van Dorn Street - Signalized												
EBLT/EBLTR	A	0.0	A	0.0	A	0.0	A	0.0	F	81.3	E	65.1
WBLTR	F	86.0	E	71.0	F	83.6	E	68.7	E	74.0	E	60.0
NBL	A	0.0	A	0.0	A	0.0	A	0.0	A	3.7	C	23.6
NBTR	A	2.7	B	12.2	A	3.6	B	10.7	A	7.0	B	16.6
SBL	A	9.8	A	4.4	A	5.2	A	4.0	B	14.6	A	6.4
SBTR	A	2.4	A	2.4	A	2.3	A	3.6	A	7.7	A	8.8
Overall	A	3.1	A	7.2	A	3.5	A	7.1	A	9.4	B	13.9
Improvements												
EBLT									F	111.1	F	92.4
WBLTR									F	121.2	F	98.2
NBL									A	4.7	A	5.4
NBTR									B	16.7	B	13.7
SBL									F	86.1	E	74.3
SBT									A	1.4	A	4.4
SBR									A	1.4	A	4.6
Overall									B	13.3	B	11.0
4. S. Van Dorn Street/Metro Road Ramp - Unsignalized ²												
5. Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street - Signalized												
EBLT	F	89.9	E	69.6	F	93.1	E	68.1	F	93.1	E	68.1
EBR	E	78.3	E	66.3	E	79.4	O	65.5	E	79.4	E	65.5
WBL	F	92.9	E	55.2	F	80.2	E	67.3	F	80.2	E	67.8
WBT	F	93.5	E	67.1	F	80.2	E	66.4	F	80.2	E	67
WBR	E	61.6	D	52.2	D	52.4	D	45.5	D	52.2	D	45.4
NBL	F	83.3	E	75.8	F	81.9	E	72.0	F	81.9	E	72.0
NBT	D	41.2	D	48.6	D	41.6	D	45.7	D	43.2	D	49.3
NBR	C	22.6	C	25.6	C	22.4	C	24.8	C	22.7	C	25.1
SBL	F	187.6	F	173.2	F	88.3	E	74.5	F	84.3	E	72.0
SBT	C	33.3	C	25.1	C	23.0	B	13.5	C	21.2	A	9.7
SBR	C	21.0	B	13.2	B	16.4	A	9.1	B	16.4	A	9.1
Overall	E	55.2	D	50.1	D	44.6	D	36.4	D	44.4	D	35.9
6. S. Pickett Street/Edsall Road/Cameron Station Boulevard - Signalized												
EBLT	B	19.0	B	19.7	B	16.7	B	18.6	B	16.7	B	18.6
EBTR	B	20.0	C	20.4	B	16.9	B	18.8	B	16.9	B	18.8
WBL	B	13.7	B	14.3	B	11.0	B	12.6	B	11.0	B	12.6
WBTR	B	12.6	B	14.5	B	11.1	B	13.9	B	11.1	B	14.0
NBL	B	15.1	B	16.1	B	10.8	B	11.8	B	10.9	B	11.9
NBTR	C	20.5	C	20.6	B	16.2	B	16.7	B	16.3	B	16.7
SBL	B	14.9	B	15.2	B	10.7	B	10.8	B	10.7	B	10.8
SBTR	C	21.5	B	18.7	B	16.6	B	15.6	B	16.6	B	15.7
Overall	B	17.7	B	17.5	B	14.4	B	15.3	B	14.4	B	15.3
7. Summers Grove Road/Metro Road - Signalized												
EBLTR	C	30.9	C	30.1	C	27.6	C	28.3	C	27.6	C	28.3
WBL	C	31.7	C	25.0	C	28.5	C	23.5	C	28.5	C	23.5
WBTR	B	19.3	C	22.0	B	19.6	C	20.4	B	19.6	C	20.4
NBL	B	11.2	A	6.9	A	8.1	A	6.0	A	8.1	A	6.0
NBT	B	11.4	A	6.9	A	8.3	A	6.0	A	8.3	A	6.0
NBR	B	11.1	A	6.8	A	8.1	A	6.0	A	8.1	A	6.0
SBL	B	11.8	A	7.1	A	8.5	A	6.1	A	8.5	A	6.1
SBTR	B	11.6	A	7.3	A	8.4	A	6.3	A	8.4	A	6.3
Overall	B	17.7	B	10.7	B	14.7	A	9.7	B	14.7	A	9.7
8. Eisenhower Avenue/Metro Road - Signalized												
EBL	A	5.9	A	2.7	A	4.5	A	1.7	A	4.5	A	1.7
EBT	A	6.3	A	2.0	A	4.6	A	1.5	A	4.7	A	1.5
WBT	B	13.9	B	16.8	B	12.1	B	14.9	B	12.2	B	15.3
WBR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
SBLR	C	29.6	C	27.2	C	27.8	C	25.4	C	27.8	C	25.4
Overall	B	13.6	B	12.7	B	11.8	B	11.1	B	11.8	B	11.2

Note(s):

1. Capacity analysis based on Highway Capacity Manual methodology, using Synchro 11.

2. Synchro analysis unavailable for intersection

Table 6-2
 Vulcan Materials
 Buildout (2026) Conditions Queuing Summary ^{1,2,3,4}

Approach/ Lane Group	Storage Length (ft)	Existing Conditions				Future Conditions without Development				Future Conditions with Development			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile
1. Edsall Road/S. Van Dorn Street - Signalized													
EBL	-	154	201	87	141	146	209	84	135	146	209	84	135
EBT	-	351	424	205	297	329	433	199	286	329	433	199	286
EBR	-	104	189	63	185	128	256	68	191	150	279	88	214
WBL	-	103	144	124	190	98	150	124	186	98	150	124	186
WBT	-	195	267	222	319	175	250	225	317	175	250	225	317
WBR	240	0	0	0	67	0	19	0	65	0	19	0	65
NBL	420	131	181	182	235	122	197	185	239	128	206	191	245
NBTR	-	766	534	155	381	566	63	176	377	627	120	182	396
SBL	340	74	122	156	234	71	129	163	243	71	129	163	243
SBTR	-	348	422	509	612	323	398	556	660	341	417	595	700
Improvements													
EBL	-									152	210	87	141
EBT	-									339	435	205	296
EBR	-									271	349	239	348
WBL	-									102	150	129	#199
WBT	-									185	256	232	329
WBR	240									0	19	0	68
NBL	420									135	201	192	245
NBTR	-									615	103	244	426
SBL	340									70	129	159	239
SBTR	-									317	435	561	673
2. S. Pickett Street/S. Van Dorn Street - Signalized													
EBL	215	31	52	50	72	28	51	46	72	28	51	46	72
EBT	-	26	51	33	59	24	52	31	60	24	52	31	60
EBR	320	21	65	141	184	15	68	87	148	15	68	87	148
WBL	265	233	294	~284	#410	235	297	277	#385	237	298	281	#392
WBTR	-	30	67	67	117	30	67	62	109	30	67	62	109
NBL	240	22	m39	28	98	22	m40	19	m91	15	m21	0	m100
NBT	-	306	817	330	537	295	764	330	515	313	732	244	583
NBR	115	128	269	89	207	120	219	96	183	126	187	76	204
SBL	450	13	m37	19	m33	12	m34	19	m39	13	m35	19	m39
SBTR	-	327	481	238	#896	324	421	242	#935	334	429	253	#1001
3. Courtney Avenue/S. Van Dorn Street - Signalized													
EBLTR	-	0	0	0	0	0	0	0	0	58	121	43	98
WBLTR	-	0	1	0	1	0	2	0	1	0	2	0	1
NBL	130	0	0	0	0	0	0	0	0	4	m7	15	m30
NBTR	-	15	338	621	758	264	368	600	790	319	456	607	970
SBL	130	1	m3	0	m0	1	m1	0	m1	2	m5	0	m1
SBTR	-	290	326	96	m100	286	326	167	179	312	383	190	#1428
Improvements													
EBLT	-									16	76	2	56
EBR	-									0	0	0	0
WBLTR	-									0	0	0	0
NBL	130									5	m14	23	m49
NBTR	-									346	#1735	802	#1335
SBL	130									0	m25	4	m5
SBTR	-									312	525	583	#1780
4. S. Van Dorn Street/Metro Road Ramps - Unsignalized ⁵													
5. Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street - Signalized													
EBLTR	-	91	145	36	71	86	#153	33	72	86	#153	33	72
WBL	120	149	#249	81	#158	137	217	89	#197	137	217	89	#196
WBTR	120	346	401	223	317	308	388	274	197	317	397	289	203
NBL	140	78	120	28	63	79	128	27	62	79	128	27	62
NBT	-	794	895	662	772	821	926	659	768	844	951	690	#845
NBR	120	34	78	1	47	11	54	2	49	11	54	2	49
SBL	385	~380	#534	~479	#682	314	415	400	#540	328	#434	395	m449
SBT	-	553	837	833	#931	316	773	491	507	334	528	521	311
SBR	-	0	6	0	m0	0	5	0	m0	0	m3	0	m0
6. S. Pickett Street/Edsall Road/Cameron Station Boulevard - Signalized													
EBLTR	150	121	196	95	#267	103	194	84	243	104	195	85	247
WBL	-	9	27	6	23	8	28	5	23	8	28	5	23
WBTR	-	106	201	185	407	91	201	172	431	93	205	175	436
NBL	60	45	91	31	77	43	87	27	88	43	88	27	88
NBTR	-	86	160	39	96	79	161	36	115	79	161	37	115
SBL	-	42	84	54	121	40	81	47	139	40	82	47	139
SBTR	-	101	178	42	104	99	190	42	131	99	190	42	131
7. Summers Grove Road/Metro Road - Signalized													
EBLTR	-	3	29	0	0	3	30	0	0	3	30	0	0
WBL	-	21	55	11	29	18	50	10	29	18	50	10	29
WBTR	-	0	0	0	8	0	0	0	9	0	0	0	9
NBL	-	2	10	1	13	2	11	1	12	2	11	1	12
NBT	-	12	32	4	24	11	32	4	23	11	32	4	23
NBR	-	0	0	0	0	0	0	0	0	0	0	0	0
SBL	70	17	40	5	28	15	39	4	27	15	39	4	27
SBTR	-	20	37	14	49	18	36	12	48	18	36	12	48
8. Eisenhower Avenue/Metro Road - Signalized													
EBL	230	3	8	1	m1	2	8	1	m0	2	8	1	m0
EBT	-	33	45	12	m16	28	41	11	m19	29	42	11	m18
WBT	-	131	176	142	202	114	167	126	194	116	171	131	201
WBR	400	0	0	0	0	0	0	0	0	0	0	0	0
SBLR	-	27	53	29	54	24	54	26	54	24	54	26	54

Note(s):
 1. ~ Volume exceeds capacity, queue is theoretically infinite.
 2. # 95th percentile volume exceeds capacity, queue may be longer.
 3. m Volume for 95th percentile queue is metered by upstream signal.
 4. Highlighting means the existing storage lane has been exceeded.
 5. Queuing summary unavailable for intersection

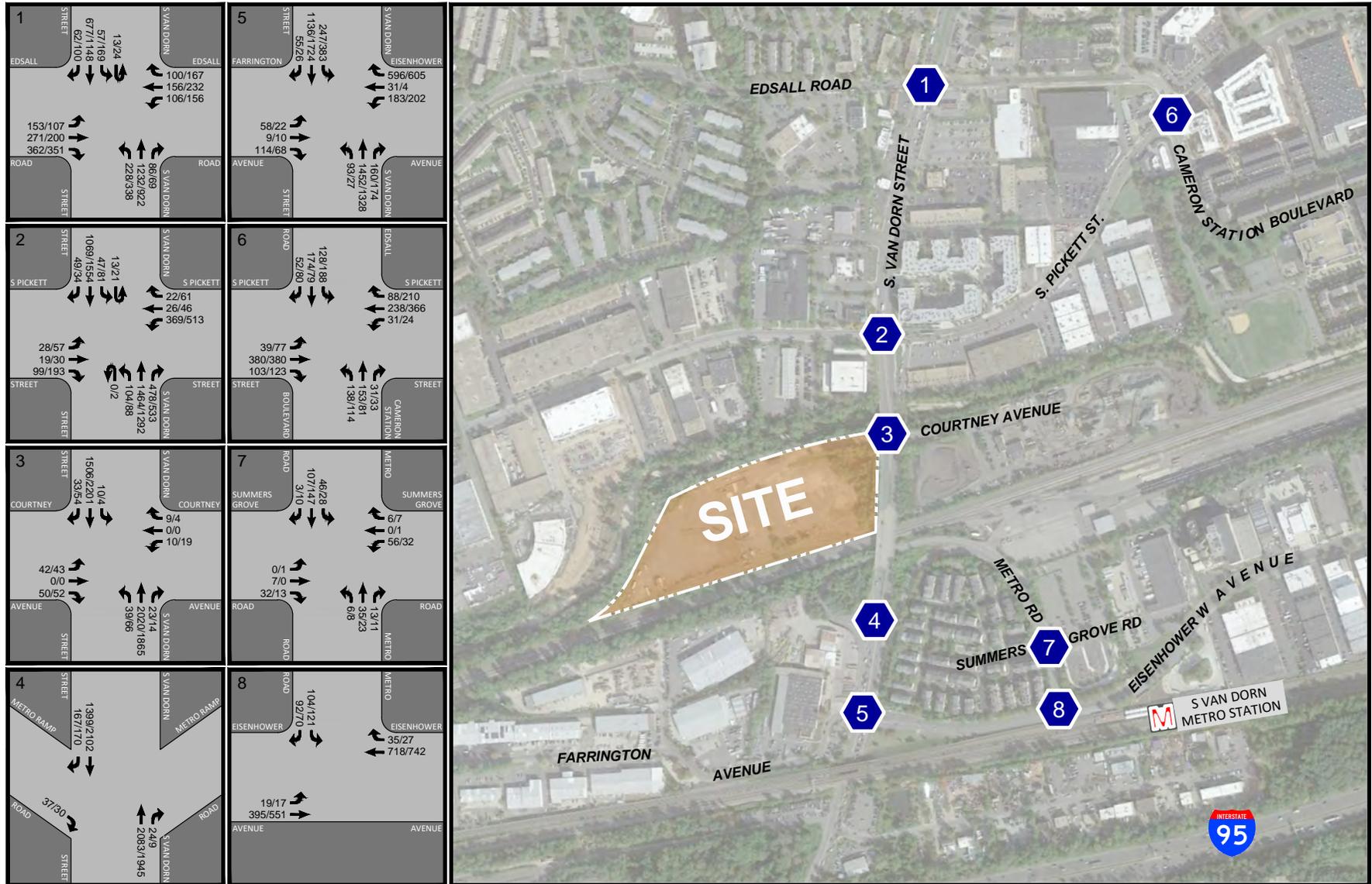


Figure 6-1
2026 Future Peak Hour Traffic Forecasts with Development

AM PEAK HOUR
PM PEAK HOUR
000 / 000



Vulcan Materials
City of Alexandria, VA



SECTION 7 NON-AUTO FACILITIES EVALUATION

Introduction

This section evaluates the non-auto facilities within the site vicinity. It summarizes existing pedestrian and bicycle activity at study intersections, identifies transit service in the area, and describes future pedestrian access and site circulation. It is a goal of the City of Alexandria to create an integrated, multimodal transportation system that is accessible and safe for all users, including pedestrians and bicyclists. To help achieve this goal, the City Council adopted a Complete Streets Policy in 2010. The term Complete Streets describes a comprehensive, integrated transportation network with infrastructure and design that allows safe and convenient travel along and across streets for all users. The policy is intended to promote equality for pedestrians, bicyclists, riders and drivers of public transportation, as well as drivers of other motor vehicles, and people of all ages and abilities, including children, older adults, and individuals with disabilities.

Public Transit Service

Bus Service. The subject site is served by a few bus lines with bus stops located along Eisenhower Avenue, S. Pickett Street, and S. Van Dorn Street. The following provides a summary of the bus lines within close proximity of the site and Figure 7-1 shows the location of nearby bus stops and bus lines providing service to those stops.

DASH Line 30 has stops located within a ¼ mile of the site to the north along S. Van Dorn Street. This route operates between the Van Dorn Metrorail Station and the Braddock Road Metrorail Station. It primarily runs along Duke Street, S. Van Dorn Street, Eisenhower Avenue, and King Street. This route operates on weekdays with 20-30-minute headways and weekends with 60-minute headways.

DASH Line 32 has stops located within a ¼ mile of the site to the north along S. Pickett Street. This route operates between the Landmark Mall and the King Street Metrorail Station. It primarily runs along S. Van Dorn Street, S. Pickett Street, and Eisenhower Avenue. This route operates on weekdays with approximately 30-minute headways and weekends with approximately 60-minute headways.

DASH Line 35 has stops located within a ¼ mile north along S. Van Dorn Street. This route operates between the Van Dorn Metrorail Station and the Pentagon Metrorail Station. This bus line primarily runs along Van Dorn Street, Duke Street, Beauregard Street, and I-395. Line 35 operates on weekdays with approximately 10-minute headways and weekends with 15-minute headways.

Metrobus 7A has stops located within a ¼ mile north of the site along S. Van Dorn Street. This route operates between the Van Dorn Street and Pentagon Metrorail Stations. This bus line primarily runs along Van Dorn Street, Beauregard Street, and I-395. 7A operates on weekdays with approximately 30 to 40-min headways and weekends with 20 to 40-min headways.

WMATA Metrorail. The subject site benefits from its close proximity to the Van Dorn Street Metrorail Station. This station offers access to the Blue Line which runs from Alexandria into Arlington and then into the District. Popular destinations and connection points from this line include Washington Nation Airport (DCA), Rosslyn, Metro Center, and L'Enfant Plaza.

Pedestrian Traffic Volumes

Pedestrian counts were conducted on Wednesday, October 13, 2021 from 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM at each study intersection. Existing peak hour pedestrian volumes are shown in Figure 3-2 and are detailed in Appendix B.

Bicycle/Pedestrian Access

As shown on the City of Alexandria bike map on Figure 7-2, Eisenhower Avenue and S. Van Dorn Street in the vicinity of the site are deemed as on-street bike routes. They connect to S. Pickett Street to the north where bike lanes are available.

As noted previously, the subject application proposes to improve the intersection of Courtney Avenue/S. Van Dorn Street and introduce marked crosswalks with median extensions to create pedestrian refuge areas as well as pedestrian signals on the north and south legs of the intersection. These improvements will enhance the pedestrian connectivity in the vicinity of the site and provide a safe crossing for residents of the site to access the sidewalk on the east side of S. Van Dorn Street and accessing the metrorail station.



Figure 7-1
Site Area Multimodal Facilities

-  Bus Stop
-  Site Location



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City of Alexandria, VA



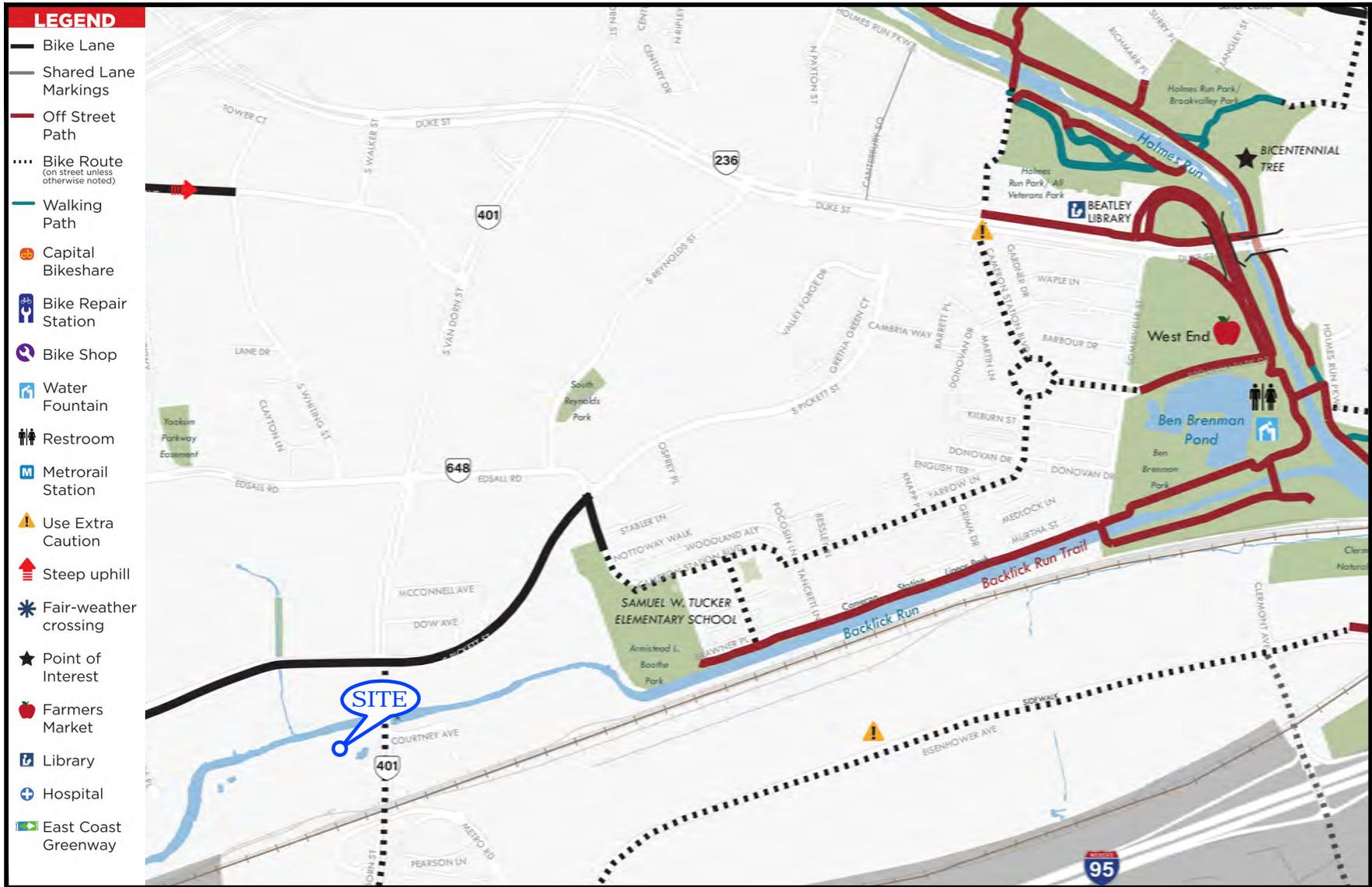


Figure 7-2
City of Alexandria Bicycle Master Plan



NORTH
Vulcan Materials
City of Alexandria, VA



SECTION 8

TRANSPORTATION MANAGEMENT PLAN (TMP)

Introduction

This section presents a Transportation Management Plan (TMP) for the proposed mixed-use development at Landmark Overlook. In accordance with the City of Alexandria Zoning Ordinance, Article XI, Section 11-700, this TMP is required to implement strategies to persuade residents to use public transportation, walk, bike, or share a ride as opposed to driving alone.

TMP Conditions and Requirements

The following is a description of the conditions and requirements that would be implemented in order to result in a successful TMP. Based on the size of the proposed development the proposal would need to comply with Tier 3 requirement (create stand-alone TMP). The TMP will comply with reporting requirements as called for in the Zoning Ordinance.

TMP Coordinator. The developer will designate a TMP Coordinator. This person will be the point of contact with the City's Transportation Planning Division. The Coordinator will work with the City staff and will have the authority, knowledge, and capability to implement the TMP. The duties of the TMP Coordinator include maintaining updated contact information with the Transportation Planning Division, distributing annual electronic surveys, managing and accounting the TMP fund, submitting reports to the City, and administering the program.

TMP Contribution. The developer will contribute to the Citywide TDM fund based on the applicable annual rate at the time of the certificate of occupancy. At the time of this report the current rate is \$84.076 per residential D.U. and \$0.210 per retail square foot. The base assessment rate will be adjusted on an annual basis on July 1 of each year in accordance with the Consumers Price Index (CPI-U) as reported by the United States Department of Labor, Bureau of Labor Statistics. The base assessment rate in effect at the time of the project's first certificate of occupancy permit (CO) is the applicable rate for the project.

SECTION 9

CONCLUSIONS AND RECOMMENDATIONS

The conclusions of this traffic impact study are as follows:

1. All of the signalized study intersections operate at overall acceptable levels of service (LOS “D” or better) during the AM and PM peak hours with the exception of the Edsall Road/S. Van Dorn Street intersection during the PM peak hour.
2. Under the 2026 future conditions without the proposed development, all signalized and unsignalized study intersections would operate at overall LOS “D” or better with some movements improving operationally due to planned optimization of traffic signals by the City but with minor increases in delays on some movements due to pipeline development and regional growth.
3. As proposed, the existing site which is currently occupied by the Vulcan Van Dorn Sales Yard would be razed and redeveloped with a mixed-use development containing a 256-room hotel, 204 condominiums, 88 back-to-back multifamily units, and 31 townhomes. The site would have an internal street network connecting the various areas and parking would be provided throughout. Primary access to/from the site would be provided via the signalized intersection of Courtney Avenue/S. Van Dorn Street. The development is expected to be completed in a single phase and be operational in 2026.
4. The proposed development will add 162 AM peak hour trips, 215 PM peak hour trips, and 2,943 daily trips to the surrounding network. This includes a 30% non-auto reduction along with removing the existing site trips off of the network.
5. In 2026 future conditions with the mixed-use development, all signalized and unsignalized study intersection approaches would continue to operate consistently with future conditions without development. Delays would increase at the Courtney Avenue/S. Van Dorn Street intersection as a result of the multimodal improvements planned. Potential mitigation improvements are shown at certain intersections which could offset the development impacts and improve operations.
6. The results of the traffic analyses indicate that the additional vehicle trips generated by the proposed mixed-use development would have a negligible impact to the roadway network. The multimodal improvements proposed at the S. Van Dorn Street/Courtney Avenue intersection will enhance the pedestrian facilities and provide a safe crossing for residents across Van Dorn Street. This new connection will allow residents to access the existing sidewalk on the east side of Van Dorn Street and traverse between the site and Van Dorn Street Metrorail Station.

7. Per the City guidelines the proposed development meets Tier 2 TMP requirements. The Applicant will comply with the annual contribution requirements in order to meet the Zoning Ordinance. The elements of the TMP would encourage transit use and reduce both peak hour trips and the demand for parking.

O:\Projects\8001-8500\8105 Vulcan Materials Development\Documents\Report\Vulcan Materials Multimodal Traffic Impact Analysis (11.17.2023).docx

APPENDIX A
SCOPING AGREEMENT

City of Alexandria
Transportation Scoping Intake Form

Date: August 30, 2022

Project Name: Vulcan Materials Development

Property Address (include vicinity map): South of Courtney Avenue, west of S. Van Dorn Street, and north of Metro Road *See Figure :

Application # if available:

Point of contact name: John A. Schick, Wells + Associates

Phone: 704.951.5650 (Wells + Associates)

Email: jaschick@wellsandassociates.com

Existing uses	No. of Units	Units	Proposed uses	No. of Units	Units
Materials Processing Plant			Use 1: Hotel	256	rooms
			Use 2: Condo	204	units
			Use 3: 2x2 Units	88	units
			Use 4: Townhomes	31	units
			Use 5:		

Project Description:

The existing processing materials site would be razed and redeveloped with a 256 room hotel, six (6) four-story condo flats, 88 2x2 multifamily units and 31 townhomes. Access to the property would be from the existing signalized intersection of S. Van Dorn Street/Courtney Avenue. A new grid of street would be created with the development. See Figure 1 for Site Plan.

Trip Generation Estimates									
			AM Peak Hour			PM Peak Hour			Daily
Existing Uses									
Existing Count (05/24/17)			2	9	11	3	1	4	-
Total Existing Trips			2	9	11	3	1	4	-
Proposed uses									
			In	Out	Total	In	Out	Total	
1. Multifamily Housing (Mid-Rise) - Back-to-Back	221	88 D.U.	8	22	30	24	15	39	478
2. Multifamily Housing (Mid-Rise) - Condc	221	204 D.U.	18	51	69	54	34	88	1,110
3. Multifamily Housing (Mid-Rise) - Townhome:	221	31 D.U.	3	8	11	9	5	14	167
4. Hotel	310	256 Rooms	73	50	123	85	81	166	2,463
	30%	Non-Auto	(22)	(15)	(37)	(26)	(24)	(50)	(739)
Total Proposed Trips			80	116	196	147	111	257	3,479
Net New Site Trips			78	107	185	144	110	253	

Note: Trips generated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.

Existing count taken from West Alexandria project dated on 05/24/17

Horizon Years	Existing Year: 2022	Phase 1: N/A	Buildout Year: 2026	Design Year: N/A
Proposed Study Area	North: Edsall Road	East: Cameron Station Boulevard		
Boundaries (Attach map)	South: Metro Road	West: South Van Dorn Street		

Study Intersections: ⁽¹⁾

1. S. Van Dorn Street/Edsall Road
2. S. Van Dorn Street/Pickett Street
3. S. Van Dorn Street/Courtney Avenue
4. S. Van Dorn Street/On-Off Ramp to Metro Road
5. S. Van Dorn Street/Eisenhower Avenue
6. Edsall Road/Pickett Street/Cameron Station Boulevard
7. Metro Road/Summer Grove Road/Metro Kiss-N-Ride Lot
8. Metro Road/Eisenhower Avenue

*See Figure 2.

Parking Occupancy Counts:

On-Street Parking: N/A

On-Site Parking: N/A

(Completed on a weekday: Tuesday- Thursday between the hours of 6:00AM-10:00AM and 4:00PM-7:00PM)

*Traffic counts will be collected at the study intersections. These counts will then be compared to previously collected traffic counts provided by the city. An adjustment rate will be calculated using these counts along with a growth rate of 0.5% at all intersections classified as collectors or arterials to establish baseline 2022 turning movement traffic volumes at the study intersections..

City of Alexandria
Transportation Scoping Intake Form

Background Development Projects:

1. Winchester Eisenhower Avenue Townhomes - 139 DU Townhomes

Roadway Improvements:

1. None.

Trip Distribution (attach a map): *See Figure 2

North:	30%	(to/from the north on S Van Dorn Street)	East:	15%	(to/from the east on Eisenhower W)
East:	5%	(to/from the east on S. Pickett Street)			
South:	40%	(to/from the south on S Van Dorn Street)			
West:	10%	(to/from the west on Edsall Road)			

Proposed Access Points (attach site map): *See Figure 2.

Annual Growth Rate: 0.5% at all study intersections classified as collectors or arterials.

Methodology to be used: Synchro 10 (HCM 6th Edition Methodology)

Trip Reduction: Non-auto mode shares adjustments consistent with West Alexandria TIA

Modal split/transit: 30%

Internal capture: No

Pass-by trips: No

Parking: A parking reduction request will be submitted under a separate cover.

Parking spaces required by Code:

Is a parking modification requested?

Yes

TMP category based on project size

TMP options available

Tier 1

Join Citywide TDM Program - As directed by City Staff

Tier 2

Partner with adjacent TMPs or join Citywide TDM Program

Tier 3

Create stand-alone TMP or partner with adjacent TMPs

Additional Studies Required

Signal Warrant Analysis

Queuing Analysis

Signal Timing/Phasing Improvements

Parking Study

Other

Notes:

1. As mentioned previously, traffic counts will be collected at the study intersections. These counts will then be compared to previously collected traffic counts provided by the city. An adjustment rate will be calculated using these counts along with a growth rate of 0.5% at all intersections classified as collectors or arterials to establish baseline 2022 turning movement traffic volumes at the study intersections.

2. A full discussion of site access points, site circulation, pick-up/drop-off, and alternative modes of transportation will be discussed in depth in the body of the report.

3. A section describing the nearby multimodal facilities will be included in the TIA.

Daniel Scolese

9/8/2022

City Staff Signature

Date

8.30.2022

Applicant Signature

Date

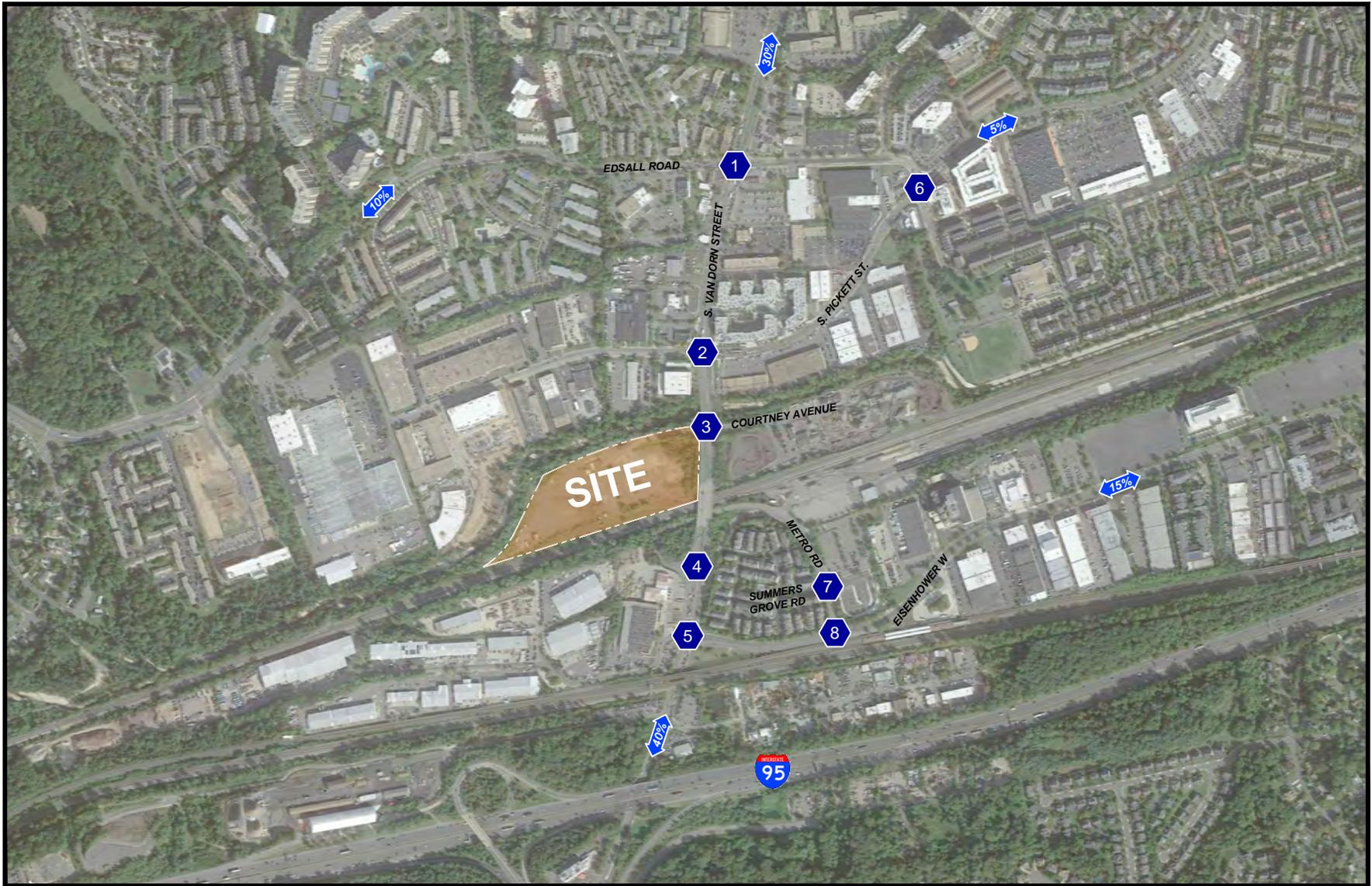


Figure 2
Site Location

- Site Trip Distribution
- Study Intersection
- Site Location



NORTH

Vulcan Materials
City of Alexandria, VA



APPENDIX B
Count Data

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound Edsall Road					Northbound South Van Dorn Street					Eastbound Edsall Road					North & East South & West		Total
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	South	West	
15 Minute Volumes																								
6:00 AM	- 6:15 AM	5	61	3	0	69	4	5	20	0	29	5	79	17	0	101	32	8	8	0	48	170	77	247
6:15 AM	- 6:30 AM	7	77	9	0	93	1	12	9	0	22	10	121	21	0	152	45	15	14	0	74	245	96	341
6:30 AM	- 6:45 AM	5	101	3	1	110	10	7	8	0	25	11	130	21	0	162	60	10	10	0	80	272	105	377
6:45 AM	- 7:00 AM	12	86	3	1	102	14	14	13	0	41	9	159	25	0	193	59	23	19	0	101	295	142	437
7:00 AM	- 7:15 AM	6	102	10	0	118	12	12	16	0	40	10	207	22	0	239	56	32	20	0	108	357	148	505
7:15 AM	- 7:30 AM	4	122	9	1	136	13	17	31	0	61	19	267	26	0	312	69	35	22	0	126	448	187	635
7:30 AM	- 7:45 AM	9	130	10	3	152	12	19	28	0	59	14	281	32	0	327	103	66	32	0	201	479	260	739
7:45 AM	- 8:00 AM	11	169	11	0	191	20	36	18	0	74	25	269	55	0	349	64	85	38	0	187	540	261	801
8:00 AM	- 8:15 AM	18	152	16	3	189	31	57	25	0	113	13	281	56	0	350	79	42	36	0	157	539	270	809
8:15 AM	- 8:30 AM	17	129	14	6	166	26	26	23	0	75	24	231	51	0	306	69	48	30	0	147	472	222	694
8:30 AM	- 8:45 AM	12	159	14	4	189	17	34	25	0	76	12	247	44	0	303	68	37	36	0	141	492	217	709
8:45 AM	- 9:00 AM	14	135	17	3	169	12	28	27	0	67	17	223	40	0	280	85	53	20	0	158	449	225	674
4:00 PM	- 4:15 PM	34	238	26	5	303	33	52	50	0	135	20	185	61	0	266	57	48	29	0	134	569	269	838
4:15 PM	- 4:30 PM	23	250	26	4	303	33	41	38	0	112	14	179	73	0	266	69	44	34	0	147	569	259	828
4:30 PM	- 4:45 PM	25	246	43	5	319	44	63	35	0	142	16	194	92	0	302	79	35	23	0	137	621	279	900
4:45 PM	- 5:00 PM	30	257	42	6	335	28	39	33	0	100	14	199	88	0	301	85	50	22	0	157	636	257	893
5:00 PM	- 5:15 PM	13	270	44	5	332	43	58	44	0	145	20	216	62	0	298	73	49	26	0	148	630	293	923
5:15 PM	- 5:30 PM	27	274	31	7	339	43	59	36	0	138	16	233	69	0	318	84	55	30	0	169	657	307	964
5:30 PM	- 5:45 PM	20	250	41	10	321	29	64	35	0	128	22	198	69	0	289	89	52	23	0	164	610	292	902
5:45 PM	- 6:00 PM	20	265	35	6	326	39	57	40	0	136	17	231	78	0	326	75	67	45	0	187	652	323	975
6:00 PM	- 6:15 PM	30	241	41	8	320	32	57	34	0	123	28	212	92	0	332	61	49	31	0	141	652	264	916
6:15 PM	- 6:30 PM	29	198	39	9	275	35	64	37	0	136	25	217	64	0	306	59	36	17	0	112	581	248	829
6:30 PM	- 6:45 PM	21	242	38	6	307	30	35	39	0	104	19	183	67	0	269	56	52	32	0	140	576	244	820
6:45 PM	- 7:00 PM	21	179	36	5	241	28	44	28	0	100	20	190	65	0	275	60	54	25	0	139	516	239	755
Total		413	4333	561	98	5405	589	900	692	0	2181	400	4932	1290	0	6622	1636	1045	622	0	3303	12027	5484	17511

