TOWN COUNCIL MEETING AGENDA

Town Council Chambers
765 Lynn Street, Herndon, VA 20170

Tuesday, August 8, 2023 | 7:00 p.m.

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1. **Call to Order**

2. **Pledge of Allegiance to the Flag of the United States of America**

3. **Presentations/Reports/Comments**
   a. Proclamation in Recognition of Pakistan Independence Day
   b. Town Manager Report
   c. Councilmember Comments

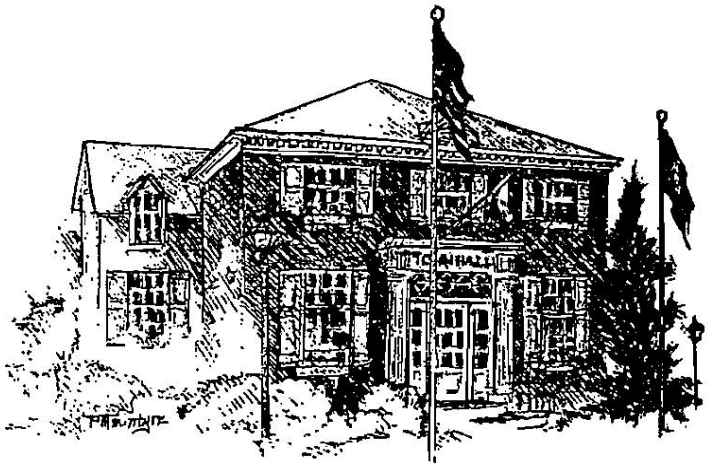
4. **Comments from the Audience**
   Members of the public may, for one 3-minute period, provide public comments, requests, consent or general item comments, and comments on matters not included on the agenda.

5. **Public Hearings**
   a. Ordinance 23-O-17 to approve Zoning Map Amendment ZMA #22-001, 500, 555, and 585 Grove Street, a zoning map amendment from Commercial Services (CS) to Planned Development - Business District (PD-B), with proffered conditions to permit a new post-secondary education use within vacant office space
   b. Resolution 23-G-55 to authorize the Reserve of Fiscal Year 2023 funding for ongoing operations & maintenance, Capital Projects, ARPA projects and for Outstanding Encumbrances on June 30, 2023 for the FY 2024 Adopted Budget
   c. Ordinance 23-O-18 to amend the Fiscal Year (FY) 2024 Adopted Budget for the General Fund, Water and Sewer Fund, Chestnut Grove Cemetery Fund, Herndon Centennial Golf Fund, Capital Projects Fund and ARPA Fund
   d. Resolution 23-G-56 to endorse and authorize an FY2025-FY2026 Transportation Alternatives Program (TAP) funding application to the Virginia Department of Transportation for the 'Spring Street ADA Sidewalk Improvements' project.
   e. Resolution 23-G-57 to endorse and authorize an FY2025-FY2026 Transportation Alternatives Program (TAP) funding application to the Virginia Department of Transportation for the 'Central Elden Walkability Improvements' project.

6. **General**
   a. Resolution 23-G-58 to approve and authorize the Mayor to sign a Sublicense Agreement between Town of Herndon and Arts Herndon, Inc., for space at 750 Center Street

7. **Consent**
   a. Resolution 23-G-59 to appoint a member to the Herndon Diversity, Equity, and Inclusion Committee (HDEIC)
   b. June 13, 2023 Town Council Meeting Minutes
   c. June 20, 2023 Special Joint Town Council/Planning Commission Work Session Meeting Minutes

8. **Adjournment**



TOWN OF HERNDON, VIRGINIA
PROCLAMATION
PAKISTAN INDEPENDENCE DAY
AUGUST 14, 2023

Pakistan Independence Day, or Youm e Azadi, is observed annually on August 14 to commemorate the anniversary of Pakistan's independence from the United Kingdom in 1947, with Muhammad Ali Jinnah being sworn in as the country's first Governor-General. Following its independence in the same year, the United States established diplomatic relations with Pakistan.

Governor-General Jinnah dreamed of an independent land for the people of Pakistan, where they would have freedom of religion and speech. This came true in Pakistan by way of achieving independence after a long and difficult struggle.

The Town of Herndon takes great pride in being the home of many Pakistani Americans and on this occasion our community celebrates the hopes, dreams, and vital contributions of Americans of Pakistani origin across all aspects of our society.

Therefore, the Mayor of the Town of Herndon, Virginia, hereby proclaims the 14th day of August, 2023, as **Pakistan Independence Day** in the Town of Herndon, celebrates the 76th anniversary of Pakistan's independence, and encourages our residents to learn more about the history and culture of Pakistan ~ honoring their contributions to the Herndon community.

TOWN OF HERNDON, VIRGINIA

ORDINANCE

August 8, 2023

Ordinance- to approve Zoning Map Amendment, ZMA #22-001, 500, 555, 585 Grove Street, a zoning map amendment from CS, Commercial Services, to PD-B, Planned Development – Business District, with proffered conditions to permit a post-secondary education use within vacant office space.

In adopting this Ordinance, the Town Council has considered the factors set out in 15.2-2284, Code of Virginia (1950) as amended.

BE IT ORDAINED by the Town Council of the Town of Herndon, Virginia that:

1. The zoning of the property described below, lying in the Town of Herndon, Fairfax County, Virginia, is amended to allow a post-secondary education use as proposed in the SAFA TRUST INC. and HERITAGE EDUCATION TRUST LLC /Tri-Tek Engineering/Bean Kinney & Korman P.C. Generalized Development Plan dated June 20, 2023, the Proffer Statement dated June 22, 2023 of ZMA #22-001, and in accordance with Section 78-51.1 and 78-155.1 of the Town of Herndon Zoning Ordinance.

   The property comprising two parcels is shown in the above-referenced Generalized Development Plan and described in the land records of Fairfax County in Deed Book 27774 on page 0228 and Deed Book 08804 on page 0056. The Fairfax County Tax Map Numbers are 0162 02 0190C and 0162 02 0203D and the total land area is 4.45 acres.

2. This rezoning shall be governed by this ordinance, the Town of Herndon Zoning Ordinance, the above-referenced Proffer Statement for ZMA #22-001, and the above-referenced Generalized Development Plan for ZMA #22-001. The Proffer Statement is included as an attachment to this ordinance. This Zoning Map Amendment is consistent with the adopted 2030 Comprehensive Plan of the Town of Herndon.

3. This ordinance shall be effective on and after its adoption.

[Insert Proffer Statement]

BEAN KINNEY & KORMAN PC
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Ext. 299
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Revised May 30, 2023
David Stromberg, AICP
Zoning Administrator
Town of Herndon Community Development
777 Lynn St, Herndon, Virginia 20170

Re: FXUA Rezoning
Tax Map Nos. 16-2 ((02)) 190C & 203D
REZONING#
STATEMENT OF JUSTIFICATION

Dear Mr. Stromberg:

On behalf of the applicants, Heritage Education Trust, LLC and SAFA Trust, Inc., (collectively, the "Applicant"), please accept this letter as a statement of justification in support of the enclosed application for rezoning from C-S (Commercial Services) to PD-B (Planned Development-Business) for the purpose of replacing existing vacant office space with a post-secondary educational use. Founded June 16, 1999, and with its primary campus based in the County of Fairfax, Fairfax University of America (FXUA) is a fully accredited non-profit, 501(c)(3) institution committed to setting a new standard in higher education. FXUA offers quality, affordable education with graduate and undergraduate degrees in business administration, management information systems, computer sciences and others. The Applicant seeks to lease a portion of vacant office space to FXUA upon rezoning in furtherance of FXUA's plan to develop a Herndon campus. With this application the Applicant will bring needed educational resources to the Town of Herndon and the Northern Virginia area.

I. Introduction

The Applicant is the title owner, respectively, of 500, 555 & 585 Grove St (the "Property") and is identified as Tax Map Reference Number (016-2 ((02)) 190C& 203D and is developed with three existing 3 story office buildings with a total floor area of 106,543 SF, constructed in 1986. Of this total area, approximately 35,107 SF are currently leased and occupied. The Property is zoned C-S, Commercial Services District. The total land area of the Property for this application is approximately 4.45 acres.

This application seeks to rezone the Property to the PD-B (Planned Development-Business) District which allows post-secondary educational uses with zoning amendment approval. The Applicant believes that the office climate has been evolving over the past few years and this evolution has resulted in large amounts of vacancy. Municipalities all over the DC Metro Area have taken proactive approaches to lessen restrictions and offer opportunities for that vacant space to be occupied by a variety of expanded uses. To that end, the Applicant is currently proposing the rezoning to the PD-B District.

II. Summary of Application

The Applicant intends to operate FXUA Herndon Campus an accredited college (post-secondary use) across 500, 555 and 585 Grove Street with hopes of enrolling +/-290 students. The project would preserve existing exteriors, site design, and site amenities, while renovating portions of the 71,436 SF of existing vacant office to be repurposed as classrooms, teacher offices, and related amenity space.

The Applicant's proposal will not increase density on the Property. Upon rezoning approval, the Property's overall density will remain 0.54 FAR. The Applicant is providing 30.4% open space which surpasses the 20% requirement for PD-B. The existing onsite surface parking will be retained, with minor modifications such as restriping to meet ADA requirements.

III. Conformance with the Comprehensive Plan

(A) Comprehensive Plan Guidance for the Property

The Town of Herndon 2030 Comprehensive Plan classifies the Property as part of the Town's Business Corridor. The Business Corridor designation signifies a mix of retail, services, hotels, medical and other business uses. The goal for the Business Corridor is to provide "space for the businesses that serve the local community and to a more limited extent the regional market area."

(B) Major Elements of the Business Corridor Guidance

The Comprehensive Plan identifies four main land use policies for the Business Corridor that apply to the Property.

(1) Provide goods and services to the community while maintaining high quality design.

The existing building which exhibits a high-quality design, and which has formed the character of Grove Street, will be retained and enhanced with new use and activity. In addition to the higher educational use services, existing office and retail tenants will be preserved.

(2) Business Corridor uses that border Neighborhood Conservation areas must provide for appropriate transitions which will normally include extensive landscaping and physical buffering with quality walls or other structures.

Not applicable.

(3) Generate positive economic benefits for the town economy in terms of employment, retail sales tax and other tax revenues.

The repurposing of vacant office space towards higher education services will generate positive economic benefits by decreasing the high vacancy rate of aging office buildings, boost employment and bring potential retail customers to the area.

(4) Create a master plan for redevelopment of the Herndon Centre (K-Mart Shopping Center.

Not applicable.

(C) Major Elements of the 2015 Transportation Plan

The Comprehensive Plan's Proposed Major Street Network identifies Grove Street as a Major Connector.

Major Connector - Direct service to local areas, circulation within residential, commercial or industrial areas; channels residential streets on to arterials. Facilitate traffic flow; limited driveway access.

The Applicant's proposal preserves the existing building while expanding tenant uses to include FXUA. By preserving the size and density of the existing buildings Grove Street will continue to facilitate the flow of traffic to local areas, residences, and commercial or industrial areas in conformance with the goals of the Comprehensive Plan. The addition of FXUA Herndon campus to the Grove Street area will add 10 total AM peak hour trips and 14 fewer total PM peak hour trips. This assumes the unrealistic instance that all students attended at class at the same time. FXUA will offer courses throughout the day assuring that students have minimal impact on traffic during peak traffic periods. FXUA also offers flexible options for online courses mitigating and potential impact on peak traffic periods. This modest increase in trip generation will be spread out amongst the Property's access points and will not substantially impact the current transportation service.

IV. Compliance with the Zoning Ordinance

(A) Zoning Ordinance § 78-155(1)(i)(2)

The following information is provided in accordance with Zoning Ordinance § 78-155(1)(i)(2):

(*a) Consistent with the comprehensive plan.*

As described above, the proposed use is in harmony with the Comprehensive Plan's vision for the Town of Herndon.

(b) There are changed conditions that justify an amendment.

The evolution of the office market in the DC Metro area has created a need for more new tenants and uses for existing office space. Many municipalities are expanding the number of permitted uses allowed in office districts to cut down on vacancies and maintain the financial viability of these buildings, supporting property owners and local governments. The post-secondary educational use the Applicant seeks to occupy vacant office space is permitted in the PB-D district subject to Zoning Map Amendment Approval.

(c) Addresses a demonstrated community need.

The repurposing of existing vacant office for higher educational uses increases the community's access to local higher education opportunities and brings students and teachers to the area who will generate positive economic benefits in terms of employment, retail sales and other tax revenues.

(d) Compatible with existing and proposed uses surrounding the subject land, and is the appropriate zoning district for the land.

The Applicant's proposal is compatible with the commercial nature of the business corridor including the surrounding uses. The flexibility of the PD-B district and the ability to regulate this district through proffers make this the appropriate zoning district for the Applicant's proposal.

(e) Results in a logical and orderly development pattern, or deviate from logical and orderly development patterns. Accepted or emerging planning practices may be considered.

The proposed rezoning preserves the existing logical and orderly development pattern.

(f) Avoids the creation of an isolated zoning district unrelated to adjacent and surrounding zoning districts.

The Property is adjacent to other PD-B districts including 701 Van Buren Street and 494 Elden Street.

(g) Avoids adverse impact on the property values of surrounding lands.

The rezoning allows FXUA to fill existing office vacancy and creates no adverse impact on the property values of the surrounding lands. Indeed, the increased activity and reduced vacancy will enhance property values in surrounding lands.

(h) Avoids adverse impact on the natural environment, including but not limited to water, air, noise, stormwater management, wildlife, vegetarian, wetlands, and the natural functioning of the environment.

The Applicant will preserve the existing improvements with minimal change resulting in the least environmentally impactful development path for the site. The Applicant plans to maintain existing landscaping and mature trees on the Property as well as provide additional plant material. This further reduces the environmental impacts of this project on nearby streams, land, air, and forest.

(i) Results in the development that is adequately served by transportation facilities, including whether or not a substantial deterioration of the level of service of the town's transportation network would occur.

The proposed rezoning results in development that will continue to be adequately served by existing transportation facilities and will not create any substantial deterioration of the level of service to the town's transportation network The Applicant plans to utilize the multiple existing vehicular access points, public transit lines, bike trails, and public sidewalks to minimize the transportation impacts of the rezoning.

(j) Results in development that is adequately served by other public facilities (potable water and sewage, schools, parks, police, and fire and emergency medical facilities).

The Applicant's proposal preserves the existing improvements and is adequately served by public facilities (potable water and sewage, schools, parks, police, and fire and emergency medical facilities).

(k) If considered infill and redevelopment, is consistent with the redevelopment criteria and other applicable guidelines as stated in the Herndon 2030 Comprehensive Plan (adopted August 12,2008), as amended..

Not Applicable.

(B) Zoning Ordinance § 78-50.5 Planned Development – Business (PD-B) District

The intent of the PD-B district is to provide opportunities for retail, offices, high tech, research and development and other light industrial uses. All commercial planned development districts existing at the time the PD-B district was adopted, which includes the Property, are eligible for rezoning to PD-B. It is intended that lands in any PD-B district be designed and located in a way that is consistent with and complements surrounding uses.

The Property is eligible for rezoning to PD-B and would provide further office opportunities within the existing building which would continue to complement the commercial nature of the Business Corridor. The post-secondary educational use being sought by virtue of this rezoning is allowed in the PD-B district subject to approval as part of the zoning map amendment.

Section 78.50.5(f) requires a minimum area of two acres. The Property is approximately 4.45 acres. Density and height within the PD-B district shall be limited to no more than 0.4 FAR and 45 feet. The existing FAR for 500 and 585 Grove Street is 0.6 and 0.52 respectively. The overall FAR across the Property is 0.54. The Applicant will be seeking approval from the town council for an increase in FAR to accommodate the existing FAR. The Applicant will not be seeking any increase to the existing FAR.

The Town Council may, as part of the review of the PD-B district, permit an increase in the height of structures up to 50 percent, and the floor area ratio by up to 100 percent, if the property includes additional requirements identified in Section 78.50.5(f)(2)(a-b). These requirements relate to additional open space, buffering and landscape features, unique features, transportation management, and exterior building design. The application meets these standards as follows:

a. Additional open space (common or dedicated) above that required by Section 78-50.5(g), open space and community/recreation uses, in proportion to the requested increase in dwelling unit density.

The rezoning meets the additional open space requirements. A minimum of 20 percent of property in the PD-B zoning district is required to be open space. The Property meets this requirement individually with 500 Grove Street providing 20.3% and 585 Grove Street providing 34.1%. Across the Property 30.4% open space is provided. The Applicant believes that the existing property conditions meet the additional requirements of open space indicated in Section 78.50.5(f)(2)(a).

b. Special attention to enhancing both the site perimeter buffer and landscape features on the interior of the site.

The existing site conditions offer a robust landscape screen along interior of the Property. In addition to the existing perimeter buffer the Property also maintains parking lot and interior landscaping. A mix of evergreen trees, canopy deciduous trees, and shrubs are currently maintained across the Property. Furthermore, the Applicant will provide additional plant material to enhance site perimeter buffers and interior landscape features.

c. The provision of unique features and amenities such as, but not limited to, terraces, sculpture, reflecting pools and fountains.

The Property provides unique features including a landscaped courtyard and plaza with seating. Furthermore, the Applicant will provide four additional planters and three additional benches to 500 Grove Street under the covered walkway facing grant street. Please see GDP Sheet 2. Furthermore, the Applicant will provide connection into the site from the adjacent W & OD Trail to the South of 555 Grove Street as well as provide improved pedestrian access to Grove Street from the pedestrian path to the east (Goat Path). Please see GDP Sheet 3.

d. The provision of structured or underground parking facilities to better enable the provision of open space, efficient transportation, and design features.

The Property is currently developed with surface parking. It is not practical to provide structured or underground parking for the Property. The Property has robust landscaping and design features.

e. Provision of transportation demand management techniques such as commitments for on-site employees to van pool, subsidies for employees to use public transit, options for telecommuting and flexible work hours that avoid peak traffic periods.

The proposed reuse of vacant office space for educational uses would result in an increase of about 10 total trips for the overall site for the AM peak hour and a decrease of about 14 fewer total trips for the overall site for the PM peak hour. For purposes of the traffic analysis, site-generated trips were assigned to the roadway network based existing traffic patterns, current school enrollment, and engineering judgement. FXUA also offers flexible options for online courses mitigating and potential impact on peak traffic periods.

f. Exceptional exterior building design that includes pedestrian-friendly features; attention to architectural details such as molding, pitched roofs or decorative window and door treatments; varied color, design and texture of siding; and high-quality materials to be used on all facades of the building.

The architecture of the existing buildings will continue to complement the surrounding uses.

g. Floodplain areas on the subject property may be dedicated to the town and count toward the required open space and green space if meeting the applicable standards.

There is no floodplain area on the Property.

Any additional requirements related to 78.50.5(f)(2) will be discussed with Town staff during the ZMA public process.

(C) Zoning Ordinance § 78-100.2 Parking Requirements

The existing development met the required parking at the time of the original plan approval. The PD-B zoning district allows a wide array of by-right uses including office, retail, personal services, educational uses, research & development, and some light industrial uses. The parking calculation used is the "office" standard of one space per 300 square-feet. The parking calculation used in the "post-secondary education" standard of 1.5 spaces per 2 students. The proposal provides for 333 total parking spaces. 115 spaces will be allocated for office and 218 spaces for students.

The Property currently has multiple uses which have varying parking requirements at higher and lower levels. This could result in variable parking demands across the property. The Applicant believes the continued use of unrestricted parking provides fluidity and would continue to satisfy the demand for parking across the entirety of the Property.

The loading space location at 500 Grove Street has been revised from that previously shown on the approved Site Plan to address the need for additional ADA spaces. The location is adjacent to the dumpster area and is shown based on current Town standards. See GDP Sheet 2.

V. Transportation Impacts

Wells + Associates is the traffic consultant for this project and on February 24th, 2023, provided the Town of Herndon with a Traffic Impact Study to establish the parameters for transportation impact items.

The Applicant proposes to retain all five existing vehicular access points from Grove Street and Grant Street. Three on Grove Street, one on Grant Street, and one on the interparcel access south of the Grove Street/Grant Street intersection.

The Traffic Study examined two nearby signalized intersections. At Van Buren Street/Grove Street/Monroe Street and Elden Street/Van Buren Street as well as four other access points described above.

The Traffic Study indicates that the proposed reuse of vacant office space for educational uses would result in an increase of about 10 total trips for the overall site for the AM peak hour and a decrease of about 14 total trips for the overall site for the PM peak hour. For purposes of the traffic analysis, site generated trips were assigned to roadway network based existing traffic patterns, current school enrollment, and engineering judgement.

Based on adjusted 2022 baseline traffic volumes, the signalized Elden Street/Van Buren Street and Van Buren Street/Grove Street intersections operate at overall acceptable levels of service based on Town standards during both the AM and PM peak hours. Except for the Elden Street/Grant Street intersection, all unsignalized study intersections operate with minimal delays.

The proposal maintains existing traffic patterns and will have the substantially same impact as the buildings fully occupied by an office tenant. This layout has been safe and functional since construction in the 1980s.

Any mitigation of these impacts will be discussed with Town staff during the ZMA public process. For more information, please see Wells + Associates Traffic Impact Study dated February 24th, 2023, included in the Zoning Map Amendment submittal package.

VII. Pre-Application Meeting

The Applicant had a virtual pre-application meeting with Town Planning and Zoning Staff on September 22, 2022, at 2:00pm. Below is a list of participants:

David Stromberg (Town of Herndon)
Ben Schitter (Town of Herndon)
Bryce Perry (Town of Herndon)
Lauri Sigler (Town of Herndon)
Richard Smith (Town of Herndon)
Bayarjargal Battulga (Applicant)
Mark Viani (Applicant)
Andrew Gregg (Applicant)
Ted Britt (Applicant)
John Cavan (Applicant)

VII. Conclusion

For the reasons noted above, the Applicant respectfully requests that the Board approve the requested rezoning to facilitate the FXUA's post-secondary educational use on the Property.

Very truly yours,

Mark M. Viani, Esq.
Counsel for the Applicant

cc: Andrew Gregg
Bayarjargal Battulga
Ahmed Alwani

PROFFER STATEMENT

GROVE STREET REZONING
Revised 6/22/2023

Pursuant to Section 15.2-2303 of the Code of Virginia (1950, as amended) and Section 78-50.8 of the Town of Herndon Zoning Ordinance, as amended (the "Zoning Ordinance"), the undersigned, for themselves and their successors and/or assigns (referred to hereafter, both collectively and, where appropriate, individually, as the "Applicant"), as owner of the property described as Tax map parcels 16-2-((02)) 190C & 203D (the "Property") hereby proffer that in the event this ZMA #22-001 is approved, the development of the Property shall be in substantial conformance with the conditions set forth in these proffers ("Proffers") and the existing buildings and improvements shown on the Generalized Development Plan (the "GDP") described in Proffer 1 below. The purpose of the proffered rezoning and GDP approval is to allow for the proposed secondary educational use, Fairfax University of America on the Property with existing improvements to remain. No improvements or modifications to the Property are requested with this proffered rezoning.

1. GDP
    a. The Property is developed in substantial conformance with the Generalized Development Plan GDP prepared by TRITEK, Inc. dated 05/31/2023 (the "GDP") and these Proffers. It is understood by the Applicant that all other applicable regulations and policies governing land development within the Town of Herndon (the "Town") shall apply to the Property and unless specifically modified by the language of this approval.
    b. Minor modifications of the GDP may be permitted without the need for amendments to this approval when necessitated by final engineering or site design provided that modifications are in substantial conformance with the GDP and these Proffers. Substantial conformity shall be determined as provided in the Zoning Ordinance.
    c. The purpose of this ZMA #22-001 is to allow for the use of vacant office space as a post secondary educational use.

2. TRANSPORTATION AND SITE CIRCULATION IMPROVEMENTS
    a. Improvements to the Property for the transportation and circulation, including for improved accessibility, have been provided as reflected on the GDP. These improvements include bike path access at the intersection of Grove and Grant Street, a bike path connection to the Property at the South East corner adjacent to the W&OD Trail, stairs connecting 500 Grove Street to the crosswalk at the intersection of Grove and Grant Street, and certain improvements to bring the Property into compliance with current ADA standards. Locations and sizes of accessible parking spaces (including van parking) have been updated across the entirety of the Property as well as inclusion of an ADA compliant ramp access from the Southwest corner of 500 Grove Street.

3. USES
Uses allowed on the property shall be those in the PD-B zoning district, except as modified below.

a) The following uses shall be allowed by-right.
- Post-Secondary Education and Career Schools
- Library
- Museum, Fine Arts Center
- Restaurant
- Commercial Recreation/Entertainment, Indoor
- All Office Uses (excluding any medical or health related services - see "health care facility")
- Animal Hospital, Kennel, Pet Daycare, Animal Shelter, and Veterinary Clinic
- Artist's Studio or Gallery
- Dry-Cleaning/Laundry, Laundromats
- Durable Goods Sales
- Financial Institution
- Health Care Facility
- Health Care Laboratory
- Mailing and Packing Service
- Personal Services, General
- Pharmacy
- Product Repair and Services
- Retail Sales
- School of Special Instruction
- Other Personal Services and Retail Sales Uses
- Scientific Research and Scientific Development

b) The following uses shall be subject to Special Exception Approval:
- Childcare Center, Daycare Center or Preschool
- School, Public or Private (K-12)
- Community Centers
- Religious Institution (with a capacity of 300 or fewer persons) gathered for religious observance, with or without any accessory schools, daycare centers, or recreational facilities
- Religious Institution (with a capacity of more than 300 persons) gathered for religious observance, with or without accessory schools, daycare centers, or recreational facilities
- Senior Center
- Drive-In Restaurant
- Commercial Recreation/Entertainment, Outdoor
- Commercial Communication Tower, Freestanding
- Electrical Substation

- Telecommunication Switching Station
- All other Light Manufacturing Uses
- Wholesale Establishment

c) The following uses shall be prohibited:
   - Convalescent home
   - Hospital
   - Conference center/hotel
   - All other industrial service uses
   - Self-service storage uses
   - Public or private parking facility
   - Electronic warehousing
   - Contractor's materials

d) Accessory uses on the property shall be those as regulated in the PD-B zoning district.

e) The following uses existing prior to and at the time of this approved zoning map amendment will continue, provided that none of the identified uses shall be expanded or altered except for repairs and minor alterations. The uses to be preserved are as follows:
   - Religious Institution with a capacity less than 300 – See GDP Plans Sheet

4. FAR
   The existing FAR for 500 and 585 Grove Street is 0.6 and 0.52 respectively. The overall FAR across the Property is 0.54. The maximum floor area ratio ("FAR") for the Application Property shall not exceed 0.54.

5. PHASING OF DEVELOPMENT
   The Property consists of two, separately owned parcels, each of which shall be improved consistent with the GDP. The project may be processed as two separate phases based on the parcels site improvements, as shown on Sheet 2 of 4 of the GDP, shall be substantially completed as determined by the Zoning Administrator prior to the issuance of any occupancy certificate for university use, at 500 Grove Street. Site improvements, as shown on Sheet 3 of 4 of the GDP, shall be substantially completed as determined by the Zoning Administrator prior to the issuance of any occupancy certificate for university use, at 555 & 585 Grove Street. Completion of construction of the proposed improvements on one parcel will vest the right to complete the GDP improvements on the other parcel in a later phase.

6. SUCCESSORS AND ASSIGNS.
   These proffers shall bind and inure to the benefit of the Applicant and his/her successors an assigns.

GENERALIZED DEVELOPMENT PLAN
FAIRFAX UNIVERSITY – HERNDON CAMPUS

TOWN OF HERNDON
FAIRFAX COUNTY, VIRGINIA

GENERAL NOTES

THE PROPERTIES SHOWN ON THIS PLAN ARE LOCATED IN THE TOWN OF HERNDON ON FAIRFAX COUNTY TAX MAP NO. 016-2((2))-PARCEL 190C AND PARCEL 203D.

1. EXISTING ZONING: CS

2. TOTAL SITE AREA: +/- 4.45 ACRES

3. CURRENT OWNERS:

PARCEL/ADDRESS	OWNER/ADDRESS
016-2-((2))-190C 555 GRANT ST.	HERITAGE EDUCATION TRUST LLC, 4401 VILLAGE DR, FAIRFAX VA 22030
016-2-((2))-203D 500 GROVE ST.	SAFA TRUST INC, 500 GROVE ST, HERNDON VA 20170

4. APPLICANT/DEVELOPER: HERITAGE EDUCATION TRUST LLC, & SAFA TRUST INC,

5. PROPOSED ZONING: PD-B

6. PROPOSED USE: POST SECONDARY EDUCATION, OFFICE, AND OTHER PERMITTED USES IN THE DISTRICT

7. BOUNDARY AND TOPOGRAPHIC INFORMATION BY SURVEY PERFORMED BY TRI-TEK ENGINEERING (JULY, 2022). BOUNDARY BEARINGS AND COORDINATES ARE V.C.S. 1983 GRID NORTH SYSTEM.
VERTICAL DATUM = NGVD 29 PER GPS CONTROL SURVEY DATED 7-18-22
UTILIZING NGS CONTROL STATIONS: DK4420 (MOSBY), HV9125 (FX CO GPS-136)
HV5130 (HERNDON OPTRACK), HV9688 (FX CO GPS-79), HV9674 (FX CO GPS-65),
DK 4390 (SUMEET-TEOTIA) AND HV8195 (HILLWOOD) WITH AN AVERAGE COMBINED
SCALE AND ELEVATION FACTOR OF 0.99995052
HORIZONTAL RMS = 0.0871'
VERTICAL RMS = 0.0643'

8. THE SITE IS CURRENTLY SERVED BY PUBLIC WATER AND SEWER.

9. PUBLIC UTILITIES CURRENTLY SERVE THE SITE.

10. BASED ON AVAILABLE MAPS AND RECORDS, THERE IS NO RECORDED FLOOD PLAIN OR RESOURCE PROTECTION AREA (RPA) ON THE EXISTING PROPERTIES THAT IS THE SUBJECT OF THIS APPLICATION. THERE ARE NO SCENIC ASSETS OR NATURAL RESOURCES ON THESE PROPERTIES DESERVING PROTECTION.

11. ALL UTILITY EASEMENTS ARE SHOWN ON THE PLAN BASED ON TITLE REPORTS PROVIDED BY RSL, INC./WALKER TITLE PER CASE NO. A2200662, EFFECTIVE DATE: JULY 19TH, 2022.

12. BASED ON AVAILABLE MAPS AND RECORDS, THERE ARE NO KNOWN BURIAL SITES ON THESE PROPERTIES.

13. TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT CONFORMS TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED STANDARDS.

14. THE USE OF THE PROPERTY IS ANTICIPATED TO BEGIN FOLLOWING APPROVAL OF THE APPROPRIATE PLANS AND ISSUANCE OF PERMITS.

15. ALL UTILITIES AND UTILITY POLES TO BE RELOCATED DUE TO THIS DEVELOPMENT SHALL BE DONE AT THE EXPENSE OF THE DEVELOPER AND ARE TO BE RELOCATED UNDERGROUND.

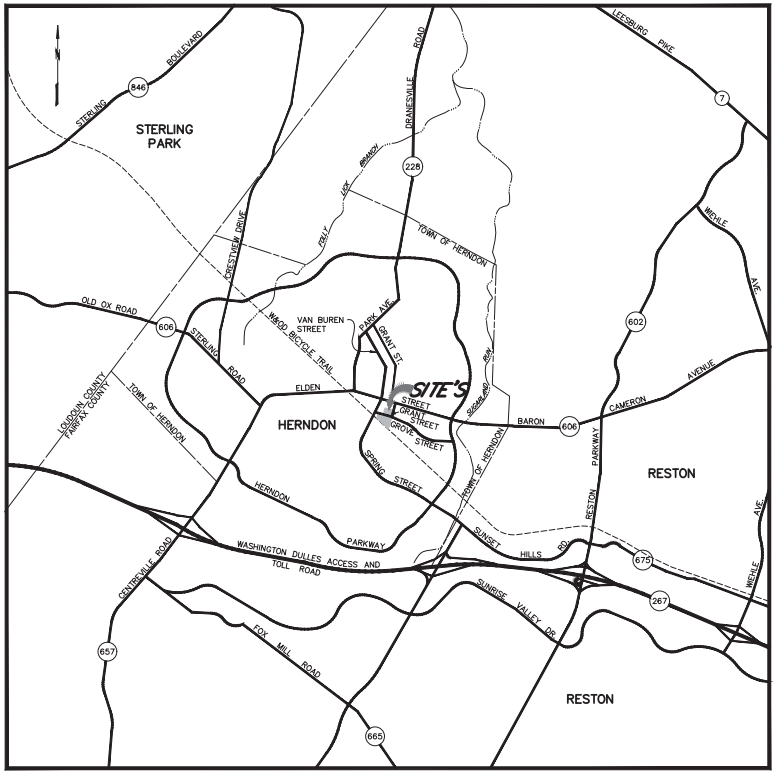
16. "I HEREBY PROFFER THAT THE DEVELOPMENT OF THE SUBJECT PROPERTY OF THIS APPLICATION SHALL BE IN SUBSTANTIAL CONFORMITY WITH THE CONDITIONS SET FORTH IN THIS SUBMISSION".

APPLICANT — DATE 6/20/2023

ZONING STANDARDS	500 GROVE ST.	555 & 585 GROVE ST.	TOTAL
LOT AREA (SF)	51,714 SF	142,291 SF	194,005 SF
BUILDING AREA (SF)	31,280 SF	74,263 SF	105,543 SF
MAX FLOOR AREA RATIO – 0.4 (PERMITTED INCREASE BY COUNCIL BY 100%)	0.60	0.52	0.54
MAXIMUM HEIGHT – 45 FT	43.80 FT	39.60 FT	N/A
OPEN SPACE (MIN 20%)	10,504 SF (20.3%)	48,549 SF (34.1%)	59,053 SF (30.4%)

PARKING STANDARDS	500 GROVE ST.	555 & 585 GROVE ST.
PROPOSED USE	OFFICE/ POST SECONDARY EDUCATION	
PARKING REQUIREMENTS FOR OFFICE USE:	3.3 SPACES PER 1,000 SF OF GFA	
ALLOCATED OFFICE SPACE	2,100 SF	32,820 SF
OFFICE PARKING SPACES	6.9 SPACES	108.3 SPACES
PARKING REQUIREMENTS FOR POST SECONDARY EDUCATION USE:	1.5 SPACES FOR 2 STUDENTS	
NUMBER OF STUDENTS	124 STUDENTS	166 STUDENTS
EDUCATION PARKING SPACES	93.0 SPACES	124.5 SPACES
TOTAL REQUIRED PARKING SPACES	99.9 OR 100 SPACES	232.8 OR 233 SPACES
TOTAL PROVIDED PARKING SPACES	100 SPACES	233 SPACES
OVERALL PARKING SPACES	333 SPACES	

NOTE: PARKING TABULATIONS ARE BASED ON THE CURRENT OFFICE TENANTS AND THE ANTICIPATED USE OF THE UNIVERSITY. THESE USE AREAS MAY ADJUST OVER TIME BASED ON CORRESPONDING DEMANDS.



VICINITY MAP
SCALE: 1"=2000'

LOADING SPACES	500 GROVE ST.	555 & 585 GROVE ST.
REQUIRED	1 SPACE	2 SPACES
PROPOSED	1 SPACE	2 SPACES
ACCESSIBLE SPACES		
REQUIRED	5 SPACES	8 SPACES
PROPOSED	5 SPACES (3 VAN)	8 SPACES (2 VAN)
BICYCLE PARKING		
PROVIDED	4 SPACES	16 SPACES

SHEET INDEX

Digitally signed by Ted Britt, P.E.
Date: 2023.06.20 15:36:09 -04'00'

NOTE: THE DEVELOPER RESERVES THE RIGHT TO PHASE THE DEVELOPMENT ON EACH RESPECTIVE PARCEL.

SCREENING BUFFER STRIPS	500 GROVE ST.	555 & 585 GROVE ST.
STREET/PARKING BUFFER		
REQUIRED:	10 FT	10 FT
PROVIDED:	11.5 FT (EAST), 10.0 FT (SOUTH)	7.6 FT (NORTH)
PERIMETER BUFFER STRIP		
REQUIRED (NORTH):	7.5 FT	N/A
PROVIDED (NORTH):	8.5 FT	N/A
REQUIRED (EAST):	N/A	7.5 FT
PROVIDED (EAST):	N/A	32.4 FT
REQUIRED (SOUTH):	N/A	7.5 FT
PROVIDED (SOUTH):	N/A	7.5 FT
REQUIRED (WEST):	7.5 FT	7.5 FT
PROVIDED (WEST):	8.7 FT	11.0 FT

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COMMONWEALTH OF VIRGINIA
THEODORE D. BRITT
Lic. No. 23803
6.20.23
PROFESSIONAL ENGINEER

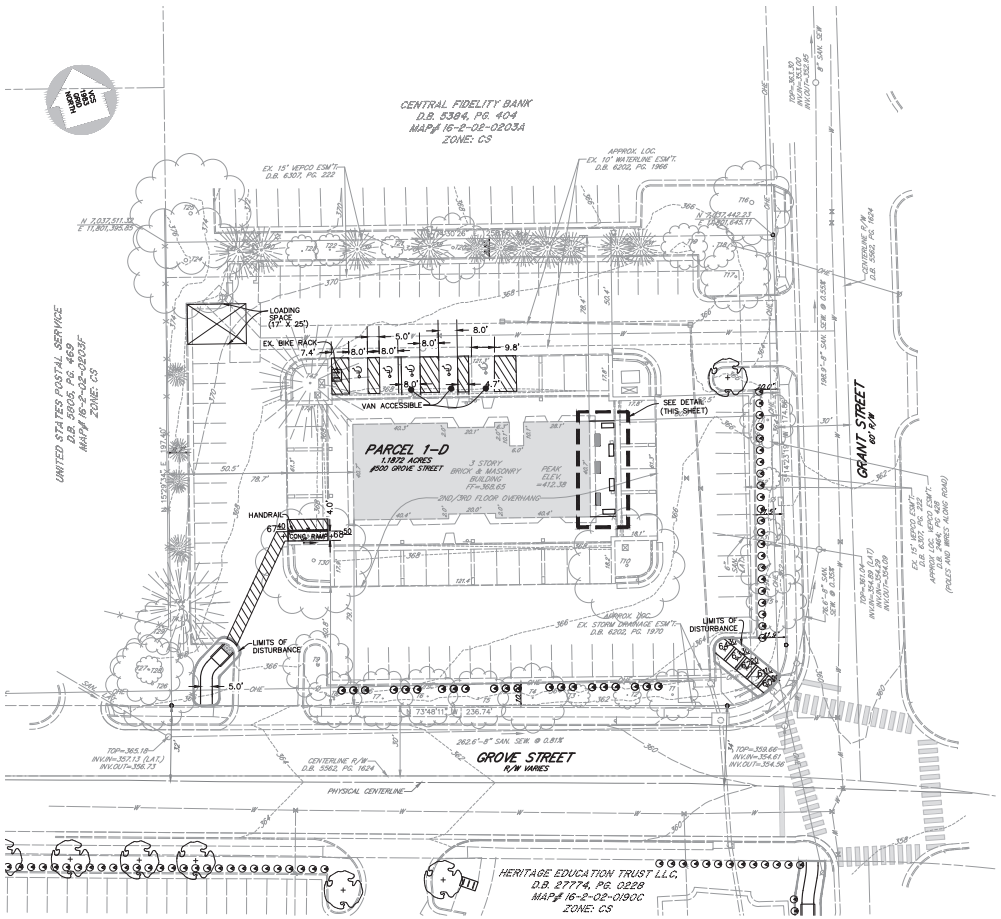
FAIRFAX UNIVERSITY
HERNDON CAMPUS
FAIRFAX COUNTY, VIRGINIA
TOWN OF HERNDON

COVER SHEET

DATE	REVISION
03.15.23	TOWN OF HERNDON COMMENTS
05.15.23	TOWN OF HERNDON COMMENTS
06.20.23	TOWN OF HERNDON COMMENTS

PM: TDB SCALE: AS SHOWN
PE: CMB DATE: 10.19.22
CO: CMB SHEET 1 OF 4

F-3485



TREE TABLE

T1	9" X3 TREE	T25	17" TREE
T2	4" TREE	T26	11" TREE
T3	2" TREE	T27	7" X6 TREE
T4	5" X5 TREE	T28	5" TREE
T5	6" X3 TREE	T29	7" TREE
T6	5" X6 TREE	T30	16" X2 TREE
T7	5" X4 TREE	T31	8" TREE, NEEDLE
T8	7" X3 TREE	T32	8" TREE, NEEDLE
T9	11" TREE	T33	6" TREE, NEEDLE
T10	12" X2 TREE	T34	8" TREE, NEEDLE
T11	9" TREE	T35	8" TREE, NEEDLE
T12	2" TREE	T36	6" TREE, NEEDLE
T13	2" TREE	T37	6" TREE, NEEDLE
T14	7" X5 TREE	T38	8" TREE, NEEDLE
T15	9" X3 TREE	T39	9" TREE, NEEDLE
T16	21" TREE	T40	9" TREE, NEEDLE
T17	10" TREE	T41	10" TREE, NEEDLE
T18	2" X5 TREE	T42	8" X2 TREE, NEEDLE
T19	2" X5 TREE	T43	14" TREE, NEEDLE
T20	13" TREE	T44	17" TREE, NEEDLE
T21	5" TREE	T45	5" TREE, NEEDLE
T22	6" TREE	T46	2" TREE, NEEDLE
T23	5" TREE	T47	2" TREE, NEEDLE
T24	18" TREE	T48	2" TREE, NEEDLE

LEGEND

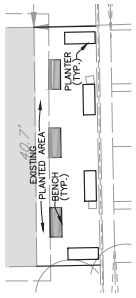
- SIGN
- AIR CONDITIONER
- LIGHT POLE
- GUY WIRE
- POWER POLE
- WATER VALVE
- FIRE HYDRANT
- UTILITY MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE
- DROP INLET GRATE
- HANDICAP PARKING SPACE
- FENCE
- OHE — OVERHEAD ELECTRIC
- W — WATERLINE
- CURB
- CURB & GUTTER

** PROPOSED IMPROVEMENTS SHOWN ON 555/585 GROVE STREET ARE FOR REFERENCE ONLY FOR THE GDP. CONSTRUCTION OF THESE IMPROVEMENTS ARE SUBJECT TO THE OWNER/DEVELOPERS PHASING FOR THIS PROPERTY.

GRAPHIC SCALE

(IN FEET)
1 inch = 25 ft.

NOTE:
1. ALL ADA SPACES WILL MEET ADA REGULATIONS AT THE TIME OF SITE PLAN.
2. FINAL TREE SPECIES TO BE DETERMINED AT THE TIME OF SITE PLAN. THE MAJORITY OF SPECIES PROVIDED SHALL BE NATIVE SELECTION.
3. ANALYSIS OF EXISTING/PROPOSED PLANT MATERIAL TO MEET THE INTENT OF ZONING ORDINANCE SECTIONS 78-110.3, 78-110.4, AND 78-110.5 WILL BE PROVIDED AT TIME OF SITE PLAN.
4. STORMWATER REQUIREMENTS WILL BE ADDRESSED AT THE TIME OF SITE PLAN SUBMISSION.