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound Edsall Road					Northbound South Van Dorn Street					Eastbound Edsall Road					North & South	East & West	Total				
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF							
One Hour Volumes																												
6:00 AM	- 7:00 AM	29	325	18	2	374	0.85	29	38	50	0	117	0.713	35	489	84	0	608	0.788	196	56	51	0	303	0.75	982	420	1402
6:15 AM	- 7:15 AM	30	366	25	2	423	0.896	37	45	46	0	128	0.78	40	617	89	0	746	0.78	220	80	63	0	363	0.84	1169	491	1660
6:30 AM	- 7:30 AM	27	411	25	3	466	0.857	49	50	68	0	167	0.684	49	763	94	0	906	0.726	244	100	71	0	415	0.823	1372	582	1954
6:45 AM	- 7:45 AM	31	440	32	5	508	0.836	51	62	88	0	201	0.824	52	914	105	0	1071	0.819	287	156	93	0	536	0.667	1579	737	2316
7:00 AM	- 8:00 AM	30	523	40	4	597	0.781	57	84	93	0	234	0.791	68	1024	135	0	1227	0.879	292	218	112	0	622	0.774	1824	856	2680
7:15 AM	- 8:15 AM	42	573	46	7	668	0.874	76	129	102	0	307	0.679	71	1098	169	0	1338	0.956	315	228	128	0	671	0.835	2006	978	2984
7:30 AM	- 8:30 AM	55	580	51	12	698	0.914	89	138	94	0	321	0.71	76	1052	194	0	1332	0.951	315	241	136	0	692	0.861	2030	1013	3043
7:45 AM	- 8:45 AM	58	609	55	13	735	0.962	94	153	91	0	338	0.748	74	1028	206	0	1308	0.934	280	212	140	0	632	0.845	2043	970	3013
8:00 AM	- 9:00 AM	61	575	61	16	713	0.943	86	145	100	0	331	0.732	66	982	191	0	1239	0.885	301	180	122	0	603	0.954	1952	934	2886
4:00 PM	- 5:00 PM	112	991	137	20	1260	0.94	138	195	156	0	489	0.861	64	757	314	0	1135	0.94	290	177	108	0	575	0.916	2395	1064	3459
4:15 PM	- 5:15 PM	91	1023	155	20	1289	0.962	148	201	150	0	499	0.86	64	788	315	0	1167	0.966	306	178	105	0	589	0.938	2456	1088	3544
4:30 PM	- 5:30 PM	95	1047	160	23	1325	0.977	158	219	148	0	525	0.905	66	842	311	0	1219	0.958	321	189	101	0	611	0.904	2544	1136	3680
4:45 PM	- 5:45 PM	90	1051	158	28	1327	0.979	143	220	148	0	511	0.881	72	846	288	0	1206	0.948	331	206	101	0	638	0.944	2533	1149	3682
5:00 PM	- 6:00 PM	80	1059	151	28	1318	0.972	154	238	155	0	547	0.943	75	878	278	0	1231	0.944	321	223	124	0	668	0.893	2549	1215	3764
5:15 PM	- 6:15 PM	97	1030	148	31	1306	0.963	143	237	145	0	525	0.951	83	874	308	0	1265	0.953	309	223	129	0	661	0.884	2571	1186	3757
5:30 PM	- 6:30 PM	99	954	156	33	1242	0.952	135	242	146	0	523	0.961	92	858	303	0	1253	0.944	284	204	116	0	604	0.807	2495	1127	3622
5:45 PM	- 6:45 PM	100	946	153	29	1228	0.942	136	213	150	0	499	0.917	89	843	301	0	1233	0.928	251	204	125	0	580	0.775	2461	1079	3540
6:00 PM	- 7:00 PM	101	860	154	28	1143	0.893	125	200	138	0	463	0.851	92	802	288	0	1182	0.89	236	191	105	0	532	0.943	2325	995	3320

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound South Pickett Street					Northbound South Van Dorn Street					Eastbound South Pickett Street					North & East South & West		Total				
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	South	West					
15 Minute Volumes																												
6:00 AM	- 6:15 AM	6	92	2	0	100		4	7	38	0	49		29	121	16	0	166		4	1	5	0	10		266	59	325
6:15 AM	- 6:30 AM	12	104	5	1	122		4	3	34	0	41		31	141	34	0	206		8	3	5	0	16		328	57	385
6:30 AM	- 6:45 AM	11	141	2	0	154		5	2	48	0	55		39	172	18	0	229		8	0	4	0	12		383	67	450
6:45 AM	- 7:00 AM	6	147	6	4	163		2	1	66	1	70		77	188	18	0	283		11	3	11	0	25		446	95	541
7:00 AM	- 7:15 AM	9	134	7	1	151		3	4	61	0	68		77	252	17	0	346		11	2	11	0	24		497	92	589
7:15 AM	- 7:30 AM	5	181	15	4	205		3	6	58	0	67		69	305	29	0	403		13	3	5	0	21		608	88	696
7:30 AM	- 7:45 AM	9	220	10	6	245		0	3	78	0	81		94	342	20	0	456		20	4	5	0	29		701	110	811
7:45 AM	- 8:00 AM	9	211	13	4	237		2	7	72	0	81		105	324	29	0	458		24	9	5	0	38		695	119	814
8:00 AM	- 8:15 AM	18	200	4	2	224		10	8	70	0	88		101	294	17	0	412		18	1	9	0	28		636	116	752
8:15 AM	- 8:30 AM	7	211	15	0	233		8	5	75	0	88		114	294	24	0	432		17	3	5	0	25		665	113	778
8:30 AM	- 8:45 AM	11	198	10	3	222		5	5	65	1	76		107	284	29	0	420		21	7	6	0	34		642	110	752
8:45 AM	- 9:00 AM	7	210	7	1	225		5	9	81	0	95		90	269	28	0	387		26	10	11	0	47		612	142	754
4:00 PM	- 4:15 PM	14	302	19	2	337		14	20	86	0	120		104	266	21	0	391		42	7	8	0	57		728	177	905
4:15 PM	- 4:30 PM	9	333	20	5	367		16	8	102	0	126		102	230	16	0	348		40	4	15	0	59		715	185	900
4:30 PM	- 4:45 PM	10	340	16	2	368		16	9	110	0	135		115	289	16	0	420		42	8	12	0	62		788	197	985
4:45 PM	- 5:00 PM	6	357	18	3	384		13	5	102	0	120		131	272	28	0	431		35	8	10	0	53		815	173	988
5:00 PM	- 5:15 PM	10	334	20	9	373		16	14	124	1	155		123	276	17	0	416		55	5	17	0	77		789	232	1021
5:15 PM	- 5:30 PM	6	340	22	6	374		13	15	127	1	156		97	266	17	0	380		44	7	15	0	66		754	222	976
5:30 PM	- 5:45 PM	5	334	25	3	367		13	5	105	0	123		116	271	12	0	399		27	16	11	0	54		766	177	943
5:45 PM	- 6:00 PM	12	332	26	3	373		13	8	105	1	127		80	288	15	0	383		18	6	18	0	42		756	169	925
6:00 PM	- 6:15 PM	3	295	32	3	333		12	13	110	0	135		127	320	15	0	462		31	7	11	0	49		795	184	979
6:15 PM	- 6:30 PM	5	258	25	1	289		15	8	115	1	139		101	266	14	0	381		19	5	8	0	32		670	171	841
6:30 PM	- 6:45 PM	6	297	18	3	324		11	8	117	0	136		105	262	14	0	381		30	3	7	0	40		705	176	881
6:45 PM	- 7:00 PM	4	237	21	3	265		11	3	88	0	102		120	252	5	0	377		6	6	9	0	21		642	123	765
Total		200	5808	358	69	6435		214	176	2037	6	2433		2254	6244	469	0	8967		570	128	223	0	921		15402	3354	18756

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound South Pickett Street					Northbound South Van Dorn Street					Eastbound South Pickett Street					North & South	East & West	Total				
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF							
One Hour Volumes																												
6:00 AM	- 7:00 AM	35	484	15	5	539	0.827	15	13	186	1	215	0.768	176	622	86	0	884	0.781	31	7	25	0	63	0.63	1423	278	1701
6:15 AM	- 7:15 AM	38	526	20	6	590	0.905	14	10	209	1	234	0.836	224	753	87	0	1064	0.769	38	8	31	0	77	0.77	1654	311	1965
6:30 AM	- 7:30 AM	31	603	30	9	673	0.821	13	13	233	1	260	0.929	262	917	82	0	1261	0.782	43	8	31	0	82	0.82	1934	342	2276
6:45 AM	- 7:45 AM	29	682	38	15	764	0.78	8	14	263	1	286	0.883	317	1087	84	0	1488	0.816	55	12	32	0	99	0.853	2252	385	2637
7:00 AM	- 8:00 AM	32	746	45	15	838	0.855	8	20	269	0	297	0.917	345	1223	95	0	1663	0.908	68	18	26	0	112	0.737	2501	409	2910
7:15 AM	- 8:15 AM	41	812	42	16	911	0.93	15	24	278	0	317	0.901	369	1265	95	0	1729	0.944	75	17	24	0	116	0.763	2640	433	3073
7:30 AM	- 8:30 AM	43	842	42	12	939	0.958	20	23	295	0	338	0.96	414	1254	90	0	1758	0.96	79	17	24	0	120	0.789	2697	458	3155
7:45 AM	- 8:45 AM	45	820	42	9	916	0.966	25	25	282	1	333	0.946	427	1196	99	0	1722	0.94	80	20	25	0	125	0.822	2638	458	3096
8:00 AM	- 9:00 AM	43	819	36	6	904	0.97	28	27	291	1	347	0.913	412	1141	98	0	1651	0.955	82	21	31	0	134	0.713	2555	481	3036
4:00 PM	- 5:00 PM	39	1332	73	12	1456	0.948	59	42	400	0	501	0.928	452	1057	81	0	1590	0.922	159	27	45	0	231	0.931	3046	732	3778
4:15 PM	- 5:15 PM	35	1364	74	19	1492	0.971	61	36	438	1	536	0.865	471	1067	77	0	1615	0.937	172	25	54	0	251	0.815	3107	787	3894
4:30 PM	- 5:30 PM	32	1371	76	20	1499	0.976	58	43	463	2	566	0.907	466	1103	78	0	1647	0.955	176	28	54	0	258	0.838	3146	824	3970
4:45 PM	- 5:45 PM	27	1365	85	21	1498	0.975	55	39	458	2	554	0.888	467	1085	74	0	1626	0.943	161	36	53	0	250	0.812	3124	804	3928
5:00 PM	- 6:00 PM	33	1340	93	21	1487	0.994	55	42	461	3	561	0.899	416	1101	61	0	1578	0.948	144	34	61	0	239	0.776	3065	800	3865
5:15 PM	- 6:15 PM	26	1301	105	15	1447	0.967	51	41	447	2	541	0.867	420	1145	59	0	1624	0.879	120	36	55	0	211	0.799	3071	752	3823
5:30 PM	- 6:30 PM	25	1219	108	10	1362	0.913	53	34	435	2	524	0.942	424	1145	56	0	1625	0.879	95	34	48	0	177	0.819	2987	701	3688
5:45 PM	- 6:45 PM	26	1182	101	10	1319	0.884	51	37	447	2	537	0.966	413	1136	58	0	1607	0.87	98	21	44	0	163	0.832	2926	700	3626
6:00 PM	- 7:00 PM	18	1087	96	10	1211	0.909	49	32	430	1	512	0.921	453	1100	48	0	1601	0.866	86	21	35	0	142	0.724	2812	654	3466

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound Courtney Avenue					Northbound South Van Dorn Street					Eastbound Courtney Avenue					North & East South & West		Total				
		Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn		Total	PHF	South	West
15 Minute Volumes																												
6:00 AM - 6:15 AM		0	135	6	0	141		1	0	3	0	4		12	165	0	0	177		0	2	0	0	2		318	6	324
6:15 AM - 6:30 AM		0	144	4	0	148		2	0	6	0	8		3	195	0	0	198		0	0	0	0	0		346	8	354
6:30 AM - 6:45 AM		0	203	0	0	203		2	0	7	0	9		5	222	0	0	227		0	0	0	0	0		430	9	439
6:45 AM - 7:00 AM		0	224	2	0	226		2	0	6	0	8		10	277	0	0	287		0	0	0	0	0		513	8	521
7:00 AM - 7:15 AM		0	225	2	0	227		2	0	5	0	7		14	337	0	0	351		0	0	0	0	0		578	7	585
7:15 AM - 7:30 AM		0	267	1	0	268		0	0	7	0	7		11	401	0	0	412		0	0	0	0	0		680	7	687
7:30 AM - 7:45 AM		0	329	2	0	331		2	0	0	0	2		5	462	0	0	467		0	0	0	0	0		798	2	800
7:45 AM - 8:00 AM		0	347	2	0	349		0	0	2	0	2		4	461	0	0	465		0	0	0	0	0		814	2	816
8:00 AM - 8:15 AM		0	290	3	0	293		1	0	5	0	6		6	430	0	0	436		0	0	0	0	0		729	6	735
8:15 AM - 8:30 AM		1	312	2	0	315		5	0	2	0	7		6	433	0	0	439		0	0	0	0	0		754	7	761
8:30 AM - 8:45 AM		0	312	0	0	312		1	0	4	0	5		1	478	0	0	479		0	0	0	0	0		791	5	796
8:45 AM - 9:00 AM		0	320	1	0	321		1	0	4	0	5		4	404	0	0	408		0	0	1	0	1		729	6	735
4:00 PM - 4:15 PM		1	457	1	0	459		3	0	9	0	12		6	365	0	0	371		0	1	0	0	1		830	13	843
4:15 PM - 4:30 PM		0	433	0	0	433		2	0	4	0	6		6	398	0	0	404		0	0	0	0	0		837	6	843
4:30 PM - 4:45 PM		0	495	1	0	496		2	0	7	0	9		3	403	0	0	406		0	0	0	0	0		902	9	911
4:45 PM - 5:00 PM		0	504	0	0	504		0	0	1	0	1		2	412	0	0	414		0	0	0	0	0		918	1	919
5:00 PM - 5:15 PM		0	521	1	0	522		1	0	3	0	4		5	399	0	0	404		0	0	0	0	0		926	4	930
5:15 PM - 5:30 PM		0	494	2	0	496		1	0	6	0	7		3	415	0	0	418		0	0	0	0	0		914	7	921
5:30 PM - 5:45 PM		0	475	1	0	476		0	0	6	0	6		8	396	0	0	404		0	0	0	0	0		880	6	886
5:45 PM - 6:00 PM		0	438	0	0	438		1	0	8	0	9		2	379	0	0	381		0	0	0	0	0		819	9	828
6:00 PM - 6:15 PM		0	433	1	0	434		1	0	0	0	1		3	419	0	0	422		0	0	0	0	0		856	1	857
6:15 PM - 6:30 PM		0	391	0	0	391		1	0	2	0	3		1	385	0	0	386		0	0	0	0	0		777	3	780
6:30 PM - 6:45 PM		0	451	0	0	451		0	0	2	0	2		3	351	0	0	354		0	0	0	0	0		805	2	807
6:45 PM - 7:00 PM		0	323	0	0	323		2	0	1	0	3		2	332	0	0	334		0	0	0	0	0		657	3	660
Total		2	8523	32	0	8557		33	0	100	0	133		125	8919	0	0	9044		0	3	1	0	4		17601	137	17738

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound Courtney Avenue					Northbound South Van Dorn Street					Eastbound Courtney Avenue					North & South	East & West	Total				
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF							
One Hour Volumes																												
6:00 AM	- 7:00 AM	0	706	12	0	718	0.794	7	0	22	0	29	0.806	30	859	0	0	889	0.774	0	2	0	0	2	0.25	1607	31	1638
6:15 AM	- 7:15 AM	0	796	8	0	804	0.885	8	0	24	0	32	0.889	32	1031	0	0	1063	0.757	0	0	0	0	0		1867	32	1899
6:30 AM	- 7:30 AM	0	919	5	0	924	0.862	6	0	25	0	31	0.861	40	1237	0	0	1277	0.775	0	0	0	0	0		2201	31	2232
6:45 AM	- 7:45 AM	0	1045	7	0	1052	0.795	6	0	18	0	24	0.75	40	1477	0	0	1517	0.812	0	0	0	0	0		2569	24	2593
7:00 AM	- 8:00 AM	0	1168	7	0	1175	0.842	4	0	14	0	18	0.643	34	1661	0	0	1695	0.907	0	0	0	0	0		2870	18	2888
7:15 AM	- 8:15 AM	0	1233	8	0	1241	0.889	3	0	14	0	17	0.607	26	1754	0	0	1780	0.953	0	0	0	0	0		3021	17	3038
7:30 AM	- 8:30 AM	1	1278	9	0	1288	0.923	8	0	9	0	17	0.607	21	1786	0	0	1807	0.967	0	0	0	0	0		3095	17	3112
7:45 AM	- 8:45 AM	1	1261	7	0	1269	0.909	7	0	13	0	20	0.714	17	1802	0	0	1819	0.949	0	0	0	0	0		3088	20	3108
8:00 AM	- 9:00 AM	1	1234	6	0	1241	0.967	8	0	15	0	23	0.821	17	1745	0	0	1762	0.92	0	0	1	0	1	0.25	3003	24	3027
4:00 PM	- 5:00 PM	1	1889	2	0	1892	0.938	7	0	21	0	28	0.583	17	1578	0	0	1595	0.963	0	1	0	0	1	0.25	3487	29	3516
4:15 PM	- 5:15 PM	0	1953	2	0	1955	0.936	5	0	15	0	20	0.556	16	1612	0	0	1628	0.983	0	0	0	0	0		3583	20	3603
4:30 PM	- 5:30 PM	0	2014	4	0	2018	0.966	4	0	17	0	21	0.583	13	1629	0	0	1642	0.982	0	0	0	0	0		3660	21	3681
4:45 PM	- 5:45 PM	0	1994	4	0	1998	0.957	2	0	16	0	18	0.643	18	1622	0	0	1640	0.981	0	0	0	0	0		3638	18	3656
5:00 PM	- 6:00 PM	0	1928	4	0	1932	0.925	3	0	23	0	26	0.722	18	1589	0	0	1607	0.961	0	0	0	0	0		3539	26	3565
5:15 PM	- 6:15 PM	0	1840	4	0	1844	0.929	3	0	20	0	23	0.639	16	1609	0	0	1625	0.963	0	0	0	0	0		3469	23	3492
5:30 PM	- 6:30 PM	0	1737	2	0	1739	0.913	3	0	16	0	19	0.528	14	1579	0	0	1593	0.944	0	0	0	0	0		3332	19	3351
5:45 PM	- 6:45 PM	0	1713	1	0	1714	0.95	3	0	12	0	15	0.417	9	1534	0	0	1543	0.914	0	0	0	0	0		3257	15	3272
6:00 PM	- 7:00 PM	0	1598	1	0	1599	0.886	4	0	5	0	9	0.75	9	1487	0	0	1496	0.886	0	0	0	0	0		3095	9	3104

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound					Westbound					Northbound					Eastbound					North & East South West		Total			
		South Van Dorn Street					Exit to Metro Road					South Van Dorn Street					Exit from Metro Road										
Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn	Total	PHF				
15 Minute Volumes																											
6:00 AM	- 6:15 AM	13	127	0	0	140		0	0	0	0	0	2	174	0	0	176		8	0	0	0	8		316	8	324
6:15 AM	- 6:30 AM	17	143	0	0	160		0	0	0	0	0	1	197	0	0	198		6	0	0	0	6		358	6	364
6:30 AM	- 6:45 AM	22	194	0	0	216		0	0	0	0	0	5	234	0	0	239		7	0	0	0	7		455	7	462
6:45 AM	- 7:00 AM	23	223	0	0	246		0	0	0	0	0	8	281	0	0	289		4	0	0	0	4		535	4	539
7:00 AM	- 7:15 AM	19	209	0	0	228		0	0	0	0	0	8	324	0	0	332		6	0	0	0	6		560	6	566
7:15 AM	- 7:30 AM	25	236	0	0	261		0	0	0	0	0	3	391	0	0	394		6	0	0	0	6		655	6	661
7:30 AM	- 7:45 AM	34	319	0	0	353		0	0	0	0	0	7	425	0	0	432		6	0	0	0	6		785	6	791
7:45 AM	- 8:00 AM	47	314	0	0	361		0	0	0	0	0	5	439	0	0	444		8	0	0	0	8		805	8	813
8:00 AM	- 8:15 AM	34	276	0	0	310		0	0	0	0	0	5	421	0	0	426		7	0	0	0	7		736	7	743
8:15 AM	- 8:30 AM	33	285	0	0	318		0	0	0	0	0	5	434	0	0	439		9	0	0	0	9		757	9	766
8:30 AM	- 8:45 AM	25	322	0	0	347		0	0	0	0	0	6	414	0	0	420		6	0	0	0	6		767	6	773
8:45 AM	- 9:00 AM	29	331	0	0	360		0	0	0	0	0	5	425	0	0	430		6	0	0	0	6		790	6	796
4:00 PM	- 4:15 PM	30	470	0	0	500		0	0	0	0	0	5	425	0	0	430		5	0	0	0	5		930	5	935
4:15 PM	- 4:30 PM	34	440	0	0	474		0	0	0	0	0	4	430	0	0	434		10	0	0	0	10		908	10	918
4:30 PM	- 4:45 PM	43	475	0	0	518		0	0	0	0	0	4	446	0	0	450		1	0	0	0	1		968	1	969
4:45 PM	- 5:00 PM	46	469	0	0	515		0	0	0	0	0	2	441	0	0	443		5	0	0	0	5		958	5	963
5:00 PM	- 5:15 PM	40	498	0	0	538		0	0	0	0	0	1	451	0	0	452		4	0	0	0	4		990	4	994
5:15 PM	- 5:30 PM	32	494	0	0	526		0	0	0	0	0	2	438	0	0	440		5	0	0	0	5		966	5	971
5:30 PM	- 5:45 PM	36	477	0	0	513		0	0	0	0	0	1	429	0	0	430		2	0	0	0	2		943	2	945
5:45 PM	- 6:00 PM	38	484	0	0	522		0	0	0	0	0	4	419	0	0	423		5	0	0	0	5		945	5	950
6:00 PM	- 6:15 PM	29	429	0	0	458		0	0	0	0	0	4	487	0	0	491		7	0	0	0	7		949	7	956
6:15 PM	- 6:30 PM	27	388	0	0	415		0	0	0	0	0	2	401	0	0	403		8	0	0	0	8		818	8	826
6:30 PM	- 6:45 PM	45	442	0	0	487		0	0	0	0	0	8	383	0	0	391		3	0	0	0	3		878	3	881
6:45 PM	- 7:00 PM	27	324	0	0	351		0	0	0	0	0	2	379	0	0	381		3	0	0	0	3		732	3	735
Total		748	8369	0	0	9117		0	0	0	0	0	99	9288	0	0	9387		137	0	0	0	137		18504	137	18641

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound Exit to Metro Road					Northbound South Van Dorn Street					Eastbound Exit from Metro Road					North & South	East & West	Total						
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF									
One Hour Volumes																														
6:00 AM	- 7:00 AM	75	687	0	0	762	0.774	0	0	0	0	0	0	0	0	16	886	0	0	902	0.78	25	0	0	0	25	0.781	1664	25	1689
6:15 AM	- 7:15 AM	81	769	0	0	850	0.864	0	0	0	0	0	0	0	0	22	1036	0	0	1058	0.797	23	0	0	0	23	0.821	1908	23	1931
6:30 AM	- 7:30 AM	89	862	0	0	951	0.911	0	0	0	0	0	0	0	0	24	1230	0	0	1254	0.796	23	0	0	0	23	0.821	2205	23	2228
6:45 AM	- 7:45 AM	101	987	0	0	1088	0.771	0	0	0	0	0	0	0	0	26	1421	0	0	1447	0.837	22	0	0	0	22	0.917	2535	22	2557
7:00 AM	- 8:00 AM	125	1078	0	0	1203	0.833	0	0	0	0	0	0	0	0	23	1579	0	0	1602	0.902	26	0	0	0	26	0.813	2805	26	2831
7:15 AM	- 8:15 AM	140	1145	0	0	1285	0.89	0	0	0	0	0	0	0	0	20	1676	0	0	1696	0.955	27	0	0	0	27	0.844	2981	27	3008
7:30 AM	- 8:30 AM	148	1194	0	0	1342	0.929	0	0	0	0	0	0	0	0	22	1719	0	0	1741	0.98	30	0	0	0	30	0.833	3083	30	3113
7:45 AM	- 8:45 AM	139	1197	0	0	1336	0.925	0	0	0	0	0	0	0	0	21	1708	0	0	1729	0.974	30	0	0	0	30	0.833	3065	30	3095
8:00 AM	- 9:00 AM	121	1214	0	0	1335	0.927	0	0	0	0	0	0	0	0	21	1694	0	0	1715	0.977	28	0	0	0	28	0.778	3050	28	3078
4:00 PM	- 5:00 PM	153	1854	0	0	2007	0.969	0	0	0	0	0	0	0	0	15	1742	0	0	1757	0.976	21	0	0	0	21	0.525	3764	21	3785
4:15 PM	- 5:15 PM	163	1882	0	0	2045	0.95	0	0	0	0	0	0	0	0	11	1768	0	0	1779	0.984	20	0	0	0	20	0.5	3824	20	3844
4:30 PM	- 5:30 PM	161	1936	0	0	2097	0.974	0	0	0	0	0	0	0	0	9	1776	0	0	1785	0.987	15	0	0	0	15	0.75	3882	15	3897
4:45 PM	- 5:45 PM	154	1938	0	0	2092	0.972	0	0	0	0	0	0	0	0	6	1759	0	0	1765	0.976	16	0	0	0	16	0.8	3857	16	3873
5:00 PM	- 6:00 PM	146	1953	0	0	2099	0.975	0	0	0	0	0	0	0	0	8	1737	0	0	1745	0.965	16	0	0	0	16	0.8	3844	16	3860
5:15 PM	- 6:15 PM	135	1884	0	0	2019	0.96	0	0	0	0	0	0	0	0	11	1773	0	0	1784	0.908	19	0	0	0	19	0.679	3803	19	3822
5:30 PM	- 6:30 PM	130	1778	0	0	1908	0.914	0	0	0	0	0	0	0	0	11	1736	0	0	1747	0.89	22	0	0	0	22	0.688	3655	22	3677
5:45 PM	- 6:45 PM	139	1743	0	0	1882	0.901	0	0	0	0	0	0	0	0	18	1690	0	0	1708	0.87	23	0	0	0	23	0.719	3590	23	3613
6:00 PM	- 7:00 PM	128	1583	0	0	1711	0.878	0	0	0	0	0	0	0	0	16	1650	0	0	1666	0.848	21	0	0	0	21	0.656	3377	21	3398

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound Eisenhower Avenue					Northbound South Van Dorn Street					Eastbound Farrington Avenue					North & South	East & West	Total
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF			
15 Minute Volumes																								
6:00 AM	- 6:15 AM	6	43	11	0	60	30	1	15	0	46	23	128	12	0	163	14	0	4	0	18	223	64	287
6:15 AM	- 6:30 AM	16	107	20	0	143	37	3	19	0	59	26	168	19	0	213	7	1	0	0	8	356	67	423
6:30 AM	- 6:45 AM	4	132	28	0	164	40	10	17	0	67	24	175	22	0	221	9	1	3	0	13	385	80	465
6:45 AM	- 7:00 AM	13	166	24	0	203	63	3	19	0	85	27	226	25	0	278	9	0	5	0	14	481	99	580
7:00 AM	- 7:15 AM	20	145	37	0	202	67	5	28	0	100	26	262	29	0	317	14	0	5	0	19	519	119	638
7:15 AM	- 7:30 AM	9	144	27	0	180	62	10	29	0	101	25	321	29	0	375	7	0	14	0	21	555	122	677
7:30 AM	- 7:45 AM	15	234	31	0	280	78	3	31	0	112	28	348	24	0	400	32	1	16	0	49	680	161	841
7:45 AM	- 8:00 AM	7	206	43	0	256	110	7	34	0	151	30	294	22	0	346	27	3	14	0	44	602	195	797
8:00 AM	- 8:15 AM	10	221	62	0	293	125	6	37	0	168	32	266	19	0	317	19	0	7	0	26	610	194	804
8:15 AM	- 8:30 AM	11	195	43	0	249	115	8	41	0	164	51	269	17	0	337	23	4	12	0	39	586	203	789
8:30 AM	- 8:45 AM	23	194	42	0	259	87	7	39	0	133	50	328	20	0	398	20	5	18	0	43	657	176	833
8:45 AM	- 9:00 AM	5	204	62	0	271	69	7	32	0	108	49	276	15	0	340	26	1	11	0	38	611	146	757
4:00 PM	- 4:15 PM	3	272	15	0	290	101	5	49	0	155	34	291	3	0	328	13	2	7	0	22	618	177	795
4:15 PM	- 4:30 PM	2	321	66	0	389	108	6	52	0	166	40	278	5	0	323	15	3	11	0	29	712	195	907
4:30 PM	- 4:45 PM	8	366	81	0	455	112	4	51	0	167	39	273	2	0	314	27	4	5	0	36	769	203	972
4:45 PM	- 5:00 PM	7	369	87	0	463	132	0	48	0	180	39	274	9	0	322	12	3	4	0	19	785	199	984
5:00 PM	- 5:15 PM	4	360	62	0	426	128	0	47	0	175	47	307	8	0	362	16	3	5	0	24	788	199	987
5:15 PM	- 5:30 PM	3	378	87	0	468	137	0	43	0	180	38	264	6	0	308	10	0	5	0	15	776	195	971
5:30 PM	- 5:45 PM	3	339	69	0	411	124	2	48	0	174	37	262	16	0	315	13	4	2	0	19	726	193	919
5:45 PM	- 6:00 PM	5	343	77	0	425	141	1	52	0	194	49	258	5	0	312	5	2	4	0	11	737	205	942
6:00 PM	- 6:15 PM	2	366	77	0	445	135	3	59	0	197	37	258	5	0	300	15	1	7	0	23	745	220	965
6:15 PM	- 6:30 PM	2	315	62	0	379	137	1	50	0	188	41	263	2	0	306	11	5	3	0	19	685	207	892
6:30 PM	- 6:45 PM	5	316	38	0	359	120	1	57	0	178	40	233	2	0	275	3	2	7	0	12	634	190	824
6:45 PM	- 7:00 PM	0	314	58	0	372	101	2	46	0	149	47	242	2	0	291	4	0	3	0	7	663	156	819
Total		183	6050	1209	0	7442	2359	95	943	0	3397	879	6264	318	0	7461	351	45	172	0	568	14903	3965	18868

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound South Van Dorn Street					Westbound Eisenhower Avenue					Northbound South Van Dorn Street					Eastbound Farrington Avenue					North & South	East & West	Total				
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF							
One Hour Volumes																												
6:00 AM	- 7:00 AM	39	448	83	0	570	0.702	170	17	70	0	257	0.756	100	697	78	0	875	0.787	39	2	12	0	53	0.736	1445	310	1755
6:15 AM	- 7:15 AM	53	550	109	0	712	0.877	207	21	83	0	311	0.778	103	831	95	0	1029	0.812	39	2	13	0	54	0.711	1741	365	2106
6:30 AM	- 7:30 AM	46	587	116	0	749	0.922	232	28	93	0	353	0.874	102	984	105	0	1191	0.794	39	1	27	0	67	0.798	1940	420	2360
6:45 AM	- 7:45 AM	57	689	119	0	865	0.772	270	21	107	0	398	0.888	106	1157	107	0	1370	0.856	62	1	40	0	103	0.526	2235	501	2736
7:00 AM	- 8:00 AM	51	729	138	0	918	0.82	317	25	122	0	464	0.768	109	1225	104	0	1438	0.899	80	4	49	0	133	0.679	2356	597	2953
7:15 AM	- 8:15 AM	41	805	163	0	1009	0.861	375	26	131	0	532	0.792	115	1229	94	0	1438	0.899	85	4	51	0	140	0.714	2447	672	3119
7:30 AM	- 8:30 AM	43	856	179	0	1078	0.92	428	24	143	0	595	0.885	141	1177	82	0	1400	0.875	101	8	49	0	158	0.806	2478	753	3231
7:45 AM	- 8:45 AM	51	816	190	0	1057	0.902	437	28	151	0	616	0.917	163	1157	78	0	1398	0.878	89	12	51	0	152	0.864	2455	768	3223
8:00 AM	- 9:00 AM	49	814	209	0	1072	0.915	396	28	149	0	573	0.853	182	1139	71	0	1392	0.874	88	10	48	0	146	0.849	2464	719	3183
4:00 PM	- 5:00 PM	20	1328	249	0	1597	0.862	453	15	200	0	668	0.928	152	1116	19	0	1287	0.981	67	12	27	0	106	0.736	2884	774	3658
4:15 PM	- 5:15 PM	21	1416	296	0	1733	0.936	480	10	198	0	688	0.956	165	1132	24	0	1321	0.912	70	13	25	0	108	0.75	3054	796	3850
4:30 PM	- 5:30 PM	22	1473	317	0	1812	0.968	509	4	189	0	702	0.975	163	1118	25	0	1306	0.902	65	10	19	0	94	0.653	3118	796	3914
4:45 PM	- 5:45 PM	17	1446	305	0	1768	0.944	521	2	186	0	709	0.985	161	1107	39	0	1307	0.903	51	10	16	0	77	0.802	3075	786	3861
5:00 PM	- 6:00 PM	15	1420	295	0	1730	0.924	530	3	190	0	723	0.932	171	1091	35	0	1297	0.896	44	9	16	0	69	0.719	3027	792	3819
5:15 PM	- 6:15 PM	13	1426	310	0	1749	0.934	537	6	202	0	745	0.945	161	1042	32	0	1235	0.98	43	7	18	0	68	0.739	2984	813	3797
5:30 PM	- 6:30 PM	12	1363	285	0	1660	0.933	537	7	209	0	753	0.956	164	1041	28	0	1233	0.979	44	12	16	0	72	0.783	2893	825	3718
5:45 PM	- 6:45 PM	14	1340	254	0	1608	0.903	533	6	218	0	757	0.961	167	1012	14	0	1193	0.956	34	10	21	0	65	0.707	2801	822	3623
6:00 PM	- 7:00 PM	9	1311	235	0	1555	0.874	493	7	212	0	712	0.904	165	996	11	0	1172	0.958	33	8	20	0	61	0.663	2727	773	3500

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound Edsall Road					Westbound South Pickett Street					Northbound Cameron Station Boulevard					Eastbound South Pickett Street					North & East South & West		Total				
		Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn	Total	PHF	Right	Thru	Left	U-Turn		Total	PHF	South	West
15 Minute Volumes																												
6:00 AM - 6:15 AM		2	1	5	0	8		8	24	0	0	32		1	3	7	0	11		4	26	4	0	34		19	66	85
6:15 AM - 6:30 AM		3	2	12	0	17		11	22	1	0	34		1	3	10	0	14		5	27	1	0	33		31	67	98
6:30 AM - 6:45 AM		6	6	15	0	27		5	39	2	0	46		4	5	11	0	20		6	32	4	0	42		47	88	135
6:45 AM - 7:00 AM		8	6	19	0	33		13	43	7	0	63		5	12	15	0	32		10	57	5	0	72		65	135	200
7:00 AM - 7:15 AM		3	12	19	0	34		13	39	5	0	57		5	15	27	0	47		17	58	12	0	87		81	144	225
7:15 AM - 7:30 AM		8	13	26	0	47		17	37	5	0	59		4	11	20	0	35		13	54	2	0	69		82	128	210
7:30 AM - 7:45 AM		9	50	25	0	84		10	46	7	0	63		6	23	25	0	54		25	77	5	0	107		138	170	308
7:45 AM - 8:00 AM		10	67	32	0	109		17	53	8	0	78		8	47	33	0	88		31	83	12	0	126		197	204	401
8:00 AM - 8:15 AM		14	25	28	0	67		26	45	5	0	76		11	44	39	0	94		17	88	8	0	113		161	189	350
8:15 AM - 8:30 AM		13	13	28	0	54		25	62	7	0	94		2	22	25	0	49		18	86	9	0	113		103	207	310
8:30 AM - 8:45 AM		11	15	28	0	54		26	60	2	0	88		5	15	21	0	41		22	99	8	0	129		95	217	312
8:45 AM - 9:00 AM		15	10	46	0	71		25	59	3	0	87		4	14	26	0	44		19	71	7	0	97		115	184	299
4:00 PM - 4:15 PM		19	13	45	0	77		53	67	6	0	126		5	10	19	0	34		19	65	21	0	105		111	231	342
4:15 PM - 4:30 PM		29	10	33	0	72		45	73	7	0	125		3	18	14	0	35		23	95	10	0	128		107	253	360
4:30 PM - 4:45 PM		15	11	34	0	60		55	89	6	0	150		5	16	20	0	41		32	80	17	0	129		101	279	380
4:45 PM - 5:00 PM		19	25	48	0	92		39	63	8	0	110		9	20	36	0	65		24	78	17	0	119		157	229	386
5:00 PM - 5:15 PM		18	20	41	0	79		51	91	6	0	148		9	17	26	0	52		30	93	20	0	143		131	291	422
5:15 PM - 5:30 PM		21	18	55	0	94		54	87	3	0	144		8	23	22	0	53		27	92	16	0	135		147	279	426
5:30 PM - 5:45 PM		21	22	44	0	87		59	88	6	0	153		7	15	17	0	39		28	88	14	0	130		126	283	409
5:45 PM - 6:00 PM		11	13	38	0	62		44	89	4	0	137		4	21	16	0	41		14	72	16	0	102		103	239	342
6:00 PM - 6:15 PM		20	18	37	0	75		49	105	5	0	159		9	11	26	0	46		41	91	15	0	147		121	306	427
6:15 PM - 6:30 PM		10	15	43	0	68		47	95	10	0	152		9	18	25	0	52		29	70	15	0	114		120	266	386
6:30 PM - 6:45 PM		11	10	48	0	69		42	82	5	0	129		1	16	14	0	31		18	81	12	0	111		100	240	340
6:45 PM - 7:00 PM		14	17	53	0	84		43	68	10	0	121		7	20	20	0	47		20	86	13	0	119		131	240	371
Total		310	412	802	0	1524		777	1526	128	0	2431		132	419	514	0	1065		492	1749	263	0	2504		2589	4935	7524