EXTERIOR AMENITY SPACE DETAIL
SCALE: 1"=10'

BENCH DETAIL

PLANTER DETAIL

LANDSCAPE SCHEDULE

	SYMBOL	QUANTITY	PLANT TYPE
TREES		0	EVERGREEN TREES
TREES		1	CANOPY TREES
SHRUBS		43	SHRUBS

BIKE RACK DETAIL

PRAYER ROOM LOCATION

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6.20.23
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FAIRFAX COUNTY, VIRGINIA
TOWN OF HERNDON

GENERALIZED DEVELOPMENT PLAN – 500 GROVE STREET

DATE	REVISION
05.31.23	TOWN OF HERNDON COMMENTS
06.13.23	TOWN OF HERNDON COMMENTS
06.20.23	TOWN OF HERNDON COMMENTS

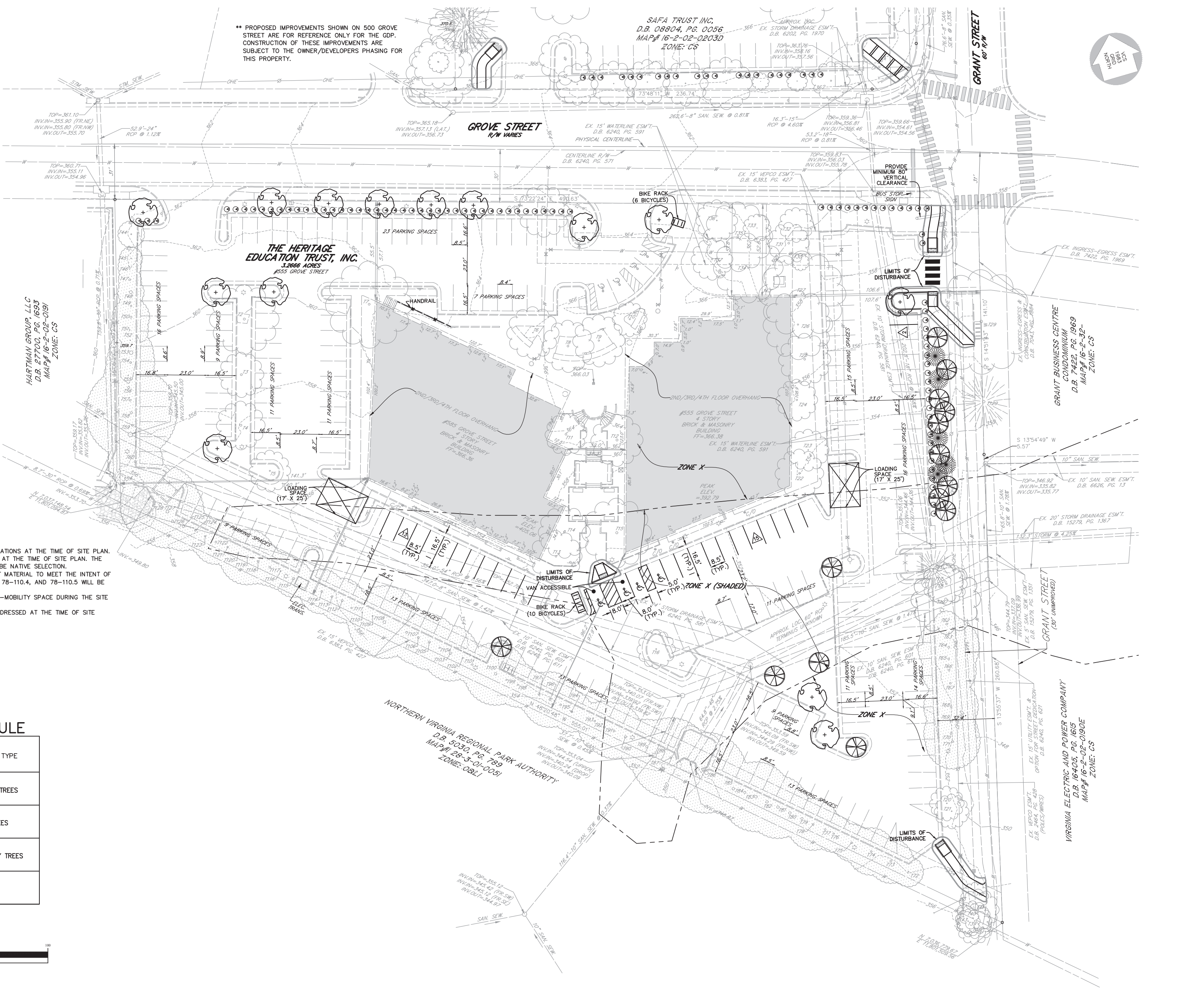
PM: TDB SCALE: 1"=25'
PE: CMB DATE: 10.19.22
CO: CMB SHEET 2 OF 4

F-3485

TREE TABLE

T1	7" X4 TREE	T66	12" TREE, NEEDLE
T2	14" TREE	T67	12" TREE, NEEDLE
T3	13" TREE	T68	12" TREE, NEEDLE
T4	14" TREE	T69	12" TREE, NEEDLE
T5	8" TREE	T70	12" TREE, NEEDLE
T6	5" TREE	T71	12" TREE, NEEDLE
T7	13" TREE	T72	7" TREE, NEEDLE
T8	12" TREE	T73	12" TREE, NEEDLE
T9	10" TREE	T74	12" TREE, NEEDLE
T10	8" TREE	T75	12" TREE, NEEDLE
T11	12" TREE	T76	10" TREE, NEEDLE
T12	14" TREE	T77	12" TREE, NEEDLE
T13	11" TREE	T78	12" TREE, NEEDLE
T14	12" TREE	T79	15" TREE, NEEDLE
T15	15" TREE	T80	17" TREE, NEEDLE
T16	7" TREE	T81	17" TREE, NEEDLE
T17	6" TREE	T82	17" TREE, NEEDLE
T18	11" TREE	T83	19" TREE, NEEDLE
T19	16" TREE	T84	15" TREE, NEEDLE
T20	6" X2 TREE	T85	18" TREE, NEEDLE
T21	6" X2 TREE	T86	25" TREE, NEEDLE
T22	11" TREE	T87	12" X2 TREE, NEEDLE
T23	6" TREE	T88	9" X2 TREE, NEEDLE
T24	10" TREE	T89	15" TREE, NEEDLE
T25	12" TREE	T90	16" TREE, NEEDLE
T26	9" TREE	T91	12" TREE, NEEDLE
T27	16" TREE	T92	14" TREE, NEEDLE
T29	18" TREE	T93	10" TREE, NEEDLE
T30	2" TREE	T94	11" TREE, NEEDLE
T31	12" TREE	T95	13" TREE, NEEDLE
T32	6" TREE	T96	15" TREE, NEEDLE
T33	3" TREE	T97	12" TREE, NEEDLE
T34	10" TREE	T98	9" X2 TREE, NEEDLE
T35	12" TREE	T99	9" X2 TREE, NEEDLE
T36	6" X3 TREE	T100	17" TREE, NEEDLE
T37	10" TREE	T101	11" TREE, NEEDLE
T38	5" TREE	T102	8" TREE, NEEDLE
T39	5" TREE	T103	17" TREE, NEEDLE
T40	6" TREE	T104	9" TREE, NEEDLE
T41	7" X3 TREE	T105	15" TREE, NEEDLE
T42	3" TREE	T106	14" TREE, NEEDLE
T43	5" TREE	T107	14" TREE, NEEDLE
T44	7" X2 TREE, NEEDLE	T108	19" TREE, NEEDLE
T45	6" X3 TREE, NEEDLE	T109	7" TREE, NEEDLE
T46	6" TREE, NEEDLE	T110	7" TREE, NEEDLE
T47	12" TREE, NEEDLE	T111	11" TREE, NEEDLE
T48	20" TREE, NEEDLE	T112	14" TREE, NEEDLE
T49	10" TREE, NEEDLE	T113	12" TREE, NEEDLE
T50	14" TREE, NEEDLE	T114	13" TREE, NEEDLE
T51	6" X3 TREE, NEEDLE	T115	17" TREE, NEEDLE
T52	4" X2 TREE, NEEDLE	T116	7" X2 TREE, NEEDLE
T53	24" TREE, NEEDLE	T117	12" TREE, NEEDLE
T54	13" TREE, NEEDLE	T118	13" TREE, NEEDLE
T55	5" X4 TREE, NEEDLE	T119	15" TREE, NEEDLE
T56	14" TREE, NEEDLE	T120	9" TREE, NEEDLE
T57	12" TREE, NEEDLE	T121	11" X2 TREE, NEEDLE
T58	15" TREE, NEEDLE	T122	13" TREE, NEEDLE
T59	14" TREE, NEEDLE	T123	10" TREE, NEEDLE
T60	16" TREE, NEEDLE	T124	13" TREE, NEEDLE
T61	11" TREE, NEEDLE	T125	16" TREE, NEEDLE
T62	12" TREE, NEEDLE	T126	14" TREE, NEEDLE
T63	10" TREE, NEEDLE	T127	20" TREE, NEEDLE
T64	13" TREE, NEEDLE	T128	18" TREE, NEEDLE
T65	12" TREE, NEEDLE	T129	17" TREE, NEEDLE

** PROPOSED IMPROVEMENTS SHOWN ON 500 GROVE STREET ARE FOR REFERENCE ONLY FOR THE GDP. CONSTRUCTION OF THESE IMPROVEMENTS ARE SUBJECT TO THE OWNER/DEVELOPERS PHASING FOR THIS PROPERTY.



NOTE:

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2. FINAL TREE SPECIES TO BE DETERMINED AT THE TIME OF SITE PLAN. THE MAJORITY OF SPECIES PROVIDED SHALL BE NATIVE SELECTION.
3. ANALYSIS OF EXISTING/PROPOSED PLANT MATERIAL TO MEET THE INTENT OF ZONING ORDINANCE SECTIONS 78-110.3, 78-110.4, AND 78-110.5 WILL BE PROVIDED AT TIME OF SITE PLAN.
4. AN AREA WILL BE IDENTIFIED FOR MICRO-MOBILITY SPACE DURING THE SITE PLAN REVIEW.
5. STORMWATER REQUIREMENTS WILL BE ADDRESSED AT THE TIME OF SITE PLAN SUBMISSION.

LANDSCAPE SCHEDULE

	SYMBOL	QUANTITY	PLANT TYPE
TREES	(evergreen symbol)	5	EVERGREEN TREES
TREES	(canopy symbol)	14	CANOPY TREES
TREES	(understory symbol)	14	UNDERSTORY TREES
SHRUBS	(shrub symbol)	92	SHRUBS

GRAPHIC SCALE

(IN FEET)
1 inch = 25 ft.

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6.20.23
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FAIRFAX UNIVERSITY – HERNDON CAMPUS

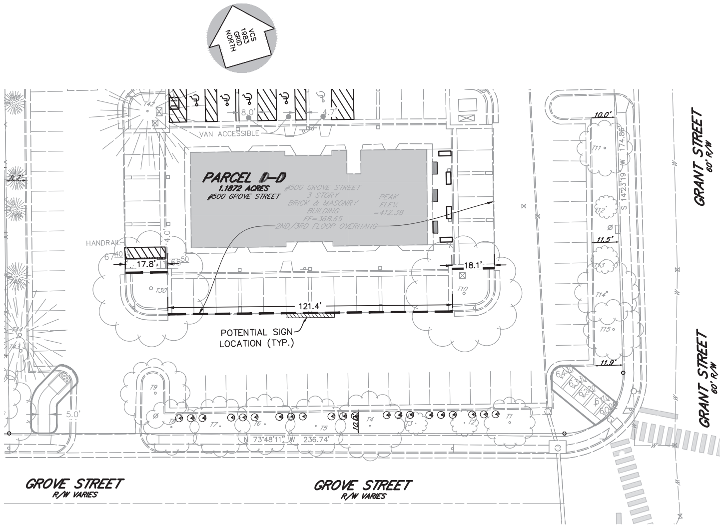
TOWN OF HERNDON — FAIRFAX COUNTY, VIRGINIA

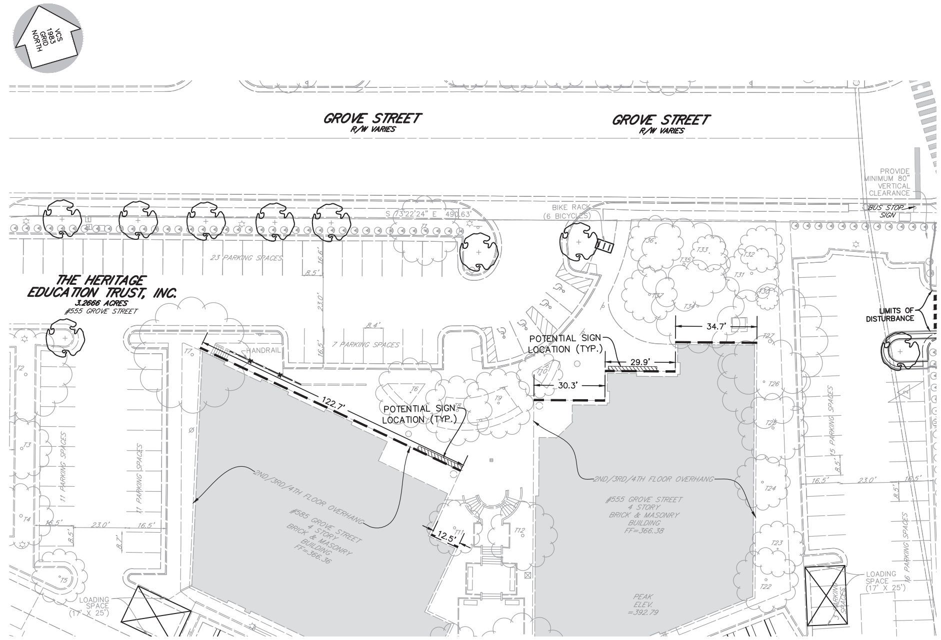
GENERALIZED DEVELOPMENT PLAN – 555 & 585 GROVE STREET

DATE	REVISION
03.15.23	TOWN OF HERNDON COMMENTS
05.31.23	TOWN OF HERNDON COMMENTS
06.20.23	TOWN OF HERNDON COMMENTS

PM: TDB SCALE: 1"=25'
PE: CMB DATE: 10.19.22
CO: CMB SHEET 3 OF 4

F-3485





500 GROVE STREET SIGNAGE CALCULATIONS (FACING GROVE STREET)

TOTAL LENGTH OF BUILDING FRONTAGE: 157.3'

1.5 SF/LF FOR FIRST 100 FT OF FRONTAGE: 100' * 1.5 SF/LF = 150 SF

1.0 SF/LF FOR REMAINING FRONTAGE LENGTH: 57.3' * 1.0 SF/LF = 57.3 SF

TOTAL ALLOWABLE SIGN SF: 150 SF + 57.3 SF = 207.3 SF (MAXIMUM ALLOWED SF IS 200 SF) ~ 200 SF

PROPOSED SIGN SF: 48 SF.

585 GROVE STREET SIGNAGE CALCULATIONS

TOTAL LENGTH OF BUILDING FRONTAGE: 135.2'

1.5 SF/LF FOR FIRST 100 FT OF FRONTAGE: 100' * 1.5 SF/LF = 150 SF

1.0 SF/LF FOR REMAINING FRONTAGE LENGTH: 35.2' * 1.0 SF/LF = 35.2 SF

TOTAL ALLOWABLE SIGN SF: 150 SF + 35.2 SF = 185.2 SF

PROPOSED SIGN SF: 48 SF.

555 GROVE STREET SIGNAGE CALCULATIONS

TOTAL LENGTH OF BUILDING FRONTAGE: 94.9'

1.5 SF/LF FOR FIRST 100 FT OF FRONTAGE: 94.9' * 1.5 SF/LF = 142.4 SF

1.0 SF/LF FOR REMAINING FRONTAGE LENGTH: N/A

TOTAL ALLOWABLE SIGN SF: 142.4 SF

PROPOSED SIGN SF: 48 SF.

BUILDING MOUNTED SIGNAGE

FXUA Fairfax University of America

NOTE:
1. SIGN SIZE IS 2'X24'. TOTAL SIGN AREA IS 48 SF.
2. THE BUILDING SIGNAGE DESIGN IS NOT FINAL AND IS SUBJECT TO STAFF REVIEW UNDER A SEPARATE COVER.

LEGEND

— — — BUILDING FRONTAGE

▨▨▨ POTENTIAL SIGN LOCATION

GRAPHIC SCALE
(IN FEET)
1 inch = 25 ft.

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6.20.23
PROFESSIONAL ENGINEER

FAIRFAX UNIVERSITY – HERNDON CAMPUS

FAIRFAX COUNTY, VIRGINIA
TOWN OF HERNDON

BUILDING SIGNAGE EXHIBIT

DATE	REVISION
03.15.23	TOWN OF HERNDON COMMENTS
05.31.23	TOWN OF HERNDON COMMENTS
06.20.23	TOWN OF HERNDON COMMENTS

PM: TDB SCALE: 1"=25'
PE: CMB DATE: 10.19.22
CO: CMB SHEET 4 OF 4

F-3485

To: Bryce Perry
Town of Herndon

From: Michael J. Workosky, PTP, TOPS, TSOS
John F. Cavan IV, P.E., PTOE
Kathryn M. Morrissey, EIT

Copy: Bayarjargal (BJay) Battulga, Fairfax University of America
Mark M. Viani, Bean, Kinney & Korman

Re: Fairfax University of America – Herndon Campus
Traffic Impact Analysis

Date: February 24, 2023

Introduction

This memorandum presents a traffic impact analysis for the proposed Fairfax University of America (FXUA) – Herndon Campus. This campus is proposed to operate within three (3) existing office buildings located at 500, 555 & 585 Grove Street in Town of Herndon, Virginia, as shown on Figure 1.

The site is currently developed with three office buildings with a total building area of 105,543 square feet (SF). Under the proposed application, 34,920 SF of office uses would be maintained while the remaining building area (70,623 S.F.) would be utilized by the university with a maximum projected enrollment of 295 students. Vehicular access to the buildings would continue to be provided via the site's five (5) existing commercial entrances: three (3) on Grove Street, one (1) on Grant Street, and one (1) interparcel access south of the Grove Street/Grant Street intersection.

For purposes of this traffic impact analysis, the facility was assumed to be fully constructed and occupied within three (3) years, by 2025. A copy of the proposed site plan is shown on Figure 2.

This document includes background information, traffic data, and analyses to satisfy the Town of Herndon's Traffic Impact Study Requirements as outlined in the Town Ordinance section 78-156.1. The proposed use does not meet the thresholds to require a VDOT Chapter 870 traffic

study. The traffic analysis parameters were identified through discussions with Town of Herndon staff. A scoping document (Appendix A) was provided to staff.

Background Information and Description of Proposed Development

The properties are located at 500, 555 & 585 Grove Street and are also identified as Parcels # 016-2 ((02)) 190C & 203D. The 4.45-acre properties are currently occupied by three (3) office buildings with a total floor area of 105,543 SF. Of this total area, approximately 34,920 SF are currently lease and occupied. The subject proposal is seeking to submit an application that would convert the remaining area of the existing office uses to educational uses to serve the Fairfax University of America (FXUA) – Herndon Campus. A total enrollment maximum enrollment 295 students is proposed. The 34,920 SF of currently occupied office uses are proposed to be maintained.

Vehicular access to the site would continue to be provided via the site's five (5) existing commercial entrances: three (3) on Grove Street, one (1) on Grant Street, and one (1) interparcel access south of the Grove Street/Grant Street intersection.

A total of 337 parking spaces are currently provided and would be maintained. Based on an assumed maximum enrollment of 295 students and 34,920 S.F. of space reserved for office uses, the Code required parking would be 337 spaces. Therefore, the proposal would be in conformance to code requirements.

The site is served by the following roadways:

Elden Street is a four-lane undivided road with a speed limit of 30 miles per hour (mph) and is designated as an Urban Minor Arterial by VDOT and the Town. Separate left turn lanes are not currently provided on Elden within the study area.

Van Buren Street is a four-lane divided road with a speed limit of 30 miles per hour (mph) and is designated as an Urban Minor Collector by VDOT and the Town. Separate left turn lanes are currently provided at the intersection of Grove Street/Monroe Street.

Grove Street is a two-lane undivided road with a speed limit of 25 miles per hour (mph) and is designated as an Urban Minor Collector by VDOT and the Town. Separate turn lanes are currently provided within the study area.

Grant Street is a two-lane undivided road and is designated as a Local Street by VDOT and the Town. Separate turn lanes are currently provided within the study area.

Pedestrian access to the study area is provided via sidewalks along both sides of Elden Street, Van Buren Street, Grove Street, and Grant Street. Crosswalks are generally provided across signalized and Stop-controlled approaches. In addition, the Washington and Old Dominion (W&OD) Trail runs along the southern boundary of the subject site. A connection to the trail is provided along the eastern boundary of the site.

Existing Traffic Counts

Existing traffic counts were conducted on Thursday, June 2, 2022 by Wells + Associates at the following intersections:

1. Elden Street/Van Buren Street
2. Elden Street/Grant Street
3. Van Buren Street/Grove Street/Monroe Street
4. Grove Street/Grant Street
5. Existing Site Driveways

The counts were collected between 6:00 AM and 7:00 PM, and are summarized in Appendix B. The AM and PM peak hour traffic volumes are shown on Figure 3 and reflect a common peak hour of 7:30 to 8:30 AM and 5:15 to 6:15 PM. Existing lane use and traffic control at the study intersections are shown on Figure 4.

In order to account for the effects of the COVID-19 pandemic on regional traffic, historic intersection count date at the Elden Street/Van Buren Street was reviewed and compared to the recent traffic count. The results are summarized below:

Total Intersection Volume (Elden Street/Van Buren Street)

	Historic Count	Current Count	Percent
AM Peak Hour	1,634	1,180	38%
PM Peak Hour	2,199	1,557	41%
Total Peak Hour	**3,833**	**2,737**	**40%**

As shown above, the historic intersection counts were 40 percent higher than the current traffic counts. Therefore, traffic volumes Elden Street and Van Buren Street were increased by 40 percent to adjust to pre-pandemic conditions. The traffic adjustments are shown on Figure 5.

At the time of the traffic counts, 70,623 S.F. of the existing office was vacant. In order to reflect conditions assuming fully occupied office space, number of peak hour trips was calculated for the office based on Institute of Transportation of Engineers Trip Generation 11th Edition rates/equations. As shown in Table 1 the existing office uses are expected to generate 193 AM peak hour trips (170 in and 23 out), 194 PM peak hour trips (33 in and 161 out), and 1,318 daily (24-hour) trips if fully occupied. When compared to the existing trip generation counted at the site driveways, the full occupied office uses would generate an additional 170 AM peak hour trips (152 in and 18 out), 104 PM peak hour trips (-15 in and 119 out), and 707 daily (24-hour) trips.

Trip assignments for the existing vacant office uses are shown on Figure 6. The adjusted baseline traffic volumes are shown on Figure 7.

Existing Capacity Analysis

Existing peak hour levels of service were calculated at the study intersections based on the existing lane use shown on Figure 4 and the adjusted baseline traffic volumes shown on Figure 7 using the Highway Capacity Manual (HCM 6th Edition) methodologies and the Synchro (version 11) software. Based on the Town's zoning Ordinance, level-of-service (LOS) at signalized intersections are required to operate at LOS " D" or better and individual turning movement level of service at an intersection falls below LOS "E".

The results are summarized on Table 2 and indicate that the signalized Elden Street/Van Buren Street and Van Buren Street/Grove Street intersections currently operate at an overall acceptable levels of service (LOS "C") during both the AM and PM peak hours. While the sidestreet approaches of Van Buren Street at Elden Street operate at LOS "E", the volume-to-capacity ratios are below 1.0. This indicates that delays are the result of corridor cycle lengths and not capacity constraints. The northbound approach of Grant Street at Elden Street of approach capacity (LOS "E") during the PM peak hour. All unsignalized site driveways currently operate as LOS "A" with minimal delays. The Synchro analysis worksheets are presented in Appendix C.

The queuing results are shown on Table 3 and in Appendix C. Synchro software was used to calculate the queue lengths since the study area was determined to represent undersaturated conditions. As shown in the table, the turn lanes on Elden Street and Van Buren Street adequately accommodate queuing

Background Traffic Growth

As identified in the traffic scoping agreement, a 1.0 percent per year compounded growth rate was applied to non-fixed traffic movements for a three (3) year period, as shown on Figure 8.

Other Approved Developments

Based on discussions with Town of Herndon staff, the recently approved 315 Elden Street Adaptive Reuse project was assumed to be built and occupied for the traffic analysis. This project would convert the existing 168-room hotel to 174 multifamily residential units. Based on the "315 Elden Adaptive Reuse – Traffic Impact Study" dated October 26, 2021, the residential units would generate 81 AM peak hour trips (19 in, 62 out), 97 PM peak hour trips (61 in, 36 out), and 1,275 daily trips. These trips were assigned to the roadway network based on the previously prepared traffic study and are shown on Figure 9. Additional details are included in Appendix D.

Eldon Street Widening Project

The Elden Street Widening Project is anticipated to be completed by 2025. Within the study area, this project would provide left turn lanes along Elden Street and restrict movements from Grant Street to right turn only. The future lane use and traffic controls are shown on Figure 10 and adjustments to baseline traffic are shown on Figure 11.

Background Traffic Forecasts

Background traffic forecasts were prepared by adding existing traffic, trip associated with the vacant office uses, pipeline development traffic, ambient traffic growth, and adjustments for the Elden Street Widening Project to yield the future background 2025 traffic volumes shown on Figure 12.

Background Future Capacity Analyses

Future capacity analyses, without the proposed Fairfax University of America (FXUA) – Herndon Campus, were estimated at the study intersections based on the future lane usage and traffic control shown on Figure10, the background traffic forecasts shown on Figure 12, and the HCM 6th Edition methodologies described previously.

The results are presented in Appendix E and summarized on Table 2 and indicate that the signalized Elden Street/Van Buren Street and Van Buren Street Grove Street intersections would continue to operate at acceptable overall levels of service. The construction of a raised median along Elden Street that would restrict movements from Grant Street to right-turn only would improve the level-of-service from LOS "E" to LOS "B". The other unsignalized study intersection would continue to operate at LOS "B" or better with minimal delays. As shown on Table 3, projected queues would continue to be accommodated.

Site Trip Generation

The number of vehicle trips expected to be generated by the office and educational uses was estimated based on standard ITE Trip Generation (11th Edition) rates/equations and is provided in Table 4. In the interest of conservatism, no adjustments were assumed for internal trips or mode share. For purposes of this traffic impact analysis, it was assumed 34,920 SF of office uses would be maintained while the remaining building area would be utilized by the university with a projected maximum enrollment of 295 students.

As shown in Table 4, the proposed university and office uses are anticipated to generate a total of 203 AM peak hour trips (178 in and 25 out), 180 PM peak hour trips (72 in and 108 out), and 1,668 daily (24-hour) trips upon completion. When compared to the currently constructed office uses, the proposed uses would generate 10 more AM peak hour, 14 fewer PM hour, and 350 more daily trips.

Site Trip Distribution

The net new site-generated trips were assigned to the roadway network based existing traffic patterns, current school enrollment, and engineering judgement. Specifically, the following distribution was assumed:

- To/From the west on Elden Street: 15%
- To/From the west on Monroe Street: 10%
- To/From the east on Elden Street: 30%
- To/From the east on Grove Street: 20%
- To/From the south on Van Buren Street:25%

The net new site trip assignments are shown on Figure 13.

Total Future Traffic Forecasts

Total future traffic forecasts were developed for 2025 by adding the net site-generated traffic assignments (Figure 12) to the 2025 background forecasts (Figure 12). The resulting 2025 total future traffic forecasts are shown on Figure 14.

Total Future Capacity Analysis

Future capacity analyses, with the Fairfax University of America (FXUA) – Herndon Campus, were estimated at the study intersections based on the future lane use and traffic control shown on Figure 10, the total future traffic forecasts shown on Figure 14, and the HCM 6th Edition methodologies as reported by Synchro.

The results shown in Table 2 and contained in Appendix F are generally consistent with those identified under background conditions, with minor changes in delay when compared to conditions with fully occupied office uses. The Elden Street/Van Buren Street and Van Buren Street/Grove Street intersections would continue to operate at overall acceptable level-of-service (LOS) “D” or better during the AM and PM peak hours. All unsignalized study intersections would operate at LOS “B” or better with minor delays.

As shown in Table 3, the projected queuing with redevelopment would be consistent with background conditions. The left turn lanes on Elden Street, Van Buren Street, and Grove Street would continue to adequately accommodate projected queues.

Based on the results described above, the projected level-of-service and queuing would meet Town standards and no further roadway improvements would be required.

Conclusions

The conclusions of this traffic impact analysis are summarized below:

1. Based on adjusted 2022 baseline traffic volumes, the signalized Elden Street/Van Buren Street and Van Buren Street/Grove Street intersections operate at overall acceptable levels of service (at LOS "C") based on Town standards during both the AM and PM peak hours. With the exception of the Elden Street/Grant Street intersection, all unsignalized study intersections operate at LOS "A" with minimal delays.

2. The results of the background conditions in 2025 without the Fairfax University of America (FXUA) – Herndon Campus is consistent with baseline conditions with minor changes in delays and queuing. The planned Elden Street improvements would reduce sidestreet delays at the Elden Street/Grant Street intersection.

3. Approximately 70,623 S.F. of the existing 105,543 S.F. of office space is proposed to be converted to educational uses with a maximum enrollment of 295 students. Approximately 34,920 S.F. of office space would remain.

4. The proposed educational and office uses is expected to generate a total of 203 AM peak hour trips, 180 PM peak hour trips and 1,668 daily (24-hour) trips upon project completion in 2025. When compared to the currently constructed office uses, the proposed uses would generate 10 more AM peak hour, 14 fewer PM hour, and 350 more daily trips.

5. Based on an assumed maximum enrollment of 295 students and 34,920 S.F. of space reserved for office uses, the Code required parking would be 337 spaces. This parking requirement would be accommodated by the existing 337 spaces provided on site.

6. The results of the total future analyses are generally consistent with those reported under background conditions, with minor increases in delay and queuing when compared to conditions with fully occupied office uses. All study intersections would operate at acceptable levels-of-service during the AM and PM peak hours and projected queuing would be accommodated. Thus, the results meet Town standards and no further improvements would be required.

Questions regarding this document should be directed to Wells + Associates.

Table 1
Fairfax University of America (FXUA) - Herndon Campus
Trip Generation of Existing Office Uses [1]

	Land Use	ITE Land Use Code	Size	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Weekday ADT
Existing Use [2]											
500 Grove St Building	Office	710	31,280	S.F.	55	7	62	11	52	63	422
555 & 585 Grove St Buildings	Office	710	74,263	S.F.	115	16	131	22	109	131	896
Total	**Office**	**710**	**106,543**	**S.F.**	**170**	**23**	**193**	**33**	**161**	**194**	**1,318**
Observed Trip Generation [3]					18	5	23	48	42	90	611
Net Trips (Predicted - Observed)					**152**	**18**	**170**	**-15**	**119**	**104**	**707**

Notes:
1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition.
2. Based on Fairfax County Parcel information
3. Based on traffic counts collected Thursday, June 2, 2022.

Attachment #5

Table 2
Fairfax University of America (FXUA) - Herndon Campus
Intersection Levels of Service Summary[1,2]

Approach/ Lane Group	Existing Conditions				2025 Future Conditions without Development				2025 Future Conditions with Development			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
1. Van Buren Street/Elden Street- Signalized [3]												
EBL	*N/A*	*N/A*	*N/A*	*N/A*	*A*	*0.0*	*B*	*17.3*	*B*	*0.0*	*B*	*17.3*
EBLT/EBTR	A	9.6	B	13.0	*B*	*19.4*	*C*	*24.6*	*B*	*19.4*	*C*	*24.7*
EBR	A	7.7	B	10.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WBL	N/A	N/A	N/A	N/A	*B*	*10.4*	*B*	*15.0*	*B*	*10.4*	*B*	*15.1*
WBLTR/WBTR	A	10.0	B	16.2	*B*	*10.5*	*B*	*18.0*	*D*	*10.5*	*B*	*18.0*
NBL	D	52.4	E	59.1	*D*	*51.9*	*E*	*58.9*	*D*	*51.9*	*E*	*58.3*
NBT	D	54.7	E	70.0	*D*	*54.8*	*E*	*75.7*	*D*	*54.8*	*E*	*75.7*
NBR	D	49.9	E	56.4	*D*	*49.1*	*E*	*55.8*	*D*	*49.1*	*E*	*55.8*
SBL	D	51.6	E	73.6	*D*	*51.4*	*E*	*74.9*	*D*	*51.4*	*E*	*74.9*
SBTR	E	56.3	E	71.8	*E*	*57.2*	*E*	*72.0*	*E*	*57.2*	*E*	*72.0*
Overall	**C**	**22.6**	**C**	**32.0**	***C***	***26.5***	***D***	***36.4***	***C***	***26.5***	***D***	***36.3***
2. Elden Street/Grant Street - Unsignalized												
EBLT	A	8.7	B	10.1	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
EBTR	A	0.0	A	0.2	*A*	*0.0*	*A*	*0.0*	*A*	*0.0*	*A*	*0.0*
WBL	A	9.8	B	10.9	*A*	*10.0*	*B*	*11.3*	*A*	*10.0*	*B*	*11.4*
WBTR	A	0.5	A	0.4	*A*	*0.0*	*A*	*0.0*	*A*	*0.0*	*A*	*0.0*
NBLTR/NBR	C	18.4	F	50.1	*B*	*11.5*	*B*	*14.9*	*B*	*11.6*	*B*	*14.4*
SBLTR/SBR	B	10.2	D	32.5	*B*	*10.3*	*B*	*12.4*	*B*	*10.3*	*B*	*12.4*
3. Grant Street/North Site Driveway - Unsignalized												
EBLR	A	9.3	A	9.1	A	9.3	A	9.1	A	9.3	A	9.1
NBLT	A	7.5	A	7.3	A	7.5	A	7.3	A	7.5	A	7.4
SBTR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
4. Van Buren Street/Monroe Street & Grove Street - Signalized												
EBL	D	35.3	D	41.8	C	34.9	D	41.5	C	34.8	D	41.3
EBTR	D	53.8	D	51.1	D	54.5	D	51.0	D	54.8	D	50.8
WBL	D	35.5	D	38.3	D	35.1	D	38.0	C	35.0	D	38.1
WBTR	D	36.0	D	41.1	D	35.9	D	41.0	D	35.8	D	41.0
NBL	A	9.0	A	7.8	A	9.3	A	8.1	A	9.3	A	7.9
NBTR	B	11.9	B	10.1	B	12.3	B	10.4	B	12.5	B	10.4
SBL	A	9.2	A	8.5	A	9.4	A	8.7	A	9.5	A	8.4
SBTR	B	13.1	B	12.1	B	13.5	B	12.5	B	13.6	B	12.2
Overall	**C**	**24.5**	**C**	**22.1**	**C**	**25.0**	**C**	**22.4**	**C**	**25.2**	**C**	**21.9**
5. Grove Street/West Site Driveway - Unsignalized												
EBTR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
WBLT	A	7.9	A	7.4	A	7.9	A	7.4	A	8.0	A	7.5
NBLR	B	10.7	A	9.8	B	10.8	A	9.9	B	10.9	A	9.9
6. Grove Street/ Middle Site Driveway - Unsignalized												
EBLT	A	7.5	A	0.0	A	7.5	A	0.0	A	7.5	A	7.7
WBTR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
SBLR	B	9.4	A	9.7	A	9.5	A	9.8	A	9.5	A	9.7
7. Grove Street/East Site Driveway - Unsignalized												
EBTR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
WBLT	A	7.8	A	7.4	A	7.8	A	7.4	A	7.8	A	7.4
NBLR	B	10.2	A	9.6	B	10.3	A	9.6	B	10.3	A	9.7
8. Grove Street/Grant Street/Driveway - Unsignalized												
EBLTR	A	9.3	A	8.2	A	9.4	A	8.3	A	9.5	A	8.2
WBLT	A	8.5	A	8.9	A	8.7	A	9.1	A	8.7	A	9.1
WBR	A	7.1	A	7.0	A	7.1	A	7.0	A	7.2	A	6.9
NBLTR	A	8.0	A	7.9	A	8.0	A	7.9	A	8.0	A	7.8
SBLTR	A	8.2	A	7.6	A	8.3	A	7.7	A	8.3	A	7.7

Notes:

1. Capacity analysis based on Highway Capacity Manual (HCM) 6th Edition methodology, using Synchro 11 unless otherwise noted.
2. Based on Town standards, overall LOS "D" for signalized intersections is required with all movements at LOS "E" or better.
3. Due to current signal timing phasing, HCM 2000 reports are presented.

Table 3
Fairfax University of America (FXUA) - Herndon Campus
Intersection Queuing Summary[1]

Approach/ Lane Group	Storage Length (ft)	Existing Conditions				2025 Future Conditions without Development				2025 Future Conditions with Development			
		AM Peak Hour Queue (ft)		PM Peak Hour Queue (ft)		AM Peak Hour Queue (ft)		PM Peak Hour Queue (ft)		AM Peak Hour Queue (ft)		PM Peak Hour Queue (ft)	
		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. Van Buren Street/Elden Street- Signalized													
EBL	*150*	*N/A*	*N/A*	*N/A*	*N/A*	0	0	*1*	*8*	*0*	*0*	*1*	*8*
EBLT/EBT	-	108	175	161	257	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EBR/EBTR	420	0	0	0	0	*178*	*295*	*260*	*358*	*178*	*296*	*262*	*362*
WBL	300	N/A	N/A	N/A	N/A	*25*	*59*	*64*	*119*	*25*	*59*	*64*	*119*
WBLTR	-	106	172	231	380	*92*	*154*	*172*	*302*	*92*	*154*	*172*	*302*
NBL	150	44	80	91	134	*45*	*80*	*94*	*144*	*45*	*80*	*84*	*132*
NBT	-	68	112	184	239	*70*	*113*	*189*	*257*	*70*	*113*	*189*	*257*
NBR	-	0	47	0	59	*0*	*46*	*0*	*61*	*0*	*46*	*0*	*61*
SBL	-	91	146	130	190	*93*	*149*	*134*	*193*	*93*	*149*	*134*	*193*
SBTR	255	117	180	129	189	*120*	*184*	*131*	*191*	*120*	*184*	*131*	*191*
2. Elden Street/Grant Street - Unsignalized													
EBLT	-	-	0	-	0	-	N/A	-	N/A	-	N/A	-	N/A
EBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
WBL	125	-	8	-	3	-	8	-	3	-	8	-	5
WBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
NBLTR	-	-	10	-	70	-	5	-	20	-	5	-	15
SBLTR	-	-	0	-	13	-	0	-	3	-	0	-	3
3. Grant Street/North Site Driveway - Unsignalized													
EBLR	-	-	0	-	3	-	0	-	3	-	0	-	3
NBLT	-	-	0	-	0	-	0	-	0	-	0	-	0
SBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
4. Van Buren Street/Monroe Street & Grove Street - Signalized													
EBL	170	8	21	7	20	8	21	7	20	8	21	7	20
EBTR	-	165	221	19	70	170	226	20	71	171	228	23	75
WBL	-	23	43	88	130	24	44	90	132	24	44	81	121
WBTR	-	11	36	77	141	21	51	88	156	21	51	81	143
NBL	70	19	47	17	43	20	49	18	45	20	49	18	46
NBTR	-	44	84	44	110	47	88	66	114	47	88	66	117
SBL	155	10	28	4	16	10	29	5	16	10	29	5	18
SBTR	-	92	175	93	180	97	183	96	186	97	183	95	188
5. Grove Street/West Site Driveway - Unsignalized													
EBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
WBLT	-	-	0	-	0	-	0	-	0	-	0	-	0
NBLR	-	-	0	-	5	-	0	-	5	-	3	-	5
6. Grove Street/ Middle Site Driveway - Unsignalized													
EBLT	-	-	3	-	0	-	3	-	0	-	3	-	0
WBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
SBLR	-	-	0	-	3	-	0	-	3	-	0	-	3
7. Grove Street/East Site Driveway - Unsignalized													
EBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
WBLT	-	-	0	-	0	-	0	-	0	-	0	-	0
NBLR	-	-	0	-	3	-	0	-	3	-	0	-	3
8. Grove Street/Grant Street/ Driveway - Unsignalized													
EBLTR	-	-	30	-	10	-	33	-	10	-	33	-	10
WBLT	-	-	10	-	20	-	13	-	23	-	13	-	23
WBR	-	-	3	-	0	-	3	-	0	-	3	-	0
NBLTR	-	-	3	-	5	-	3	-	5	-	3	-	3
SBLTR	-	-	10	-	8	-	13	-	8	-	13	-	8

Notes:

1. Capacity analysis based on Highway Capacity Manual methodology, using Synchro 11.

Attachment #5

Table 4
Fairfax University of America (FXUA) - Herndon Campus
Trip Generation of Proposed Uses [1]

	Land Use	ITE Land Use Code	Size	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Weekday ADT
Existing Use [2]											
500 Grove St Building	Office	710	31,280	S.F.	55	7	62	11	52	63	422
555 & 585 Grove St Buildings	Office	710	74,263	S.F.	115	16	131	22	109	131	896
Total Existing					**170**	**23**	**193**	**33**	**161**	**194**	**1,318**
Proposed Program [3]											
FXUA Herndon Campus	Junior/Community College	540	295	Students	116	16	132	60	47	107	1,188
Remaining 500 Grove St Office Uses	Office	710	2,100	S.F.	5	1	6	1	6	7	40
Remaining 555 & 585 Grove St Office Uses	Office	710	32,820	S.F.	57	8	65	11	55	66	440
Total Proposed					**178**	**25**	**203**	**72**	**108**	**180**	**1,668**
Difference (Proposed-Existing)					**8**	**2**	**10**	**39**	**-53**	**-14**	**350**

Notes:
1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition.
2. Based on Fairfax County Parcel information
3. Based on current office rent data and projected enrollment data.

Attachment #5

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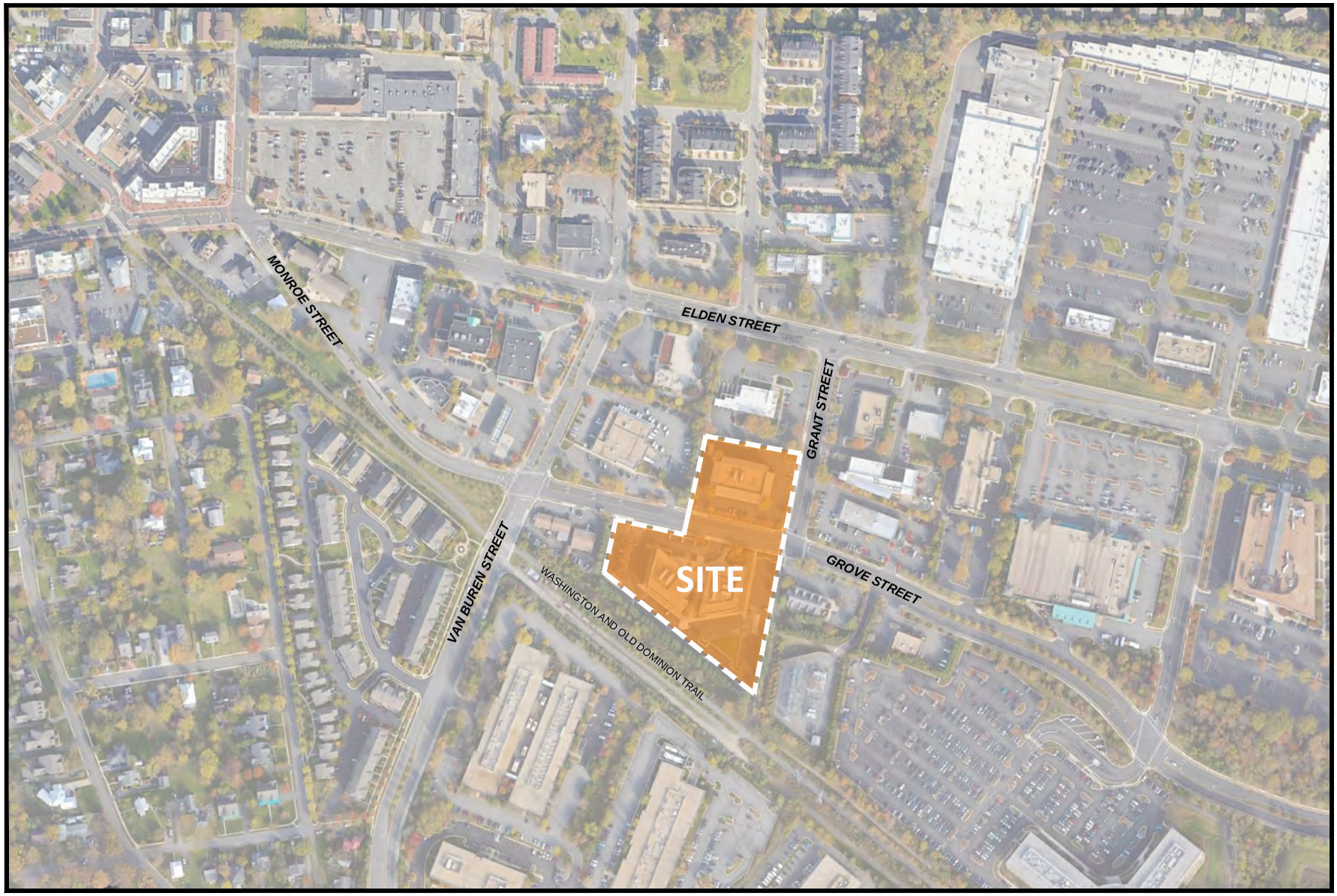