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound Edsall Road					Westbound South Pickett Street					Northbound Cameron Station Boulevard					Eastbound South Pickett Street					North & South	East & West	Total				
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF							
One Hour Volumes																												
6:00 AM	- 7:00 AM	19	15	51	0	85	0.644	37	128	10	0	175	0.694	11	23	43	0	77	0.602	25	142	14	0	181	0.628	162	356	518
6:15 AM	- 7:15 AM	20	26	65	0	111	0.816	42	143	15	0	200	0.794	15	35	63	0	113	0.601	38	174	22	0	234	0.672	224	434	658
6:30 AM	- 7:30 AM	25	37	79	0	141	0.75	48	158	19	0	225	0.893	18	43	73	0	134	0.713	46	201	23	0	270	0.776	275	495	770
6:45 AM	- 7:45 AM	28	81	89	0	198	0.589	53	165	24	0	242	0.96	20	61	87	0	168	0.778	65	246	24	0	335	0.783	366	577	943
7:00 AM	- 8:00 AM	30	142	102	0	274	0.628	57	175	25	0	257	0.824	23	96	105	0	224	0.636	86	272	31	0	389	0.772	498	646	1144
7:15 AM	- 8:15 AM	41	155	111	0	307	0.704	70	181	25	0	276	0.885	29	125	117	0	271	0.721	86	302	27	0	415	0.823	578	691	1269
7:30 AM	- 8:30 AM	46	155	113	0	314	0.72	78	206	27	0	311	0.827	27	136	122	0	285	0.758	91	334	34	0	459	0.911	599	770	1369
7:45 AM	- 8:45 AM	48	120	116	0	284	0.651	94	220	22	0	336	0.894	26	128	118	0	272	0.723	88	356	37	0	481	0.932	556	817	1373
8:00 AM	- 9:00 AM	53	63	130	0	246	0.866	102	226	17	0	345	0.918	22	95	111	0	228	0.606	76	344	32	0	452	0.876	474	797	1271
4:00 PM	- 5:00 PM	82	59	160	0	301	0.818	192	292	27	0	511	0.852	22	64	89	0	175	0.673	98	318	65	0	481	0.932	476	992	1468
4:15 PM	- 5:15 PM	81	66	156	0	303	0.823	190	316	27	0	533	0.888	26	71	96	0	193	0.742	109	346	64	0	519	0.907	496	1052	1548
4:30 PM	- 5:30 PM	73	74	178	0	325	0.864	199	330	23	0	552	0.92	31	76	104	0	211	0.812	113	343	70	0	526	0.92	536	1078	1614
4:45 PM	- 5:45 PM	79	85	188	0	352	0.936	203	329	23	0	555	0.907	33	75	101	0	209	0.804	109	351	67	0	527	0.921	561	1082	1643
5:00 PM	- 6:00 PM	71	73	178	0	322	0.856	208	355	19	0	582	0.951	28	76	81	0	185	0.873	99	345	66	0	510	0.892	507	1092	1599
5:15 PM	- 6:15 PM	73	71	174	0	318	0.846	206	369	18	0	593	0.932	28	70	81	0	179	0.844	110	343	61	0	514	0.874	497	1107	1604
5:30 PM	- 6:30 PM	62	68	162	0	292	0.839	199	377	25	0	601	0.945	29	65	84	0	178	0.856	112	321	60	0	493	0.838	470	1094	1564
5:45 PM	- 6:45 PM	52	56	166	0	274	0.913	182	371	24	0	577	0.907	23	66	81	0	170	0.817	102	314	58	0	474	0.806	444	1051	1495
6:00 PM	- 7:00 PM	55	60	181	0	296	0.881	181	350	30	0	561	0.882	26	65	85	0	176	0.846	108	328	55	0	491	0.835	472	1052	1524

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound Metro Road					Westbound Metro Kiss-N-Ride Lot					Northbound Metro Road					Eastbound Summer Grove Road					North & South	East & West	Total																	
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF																				
15 Minute Volumes																																									
6:00 AM	- 6:15 AM	0	7	7	0	14					1	1	6	0	8							2	7	0	0	9						2	0	0	0	2			23	10	33
6:15 AM	- 6:30 AM	0	9	9	0	18					2	0	9	0	11							3	4	0	0	7						3	0	0	0	3			25	14	39
6:30 AM	- 6:45 AM	0	15	6	0	21					0	0	10	0	10							1	5	1	0	7						2	0	0	0	2			28	12	40
6:45 AM	- 7:00 AM	0	9	11	0	20					1	0	10	0	11							3	3	1	0	7						6	0	1	0	7			27	18	45
7:00 AM	- 7:15 AM	0	16	8	0	24					2	0	9	0	11							1	6	0	0	7						7	0	0	0	7			31	18	49
7:15 AM	- 7:30 AM	1	15	12	0	28					3	0	10	0	13							6	8	0	0	14						6	0	0	0	6			42	19	61
7:30 AM	- 7:45 AM	0	24	8	0	32					0	0	13	0	13							0	8	0	0	8						10	2	0	0	12			40	25	65
7:45 AM	- 8:00 AM	0	29	8	0	37					1	0	7	0	8							6	8	1	0	15						6	0	0	0	6			52	14	66
8:00 AM	- 8:15 AM	2	17	10	0	29					2	0	16	0	18							4	7	0	0	11						7	3	0	0	10			40	28	68
8:15 AM	- 8:30 AM	1	21	15	0	37					2	0	12	0	14							2	7	4	0	13						4	1	0	0	5			50	19	69
8:30 AM	- 8:45 AM	0	21	7	0	28					3	0	10	0	13							2	4	1	0	7						5	1	1	0	7			35	20	55
8:45 AM	- 9:00 AM	1	19	5	0	25					2	0	5	0	7							3	5	1	0	9						9	0	0	0	9			34	16	50
4:00 PM	- 4:15 PM	2	25	9	0	36					1	0	6	0	7							1	4	2	0	7						4	0	0	0	4			43	11	54
4:15 PM	- 4:30 PM	0	32	8	0	40					3	0	9	0	12							3	7	3	0	13						3	0	0	0	3			53	15	68
4:30 PM	- 4:45 PM	3	40	8	0	51					1	1	7	0	9							1	4	4	0	9						6	0	0	0	6			60	15	75
4:45 PM	- 5:00 PM	4	30	6	0	40					2	0	7	0	9							4	5	2	0	11						2	0	0	0	2			51	11	62
5:00 PM	- 5:15 PM	3	34	7	0	44					3	0	5	0	8							3	5	1	0	9						3	0	0	0	3			53	11	64
5:15 PM	- 5:30 PM	0	35	5	0	40					1	0	11	0	12							3	8	1	0	12						2	0	0	0	2			52	14	66
5:30 PM	- 5:45 PM	3	23	9	0	35					3	2	10	0	15							3	5	2	0	10						3	0	0	0	3			45	18	63
5:45 PM	- 6:00 PM	3	36	13	0	52					0	6	10	0	16							4	7	0	0	11						4	0	1	0	5			63	21	84
6:00 PM	- 6:15 PM	2	23	8	0	33					3	3	9	0	15							4	2	5	0	11						3	0	0	0	3			44	18	62
6:15 PM	- 6:30 PM	3	26	9	0	38					3	0	13	0	16							4	4	4	0	12						7	0	0	0	7			50	23	73
6:30 PM	- 6:45 PM	7	25	9	0	41					1	0	9	0	10							3	2	3	0	8						3	0	0	0	3			49	13	62
6:45 PM	- 7:00 PM	1	39	6	0	46					4	1	16	0	21							5	4	1	0	10						5	0	0	0	5			56	26	82
Total		36	570	203	0	809					44	14	229	0	287							71	129	37	0	237						112	7	3	0	122			1046	409	1455

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound Metro Road					Westbound Metro Kiss-N-Ride Lot					Northbound Metro Road					Eastbound Summer Grove Road					North & East		Total				
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	South	West					
One Hour Volumes																												
6:00 AM	- 7:00 AM	0	40	33	0	73	0.869	4	1	35	0	40	0.909	9	19	2	0	30	0.833	13	0	1	0	14	0.5	103	54	157
6:15 AM	- 7:15 AM	0	49	34	0	83	0.865	5	0	38	0	43	0.977	8	18	2	0	28	1	18	0	1	0	19	0.679	111	62	173
6:30 AM	- 7:30 AM	1	55	37	0	93	0.83	6	0	39	0	45	0.865	11	22	2	0	35	0.625	21	0	1	0	22	0.786	128	67	195
6:45 AM	- 7:45 AM	1	64	39	0	104	0.813	6	0	42	0	48	0.923	10	25	1	0	36	0.643	29	2	1	0	32	0.667	140	80	220
7:00 AM	- 8:00 AM	1	84	36	0	121	0.818	6	0	39	0	45	0.865	13	30	1	0	44	0.733	29	2	0	0	31	0.646	165	76	241
7:15 AM	- 8:15 AM	3	85	38	0	126	0.851	6	0	46	0	52	0.722	16	31	1	0	48	0.8	29	5	0	0	34	0.708	174	86	260
7:30 AM	- 8:30 AM	3	91	41	0	135	0.912	5	0	48	0	53	0.736	12	30	5	0	47	0.783	27	6	0	0	33	0.688	182	86	268
7:45 AM	- 8:45 AM	3	88	40	0	131	0.885	8	0	45	0	53	0.736	14	26	6	0	46	0.767	22	5	1	0	28	0.7	177	81	258
8:00 AM	- 9:00 AM	4	78	37	0	119	0.804	9	0	43	0	52	0.722	11	23	6	0	40	0.769	25	5	1	0	31	0.775	159	83	242
4:00 PM	- 5:00 PM	9	127	31	0	167	0.819	7	1	29	0	37	0.771	9	20	11	0	40	0.769	15	0	0	0	15	0.625	207	52	259
4:15 PM	- 5:15 PM	10	136	29	0	175	0.858	9	1	28	0	38	0.792	11	21	10	0	42	0.808	14	0	0	0	14	0.583	217	52	269
4:30 PM	- 5:30 PM	10	139	26	0	175	0.858	7	1	30	0	38	0.792	11	22	8	0	41	0.854	13	0	0	0	13	0.542	216	51	267
4:45 PM	- 5:45 PM	10	122	27	0	159	0.903	9	2	33	0	44	0.733	13	23	6	0	42	0.875	10	0	0	0	10	0.833	201	54	255
5:00 PM	- 6:00 PM	9	128	34	0	171	0.822	7	8	36	0	51	0.797	13	25	4	0	42	0.875	12	0	1	0	13	0.65	213	64	277
5:15 PM	- 6:15 PM	8	117	35	0	160	0.769	7	11	40	0	58	0.906	14	22	8	0	44	0.917	12	0	1	0	13	0.65	204	71	275
5:30 PM	- 6:30 PM	11	108	39	0	158	0.76	9	11	42	0	62	0.969	15	18	11	0	44	0.917	17	0	1	0	18	0.643	202	80	282
5:45 PM	- 6:45 PM	15	110	39	0	164	0.788	7	9	41	0	57	0.891	15	15	12	0	42	0.875	17	0	1	0	18	0.643	206	75	281
6:00 PM	- 7:00 PM	13	113	32	0	158	0.859	11	4	47	0	62	0.738	16	12	13	0	41	0.854	18	0	0	0	18	0.643	199	80	279

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound Metro Road					Westbound Eisenhower Avenue					Northbound 0					Eastbound Eisenhower Avenue					North & South	East & West	Total
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF			
15 Minute Volumes																								
6:00 AM	- 6:15 AM	11	0	5	0	16	8	57	0	0	65	0	0	0	0	0	0	34	1	0	35	16	100	116
6:15 AM	- 6:30 AM	9	0	11	0	20	5	52	0	0	57	0	0	0	0	0	0	41	3	0	44	20	101	121
6:30 AM	- 6:45 AM	10	0	16	0	26	7	72	0	0	79	0	0	0	0	0	0	61	0	0	61	26	140	166
6:45 AM	- 7:00 AM	17	0	8	0	25	2	74	0	0	76	0	0	0	0	0	0	45	4	0	49	25	125	150
7:00 AM	- 7:15 AM	14	0	18	0	32	4	105	0	0	109	0	0	0	0	0	0	49	2	0	51	32	160	192
7:15 AM	- 7:30 AM	11	0	16	0	27	5	109	0	0	114	0	0	0	0	0	0	60	8	0	68	27	182	209
7:30 AM	- 7:45 AM	28	0	24	0	52	4	154	0	0	158	0	0	0	0	0	0	58	2	0	60	52	218	270
7:45 AM	- 8:00 AM	16	0	27	0	43	6	164	0	0	170	0	0	0	0	0	0	73	7	0	80	43	250	293
8:00 AM	- 8:15 AM	18	0	20	0	38	9	147	0	0	156	0	0	0	0	0	0	79	1	0	80	38	236	274
8:15 AM	- 8:30 AM	15	0	21	0	36	6	124	0	0	130	0	0	0	0	0	0	93	5	0	98	36	228	264
8:30 AM	- 8:45 AM	15	0	22	0	37	3	115	0	0	118	0	0	0	0	0	0	106	3	0	109	37	227	264
8:45 AM	- 9:00 AM	13	0	19	0	32	4	115	0	0	119	0	0	0	0	0	0	100	2	0	102	32	221	253
4:00 PM	- 4:15 PM	8	0	29	0	37	4	171	0	0	175	0	0	0	0	0	0	90	3	0	93	37	268	305
4:15 PM	- 4:30 PM	14	0	30	0	44	9	164	0	0	173	0	0	0	0	0	0	99	5	0	104	44	277	321
4:30 PM	- 4:45 PM	15	0	37	0	52	6	151	0	0	157	0	0	0	0	0	0	104	3	0	107	52	264	316
4:45 PM	- 5:00 PM	8	0	26	0	34	6	175	0	0	181	0	0	0	0	0	0	115	4	0	119	34	300	334
5:00 PM	- 5:15 PM	18	0	27	0	45	6	195	0	0	201	0	0	0	0	0	0	103	5	0	108	45	309	354
5:15 PM	- 5:30 PM	24	0	21	0	45	7	159	0	0	166	0	0	0	0	0	0	95	1	0	96	45	262	307
5:30 PM	- 5:45 PM	11	0	25	0	36	8	152	0	0	160	0	0	0	0	0	0	95	3	0	98	36	258	294
5:45 PM	- 6:00 PM	37	0	19	0	56	6	162	0	0	168	0	0	0	0	0	0	107	2	0	109	56	277	333
6:00 PM	- 6:15 PM	15	0	21	0	36	8	189	0	0	197	0	0	0	0	0	0	95	4	0	99	36	296	332
6:15 PM	- 6:30 PM	24	0	21	0	45	8	164	0	0	172	0	0	0	0	0	0	91	5	0	96	45	268	313
6:30 PM	- 6:45 PM	11	0	22	0	33	2	131	0	0	133	0	0	0	0	0	0	86	5	0	91	33	224	257
6:45 PM	- 7:00 PM	30	0	32	0	62	6	132	0	0	138	0	0	0	0	0	0	80	5	0	85	62	223	285
Total		392	0	517	0	909	139	3233	0	0	3372	0	0	0	0	0	0	1959	83	0	2042	909	5414	6323

Wells + Associates, Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

Time Period		Southbound Metro Road					Westbound Eisenhower Avenue					Northbound 0					Eastbound Eisenhower Avenue					North & South	East & West	Total						
		Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF	Right	Thru	Left U-Turn	Total	PHF									
One Hour Volumes																														
6:00 AM	- 7:00 AM	47	0	40	0	87	0.837	22	255	0	0	277	0.877	0	0	0	0	0	0	0	0	0	181	8	0	189	0.775	87	466	553
6:15 AM	- 7:15 AM	50	0	53	0	103	0.805	18	303	0	0	321	0.736	0	0	0	0	0	0	0	0	0	196	9	0	205	0.84	103	526	629
6:30 AM	- 7:30 AM	52	0	58	0	110	0.859	18	360	0	0	378	0.829	0	0	0	0	0	0	0	0	0	215	14	0	229	0.842	110	607	717
6:45 AM	- 7:45 AM	70	0	66	0	136	0.654	15	442	0	0	457	0.723	0	0	0	0	0	0	0	0	0	212	16	0	228	0.838	136	685	821
7:00 AM	- 8:00 AM	69	0	85	0	154	0.74	19	532	0	0	551	0.81	0	0	0	0	0	0	0	0	0	240	19	0	259	0.809	154	810	964
7:15 AM	- 8:15 AM	73	0	87	0	160	0.769	24	574	0	0	598	0.879	0	0	0	0	0	0	0	0	0	270	18	0	288	0.9	160	886	1046
7:30 AM	- 8:30 AM	77	0	92	0	169	0.813	25	589	0	0	614	0.903	0	0	0	0	0	0	0	0	0	303	15	0	318	0.811	169	932	1101
7:45 AM	- 8:45 AM	64	0	90	0	154	0.895	24	550	0	0	574	0.844	0	0	0	0	0	0	0	0	0	351	16	0	367	0.842	154	941	1095
8:00 AM	- 9:00 AM	61	0	82	0	143	0.941	22	501	0	0	523	0.838	0	0	0	0	0	0	0	0	0	378	11	0	389	0.892	143	912	1055
4:00 PM	- 5:00 PM	45	0	122	0	167	0.803	25	661	0	0	686	0.948	0	0	0	0	0	0	0	0	0	408	15	0	423	0.889	167	1109	1276
4:15 PM	- 5:15 PM	55	0	120	0	175	0.841	27	685	0	0	712	0.886	0	0	0	0	0	0	0	0	0	421	17	0	438	0.92	175	1150	1325
4:30 PM	- 5:30 PM	65	0	111	0	176	0.846	25	680	0	0	705	0.877	0	0	0	0	0	0	0	0	0	417	13	0	430	0.903	176	1135	1311
4:45 PM	- 5:45 PM	61	0	99	0	160	0.889	27	681	0	0	708	0.881	0	0	0	0	0	0	0	0	0	408	13	0	421	0.884	160	1129	1289
5:00 PM	- 6:00 PM	90	0	92	0	182	0.813	27	668	0	0	695	0.864	0	0	0	0	0	0	0	0	0	400	11	0	411	0.943	182	1106	1288
5:15 PM	- 6:15 PM	87	0	86	0	173	0.772	29	662	0	0	691	0.877	0	0	0	0	0	0	0	0	0	392	10	0	402	0.922	173	1093	1266
5:30 PM	- 6:30 PM	87	0	86	0	173	0.772	30	667	0	0	697	0.885	0	0	0	0	0	0	0	0	0	388	14	0	402	0.922	173	1099	1272
5:45 PM	- 6:45 PM	87	0	83	0	170	0.759	24	646	0	0	670	0.85	0	0	0	0	0	0	0	0	0	379	16	0	395	0.906	170	1065	1235
6:00 PM	- 7:00 PM	80	0	96	0	176	0.71	24	616	0	0	640	0.812	0	0	0	0	0	0	0	0	0	352	19	0	371	0.937	176	1011	1187

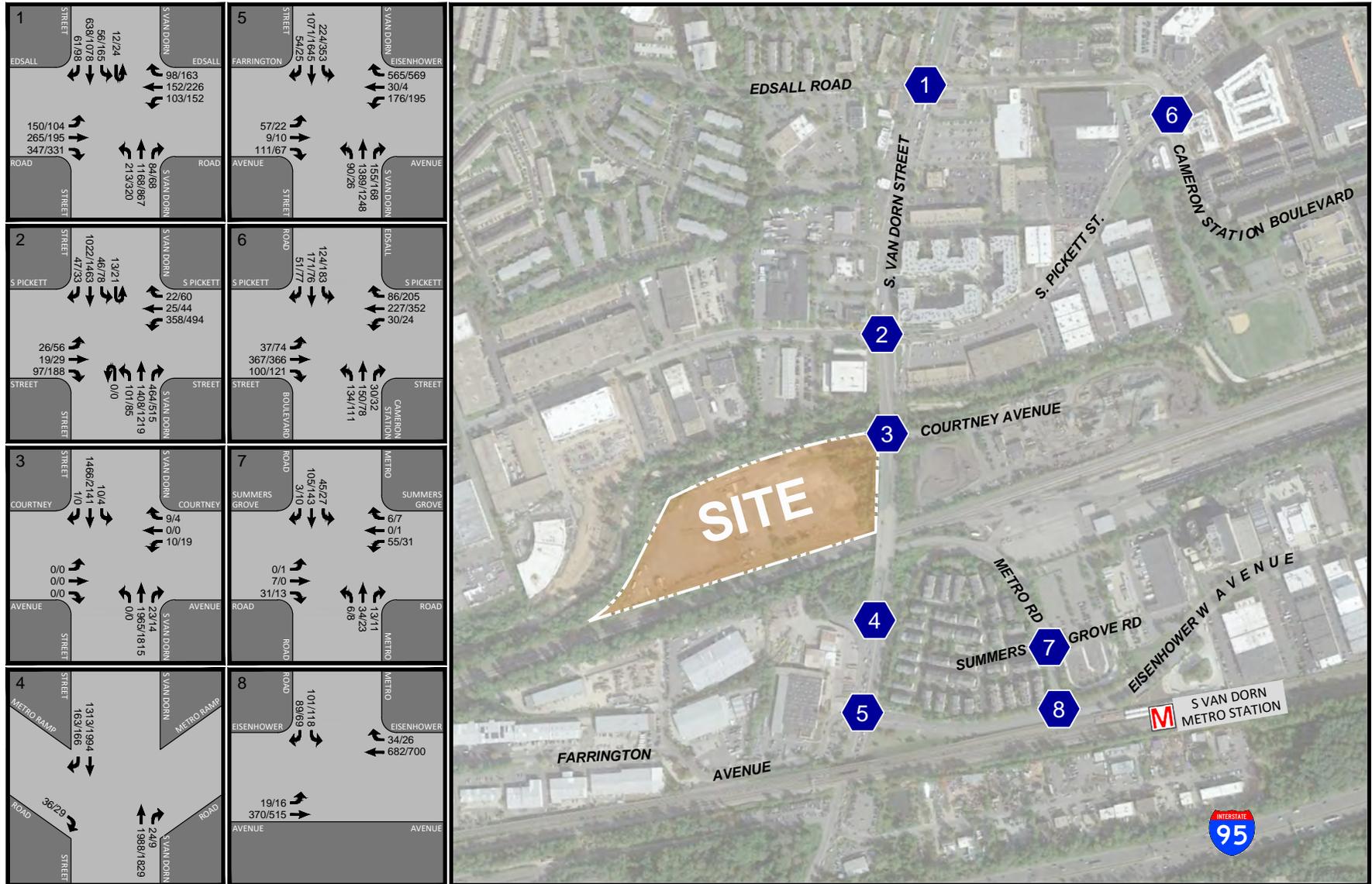


Figure B-1
Covid Adjusted Peak Hour Traffic Counts

AM PEAK HOUR
PM PEAK HOUR
000 / 000



NORTH
Vulcan Materials
City of Alexandria, VA



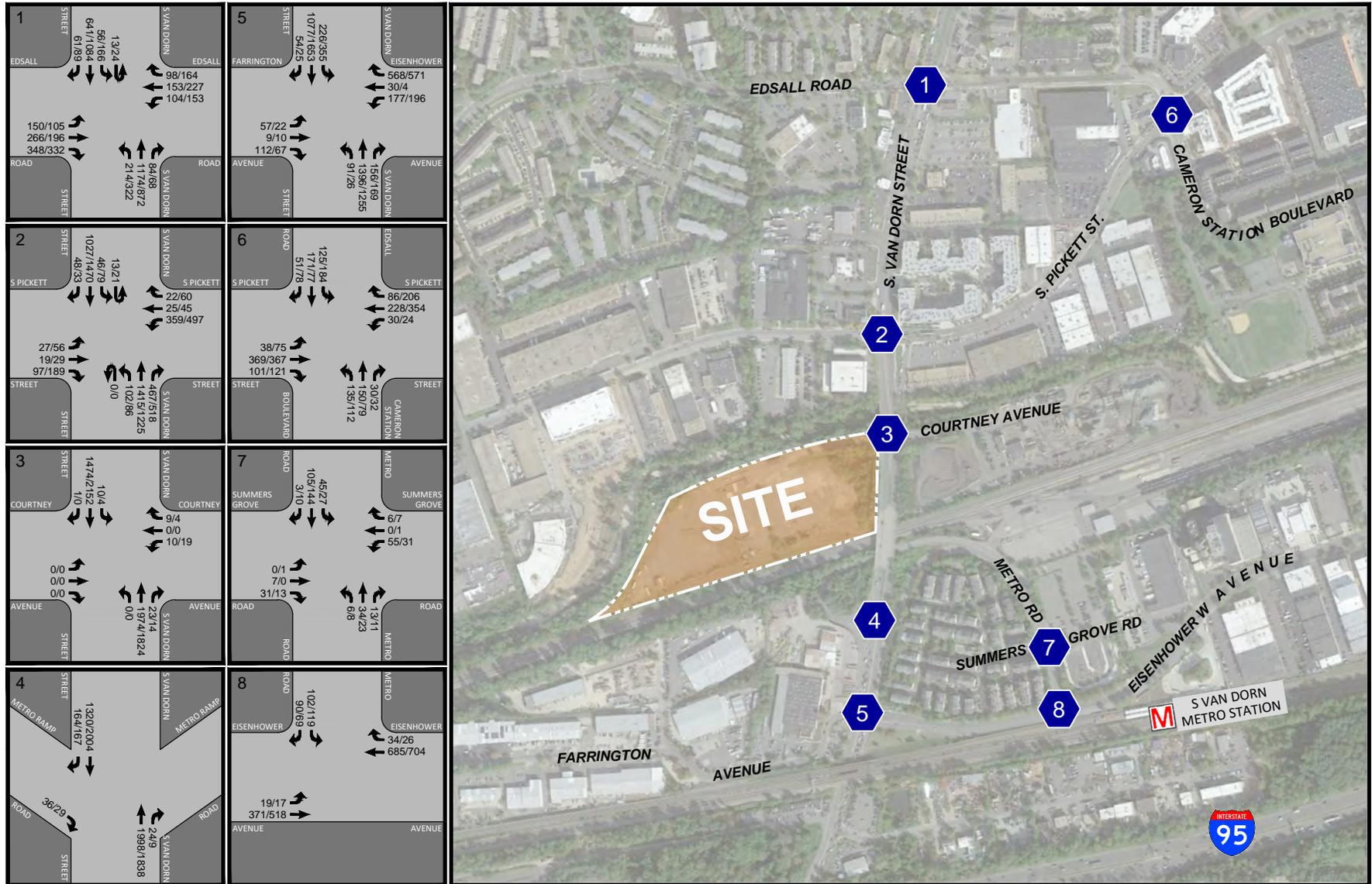


Figure B-2
Covid Adjusted and Growth (2019-2022) Peak Hour Traffic Counts

AM PEAK HOUR
000 / 000
PM PEAK HOUR



Vulcan Materials
City of Alexandria, VA



**APPENDIX C
EXISTING CONDITIONS
SYNCHRO WORKSHEETS**

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	266	348	104	153	98	214	1174	84	56	641	61
Future Volume (veh/h)	150	266	348	104	153	98	214	1174	84	56	641	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	313	409	122	180	115	243	1334	95	66	754	72
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	487	408	252	441	369	325	1642	117	102	1470	140
Arrive On Green	0.10	0.26	0.26	0.07	0.24	0.24	0.19	0.98	0.98	0.06	0.45	0.45
Sat Flow, veh/h	1781	1870	1565	1781	1870	1563	3456	3364	239	1781	3277	313
Grp Volume(v), veh/h	176	313	409	122	180	115	243	703	726	66	409	417
Grp Sat Flow(s),veh/h/ln	1781	1870	1565	1781	1870	1563	1728	1777	1826	1781	1777	1813
Q Serve(g_s), s	13.2	26.8	46.9	9.1	14.6	10.9	12.0	8.1	8.3	6.5	29.7	29.7
Cycle Q Clear(g_c), s	13.2	26.8	46.9	9.1	14.6	10.9	12.0	8.1	8.3	6.5	29.7	29.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.17
Lane Grp Cap(c), veh/h	381	487	408	252	441	369	325	867	891	102	797	813
V/C Ratio(X)	0.46	0.64	1.00	0.48	0.41	0.31	0.75	0.81	0.81	0.65	0.51	0.51
Avail Cap(c_a), veh/h	542	487	408	259	441	369	545	867	891	167	797	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	0.73	0.73	0.73	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	59.1	66.6	47.8	58.1	56.7	71.1	1.2	1.2	83.1	35.5	35.6
Incr Delay (d2), s/veh	0.9	3.3	45.3	1.2	0.7	0.6	3.6	6.0	6.0	9.4	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	13.3	24.0	4.3	7.2	4.5	5.1	2.2	2.3	3.3	13.5	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	62.4	111.9	49.0	58.9	57.3	74.6	7.2	7.2	92.5	37.9	37.9
LnGrp LOS	D	E	F	D	E	E	E	A	A	F	D	D
Approach Vol, veh/h		898			417			1672			892	
Approach Delay, s/veh		81.7			55.5			17.0			41.9	
Approach LOS		F			E			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.5	84.2	20.2	54.0	14.4	91.4	24.7	49.6				
Change Period (Y+Rc), s	6.6	5.5	*9.1	*9.1	6.1	5.5	*9.1	*9.1				
Max Green Setting (Gmax), s	26.4	66.5	*12	*45	14.9	78.5	*32	*25				
Max Q Clear Time (g_c+I1), s	14.0	31.7	11.1	48.9	8.5	10.3	15.2	16.6				
Green Ext Time (p_c), s	1.0	5.8	0.0	0.0	0.1	15.0	0.4	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			41.9									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: S. Van Dorn Street & S. Pickett Street

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	19	97	359	25	22	102	1415	467	46	1027	48
Future Volume (veh/h)	27	19	97	359	25	22	102	1415	467	46	1027	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	22	114	390	27	24	112	1555	513	53	1194	56
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	182	225	470	181	161	401	2268	986	233	2174	102
Arrive On Green	0.03	0.10	0.10	0.14	0.20	0.20	0.09	1.00	1.00	0.07	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	3456	905	804	1781	3554	1545	1781	3452	162
Grp Volume(v), veh/h	32	22	114	390	0	51	112	1555	513	53	614	636
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1728	0	1709	1781	1777	1545	1781	1777	1837
Q Serve(g_s), s	2.9	1.9	12.0	19.8	0.0	4.4	4.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	2.9	1.9	12.0	19.8	0.0	4.4	4.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	230	182	225	470	0	342	401	2268	986	233	1119	1157
V/C Ratio(X)	0.14	0.12	0.51	0.83	0.00	0.15	0.28	0.69	0.52	0.23	0.55	0.55
Avail Cap(c_a), veh/h	329	291	317	557	0	389	528	2268	986	276	1119	1157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.67	0.67	0.67	0.80	0.80	0.80
Uniform Delay (d), s/veh	69.3	74.2	71.3	75.7	0.0	59.4	9.7	0.0	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	1.8	8.9	0.0	0.3	0.3	1.2	1.3	0.4	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.0	5.0	9.5	0.0	2.0	1.5	0.4	0.4	0.7	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.6	74.5	73.1	84.6	0.0	59.7	9.9	1.2	1.3	10.3	1.6	1.5
LnGrp LOS	E	E	E	F	A	E	A	A	A	B	A	A
Approach Vol, veh/h		168			441			2180			1303	
Approach Delay, s/veh		72.6			81.7			1.6			1.9	
Approach LOS		E			F			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	117.8	28.5	21.5	10.6	119.4	10.0	40.0				
Change Period (Y+Rc), s	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0				
Max Green Setting (Gmax), s	19.0	83.5	27.0	26.0	9.0	93.5	14.0	39.0				
Max Q Clear Time (g_c+I1), s	6.0	2.0	21.8	14.0	3.8	2.0	4.9	6.4				
Green Ext Time (p_c), s	0.2	6.3	0.7	0.3	0.0	27.5	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									

HCM Signalized Intersection Capacity Analysis 3: S. Van Dorn Street & Courtney Avenue

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	0	9	0	1974	23	10	1474	1
Future Volume (vph)	0	0	0	10	0	9	0	1974	23	10	1474	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0		3.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.94			1.00		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1698			3531		1770	3539	
Flt Permitted					0.84			1.00		0.06	1.00	
Satd. Flow (perm)					1456			3531		118	3539	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.91	0.91	0.91	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	12	0	11	0	2169	25	12	1734	1
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1	0	0	2194	0	12	1735	0
Confl. Peds. (#/hr)									9	9		
Confl. Bikes (#/hr)									1			1
Turn Type			Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2			6		
Actuated Green, G (s)					4.8			154.6		163.2	163.2	
Effective Green, g (s)					6.8			156.6		165.2	165.2	
Actuated g/C Ratio					0.04			0.87		0.92	0.92	
Clearance Time (s)					6.0			6.0		5.0	6.0	
Vehicle Extension (s)					5.5			0.2		2.0	0.2	
Lane Grp Cap (vph)					55			3071		159	3248	
v/s Ratio Prot								c0.62		0.00	c0.49	
v/s Ratio Perm					c0.00					0.07		
v/c Ratio					0.02			0.71		0.08	0.53	
Uniform Delay, d1					83.4			4.0		5.6	1.2	
Progression Factor					1.00			0.41		1.11	1.91	
Incremental Delay, d2					0.3			0.9		0.1	0.5	
Delay (s)					83.7			2.5		6.3	2.8	
Level of Service					F			A		A	A	
Approach Delay (s)		0.0			83.7			2.5			2.8	
Approach LOS		A			F			A			A	
Intersection Summary												
HCM 2000 Control Delay			3.1		HCM 2000 Level of Service						A	
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			180.0		Sum of lost time (s)					11.0		
Intersection Capacity Utilization			67.0%		ICU Level of Service					C		
Analysis Period (min)			15									
c Critical Lane Group												

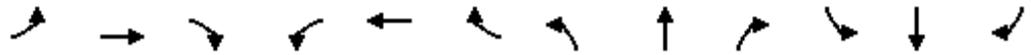
HCM Signalized Intersection Capacity Analysis
 5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Existing AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	57	9	112	177	30	568	91	1396	156	226	1077	54	
Future Volume (vph)	57	9	112	177	30	568	91	1396	156	226	1077	54	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.0	5.0	5.9	5.9	5.9	4.9	3.7	3.7	4.8	3.7	3.7	
Lane Util. Factor		1.00	1.00	0.95	0.95	0.88	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.98	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1786	1583	1681	1709	2714	1770	3539	1556	1770	3539	1551	
Flt Permitted		0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		1786	1583	1681	1709	2714	1770	3539	1556	1770	3539	1551	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.85	0.85	0.85	
Adj. Flow (vph)	67	11	132	208	35	668	101	1551	173	266	1267	64	
RTOR Reduction (vph)	0	0	121	0	0	101	0	0	53	0	0	29	
Lane Group Flow (vph)	0	78	11	121	122	567	101	1551	120	266	1267	35	
Confl. Peds. (#/hr)									3	3			
Confl. Bikes (#/hr)						4						1	
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	3		4	4	4 5	1 7	6 7		5	2		
Permitted Phases			3						6 7			2	
Actuated Green, G (s)		13.1	13.1	18.0	18.0	52.1	17.8	94.1	94.1	26.2	96.7	96.7	
Effective Green, g (s)		15.1	15.1	20.0	20.0	54.1	21.8	96.1	96.1	28.2	98.7	98.7	
Actuated g/C Ratio		0.08	0.08	0.11	0.11	0.30	0.12	0.53	0.53	0.16	0.55	0.55	
Clearance Time (s)		7.0	7.0	7.9	7.9					6.8	5.7	5.7	
Vehicle Extension (s)		4.0	4.0	4.0	4.0					4.0	2.0	2.0	
Lane Grp Cap (vph)		149	132	186	189	815	214	1889	830	277	1940	850	
v/s Ratio Prot		c0.04		0.07	0.07	c0.21	0.06	c0.44		c0.15	0.36		
v/s Ratio Perm			0.01						0.08			0.02	
v/c Ratio		0.52	0.08	0.65	0.65	0.70	0.47	0.82	0.14	0.96	0.65	0.04	
Uniform Delay, d1		79.0	76.1	76.7	76.6	55.7	73.7	34.8	21.2	75.3	28.6	18.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.06	0.97	1.00	
Incremental Delay, d2		4.3	0.4	8.7	8.2	2.8	2.2	4.2	0.4	40.1	1.5	0.1	
Delay (s)		83.3	76.4	85.4	84.8	58.5	76.0	39.0	21.6	120.2	29.3	18.9	
Level of Service		F	E	F	F	E	E	D	C	F	C	B	
Approach Delay (s)		79.0			65.6			39.4			44.0		
Approach LOS		E			E			D			D		
Intersection Summary													
HCM 2000 Control Delay			48.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.84										
Actuated Cycle Length (s)			180.0									Sum of lost time (s)	24.4
Intersection Capacity Utilization			75.9%									ICU Level of Service	D
Analysis Period (min)			15										
c	Critical Lane Group												

HCM 6th Signalized Intersection Summary
 6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	38	369	101	30	228	86	135	150	30	125	171	51
Future Volume (veh/h)	38	369	101	30	228	86	135	150	30	125	171	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.96
Parking Bus, Adj	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	434	0	35	268	0	159	176	35	147	201	60
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	782		403	744		518	357	71	539	362	108
Arrive On Green	0.26	0.26	0.00	0.08	0.40	0.00	0.13	0.27	0.27	0.12	0.26	0.26
Sat Flow, veh/h	196	3029	0	1781	1870	0	1781	1323	263	1781	1369	409
Grp Volume(v), veh/h	269	210	0	35	268	0	159	0	211	147	0	261
Grp Sat Flow(s),veh/h/ln	1735	1415	0	1781	1870	0	1781	0	1586	1781	0	1778
Q Serve(g_s), s	2.6	6.7	0.0	0.7	5.3	0.0	3.1	0.0	5.9	2.9	0.0	6.6
Cycle Q Clear(g_c), s	6.8	6.7	0.0	0.7	5.3	0.0	3.1	0.0	5.9	2.9	0.0	6.6
Prop In Lane	0.17		0.00	1.00		0.00	1.00		0.17	1.00		0.23
Lane Grp Cap(c), veh/h	539	374		403	744		518	0	428	539	0	470
V/C Ratio(X)	0.50	0.56		0.09	0.36		0.31	0.00	0.49	0.27	0.00	0.56
Avail Cap(c_a), veh/h	1278	997		742	1924		765	0	816	931	0	1050
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	16.7	0.0	11.1	11.1	0.0	11.1	0.0	16.1	11.1	0.0	16.6
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.0	0.1	0.0	0.1	0.0	0.7	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.0	0.0	0.2	1.9	0.0	1.1	0.0	2.0	1.0	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	17.2	0.0	11.1	11.2	0.0	11.2	0.0	16.8	11.2	0.0	17.4
LnGrp LOS	B	B		B	B		B	A	B	B	A	B
Approach Vol, veh/h		479			303			370				408
Approach Delay, s/veh		17.0			11.2			14.4				15.2
Approach LOS		B			B			B				B
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	18.7	7.0	17.4	9.7	18.4		24.4				
Change Period (Y+Rc), s	5.0	6.5	5.0	5.5	5.0	6.5		5.5				
Max Green Setting (Gmax), s	16.0	25.0	12.0	35.0	12.0	29.0		52.0				
Max Q Clear Time (g_c+I1), s	4.9	7.9	2.7	8.8	5.1	8.6		7.3				
Green Ext Time (p_c), s	0.1	0.9	0.0	2.1	0.1	1.3		1.1				

Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

7: Metro Road & Summers Grove Road

Existing AM

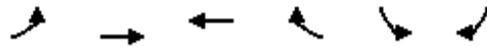
													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	7	31	55	0	6	6	34	13	45	105	3	
Future Volume (vph)	0	7	31	55	0	6	6	34	13	45	105	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95		
Frbp, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.96	1.00	1.00		
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00	1.00	0.98	1.00		
Frt		0.89		1.00	0.85		1.00	1.00	0.85	1.00	1.00		
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1627		1767	1545		1760	1863	1521	1737	3499		
Flt Permitted		1.00		0.20	1.00		0.67	1.00	1.00	0.73	1.00		
Satd. Flow (perm)		1627		380	1545		1243	1863	1521	1336	3499		
Peak-hour factor, PHF	0.85	0.85	0.85	0.87	0.87	0.87	0.85	0.85	0.85	0.85	0.85	0.85	
Adj. Flow (vph)	0	8	36	63	0	7	7	40	15	53	124	4	
RTOR Reduction (vph)	0	33	0	0	5	0	0	0	8	0	2	0	
Lane Group Flow (vph)	0	11	0	63	2	0	7	40	7	53	126	0	
Confl. Peds. (#/hr)	3		3	3		3	4		12	12		4	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	3	
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		3			2			1				1	
Permitted Phases	3			2			1		1	1			
Actuated Green, G (s)		3.8		17.6	17.6		29.5	29.5	29.5	29.5	29.5		
Effective Green, g (s)		5.8		19.6	19.6		31.5	31.5	31.5	31.5	31.5		
Actuated g/C Ratio		0.08		0.28	0.28		0.46	0.46	0.46	0.46	0.46		
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)		2.0		4.0	4.0		0.2	0.2	0.2	0.2	0.2		
Lane Grp Cap (vph)		136		108	439		568	851	695	610	1599		
v/s Ratio Prot		c0.01			0.00			0.02			0.04		
v/s Ratio Perm				c0.17			0.01		0.00	c0.04			
v/c Ratio		0.08		0.58	0.00		0.01	0.05	0.01	0.09	0.08		
Uniform Delay, d1		29.1		21.1	17.7		10.2	10.4	10.2	10.6	10.5		
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.1		9.2	0.0		0.0	0.1	0.0	0.3	0.1		
Delay (s)		29.2		30.3	17.7		10.2	10.5	10.2	10.9	10.6		
Level of Service		C		C	B		B	B	B	B	B		
Approach Delay (s)		29.2			29.0			10.4			10.7		
Approach LOS		C			C			B			B		
Intersection Summary													
HCM 2000 Control Delay			16.5									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.26										
Actuated Cycle Length (s)			68.9									Sum of lost time (s)	12.0
Intersection Capacity Utilization			39.2%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Eisenhower Avenue & Metro Road

Existing AM

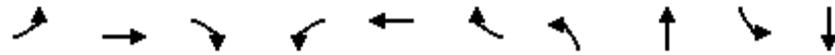


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷	↷	↶	↶
Traffic Volume (vph)	19	371	685	34	102	90
Future Volume (vph)	19	371	685	34	102	90
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	2.0	4.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.93	
Flt Protected	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (prot)	1768	3539	3539	1557	3273	
Flt Permitted	0.28	1.00	1.00	1.00	0.97	
Satd. Flow (perm)	521	3539	3539	1557	3273	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	22	436	806	40	120	106
RTOR Reduction (vph)	0	0	0	0	86	0
Lane Group Flow (vph)	22	436	806	40	140	0
Confl. Peds. (#/hr)	15			15		
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	0	0	0	0	9
Turn Type	pm+pt	NA	NA	Free	Prot	
Protected Phases	3	1 3	1		2	
Permitted Phases	1 3			Free		
Actuated Green, G (s)	50.5	55.5	40.1	80.0	13.0	
Effective Green, g (s)	54.5	54.5	42.1	80.0	15.0	
Actuated g/C Ratio	0.68	0.68	0.53	1.00	0.19	
Clearance Time (s)	5.0		5.5		6.0	
Vehicle Extension (s)	4.0		0.2		4.0	
Lane Grp Cap (vph)	548	2410	1862	1557	613	
v/s Ratio Prot	0.01	c0.12	c0.23		c0.04	
v/s Ratio Perm	0.02			0.03		
v/c Ratio	0.04	0.18	0.43	0.03	0.23	
Uniform Delay, d1	4.5	4.6	11.6	0.0	27.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.0	0.7	0.0	0.3	
Delay (s)	4.6	4.7	12.4	0.0	27.8	
Level of Service	A	A	B	A	C	
Approach Delay (s)		4.7	11.8		27.8	
Approach LOS		A	B		C	
Intersection Summary						
HCM 2000 Control Delay			12.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.34			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			36.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Queues

1: S. Van Dorn Street & Edsall Road

Existing AM



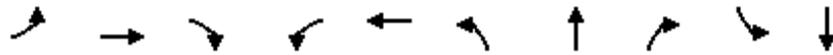
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	176	313	409	122	180	115	243	1429	66	826
v/c Ratio	0.50	0.75	0.69	0.51	0.52	0.26	0.61	0.82	0.46	0.51
Control Delay	47.6	76.2	20.8	49.5	71.4	1.4	96.4	22.4	89.3	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	76.2	20.8	49.5	71.4	1.4	96.4	22.4	89.3	37.1
Queue Length 50th (ft)	151	346	103	101	192	0	125	767	76	364
Queue Length 95th (ft)	198	417	187	141	263	0	175	512	124	438
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	440	485	637	243	346	447	541	1748	166	1605
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.65	0.64	0.50	0.52	0.26	0.45	0.82	0.40	0.51

Intersection Summary

Queues

2: S. Van Dorn Street & S. Pickett Street

Existing AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	22	114	390	51	112	1555	513	53	1250
v/c Ratio	0.19	0.16	0.43	0.77	0.18	0.37	0.65	0.47	0.25	0.54
Control Delay	55.5	77.3	20.0	84.6	37.9	5.3	11.0	5.4	13.9	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.0	0.0
Total Delay	55.5	77.3	20.0	84.6	37.9	5.3	11.6	6.1	13.9	19.4
Queue Length 50th (ft)	30	25	21	230	29	22	302	119	13	329
Queue Length 95th (ft)	51	50	64	291	66	m40	811	247	m45	524
Internal Link Dist (ft)		736			1223		435			1192
Turn Bay Length (ft)	215		320	265		240		115	450	
Base Capacity (vph)	229	289	345	553	417	386	2403	1085	234	2297
Starvation Cap Reductn	0	0	0	0	0	0	431	282	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.08	0.33	0.71	0.12	0.29	0.79	0.64	0.23	0.54

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: S. Van Dorn Street & Courtney Avenue

Existing AM



Lane Group	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	23	2194	12	1735
v/c Ratio	0.18	0.68	0.06	0.52
Control Delay	4.5	2.5	1.3	2.8
Queue Delay	0.0	0.1	0.0	0.1
Total Delay	4.5	2.6	1.3	2.9
Queue Length 50th (ft)	0	8	1	290
Queue Length 95th (ft)	1	331	m2	325
Internal Link Dist (ft)	292	873		435
Turn Bay Length (ft)			130	
Base Capacity (vph)	188	3207	229	3326
Starvation Cap Reductn	0	171	0	469
Spillback Cap Reductn	0	158	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.72	0.05	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Existing AM



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	78	132	121	122	668	101	1551	173	266	1267	64
v/c Ratio	0.52	0.49	0.65	0.64	0.74	0.47	0.81	0.19	0.96	0.65	0.07
Control Delay	91.4	13.4	93.4	93.0	50.5	49.1	38.1	7.8	119.2	29.8	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.4	13.4	93.4	93.0	50.5	49.1	38.1	7.8	119.2	29.8	0.8
Queue Length 50th (ft)	89	0	147	148	330	76	774	33	332	445	0
Queue Length 95th (ft)	143	40	#225	#221	382	119	873	76	#473	805	6
Internal Link Dist (ft)	223			917			632			355	
Turn Bay Length (ft)		30	120		120	140		120	385		
Base Capacity (vph)	168	283	187	190	901	346	1913	893	277	1940	920
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.47	0.65	0.64	0.74	0.29	0.81	0.19	0.96	0.65	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Existing AM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	598	35	369	159	211	147	261
v/c Ratio	0.53	0.09	0.44	0.35	0.53	0.29	0.60
Control Delay	21.6	13.3	15.8	15.8	30.5	15.1	31.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	13.3	15.8	15.8	30.5	15.1	31.6
Queue Length 50th (ft)	114	8	101	46	85	42	107
Queue Length 95th (ft)	194	27	200	89	165	84	193
Internal Link Dist (ft)	556		368		314		1161
Turn Bay Length (ft)				60			
Base Capacity (vph)	1481	493	1325	522	596	638	768
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.07	0.28	0.30	0.35	0.23	0.34
Intersection Summary							

Queues

7: Metro Road & Summers Grove Road

Existing AM



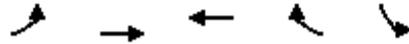
Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	63	7	7	40	15	53	128
v/c Ratio	0.16	0.44	0.01	0.01	0.04	0.02	0.08	0.07
Control Delay	14.5	28.2	0.0	17.2	16.7	0.1	17.1	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	28.2	0.0	17.2	16.7	0.1	17.1	15.8
Queue Length 50th (ft)	3	20	0	2	12	0	17	20
Queue Length 95th (ft)	28	56	0	10	30	0	39	36
Internal Link Dist (ft)	115		187		260			296
Turn Bay Length (ft)							70	
Base Capacity (vph)	448	171	1205	629	943	829	675	1772
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.37	0.01	0.01	0.04	0.02	0.08	0.07

Intersection Summary

Queues

8: Eisenhower Avenue & Metro Road

Existing AM



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	22	436	806	40	226
v/c Ratio	0.04	0.17	0.43	0.03	0.32
Control Delay	3.3	3.8	12.9	0.0	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	3.8	12.9	0.0	16.3
Queue Length 50th (ft)	2	30	122	0	26
Queue Length 95th (ft)	7	40	164	0	51
Internal Link Dist (ft)		917	750		260
Turn Bay Length (ft)	230			400	
Base Capacity (vph)	574	2496	1860	1557	1333
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.17	0.43	0.03	0.17

Intersection Summary

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	196	332	153	227	164	322	872	68	166	1084	98
Future Volume (veh/h)	105	196	332	153	227	164	322	872	68	166	1084	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.94	0.99		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	220	373	163	241	174	343	928	72	171	1118	101
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.94	0.94	0.94	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	348	278	252	385	309	433	1560	121	217	1518	137
Arrive On Green	0.06	0.19	0.19	0.08	0.21	0.21	0.25	0.93	0.93	0.12	0.46	0.46
Sat Flow, veh/h	1781	1870	1493	1781	1870	1502	3456	3339	259	1781	3293	297
Grp Volume(v), veh/h	118	220	373	163	241	174	343	494	506	171	603	616
Grp Sat Flow(s),veh/h/ln	1781	1870	1493	1781	1870	1502	1728	1777	1821	1781	1777	1814
Q Serve(g_s), s	8.0	16.3	27.9	11.1	17.6	15.6	13.9	6.1	6.1	14.0	41.5	41.6
Cycle Q Clear(g_c), s	8.0	16.3	27.9	11.1	17.6	15.6	13.9	6.1	6.1	14.0	41.5	41.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.16
Lane Grp Cap(c), veh/h	238	348	278	252	385	309	433	830	851	217	819	836
V/C Ratio(X)	0.50	0.63	1.34	0.65	0.63	0.56	0.79	0.59	0.59	0.79	0.74	0.74
Avail Cap(c_a), veh/h	238	348	278	252	385	309	539	830	851	284	819	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	56.3	61.0	45.7	54.3	53.5	54.4	2.8	2.8	64.0	33.0	33.0
Incr Delay (d2), s/veh	1.6	4.3	176.6	5.2	3.4	2.7	5.6	2.4	2.3	12.2	5.8	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	8.2	24.3	5.4	8.8	6.2	5.7	1.7	1.8	7.1	19.0	19.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	60.6	237.7	50.9	57.7	56.2	60.0	5.2	5.1	76.2	38.8	38.8
LnGrp LOS	D	E	F	D	E	E	E	A	A	E	D	D
Approach Vol, veh/h		711			578			1343			1390	
Approach Delay, s/veh		151.4			55.3			19.1			43.4	
Approach LOS		F			E			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.4	72.6	19.0	35.0	22.4	73.6	16.0	38.0				
Change Period (Y+Rc), s	6.6	5.5	*9.1	*9.1	6.1	5.5	*9.1	*9.1				
Max Green Setting (Gmax), s	21.4	62.5	*9.9	*26	21.9	62.5	*6.9	*29				
Max Q Clear Time (g_c+I1), s	15.9	43.6	13.1	29.9	16.0	8.1	10.0	19.6				
Green Ext Time (p_c), s	0.9	8.0	0.0	0.0	0.3	7.9	0.0	2.0				

Intersection Summary

HCM 6th Ctrl Delay	56.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: S. Van Dorn Street & S. Pickett Street

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	29	189	497	45	60	86	1225	518	79	1470	33
Future Volume (veh/h)	56	29	189	497	45	60	86	1225	518	79	1470	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	1.00		0.99	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	34	222	552	50	67	91	1289	545	80	1485	33
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	320	343	599	209	280	299	1770	768	257	1756	39
Arrive On Green	0.05	0.17	0.17	0.17	0.29	0.29	0.10	1.00	1.00	0.09	0.99	0.99
Sat Flow, veh/h	1781	1870	1531	3456	719	964	1781	3554	1541	1781	3552	79
Grp Volume(v), veh/h	66	34	222	552	0	117	91	1289	545	80	742	776
Grp Sat Flow(s),veh/h/ln	1781	1870	1531	1728	0	1683	1781	1777	1541	1781	1777	1854
Q Serve(g_s), s	4.5	2.3	19.8	23.6	0.0	8.0	3.7	0.8	0.7	3.2	4.2	4.3
Cycle Q Clear(g_c), s	4.5	2.3	19.8	23.6	0.0	8.0	3.7	0.8	0.7	3.2	4.2	4.3
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	359	320	343	599	0	488	299	1770	768	257	879	917
V/C Ratio(X)	0.18	0.11	0.65	0.92	0.00	0.24	0.30	0.73	0.71	0.31	0.84	0.85
Avail Cap(c_a), veh/h	512	349	367	599	0	488	386	1770	768	327	879	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.77	0.77	0.77	0.59	0.59	0.59
Uniform Delay (d), s/veh	46.7	52.5	53.1	61.0	0.0	40.6	15.5	0.1	0.1	15.7	0.4	0.4
Incr Delay (d2), s/veh	0.2	0.1	3.6	19.8	0.0	0.4	0.4	2.1	4.3	0.4	6.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	1.1	8.1	12.1	0.0	3.4	1.5	0.6	1.0	1.3	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	52.6	56.7	80.8	0.0	41.0	16.0	2.2	4.4	16.1	6.5	6.3
LnGrp LOS	D	D	E	F	A	D	B	A	A	B	A	A
Approach Vol, veh/h		322			669			1925			1598	
Approach Delay, s/veh		54.2			73.9			3.5			6.9	
Approach LOS		D			E			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	78.7	30.0	29.7	11.1	79.2	12.1	47.5				
Change Period (Y+Rc), s	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0				
Max Green Setting (Gmax), s	13.0	62.5	24.0	26.0	11.0	64.5	19.0	31.0				
Max Q Clear Time (g_c+I1), s	5.7	6.3	25.6	21.8	5.2	2.8	6.5	10.0				
Green Ext Time (p_c), s	0.1	8.8	0.0	0.4	0.1	18.9	0.1	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				18.7								
HCM 6th LOS				B								

HCM Signalized Intersection Capacity Analysis 3: S. Van Dorn Street & Courtney Avenue

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	19	0	4	0	1824	14	4	2152	0
Future Volume (vph)	0	0	0	19	0	4	0	1824	14	4	2152	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0		3.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.97			1.00		1.00	1.00	
Flt Protected					0.96			1.00		0.95	1.00	
Satd. Flow (prot)					1745			3534		1770	3539	
Flt Permitted					0.77			1.00		0.09	1.00	
Satd. Flow (perm)					1390			3534		169	3539	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.96	0.96	0.96	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	22	0	5	0	1900	15	4	2314	0
RTOR Reduction (vph)	0	0	0	0	26	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1	0	0	1915	0	4	2314	0
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												3
Turn Type			Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1		6
Permitted Phases	4		4	4			2			6		
Actuated Green, G (s)					4.8			126.4		133.2	133.2	
Effective Green, g (s)					6.8			128.4		135.2	135.2	
Actuated g/C Ratio					0.05			0.86		0.90	0.90	
Clearance Time (s)					6.0			6.0		5.0	6.0	
Vehicle Extension (s)					5.5			0.2		2.0	0.2	
Lane Grp Cap (vph)					63			3025		192	3189	
v/s Ratio Prot								0.54		0.00	c0.65	
v/s Ratio Perm					c0.00					0.02		
v/c Ratio					0.02			0.63		0.02	0.73	
Uniform Delay, d1					68.4			3.4		3.1	2.1	
Progression Factor					1.00			2.96		1.11	1.17	
Incremental Delay, d2					0.3			0.7		0.0	0.9	
Delay (s)					68.7			10.7		3.5	3.4	
Level of Service					E			B		A	A	
Approach Delay (s)		0.0			68.7			10.7			3.4	
Approach LOS		A			E			B			A	
Intersection Summary												
HCM 2000 Control Delay			7.1									A
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			150.0							11.0		
Intersection Capacity Utilization			71.2%									C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	10	67	196	4	571	26	1255	169	355	1653	25
Future Volume (vph)	22	10	67	196	4	571	26	1255	169	355	1653	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.9	5.9	5.9	4.9	3.7	3.7	4.8	3.7	3.7
Lane Util. Factor		1.00	1.00	0.95	0.95	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1801	1583	1681	1688	2714	1770	3539	1557	1770	3539	1583
Flt Permitted		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1801	1583	1681	1688	2714	1770	3539	1557	1770	3539	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.93	0.93	0.93	0.90	0.90	0.90	0.92	0.92	0.92
Adj. Flow (vph)	26	12	79	211	4	614	29	1394	188	386	1797	27
RTOR Reduction (vph)	0	0	73	0	0	190	0	0	103	0	0	10
Lane Group Flow (vph)	0	38	6	108	107	424	29	1394	85	386	1797	17
Confl. Peds. (#/hr)									3	3		
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	0
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4	4 5	1	6		5	2	
Permitted Phases			3						6			2
Actuated Green, G (s)		9.5	9.5	16.9	16.9	55.7	6.0	65.3	65.3	30.9	90.1	90.1
Effective Green, g (s)		11.5	11.5	18.9	18.9	57.7	8.0	67.3	67.3	32.9	92.1	92.1
Actuated g/C Ratio		0.08	0.08	0.13	0.13	0.38	0.05	0.45	0.45	0.22	0.61	0.61
Clearance Time (s)		7.0	7.0	7.9	7.9		6.9	5.7	5.7	6.8	5.7	5.7
Vehicle Extension (s)		4.0	4.0	4.0	4.0		4.0	2.0	2.0	4.0	2.0	2.0
Lane Grp Cap (vph)		138	121	211	212	1043	94	1587	698	388	2172	971
v/s Ratio Prot		c0.02		c0.06	0.06	0.16	0.02	c0.39		c0.22	0.51	
v/s Ratio Perm			0.00						0.05			0.01
v/c Ratio		0.28	0.05	0.51	0.50	0.41	0.31	0.88	0.12	0.99	0.83	0.02
Uniform Delay, d1		65.3	64.2	61.2	61.2	33.7	68.3	37.6	24.1	58.5	22.7	11.3
Progression Factor		1.00	1.00	0.80	0.80	1.54	1.00	1.00	1.00	1.12	0.69	1.00
Incremental Delay, d2		1.5	0.2	2.5	2.3	0.3	2.5	7.2	0.4	38.3	2.9	0.0
Delay (s)		66.8	64.4	51.5	51.3	52.1	70.9	44.9	24.5	104.0	18.5	11.3
Level of Service		E	E	D	D	D	E	D	C	F	B	B
Approach Delay (s)		65.2			51.9			43.0			33.4	
Approach LOS		E			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			40.6									D
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			150.0								19.5	
Intersection Capacity Utilization			78.8%									D
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	367	121	24	354	206	112	79	32	184	77	78
Future Volume (veh/h)	75	367	121	24	354	206	112	79	32	184	77	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.97		0.96	0.98		0.97
Parking Bus, Adj	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	412	0	25	373	0	129	91	37	214	90	91
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.87	0.87	0.87	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	710		367	727		589	307	125	646	265	268
Arrive On Green	0.28	0.28	0.00	0.06	0.39	0.00	0.11	0.28	0.28	0.14	0.32	0.32
Sat Flow, veh/h	382	2649	0	1781	1870	0	1781	1093	444	1781	836	846
Grp Volume(v), veh/h	270	226	0	25	373	0	129	0	128	214	0	181
Grp Sat Flow(s),veh/h/ln	1541	1415	0	1781	1870	0	1781	0	1537	1781	0	1682
Q Serve(g_s), s	6.0	8.1	0.0	0.5	9.0	0.0	2.8	0.0	3.9	4.5	0.0	4.9
Cycle Q Clear(g_c), s	8.7	8.1	0.0	0.5	9.0	0.0	2.8	0.0	3.9	4.5	0.0	4.9
Prop In Lane	0.31		0.00	1.00		0.00	1.00		0.29	1.00		0.50
Lane Grp Cap(c), veh/h	505	390		367	727		589	0	432	646	0	533
V/C Ratio(X)	0.54	0.58		0.07	0.51		0.22	0.00	0.30	0.33	0.00	0.34
Avail Cap(c_a), veh/h	1022	886		678	1709		818	0	702	933	0	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	18.4	0.0	12.7	13.8	0.0	11.9	0.0	16.7	10.6	0.0	15.5
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.0	0.2	0.0	0.1	0.0	0.3	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.5	0.0	0.2	3.5	0.0	1.0	0.0	1.3	1.6	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	18.9	0.0	12.7	14.0	0.0	12.0	0.0	16.9	10.8	0.0	15.7
LnGrp LOS	B	B		B	B		B	A	B	B	A	B
Approach Vol, veh/h		496			398			257			395	
Approach Delay, s/veh		18.9			13.9			14.5			13.0	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	21.1	6.7	19.8	9.4	23.2		26.5				
Change Period (Y+Rc), s	5.0	6.5	5.0	5.5	5.0	6.5		5.5				
Max Green Setting (Gmax), s	16.0	25.0	12.0	35.0	12.0	29.0		52.0				
Max Q Clear Time (g_c+I1), s	6.5	5.9	2.5	10.7	4.8	6.9		11.0				
Green Ext Time (p_c), s	0.2	0.5	0.0	2.2	0.1	0.9		1.7				

Intersection Summary

HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

7: Metro Road & Summers Grove Road

Existing PM

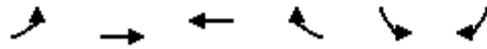
													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	1	0	13	31	1	7	8	23	11	27	144	10	
Future Volume (vph)	1	0	13	31	1	7	8	23	11	27	144	10	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95		
Frbp, ped/bikes		0.96		1.00	0.97		1.00	1.00	0.97	1.00	1.00		
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00		
Frt		0.87		1.00	0.87		1.00	1.00	0.85	1.00	0.99		
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1558		1765	1569		1753	1863	1542	1759	3476		
Flt Permitted		0.98		0.33	1.00		0.64	1.00	1.00	0.74	1.00		
Satd. Flow (perm)		1525		614	1569		1177	1863	1542	1371	3476		
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85	
Adj. Flow (vph)	1	0	15	36	1	8	9	26	12	32	169	12	
RTOR Reduction (vph)	0	15	0	0	6	0	0	0	6	0	4	0	
Lane Group Flow (vph)	0	1	0	36	3	0	9	26	7	32	177	0	
Confl. Peds. (#/hr)	10		5	5		10	8		4	4		8	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	3	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		3			2			1			1		
Permitted Phases	3			2			1		1	1			
Actuated Green, G (s)		1.1		10.1	10.1		33.2	33.2	33.2	33.2	33.2		
Effective Green, g (s)		3.1		12.1	12.1		35.2	35.2	35.2	35.2	35.2		
Actuated g/C Ratio		0.05		0.19	0.19		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)		2.0		4.0	4.0		0.2	0.2	0.2	0.2	0.2		
Lane Grp Cap (vph)		75		119	304		663	1050	869	773	1960		
v/s Ratio Prot					0.00			0.01			c0.05		
v/s Ratio Perm		c0.00		c0.06			0.01		0.00	0.02			
v/c Ratio		0.01		0.30	0.01		0.01	0.02	0.01	0.04	0.09		
Uniform Delay, d1		28.2		21.5	20.3		6.0	6.0	6.0	6.1	6.2		
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.0		2.0	0.0		0.0	0.0	0.0	0.1	0.1		
Delay (s)		28.2		23.5	20.3		6.0	6.1	6.0	6.2	6.3		
Level of Service		C		C	C		A	A	A	A	A		
Approach Delay (s)		28.2			22.9			6.0			6.3		
Approach LOS		C			C			A			A		
Intersection Summary													
HCM 2000 Control Delay			9.7									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.14										
Actuated Cycle Length (s)			62.4									Sum of lost time (s)	12.0
Intersection Capacity Utilization			39.9%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Eisenhower Avenue & Metro Road

Existing PM

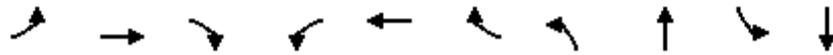


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↗↗	↖	↖↖↖	
Traffic Volume (vph)	17	518	704	26	119	69
Future Volume (vph)	17	518	704	26	119	69
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	2.0	4.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.95	
Flt Protected	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (prot)	1769	3539	3539	1560	3310	
Flt Permitted	0.25	1.00	1.00	1.00	0.97	
Satd. Flow (perm)	472	3539	3539	1560	3310	
Peak-hour factor, PHF	0.94	0.94	0.86	0.86	0.85	0.85
Adj. Flow (vph)	18	551	819	30	140	81
RTOR Reduction (vph)	0	0	0	0	65	0
Lane Group Flow (vph)	18	551	819	30	156	0
Confl. Peds. (#/hr)	8			8		
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	0	0	0	0	9
Turn Type	pm+pt	NA	NA	Free	Prot	
Protected Phases	3	1 3	1		2	
Permitted Phases	1 3			Free		
Actuated Green, G (s)	45.5	50.5	33.0	75.0	13.0	
Effective Green, g (s)	49.5	49.5	35.0	75.0	15.0	
Actuated g/C Ratio	0.66	0.66	0.47	1.00	0.20	
Clearance Time (s)	5.0		5.5		6.0	
Vehicle Extension (s)	4.0		0.2		4.0	
Lane Grp Cap (vph)	562	2335	1651	1560	662	
v/s Ratio Prot	0.01	c0.16	c0.23		c0.05	
v/s Ratio Perm	0.01			0.02		
v/c Ratio	0.03	0.24	0.50	0.02	0.24	
Uniform Delay, d1	4.9	5.1	13.9	0.0	25.2	
Progression Factor	0.33	0.27	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.0	1.1	0.0	0.3	
Delay (s)	1.7	1.4	14.9	0.0	25.4	
Level of Service	A	A	B	A	C	
Approach Delay (s)		1.4	14.4		25.4	
Approach LOS		A	B		C	
Intersection Summary						
HCM 2000 Control Delay			11.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.38			
Actuated Cycle Length (s)			75.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			37.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Queues

1: S. Van Dorn Street & Edsall Road

Existing PM



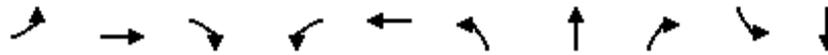
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	118	220	373	163	241	174	343	1000	171	1219
v/c Ratio	0.52	0.70	0.73	0.64	0.68	0.42	0.69	0.62	0.68	0.76
Control Delay	49.2	70.6	21.7	53.0	66.7	9.8	79.1	24.9	75.2	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	70.6	21.7	53.0	66.7	9.8	79.1	24.9	75.2	38.4
Queue Length 50th (ft)	86	202	63	122	218	0	181	154	160	535
Queue Length 95th (ft)	138	292	182	186	314	65	235	373	241	636
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	226	346	529	256	383	437	535	1624	282	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.64	0.71	0.64	0.63	0.40	0.64	0.62	0.61	0.76

Intersection Summary

Queues

2: S. Van Dorn Street & S. Pickett Street

Existing PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	66	34	222	552	117	91	1289	545	80	1518
v/c Ratio	0.28	0.20	0.70	0.93	0.34	0.41	0.63	0.57	0.31	0.77
Control Delay	42.8	63.0	49.0	83.6	35.9	29.0	15.6	10.0	10.7	18.9
Queue Delay	0.0	0.0	0.0	2.1	0.0	0.0	0.6	0.7	0.0	0.0
Total Delay	42.8	63.0	49.0	85.7	35.9	29.0	16.2	10.7	10.7	18.9
Queue Length 50th (ft)	50	32	142	277	66	19	363	118	19	239
Queue Length 95th (ft)	71	58	180	#386	114	87	498	228	m37	#935
Internal Link Dist (ft)		736			1223		435			1192
Turn Bay Length (ft)	215		320	265		240		115	450	
Base Capacity (vph)	344	347	336	595	414	246	2043	959	292	1964
Starvation Cap Reductn	0	0	0	0	0	0	355	161	0	0
Spillback Cap Reductn	0	0	0	12	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.10	0.66	0.95	0.28	0.37	0.76	0.68	0.27	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: S. Van Dorn Street & Courtney Avenue

Existing PM



Lane Group	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	1915	4	2314
v/c Ratio	0.18	0.60	0.01	0.70
Control Delay	3.7	9.6	1.2	3.5
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	3.7	9.7	1.2	3.6
Queue Length 50th (ft)	0	596	0	163
Queue Length 95th (ft)	1	725	m0	175
Internal Link Dist (ft)	292	873		435
Turn Bay Length (ft)			130	
Base Capacity (vph)	226	3213	283	3283
Starvation Cap Reductn	0	0	0	196
Spillback Cap Reductn	0	132	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.62	0.01	0.75

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Existing PM



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	38	79	108	107	614	29	1394	188	386	1797	27
v/c Ratio	0.28	0.28	0.51	0.50	0.51	0.23	0.88	0.23	1.00	0.80	0.03
Control Delay	69.4	2.4	57.3	57.0	27.9	69.3	45.3	3.9	102.9	18.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	2.4	57.3	57.0	27.9	69.3	45.3	3.9	102.9	18.4	0.0
Queue Length 50th (ft)	36	0	82	81	213	27	645	1	~417	703	0
Queue Length 95th (ft)	70	0	146	143	303	61	752	46	#620	734	m0
Internal Link Dist (ft)	223			917			632			355	
Turn Bay Length (ft)	30		120	120		140	120		385		
Base Capacity (vph)	216	345	211	212	1215	154	1587	801	387	2237	1051
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.23	0.51	0.50	0.51	0.19	0.88	0.23	1.00	0.80	0.03

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Existing PM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	632	25	590	129	128	214	181
v/c Ratio	0.62	0.07	0.70	0.28	0.39	0.36	0.42
Control Delay	21.5	12.5	20.9	16.6	28.8	16.7	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	12.5	20.9	16.6	28.8	16.7	23.0
Queue Length 50th (ft)	87	5	170	28	38	49	45
Queue Length 95th (ft)	245	23	418	87	114	138	129
Internal Link Dist (ft)	556		368		314		1161
Turn Bay Length (ft)				60			
Base Capacity (vph)	1272	499	1335	557	597	642	761
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.05	0.44	0.23	0.21	0.33	0.24
Intersection Summary							

Queues

7: Metro Road & Summers Grove Road

Existing PM

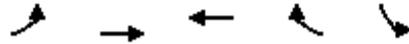


Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	16	36	9	9	26	13	32	181
v/c Ratio	0.04	0.16	0.02	0.01	0.02	0.01	0.03	0.08
Control Delay	0.2	16.2	8.4	12.2	11.7	0.0	11.6	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2	16.2	8.4	12.2	11.7	0.0	11.6	9.3
Queue Length 50th (ft)	0	11	0	1	4	0	5	13
Queue Length 95th (ft)	0	28	8	12	23	0	26	47
Internal Link Dist (ft)	115		187		260			296
Turn Bay Length (ft)							70	
Base Capacity (vph)	562	330	843	802	1272	1091	934	2375
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.11	0.01	0.01	0.02	0.01	0.03	0.08
Intersection Summary								

Queues

8: Eisenhower Avenue & Metro Road

Existing PM



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	18	551	819	30	221
v/c Ratio	0.03	0.22	0.50	0.02	0.30
Control Delay	1.2	1.2	15.7	0.0	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	1.2	15.7	0.0	17.3
Queue Length 50th (ft)	1	11	132	0	28
Queue Length 95th (ft)	m1	m12	190	0	52
Internal Link Dist (ft)		917	750		260
Turn Bay Length (ft)	230			400	
Base Capacity (vph)	575	2432	1652	1560	1070
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.23	0.50	0.02	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

**APPENDIX D
BACKGROUND CONDITIONS
SYNCHRO WORKSHEETS**

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	271	355	106	156	100	218	1204	86	57	656	62
Future Volume (veh/h)	153	271	355	106	156	100	218	1204	86	57	656	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	295	386	115	170	109	237	1309	93	62	713	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	446	373	237	443	370	311	1737	123	97	1568	147
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.18	1.00	1.00	0.05	0.48	0.48
Sat Flow, veh/h	1781	1870	1563	1781	1870	1563	3456	3365	238	1781	3282	308
Grp Volume(v), veh/h	166	295	386	115	170	109	237	690	712	62	386	394
Grp Sat Flow(s),veh/h/ln	1781	1870	1563	1781	1870	1563	1728	1777	1826	1781	1777	1814
Q Serve(g_s), s	12.8	25.7	42.9	8.6	13.7	10.3	11.7	0.0	0.0	6.1	26.1	26.1
Cycle Q Clear(g_c), s	12.8	25.7	42.9	8.6	13.7	10.3	11.7	0.0	0.0	6.1	26.1	26.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.17
Lane Grp Cap(c), veh/h	343	446	373	237	443	370	311	917	943	97	849	867
V/C Ratio(X)	0.48	0.66	1.04	0.48	0.38	0.29	0.76	0.75	0.76	0.64	0.45	0.45
Avail Cap(c_a), veh/h	343	446	373	240	446	373	392	917	943	128	849	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	0.72	0.72	0.72	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	62.0	68.6	48.4	57.7	56.4	72.0	0.0	0.0	83.4	31.3	31.4
Incr Delay (d2), s/veh	1.1	4.1	56.3	1.3	0.7	0.5	5.7	4.1	4.1	9.5	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	12.9	23.1	4.0	6.7	4.2	5.1	1.1	1.1	3.1	11.7	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	66.1	124.8	49.7	58.4	56.9	77.7	4.1	4.1	92.9	33.1	33.1
LnGrp LOS	D	E	F	D	E	E	E	A	A	F	C	C
Approach Vol, veh/h		847			394			1639			842	
Approach Delay, s/veh		89.5			55.4			14.8			37.5	
Approach LOS		F			E			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.8	89.5	19.7	50.0	13.9	96.4	20.0	49.7				
Change Period (Y+Rc), s	6.6	5.5	*9.1	*9.1	6.1	5.5	*9.1	*9.1				
Max Green Setting (Gmax), s	18.4	79.5	*11	*41	10.9	87.5	*11	*41				
Max Q Clear Time (g_c+I1), s	13.7	28.1	10.6	44.9	8.1	2.0	14.8	15.7				
Green Ext Time (p_c), s	0.5	5.5	0.0	0.0	0.0	14.6	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			41.2									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: S. Van Dorn Street & S. Pickett Street

Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	19	99	366	26	22	104	1450	476	47	1050	49
Future Volume (veh/h)	28	19	99	366	26	22	104	1450	476	47	1050	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	21	108	398	28	24	113	1576	517	51	1141	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	176	219	477	184	158	416	2273	988	229	2180	101
Arrive On Green	0.03	0.09	0.09	0.14	0.20	0.20	0.09	1.00	1.00	0.07	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	3456	922	790	1781	3554	1545	1781	3454	160
Grp Volume(v), veh/h	30	21	108	398	0	52	113	1576	517	51	587	607
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1728	0	1712	1781	1777	1545	1781	1777	1837
Q Serve(g_s), s	2.7	1.9	11.4	20.2	0.0	4.5	4.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	2.7	1.9	11.4	20.2	0.0	4.5	4.0	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.46	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	225	176	219	477	0	341	416	2273	988	229	1122	1160
V/C Ratio(X)	0.13	0.12	0.49	0.83	0.00	0.15	0.27	0.69	0.52	0.22	0.52	0.52
Avail Cap(c_a), veh/h	275	291	316	557	0	437	455	2273	988	273	1122	1160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.66	0.66	0.66	0.83	0.83	0.83
Uniform Delay (d), s/veh	69.8	74.7	71.6	75.6	0.0	59.5	9.6	0.0	0.0	9.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	1.7	9.3	0.0	0.3	0.2	1.2	1.3	0.4	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.9	4.8	9.7	0.0	2.0	1.5	0.4	0.4	0.7	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	75.0	73.4	84.8	0.0	59.8	9.8	1.2	1.3	10.2	1.5	1.4
LnGrp LOS	E	E	E	F	A	E	A	A	A	B	A	A
Approach Vol, veh/h		159			450			2206			1245	
Approach Delay, s/veh		73.0			81.9			1.6			1.8	
Approach LOS		E			F			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	118.1	28.9	20.9	10.6	119.6	9.9	39.9				
Change Period (Y+Rc), s	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0				
Max Green Setting (Gmax), s	10.0	92.5	27.0	26.0	9.0	93.5	9.0	44.0				
Max Q Clear Time (g_c+I1), s	6.0	2.0	22.2	13.4	3.7	2.0	4.7	6.5				
Green Ext Time (p_c), s	0.1	5.9	0.7	0.3	0.0	28.4	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				13.4								
HCM 6th LOS				B								

HCM Signalized Intersection Capacity Analysis

3: S. Van Dorn Street & Courtney Avenue

Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	0	9	0	2020	23	10	1506	1
Future Volume (vph)	0	0	0	10	0	9	0	2020	23	10	1506	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0		3.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.94			1.00		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1699			3531		1770	3539	
Flt Permitted					0.84			1.00		0.06	1.00	
Satd. Flow (perm)					1456			3531		113	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	11	0	10	0	2196	25	11	1637	1
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1	0	0	2221	0	11	1638	0
Confl. Peds. (#/hr)									9	9		
Confl. Bikes (#/hr)									1			1
Turn Type			Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2			6		
Actuated Green, G (s)					4.8			154.6		163.2	163.2	
Effective Green, g (s)					6.8			156.6		165.2	165.2	
Actuated g/C Ratio					0.04			0.87		0.92	0.92	
Clearance Time (s)					6.0			6.0		5.0	6.0	
Vehicle Extension (s)					5.5			0.2		2.0	0.2	
Lane Grp Cap (vph)					55			3071		155	3248	
v/s Ratio Prot								c0.63		0.00	c0.46	
v/s Ratio Perm					c0.00					0.06		
v/c Ratio					0.01			0.72		0.07	0.50	
Uniform Delay, d1					83.4			4.1		6.0	1.1	
Progression Factor					1.00			0.65		0.86	1.61	
Incremental Delay, d2					0.3			0.9		0.1	0.5	
Delay (s)					83.6			3.6		5.2	2.3	
Level of Service					F			A		A	A	
Approach Delay (s)		0.0			83.6			3.6			2.3	
Approach LOS		A			F			A			A	
Intersection Summary												
HCM 2000 Control Delay			3.5		HCM 2000 Level of Service					A		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			180.0		Sum of lost time (s)				11.0			
Intersection Capacity Utilization			68.2%		ICU Level of Service				C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Background AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↖	↗↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	58	9	114	183	31	585	93	1424	160	233	1099	55
Future Volume (vph)	58	9	114	183	31	585	93	1424	160	233	1099	55
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.9	5.9	5.9	4.9	3.7	3.7	4.8	3.7	3.7
Lane Util. Factor		1.00	1.00	0.95	0.95	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1786	1583	1681	1709	2714	1770	3539	1556	1770	3539	1551
Flt Permitted		0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1786	1583	1681	1709	2714	1770	3539	1556	1770	3539	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	10	124	199	34	636	101	1548	174	253	1195	60
RTOR Reduction (vph)	0	0	116	0	0	67	0	0	74	0	0	25
Lane Group Flow (vph)	0	73	8	115	118	569	101	1548	100	253	1195	35
Confl. Peds. (#/hr)									3	3		
Confl. Bikes (#/hr)						4						1
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	0
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4	4 5	1 7	6 7		5	2	
Permitted Phases			3						6 7			2
Actuated Green, G (s)		9.8	9.8	19.3	19.3	57.8	14.3	91.7	91.7	30.6	102.2	102.2
Effective Green, g (s)		11.8	11.8	21.3	21.3	59.8	18.3	93.7	93.7	32.6	104.2	104.2
Actuated g/C Ratio		0.07	0.07	0.12	0.12	0.33	0.10	0.52	0.52	0.18	0.58	0.58
Clearance Time (s)		7.0	7.0	7.9	7.9					6.8	5.7	5.7
Vehicle Extension (s)		4.0	4.0	4.0	4.0					4.0	2.0	2.0
Lane Grp Cap (vph)		117	103	198	202	901	179	1842	809	320	2048	897
v/s Ratio Prot		c0.04		0.07	0.07	c0.21	0.06	c0.44		c0.14	0.34	
v/s Ratio Perm			0.01						0.06			0.02
v/c Ratio		0.62	0.08	0.58	0.58	0.63	0.56	0.84	0.12	0.79	0.58	0.04
Uniform Delay, d1		81.9	79.0	75.1	75.2	50.8	77.1	36.8	22.1	70.4	24.1	16.3
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.91	1.00
Incremental Delay, d2		11.2	0.4	5.1	5.0	1.6	4.9	4.8	0.3	11.9	1.1	0.1
Delay (s)		93.1	79.4	80.2	80.2	52.4	81.9	41.6	22.4	88.3	23.0	16.4
Level of Service		F	E	F	F	D	F	D	C	F	C	B
Approach Delay (s)		84.5			59.9			42.0			33.7	
Approach LOS		F			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			44.6								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			180.0							24.4		
Intersection Capacity Utilization			77.2%								ICU Level of Service	D
Analysis Period (min)			15									
c	Critical Lane Group											