Figure 1
Site Location

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

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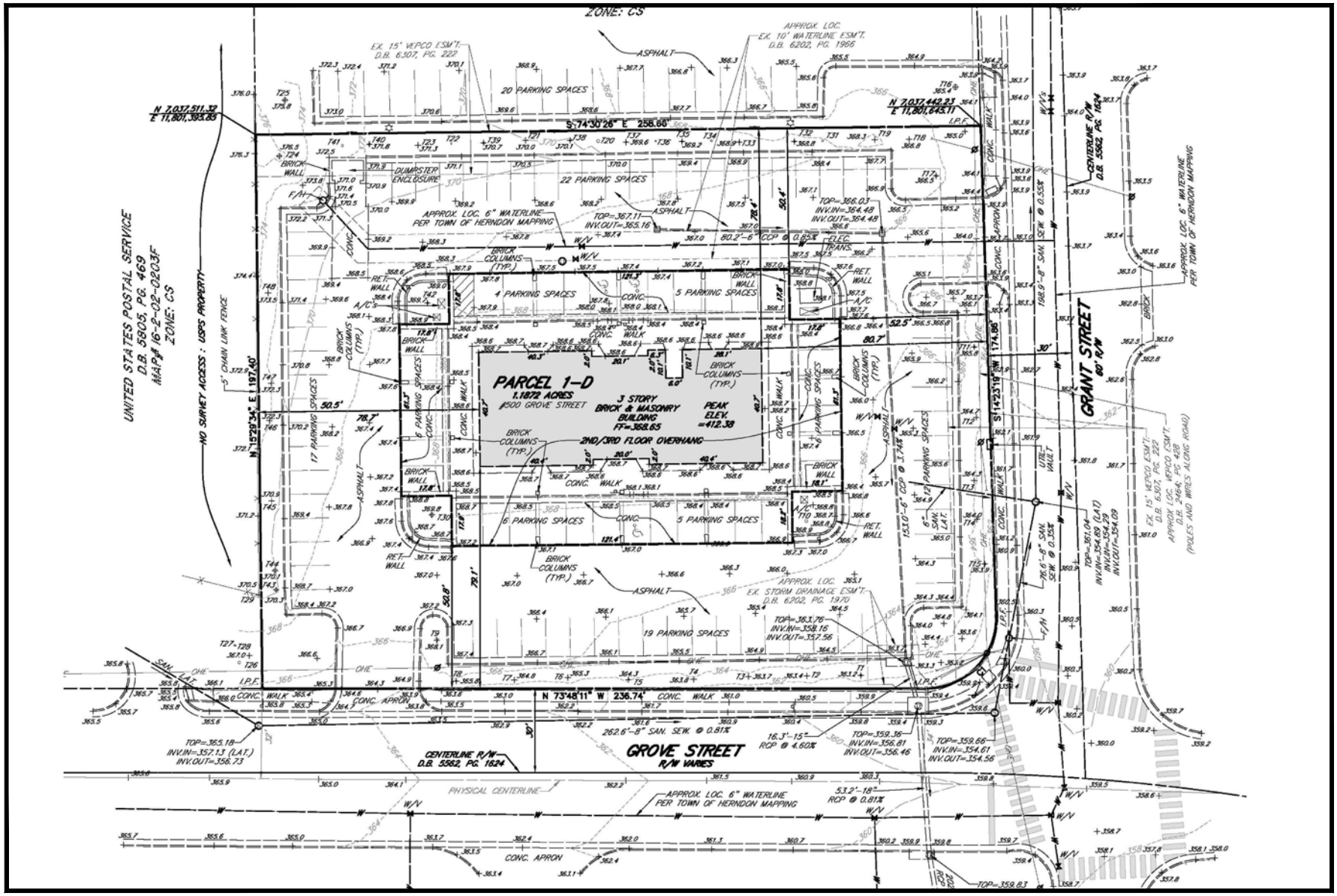

Figure 2A
Site Plan Reduction (500 Grove Street)

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

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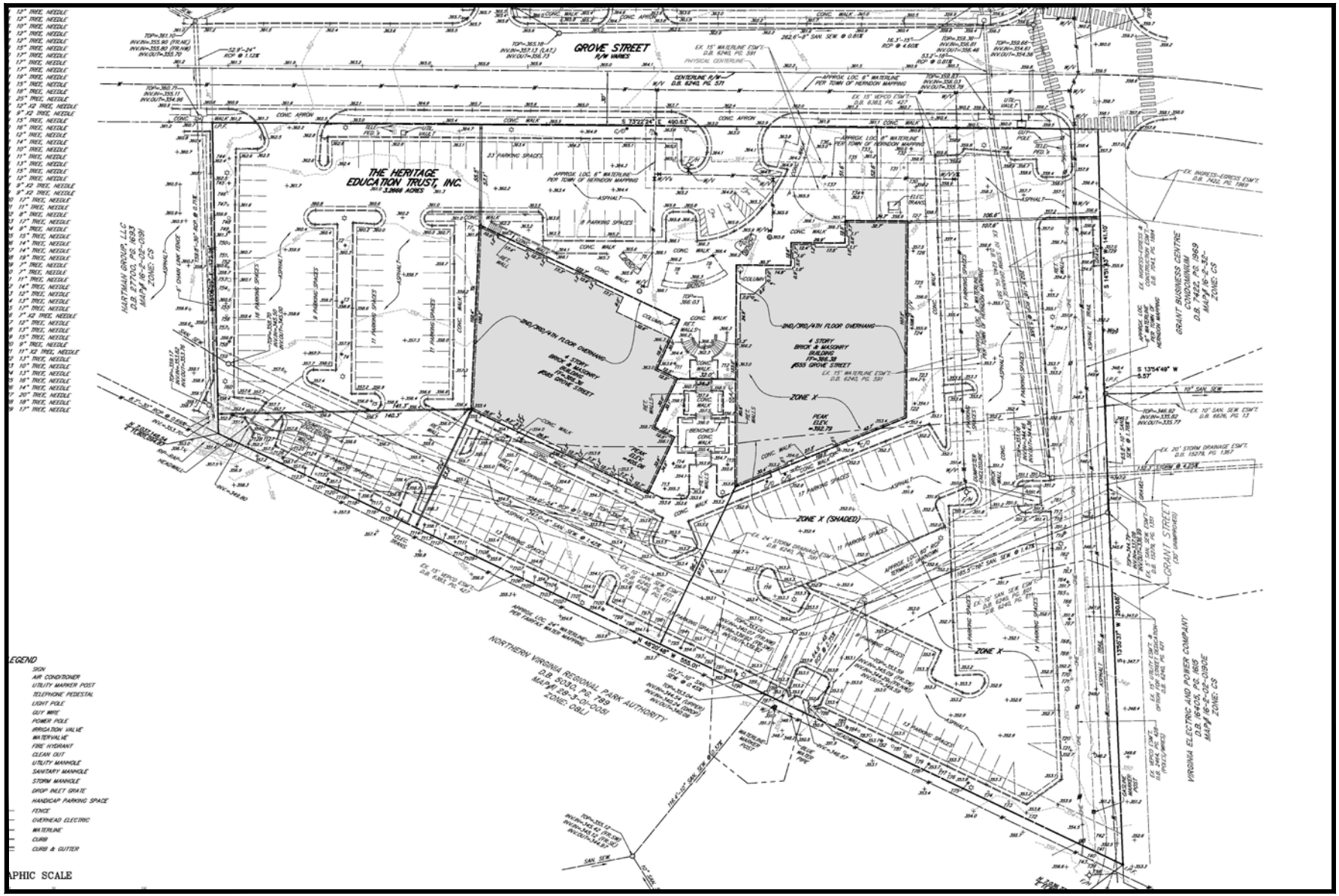

Figure 2B
Site Plan Reduction (555 & 585 Grove Street)

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

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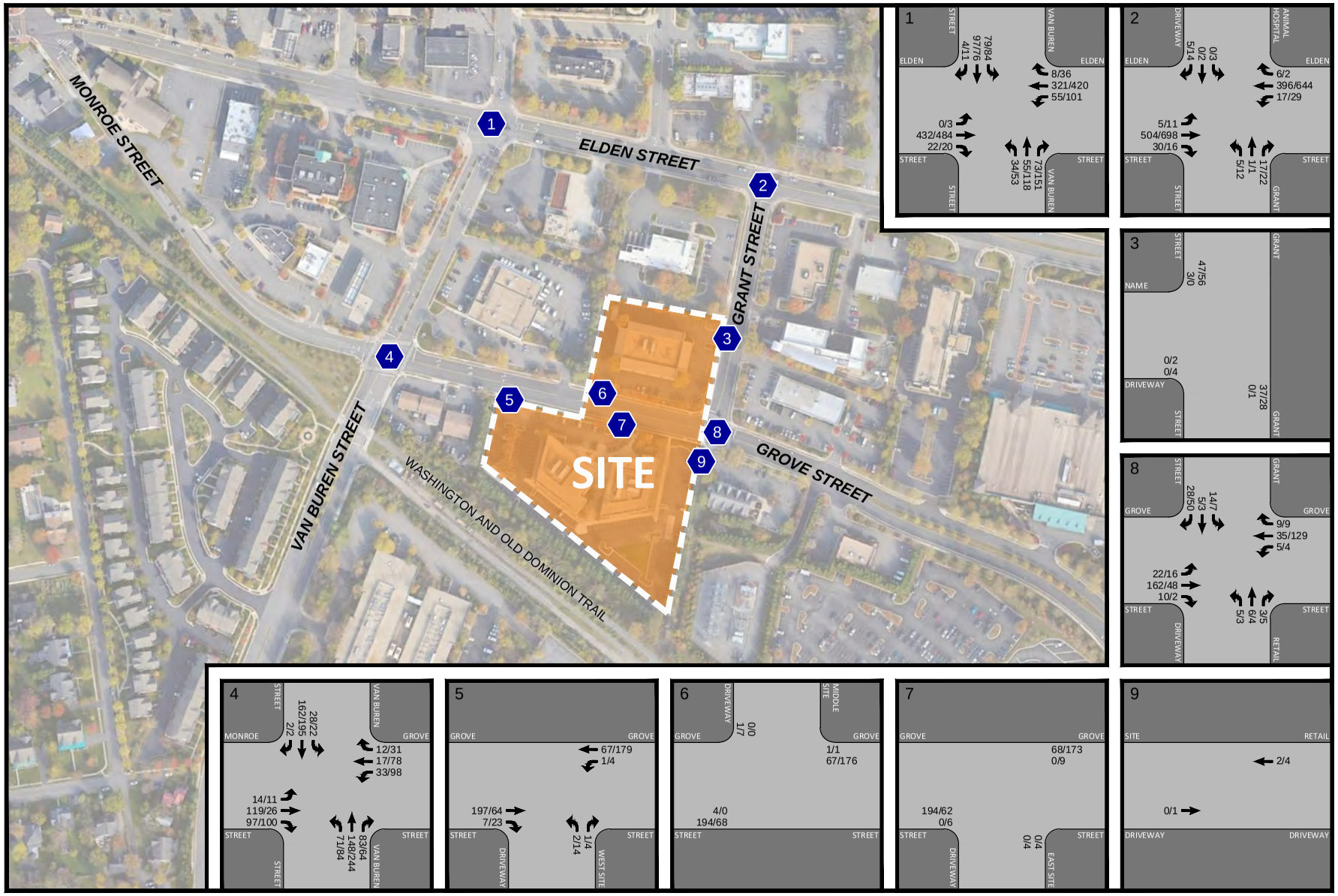

Figure 3
2022 Existing Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

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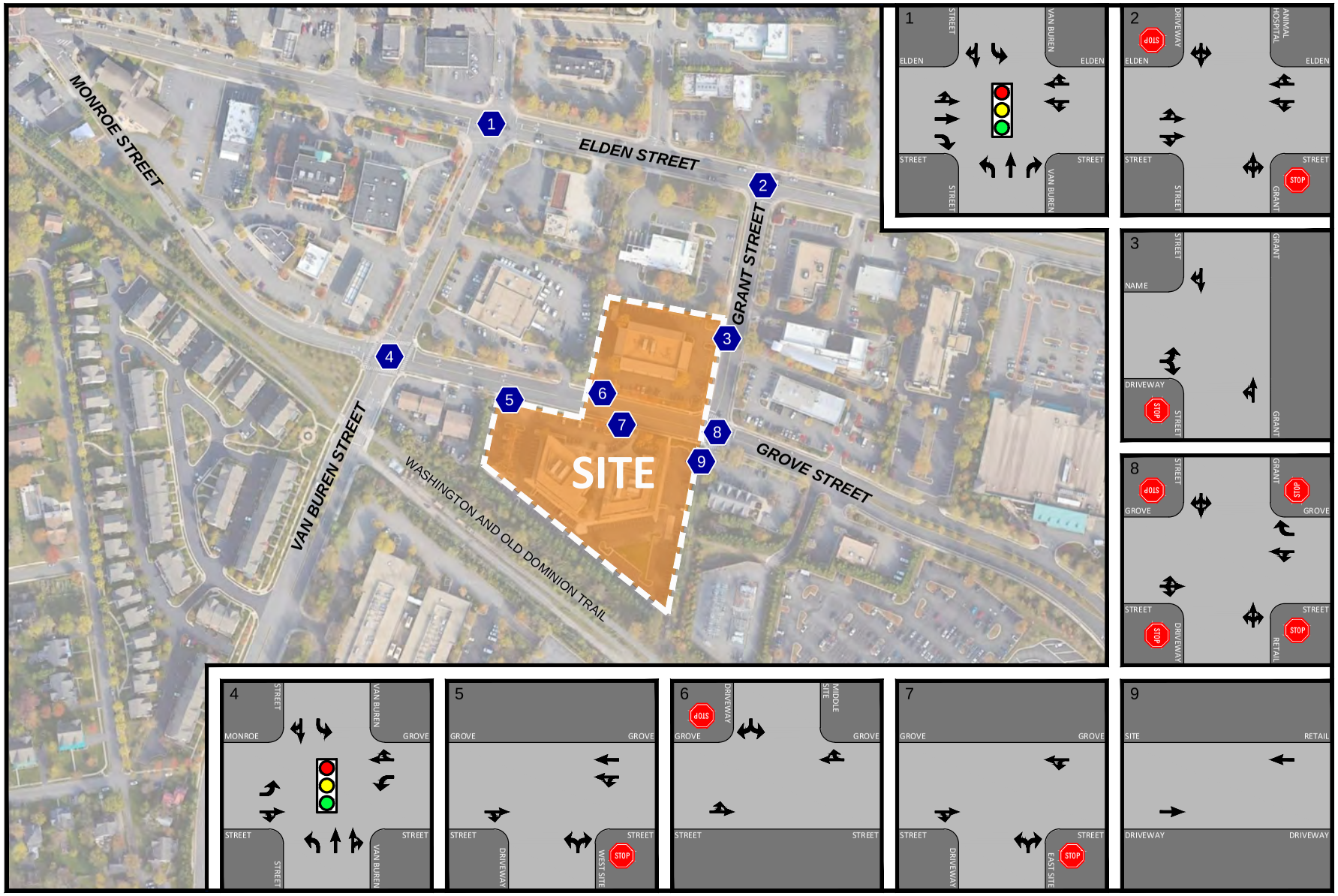

Figure 4
2022 Existing Lane Use & Traffic Control

Represents One Travel Lane
Signalized Intersection
Stop Sign

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

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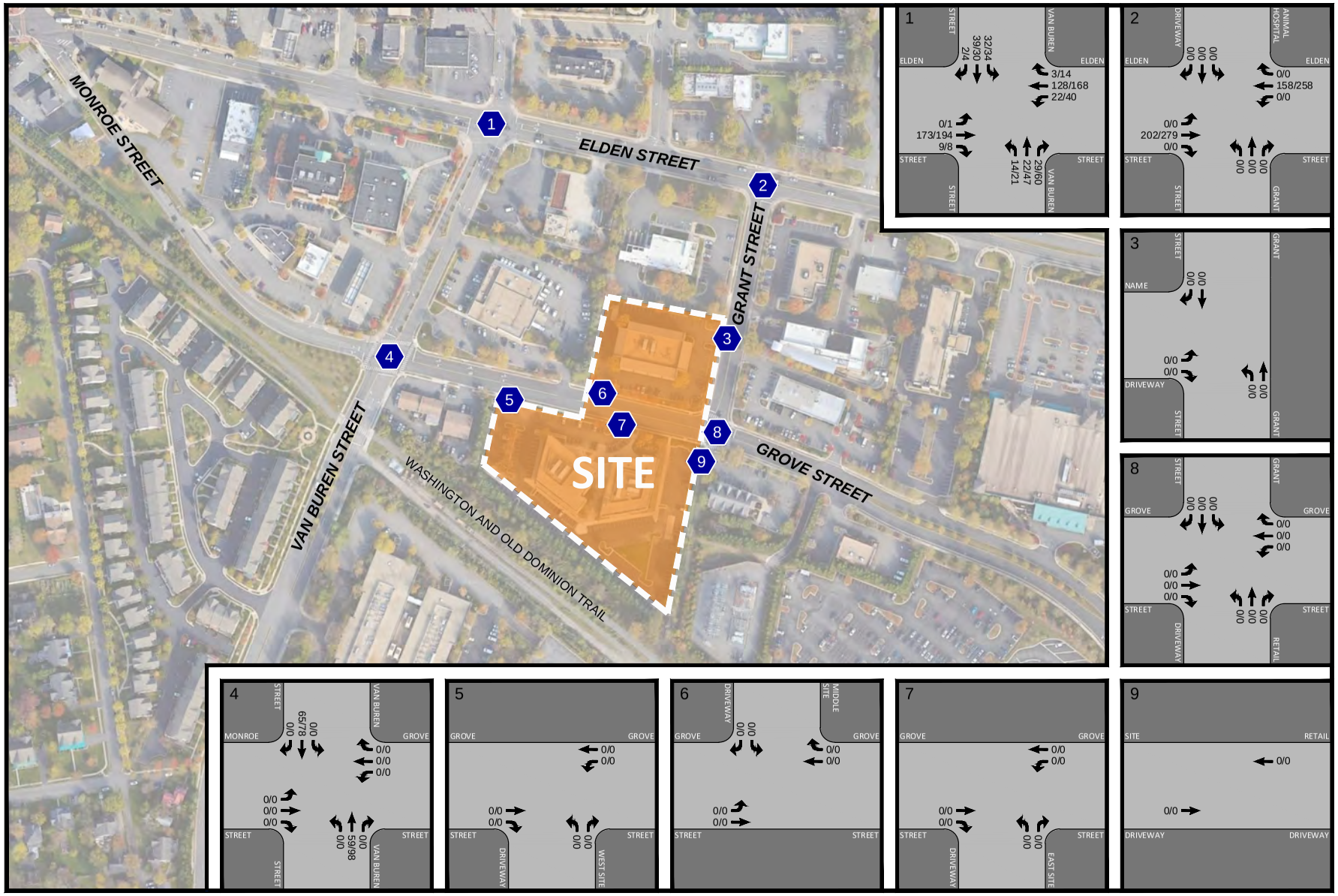

Figure 5
Traffic Adjustements for the COVID-19 Pandemic

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

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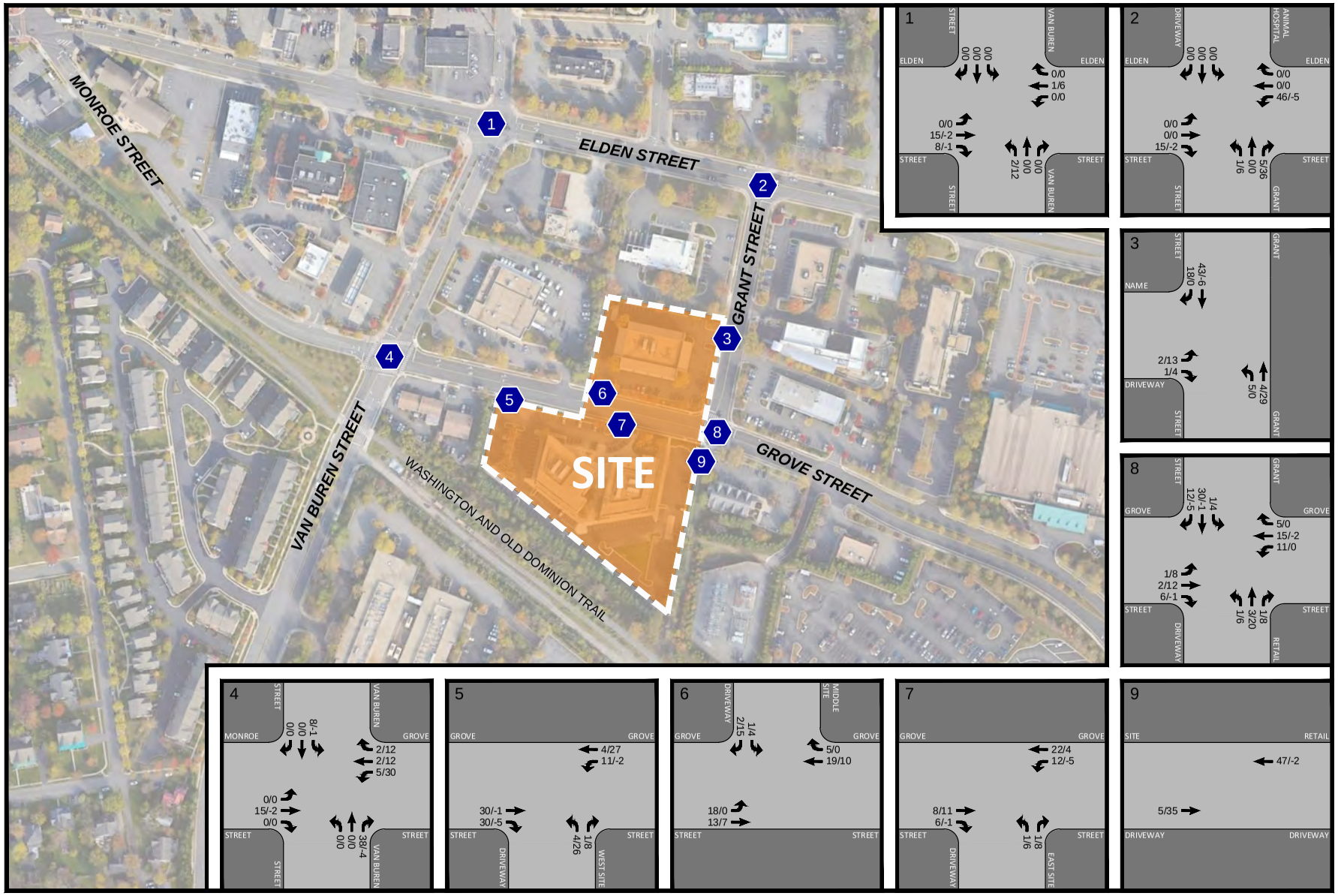


Figure 6
Traffic Adjustements for Vacant Office Space

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

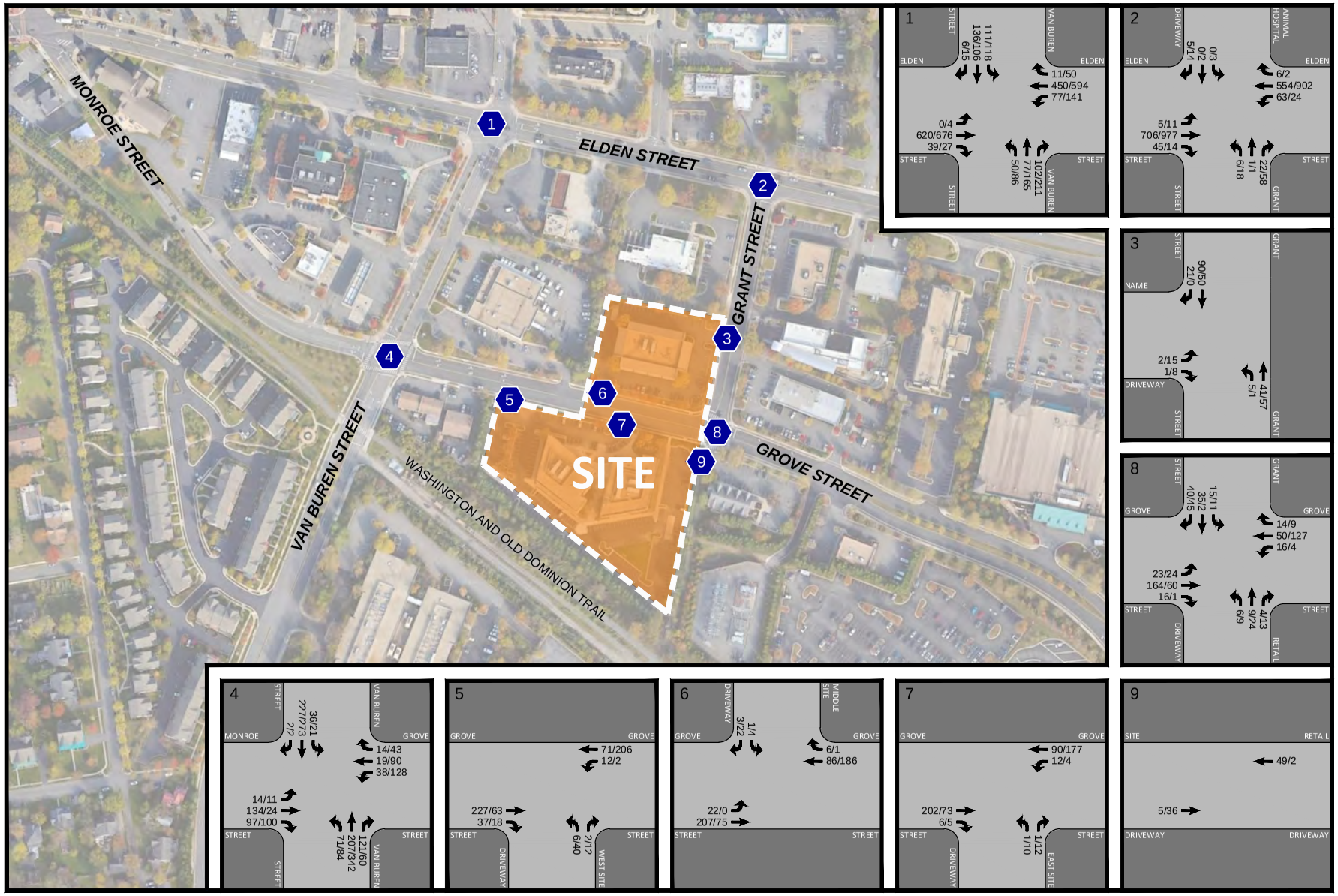


Figure 7
2022 Adjusted Baseline Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