HCM 6th Signalized Intersection Summary

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	376	103	31	233	88	138	153	31	128	174	52
Future Volume (veh/h)	39	376	103	31	233	88	138	153	31	128	174	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.96
Parking Bus, Adj	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	409	0	34	253	0	150	166	34	139	189	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	763		410	733		533	357	73	554	368	111
Arrive On Green	0.26	0.26	0.00	0.08	0.39	0.00	0.12	0.27	0.27	0.12	0.27	0.27
Sat Flow, veh/h	192	3039	0	1781	1870	0	1781	1315	269	1781	1365	412
Grp Volume(v), veh/h	254	197	0	34	253	0	150	0	200	139	0	246
Grp Sat Flow(s),veh/h/ln	1742	1415	0	1781	1870	0	1781	0	1585	1781	0	1777
Q Serve(g_s), s	2.2	6.2	0.0	0.6	4.9	0.0	2.9	0.0	5.4	2.6	0.0	6.0
Cycle Q Clear(g_c), s	6.3	6.2	0.0	0.6	4.9	0.0	2.9	0.0	5.4	2.6	0.0	6.0
Prop In Lane	0.17		0.00	1.00		0.00	1.00		0.17	1.00		0.23
Lane Grp Cap(c), veh/h	530	364		410	733		533	0	430	554	0	479
V/C Ratio(X)	0.48	0.54		0.08	0.35		0.28	0.00	0.47	0.25	0.00	0.51
Avail Cap(c_a), veh/h	1309	1018		759	1965		796	0	832	959	0	1072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.4	16.5	0.0	11.0	11.0	0.0	10.7	0.0	15.6	10.6	0.0	15.9
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.0	0.1	0.0	0.1	0.0	0.6	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.9	0.0	0.2	1.8	0.0	1.0	0.0	1.8	0.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	16.9	0.0	11.0	11.1	0.0	10.8	0.0	16.2	10.7	0.0	16.6
LnGrp LOS	B	B		B	B		B	A	B	B	A	B
Approach Vol, veh/h		451			287			350			385	
Approach Delay, s/veh		16.8			11.1			13.9			14.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	18.4	6.9	16.7	9.4	18.3		23.6				
Change Period (Y+Rc), s	5.0	6.5	5.0	5.5	5.0	6.5		5.5				
Max Green Setting (Gmax), s	16.0	25.0	12.0	35.0	12.0	29.0		52.0				
Max Q Clear Time (g_c+I1), s	4.6	7.4	2.6	8.3	4.9	8.0		6.9				
Green Ext Time (p_c), s	0.1	0.9	0.0	1.9	0.1	1.2		1.1				

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

7: Metro Road & Summers Grove Road

Background AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖		↗	↖	↗	↖	↕	↕
Traffic Volume (vph)	0	7	32	56	0	6	6	35	13	46	107	3
Future Volume (vph)	0	7	32	56	0	6	6	35	13	46	107	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95	
Frbp, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00	1.00	0.98	1.00	
Frt		0.89		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1628		1767	1546		1760	1863	1523	1738	3502	
Flt Permitted		1.00		0.27	1.00		0.68	1.00	1.00	0.73	1.00	
Satd. Flow (perm)		1628		503	1546		1254	1863	1523	1340	3502	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	8	35	61	0	7	7	38	14	50	116	3
RTOR Reduction (vph)	0	32	0	0	5	0	0	0	7	0	1	0
Lane Group Flow (vph)	0	11	0	61	2	0	7	38	7	50	118	0
Confl. Peds. (#/hr)	3		3	3		3	4		12	12		4
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	3
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		3			2			1				1
Permitted Phases	3			2			1		1	1		
Actuated Green, G (s)		3.6		12.8	12.8		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)		5.6		14.8	14.8		33.0	33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.09		0.23	0.23		0.50	0.50	0.50	0.50	0.50	
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		2.0		4.0	4.0		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		139		113	349		632	940	768	676	1767	
v/s Ratio Prot		c0.01			0.00			0.02			0.03	
v/s Ratio Perm				c0.12			0.01		0.00	c0.04		
v/c Ratio		0.08		0.54	0.00		0.01	0.04	0.01	0.07	0.07	
Uniform Delay, d1		27.5		22.3	19.6		8.1	8.2	8.1	8.3	8.3	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1		6.2	0.0		0.0	0.1	0.0	0.2	0.1	
Delay (s)		27.6		28.5	19.6		8.1	8.3	8.1	8.5	8.4	
Level of Service		C		C	B		A	A	A	A	A	
Approach Delay (s)		27.6			27.6			8.2			8.4	
Approach LOS		C			C			A			A	

Intersection Summary

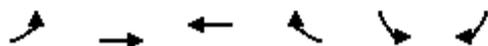
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	65.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Eisenhower Avenue & Metro Road

Background AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑	↘	↙↘	
Traffic Volume (vph)	19	381	707	35	104	92
Future Volume (vph)	19	381	707	35	104	92
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	2.0	4.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.93	
Flt Protected	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (prot)	1767	3539	3539	1557	3272	
Flt Permitted	0.30	1.00	1.00	1.00	0.97	
Satd. Flow (perm)	552	3539	3539	1557	3272	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	414	768	38	113	100
RTOR Reduction (vph)	0	0	0	0	81	0
Lane Group Flow (vph)	21	414	768	38	132	0
Confl. Peds. (#/hr)	15			15		
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	0	0	0	0	9
Turn Type	pm+pt	NA	NA	Free	Prot	
Protected Phases	3	1 3	1		2	
Permitted Phases	1 3			Free		
Actuated Green, G (s)	50.5	55.5	40.2	80.0	13.0	
Effective Green, g (s)	54.5	54.5	42.2	80.0	15.0	
Actuated g/C Ratio	0.68	0.68	0.53	1.00	0.19	
Clearance Time (s)	5.0		5.5		6.0	
Vehicle Extension (s)	4.0		0.2		4.0	
Lane Grp Cap (vph)	562	2410	1866	1557	613	
v/s Ratio Prot	0.01	c0.12	c0.22		c0.04	
v/s Ratio Perm	0.02			0.02		
v/c Ratio	0.04	0.17	0.41	0.02	0.21	
Uniform Delay, d1	4.5	4.6	11.4	0.0	27.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.0	0.7	0.0	0.2	
Delay (s)	4.5	4.6	12.1	0.0	27.8	
Level of Service	A	A	B	A	C	
Approach Delay (s)		4.6	11.5		27.8	
Approach LOS		A	B		C	

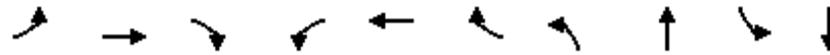
Intersection Summary

HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues

1: S. Van Dorn Street & Edsall Road

Background AM



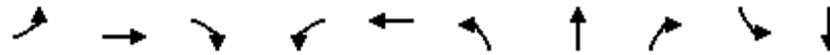
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	295	386	115	170	109	237	1402	62	780
v/c Ratio	0.52	0.76	0.72	0.51	0.44	0.25	0.65	0.76	0.50	0.46
Control Delay	52.2	79.7	26.3	52.1	65.0	3.5	104.1	14.3	94.7	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	79.7	26.3	52.1	65.0	3.5	104.1	14.3	94.7	31.9
Queue Length 50th (ft)	146	329	128	98	175	0	122	566	71	323
Queue Length 95th (ft)	209	433	256	150	250	19	197	63	129	398
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	321	444	578	226	444	475	390	1856	129	1712
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.66	0.67	0.51	0.38	0.23	0.61	0.76	0.48	0.46

Intersection Summary

Queues

2: S. Van Dorn Street & S. Pickett Street

Background AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	21	108	398	52	113	1576	517	51	1194
v/c Ratio	0.18	0.15	0.42	0.78	0.19	0.36	0.66	0.48	0.25	0.52
Control Delay	55.1	77.2	18.9	84.9	38.0	5.1	10.5	5.4	11.6	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.0	0.0
Total Delay	55.1	77.2	18.9	84.9	38.0	5.1	11.2	6.2	11.6	14.7
Queue Length 50th (ft)	28	24	15	235	30	22	295	120	12	324
Queue Length 95th (ft)	51	52	68	297	67	m40	764	219	m34	421
Internal Link Dist (ft)		736			1223		435			1192
Turn Bay Length (ft)	215		320	265		240		115	450	
Base Capacity (vph)	179	289	271	553	457	331	2399	1084	227	2309
Starvation Cap Reductn	0	0	0	0	0	0	429	283	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.07	0.40	0.72	0.11	0.34	0.80	0.65	0.22	0.52

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: S. Van Dorn Street & Courtney Avenue

Background AM



Lane Group	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	2221	11	1638
v/c Ratio	0.17	0.69	0.05	0.49
Control Delay	2.8	3.6	1.1	2.3
Queue Delay	0.0	0.1	0.0	0.1
Total Delay	2.8	3.7	1.1	2.4
Queue Length 50th (ft)	0	264	1	286
Queue Length 95th (ft)	2	368	m1	326
Internal Link Dist (ft)	292	873		435
Turn Bay Length (ft)			130	
Base Capacity (vph)	251	3208	235	3327
Starvation Cap Reductn	0	200	0	492
Spillback Cap Reductn	0	141	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.74	0.05	0.58

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Background AM



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	73	124	115	118	636	101	1548	174	253	1195	60
v/c Ratio	0.62	0.44	0.58	0.58	0.67	0.56	0.83	0.19	0.79	0.58	0.06
Control Delay	104.9	5.0	87.6	87.8	46.9	62.0	41.2	4.7	92.5	23.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.9	5.0	87.6	87.8	46.9	62.0	41.2	4.7	92.5	23.3	0.5
Queue Length 50th (ft)	86	0	137	142	308	79	821	11	314	316	0
Queue Length 95th (ft)	#153	0	217	222	388	128	926	54	415	773	5
Internal Link Dist (ft)	223			917			632			355	
Turn Bay Length (ft)		30	120		120	140		120	385		
Base Capacity (vph)	119	281	199	202	990	188	1865	893	346	2048	963
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.44	0.58	0.58	0.64	0.54	0.83	0.19	0.73	0.58	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Background AM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	563	34	349	150	200	139	246
v/c Ratio	0.50	0.08	0.42	0.32	0.51	0.27	0.57
Control Delay	20.6	12.9	15.0	15.3	29.5	14.8	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	12.9	15.0	15.3	29.5	14.8	30.6
Queue Length 50th (ft)	103	8	91	43	79	40	99
Queue Length 95th (ft)	194	28	201	87	161	81	190
Internal Link Dist (ft)	556		368		314		1161
Turn Bay Length (ft)				60			
Base Capacity (vph)	1510	509	1345	535	604	644	779
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.07	0.26	0.28	0.33	0.22	0.32
Intersection Summary							

Queues

7: Metro Road & Summers Grove Road

Background AM

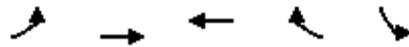


Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	43	61	7	7	38	14	50	119
v/c Ratio	0.15	0.30	0.01	0.01	0.03	0.01	0.06	0.06
Control Delay	14.7	20.1	0.0	17.0	16.7	0.0	16.8	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	20.1	0.0	17.0	16.7	0.0	16.8	15.2
Queue Length 50th (ft)	3	18	0	2	11	0	15	18
Queue Length 95th (ft)	30	50	0	11	32	0	39	36
Internal Link Dist (ft)	115		187		260			296
Turn Bay Length (ft)							70	
Base Capacity (vph)	493	252	1238	742	1104	949	790	2075
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.24	0.01	0.01	0.03	0.01	0.06	0.06
Intersection Summary								

Queues

8: Eisenhower Avenue & Metro Road

Background AM



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	21	414	768	38	213
v/c Ratio	0.04	0.16	0.41	0.02	0.31
Control Delay	3.3	3.8	12.5	0.0	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	3.8	12.5	0.0	16.3
Queue Length 50th (ft)	2	28	114	0	24
Queue Length 95th (ft)	8	41	167	0	54
Internal Link Dist (ft)		917	750		260
Turn Bay Length (ft)	230			400	
Base Capacity (vph)	590	2500	1868	1557	1051
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.17	0.41	0.02	0.20
Intersection Summary					

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Background PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	200	339	156	232	167	328	894	69	169	1112	100
Future Volume (veh/h)	107	200	339	156	232	167	328	894	69	169	1112	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	217	368	166	247	178	349	951	73	174	1146	103
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	373	299	267	410	331	433	1511	116	221	1474	132
Arrive On Green	0.06	0.20	0.20	0.08	0.22	0.22	0.25	0.90	0.90	0.12	0.45	0.45
Sat Flow, veh/h	1781	1870	1499	1781	1870	1507	3456	3342	257	1781	3295	296
Grp Volume(v), veh/h	116	217	368	166	247	178	349	506	518	174	617	632
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	1870	1507	1728	1777	1822	1781	1777	1814
Q Serve(g_s), s	7.7	15.8	29.9	11.1	17.8	15.7	14.2	9.5	9.5	14.2	44.1	44.3
Cycle Q Clear(g_c), s	7.7	15.8	29.9	11.1	17.8	15.7	14.2	9.5	9.5	14.2	44.1	44.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.16
Lane Grp Cap(c), veh/h	249	373	299	267	410	331	433	803	824	221	795	812
V/C Ratio(X)	0.47	0.58	1.23	0.62	0.60	0.54	0.81	0.63	0.63	0.79	0.78	0.78
Avail Cap(c_a), veh/h	249	373	299	267	410	331	493	803	824	296	795	812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	54.4	60.1	44.1	52.7	51.8	54.5	4.4	4.4	63.8	35.1	35.1
Incr Delay (d2), s/veh	1.4	2.8	129.9	4.2	2.8	2.1	7.0	2.8	2.7	11.7	7.3	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	7.8	22.2	5.3	8.8	6.2	5.9	2.5	2.5	7.2	20.4	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	57.2	189.9	48.2	55.4	54.0	61.5	7.2	7.1	75.4	42.4	42.4
LnGrp LOS	D	E	F	D	E	D	E	A	A	E	D	D
Approach Vol, veh/h		701			591			1373			1423	
Approach Delay, s/veh		125.1			53.0			21.0			46.5	
Approach LOS		F			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.4	70.6	19.0	37.0	22.7	71.3	16.0	40.0				
Change Period (Y+Rc), s	6.6	5.5	* 9.1	* 9.1	6.1	5.5	* 9.1	* 9.1				
Max Green Setting (Gmax), s	19.4	62.5	* 9.9	* 28	22.9	59.5	* 6.9	* 31				
Max Q Clear Time (g_c+I1), s	16.2	46.3	13.1	31.9	16.2	11.5	9.7	19.8				
Green Ext Time (p_c), s	0.6	7.6	0.0	0.0	0.4	8.1	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			52.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
 2: S. Van Dorn Street & S. Pickett Street

Background PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	30	193	507	46	61	88	1254	528	81	1506	34
Future Volume (veh/h)	57	30	193	507	46	61	88	1254	528	81	1506	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	1.00		0.99	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	33	210	551	50	66	93	1320	556	82	1521	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	312	337	599	209	276	302	1784	774	254	1771	40
Arrive On Green	0.05	0.17	0.17	0.17	0.29	0.29	0.10	1.00	1.00	0.10	1.00	1.00
Sat Flow, veh/h	1781	1870	1530	3456	726	958	1781	3554	1541	1781	3551	79
Grp Volume(v), veh/h	62	33	210	551	0	116	93	1320	556	82	760	795
Grp Sat Flow(s),veh/h/ln	1781	1870	1530	1728	0	1684	1781	1777	1541	1781	1777	1853
Q Serve(g_s), s	4.2	2.2	18.7	23.5	0.0	7.9	3.7	0.0	0.0	3.3	1.2	1.3
Cycle Q Clear(g_c), s	4.2	2.2	18.7	23.5	0.0	7.9	3.7	0.0	0.0	3.3	1.2	1.3
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	350	312	337	599	0	485	302	1784	774	254	886	924
V/C Ratio(X)	0.18	0.11	0.62	0.92	0.00	0.24	0.31	0.74	0.72	0.32	0.86	0.86
Avail Cap(c_a), veh/h	400	349	367	599	0	485	353	1784	774	312	886	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.76	0.76	0.76	0.57	0.57	0.57
Uniform Delay (d), s/veh	47.4	53.0	53.2	61.0	0.0	40.8	15.2	0.0	0.0	15.4	0.1	0.1
Incr Delay (d2), s/veh	0.2	0.1	2.9	19.6	0.0	0.4	0.4	2.1	4.4	0.4	6.3	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.1	7.5	12.0	0.0	3.4	1.5	0.5	0.9	1.3	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	53.1	56.0	80.5	0.0	41.2	15.6	2.1	4.4	15.8	6.5	6.3
LnGrp LOS	D	D	E	F	A	D	B	A	A	B	A	A
Approach Vol, veh/h		305			667			1969			1637	
Approach Delay, s/veh		54.0			73.7			3.4			6.9	
Approach LOS		D			E			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	79.3	30.0	29.0	11.2	79.8	11.8	47.3				
Change Period (Y+Rc), s	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0				
Max Green Setting (Gmax), s	10.0	65.5	24.0	26.0	10.0	65.5	10.0	40.0				
Max Q Clear Time (g_c+I1), s	5.7	3.3	25.5	20.7	5.3	2.0	6.2	9.9				
Green Ext Time (p_c), s	0.1	9.3	0.0	0.4	0.1	19.9	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

HCM Signalized Intersection Capacity Analysis

3: S. Van Dorn Street & Courtney Avenue

Background PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔		↖	↕		↖	↕	↗
Traffic Volume (vph)	0	0	0	19	0	4	0	1865	14	4	2201	0
Future Volume (vph)	0	0	0	19	0	4	0	1865	14	4	2201	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0			4.0		3.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.98			1.00		1.00	1.00	
Flt Protected					0.96			1.00		0.95	1.00	
Satd. Flow (prot)					1749			3534		1770	3539	
Flt Permitted					0.76			1.00		0.09	1.00	
Satd. Flow (perm)					1385			3534		159	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	21	0	4	0	1943	15	4	2367	0
RTOR Reduction (vph)	0	0	0	0	24	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1	0	0	1958	0	4	2367	0
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												3
Turn Type			Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2			6		
Actuated Green, G (s)					4.8			126.4		133.2	133.2	
Effective Green, g (s)					6.8			128.4		135.2	135.2	
Actuated g/C Ratio					0.05			0.86		0.90	0.90	
Clearance Time (s)					6.0			6.0		5.0	6.0	
Vehicle Extension (s)					5.5			0.2		2.0	0.2	
Lane Grp Cap (vph)					62			3025		184	3189	
v/s Ratio Prot								0.55		0.00	c0.67	
v/s Ratio Perm					c0.00					0.02		
v/c Ratio					0.02			0.65		0.02	0.74	
Uniform Delay, d1					68.4			3.5		3.4	2.2	
Progression Factor					1.00			2.86		1.18	1.16	
Incremental Delay, d2					0.3			0.7		0.0	1.0	
Delay (s)					68.7			10.7		4.0	3.6	
Level of Service					E			B		A	A	
Approach Delay (s)		0.0			68.7			10.7			3.6	
Approach LOS		A			E			B			A	
Intersection Summary												
HCM 2000 Control Delay			7.1		HCM 2000 Level of Service					A		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)					11.0		
Intersection Capacity Utilization			72.5%		ICU Level of Service					C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

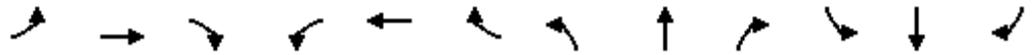
5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Background PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	22	10	68	202	4	587	27	1280	174	368	1686	26	
Future Volume (vph)	22	10	68	202	4	587	27	1280	174	368	1686	26	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.0	5.0	5.9	5.9	5.9	4.9	3.7	3.7	4.8	3.7	3.7	
Lane Util. Factor		1.00	1.00	0.95	0.95	0.88	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1801	1583	1681	1688	2714	1770	3539	1557	1770	3539	1583	
Flt Permitted		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		1801	1583	1681	1688	2714	1770	3539	1557	1770	3539	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	24	11	74	217	4	631	29	1391	189	400	1833	28	
RTOR Reduction (vph)	0	0	69	0	0	107	0	0	103	0	0	10	
Lane Group Flow (vph)	0	35	5	111	110	524	29	1391	86	400	1833	18	
Confl. Peds. (#/hr)									3	3			
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	3		4	4	4 5	1	6		5	2		
Permitted Phases			3						6			2	
Actuated Green, G (s)		8.3	8.3	12.8	12.8	57.5	5.4	64.7	64.7	36.8	96.0	96.0	
Effective Green, g (s)		10.3	10.3	14.8	14.8	59.5	7.4	66.7	66.7	38.8	98.0	98.0	
Actuated g/C Ratio		0.07	0.07	0.10	0.10	0.40	0.05	0.44	0.44	0.26	0.65	0.65	
Clearance Time (s)		7.0	7.0	7.9	7.9		6.9	5.7	5.7	6.8	5.7	5.7	
Vehicle Extension (s)		4.0	4.0	4.0	4.0		4.0	2.0	2.0	4.0	2.0	2.0	
Lane Grp Cap (vph)		123	108	165	166	1076	87	1573	692	457	2312	1034	
v/s Ratio Prot		c0.02		c0.07	0.07	0.19	0.02	c0.39		c0.23	0.52		
v/s Ratio Perm			0.00						0.06			0.01	
v/c Ratio		0.28	0.05	0.67	0.66	0.49	0.33	0.88	0.12	0.88	0.79	0.02	
Uniform Delay, d1		66.4	65.3	65.3	65.2	33.8	68.9	38.1	24.5	53.3	18.7	9.1	
Progression Factor		1.00	1.00	0.87	0.87	1.33	1.00	1.00	1.00	1.14	0.61	1.00	
Incremental Delay, d2		1.7	0.2	10.2	9.5	0.4	3.1	7.6	0.4	13.5	2.2	0.0	
Delay (s)		68.1	65.5	67.3	66.4	45.5	72.0	45.7	24.8	74.5	13.5	9.1	
Level of Service		E	E	E	E	D	E	D	C	E	B	A	
Approach Delay (s)		66.3			51.0			43.8			24.2		
Approach LOS		E			D			D			C		
Intersection Summary													
HCM 2000 Control Delay			36.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.81										
Actuated Cycle Length (s)			150.0									Sum of lost time (s)	19.5
Intersection Capacity Utilization			80.4%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary
 6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Background PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	77	374	123	24	361	210	114	81	33	188	79	80
Future Volume (veh/h)	77	374	123	24	361	210	114	81	33	188	79	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.97		0.96	0.98		0.97
Parking Bus, Adj	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	407	0	25	380	0	124	88	36	204	86	87
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	706		370	728		594	309	126	647	264	267
Arrive On Green	0.28	0.28	0.00	0.06	0.39	0.00	0.11	0.28	0.28	0.14	0.32	0.32
Sat Flow, veh/h	384	2640	0	1781	1870	0	1781	1091	446	1781	836	846
Grp Volume(v), veh/h	268	223	0	25	380	0	124	0	124	204	0	173
Grp Sat Flow(s),veh/h/ln	1535	1415	0	1781	1870	0	1781	0	1537	1781	0	1682
Q Serve(g_s), s	5.9	8.0	0.0	0.5	9.1	0.0	2.7	0.0	3.7	4.3	0.0	4.6
Cycle Q Clear(g_c), s	8.6	8.0	0.0	0.5	9.1	0.0	2.7	0.0	3.7	4.3	0.0	4.6
Prop In Lane	0.31		0.00	1.00		0.00	1.00		0.29	1.00		0.50
Lane Grp Cap(c), veh/h	503	389		370	728		594	0	435	647	0	530
V/C Ratio(X)	0.53	0.57		0.07	0.52		0.21	0.00	0.29	0.32	0.00	0.33
Avail Cap(c_a), veh/h	1026	893		684	1723		827	0	708	944	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.3	18.3	0.0	12.6	13.7	0.0	11.8	0.0	16.4	10.6	0.0	15.3
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.0	0.2	0.0	0.1	0.0	0.3	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.5	0.0	0.2	3.5	0.0	1.0	0.0	1.2	1.5	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	18.8	0.0	12.6	13.9	0.0	11.8	0.0	16.7	10.8	0.0	15.6
LnGrp LOS	B	B		B	B		B	A	B	B	A	B
Approach Vol, veh/h		491			405			248				377
Approach Delay, s/veh		18.7			13.9			14.2				13.0
Approach LOS		B			B			B				B
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	21.1	6.7	19.6	9.3	23.0		26.3				
Change Period (Y+Rc), s	5.0	6.5	5.0	5.5	5.0	6.5		5.5				
Max Green Setting (Gmax), s	16.0	25.0	12.0	35.0	12.0	29.0		52.0				
Max Q Clear Time (g_c+I1), s	6.3	5.7	2.5	10.6	4.7	6.6		11.1				
Green Ext Time (p_c), s	0.2	0.5	0.0	2.2	0.1	0.8		1.7				

Intersection Summary

HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

7: Metro Road & Summers Grove Road

Background PM

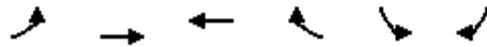
													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	1	0	13	32	1	7	8	23	11	28	147	10	
Future Volume (vph)	1	0	13	32	1	7	8	23	11	28	147	10	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95		
Frbp, ped/bikes		0.96		1.00	0.97		1.00	1.00	0.97	1.00	1.00		
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00		
Frt		0.87		1.00	0.87		1.00	1.00	0.85	1.00	0.99		
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1558		1765	1569		1753	1863	1542	1759	3477		
Flt Permitted		0.97		0.33	1.00		0.64	1.00	1.00	0.74	1.00		
Satd. Flow (perm)		1524		614	1569		1188	1863	1542	1372	3477		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	1	0	14	35	1	8	9	25	12	30	160	11	
RTOR Reduction (vph)	0	14	0	0	6	0	0	0	5	0	4	0	
Lane Group Flow (vph)	0	1	0	35	3	0	9	25	7	30	167	0	
Confl. Peds. (#/hr)	10		5	5		10	8		4	4		8	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	3	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		3			2			1			1		
Permitted Phases	3			2			1		1	1			
Actuated Green, G (s)		1.1		10.1	10.1		33.3	33.3	33.3	33.3	33.3		
Effective Green, g (s)		3.1		12.1	12.1		35.3	35.3	35.3	35.3	35.3		
Actuated g/C Ratio		0.05		0.19	0.19		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)		2.0		4.0	4.0		0.2	0.2	0.2	0.2	0.2		
Lane Grp Cap (vph)		75		118	303		670	1052	870	774	1963		
v/s Ratio Prot					0.00			0.01			c0.05		
v/s Ratio Perm		c0.00		c0.06			0.01		0.00	0.02			
v/c Ratio		0.01		0.30	0.01		0.01	0.02	0.01	0.04	0.09		
Uniform Delay, d1		28.2		21.6	20.4		6.0	6.0	5.9	6.1	6.2		
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.0		1.9	0.0		0.0	0.0	0.0	0.1	0.1		
Delay (s)		28.3		23.5	20.4		6.0	6.0	6.0	6.1	6.3		
Level of Service		C		C	C		A	A	A	A	A		
Approach Delay (s)		28.3			22.8			6.0			6.3		
Approach LOS		C			C			A			A		
Intersection Summary													
HCM 2000 Control Delay			9.7									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.13										
Actuated Cycle Length (s)			62.5									Sum of lost time (s)	12.0
Intersection Capacity Utilization			39.9%									ICU Level of Service	A
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Eisenhower Avenue & Metro Road

Background PM

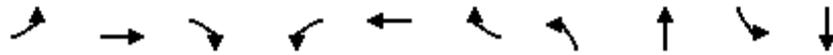


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	536	724	27	121	70
Future Volume (vph)	17	536	724	27	121	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	2.0	4.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.95	
Flt Protected	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (prot)	1769	3539	3539	1560	3311	
Flt Permitted	0.27	1.00	1.00	1.00	0.97	
Satd. Flow (perm)	497	3539	3539	1560	3311	
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	570	787	29	132	76
RTOR Reduction (vph)	0	0	0	0	61	0
Lane Group Flow (vph)	18	570	787	29	147	0
Confl. Peds. (#/hr)	8			8		
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	0	0	0	0	9
Turn Type	pm+pt	NA	NA	Free	Prot	
Protected Phases	3	1 3	1		2	
Permitted Phases	1 3			Free		
Actuated Green, G (s)	45.5	50.5	32.7	75.0	13.0	
Effective Green, g (s)	49.5	49.5	34.7	75.0	15.0	
Actuated g/C Ratio	0.66	0.66	0.46	1.00	0.20	
Clearance Time (s)	5.0		5.5		6.0	
Vehicle Extension (s)	4.0		0.2		4.0	
Lane Grp Cap (vph)	579	2335	1637	1560	662	
v/s Ratio Prot	0.01	c0.16	c0.22		c0.04	
v/s Ratio Perm	0.01			0.02		
v/c Ratio	0.03	0.24	0.48	0.02	0.22	
Uniform Delay, d1	4.9	5.2	13.9	0.0	25.1	
Progression Factor	0.34	0.28	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.1	1.0	0.0	0.2	
Delay (s)	1.7	1.5	14.9	0.0	25.4	
Level of Service	A	A	B	A	C	
Approach Delay (s)		1.5	14.4		25.4	
Approach LOS		A	B		C	
Intersection Summary						
HCM 2000 Control Delay			11.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.37			
Actuated Cycle Length (s)			75.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			37.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Queues

1: S. Van Dorn Street & Edsall Road

Background PM



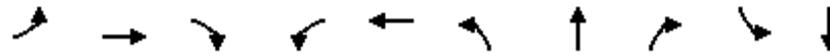
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	116	217	368	166	247	178	349	1024	174	1249
v/c Ratio	0.51	0.67	0.73	0.63	0.68	0.42	0.72	0.64	0.68	0.78
Control Delay	47.8	68.0	21.9	51.6	65.9	9.4	80.6	27.6	74.2	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	68.0	21.9	51.6	65.9	9.4	80.6	27.6	74.2	39.3
Queue Length 50th (ft)	84	199	68	124	225	0	185	176	163	556
Queue Length 95th (ft)	135	286	191	186	317	65	239	377	243	660
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	227	371	537	264	408	458	498	1595	293	1598
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.58	0.69	0.63	0.61	0.39	0.70	0.64	0.59	0.78

Intersection Summary

Queues

2: S. Van Dorn Street & S. Pickett Street

Background PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	62	33	210	551	116	93	1320	556	82	1555
v/c Ratio	0.28	0.20	0.64	0.93	0.33	0.47	0.65	0.58	0.33	0.77
Control Delay	42.7	62.8	32.6	83.3	33.4	32.8	15.5	9.4	12.8	18.1
Queue Delay	0.0	0.0	0.0	2.9	0.0	0.0	0.6	0.8	0.0	0.0
Total Delay	42.7	62.8	32.7	86.2	33.4	32.8	16.1	10.1	12.8	18.1
Queue Length 50th (ft)	46	31	87	277	62	19	330	96	19	242
Queue Length 95th (ft)	72	60	148	#385	109	m91	515	183	m39	#935
Internal Link Dist (ft)		736			1223		435			1192
Turn Bay Length (ft)	215		320	265		240		115	450	
Base Capacity (vph)	238	347	344	595	500	216	2046	961	271	2020
Starvation Cap Reductn	0	0	0	0	0	0	356	162	0	0
Spillback Cap Reductn	0	0	1	16	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.10	0.61	0.95	0.23	0.43	0.78	0.70	0.30	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: S. Van Dorn Street & Courtney Avenue

Background PM



Lane Group	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	25	1958	4	2367
v/c Ratio	0.17	0.61	0.02	0.72
Control Delay	2.5	9.6	1.2	3.7
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	2.5	9.6	1.2	3.8
Queue Length 50th (ft)	0	600	0	167
Queue Length 95th (ft)	1	790	m1	179
Internal Link Dist (ft)	292	873		435
Turn Bay Length (ft)			130	
Base Capacity (vph)	288	3214	275	3284
Starvation Cap Reductn	0	0	0	169
Spillback Cap Reductn	0	119	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.63	0.01	0.76

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Background PM



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	74	111	110	631	29	1391	189	400	1833	28
v/c Ratio	0.28	0.27	0.67	0.66	0.54	0.24	0.88	0.24	0.88	0.77	0.03
Control Delay	72.0	2.4	75.7	75.2	34.5	70.9	46.3	4.2	76.6	13.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	2.4	75.7	75.2	34.5	70.9	46.3	4.2	76.6	13.0	0.0
Queue Length 50th (ft)	33	0	89	88	274	27	659	2	400	491	0
Queue Length 95th (ft)	72	0	#197	#196	197	62	768	49	#540	507	m0
Internal Link Dist (ft)	223			917			632			355	
Turn Bay Length (ft)		30	120		120	140		120	385		
Base Capacity (vph)	132	280	166	166	1188	130	1574	795	474	2377	1108
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.26	0.67	0.66	0.53	0.22	0.88	0.24	0.84	0.77	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Background PM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	625	25	601	124	124	204	173
v/c Ratio	0.57	0.06	0.68	0.26	0.36	0.37	0.39
Control Delay	20.0	12.3	19.9	16.3	28.8	17.2	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	12.3	19.9	16.3	28.8	17.2	22.7
Queue Length 50th (ft)	84	5	172	27	36	47	42
Queue Length 95th (ft)	243	23	431	88	115	139	131
Internal Link Dist (ft)	556		368		314		1161
Turn Bay Length (ft)				60			
Base Capacity (vph)	1373	534	1363	578	631	631	804
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.05	0.44	0.21	0.20	0.32	0.22
Intersection Summary							

Queues

7: Metro Road & Summers Grove Road

Background PM

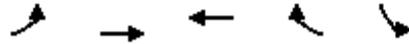


Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	35	9	9	25	12	30	171
v/c Ratio	0.04	0.15	0.02	0.01	0.02	0.01	0.03	0.07
Control Delay	0.2	16.2	8.5	12.2	11.7	0.0	11.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2	16.2	8.5	12.2	11.7	0.0	11.8	9.3
Queue Length 50th (ft)	0	10	0	1	4	0	4	12
Queue Length 95th (ft)	0	29	9	12	23	0	27	48
Internal Link Dist (ft)	115		187		260			296
Turn Bay Length (ft)							70	
Base Capacity (vph)	562	330	841	810	1274	1092	936	2379
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.11	0.01	0.01	0.02	0.01	0.03	0.07
Intersection Summary								

Queues

8: Eisenhower Avenue & Metro Road

Background PM



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	18	570	787	29	208
v/c Ratio	0.03	0.23	0.48	0.02	0.29
Control Delay	1.2	1.3	15.8	0.0	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	1.3	15.8	0.0	17.2
Queue Length 50th (ft)	1	11	126	0	26
Queue Length 95th (ft)	m0	m19	194	0	54
Internal Link Dist (ft)		917	750		260
Turn Bay Length (ft)	230			400	
Base Capacity (vph)	592	2463	1635	1560	1067
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.23	0.48	0.02	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX E
BUILDOUT CONDITIONS
SYNCHRO WORKSHEETS

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Total Future AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	271	362	106	156	100	228	1241	86	57	684	62
Future Volume (veh/h)	153	271	362	106	156	100	228	1241	86	57	684	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	295	393	115	170	109	248	1349	93	62	743	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	446	373	237	443	370	321	1741	120	97	1565	141
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.19	1.00	1.00	0.05	0.47	0.47
Sat Flow, veh/h	1781	1870	1563	1781	1870	1563	3456	3373	232	1781	3295	297
Grp Volume(v), veh/h	166	295	393	115	170	109	248	709	733	62	400	410
Grp Sat Flow(s),veh/h/ln	1781	1870	1563	1781	1870	1563	1728	1777	1828	1781	1777	1816
Q Serve(g_s), s	12.8	25.7	42.9	8.6	13.7	10.3	12.3	0.0	0.0	6.1	27.5	27.5
Cycle Q Clear(g_c), s	12.8	25.7	42.9	8.6	13.7	10.3	12.3	0.0	0.0	6.1	27.5	27.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	343	446	373	237	443	370	321	917	943	97	844	862
V/C Ratio(X)	0.48	0.66	1.05	0.49	0.38	0.29	0.77	0.77	0.78	0.64	0.47	0.47
Avail Cap(c_a), veh/h	343	446	373	240	446	373	392	917	943	128	844	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	0.71	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	62.0	68.6	48.4	57.7	56.4	71.5	0.0	0.0	83.4	32.0	32.0
Incr Delay (d2), s/veh	1.1	4.1	61.8	1.3	0.7	0.5	6.3	4.5	4.5	9.5	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	12.9	23.7	4.0	6.7	4.2	5.3	1.2	1.2	3.1	12.4	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	66.1	130.4	49.7	58.4	56.9	77.7	4.5	4.5	92.9	33.9	33.9
LnGrp LOS	D	E	F	D	E	E	E	A	A	F	C	C
Approach Vol, veh/h		854			394			1690			872	
Approach Delay, s/veh		92.4			55.4			15.3			38.1	
Approach LOS		F			E			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.3	89.0	19.7	50.0	13.9	96.4	20.0	49.7				
Change Period (Y+Rc), s	6.6	5.5	*9.1	*9.1	6.1	5.5	*9.1	*9.1				
Max Green Setting (Gmax), s	18.4	79.5	*11	*41	10.9	87.5	*11	*41				
Max Q Clear Time (g_c+I1), s	14.3	29.5	10.6	44.9	8.1	2.0	14.8	15.7				
Green Ext Time (p_c), s	0.5	5.8	0.0	0.0	0.0	15.5	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			41.9									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
 2: S. Van Dorn Street & S. Pickett Street

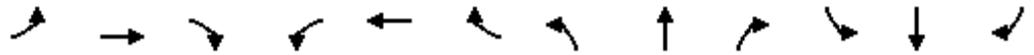
Total Future AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	19	99	369	26	22	104	1468	478	47	1075	49
Future Volume (veh/h)	28	19	99	369	26	22	104	1468	478	47	1075	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	21	108	401	28	24	113	1596	520	51	1168	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	176	219	480	185	158	408	2270	987	226	2180	99
Arrive On Green	0.03	0.09	0.09	0.14	0.20	0.20	0.09	1.00	1.00	0.07	1.00	1.00
Sat Flow, veh/h	1781	1870	1575	3456	922	790	1781	3554	1545	1781	3458	157
Grp Volume(v), veh/h	30	21	108	401	0	52	113	1596	520	51	600	621
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1728	0	1712	1781	1777	1545	1781	1777	1838
Q Serve(g_s), s	2.7	1.9	11.4	20.3	0.0	4.5	4.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	2.7	1.9	11.4	20.3	0.0	4.5	4.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.46	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	225	176	219	480	0	343	408	2270	987	226	1120	1159
V/C Ratio(X)	0.13	0.12	0.49	0.84	0.00	0.15	0.28	0.70	0.53	0.23	0.54	0.54
Avail Cap(c_a), veh/h	275	291	316	557	0	437	447	2270	987	270	1120	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.57	0.57	0.57	0.81	0.81	0.81
Uniform Delay (d), s/veh	69.8	74.7	71.6	75.5	0.0	59.4	9.7	0.0	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	1.7	9.5	0.0	0.3	0.2	1.1	1.2	0.4	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.9	4.8	9.8	0.0	2.0	1.5	0.3	0.3	0.7	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	75.0	73.3	84.9	0.0	59.7	9.9	1.1	1.2	10.3	1.5	1.4
LnGrp LOS	E	E	E	F	A	E	A	A	A	B	A	A
Approach Vol, veh/h		159			453			2229			1272	
Approach Delay, s/veh		73.0			82.0			1.5			1.8	
Approach LOS		E			F			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	118.0	29.0	20.9	10.6	119.5	9.9	40.0				
Change Period (Y+Rc), s	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0				
Max Green Setting (Gmax), s	10.0	92.5	27.0	26.0	9.0	93.5	9.0	44.0				
Max Q Clear Time (g_c+I1), s	6.0	2.0	22.3	13.4	3.8	2.0	4.7	6.5				
Green Ext Time (p_c), s	0.1	6.1	0.7	0.3	0.0	29.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				13.2								
HCM 6th LOS				B								

HCM Signalized Intersection Capacity Analysis

3: S. Van Dorn Street & Courtney Avenue

Total Future AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (vph)	50	0	41	10	0	9	32	2020	23	10	1506	40
Future Volume (vph)	50	0	41	10	0	9	32	2020	23	10	1506	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		3.0	4.0		3.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.94		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1702			1699		1770	3531		1770	3524	
Flt Permitted		0.84			0.82		0.12	1.00		0.05	1.00	
Satd. Flow (perm)		1474			1424		215	3531		93	3524	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	45	11	0	10	35	2196	25	11	1637	43
RTOR Reduction (vph)	0	43	0	0	19	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	56	0	0	2	0	35	2221	0	11	1679	0
Confl. Peds. (#/hr)									9	9		
Confl. Bikes (#/hr)									1			1
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Actuated Green, G (s)		15.0			15.0		148.5	144.4		147.5	143.9	
Effective Green, g (s)		17.0			17.0		152.5	146.4		151.5	145.9	
Actuated g/C Ratio		0.09			0.09		0.85	0.81		0.84	0.81	
Clearance Time (s)		6.0			6.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		5.5			5.5		2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)		139			134		234	2871		130	2856	
v/s Ratio Prot							c0.01	c0.63		0.00	0.48	
v/s Ratio Perm		c0.04			0.00		0.12			0.07		
v/c Ratio		0.40			0.01		0.15	0.77		0.08	0.59	
Uniform Delay, d1		76.7			73.9		4.9	8.5		12.2	6.2	
Progression Factor		1.00			1.00		0.75	0.68		1.18	1.12	
Incremental Delay, d2		4.6			0.1		0.1	1.3		0.1	0.7	
Delay (s)		81.3			74.0		3.7	7.0		14.6	7.7	
Level of Service		F			E		A	A		B	A	
Approach Delay (s)		81.3			74.0			7.0			7.7	
Approach LOS		F			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.4				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			180.0				Sum of lost time (s)				11.0	
Intersection Capacity Utilization			69.9%				ICU Level of Service				C	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Total Future AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	9	114	183	31	596	93	1445	160	246	1127	55
Future Volume (vph)	58	9	114	183	31	596	93	1445	160	246	1127	55
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.9	5.9	5.9	4.9	3.7	3.7	4.8	3.7	3.7
Lane Util. Factor		1.00	1.00	0.95	0.95	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1786	1583	1681	1709	2714	1770	3539	1556	1770	3539	1551
Flt Permitted		0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1786	1583	1681	1709	2714	1770	3539	1556	1770	3539	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	10	124	199	34	648	101	1571	174	267	1225	60
RTOR Reduction (vph)	0	0	116	0	0	67	0	0	75	0	0	25
Lane Group Flow (vph)	0	73	8	115	118	581	101	1571	99	267	1225	35
Confl. Peds. (#/hr)									3	3		
Confl. Bikes (#/hr)						4						1
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	0
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4	4 5	1 7	6 7		5	2	
Permitted Phases			3						6 7			2
Actuated Green, G (s)		9.8	9.8	19.3	19.3	58.4	14.3	91.1	91.1	31.2	102.2	102.2
Effective Green, g (s)		11.8	11.8	21.3	21.3	60.4	18.3	93.1	93.1	33.2	104.2	104.2
Actuated g/C Ratio		0.07	0.07	0.12	0.12	0.34	0.10	0.52	0.52	0.18	0.58	0.58
Clearance Time (s)		7.0	7.0	7.9	7.9					6.8	5.7	5.7
Vehicle Extension (s)		4.0	4.0	4.0	4.0					4.0	2.0	2.0
Lane Grp Cap (vph)		117	103	198	202	910	179	1830	804	326	2048	897
v/s Ratio Prot		c0.04		0.07	0.07	c0.21	0.06	c0.44		c0.15	0.35	
v/s Ratio Perm			0.01						0.06			0.02
v/c Ratio		0.62	0.08	0.58	0.58	0.64	0.56	0.86	0.12	0.82	0.60	0.04
Uniform Delay, d1		81.9	79.0	75.1	75.2	50.6	77.1	37.7	22.4	70.5	24.4	16.3
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	0.82	1.00
Incremental Delay, d2		11.2	0.4	5.1	5.0	1.7	4.9	5.5	0.3	13.2	1.1	0.1
Delay (s)		93.1	79.4	80.2	80.2	52.2	81.9	43.2	22.7	84.3	21.2	16.4
Level of Service		F	E	F	F	D	F	D	C	F	C	B
Approach Delay (s)		84.5			59.6			43.4			31.8	
Approach LOS		F			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			44.4								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			180.0							24.4		
Intersection Capacity Utilization			78.4%								ICU Level of Service	D
Analysis Period (min)			15									
c	Critical Lane Group											

HCM 6th Signalized Intersection Summary

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Total Future AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	380	103	31	238	88	138	153	31	128	174	52
Future Volume (veh/h)	39	380	103	31	238	88	138	153	31	128	174	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.96
Parking Bus, Adj	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	413	0	34	259	0	150	166	34	139	189	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	767		409	735		532	356	73	553	367	111
Arrive On Green	0.26	0.26	0.00	0.08	0.39	0.00	0.12	0.27	0.27	0.12	0.27	0.27
Sat Flow, veh/h	190	3041	0	1781	1870	0	1781	1315	269	1781	1365	412
Grp Volume(v), veh/h	256	199	0	34	259	0	150	0	200	139	0	246
Grp Sat Flow(s),veh/h/ln	1742	1415	0	1781	1870	0	1781	0	1585	1781	0	1777
Q Serve(g_s), s	2.2	6.2	0.0	0.6	5.0	0.0	2.9	0.0	5.4	2.7	0.0	6.0
Cycle Q Clear(g_c), s	6.3	6.2	0.0	0.6	5.0	0.0	2.9	0.0	5.4	2.7	0.0	6.0
Prop In Lane	0.16		0.00	1.00		0.00	1.00		0.17	1.00		0.23
Lane Grp Cap(c), veh/h	531	366		409	735		532	0	429	553	0	478
V/C Ratio(X)	0.48	0.54		0.08	0.35		0.28	0.00	0.47	0.25	0.00	0.51
Avail Cap(c_a), veh/h	1306	1017		757	1962		794	0	831	957	0	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.4	16.5	0.0	11.0	11.0	0.0	10.8	0.0	15.7	10.7	0.0	16.0
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.0	0.1	0.0	0.1	0.0	0.6	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	1.9	0.0	0.2	1.8	0.0	1.0	0.0	1.8	0.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	16.9	0.0	11.0	11.1	0.0	10.9	0.0	16.3	10.7	0.0	16.6
LnGrp LOS	B	B		B	B		B	A	B	B	A	B
Approach Vol, veh/h		455			293			350			385	
Approach Delay, s/veh		16.8			11.1			13.9			14.5	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	18.4	6.9	16.8	9.4	18.3		23.7				
Change Period (Y+Rc), s	5.0	6.5	5.0	5.5	5.0	6.5		5.5				
Max Green Setting (Gmax), s	16.0	25.0	12.0	35.0	12.0	29.0		52.0				
Max Q Clear Time (g_c+I1), s	4.7	7.4	2.6	8.3	4.9	8.0		7.0				
Green Ext Time (p_c), s	0.1	0.9	0.0	2.0	0.1	1.2		1.1				

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

7: Metro Road & Summers Grove Road

Total Future AM

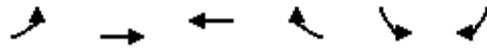
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	7	32	56	0	6	6	35	13	46	107	3
Future Volume (vph)	0	7	32	56	0	6	6	35	13	46	107	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95	
Frbp, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00	1.00	0.98	1.00	
Frt		0.89		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1628		1767	1546		1760	1863	1523	1738	3502	
Flt Permitted		1.00		0.27	1.00		0.68	1.00	1.00	0.73	1.00	
Satd. Flow (perm)		1628		503	1546		1254	1863	1523	1340	3502	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	8	35	61	0	7	7	38	14	50	116	3
RTOR Reduction (vph)	0	32	0	0	5	0	0	0	7	0	1	0
Lane Group Flow (vph)	0	11	0	61	2	0	7	38	7	50	118	0
Confl. Peds. (#/hr)	3		3	3		3	4		12	12		4
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	3
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		3			2			1		Perm		1
Permitted Phases	3			2			1		1	1		
Actuated Green, G (s)		3.6		12.8	12.8		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)		5.6		14.8	14.8		33.0	33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.09		0.23	0.23		0.50	0.50	0.50	0.50	0.50	
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		2.0		4.0	4.0		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		139		113	349		632	940	768	676	1767	
v/s Ratio Prot		c0.01			0.00			0.02			0.03	
v/s Ratio Perm				c0.12			0.01		0.00	c0.04		
v/c Ratio		0.08		0.54	0.00		0.01	0.04	0.01	0.07	0.07	
Uniform Delay, d1		27.5		22.3	19.6		8.1	8.2	8.1	8.3	8.3	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1		6.2	0.0		0.0	0.1	0.0	0.2	0.1	
Delay (s)		27.6		28.5	19.6		8.1	8.3	8.1	8.5	8.4	
Level of Service		C		C	B		A	A	A	A	A	
Approach Delay (s)		27.6			27.6			8.2			8.4	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			14.7				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.20									
Actuated Cycle Length (s)			65.4				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			39.2%				ICU Level of Service				A	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Eisenhower Avenue & Metro Road

Total Future AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	394	718	35	104	92
Future Volume (vph)	19	394	718	35	104	92
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	2.0	4.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.93	
Flt Protected	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (prot)	1767	3539	3539	1557	3272	
Flt Permitted	0.29	1.00	1.00	1.00	0.97	
Satd. Flow (perm)	542	3539	3539	1557	3272	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	428	780	38	113	100
RTOR Reduction (vph)	0	0	0	0	81	0
Lane Group Flow (vph)	21	428	780	38	132	0
Confl. Peds. (#/hr)	15			15		
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	0	0	0	0	9
Turn Type	pm+pt	NA	NA	Free	Prot	
Protected Phases	3	1 3	1		2	
Permitted Phases	1 3			Free		
Actuated Green, G (s)	50.5	55.5	40.1	80.0	13.0	
Effective Green, g (s)	54.5	54.5	42.1	80.0	15.0	
Actuated g/C Ratio	0.68	0.68	0.53	1.00	0.19	
Clearance Time (s)	5.0		5.5		6.0	
Vehicle Extension (s)	4.0		0.2		4.0	
Lane Grp Cap (vph)	559	2410	1862	1557	613	
v/s Ratio Prot	0.01	c0.12	c0.22		c0.04	
v/s Ratio Perm	0.02			0.02		
v/c Ratio	0.04	0.18	0.42	0.02	0.21	
Uniform Delay, d1	4.5	4.6	11.5	0.0	27.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.0	0.7	0.0	0.2	
Delay (s)	4.5	4.7	12.2	0.0	27.8	
Level of Service	A	A	B	A	C	
Approach Delay (s)		4.7	11.6		27.8	
Approach LOS		A	B		C	

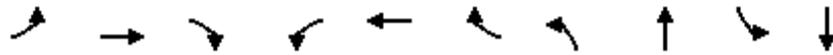
Intersection Summary

HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues

1: S. Van Dorn Street & Edsall Road

Total Future AM



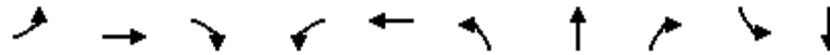
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	295	393	115	170	109	248	1442	62	810
v/c Ratio	0.52	0.76	0.74	0.51	0.44	0.25	0.66	0.78	0.50	0.47
Control Delay	52.2	79.7	29.7	52.1	65.0	3.5	104.0	15.9	94.7	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	79.7	29.7	52.1	65.0	3.5	104.0	15.9	94.7	32.5
Queue Length 50th (ft)	146	329	150	98	175	0	128	627	71	341
Queue Length 95th (ft)	209	433	279	150	250	19	206	120	129	417
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	321	444	571	226	444	475	392	1856	129	1708
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.66	0.69	0.51	0.38	0.23	0.63	0.78	0.48	0.47

Intersection Summary

Queues

2: S. Van Dorn Street & S. Pickett Street

Total Future AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	21	108	401	52	113	1596	520	51	1221
v/c Ratio	0.18	0.15	0.42	0.78	0.18	0.37	0.67	0.48	0.25	0.53
Control Delay	55.1	77.2	18.9	85.1	37.9	5.2	9.3	3.7	12.1	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.0	0.0
Total Delay	55.1	77.2	18.9	85.1	37.9	5.2	10.0	4.5	12.1	14.6
Queue Length 50th (ft)	28	24	15	237	30	15	313	126	13	334
Queue Length 95th (ft)	51	52	68	298	67	m21	732	187	m35	429
Internal Link Dist (ft)		736			1223		435			1192
Turn Bay Length (ft)	215		320	265		240		115	450	
Base Capacity (vph)	179	289	271	553	457	322	2398	1083	223	2307
Starvation Cap Reductn	0	0	0	0	0	0	434	279	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.07	0.40	0.73	0.11	0.35	0.81	0.65	0.23	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: S. Van Dorn Street & Courtney Avenue

Total Future AM



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	99	21	35	2221	11	1680
v/c Ratio	0.54	0.12	0.14	0.76	0.06	0.58
Control Delay	50.3	1.4	2.5	7.7	3.3	8.4
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.1
Total Delay	50.3	1.4	2.5	8.0	3.3	8.5
Queue Length 50th (ft)	58	0	4	319	2	312
Queue Length 95th (ft)	121	2	m7	456	m5	383
Internal Link Dist (ft)	260	292		873		435
Turn Bay Length (ft)			130		130	
Base Capacity (vph)	254	246	306	2929	210	2875
Starvation Cap Reductn	0	0	0	202	0	163
Spillback Cap Reductn	1	0	0	134	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.09	0.11	0.81	0.05	0.62

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Total Future AM



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	73	124	115	118	648	101	1571	174	267	1225	60
v/c Ratio	0.62	0.44	0.58	0.58	0.67	0.56	0.85	0.20	0.82	0.60	0.06
Control Delay	104.9	5.0	87.6	87.8	47.1	62.0	42.7	4.7	88.1	21.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	104.9	5.0	87.6	87.8	47.1	62.0	43.0	4.7	88.1	21.4	0.3
Queue Length 50th (ft)	86	0	137	142	317	79	844	11	328	334	0
Queue Length 95th (ft)	#153	0	217	222	397	128	951	54	#434	528	m3
Internal Link Dist (ft)	223			917			632			355	
Turn Bay Length (ft)		30	120		120	140		120	385		
Base Capacity (vph)	119	281	199	202	990	188	1853	889	346	2048	963
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	1	0	48	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.44	0.58	0.58	0.66	0.54	0.87	0.20	0.77	0.60	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Total Future AM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	567	34	355	150	200	139	246
v/c Ratio	0.50	0.09	0.42	0.32	0.51	0.27	0.57
Control Delay	20.7	12.9	15.1	15.4	29.6	14.8	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	12.9	15.1	15.4	29.6	14.8	30.6
Queue Length 50th (ft)	104	8	93	43	79	40	99
Queue Length 95th (ft)	195	28	205	88	161	82	190
Internal Link Dist (ft)	556		368		314		1161
Turn Bay Length (ft)				60			
Base Capacity (vph)	1510	507	1344	534	604	644	778
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.07	0.26	0.28	0.33	0.22	0.32
Intersection Summary							

Queues

7: Metro Road & Summers Grove Road

Total Future AM

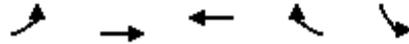


Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	43	61	7	7	38	14	50	119
v/c Ratio	0.15	0.30	0.01	0.01	0.03	0.01	0.06	0.06
Control Delay	14.7	20.1	0.0	17.0	16.7	0.0	16.8	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	20.1	0.0	17.0	16.7	0.0	16.8	15.2
Queue Length 50th (ft)	3	18	0	2	11	0	15	18
Queue Length 95th (ft)	30	50	0	11	32	0	39	36
Internal Link Dist (ft)	115		187		260			296
Turn Bay Length (ft)							70	
Base Capacity (vph)	493	252	1238	742	1104	949	790	2075
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.24	0.01	0.01	0.03	0.01	0.06	0.06
Intersection Summary								

Queues

8: Eisenhower Avenue & Metro Road

Total Future AM



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	21	428	780	38	213
v/c Ratio	0.04	0.17	0.42	0.02	0.31
Control Delay	3.3	3.8	12.7	0.0	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	3.8	12.7	0.0	16.3
Queue Length 50th (ft)	2	29	116	0	24
Queue Length 95th (ft)	8	42	171	0	54
Internal Link Dist (ft)		917	750		260
Turn Bay Length (ft)	230			400	
Base Capacity (vph)	585	2497	1862	1557	1051
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.17	0.42	0.02	0.20
Intersection Summary					

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Total Future PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	200	351	156	232	167	338	932	69	169	1160	100
Future Volume (veh/h)	107	200	351	156	232	167	338	932	69	169	1160	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	217	382	166	247	178	360	991	73	174	1196	103
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	373	299	266	410	331	442	1516	112	221	1471	126
Arrive On Green	0.06	0.20	0.20	0.08	0.22	0.22	0.26	0.90	0.90	0.12	0.44	0.44
Sat Flow, veh/h	1781	1870	1499	1781	1870	1507	3456	3353	247	1781	3309	284
Grp Volume(v), veh/h	116	217	382	166	247	178	360	525	539	174	641	658
Grp Sat Flow(s),veh/h/ln	1781	1870	1499	1781	1870	1507	1728	1777	1823	1781	1777	1816
Q Serve(g_s), s	7.7	15.8	29.9	11.1	17.8	15.7	14.7	10.4	10.4	14.2	47.0	47.3
Cycle Q Clear(g_c), s	7.7	15.8	29.9	11.1	17.8	15.7	14.7	10.4	10.4	14.2	47.0	47.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.16
Lane Grp Cap(c), veh/h	249	373	299	266	410	331	442	803	824	221	790	808
V/C Ratio(X)	0.47	0.58	1.28	0.62	0.60	0.54	0.81	0.65	0.65	0.79	0.81	0.81
Avail Cap(c_a), veh/h	249	373	299	266	410	331	493	803	824	296	790	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	0.71	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	54.4	60.1	44.1	52.7	51.8	54.1	4.4	4.4	63.8	36.2	36.3
Incr Delay (d2), s/veh	1.4	2.8	148.6	4.3	2.8	2.1	7.3	2.9	2.9	11.7	8.9	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	7.8	23.8	5.3	8.8	6.2	6.1	2.6	2.6	7.2	22.1	22.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	57.2	208.6	48.3	55.4	54.0	61.4	7.4	7.3	75.4	45.1	45.1
LnGrp LOS	D	E	F	D	E	D	E	A	A	E	D	D
Approach Vol, veh/h		715			591			1424			1473	
Approach Delay, s/veh		136.3			53.0			21.0			48.7	
Approach LOS		F			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.8	70.2	19.0	37.0	22.7	71.3	16.0	40.0				
Change Period (Y+Rc), s	6.6	5.5	* 9.1	* 9.1	6.1	5.5	* 9.1	* 9.1				
Max Green Setting (Gmax), s	19.4	62.5	* 9.9	* 28	22.9	59.5	* 6.9	* 31				
Max Q Clear Time (g_c+I1), s	16.7	49.3	13.1	31.9	16.2	12.4	9.7	19.8				
Green Ext Time (p_c), s	0.5	7.0	0.0	0.0	0.4	8.6	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			54.8									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
 2: S. Van Dorn Street & S. Pickett Street

Total Future PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	30	193	513	46	61	88	1301	533	81	1566	34
Future Volume (veh/h)	57	30	193	513	46	61	88	1301	533	81	1566	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	1.00		0.99	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	33	210	558	50	66	93	1369	561	82	1582	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	312	337	599	209	276	291	1784	774	248	1772	38
Arrive On Green	0.05	0.17	0.17	0.17	0.29	0.29	0.10	1.00	1.00	0.10	1.00	1.00
Sat Flow, veh/h	1781	1870	1530	3456	726	958	1781	3554	1541	1781	3555	76
Grp Volume(v), veh/h	62	33	210	558	0	116	93	1369	561	82	789	827
Grp Sat Flow(s),veh/h/ln	1781	1870	1530	1728	0	1684	1781	1777	1541	1781	1777	1854
Q Serve(g_s), s	4.2	2.2	18.7	23.9	0.0	7.9	3.7	0.0	0.0	3.3	1.6	1.7
Cycle Q Clear(g_c), s	4.2	2.2	18.7	23.9	0.0	7.9	3.7	0.0	0.0	3.3	1.6	1.7
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	350	312	337	599	0	485	291	1784	774	248	886	924
V/C Ratio(X)	0.18	0.11	0.62	0.93	0.00	0.24	0.32	0.77	0.73	0.33	0.89	0.89
Avail Cap(c_a), veh/h	400	349	367	599	0	485	343	1784	774	305	886	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.68	0.68	0.68	0.52	0.52	0.52
Uniform Delay (d), s/veh	47.4	53.0	53.2	61.1	0.0	40.8	15.2	0.0	0.0	15.4	0.1	0.1
Incr Delay (d2), s/veh	0.2	0.1	2.9	21.5	0.0	0.4	0.4	2.2	4.0	0.4	7.5	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.1	7.5	12.4	0.0	3.4	1.5	0.5	0.9	1.3	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	53.1	56.0	82.6	0.0	41.2	15.6	2.2	4.0	15.8	7.6	7.5
LnGrp LOS	D	D	E	F	A	D	B	A	A	B	A	A
Approach Vol, veh/h		305			674			2023			1698	
Approach Delay, s/veh		54.0			75.5			3.3			7.9	
Approach LOS		D			E			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	79.3	30.0	29.0	11.2	79.8	11.8	47.3				
Change Period (Y+Rc), s	6.0	6.5	6.0	6.0	6.0	6.5	6.0	6.0				
Max Green Setting (Gmax), s	10.0	65.5	24.0	26.0	10.0	65.5	10.0	40.0				
Max Q Clear Time (g_c+I1), s	5.7	3.7	25.9	20.7	5.3	2.0	6.2	9.9				
Green Ext Time (p_c), s	0.1	10.0	0.0	0.4	0.1	21.1	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.6									
HCM 6th LOS			B									

HCM Signalized Intersection Capacity Analysis

3: S. Van Dorn Street & Courtney Avenue

Total Future PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	0	43	19	0	4	54	1865	14	4	2201	66
Future Volume (vph)	52	0	43	19	0	4	54	1865	14	4	2201	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		3.0	4.0		3.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.98		1.00	1.00		1.00	1.00	
Flt Protected		0.97			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1702			1749		1770	3534		1770	3521	
Flt Permitted		0.84			0.71		0.03	1.00		0.08	1.00	
Satd. Flow (perm)		1461			1290		63	3534		142	3521	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.93	0.93	0.93
Adj. Flow (vph)	57	0	47	21	0	4	56	1943	15	4	2367	71
RTOR Reduction (vph)	0	52	0	0	22	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	52	0	0	3	0	56	1958	0	4	2437	0
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												3
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4			2			6		
Actuated Green, G (s)		14.1			14.1		122.0	117.1		115.8	114.0	
Effective Green, g (s)		16.1			16.1		125.9	119.1		119.8	116.0	
Actuated g/C Ratio		0.11			0.11		0.84	0.79		0.80	0.77	
Clearance Time (s)		6.0			6.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		5.5			5.5		2.0	0.2		2.0	0.2	
Lane Grp Cap (vph)		156			138		131	2805		154	2722	
v/s Ratio Prot							c0.02	0.55		0.00	c0.69	
v/s Ratio Perm		c0.04			0.00		0.34			0.02		
v/c Ratio		0.33			0.02		0.43	0.70		0.03	0.90	
Uniform Delay, d1		62.0			59.9		33.7	7.1		7.0	12.5	
Progression Factor		1.00			1.00		0.69	2.21		0.91	0.45	
Incremental Delay, d2		3.1			0.1		0.5	0.9		0.0	3.1	
Delay (s)		65.1			60.0		23.6	16.6		6.4	8.8	
Level of Service		E			E		C	B		A	A	
Approach Delay (s)		65.1			60.0			16.8			8.8	
Approach LOS		E			E			B			A	
Intersection Summary												
HCM 2000 Control Delay			13.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			150.0				Sum of lost time (s)			11.0		
Intersection Capacity Utilization			75.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Total Future PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	22	10	68	202	4	605	27	1316	174	383	1715	26	
Future Volume (vph)	22	10	68	202	4	605	27	1316	174	383	1715	26	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.0	5.0	5.9	5.9	5.9	4.9	3.7	3.7	4.8	3.7	3.7	
Lane Util. Factor		1.00	1.00	0.95	0.95	0.88	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)		1801	1583	1681	1688	2714	1770	3539	1557	1770	3539	1583	
Flt Permitted		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)		1801	1583	1681	1688	2714	1770	3539	1557	1770	3539	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	24	11	74	217	4	651	29	1430	189	416	1864	28	
RTOR Reduction (vph)	0	0	69	0	0	106	0	0	104	0	0	10	
Lane Group Flow (vph)	0	35	5	111	110	545	29	1430	85	416	1864	18	
Confl. Peds. (#/hr)									3	3			
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	0	
Turn Type	Split	NA	Perm	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	3		4	4	4 5	1	6		5	2		
Permitted Phases			3						6			2	
Actuated Green, G (s)		8.3	8.3	12.8	12.8	58.0	5.4	64.2	64.2	37.3	96.0	96.0	
Effective Green, g (s)		10.3	10.3	14.8	14.8	60.0	7.4	66.2	66.2	39.3	98.0	98.0	
Actuated g/C Ratio		0.07	0.07	0.10	0.10	0.40	0.05	0.44	0.44	0.26	0.65	0.65	
Clearance Time (s)		7.0	7.0	7.9	7.9		6.9	5.7	5.7	6.8	5.7	5.7	
Vehicle Extension (s)		4.0	4.0	4.0	4.0		4.0	2.0	2.0	4.0	2.0	2.0	
Lane Grp Cap (vph)		123	108	165	166	1085	87	1561	687	463	2312	1034	
v/s Ratio Prot		c0.02		c0.07	0.07	0.20	0.02	c0.40		c0.24	0.53		
v/s Ratio Perm			0.00						0.05			0.01	
v/c Ratio		0.28	0.05	0.67	0.66	0.50	0.33	0.92	0.12	0.90	0.81	0.02	
Uniform Delay, d1		66.4	65.3	65.3	65.2	33.8	68.9	39.3	24.8	53.4	19.0	9.1	
Progression Factor		1.00	1.00	0.88	0.88	1.33	1.00	1.00	1.00	1.11	0.41	1.00	
Incremental Delay, d2		1.7	0.2	10.1	9.4	0.5	3.1	10.0	0.4	12.9	1.8	0.0	
Delay (s)		68.1	65.5	67.8	67.0	45.4	72.0	49.3	25.1	72.0	9.7	9.1	
Level of Service		E	E	E	E	D	E	D	C	E	A	A	
Approach Delay (s)		66.3			51.0			46.9			20.9		
Approach LOS		E			D			D			C		
Intersection Summary													
HCM 2000 Control Delay			35.9									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.83										
Actuated Cycle Length (s)			150.0									Sum of lost time (s)	19.5
Intersection Capacity Utilization			82.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Total Future PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	77	380	123	24	366	210	114	81	33	188	79	80
Future Volume (veh/h)	77	380	123	24	366	210	114	81	33	188	79	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.97		0.96	0.98		0.97
Parking Bus, Adj	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	413	0	25	385	0	124	88	36	204	86	87
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	712		369	730		593	308	126	646	263	266
Arrive On Green	0.28	0.28	0.00	0.06	0.39	0.00	0.11	0.28	0.28	0.14	0.31	0.31
Sat Flow, veh/h	380	2646	0	1781	1870	0	1781	1091	446	1781	836	846
Grp Volume(v), veh/h	271	226	0	25	385	0	124	0	124	204	0	173
Grp Sat Flow(s),veh/h/ln	1536	1415	0	1781	1870	0	1781	0	1537	1781	0	1682
Q Serve(g_s), s	6.0	8.1	0.0	0.5	9.3	0.0	2.7	0.0	3.7	4.3	0.0	4.6
Cycle Q Clear(g_c), s	8.7	8.1	0.0	0.5	9.3	0.0	2.7	0.0	3.7	4.3	0.0	4.6
Prop In Lane	0.31		0.00	1.00		0.00	1.00		0.29	1.00		0.50
Lane Grp Cap(c), veh/h	505	392		369	730		593	0	434	646	0	529
V/C Ratio(X)	0.54	0.58		0.07	0.53		0.21	0.00	0.29	0.32	0.00	0.33
Avail Cap(c_a), veh/h	1023	890		681	1718		825	0	706	941	0	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.3	18.3	0.0	12.6	13.8	0.0	11.8	0.0	16.5	10.7	0.0	15.4
Incr Delay (d2), s/veh	0.3	0.5	0.0	0.0	0.2	0.0	0.1	0.0	0.3	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.5	0.0	0.2	3.6	0.0	1.0	0.0	1.3	1.5	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	18.8	0.0	12.6	14.0	0.0	11.9	0.0	16.7	10.8	0.0	15.7
LnGrp LOS	B	B		B	B		B	A	B	B	A	B
Approach Vol, veh/h		497			410			248				377
Approach Delay, s/veh		18.7			13.9			14.3				13.0
Approach LOS		B			B			B				B
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	21.1	6.7	19.8	9.3	23.0		26.4				
Change Period (Y+Rc), s	5.0	6.5	5.0	5.5	5.0	6.5		5.5				
Max Green Setting (Gmax), s	16.0	25.0	12.0	35.0	12.0	29.0		52.0				
Max Q Clear Time (g_c+I1), s	6.3	5.7	2.5	10.7	4.7	6.6		11.3				
Green Ext Time (p_c), s	0.2	0.5	0.0	2.3	0.1	0.8		1.7				

Intersection Summary

HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

7: Metro Road & Summers Grove Road

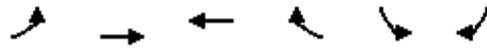
Total Future PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	1	0	13	32	1	7	8	23	11	28	147	10	
Future Volume (vph)	1	0	13	32	1	7	8	23	11	28	147	10	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.95		
Frbp, ped/bikes		0.96		1.00	0.97		1.00	1.00	0.97	1.00	1.00		
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00		
Frt		0.87		1.00	0.87		1.00	1.00	0.85	1.00	0.99		
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)		1558		1765	1569		1753	1863	1542	1759	3477		
Flt Permitted		0.97		0.33	1.00		0.64	1.00	1.00	0.74	1.00		
Satd. Flow (perm)		1524		614	1569		1188	1863	1542	1372	3477		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	1	0	14	35	1	8	9	25	12	30	160	11	
RTOR Reduction (vph)	0	14	0	0	6	0	0	0	5	0	4	0	
Lane Group Flow (vph)	0	1	0	35	3	0	9	25	7	30	167	0	
Confl. Peds. (#/hr)	10		5	5		10	8		4	4		8	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	3	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		3			2			1			1		
Permitted Phases	3			2			1		1	1			
Actuated Green, G (s)		1.1		10.1	10.1		33.3	33.3	33.3	33.3	33.3		
Effective Green, g (s)		3.1		12.1	12.1		35.3	35.3	35.3	35.3	35.3		
Actuated g/C Ratio		0.05		0.19	0.19		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)		2.0		4.0	4.0		0.2	0.2	0.2	0.2	0.2		
Lane Grp Cap (vph)		75		118	303		670	1052	870	774	1963		
v/s Ratio Prot					0.00			0.01			c0.05		
v/s Ratio Perm		c0.00		c0.06			0.01		0.00	0.02			
v/c Ratio		0.01		0.30	0.01		0.01	0.02	0.01	0.04	0.09		
Uniform Delay, d1		28.2		21.6	20.4		6.0	6.0	5.9	6.1	6.2		
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2		0.0		1.9	0.0		0.0	0.0	0.0	0.1	0.1		
Delay (s)		28.3		23.5	20.4		6.0	6.0	6.0	6.1	6.3		
Level of Service		C		C	C		A	A	A	A	A		
Approach Delay (s)		28.3			22.8			6.0			6.3		
Approach LOS		C			C			A			A		
Intersection Summary													
HCM 2000 Control Delay			9.7									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.13										
Actuated Cycle Length (s)			62.5									Sum of lost time (s)	12.0
Intersection Capacity Utilization			39.9%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

8: Eisenhower Avenue & Metro Road

Total Future PM



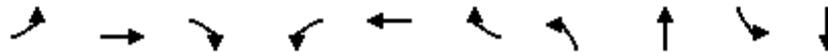
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑	↘	↙↘	
Traffic Volume (vph)	17	551	742	27	121	70
Future Volume (vph)	17	551	742	27	121	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	2.0	4.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.95	
Flt Protected	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (prot)	1769	3539	3539	1560	3311	
Flt Permitted	0.26	1.00	1.00	1.00	0.97	
Satd. Flow (perm)	477	3539	3539	1560	3311	
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	586	807	29	132	76
RTOR Reduction (vph)	0	0	0	0	61	0
Lane Group Flow (vph)	18	586	807	29	147	0
Confl. Peds. (#/hr)	8			8		
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	0	0	0	0	9
Turn Type	pm+pt	NA	NA	Free	Prot	
Protected Phases	3	1 3	1		2	
Permitted Phases	1 3			Free		
Actuated Green, G (s)	45.5	50.5	32.5	75.0	13.0	
Effective Green, g (s)	49.5	49.5	34.5	75.0	15.0	
Actuated g/C Ratio	0.66	0.66	0.46	1.00	0.20	
Clearance Time (s)	5.0		5.5		6.0	
Vehicle Extension (s)	4.0		0.2		4.0	
Lane Grp Cap (vph)	573	2335	1627	1560	662	
v/s Ratio Prot	0.01	c0.17	c0.23		c0.04	
v/s Ratio Perm	0.01			0.02		
v/c Ratio	0.03	0.25	0.50	0.02	0.22	
Uniform Delay, d1	4.9	5.2	14.2	0.0	25.1	
Progression Factor	0.34	0.27	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.1	1.1	0.0	0.2	
Delay (s)	1.7	1.5	15.3	0.0	25.4	
Level of Service	A	A	B	A	C	
Approach Delay (s)		1.5	14.7		25.4	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues

1: S. Van Dorn Street & Edsall Road

Total Future PM



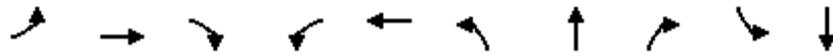
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	116	217	382	166	247	178	360	1064	174	1299
v/c Ratio	0.51	0.67	0.76	0.63	0.68	0.42	0.74	0.67	0.68	0.82
Control Delay	47.8	68.0	25.1	51.6	65.9	9.4	79.8	29.2	74.2	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	68.0	25.1	51.6	65.9	9.4	79.8	29.2	74.2	41.2
Queue Length 50th (ft)	84	199	88	124	225	0	191	182	163	595
Queue Length 95th (ft)	135	286	214	186	317	65	245	396	243	700
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	227	371	535	264	408	458	501	1597	293	1592
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.58	0.71	0.63	0.61	0.39	0.72	0.67	0.59	0.82

Intersection Summary

Queues

2: S. Van Dorn Street & S. Pickett Street

Total Future PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	62	33	210	558	116	93	1369	561	82	1616
v/c Ratio	0.28	0.20	0.64	0.94	0.33	0.50	0.67	0.59	0.35	0.80
Control Delay	42.7	62.8	32.6	85.2	33.4	41.3	15.0	9.8	14.5	19.2
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.8	0.7	0.0	0.8
Total Delay	42.7	62.8	32.8	85.2	33.4	41.3	15.8	10.6	14.5	19.9
Queue Length 50th (ft)	46	31	87	281	62	0	244	76	19	253
Queue Length 95th (ft)	72	60	148	#392	109	m100	583	204	m39	#1001
Internal Link Dist (ft)		736			1223		435			1192
Turn Bay Length (ft)	215		320	265		240		115	450	
Base Capacity (vph)	238	347	344	595	500	203	2045	958	259	2020
Starvation Cap Reductn	0	0	0	0	0	0	344	153	0	0
Spillback Cap Reductn	0	0	4	0	0	0	0	0	0	153
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.10	0.62	0.94	0.23	0.46	0.80	0.70	0.32	0.87

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: S. Van Dorn Street & Courtney Avenue

Total Future PM



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	104	25	56	1958	4	2438
v/c Ratio	0.50	0.13	0.40	0.67	0.02	0.89
Control Delay	36.7	1.4	15.3	17.4	2.8	10.2
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.8
Total Delay	36.7	1.4	15.3	17.4	2.8	11.0
Queue Length 50th (ft)	43	0	15	607	0	190
Queue Length 95th (ft)	98	1	m30	970	m1	#1428
Internal Link Dist (ft)	260	292		873		435
Turn Bay Length (ft)			130		130	
Base Capacity (vph)	301	271	200	2902	261	2749
Starvation Cap Reductn	0	0	0	0	0	110
Spillback Cap Reductn	1	0	0	117	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.09	0.28	0.70	0.02	0.92