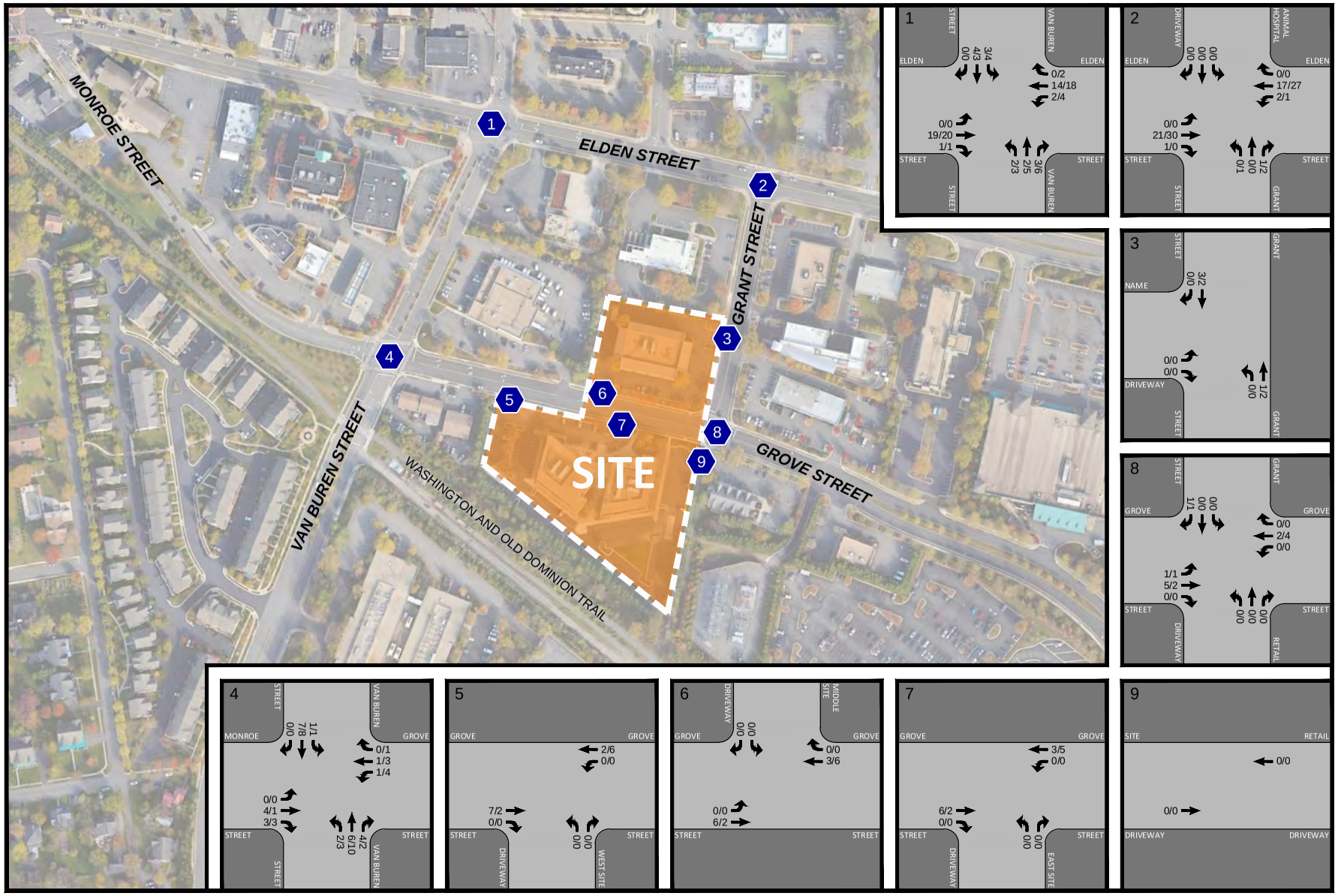


Figure 8
Regional Growth

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

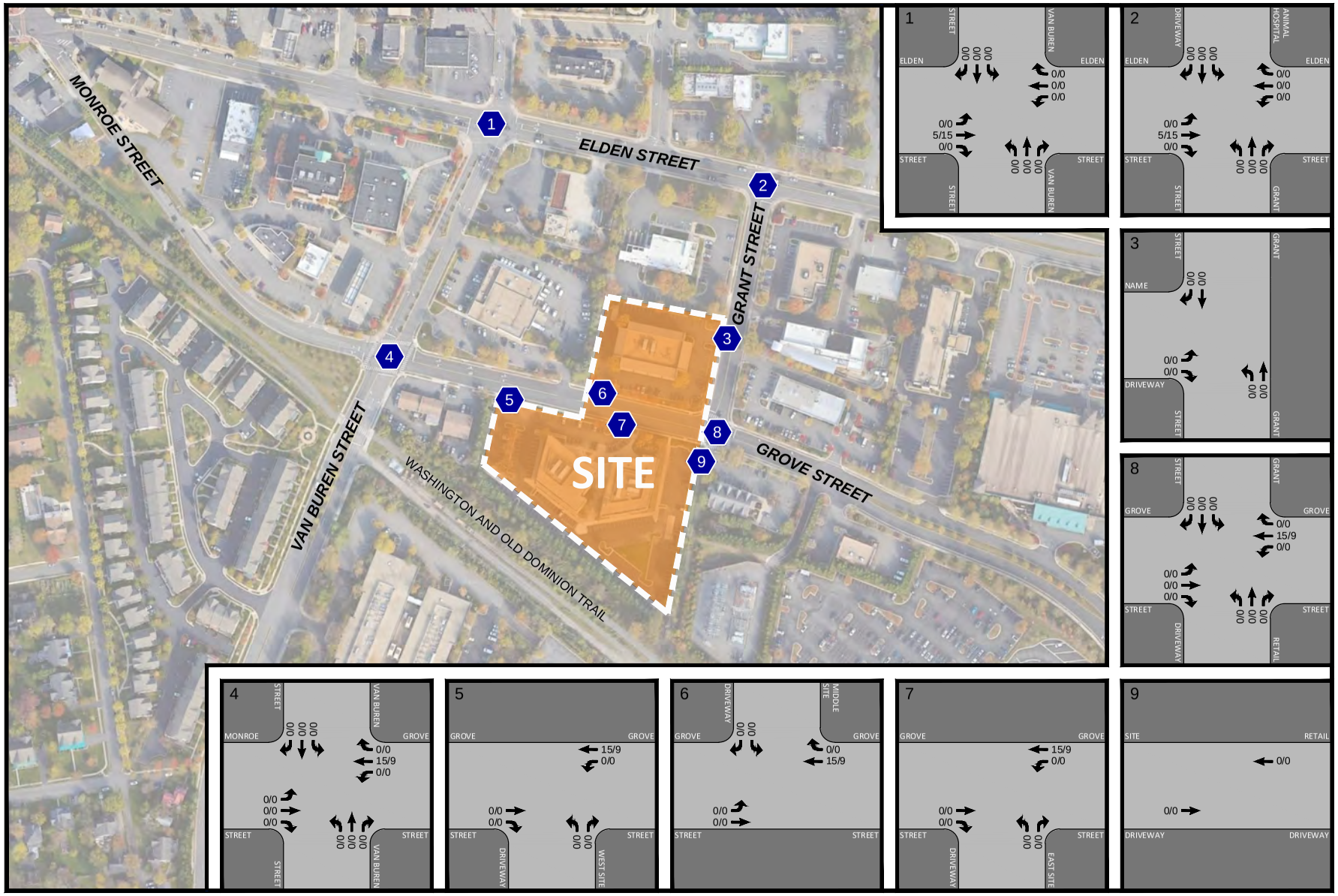


Figure 8
Pipleline Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

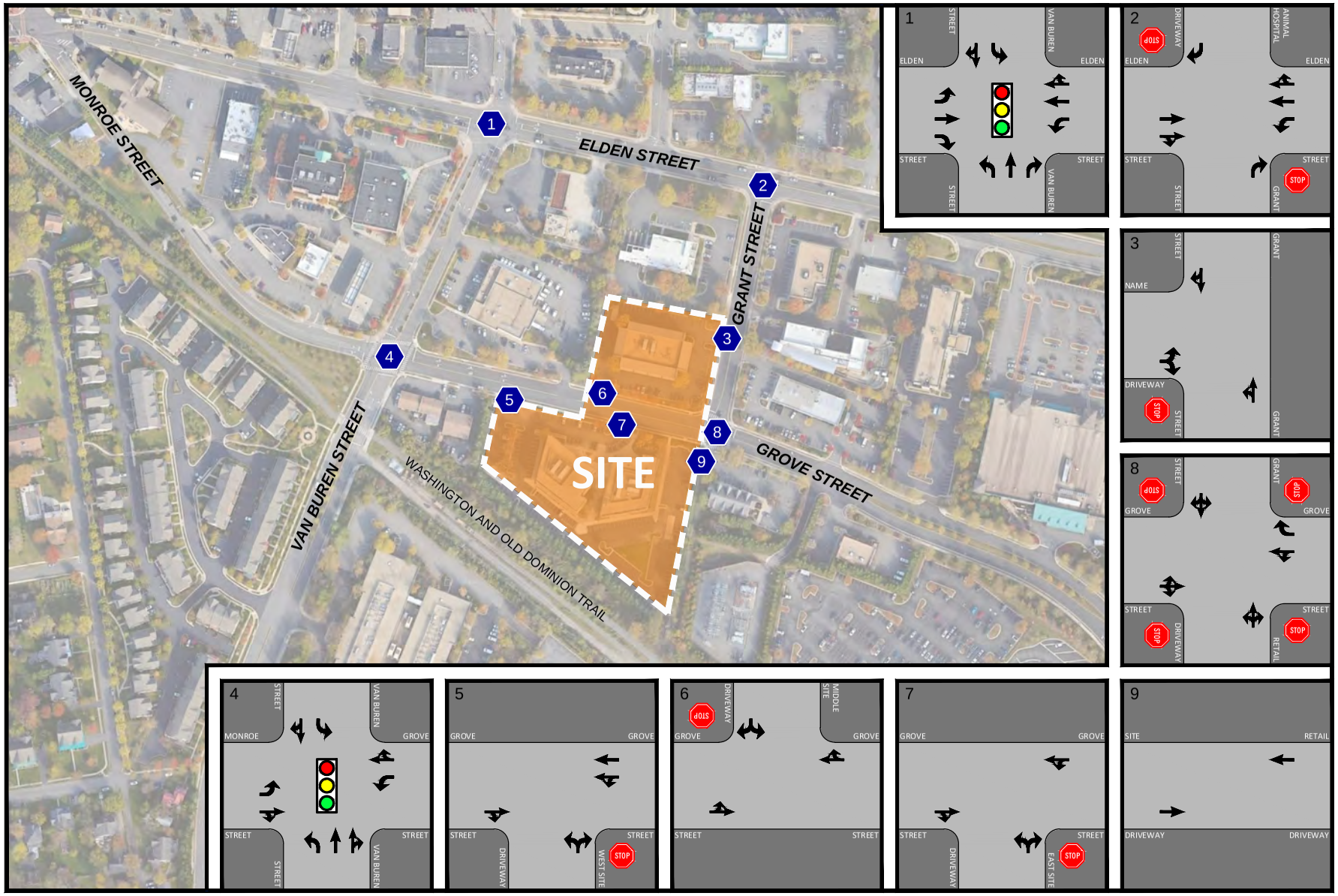


Figure 10
2026 Future Lane Use & Traffic Control

Represents One Travel Lane
Signalized Intersection
Stop Sign

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

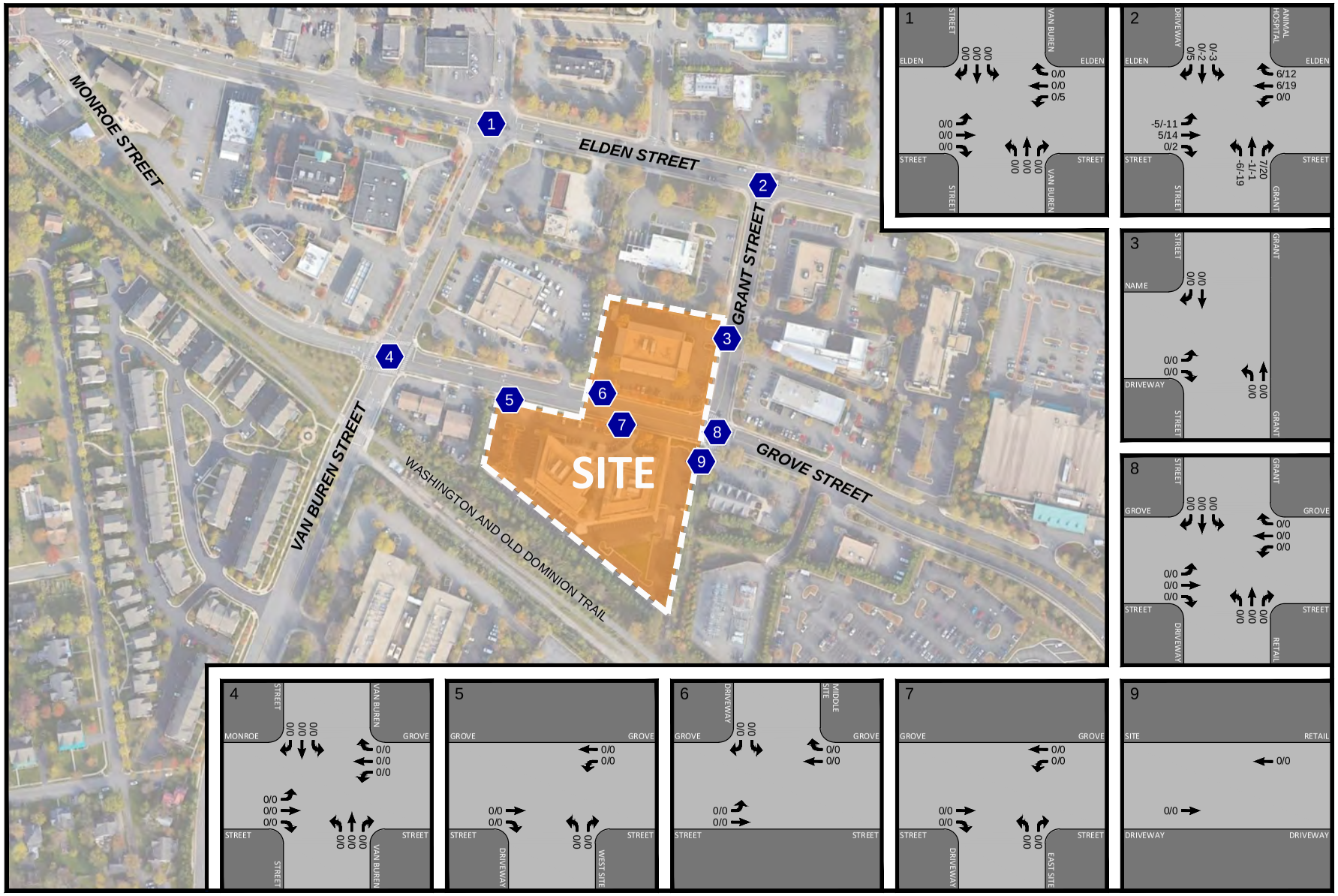


Figure 11
Traffic Adjustments for Elden Street Widening Project

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

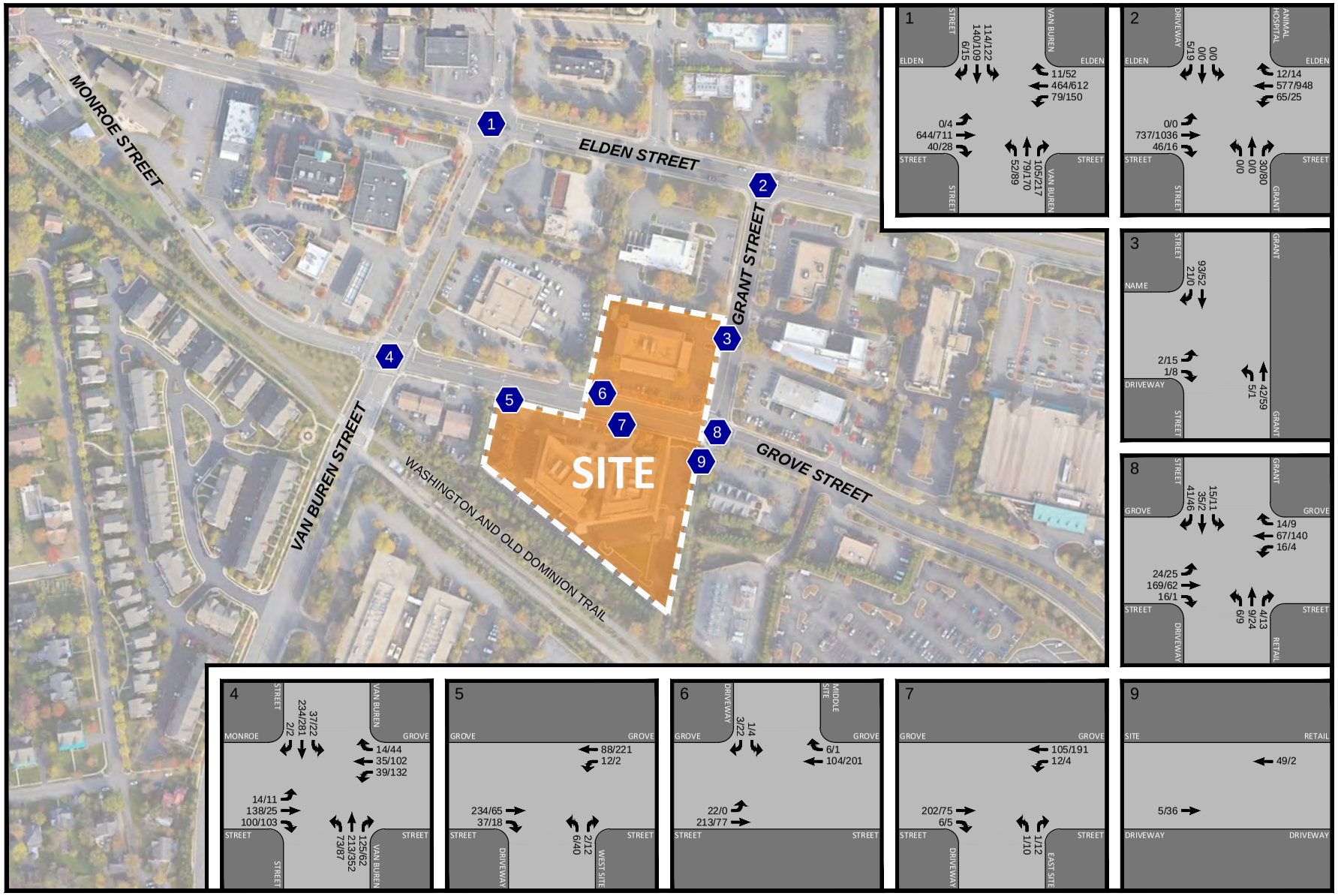


Figure 12
2026 Background Future Traffic Forecasts without Development

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

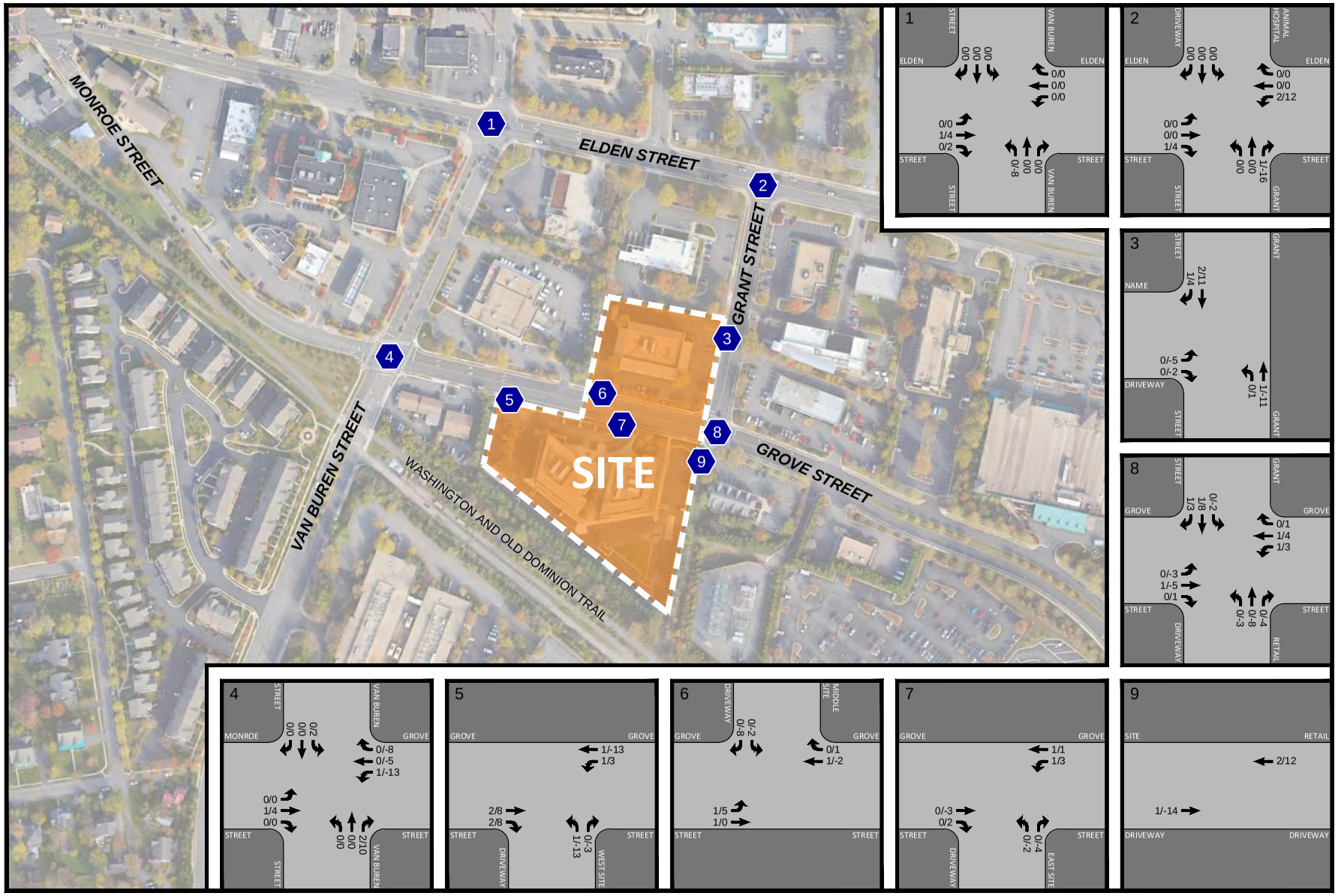


Figure 13
Net Site Generated Trips

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\23.0221 GRAPHICS.DWG

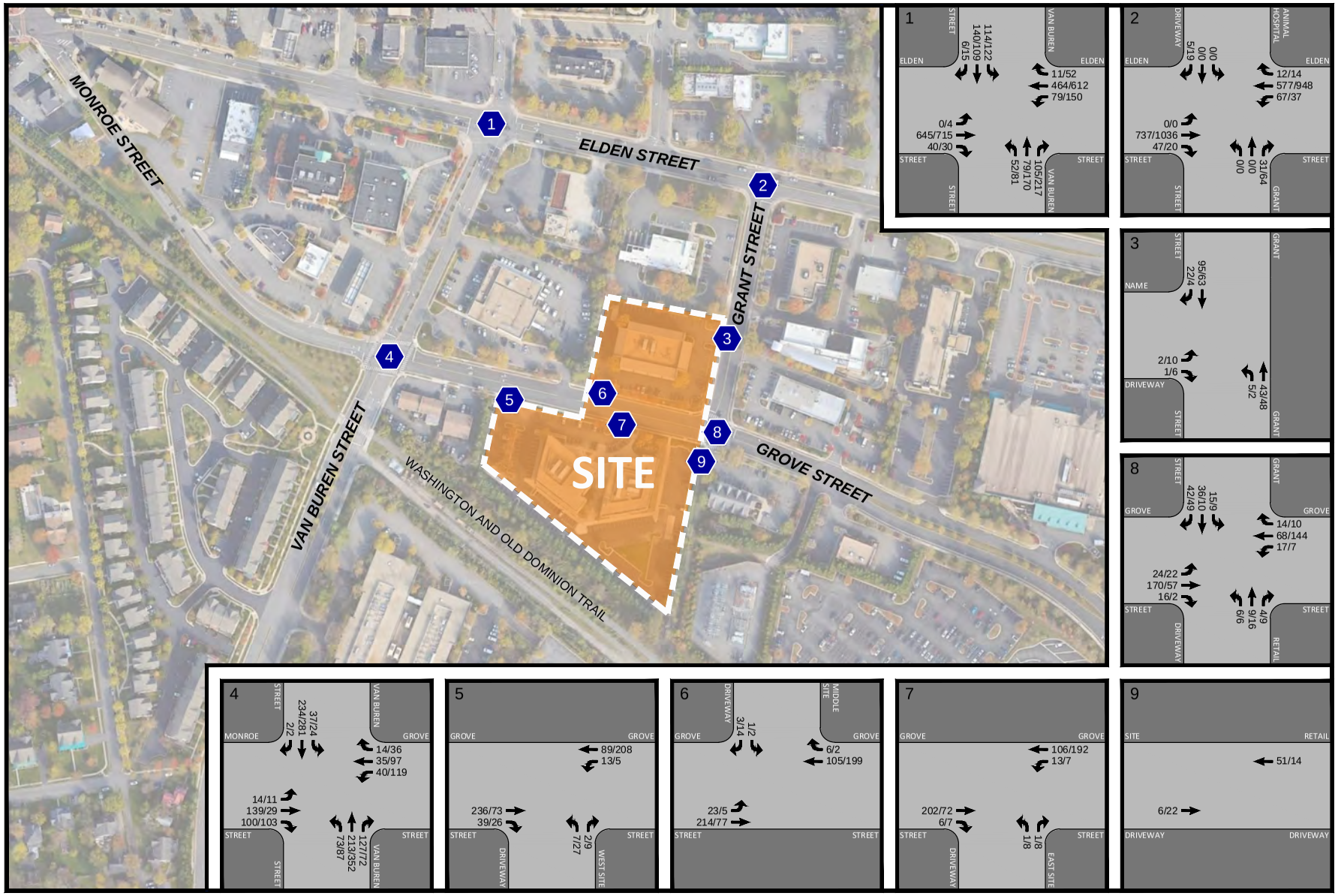


Figure 14

2026 Total Future Traffic Forecasts with Development

AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

Appendix A
Scoping Document

September 12, 2022

VIA ELECTRONIC DELIVERY

Bryce Perry
Deputy Director of Community Development
Town of Herndon
777 Lynn Street
Herndon, Virginia 20170-4602

RE: Fairfax University of America (FXUA) – Herndon Campus
Traffic Impact Study
Town of Herndon, Virginia

Dear Mr. Perry,

On behalf of Fairfax University of America (the "Applicant"), I respectfully request a meeting with you and appropriate Town of Herndon staff to discuss the scope for a traffic impact study. This request is associated with the proposed conversion of portions of three (3) existing office buildings to provide classroom area for the proposed Fairfax University of America Herndon Campus. The following summarizes components of the project, our proposed scope to prepare a traffic impact study, and elements to justify a parking reduction.

Site Location. The properties are located at 500, 555 & 585 Grove Street (**see ATTACHMENT I**) and are also identified as **Parcels # 016-2 ((02)) 190C & 203D**. The 4.45-acre properties are currently occupied three (3) office buildings with a total floor area of 106,543 SF. Of this total area, approximately 35,107 SF are currently lease and occupied.

Proposal. The subject proposal is seeking to submit an application that would convert a portion of the existing office uses to educational uses to serve the Fairfax University of America (FXUA) – Herndon Campus. A total enrollment of approximately 300 students is proposed. The 35,107 SF of currently occupied office uses are proposed to be maintained.

Vehicular Access. Vehicular access to the site would continue to be provided via the site's five (5) existing commercial entrances: three (3) Grove Street, one (1) on Grant Street, and one (1) interparcel access south of the Grove Street/Grant Street intersection.

The scope presented below is based on our review of the project and the Town of Herndon's Zoning Ordinance.

A. Study Period(s) to be Addressed in the Traffic Impact Study

- Existing Year: 2022
- Background Future Study Year (without proposal): 2025
  - *As applicable, the existing peak hour site driveway volumes will be adjusted to reflect the Institute of Transportation Engineer's (ITE, 11th Edition) trip generation estimates based on "General Office Building" (LUC 710) to account for vacant office space. Any change in driveway trips will be reflected at the off-site study intersections.*
- Total Future Study Year (with proposal): 2025
  - *The trips associated with the educational uses will be based on "Junior/Community College" (LUC 540) while the remaining office uses will be based on "General Office Building" (LUC 710).*

B. Trip Generation

The trip generation estimates for the existing and proposed uses are shown in **ATTACHMENT II**. No trip adjustment factors are assumed for this traffic impact study.

C. Percent Trip Distribution (see ATTACHMENT I)

The site trip assignments for the proposed use will be assigned to the public road network based on the following percent distribution:

- To/From the west on Elden Street: 15%
- To/From the west on Monroe Street: 10%
- To/From the east on Elden Street: 30%
- To/From the east on Grove Street: 20%
- To/From the south on Van Buren Street:25%

D. Study Intersections (see ATTACHMENT I)

1. Elden Street/Van Buren Street
2. Elden Street/Grant Street
3. Van Buren Street/Grove Street/Monroe Street
4. Grove Street/Grant Street
5. Existing Site Driveways

Peak period traffic counts will be collected on a typical weekday (Tuesday, Wednesday, or Thursday) from 6 AM to 9 AM and 4 PM to 7 PM when public schools are in session.

E. Use of the current Highway Capacity Software (HCS) version or other software

The Synchro capacity analysis software (Version 11) will be used to analyze the aforementioned intersections. If the analysis indicates volumes exceeding capacity, SimTraffic will be used to calculate queueing. Existing and future conditions without and with the project will be included for comparison purposes.

F. Currently Programmed or Planned Transportation Improvements

The Elden Street widening plan will be included for the analysis of future conditions.

G. Critical Points for the Traffic

The study intersections will include two (2) off-site traffic signals proximate to the site and the future widening of Elden Street.

H. Other Developments nearby which should be considered in the Traffic Impact Study

- Trips associated with the recently approved 315 Elden Street Adaptive Reuse project will be assumed for the traffic analysis.
- A one (1.0) percent growth rate per year will be applied to non-fixed traffic movements at the subject intersections.

I. Special Considerations

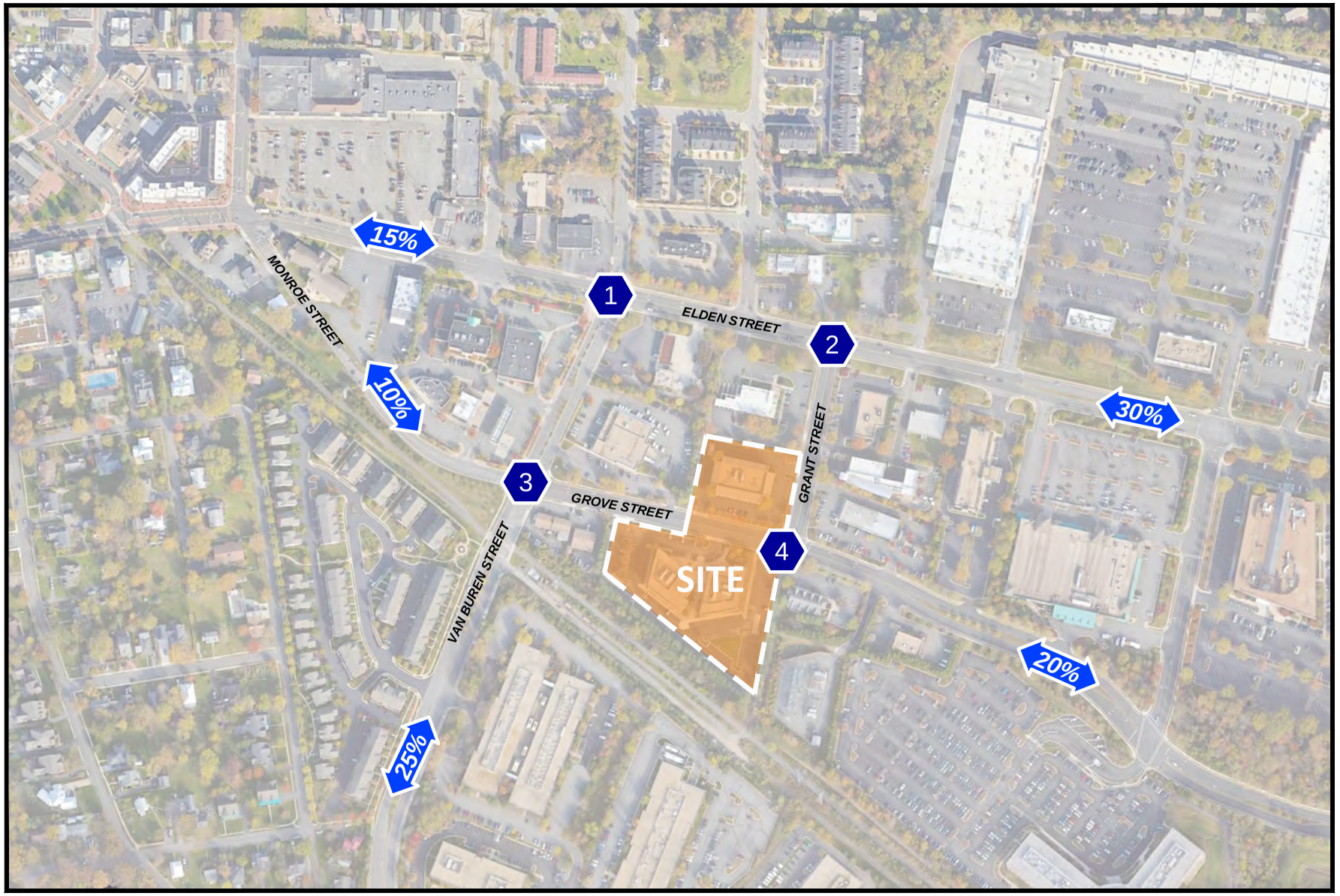
We request traffic signal timing information for the existing signals at the Elden Street/Van Buren Street and Van Buren Street/Grove Street/Monroe Street intersections.

Feel free to call or email me at 703-676-3611 or jfcavan@wellsandassociates.com with any questions and/or comments ahead of meeting to discuss this letter.

Sincerely,

John F. Cavan, P.E., PTOE
Senior Associate

O:\PROJECTS\8501-9000\8834 FXUA HERNDON CAMPUS\GRAPHICS\8838 SCOPING GRAPHICS.DWG



Attachment I

Site Location, Study Intersections, and Trip Distributions

NORTH

FXUA Herndon Campus
Town of Herndon, Virginia

Attachment #5

Appendix B
Traffic Count Data

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT: FXUA Herndon
W+A JOB NO: 8834
NTERSECTION: Elden St. & Van Buren St.
LOCATION: Town of Herndon, VA

DATE: 6/2/2022
DAY: Thursday
WEATHER: clear AM, rain PM
COUNTED BY: Teyler & Austin
INPUTED BY: agan

SOUTHBOUND ROAD: Van Buren Street
NORTHBOUND ROAD: Van Buren Street
WESTBOUND ROAD: Elden Street
EASTBOUND ROAD: Elden Street

Time Period	Southbound Van Buren Street						Westbound Elden Street						Northbound Van Buren Street						Eastbound Elden Street						North & South	East & West	Total
	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	0	7	4	0	11		1	21	4	0	26		12	3	3	0	18		2	49	1	0	52		29	78	107
6:15 AM - 6:30 AM	2	9	10	0	21		1	42	8	0	51		8	4	3	0	15		1	40	1	0	42		36	93	129
6:30 AM - 6:45 AM	1	8	11	0	20		1	51	4	0	56		15	3	1	0	19		2	72	0	0	74		39	130	169
6:45 AM - 7:00 AM	1	21	16	0	38		2	50	13	0	65		13	4	0	0	17		1	73	0	0	74		55	139	194
7:00 AM - 7:15 AM	1	29	16	0	46		0	68	11	0	79		12	3	9	0	24		7	98	0	0	105		70	184	254
7:15 AM - 7:30 AM	0	17	11	0	28		1	60	10	0	71		9	10	8	0	27		2	90	0	0	92		55	163	218
7:30 AM - 7:45 AM	0	18	14	0	32		0	82	17	0	99		22	14	14	0	50		3	117	0	0	120		82	219	301
7:45 AM - 8:00 AM	1	24	24	0	49		2	93	14	0	109		16	9	2	0	27		3	105	0	0	108		76	217	293
8:00 AM - 8:15 AM	1	30	19	0	50		4	67	9	0	80		13	18	12	0	43		12	109	0	0	121		93	201	294
8:15 AM - 8:30 AM	2	25	22	0	49		2	79	15	0	96		22	14	6	0	42		4	101	0	0	105		91	201	292
8:30 AM - 8:45 AM	4	24	19	0	47		7	61	11	0	79		20	11	16	0	47		7	99	1	0	107		94	186	280
8:45 AM - 9:00 AM	2	31	22	0	55		2	66	18	0	86		21	23	6	0	50		4	93	2	0	99		105	185	290
4:00 PM - 4:15 PM	1	25	14	0	40		5	113	29	0	147		33	42	17	0	92		7	132	0	0	139		132	286	418
4:15 PM - 4:30 PM	4	29	16	0	49		8	89	21	0	118		25	16	16	0	57		7	98	0	0	105		106	223	329
4:30 PM - 4:45 PM	3	28	24	0	55		9	99	20	0	128		40	29	22	0	91		11	118	3	0	132		146	260	406
4:45 PM - 5:00 PM	1	22	31	0	54		7	89	34	0	130		20	24	15	0	59		11	107	1	0	119		113	249	362
5:00 PM - 5:15 PM	7	18	29	0	54		9	97	29	0	135		33	27	16	0	76		10	109	3	0	122		130	257	387
5:15 PM - 5:30 PM	3	27	19	0	49		7	119	22	0	148		36	31	12	0	79		7	122	0	0	129		128	277	405
5:30 PM - 5:45 PM	5	16	23	0	44		11	94	30	0	135		43	33	20	0	96		2	110	1	0	113		140	248	388
5:45 PM - 6:00 PM	2	16	20	0	38		11	103	24	0	138		31	30	10	0	71		9	123	0	0	132		109	270	379
6:00 PM - 6:15 PM	1	17	22	0	40		7	104	25	0	136		41	24	11	0	76		2	129	2	0	133		116	269	385
6:15 PM - 6:30 PM	3	17	19	0	39		14	114	24	0	152		25	23	13	0	61		8	134	2	0	144		100	296	396
6:30 PM - 6:45 PM	3	24	29	0	56		11	117	29	0	157		33	20	13	0	66		5	103	2	0	110		122	267	389
6:45 PM - 7:00 PM	3	7	20	0	30		5	124	40	0	169		26	20	6	0	52		3	112	7	0	122		82	291	373
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	51	489	454	0	994		127	###	461	0	###		569	435	251	0	###		130	###	26	0	###		###	###	###
One Hour Volumes																											
6:00 AM - 7:00 AM	4	45	41	0	90	0.6	5	164	29	0	198	0.8	48	14	7	0	69	0.9	6	234	2	0	242	0.8	159	440	599
6:15 AM - 7:15 AM	5	67	53	0	125	0.7	4	211	36	0	251	0.8	48	14	13	0	75	0.8	11	283	1	0	295	0.7	200	546	746
6:30 AM - 7:30 AM	3	75	54	0	132	0.7	4	229	38	0	271	0.9	49	20	18	0	87	0.8	12	333	0	0	345	0.8	219	616	835
6:45 AM - 7:45 AM	2	85	57	0	144	0.8	3	260	51	0	314	0.8	56	31	31	0	118	0.6	13	378	0	0	391	0.8	262	705	967
7:00 AM - 8:00 AM	2	88	65	0	155	0.8	3	303	52	0	358	0.8	59	36	33	0	128	0.6	15	410	0	0	425	0.9	283	783	###
7:15 AM - 8:15 AM	2	89	68	0	159	0.8	7	302	50	0	359	0.8	60	51	36	0	147	0.7	20	421	0	0	441	0.9	306	800	###
7:30 AM - 8:30 AM	4	97	79	0	180	0.9	8	321	55	0	384	0.9	73	55	34	0	162	0.8	22	432	0	0	454	0.9	342	838	###
7:45 AM - 8:45 AM	8	103	84	0	195	1	15	300	49	0	364	0.8	71	52	36	0	159	0.8	26	414	1	0	441	0.9	354	805	###
8:00 AM - 9:00 AM	9	110	82	0	201	0.9	15	273	53	0	341	0.9	76	66	40	0	182	0.9	27	402	3	0	432	0.9	383	773	###
4:00 PM - 5:00 PM	9	104	85	0	198	0.9	29	390	104	0	523	0.9	118	111	70	0	299	0.8	36	455	4	0	495	0.9	497	###	###
4:15 PM - 5:15 PM	15	97	100	0	212	1	33	374	104	0	511	0.9	118	96	69	0	283	0.8	39	432	7	0	478	0.9	495	989	###
4:30 PM - 5:30 PM	14	95	103	0	212	1	32	404	105	0	541	0.9	129	111	65	0	305	0.8	39	456	7	0	502	1	517	###	###
4:45 PM - 5:45 PM	16	83	102	0	201	0.9	34	399	115	0	548	0.9	132	115	63	0	310	0.8	30	448	5	0	483	0.9	511	###	###
5:00 PM - 6:00 PM	17	77	91	0	185	0.9	38	413	105	0	556	0.9	143	121	58	0	322	0.8	28	464	4	0	496	0.9	507	###	###
5:15 PM - 6:15 PM	11	76	84	0	171	0.9	36	420	101	0	557	0.9	151	118	53	0	322	0.8	20	484	3	0	507	1	493	###	###
5:30 PM - 6:30 PM	11	66	84	0	161	0.9	43	415	103	0	561	0.9	140	110	54	0	304	0.8	21	496	5	0	522	0.9	465	###	###
5:45 PM - 6:45 PM	9	74	90	0	173	0.8	43	438	102	0	583	0.9	130	97	47	0	274	0.9	24	489	6	0	519	0.9	447	###	###
6:00 PM - 7:00 PM	10	65	90	0	165	0.7	37	459	118	0	614	0.9	125	87	43	0	255	0.8	18	478	13	0	509	0.9	420	###	###

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	FXUA Herndon	**DATE:**	6/2/2022	**SOUTHBOUND ROAD:**	Plaza Driveway
W+A JOB NO:	8834	**DAY:**	Thursday	**NORTHBOUND ROAD:**	Grant Street
NTERSECTION:	Elden St. & Grant St.	**WEATHER:**	clear AM, rain PM	**WESTBOUND ROAD:**	Elden Street
LOCATION:	Town of Herndon, VA	**COUNTED BY:**	Di	**EASTBOUND ROAD:**	Elden Street
		INPUTED BY:	agan		