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

5: S. Van Dorn Street & Farrington Avenue/Eisenhower Avenue

Total Future PM



Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	74	111	110	651	29	1430	189	416	1864	28
v/c Ratio	0.28	0.27	0.67	0.66	0.56	0.24	0.92	0.24	0.90	0.78	0.03
Control Delay	72.0	2.4	76.1	75.7	35.2	70.9	49.7	4.2	73.4	9.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	2.4	76.1	75.7	35.2	70.9	49.7	4.2	73.4	9.3	0.0
Queue Length 50th (ft)	33	0	89	88	289	27	690	2	395	521	0
Queue Length 95th (ft)	72	0	#196	#195	203	62	#845	49	m449	311	m0
Internal Link Dist (ft)	223			917			632			355	
Turn Bay Length (ft)		30	120		120	140		120	385		
Base Capacity (vph)	132	280	166	166	1187	130	1560	790	474	2377	1108
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.26	0.67	0.66	0.55	0.22	0.92	0.24	0.88	0.78	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

6: Cameron Station Boulevard/Edsall Road & S. Pickett Street

Total Future PM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	631	25	606	124	124	204	173
v/c Ratio	0.58	0.06	0.69	0.26	0.36	0.37	0.39
Control Delay	20.1	12.3	20.0	16.4	28.9	17.3	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	12.3	20.0	16.4	28.9	17.3	22.9
Queue Length 50th (ft)	85	5	175	27	37	47	42
Queue Length 95th (ft)	247	23	436	88	115	139	131
Internal Link Dist (ft)	556		368		314		1161
Turn Bay Length (ft)				60			
Base Capacity (vph)	1366	533	1359	577	630	629	802
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.05	0.45	0.21	0.20	0.32	0.22
Intersection Summary							

Queues

7: Metro Road & Summers Grove Road

Total Future PM

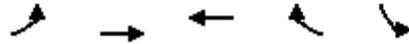


Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	35	9	9	25	12	30	171
v/c Ratio	0.04	0.15	0.02	0.01	0.02	0.01	0.03	0.07
Control Delay	0.2	16.2	8.5	12.2	11.7	0.0	11.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2	16.2	8.5	12.2	11.7	0.0	11.8	9.3
Queue Length 50th (ft)	0	10	0	1	4	0	4	12
Queue Length 95th (ft)	0	29	9	12	23	0	27	48
Internal Link Dist (ft)	115		187		260			296
Turn Bay Length (ft)							70	
Base Capacity (vph)	562	330	841	810	1274	1092	936	2379
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.11	0.01	0.01	0.02	0.01	0.03	0.07
Intersection Summary								

Queues

8: Eisenhower Avenue & Metro Road

Total Future PM



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	18	586	807	29	208
v/c Ratio	0.03	0.24	0.50	0.02	0.29
Control Delay	1.2	1.3	16.1	0.0	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	1.3	16.1	0.0	17.2
Queue Length 50th (ft)	1	11	131	0	26
Queue Length 95th (ft)	m0	m18	201	0	54
Internal Link Dist (ft)		917	750		260
Turn Bay Length (ft)	230			400	
Base Capacity (vph)	584	2462	1629	1560	1067
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.24	0.50	0.02	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX F
BUILDOUT CONDITIONS WITH IMPROVEMENTS
SYNCHRO WORKSHEETS

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Total Future AM with Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	271	362	106	156	100	228	1241	86	57	684	62
Future Volume (veh/h)	153	271	362	106	156	100	228	1241	86	57	684	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	295	393	115	170	109	248	1349	93	62	743	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	332	442	503	218	412	344	292	1689	116	125	1576	142
Arrive On Green	0.08	0.24	0.24	0.06	0.22	0.22	0.17	1.00	0.99	0.07	0.48	0.45
Sat Flow, veh/h	1781	1870	1563	1781	1870	1561	3456	3373	232	1781	3295	297
Grp Volume(v), veh/h	166	295	393	115	170	109	248	709	733	62	400	410
Grp Sat Flow(s),veh/h/ln	1781	1870	1563	1781	1870	1561	1728	1777	1828	1781	1777	1815
Q Serve(g_s), s	13.0	25.7	41.1	8.9	14.0	10.5	12.5	0.0	0.4	6.0	27.3	27.5
Cycle Q Clear(g_c), s	13.0	25.7	41.1	8.9	14.0	10.5	12.5	0.0	0.4	6.0	27.3	27.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	332	442	503	218	412	344	292	890	915	125	850	868
V/C Ratio(X)	0.50	0.67	0.78	0.53	0.41	0.32	0.85	0.80	0.80	0.49	0.47	0.47
Avail Cap(c_a), veh/h	332	442	503	218	413	344	545	890	915	128	850	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	62.4	55.5	51.5	60.1	58.8	73.7	0.0	0.1	80.6	31.6	32.0
Incr Delay (d2), s/veh	1.2	4.3	8.2	1.9	0.7	0.6	4.8	5.1	5.1	4.2	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	13.0	17.6	4.2	6.9	4.3	5.3	1.3	1.3	2.9	12.3	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	66.7	63.7	53.3	60.9	59.4	78.4	5.1	5.2	84.8	33.5	33.8
LnGrp LOS	D	E	E	D	E	E	E	A	A	F	C	C
Approach Vol, veh/h		854			394			1690			872	
Approach Delay, s/veh		62.2			58.3			15.9			37.3	
Approach LOS		E			E			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.8	86.6	20.0	51.6	13.8	94.6	22.8	48.8				
Change Period (Y+Rc), s	6.6	5.5	*9.1	*9.1	6.1	5.5	*9.1	*9.1				
Max Green Setting (Gmax), s	28.4	67.9	*11	*43	7.9	88.9	*14	*40				
Max Q Clear Time (g_c+I1), s	14.5	29.5	10.9	43.1	8.0	2.4	15.0	16.0				
Green Ext Time (p_c), s	0.7	5.7	0.0	0.0	0.0	15.5	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			35.6									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
 3: S. Van Dorn Street & Courtney Avenue

Total Future AM with Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	0	41	10	0	9	32	2020	23	10	1506	40
Future Volume (veh/h)	50	0	41	10	0	9	32	2020	23	10	1506	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	0	45	11	0	10	35	2196	0	11	1637	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	0	55	19	0	17	295	2691		38	2785	73
Arrive On Green	0.07	0.00	0.07	0.02	0.00	0.02	0.02	0.76	0.00	0.04	1.00	1.00
Sat Flow, veh/h	920	0	767	881	0	801	1781	3647	0	1781	3535	93
Grp Volume(v), veh/h	99	0	0	21	0	0	35	2196	0	11	821	859
Grp Sat Flow(s),veh/h/ln	1686	0	0	1682	0	0	1781	1777	0	1781	1777	1851
Q Serve(g_s), s	10.4	0.0	0.0	2.2	0.0	0.0	0.8	70.7	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	10.4	0.0	0.0	2.2	0.0	0.0	0.8	70.7	0.0	1.1	0.0	0.0
Prop In Lane	0.55		0.45	0.52		0.48	1.00		0.00	1.00		0.05
Lane Grp Cap(c), veh/h	122	0	0	36	0	0	295	2691		38	1400	1458
V/C Ratio(X)	0.81	0.00	0.00	0.58	0.00	0.00	0.12	0.82		0.29	0.59	0.59
Avail Cap(c_a), veh/h	225	0	0	224	0	0	371	2691		109	1400	1458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	82.3	0.0	0.0	87.2	0.0	0.0	4.6	13.9	0.0	84.9	0.0	0.0
Incr Delay (d2), s/veh	28.8	0.0	0.0	34.0	0.0	0.0	0.1	2.9	0.0	1.2	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	0.0	1.3	0.0	0.0	0.3	27.0	0.0	0.5	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.1	0.0	0.0	121.2	0.0	0.0	4.7	16.7	0.0	86.1	1.4	1.4
LnGrp LOS	F	A	A	F	A	A	A	B		F	A	A
Approach Vol, veh/h		99			21			2231			1691	
Approach Delay, s/veh		111.1			121.2			16.6			1.9	
Approach LOS		F			F			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	142.3		19.0	8.3	142.8		9.9				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	11.0	98.0		24.0	11.0	98.0		24.0				
Max Q Clear Time (g_c+I1), s	3.1	72.7		12.4	2.8	2.0		4.2				
Green Ext Time (p_c), s	0.0	4.5		0.7	0.0	1.9		0.1				

Intersection Summary

HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Queues

1: S. Van Dorn Street & Edsall Road

Total Future AM with Improvements

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	295	393	115	170	109	248	1442	62	810
v/c Ratio	0.56	0.83	0.69	0.60	0.52	0.28	0.70	0.77	0.41	0.46
Control Delay	55.7	89.4	38.5	59.9	72.3	4.1	106.0	15.0	87.0	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	89.4	38.5	59.9	72.3	4.1	106.0	15.0	87.0	30.9
Queue Length 50th (ft)	152	339	271	102	185	0	135	615	70	317
Queue Length 95th (ft)	210	435	349	150	256	19	201	103	129	435
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	300	439	648	195	410	450	541	1867	150	1768
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.67	0.61	0.59	0.41	0.24	0.46	0.77	0.41	0.46
Intersection Summary										

Queues

3: S. Van Dorn Street & Courtney Avenue

Total Future AM with Improvements



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	99	21	35	2221	11	1680
v/c Ratio	0.51	0.11	0.18	0.82	0.12	0.61
Control Delay	27.6	1.3	5.5	15.1	83.9	12.4
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	27.6	1.3	5.5	15.2	83.9	12.4
Queue Length 50th (ft)	16	0	5	346	0	312
Queue Length 95th (ft)	76	0	m14	#1735	m25	525
Internal Link Dist (ft)	260	292		873		435
Turn Bay Length (ft)			130		130	
Base Capacity (vph)	300	300	245	2716	108	2753
Starvation Cap Reductn	0	0	0	0	0	60
Spillback Cap Reductn	1	0	0	52	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.07	0.14	0.83	0.10	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

1: S. Van Dorn Street & Edsall Road

Total Future PM with Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	200	351	156	232	167	338	932	69	169	1160	100
Future Volume (veh/h)	107	200	351	156	232	167	338	932	69	169	1160	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.94	0.99		0.94	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	217	382	166	247	178	360	991	73	174	1196	103
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	323	443	217	360	288	406	1546	114	253	1572	135
Arrive On Green	0.05	0.17	0.17	0.07	0.19	0.19	0.24	0.92	0.91	0.14	0.48	0.44
Sat Flow, veh/h	1781	1870	1486	1781	1870	1496	3456	3353	247	1781	3309	284
Grp Volume(v), veh/h	116	217	382	166	247	178	360	525	539	174	641	658
Grp Sat Flow(s),veh/h/ln	1781	1870	1486	1781	1870	1496	1728	1777	1823	1781	1777	1816
Q Serve(g_s), s	6.9	16.3	25.9	9.9	18.4	16.4	15.1	8.5	8.7	13.9	44.5	44.9
Cycle Q Clear(g_c), s	6.9	16.3	25.9	9.9	18.4	16.4	15.1	8.5	8.7	13.9	44.5	44.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.16
Lane Grp Cap(c), veh/h	196	323	443	217	360	288	406	819	840	253	844	863
V/C Ratio(X)	0.59	0.67	0.86	0.76	0.69	0.62	0.89	0.64	0.64	0.69	0.76	0.76
Avail Cap(c_a), veh/h	196	323	443	217	360	288	493	819	840	319	844	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.66	0.66	0.66	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	58.1	50.8	51.7	56.3	55.5	56.4	3.5	3.6	61.2	32.3	32.8
Incr Delay (d2), s/veh	4.7	6.0	16.3	13.9	5.5	4.3	10.9	2.6	2.5	5.6	6.4	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.3	15.8	2.3	9.4	6.6	6.4	2.1	2.2	6.7	20.3	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	64.1	67.1	65.5	61.8	59.8	67.3	6.0	6.1	66.8	38.7	39.1
LnGrp LOS	E	E	E	E	E	E	E	A	A	E	D	D
Approach Vol, veh/h		715			591			1424			1473	
Approach Delay, s/veh		64.5			62.2			21.5			42.2	
Approach LOS		E			E			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	71.8	19.0	35.0	22.4	73.6	16.0	38.0				
Change Period (Y+Rc), s	6.6	5.5	*9.1	*9.1	6.1	5.5	*9.1	*9.1				
Max Green Setting (Gmax), s	21.4	62.5	*9.9	*26	21.9	62.5	*6.9	*29				
Max Q Clear Time (g_c+I1), s	17.1	46.9	11.9	27.9	15.9	10.7	8.9	20.4				
Green Ext Time (p_c), s	0.5	7.8	0.0	0.0	0.3	8.6	0.0	1.9				

Intersection Summary

HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary 3: S. Van Dorn Street & Courtney Avenue

Total Future PM with Improvements

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	43	19	0	4	54	1865	14	4	2201	66
Future Volume (veh/h)	52	0	43	19	0	4	54	1865	14	4	2201	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	0	47	21	0	4	56	1943	0	4	2367	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	0	59	38	0	7	191	2607		16	2647	79
Arrive On Green	0.08	0.00	0.08	0.03	0.00	0.03	0.02	0.73	0.00	0.02	1.00	1.00
Sat Flow, veh/h	925	0	762	1467	0	279	1781	3647	0	1781	3520	105
Grp Volume(v), veh/h	104	0	0	25	0	0	56	1943	0	4	1188	1250
Grp Sat Flow(s),veh/h/ln	1687	0	0	1747	0	0	1781	1777	0	1781	1777	1848
Q Serve(g_s), s	9.1	0.0	0.0	2.1	0.0	0.0	1.3	48.2	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	9.1	0.0	0.0	2.1	0.0	0.0	1.3	48.2	0.0	0.3	0.0	0.0
Prop In Lane	0.55		0.45	0.84		0.16	1.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h	132	0	0	45	0	0	191	2607		16	1336	1390
V/C Ratio(X)	0.79	0.00	0.00	0.55	0.00	0.00	0.29	0.75		0.24	0.89	0.90
Avail Cap(c_a), veh/h	270	0	0	279	0	0	279	2607		131	1336	1390
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.44	0.44	0.44
Uniform Delay (d), s/veh	68.0	0.0	0.0	72.2	0.0	0.0	5.1	11.7	0.0	73.1	0.0	0.0
Incr Delay (d2), s/veh	24.5	0.0	0.0	26.0	0.0	0.0	0.3	2.0	0.0	1.2	4.4	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	0.0	1.3	0.0	0.0	0.5	17.9	0.0	0.2	1.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.4	0.0	0.0	98.2	0.0	0.0	5.4	13.7	0.0	74.3	4.4	4.6
LnGrp LOS	F	A	A	F	A	A	A	B		E	A	A
Approach Vol, veh/h		104			25			1999			2442	
Approach Delay, s/veh		92.4			98.2			13.5			4.6	
Approach LOS		F			F			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	116.0		17.7	8.6	113.8		9.9				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	11.0	68.0		24.0	11.0	68.0		24.0				
Max Q Clear Time (g_c+I1), s	2.3	50.2		11.1	3.3	2.0		4.1				
Green Ext Time (p_c), s	0.0	3.5		0.8	0.0	3.7		0.1				

Intersection Summary

HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

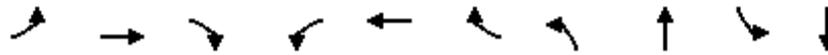
Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Queues

1: S. Van Dorn Street & Edsall Road

Total Future PM with Improvements



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	116	217	382	166	247	178	360	1064	174	1299
v/c Ratio	0.62	0.78	0.73	0.74	0.78	0.45	0.79	0.66	0.61	0.77
Control Delay	59.6	80.3	40.7	65.3	76.9	10.6	78.4	32.1	67.5	36.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	80.3	40.7	65.3	76.9	10.6	78.4	32.1	67.5	36.4
Queue Length 50th (ft)	87	205	239	129	232	0	192	244	159	561
Queue Length 95th (ft)	141	296	348	#199	329	68	245	426	239	673
Internal Link Dist (ft)		931			1161			1192		977
Turn Bay Length (ft)						240	420		340	
Base Capacity (vph)	187	321	539	223	358	424	491	1622	317	1691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.68	0.71	0.74	0.69	0.42	0.73	0.66	0.55	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

3: S. Van Dorn Street & Courtney Avenue

Total Future PM with Improvements



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	104	25	56	1958	4	2438
v/c Ratio	0.46	0.11	0.46	0.74	0.04	0.94
Control Delay	17.4	1.0	25.4	27.2	87.8	17.3
Queue Delay	0.9	0.0	0.0	0.1	0.0	1.0
Total Delay	18.2	1.0	25.4	27.3	87.8	18.3
Queue Length 50th (ft)	2	0	23	802	4	583
Queue Length 95th (ft)	56	0	m49	#1335	m5	#1780
Internal Link Dist (ft)	260	292		873		435
Turn Bay Length (ft)			130		130	
Base Capacity (vph)	358	365	178	2636	129	2598
Starvation Cap Reductn	0	0	0	0	0	47
Spillback Cap Reductn	105	0	0	59	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.07	0.31	0.76	0.03	0.96

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPLICATION

Filing Fee

Planning Commission Hearing

REQUIREMENTS FOR MAILING NOTICES:

Applicants must send written notice to all abutting property owners. See detailed instructions on "Notice Requirements for Development Site Plans."

The applicant must send a notice of the Planning Commission (PC) meeting to all abutting property owners, by certified mail, at least 10 days and not more than 30 days prior to the PC meeting, stating the date, time and place of the meeting. The applicant must supply to the Department of Planning and Zoning a copy of (1) the Certification of Notice, (2) the Notice of Meetings, (3) the List of Property Owners Notified, and (4) the Post Office Stamped Receipts.

Planning Commission public hearing notice must be sent by_____.

Return notice materials to Department of Planning and Zoning by _____.

APPLICATION

DSP # 2023-00013 & 00014 Project Name: _____

PROPERTY LOCATION: 701 S. Van Dorn Street and 698 Burnside Place
TAX MAP REFERENCE: 067.03-01-17 and 067.03-01-21 ZONE: I District

APPLICANT

Name: Lennar Corporation and Potomac Land Group II, LLC
Address: 14280 Park Meadow Dr., Suite 108 Chantilly, VA 20151; and 12210 Fairfax Towne Center, Suite 110, Fairfax, VA 22033

PROPERTY OWNER

Name: Vulcan Lands, Inc.
Address: 1200 Urban Center Drive, Birmingham, AL 35424

PROPOSED USE: Two DSPs: 1) Infrastructure plan including roads; 2) Backlick Park

- THE UNDERSIGNED hereby applies for Development Site Plan approval in accordance with the provisions of Section 11-400 of the Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

Kenneth W. Wire, Wire Gill LLP
Print Name of Applicant or Agent
700 N. Fairfax Street, Suite 600
Mailing/Street Address
Alexandria, VA 22314
City and State Zip Code


Signature
703-677-3129
Telephone # Fax #
kwire@wiregill.com
Email address
Dec. 21, 2023
Date

Application Received: _____
Fee Paid and Date: _____

Received Plans for Completeness: _____
Received Plans for Preliminary: _____

ACTION - PLANNING COMMISSION: _____

The applicant is: (check one)

The Owner Contract Purchaser Lessee or Other: _____ of
the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

Lennar Corporation is a publicly-traded company.
Please see attached for Potomac Land Group II, LLC.

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

- ✓ Yes. Provide proof of current City business license.
- No. The agent shall obtain a business license prior to filing application, if required by the City Code.

Disclosure Attachment

The following is a list of all individual owners owning a share greater than 3% of Potomac Land Group II, LLC:

Potomac Land Group II, LLC
12210 Fairfax Towne Center
Suite 900
Fairfax, VA 22033

Bradford S. Kline: Greater than 3 %

Potomac Land Ventures, LLC: Greater than 3%

John Elcano: 100% owner of Potomac Land Ventures, LLC

1. APPLICATIONS FOR DEVELOPMENT SITE PLAN. A Development Site Plan for new construction in the City of Alexandria is permitted in accordance with Section 11-400 of the Alexandria Zoning Ordinance. Such Development Site Plan must be approved by the Alexandria Planning Commission through a public hearing. If the project includes land subdivision, a subdivision application must also be filed. Sign the form, and include a daytime telephone number.

2. FILING DEADLINES AND REQUIRED PLANS. The Development Site Plan application form for City staff Completeness Review must be submitted to the Department of Planning and Zoning at least 75 calendar days prior to the Planning Commission public hearing date. Staff will evaluate the application materials for completeness and will notify the applicants of additional materials required to complete the application. A revised application form (if necessary) and revised preliminary Development Site Plan must be submitted to the Department of Planning and Zoning at least 60 calendar days prior to the Planning Commission public hearing date.

Plans submitted after 4:30p.m. will be marked as received on the following business day.

3. FILING FEE. See current fee schedule for fees.

4. PROPERTY OWNER NOTIFICATION. Applicants must send written notice to all abutting property owners. See detailed instructions on "Notice Requirements for Development Site Plans".

The applicant must send a notice of the Planning Commission (PC) meeting to all abutting property owners, by certified mail, at least 10 days and not more than 30 days prior to the PC meeting. The notice must state the date, time and place of the meeting. The applicant must supply to the Department of Planning and Zoning a copy of (1) the Certification of Notice, (2) the Notice of Meetings, (3) the List of Property Owners Notified, and (4) the Post Office Stamped Receipts.

Failure to send accurate or correct notices will result in deferral of the application to a later hearing date.

Property ownership information is to be obtained from the City Office of Real Estate Assessments, Room 2600, City Hall, 301 King Street, or at the office's web site: www.realestate.alexandriava.gov.

6. STAFF REPORT. A staff report and recommendation will be prepared and made available in the Department of Planning and Zoning office. The report is typically available 11 days prior to the Planning Commission public hearing.

For assistance with any of these procedures,
please call the Department of Planning and Zoning at 703-746-4666



APPLICATION

DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

_____ Filing Fee
_____ Planning Commission Hearing
_____ City Council

REQUIREMENTS FOR MAILING NOTICES:

Applicants must send written notice to all abutting property owners. See detailed instructions on "Notice Requirements."

Mail certified or registered notice of hearings between _____ and _____.

Return notice materials to Department of Planning and Zoning by _____.

INSTRUCTIONS

DEVELOPMENT SPECIAL USE PERMIT WITH SITE PLAN APPLICATION

APPLICATIONS FOR DEVELOPMENT SPECIAL USE PERMIT, WITH SITE PLAN. A Development Special Use Permit, with Site Plan, for new construction in the City of Alexandria is permitted in accordance with Sections 11-400 and 11-503 (A) (5) of the Alexandria Zoning Ordinance. Such Development Site Plan, with Special Use Permit, must be approved by the Alexandria Planning Commission and City Council after public hearings. Complete all parts of the application form using black ink or type. Sign the form, and include a daytime telephone number.

FILING FEE. Applicants must submit a filing fee with the application. Consult the latest fee schedule to determine fee amount. The fee schedule can be found at www.alexandriava.gov/planning

PROPERTY OWNER NOTIFICATION. Applicants must send written notice by certified mail to all adjoining and facing property owners at least 10 days prior to the Planning Commission public hearing and not more than 30 days prior to the City Council public hearing meeting. Applicants may use the notice forms supplied with the application forms. In the event the application is deferred, notification shall be given again. The following must be submitted to the Department of Planning and Zoning no later than five days prior to the meeting: (a) a copy of the notice letter sent, (b) a copy of the list of the names and addresses of persons to whom notice was sent, (c) a certification of notice statement that notice was sent to those required, (d) a copy of the date-stamped post office receipts.

Failure to send accurate or correct notices will result in deferral of the application to a later hearing date. Property ownership information is to be obtained from the City Office of Real Estate Assessments, Room 2600, City Hall, 301 King Street.

STAFF REPORT. A staff report and recommendation will be prepared and made available in the Department of Planning and Zoning office. The report is typically available 11 days prior to the PC public hearing.

For assistance with any of these procedures,
please call the Department of Planning & Zoning at 703.746.4666



APPLICATION

DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

DSUP # ~~DSUP#2023-00012~~ Project Name: **Vulcan Redevelopment**

PROPERTY LOCATION: 701 S. Van Dorn Street and 698 Burnside Place

TAX MAP REFERENCE: 067.03-01-17 and 067.03-01-21 ZONE: I District

APPLICANT:

Name: Lennar Corporation and Potomac Land Group II, LLC

Address: 14280 Park Meadow Dr., Suite 108 Chantilly, VA 20151; and 12210 Fairfax Towne Center, Suite 110, Fairfax, VA 22033

PROPERTY OWNER:

Name: Vulcan Lands, Inc.

Address: 1200 Urban Center Drive, Birmingham, AL 35424

SUMMARY OF PROPOSAL Mixed use development of hotel, retail, townhouses, two-over-two multifamily units, and condominiums. DSUPs for the hotel parcel, two-over-two and townhouse parcel, and the condominium parcel are requested.

MODIFICATIONS REQUESTED Hotel loading requirements

SUP'S REQUESTED Parking Reduction for condominiums and tandem parking for two-over-twos; and a coordinated sign plan for the hotel

- THE UNDERSIGNED hereby applies for Development Site Plan with Special Use Permit approval in accordance with the provisions of Section 11-400 of the Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

Kenneth W. Wire, Wire Gill LLP

Print Name of Applicant or Agent

700 N. Fairfax Street, Suite 600

Mailing/Street Address

Alexandria, VA 22314

City and State

Zip Code

Kenneth W. Wire

Signature

703-677-3129

Telephone #

Fax #

kwire@wiregill.com

Email address

Dec. 21, 2023

Date

DO NOT WRITE IN THIS SPACE - OFFICE USE ONLY

Application Received: _____

Received Plans for Completeness: _____

Fee Paid and Date: _____

Received Plans for Preliminary: _____

ACTION - PLANNING COMMISSION: _____

ACTION - CITY COUNCIL: _____

Development SUP # ~~DSUP#2023-00012~~**ALL APPLICANTS MUST COMPLETE THIS FORM.**

Supplemental forms are required for child care facilities, restaurants, automobile oriented uses and freestanding signs requiring special use permit approval.

1. The applicant is: (check one)

- The Owner Contract Purchaser Lessee or Other: _____ of
the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

Lennar Corporation is a publicly-traded company.

Please see attached for Potomac Land Group II, LLC.

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

- Yes. Provide proof of current City business license.
 No. The agent shall obtain a business license prior to filing application, if required by the City Code.

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Lennar Corporation is a publicly-traded corporation.		
2. See attached for Potomac Land Group II, LLC		
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at 701 S. Van Dorn St. & 698 Burnside Place (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Vulcan Lands, Inc. is a publicly-traded corporation.		
2.		
3.		

3. Business or Financial Relationships. Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose any business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review.

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1. For Potomac Land Group II, LLC: None	None	None
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

Dec. 21, 2023

Kenneth W. Wire, Wire Gill LLP



Date

Printed Name

Signature

Disclosure Attachment

The following is a list of all individual owners owning a share greater than 3% of Potomac Land Group II, LLC:

Potomac Land Group II, LLC
12210 Fairfax Towne Center
Suite 900
Fairfax, VA 22033

Bradford S. Kline: Greater than 3 %

Potomac Land Ventures, LLC: Greater than 3%

John Elcano: 100% owner of Potomac Land Ventures, LLC

2. Narrative description. The applicant shall describe below the nature of the request in detail so that the Planning Commission and City Council can understand the nature of the operation and the use, including such items as the nature of the activity, the number and type of patrons, the number of employees, the hours, how parking is to be provided for employees and patrons, and whether the use will generate any noise. If not appropriate to the request, delete pages 6-9. (Attach additional sheets if necessary.)

The Applicant proposes the remediation of the existing Vulcan Materials Company site in order to provide a new mixed-use development with a hotel fronting on S. Van Dorn Street, retail, condominiums, townhouses, two-over-two units, and a 6-acre Backlick Park dedicated to the City.

The proposal is largely consistent with the Eisenhower West Small Area Plan with the exception of the following master plan amendments filed under separate cover including: a reduction of the minimum building height, the realignment of the Farrington Connector, a use change to allow hotel use, above-ground parking, and on-street parking on the park side of Courtney Ave. adjacent to the proposed park. Additional master plan amendments include not providing the following: a direct vehicular connection to the future Farrington Connector, Street C connecting the site to S. Pickett Street, and active uses (including the hotel entrance) directly fronting on S. Van Dorn Street.

A rezoning to CDD #26 is required to facilitate the proposed development. Three DSUPs are requested for the hotel parcel, the two-over-two and townhouse parcel, and the condominium parcel. DSPs are requested for the roads/infrastructure and Backlick Park. SUPs are requested for a parking reduction to provide 1 space per 1 proposed unit; tandem parking; and a coordinated sign plan for the hotel.

The project will bring several types of housing to the SAP area and will provide many community benefits including the dedication of a 6 acre park, park improvements, and other transportation-related improvements.

~~DSUP#2023-00012~~

3. How many patrons, clients, pupils and other such users do you expect?
 Specify time period (i.e., day, hour, or shift).
 Typical for a development project of a similar size

4. How many employees, staff and other personnel do you expect?
 Specify time period (i.e. day, hour, or shift).
 Typical for a development project of a similar size

5. Describe the proposed hours and days of operation of the proposed use:

Day	Hours	Day	Hours
7	24		

6. Describe any potential noise emanating from the proposed use:

A. Describe the noise levels anticipated from all mechanical equipment and patrons.
 Typical for a development project of a similar size

B. How will the noise from patrons be controlled?
 Hotel building management and residential building management staff

7. Describe any potential odors emanating from the proposed use and plans to control them:
 None anticipated

8. Provide information regarding trash and litter generated by the use:
- A. What type of trash and garbage will be generated by the use?
Typical for a hotel and residential buildings of a similar size
- B. How much trash and garbage will be generated by the use?
Typical for a hotel and residential buildings of a similar size
- C. How often will trash be collected?
1-2 times per week; the hotel may have trash collection of greater frequency.
- D. How will you prevent littering on the property, streets and nearby properties?
Hotel and residential building management staff, signs and trashcans
9. Will any hazardous materials, as defined by the state or federal government, be handled, stored, or generated on the property?

Yes. No.

If yes, provide the name, monthly quantity, and specific disposal method below:

10. Will any organic compounds (for example: paint, ink, lacquer thinner, or cleaning or degreasing solvent) be handled, stored, or generated on the property?

Yes. No.

If yes, provide the name, monthly quantity, and specific disposal method below:
Cleaning and building maintenance supplies typical for a hotel and residential buildings of a similar size.

11. What methods are proposed to ensure the safety of residents, employees and patrons?
 Site lighting, fob, key card similar controlled access to buildings and garages

ALCOHOL SALES

12. Will the proposed use include the sale of beer, wine or mixed drinks?

Yes. No.

If yes, describe alcohol sales below, including if the ABC license will include on-premises and/or off-premises sales. Existing uses must describe their existing alcohol sales and/or service and identify any proposed changes in that aspect of the operation.

PARKING AND ACCESS REQUIREMENTS

13. Provide information regarding the availability of off-street parking:

A. How many parking spaces are required for the proposed use pursuant to section 8-200 (A) of the zoning ordinance?

See DSUP Plans

B. How many parking spaces of each type are provided for the proposed use:

See _____ Standard spaces

DSUP _____ Compact spaces

Plans _____ Handicapped accessible spaces

_____ Other

- C. Where is required parking located? (check one) on-site off-site

If the required parking will be located off-site, where will it be located?

Pursuant to section 8-200 (C) of the zoning ordinance, commercial and industrial uses may provide off-site parking within 500 feet of the proposed use, provided that the off-site parking is located on land zoned for commercial or industrial uses. All other uses must provide parking on-site, except that off-street parking may be provided within 300 feet of the use with a special use permit.

- D. If a reduction in the required parking is requested, pursuant to section 8-100 (A) (4) or (5) of the zoning ordinance, complete the Parking Reduction Supplemental Application.

14. Provide information regarding loading and unloading facilities for the use:

- A. How many loading spaces are required for the use, per section 8-200 (B) of the zoning ordinance? See DSUP Plan Set
- B. How many loading spaces are available for the use? See DSUP Plan Set
- C. Where are off-street loading facilities located? See DSUP Plan Set

- D. During what hours of the day do you expect loading/unloading operations to occur?
Daytime hours typical for a hotel and during initial move-in of residential units

- E. How frequently are loading/unloading operations expected to occur, per day or per week, as appropriate?
Typical for a hotel and during initial move-in of residential units

15. Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?
Street access to S. Van Dorn Street is adequate and improvements to the access points are shown on the enclosed DSUP.



APPLICATION

MASTER PLAN AMENDMENT and/or ZONING MAP AMENDMENT (REZONING)

_____ Filing Fee

_____ Filing Deadline

_____ Planning Commission Hearing

_____ City Council Hearing

REQUIREMENTS FOR MAILING NOTICES

Applicants must send written notice of public hearings by certified or registered mail to all abutting property owners at least 10 days prior to the Planning Commission hearing and not more than 30 days prior to the City Council hearing. See detailed instructions on "Notice Requirements".

Mail certified or registered notice of hearings between _____ and _____.
Return notice materials to Department of Planning and Zoning by _____.

APPLICATION CHECKLIST

Check off below items submitted to Department of Planning and Zoning:

- ✓ Completed and signed application
- ✓ Filing fee
- ✓ Legal description of subject property
- ✓ Vicinity map (8 ½" by 11")
- ✓ Metes and bounds map (8 ½" by 11")
- ✓ Buildings and structures map
- ✓ Draft notice language

INSTRUCTIONS

MASTER PLAN AMENDMENT AND/OR ZONING APPLICATION

- 1.** Upload a completed application prior to the filing deadline for the desired Planning Commission public hearing meeting. Call the Planning and Zoning staff (703-746-4666) to obtain the specific filing information for Master Plan and/or Rezoning amendments.
- 2.** Upload the required filing fee. The filing fee is based on the acreage of land for which an amendment is being requested. Please refer to the current fee schedule.
- 3.** Upload a Legal Description of the property proposed for an amendment in this application.
- 4.** Upload a Vicinity Map (8 ½" by 11") showing existing land use, master plan designations and zoning within 300 feet of the subject property.
- 5.** Upload a Metes and Bounds Map (8 ½" by 11") showing the actual dimensions of the subject property, according to the recorded plat of such property, including contour lines, all significant vegetation and other significant natural environmental features on the property.
- 6.** Upload a Buildings and Structures Map showing the use, height, location and ground area of all present and, if known, proposed buildings and structures for the subject property.
- 7.** Provide written notice to nearby property owners pursuant to Section 11-301A of the Zoning Ordinance (see detailed instructions on "Notice Requirements").
- 8.** The Planning and Zoning staff will prepare a report and recommendation to the Planning Commission. The report is typically available 11 days prior to the hearing in the Department of Planning and Zoning.
- 9.** Attend both the Planning Commission and City Council public hearing meetings to present the application and respond to questions.

NOTE: The Director of Planning and Zoning may require additional information as determined necessary for adequate review.

FOR ASSISTANCE WITH ANY OF THESE PROCEDURES,
CALL THE DEPARTMENT OF PLANNING & ZONING AT (703) **746**-4666



APPLICATION

Master Plan Amendment MPA# _____

Zoning Map Amendment REZ# _____

PROPERTY LOCATION: 701 S. Van Dorn Street and 698 Burnside Place (067.03-01-17 and 067.03-01-21)

APPLICANT

Name: Lennar Corporation and Potomac Land Group II, LLC

Address: 14280 Park Meadow Dr., Suite 108 Chantilly, VA 20151; and 12210 Fairfax Towne Center, Suite 110, Fairfax, VA 22033

PROPERTY OWNER:

Name: Vulcan Lands, Inc.

Address: 1200 Urban Center Drive, Birmingham, AL 35424

Interest in property:

- Owner Contract Purchaser
- Developer Lessee Other _____

If property owner or applicant is being represented by an authorized agent such as an attorney, a realtor, or other person for which there is some form of compensation, does this agent or the business in which they are employed have a business license to operate in Alexandria, VA:

- Yes: If yes, provide proof of current City business license.
- No: If no, said agent shall obtain a business license prior to filing application.

THE UNDERSIGNED certifies that the information supplied for this application is complete and accurate, and, pursuant to Section 11-301B of the Zoning Ordinance, hereby grants permission to the City of Alexandria, Virginia, to post placard notice on the property which is the subject of this application.

Kenneth W. Wire, Wire Gill LLP

Print Name of Applicant or Agent

Signature

700 N. Fairfax Street, Suite 600

Mailing/Street Address

703-677-3129

Telephone #

Fax #

Alexandria, VA 22314

City and State

Zip Code

12/21/2023

Date

DO NOT WRITE IN THIS SPACE - OFFICE USE ONLY

Application Received: _____

Fee Paid: \$ _____

Legal advertisement: _____

ACTION - PLANNING COMMISSION _____

ACTION - CITY COUNCIL: _____

MPA # #2023-00007

REZ # #2023-00005

SUBJECT PROPERTY

Provide the following information for each property for which an amendment is being requested. (Attach separate sheets if needed.)

Address Tax Map - Block - Lot	Land Use Existing - Proposed		Master Plan Designation Existing - Proposed		Zoning Designation Existing - Proposed		Frontage (ft.)	Land Area (acres)
	Industrial	Mixed Use	Residential; Striped Office/ Residential & Retail	Residential; Hotel & Retail	I-District	CDD #26	~500 feet along S. Van Dorn	17.76 acres
1 <u>067.03-01-17 & -21</u>	_____	_____	_____	_____	_____	_____	_____	_____
2 _____	_____	_____	_____	_____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____	_____	_____	_____	_____
4 _____	_____	_____	_____	_____	_____	_____	_____	_____

PROPERTY OWNERSHIP

Individual Owner Corporation or Partnership Owner

Identify each person or individual with ownership interest. If corporation or partnership owner, identify each person with more than 3% interest in such corporation or partnership.

- Name: Vulcan Lands, Inc. is owned by Vulcan Materials Company (publicly-traded) Extent of Interest: 100%
Address: _____
- Name: _____ Extent of Interest: _____
Address: _____
- Name: _____ Extent of Interest: _____
Address: _____
- Name: _____ Extent of Interest: _____
Address: _____

MPA # #2023-00007

REZ # #2023-00005

JUSTIFICATION FOR AMENDMENT

(attach separate sheets if needed)

- 1.** Explain how and why any proposed amendment(s) to the Master Plan are desirable, beneficial to surrounding properties, in character with the applicable Small Area Plan and consistent with City policies: The proposal is largely consistent with the Eisenhower West Small Area Plan. The project will bring several types of housing to the SAP area and will provide many community benefits including the dedication of a 6 acre park, park improvements, and other transportation-related improvements. See attached narrative.
- 2.** Explain how and why the proposed amendment to the Zoning Map(s) is consistent with the proposed amendment to the Master Plan, or, if no amendment to the Master Plan is being requested, how the proposed zoning map amendment is consistent with the existing Master Plan:

See attached narrative.
- 3.** Explain how the property proposed for reclassification will be served adequately by essential public facilities and services such as highways, streets, parking spaces, police and fire, drainage structures, refuse disposal, water and sewers, and schools.

The development is accessed from existing Courtney Ave. from S. Van Dorn Street. A developer contribution will be made per the Eisenhower West SAP implementation policy to be used for plan-wide transportation improvements supporting new development. The Applicant is providing internal streets, dedicating a new 6-acre park, providing all utilities, and transportation connections to support the development.
- 4.** If this application is for conditional zoning approval pursuant to Section 11-804 of the Zoning Ordinance, identify all proffered conditions that are to be considered part of this application (see Zoning Ordinance Section 11-804 for restrictions on conditional zoning):

This application does not include a request for a conditional zoning approval per Section 11-804.

Master Plan Amendment
Narrative

The Applicant proposes the remediation of the existing Vulcan Materials Company site in order to provide a new mixed-use development with a hotel fronting on S. Van Dorn Street, retail, condominiums, townhouses, two-over-two units, and a 6-acre Backlick Park dedicated to the City.

The proposal is largely consistent with the Eisenhower West Ave. Small Area Plan with the exception of the following master plan amendments including: a reduction of the minimum building height, the realignment of the Farrington Connector, a use change to allow hotel use, above-ground parking, and on-street parking on the park side of Courtney Ave. adjacent to the proposed park. Additional master plan amendments include not providing the following: a direct vehicular connection to the future Farrington Connector, Street C connecting the site to S. Pickett Street, and active uses (including the hotel entrance) directly fronting on S. Van Dorn Street.

A rezoning to CDD #26 and Zoning Ordinance text amendment to CDD #26 are requested to facilitate the proposed development. DSUPs, DSPs, a subdivision and SUPs for a hotel coordinated sign plan and a parking reduction are requested in furtherance of the development.

The project will bring several types of housing to the SAP area and will provide many community benefits including the dedication of a 6-acre park, park improvements, and other transportation-related improvements.



APPLICATION - SUPPLEMENTAL

PARKING REDUCTION

Supplemental information to be completed by applicants requesting special use permit approval of a reduction in the required parking pursuant to section 8-100(A)(4) or (5).

- 1.** Describe the requested parking reduction. (e.g. number of spaces, stacked parking, size, off-site location)

The Applicant proposes a parking reduction for condominium units resulting in 1 parking space per 1 condominium unit. ~~Standard spaces, tandem spaces and reserved on-street parking spaces will be provided. Additionally, the proposed two-over-two units, which are considered multifamily units, include tandem parking spaces. The City requires a parking reduction for multifamily tandem parking spaces. The required amount of parking spaces is provided for the two-over-two units.~~

- 2.** Provide a statement of justification for the proposed parking reduction.

The proposed development will be within a half-mile radius of the future West End Transitway and later would be eligible for parking deductions per the Zoning Ordinance. ~~The Metro station is just over 1/2 mile from the Property. The SAP is envisioned to be a dense, mixed use transit rich environment in the future, where residents will be able to walk or bike to amenities and transit. The Applicant is dedicating area for the Farrington Connector and will provide a pedestrian bridge, both of which are transportation-related improvements. Please see enclosed parking analysis and justification.~~

- 3.** Why is it not feasible to provide the required parking?

~~Due to site remediation of the industrial property, an underground garage is not possible or feasible. Given the future proximate BRT and other transportation improvements, the Applicant seeks to right-size parking for the overall development as opposed to overbuild parking.~~

- 4.** Will the proposed reduction reduce the number of available parking spaces below the number of existing parking spaces?

Yes. No.

- 5.** If the requested reduction is for more than five parking spaces, the applicant must submit a *Parking Management Plan* which identifies the location and number of parking spaces both on-site and off-site, the availability of on-street parking, any proposed methods of mitigating negative affects of the parking reduction.

The Applicant has submitted a TMP

- 6.** The applicant must also demonstrate that the reduction in parking will not have a negative impact on the surrounding neighborhood.

Considering the future transit-rich, walkable location of the Property, it is unlikely there will be a negative impact on the parking of the surrounding property.



APPLICATION

SPECIAL USE PERMIT

SPECIAL USE PERMIT #2023-00100

PROPERTY LOCATION: 701 S. Van Dorn Street and 698 Burnside Place

TAX MAP REFERENCE: 067.03-01-17 and 067.03-01-21 **ZONE:** I District

APPLICANT:

Name: Lennar Corporation and Potomac Land Group II, LLC

Address: 14280 Park Meadow Dr., Suite 108 Chantilly, VA 20151; and 12210 Fairfax Towne Center, Suite 900, Fairfax VA, 22033

PROPOSED USE: Hotel, retail, town houses, condominiums, two-over-two units with SUPs for a parking reduction for condominiums; to allow for tandem parking for the two-over-two units; and a coordinated sign plan.

- THE UNDERSIGNED, hereby applies for a Special Use Permit in accordance with the provisions of Article XI, Section 4-11-500 of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED, having obtained permission from the property owner, hereby grants permission to the City of Alexandria staff and Commission Members to visit, inspect, and photograph the building premises, land etc., connected with the application.
- THE UNDERSIGNED, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article IV, Section 4-1404(D)(7) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED, hereby attests that all of the information herein provided and specifically including all surveys, drawings, etc., required to be furnished by the applicant are true, correct and accurate to the best of their knowledge and belief. The applicant is hereby notified that any written materials, drawings or illustrations submitted in support of this application and any specific oral representations made to the Director of Planning and Zoning on this application will be binding on the applicant unless those materials or representations are clearly stated to be non-binding or illustrative of general plans and intentions, subject to substantial revision, pursuant to Article XI, Section 11-207(A)(10), of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.

Kenneth W. Wire, Wire Gill LLP

Print Name of Applicant or Agent

700 N. Fairfax Street, Suite 600

Mailing/Street Address

Alexandria, VA 22314

City and State

Zip Code

Signature

Dec. 21, 2023

Date

703-677-3129

Telephone #

Fax #

kwire@wiregill.com

Email address

PROPERTY OWNER'S AUTHORIZATION

As the property owner of 701 S. Van Dorn Street and 698 Burnside Place, I hereby
(Property Address)
grant the applicant authorization to apply for the special use permit use as
(use)
described in this application.

Name: Vulcan Lands, Inc
Please Print

Phone: 205-492-5036

Address: 1200 Urban Center Drive
Birmingham, AL 35242

Email: SINOEL@VMCMAIL.COM

Signature: [Signature]
President

Date: 11/8/22

1. Floor Plan and Plot Plan. As a part of this application, the applicant is required to submit a floor plan and plot or site plan with the parking layout of the proposed use. The SUP application checklist lists the requirements of the floor and site plans. The Planning Director may waive requirements for plan submission upon receipt of a written request which adequately justifies a waiver.

Required floor plan and plot/site plan attached.

Requesting a waiver. See attached written request.

2. The applicant is the (check one):

Owner

Contract Purchaser

Lessee or

Other: _____ of the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant or owner, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent.

Vulcan Materials Company, a publicly traded
New Jersey corporation, owns 100% of the stock of
Vulcan Lands, Inc. Same address as above.

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Lennar Corporation is a publicly-traded corporation.		
2. See disclosure attachment for Potomac Land Group II, LLC		
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at **701 S. Van Dorn Street and 698 Burnside Place** (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. See page 2.		
2.		
3.		

3. Business or Financial Relationships. Each person or entity indicated above in sections 1 and 2, with an ownership interest in the applicant or in the subject property are required to disclose **any** business or financial relationship, as defined by [Section 11-350 of the Zoning Ordinance](#), existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review. **All fields must be filled out completely. Do not leave blank. (If there are no relationships please indicate each person or entity and "None" in the corresponding fields).**

For a list of current council, commission and board members, as well as the definition of business and financial relationship, [click here](#).

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1. For Potomac Land Group II, LLC	None	None
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

Dec. 21, 2023 Kenneth W. Wire, Wire Gill LLP
Date Printed Name



Signature

Disclosure Attachment

The following is a list of all individual owners owning a share greater than 3% of Potomac Land Group II, LLC:

Potomac Land Group II, LLC
12210 Fairfax Towne Center
Suite 900
Fairfax, VA 22033

Bradford S. Kline: Greater than 3 %

Potomac Land Ventures, LLC: Greater than 3%

John Elcano: 100% owner of Potomac Land Ventures, LLC

USE CHARACTERISTICS

4. The proposed special use permit request is for (*check one*):
- a new use requiring a special use permit,
 - an expansion or change to an existing use without a special use permit,
 - an expansion or change to an existing use with a special use permit,
 - other. Please describe: _____

5. Please describe the capacity of the proposed use:

A. How many patrons, clients, pupils and other such users do you expect?
Specify time period (i.e., day, hour, or shift).
Typical for hotel and residential project of a similar size

B. How many employees, staff and other personnel do you expect?
Specify time period (i.e., day, hour, or shift).
Typical for a hotel and residential project of a similar size

6. Please describe the proposed hours and days of operation of the proposed use:

Day: <u>7 days a week</u>	Hours: <u>24 hours/day</u>
_____	_____
_____	_____
_____	_____

7. Please describe any potential noise emanating from the proposed use.

A. Describe the noise levels anticipated from all mechanical equipment and patrons.
Noise typical for hotel and residential building of a similar size

B. How will the noise be controlled?
City noise ordinance and building management

8. Describe any potential odors emanating from the proposed use and plans to control them:
None anticipated

9. Please provide information regarding trash and litter generated by the use.

A. What type of trash and garbage will be generated by the use? (i.e. office paper, food wrappers)
Typical type for a hotel and residential buildings of a similar size

B. How much trash and garbage will be generated by the use? (i.e. # of bags or pounds per day or per week)
Typical for a hotel and residential buildings of a similar size

C. How often will trash be collected?
1-2 times per week; the hotel may have trash collection of greater frequency.

D. How will you prevent littering on the property, streets and nearby properties?
Hotel and residential building management staff, signs and trashcans

10. Will any hazardous materials, as defined by the state or federal government, be handled, stored, or generated on the property?

Yes. No.

If yes, provide the name, monthly quantity, and specific disposal method below:

11. Will any organic compounds, for example paint, ink, lacquer thinner, or cleaning or degreasing solvent, be handled, stored, or generated on the property?

Yes. No.

If yes, provide the name, monthly quantity, and specific disposal method below:
Cleaning and building maintenance supplies typical for a hotel and residential buildings of a similar size.

12. What methods are proposed to ensure the safety of nearby residents, employees and patrons? Site lighting, fob, key card similar controlled access to buildings and garages

ALCOHOL SALES

13. A. Will the proposed use include the sale of beer, wine, or mixed drinks?

Yes No ***Unknown; alcohol may be served at hotel retail/restaurant***

If yes, describe existing (if applicable) and proposed alcohol sales below, including if the ABC license will include on-premises and/or off-premises sales.

PARKING AND ACCESS REQUIREMENTS

14. A. How many parking spaces of each type are provided for the proposed use:

See Standard spaces
DSUP Compact spaces
Plan Handicapped accessible spaces.
Set Other.

Planning and Zoning Staff Only
Required number of spaces for use per Zoning Ordinance Section 8-200A _____
Does the application meet the requirement? <input type="checkbox"/> Yes <input type="checkbox"/> No

B. Where is required parking located? (*check one*)

on-site

off-site

If the required parking will be located off-site, where will it be located?

PLEASE NOTE: Pursuant to Section 8-200 (C) of the Zoning Ordinance, commercial and industrial uses may provide off-site parking within 500 feet of the proposed use, provided that the off-site parking is located on land zoned for commercial or industrial uses. All other uses must provide parking on-site, except that off-street parking may be provided within 300 feet of the use with a special use permit.

C. If a reduction in the required parking is requested, pursuant to Section 8-100 (A) (4) or (5) of the Zoning Ordinance, complete the PARKING REDUCTION SUPPLEMENTAL APPLICATION.

Parking reduction requested; see attached supplemental form

15. Please provide information regarding loading and unloading facilities for the use:

A. How many loading spaces are available for the use? 1

Planning and Zoning Staff Only
Required number of loading spaces for use per Zoning Ordinance Section 8-200 _____
Does the application meet the requirement? <input type="checkbox"/> Yes <input type="checkbox"/> No

B. Where are off-street loading facilities located? Within the garages of the buildings and on-street

C. During what hours of the day do you expect loading/unloading operations to occur?
Daytime business hours

D. How frequently are loading/unloading operations expected to occur, per day or per week, as appropriate?
During initial lease up of rental units and as units turn over

16. Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?

Street access to S. Van Dorn Street is adequate and improvements to the access points are shown on the enclosed DSUP.

SITE CHARACTERISTICS

17. Will the proposed uses be located in an existing building? Yes No

Do you propose to construct an addition to the building? Yes No

How large will the addition be? _____ square feet.

18. What will the total area occupied by the proposed use be? ****See DSUP Plan Set****

_____ sq. ft. (existing) + _____ sq. ft. (addition if any) = _____ sq. ft. (total)

19. The proposed use is located in: *(check one)*

a stand alone building

a house located in a residential zone

a warehouse

a shopping center. Please provide name of the center: _____

an office building. Please provide name of the building: _____

other. Please describe: New development in multiple new buildings

End of Application



Department of Planning & Zoning Special Use Permit Application Checklist

Supplemental application for the following uses:

- Automobile Oriented
- Parking Reduction
- Signs
- Substandard Lot
- Lot modifications requested with SUP use

Interior Floor Plan

- Include labels to indicate the use of the space (doors, windows, seats, tables, counters, equipment)

If Applicable

- Plan for outdoor uses

Contextual site image

- Show subject site, on-site parking area, surrounding buildings, cross streets



APPLICATION

SUBDIVISION OF PROPERTY

SUB # 2023-00006

PROPERTY LOCATION: 701 S. Van Dorn Street and 698 Burnside Place

TAX MAP REFERENCE: 067.03-01-17 and 067.03-01-21 ZONE: I District

APPLICANT:

Name: Lennar Corporation and Potomac Land Group II, LLC, 14280 Park Meadow Dr., Suite 108 Chantilly, VA 20151; and 12210 Fairfax Towne Center, Suite 110, Fairfax, VA 22033

Address: _____

PROPERTY OWNER:

Name: Vulcan Lands, Inc., 1200 Urban Center Drive, Birmingham, AL 35424

Address: -

SUBDIVISION DESCRIPTION: Subdivision of Property into Lots 501-552. Please see enclosed Subdivision Plat.

- THE UNDERSIGNED, hereby applies for Subdivision in accordance with the provisions of Section 11-1700 of the Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED**, having obtained permission from the property owner, hereby grants permission to the City of Alexandria staff and Commission Members to visit, inspect, and photograph the building premises, land etc., connected with the application.
- THE UNDERSIGNED**, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED**, also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

Kenneth W. Wire, Wire Gill LLP
 Print Name of Applicant or Agent
700 N. Fairfax Street, Suite 600
 Mailing/Street Address
Alexandria, VA 222314
 City and State Zip Code


 Signature
202-431-3624 _____
 Telephone # Fax #
kwire@wiregill.com
 Email address
Dec. 21, 2023
 Date

ALL APPLICANTS MUST COMPLETE THIS FORM.

The applicant is: *(check one)*

- the Owner Contract Purchaser Lessee or Other: _____ of the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

Lennar Corporation is a publicly-traded company.

Please see attached for Potomac Land Group II, LLC.

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

- Yes. Provide proof of current City business license.
 No. The agent shall obtain a business license prior to filing application, if required by the City Code.

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Lennar Corporation is a publicly-traded corporation.		
2. See attached for Potomac Land Group II, LLC		
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at _____ (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Vulcan Lands, Inc. is a publicly-traded corporation.		
2.		
3.		

3. Business or Financial Relationships. Each person or entity indicated above in sections 1 and 2, with an ownership interest in the applicant or in the subject property are required to disclose **any** business or financial relationship, as defined by [Section 11-350 of the Zoning Ordinance](#), existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review. **All fields must be filled out completely. Do not leave blank. (If there are no relationships please indicate each person or entity and "None" in the corresponding fields).**

For a list of current council, commission and board members, as well as the definition of business and financial relationship, [click here](#).

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1. For Potomac Land Group II, LLC: None	None	None
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

Dec. 21, 2023

Date

Kenneth W. Wire, Wire Gill LLP

Printed Name



Signature

Disclosure Attachment

The following is a list of all individual owners owning a share greater than 3% of Potomac Land Group II, LLC:

Potomac Land Group II, LLC
12210 Fairfax Towne Center
Suite 900
Fairfax, VA 22033

Bradford S. Kline: Greater than 3 %

Potomac Land Ventures, LLC: Greater than 3%

John Elcano: 100% owner of Potomac Land Ventures, LLC

WAIVER OF RIGHT TO AUTOMATIC APPROVAL

SUBMITTED TO
THE DEPARTMENT OF PLANNING & ZONING
CITY OF ALEXANDRIA, VIRGINIA

PROJECT NAME: _____

PROJECT ADDRESS: 701 S. Van Dorn Street and 698 Burnside Place

DESCRIPTION OF REQUEST:

~~Subdivision of Property into Lots 501-552. Please see enclosed Subdivision Plat.~~

THE UNDERSIGNED, hereby waives the right to the 45 day automatic approval provision of Section 11-1708 (B)(2) of the Zoning Ordinance of the City of Alexandria, Virginia, for the application stated above.

Date: Dec. 21, 2023

Applicant

Agent

Signature: 

Printed Name: Kenneth W. Wire, Wire Gill LLP

MATERIALS CHECKLIST

SUBDIVISION OF PROPERTY APPLICATION

The following materials are required for a **preliminary subdivision submission**.

- COMPLETED SUBDIVISION APPLICATION FORM**
- FILING FEE** of \$2,000 plus \$500.00/lot for each lot including outlots if total lots <10; or \$3,000 plus \$500.00/lot for each lot including outlots if 10 or more total lots.
- WAIVER OF RIGHT TO AUTOMATIC APPROVAL FORM**
- PRELIMINARY PLAT TO SCALE**

Format:

- PDF of the plat
- Scale no less than 100' to 1"

Required contents:

- Subdivision name
- Name, address of owner of record and the applicant
- Name, address, certificate number and seal of the surveyor or engineer
- Gross area in acres and total number of buildings, lots or sites involved
- Date, scale and north point with reference to source of meridian
- Zoning of the property
- A form or space, not less than two and one-quarter by three and one-half inches, on which approval by the commission may be shown
- Lot lines with the dimensions of the length and width of the lots
- In the case of resubdivisions, all lot lines or lot numbers that are proposed to go out of existence by reason of the resubdivision shall be shown by dotted lines and numbers
- Location of the property immediately adjoining the proposed subdivision and the names and addresses of all its owners
- Location and width of all proposed streets, alleys and public areas and their dimensions
Points of connection with the city sewer system
- Location of all easements, reservations, and highway setbacks, as established by section 7-1006 of the zoning ordinance
- The width and name of adjacent existing streets, alleys, easements and public utilities, including without limitation, liens for water, gas, electric, telephone, storm and sanitary sewer, and railroads shown graphically
- Limits of floodplains and resource protection areas
- Location of any grave or object or structure marking a place of burial

SUBDIVISION APPLICATION MATERIALS CHECKLIST (cont'd)

- In the following cases the preliminary plat shall be superimposed on a topographic map, at a scale of not greater than 100 feet to the inch, showing contours at intervals not greater than two feet or greater intervals when permitted by the director, and correlated to the U.S. Coast and Geodetic Survey datum, for the purpose of showing the character and drainage of the land:
 - a. Whenever any land within the parcel subdivided is to be dedicated to public use; or
 - b. For all subdivisions containing lots or parcels of less than one-half acre.
- Proposed street grade data and the method of storm water disposal
- General location, dimension, size, height, and species of major trees and shrubs
- Existing buildings with dimensions from the buildings to the nearest lot lines When known, areas that can reasonably be expected to or which do contain soils or materials contaminated with, but not limited to heavy metals, petroleum products, PCB's, pesticides, flyash, or other toxic or hazardous materials
- When known, underground storage tanks
- When known, areas located within 1,000 feet of a former sanitary landfill, dump, or disposal area
- When known, areas with the potential of generating combustible gases

FINAL PLAT (Mylar)

Required contents:

- All of the information required of a preliminary plat under Section 11-1706(D), except for items 16-24
- The location of all metals monuments of not less than one inch in diameter and 24 inches in length shown this: O, and located in the ground at each intersection of streets and alleys with plat boundary lines, and at all points on a street, alley and boundary lines where there is a corner, change in direction, or curvature
- A surveyor's or engineer's seal and certificate of survey in the following form, which may be modified to accommodate title information (see Section 11-1709 B(3) for language)
- A curve table containing the following for all curvilinear boundaries and street centerlines; delta, radius, arc, tangent, chord and chord bearing. All distances shall be shown to the nearest one-hundredth of a foot; angles or bearings to the nearest ten seconds.

See Section 11-1700 of the Alexandria Zoning Ordinance for additional information

APPLICATION
VACATION OF RIGHT-OF-WAY

_____ Filing Fee
_____ Filing Deadline
_____ Planning Commission Hearing
_____ City Council Hearing

REQUIREMENTS FOR MAILING NOTICES:

Applicants must send written notice of public hearings by certified or registered mail to all abutting property owners at least 10 days prior to the Planning Commission hearing and not more than 30 days prior to the City Council hearing. See detailed instructions on “Notice Requirements”.

Mail certified or registered notice of hearings between _____ and _____.
Return notice materials to Department of Planning & Zoning by _____.

PROPERTY LOCATION: 701 S. Van Dorn Street; 698 Burnside Place

TAX MAP REFERENCE: 067.03-01-17 and 067.03-01-21 ZONE: I District

APPLICANT'S NAME: Lennar Corporation and Potomac Land Group II, LLC

ADDRESS: 14280 Park Meadow Dr., Suite 108 Chantilly, VA 20151; and 12210 Fairfax Towne Center, Suite 110, Fairfax, VA 22033

PROPERTY OWNER NAME: Vulcan Lands, Inc.,

(Owner of abutting area to be vacated)

ADDRESS: 1200 Urban Center Drive, Birmingham, AL 35424

VACATION DESCRIPTION: Approximately 1,840 SF vacation of a portion of Courtney Ave. as part of redevelopment

- THE UNDERSIGNED hereby applies for a Vacation Ordinance in accordance with the provisions of Chapter 10 of the Code of the State of Virginia, the Alexandria City Charter and City Code, and the Alexandria Zoning Ordinance.
- THE UNDERSIGNED, having obtained permission from the property owner, hereby grants permission to the City of Alexandria staff and Commission Members to visit, inspect, and photograph the building premises, land etc., connected with the application.
- THE UNDERSIGNED having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.
- THE UNDERSIGNED also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of their knowledge and belief.

Kenneth W. Wire, Wire Gill LLP

Print Name of Applicant or Agent

700 N. Fairfax Street Suite 600

Mailing/Street Address

Alexandria, VA 22314

City and State Zip Code



Signature

202-431-3624

Telephone #

Fax #

Dec. 21, 2023

Date

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Lennar Corporation is a publicly-traded corporation.		
2. See attached for Potomac Land Group II, LLC		
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at 701 S. Van Dorn Street; 698 Burnside Place (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Vulcan Lands, Inc. is a publicly-traded corporation.		
2.		
3.		

3. Business or Financial Relationships. Each person or entity indicated above in sections 1 and 2, with an ownership interest in the applicant or in the subject property are required to disclose **any** business or financial relationship, as defined by [Section 11-350 of the Zoning Ordinance](#), existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review. **All fields must be filled out completely. Do not leave blank. (If there are no relationships please indicate each person or entity and "None" in the corresponding fields).**

For a list of current council, commission and board members, as well as the definition of business and financial relationship, [click here](#).

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1. For Potomac Land Group II, LLC: None	None	None
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

Dec. 21, 2023

Kenneth W. Wire, Wire Gill LLP



Date

Printed Name

Signature

Disclosure Attachment

The following is a list of all individual owners owning a share greater than 3% of Potomac Land Group II, LLC:

Potomac Land Group II, LLC
12210 Fairfax Towne Center
Suite 900
Fairfax, VA 22033

Bradford S. Kline: Greater than 3 %

Potomac Land Ventures, LLC: Greater than 3%

John Elcano: 100% owner of Potomac Land Ventures, LLC

Instructions for Vacation of Right-of-Way Applications

The vacation of a public right-of-way for a street or alley, emergency vehicle easements, sewer easements and other public easements or rights-of-way in the City of Alexandria, Virginia must be approved by the Alexandria City Council through public hearings.

1. **FILING DEADLINE:** Applications are encouraged to be submitted by the ‘Recommended Submission Date for Completeness Review,’ as listed on the Hearing Schedule and Filing Deadlines form on our Forms webpage. Applications are not docketed for a particular hearing until they are deemed complete by staff. Submission by the final filing deadline for a certain hearing does not guarantee the application being docketed for that hearing.
2. **APPLICATION FORMS:** Vacation applications must contain a written legal metes and bounds description dimensions and square footage of the area to be vacated, and a PDF of a plat showing the proposed area to be vacated.
3. **PLANS:** Applicants must submit a PDF of a scaled survey and/or other scaled plans with the vacation application.
4. **FILING FEES:** Applicants must submit a filing fee with the application. Exact fee amount may be obtained from the Planning staff. Applicants are also required to pay a Viewer's Fee of \$50.00 per viewer (not less than three or more than five viewers) within 30 days after the viewer's report is submitted to the City Council. Failure to pay the Viewer's Fee within the designated time period will stop the process and no vacation ordinance will be written by the City Attorney.
5. **PROPERTY OWNER NOTIFICATION:** The applicant must provide written notice to all abutting and facing property owners. (See attached detailed instructions). Failure to send accurate or correct notices will result in deferral of the application to a later hearing date.
6. **STAFF REPORT:** A staff report with recommendation will be prepared and made available in the Department of Planning and Zoning office. The report is typically available 7 business days prior to the Planning Commission Public Hearing.
7. A quitclaim deed must be submitted after City Council approval of a vacation.

NOTE: The vacation process must be completed prior to approval of any building permits that may be submitted.

FOR ASSISTANCE WITH ANY OF THESE PROCEDURES
CALL THE DEPARTMENT OF PLANNING & ZONING AT 703.746.4666

Cameron Station Civic Association
200 Cameron Station Blvd.
Alexandria, VA 22304

March 28, 2024

Via Email

Members of the Planning Commission
City Hall
301 King Street
Alexandria, Virginia 22314

Re: Comments on the Vulcan Site Redevelopment (Docket Item #6)

The Executive Board of the Cameron Station Civic Association (Civic Association) is generally in favor of the Vulcan Materials redevelopment project as submitted by Lennar Corporation and Potomac Land Group II, LLC (Applicant), but has serious concerns about what, if anything, will be done by the City to ameliorate traffic congestion at the Courtney Avenue/South Van Dorn Street intersection before this project is completed. This matter is item #6 on the docket for the April 4, 2024, Planning Commission public hearing.

As most people who live in the West End know, South Van Dorn Street and, in particular, the portion from Edsall Road into Fairfax County is routinely jammed with traffic. The Civic Association is not aware of any improvements to South Van Dorn Street that have been made since the issuance of the Eisenhower West Small Area Plan (EWSAP). Accordingly, it is hard to imagine how the Vulcan site redevelopment project would not exacerbate existing severe traffic congestion, particularly at the intersection of Courtney Avenue and South Van Dorn Street.

The Applicant submitted a revised Traffic Impact Study prepared by Wells + Associates (Traffic Study) and it is unclear whether this study is accurate since it collected data on October 13, 2021ⁱ which was at the height of the pandemic. While the Traffic Study made some minor adjustments to the 2021 data collected, the baseline data from 2021 with adjustments is less than pre-pandemic levels and highly unlikely to be close to current traffic volumes.ⁱⁱ We recommend that, before this project is approved, a new traffic study be conducted with 2024 data as a baseline so as to more accurately predict future traffic conditions.

Even using the 2021 pre-pandemic traffic data to reflect current traffic conditions, the Traffic Study states that these fail: Edsall Road/S. Van Dorn Street during the PM peak hour

(LOS “E”); Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street during the AM peak hour (LOS “E”); westbound left turn at S. Pickett Street/S. Van Dorn Street (AM/PM); northbound right turn at S. Pickett Street/S. Van Dorn Street (AM/PM); westbound left turn at Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street (AM/PM); westbound through-right at Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street (AM/PM); southbound left turn at Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street (AM/PM); eastbound left-through-right at S. Pickett Street/Edsall Road/Cameron Station Boulevard (AM/PM); and northbound left turn at S. Pickett Street/Edsall Road/Cameron Station Boulevard (AM/PM). Moreover, charts the Traffic Study give LOS “F” and/or “E” ratings (the two lowest LOS ratings) in 2022 and 2026 for both AM Peak Hour and PM Peak Hour for certain approach/lane groups at “Edsall Road/S. Van Dorn Street – Signalized”, “S. Pickett Street/S. Van Dorn Street - Signalized”, “Courtney Avenue/S. Van Dorn Street – Signalized”, and “Farrington Avenue/Eisenhower Avenue/S. Van Dorn Street – Signalized”.ⁱⁱⁱ The Traffic Study also notes that these failing conditions occur with or without the redevelopment which strongly suggests that improvements need to be made to South Van Dorn Street now.^{iv}

Exacerbating the issue is that the Eisenhower West Transportation Alternatives Analysis Study does not recommend that the City go forward with the much needed multimodal bridge that would help pedestrians, bicyclists and the vast majority of Alexandrians who drive. The aforementioned study merely suggests that the multimodal bridge “be on the City’s radar for further study as additional development moves forward in the Eisenhower Valley”. There are a number of redevelopment projects in process and more soon to come within the EWSAP boundary. One of the key elements of the EWSAP as well as the Landmark/Van Dorn Corridor Plan and central to the transportation study done for the EWSAP is the creation of a “north-south multimodal bridge that will connect pedestrians, bikes, transit, and cars from South Pickett Street to the Van Dorn Metrorail Station, highlighted in the Landmark/Van Dorn Corridor Plan.” (See EWSAP, p. 7). The EWSAP transportation study also took into consideration the possibility that the multimodal bridge would not be created, but, under that scenario, assumed that “[i]f the multimodal bridge were not constructed under the 2040 Build scenario, it would require significant widening of Van Dorn Street to accommodate the intersection improvements ... in addition to dedicated transit lanes and an improved pedestrian and bicycle connection between South Pickett Street and Eisenhower Avenue. The resultant significant width of Van Dorn Street would be contrary to the urban and pedestrianized character that is envisioned within the plan area. In addition, a widening of Van Dorn Street still does not achieve improved multimodal connectivity to the extent that the multimodal bridge does and may not support the full 9.3 million square feet of proposed new development.” (EWSAP, p. 43)

Based on the foregoing, the Civic Association requests that:

- The Traffic Study for the Vulcan Materials redevelopment project be redone with more current data.
- City staff publicly disseminate a detailed report demonstrating that proposed changes that will be made at the Courtney Avenue/S. Van Dorn Street intersection

will ameliorate traffic on S. Van Dorn Street in spite of the increased car traffic that will be generated by the Vulcan Materials redevelopment project.^v

- The City commit to reevaluating the necessity for constructing a multimodal bridge prior to additional redevelopment being ready for occupancy along South Van Dorn Street.

If there are any questions concerning these comments, please contact the undersigned at charles.maynard@outlook.com, or by phone at (202) 230-2628.

Sincerely,

/s/

Charles Maynard
President
Cameron Station Civic Association

cc: Karl Moritz
Robert M. Kerns
Maya Contreras
Jared Alves
Ken Wire
Gloria Sitton

ⁱ Vulcan Redevelopment Staff Report at p. 346.

ⁱⁱ Traffic congestion in 2021 was only about half of what it was before the Covid-19 pandemic, but the Traffic Study only adjusted its results by 10% in the AM and 3% in the PM. See Vulcan Redevelopment Staff Report at p. 346 and <https://www.npr.org/2023/01/10/1148205765/traffic-congestion-got-much-worse-in-2022-but-is-still-below-pre-pandemic-levels>.

ⁱⁱⁱ Vulcan Redevelopment Staff Report at pp. 349 and 357. The Traffic Study also notes that these failing conditions occur with or without the redevelopment which strongly suggests that improvements need to be made to South Van Dorn Street now. See

^{iv} Vulcan Redevelopment Staff Report at p. 370.

^v The Traffic Study states that “the Applicant has committed to improving the intersection of S. Van Dorn Street/Courtney Avenue by removing the eastbound right turn channelization, installing marked crosswalks across S. Van Dorn Street, providing protected-only phasing for the southbound left turn movement, and split phasing timings for the Courtney Avenue approaches. This improvement will enhance the pedestrian connectivity and allow residents of the new development the ability to cross S. Van Dorn Street to utilize the sidewalk on the east side of the road.” See Vulcan Redevelopment Staff Report at p. 362. The Civic Association would be interested in knowing how these undertakings improve car traffic and if there are any other measures that can be undertaken to ameliorate traffic congestion at the intersection of S. Van Dorn Street/Courtney Avenue. It is worth noting that the Traffic Study states that “[d]elays would increase at the Courtney Avenue/S. Van Dorn Street intersection as a result of the multimodal improvements planned.” See Vulcan Redevelopment Staff Report at p. 378.

From: [Yasir Nagi](#)
To: [PlanComm](#)
Subject: [EXTERNAL]Supporting Item #6 - Vulcan Site Redevelopment
Date: Thursday, March 28, 2024 10:17:05 AM

You don't often get email from yasirnagi@gmail.com. [Learn why this is important](#)

Hi,

I'd like to express my support for the redevelopment plan of the Vulcan Site next to the van dorn metro. I currently live directly north of the site on edsall street, and I believe redeveloping the area to fit housing for the missing middle income bracket is an ideal way to address the lack of housing in Alexandria and in NOVA in general.

I would request that the redevelopment prioritize multimodal and public forms of transportation to areas of importance, such as to the nearby grocery store LA mart and other transfer points such as the van dorn metro stop and VRE backlick road stop.

My sole concern at the moment is what the impacts to traffic on van dorn street will be. Even as the Vulcan Site sits dormant, van dorn street is consistently backed up between the intersections of edsall and eisenhower. I'd be interested if additional roads that run parallel to van dorn street could be built, so that the street map of this area can resemble a grid of local roads like in old town alexandria rather than a heavily used single road as it currently is.

Excited to hear how the hearing goes on April 4th.

Thank you and have a good day,
Yasir Nagi

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4 April 2024

Members of the Alexandria Planning Commission,

As the Alexandria leadership team for YIMBYS of Northern Virginia, we enthusiastically support the redevelopment of the Vulcan Materials Site at 701 S Van Dorn St and 698 Burnside Place. Alexandria desperately needs more homes to support everyone who works and goes to school in our region. This project will transform an industrial site that is no longer in use into 323 new homes, including condos, townhouses, and stacked townhouses, providing more opportunities to live in our city. The project will contribute over \$3.5 million to Alexandria's affordable housing fund, and the increased supply of homes will help keep older condo buildings in Landmark affordable for first-time homebuyers.

The project will also benefit the whole community with a new 4.4-acre public park in a location without many nearby parks. It will also include a new hotel where visitors to Landmark can generate tax revenue for Alexandria rather than Fairfax County.

We hope Alexandria will continue to welcome new homes of all types, all price points, and in all parts of our city to address our regional housing crisis and make our city better for everyone.

Phoebe Coy, Alex Goyette, Luca Gattoni-Celli, Peter Sutherland, Stephanie Elms, and Trip Hook
YIMBYS of Northern Virginia Alexandria leads

The logo for Holmes Run Civic Association features a thick, blue, curved line that starts at the top left and sweeps across the top of the text. Below the line, the words "Holmes Run" are written in a large, bold, black sans-serif font, and "Civic Association" is written in a smaller, black sans-serif font directly underneath.

Holmes Run

Civic Association

April 4, 2024

Dear Planning Commissioners,

We write in support of the proposed redevelopment at Vulcan Materials site and to highlight some concerns related to medium and long-term traffic impacts.

Let us start with the positive elements. We are very excited about the addition of housing in our area and we look forward to welcoming new neighbors to the community. Additionally, we are very supportive of the new 6-acre park and other planned park improvements.

However, we believe that the current plan does not address the traffic challenges created by this project. Van Dorn Street is already a high-volume road and the Vulcan site is near three high-crash intersections. **We strongly encourage the Planning Commission to require traffic studies**, including the potential for a multimodal bridge, **to understand the impacts before, during and after construction.**

Current traffic counts and modeling of the impact of the post-build scenarios is imperative.

As you know, Van Dorn Street is a major commuting route. It provides access to multiple businesses, serves as a critical emergency corridor and connects our community to the Van Dorn Metro Station. We believe it is imperative that new developments improve the conditions on the roadway. These traffic studies and the Transportation Demand Management (TDM) plans that they inform provide residents with assurances that the project will not worsen the situation on the corridor.

Sincerely,
James Lewis
President, Holmes Run Civic Association

From: alcox@comcast.net
To: [PlanComm](#)
Subject: [EXTERNAL]Comments on Vulcan Redevelopment for 4/4/24 Planning Commission Hearing (Docket # 6)
Date: Thursday, April 4, 2024 4:24:06 PM

You don't often get email from alcox@comcast.net. [Learn why this is important](#)

Chair and Members of the Planning Commission:

I am writing this email to note my general support for the Vulcan Materials redevelopment project, but I am extremely concerned about traffic congestion along South Van Dorn and the lack of plans to mitigate traffic. We need the City to do something now to mitigate traffic along South Van Dorn Street to accommodate the increased traffic that will be coming from the Vulcan redevelopment as well as from the many other projects already approved and sure to come along South Van Dorn Street.

Sincerely,

Al Cox, FAIA emeritus
311 N Alfred St.
Alexandria, VA 22314
202-531-7955

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WEST END BUSINESS ASSOCIATION

Alexandria Planning Commissioners,

We write in support of the proposed redevelopment at Vulcan Materials site and to highlight some concerns related to medium and long-term traffic impacts.

Let us start with the positive elements. We are very excited about the addition of housing in our area and we look forward to welcoming new neighbors to the community. Additionally, we are very supportive of the new 6-acre park and other planned park improvements.

However, we believe that the current plan does not address the traffic challenges created by this project. Van Dorn is already a high-volume road and the Vulcan site is near three high-crash intersections. We strongly encourage the Planning Commission to require traffic studies, including the potential for a multimodal bridge, to understand the impacts before, during and after construction.

It is our understanding that Transportation and Environmental Services staff have the internal expertise and modeling tools to conduct traffic counts (using today's volumes) and model the impact of post-build scenarios.

As you know, Van Dorn Street is a major commuting route, provides access to multiple businesses and serves as a critical emergency corridor. We believe it is imperative that new development improves the conditions on the roadway and these studies will provide residents with assurances that the project will not worsen the situation on the corridor.

We are grateful for your consideration of our view on this matter.

Respectfully,

 dotloop verified
04/04/24 3:56 PM EDT
D8V3-0FF6-CQNG-MLNP

Mary Ann Burstein
President
West End Business Association
3213 Duke St Box #128, Alexandria, VA 22314

From: [Martin Menez](#)
To: [PlanComm](#)
Subject: [EXTERNAL]Comments on Vulcan Redevelopment for 4/4/24 Planning Commission Hearing (Docket # 6)
Date: Thursday, April 4, 2024 4:26:00 PM

You don't often get email from martin.menez@att.net. [Learn why this is important](#)

Alexandria Planning Commission,

Good afternoon.

I am writing this email to note my general support for the Vulcan Materials redevelopment project, but I am extremely concerned about traffic congestion along South Van Dorn and the lack of plans to mitigate traffic. We need the City to do something now to mitigate traffic along South Van Dorn Street not just to accommodate the increased traffic that will be coming from the Vulcan redevelopment as well as from the many other projects already approved and sure to come along South Van Dorn Street.

Martin Menez
Director
Cameron Station Civic Association
Mobile: +1-703-609-4560
Email: Martin.Menez@att.net

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