Time	Southbound Plaza Driveway						Westbound Elden Street						Northbound Grant Street						Eastbound Elden Street						North & South	East & West	Total
Period	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	1	0	0	0	1		2	25	0	0	27		0	0	1	0	1		3	66	0	0	69		2	96	98
6:15 AM - 6:30 AM	0	0	0	0	0		1	45	0	0	46		0	0	0	0	0		1	60	0	0	61		0	107	107
6:30 AM - 6:45 AM	0	0	1	0	1		0	55	2	0	57		1	0	0	0	1		2	92	2	0	96		2	153	155
6:45 AM - 7:00 AM	0	0	0	0	0		0	47	1	0	48		2	0	1	0	3		3	84	0	0	87		3	135	138
7:00 AM - 7:15 AM	0	0	0	0	0		0	69	2	0	71		1	0	1	0	2		9	105	0	0	114		2	185	187
7:15 AM - 7:30 AM	0	0	0	0	0		1	81	3	0	85		6	0	0	0	6		5	101	0	0	106		6	191	197
7:30 AM - 7:45 AM	2	0	0	0	2		2	98	3	0	103		9	0	1	0	10		7	112	1	0	120		12	223	235
7:45 AM - 8:00 AM	2	0	0	0	2		1	108	2	0	111		4	1	0	0	5		3	137	0	0	140		7	251	258
8:00 AM - 8:15 AM	0	0	0	0	0		3	96	5	0	104		3	0	3	0	6		12	132	0	0	144		6	248	254
8:15 AM - 8:30 AM	1	0	0	0	1		0	94	7	0	101		1	0	1	0	2		8	123	4	0	135		3	236	239
8:30 AM - 8:45 AM	0	0	0	0	0		0	93	7	0	100		4	0	2	0	6		7	123	1	0	131		6	231	237
8:45 AM - 9:00 AM	1	0	0	0	1		2	114	5	0	121		6	0	2	0	8		6	129	0	0	135		9	256	265
4:00 PM - 4:15 PM	6	0	2	0	8		0	154	7	0	161		6	1	2	0	9		5	155	3	0	163		17	324	341
4:15 PM - 4:30 PM	2	0	0	0	2		1	149	5	0	155		8	0	0	0	8		4	146	2	0	152		10	307	317
4:30 PM - 4:45 PM	6	0	1	0	7		1	153	5	0	159		8	0	3	0	11		5	177	3	0	185		18	344	362
4:45 PM - 5:00 PM	5	0	0	0	5		0	141	8	0	149		6	0	2	0	8		7	161	3	0	171		13	320	333
5:00 PM - 5:15 PM	3	0	1	0	4		0	145	5	0	150		11	0	0	0	11		5	154	2	0	161		15	311	326
5:15 PM - 5:30 PM	4	0	0	0	4		0	172	4	0	176		3	1	5	0	9		3	181	1	0	185		13	361	374
5:30 PM - 5:45 PM	2	0	1	0	3		1	160	10	0	171		3	0	1	0	4		1	165	4	0	170		7	341	348
5:45 PM - 6:00 PM	1	0	1	0	2		1	162	6	0	169		9	0	5	0	14		7	162	2	0	171		16	340	356
6:00 PM - 6:15 PM	7	2	1	0	10		0	150	5	0	155		7	0	1	0	8		5	190	4	0	199		18	354	372
6:15 PM - 6:30 PM	5	0	0	0	5		0	165	6	0	171		11	0	3	0	14		3	167	1	0	171		19	342	361
6:30 PM - 6:45 PM	1	0	0	0	1		0	188	4	0	192		6	0	3	0	9		3	163	2	0	168		10	360	370
6:45 PM - 7:00 PM	3	0	0	0	3		0	195	4	0	199		6	0	1	0	7		2	159	2	0	163		10	362	372
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	52	2	8	0	62		16	###	106	0	###		121	3	38	0	162		116	###	37	0	###		224	###	###
One Hour Volumes																											
6:00 AM - 7:00 AM	1	0	1	0	2	0.5	3	172	3	0	178	0.8	3	0	2	0	5	0.4	9	302	2	0	313	0.8	7	491	498
6:15 AM - 7:15 AM	0	0	1	0	1	0.3	1	216	5	0	222	0.8	4	0	2	0	6	0.5	15	341	2	0	358	0.8	7	580	587
6:30 AM - 7:30 AM	0	0	1	0	1	0.3	1	252	8	0	261	0.8	10	0	2	0	12	0.5	19	382	2	0	403	0.9	13	664	677
6:45 AM - 7:45 AM	2	0	0	0	2	0.3	3	295	9	0	307	0.7	18	0	3	0	21	0.5	24	402	1	0	427	0.9	23	734	757
7:00 AM - 8:00 AM	4	0	0	0	4	0.5	4	356	10	0	370	0.8	20	1	2	0	23	0.6	24	455	1	0	480	0.9	27	850	877
7:15 AM - 8:15 AM	4	0	0	0	4	0.5	7	383	13	0	403	0.9	22	1	4	0	27	0.7	27	482	1	0	510	0.9	31	913	944
7:30 AM - 8:30 AM	5	0	0	0	5	0.6	6	396	17	0	419	0.9	17	1	5	0	23	0.6	30	504	5	0	539	0.9	28	958	986
7:45 AM - 8:45 AM	3	0	0	0	3	0.4	4	391	21	0	416	0.9	12	1	6	0	19	0.8	30	515	5	0	550	1	22	966	988
8:00 AM - 9:00 AM	2	0	0	0	2	0.5	5	397	24	0	426	0.9	14	0	8	0	22	0.7	33	507	5	0	545	0.9	24	971	995
4:00 PM - 5:00 PM	19	0	3	0	22	0.7	2	597	25	0	624	1	28	1	7	0	36	0.8	21	639	11	0	671	0.9	58	###	###
4:15 PM - 5:15 PM	16	0	2	0	18	0.6	2	588	23	0	613	1	33	0	5	0	38	0.9	21	638	10	0	669	0.9	56	###	###
4:30 PM - 5:30 PM	18	0	2	0	20	0.7	1	611	22	0	634	0.9	28	1	10	0	39	0.9	20	673	9	0	702	0.9	59	###	###
4:45 PM - 5:45 PM	14	0	2	0	16	0.8	1	618	27	0	646	0.9	23	1	8	0	32	0.7	16	661	10	0	687	0.9	48	###	###
5:00 PM - 6:00 PM	10	0	3	0	13	0.8	2	639	25	0	666	0.9	26	1	11	0	38	0.7	16	662	9	0	687	0.9	51	###	###
5:15 PM - 6:15 PM	14	2	3	0	19	0.5	2	644	25	0	671	1	22	1	12	0	35	0.6	16	698	11	0	725	0.9	54	###	###
5:30 PM - 6:30 PM	15	2	3	0	20	0.5	2	637	27	0	666	1	30	0	10	0	40	0.7	16	684	11	0	711	0.9	60	###	###
5:45 PM - 6:45 PM	14	2	2	0	18	0.5	1	665	21	0	687	0.9	33	0	12	0	45	0.8	18	682	9	0	709	0.9	63	###	###
6:00 PM - 7:00 PM	16	2	1	0	19	0.5	0	698	19	0	717	0.9	30	0	8	0	38	0.7	13	679	9	0	701	0.9	57	###	###

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT: FXUA Herndon
W+A JOB NO: 8834
NTERSECTION: Grant St. & Driveway - North
LOCATION: Fairfax County,VA

DATE: 6/8/2022
DAY: Wednesday
WEATHER: clear
COUNTED BY: Agan
INPUTED BY: agan

SOUTHBOUND ROAD: Grant Street
NORTHBOUND ROAD: Grant Street
WESTBOUND ROAD: 0
EASTBOUND ROAD: Driveway - North

Time Period	Southbound Grant Street						Westbound 0						Northbound Grant Street						Eastbound Driveway - North						North & South	East & West	Total
	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:15 AM - 6:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 AM - 6:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:45 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:00 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:15 AM - 7:30 AM	1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
7:30 AM - 7:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:00 AM - 8:15 AM	1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
8:15 AM - 8:30 AM	2	0	0	0	2		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		2	0	2
8:30 AM - 8:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	1	0	1		0	0	0	0	0		1	0	1
4:00 PM - 4:15 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1	0	2		0	2	2
4:15 PM - 4:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		2	0	1	0	3		0	3	3
4:30 PM - 4:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1		0	1	1
4:45 PM - 5:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	2	0	2		0	2	2
5:15 PM - 5:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1	0	2		0	2	2
5:45 PM - 6:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	1	0	1		1	0	1	0	2		1	2	3
6:00 PM - 6:15 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		2	0	0	0	2		0	2	2
6:15 PM - 6:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 PM - 6:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1		0	1	1
6:45 PM - 7:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	4	0	0	0	4		0	0	0	0	0		0	0	2	0	2		9	0	6	0	15		6	15	21
One Hour Volumes																											
6:00 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:15 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 AM - 7:30 AM	1	0	0	0	1	0.3	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
6:45 AM - 7:45 AM	1	0	0	0	1	0.3	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
7:00 AM - 8:00 AM	1	0	0	0	1	0.3	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
7:15 AM - 8:15 AM	2	0	0	0	2	0.5	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		2	0	2
7:30 AM - 8:30 AM	3	0	0	0	3	0.4	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		3	0	3
7:45 AM - 8:45 AM	3	0	0	0	3	0.4	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		3	0	3
8:00 AM - 9:00 AM	3	0	0	0	3	0.4	0	0	0	0	0		0	0	1	0	1	0.3	0	0	0	0	0		4	0	4
4:00 PM - 5:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		4	0	2	0	6	0.5	0	6	6
4:15 PM - 5:15 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		3	0	3	0	6	0.5	0	6	6
4:30 PM - 5:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	2	0	3	0.4	0	3	3
4:45 PM - 5:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	3	0	4	0.5	0	4	4
5:00 PM - 6:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	1	0	1	0.3	2	0	4	0	6	0.8	1	6	7
5:15 PM - 6:15 PM	0	0	0	0	0		0	0	0	0	0		0	0	1	0	1	0.3	4	0	2	0	6	0.8	1	6	7
5:30 PM - 6:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	1	0	1	0.3	4	0	2	0	6	0.8	1	6	7
5:45 PM - 6:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	1	0	1	0.3	4	0	1	0	5	0.6	1	5	6
6:00 PM - 7:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		3	0	0	0	3	0.4	0	3	3

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT:	FXUA Herndon	**DATE:**	6/2/2022	**SOUTHBOUND ROAD:**	Van Buren Street
W+A JOB NO:	8834	**DAY:**	Thursday	**NORTHBOUND ROAD:**	Van Buren Street
NTERSECTION:	Van Buren St. & Grove St.	**WEATHER:**	clear AM, rain PM	**WESTBOUND ROAD:**	Grove Street
LOCATION:	Town of Herndon, VA	**COUNTED BY:**	Agan	**EASTBOUND ROAD:**	Grove Street
		INPUTED BY:	agan		

Time	Southbound Van Buren Street						Westbound Grove Street						Northbound Van Buren Street						Eastbound Grove Street						North & South	East & West	Total
Period	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:15 AM - 6:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 AM - 6:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:45 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:00 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:30 AM - 7:45 AM	1	33	4	0	38		2	4	5	0	11		15	46	20	0	81		33	33	5	0	71		119	82	201
7:45 AM - 8:00 AM	0	45	4	0	49		5	4	4	0	13		32	31	19	0	82		28	33	4	0	65		131	78	209
8:00 AM - 8:15 AM	0	41	12	0	53		1	8	14	0	23		16	32	13	0	61		20	21	3	0	44		114	67	181
8:15 AM - 8:30 AM	1	43	8	0	52		4	1	10	0	15		20	39	19	0	78		16	32	2	0	50		130	65	195
8:30 AM - 8:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:00 PM - 4:15 PM	1	66	12	0	79		9	26	26	0	61		18	72	34	0	124		22	5	4	0	31		203	92	295
4:15 PM - 4:30 PM	2	51	3	0	56		4	18	21	0	43		11	47	17	0	75		17	9	3	0	29		131	72	203
4:30 PM - 4:45 PM	0	62	7	0	69		5	21	22	0	48		13	55	24	0	92		29	2	2	0	33		161	81	242
4:45 PM - 5:00 PM	0	64	5	1	70		6	26	16	0	48		12	58	30	0	100		22	10	5	0	37		170	85	255
5:00 PM - 5:15 PM	1	59	12	0	72		9	10	22	0	41		15	64	24	0	103		17	3	4	0	24		175	65	240
5:15 PM - 5:30 PM	0	54	4	1	59		7	22	29	0	58		17	59	23	0	99		27	7	2	0	36		158	94	252
5:30 PM - 5:45 PM	1	47	3	0	51		8	26	20	0	54		16	65	22	0	103		27	3	1	0	31		154	85	239
5:45 PM - 6:00 PM	0	44	8	0	52		11	9	23	0	43		16	57	26	0	99		28	10	4	0	42		151	85	236
6:00 PM - 6:15 PM	1	50	7	0	58		5	21	26	0	52		15	63	13	0	91		18	6	4	0	28		149	80	229
6:15 PM - 6:30 PM	0	44	10	0	54		4	13	14	0	31		14	45	22	0	81		17	3	2	0	22		135	53	188
6:30 PM - 6:45 PM	2	50	7	0	59		1	19	15	0	35		9	61	17	0	87		16	7	1	0	24		146	59	205
6:45 PM - 7:00 PM	2	58	4	0	64		2	9	15	0	26		13	43	19	0	75		22	6	3	0	31		139	57	196
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	12	811	110	2	935		83	237	282	0	602		252	837	342	0	###		359	190	49	0	598		###	###	###
One Hour Volumes																											
6:00 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:15 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 AM - 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:45 AM - 7:45 AM	1	33	4	0	38	0.3	2	4	5	0	11	0.3	15	46	20	0	81	0.3	33	33	5	0	71	0.3	119	82	201
7:00 AM - 8:00 AM	1	78	8	0	87	0.4	7	8	9	0	24	0.5	47	77	39	0	163	0.5	61	66	9	0	136	0.5	250	160	410
7:15 AM - 8:15 AM	1	119	20	0	140	0.7	8	16	23	0	47	0.5	63	109	52	0	224	0.7	81	87	12	0	180	0.6	364	227	591
7:30 AM - 8:30 AM	2	162	28	0	192	0.9	12	17	33	0	62	0.7	83	148	71	0	302	0.9	97	119	14	0	230	0.8	494	292	786
7:45 AM - 8:45 AM	1	129	24	0	154	0.7	10	13	28	0	51	0.6	68	102	51	0	221	0.7	64	86	9	0	159	0.6	375	210	585
8:00 AM - 9:00 AM	1	84	20	0	105	0.5	5	9	24	0	38	0.4	36	71	32	0	139	0.4	36	53	5	0	94	0.5	244	132	376
4:00 PM - 5:00 PM	3	243	27	1	274	0.9	24	91	85	0	200	0.8	54	232	105	0	391	0.8	90	26	14	0	130	0.9	665	330	995
4:15 PM - 5:15 PM	3	236	27	1	267	0.9	24	75	81	0	180	0.9	51	224	95	0	370	0.9	85	24	14	0	123	0.8	637	303	940
4:30 PM - 5:30 PM	1	239	28	2	270	0.9	27	79	89	0	195	0.8	57	236	101	0	394	1	95	22	13	0	130	0.9	664	325	989
4:45 PM - 5:45 PM	2	224	24	2	252	0.9	30	84	87	0	201	0.9	60	246	99	0	405	1	93	23	12	0	128	0.9	657	329	986
5:00 PM - 6:00 PM	2	204	27	1	234	0.8	35	67	94	0	196	0.8	64	245	95	0	404	1	99	23	11	0	133	0.8	638	329	967
5:15 PM - 6:15 PM	2	195	22	1	220	0.9	31	78	98	0	207	0.9	64	244	84	0	392	1	100	26	11	0	137	0.8	612	344	956
5:30 PM - 6:30 PM	2	185	28	0	215	0.9	28	69	83	0	180	0.8	61	230	83	0	374	0.9	90	22	11	0	123	0.7	589	303	892
5:45 PM - 6:45 PM	3	188	32	0	223	0.9	21	62	78	0	161	0.8	54	226	78	0	358	0.9	79	26	11	0	116	0.7	581	277	858
6:00 PM - 7:00 PM	5	202	28	0	235	0.9	12	62	70	0	144	0.7	51	212	71	0	334	0.9	73	22	10	0	105	0.8	569	249	818

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT: FXUA Herndon
W+A JOB NO: 8834
NTERSECTION: Grove St. & Driveway West
LOCATION: Fairfax County,VA

DATE: 6/8/2022
DAY: Wednesday
WEATHER: clear
COUNTED BY: Agan
INPUTED BY: agan

SOUTHBOUND ROAD: 0
NORTHBOUND ROAD: Driveway - West
WESTBOUND ROAD: Grove Street
EASTBOUND ROAD: Grove Street

Time Period	Southbound 0						Westbound Grove Street						Northbound Driveway - West						Eastbound Grove Street						North & South	East & West	Total
	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1		0	1	1
6:15 AM - 6:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 AM - 6:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:45 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:00 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1		0	1	1
7:15 AM - 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		4	0	0	0	4		0	4	4
7:30 AM - 7:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		3	0	0	0	3		0	3	3
8:00 AM - 8:15 AM	0	0	0	0	0		0	0	1	0	1		0	0	0	0	0		1	0	0	0	1		0	2	2
8:15 AM - 8:30 AM	0	0	0	0	0		0	0	0	0	0		1	0	2	0	3		3	0	0	0	3		3	3	6
8:30 AM - 8:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	1	0	1		2	0	0	0	2		1	2	3
8:45 AM - 9:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	2	0	2		2	0	0	0	2		2	2	4
4:00 PM - 4:15 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		2	0	0	0	2		0	2	2
4:15 PM - 4:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	3	0	3		2	0	0	0	2		3	2	5
4:30 PM - 4:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	2	0	2		1	0	0	0	1		2	1	3
4:45 PM - 5:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	4	0	4		3	0	0	0	3		4	3	7
5:00 PM - 5:15 PM	0	0	0	0	0		0	0	0	0	0		2	0	0	0	2		5	0	0	0	5		2	5	7
5:15 PM - 5:30 PM	0	0	0	0	0		0	0	1	0	1		0	0	5	0	5		9	0	0	0	9		5	10	15
5:30 PM - 5:45 PM	0	0	0	0	0		0	0	1	0	1		2	0	2	0	4		6	0	0	0	6		4	7	11
5:45 PM - 6:00 PM	0	0	0	0	0		0	0	1	0	1		1	0	4	0	5		1	0	0	0	1		5	2	7
6:00 PM - 6:15 PM	0	0	0	0	0		0	0	1	0	1		1	0	3	0	4		7	0	0	0	7		4	8	12
6:15 PM - 6:30 PM	0	0	0	0	0		0	0	1	0	1		2	0	5	0	7		9	0	0	0	9		7	10	17
6:30 PM - 6:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	4	0	4		6	0	0	0	6		4	6	10
6:45 PM - 7:00 PM	0	0	0	0	0		0	0	3	0	3		1	0	2	0	3		6	0	0	0	6		3	9	12
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	0	0	0	0	0		0	0	9	0	9		10	0	39	0	49		74	0	0	0	74		49	83	132
One Hour Volumes																											
6:00 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1	0.3	0	1	1
6:15 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1	0.3	0	1	1
6:30 AM - 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		5	0	0	0	5	0.3	0	5	5
6:45 AM - 7:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		5	0	0	0	5	0.3	0	5	5
7:00 AM - 8:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		8	0	0	0	8	0.5	0	8	8
7:15 AM - 8:15 AM	0	0	0	0	0		0	0	1	0	1	0.3	0	0	0	0	0		8	0	0	0	8	0.5	0	9	9
7:30 AM - 8:30 AM	0	0	0	0	0		0	0	1	0	1	0.3	1	0	2	0	3	0.3	7	0	0	0	7	0.6	3	8	11
7:45 AM - 8:45 AM	0	0	0	0	0		0	0	1	0	1	0.3	1	0	3	0	4	0.3	9	0	0	0	9	0.8	4	10	14
8:00 AM - 9:00 AM	0	0	0	0	0		0	0	1	0	1	0.3	1	0	5	0	6	0.5	8	0	0	0	8	0.7	6	9	15
4:00 PM - 5:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	9	0	9	0.6	8	0	0	0	8	0.7	9	8	17
4:15 PM - 5:15 PM	0	0	0	0	0		0	0	0	0	0		2	0	9	0	11	0.7	11	0	0	0	11	0.6	11	11	22
4:30 PM - 5:30 PM	0	0	0	0	0		0	0	1	0	1	0.3	2	0	11	0	13	0.7	18	0	0	0	18	0.5	13	19	32
4:45 PM - 5:45 PM	0	0	0	0	0		0	0	2	0	2	0.5	4	0	11	0	15	0.8	23	0	0	0	23	0.6	15	25	40
5:00 PM - 6:00 PM	0	0	0	0	0		0	0	3	0	3	0.8	5	0	11	0	16	0.8	21	0	0	0	21	0.6	16	24	40
5:15 PM - 6:15 PM	0	0	0	0	0		0	0	4	0	4	1	4	0	14	0	18	0.9	23	0	0	0	23	0.6	18	27	45
5:30 PM - 6:30 PM	0	0	0	0	0		0	0	4	0	4	1	6	0	14	0	20	0.7	23	0	0	0	23	0.6	20	27	47
5:45 PM - 6:45 PM	0	0	0	0	0		0	0	3	0	3	0.8	4	0	16	0	20	0.7	23	0	0	0	23	0.6	20	26	46
6:00 PM - 7:00 PM	0	0	0	0	0		0	0	5	0	5	0.4	4	0	14	0	18	0.6	28	0	0	0	28	0.8	18	33	51

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT: FXUA Herndon
W+A JOB NO: 8834
NTERSECTION: Grove St. & Driveway Middle
LOCATION: Fairfax County,VA

DATE: 6/8/2022
DAY: Wednesday
WEATHER: clear
COUNTED BY: Agan
INPUTED BY: agan

SOUTHBOUND ROAD: Driveway - Middle
NORTHBOUND ROAD: 0
WESTBOUND ROAD: Grove Street
EASTBOUND ROAD: Grove Street

Time Period	Southbound Driveway - Middle						Westbound Grove Street						Northbound 0						Eastbound Grove Street						North & South	East & West	Total
	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	1		0	1	1
6:15 AM - 6:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	1		0	1	1
6:30 AM - 6:45 AM	0	0	1	0	1		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
6:45 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:00 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	2	0	2		0	2	2
7:15 AM - 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	4	0	4		0	4	4
7:30 AM - 7:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0		1	0	0	0	1		0	0	0	0	0		0	0	3	0	3		0	4	4
8:00 AM - 8:15 AM	1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		0	0	1	0	1		1	1	2
8:15 AM - 8:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:45 AM - 9:00 AM	2	0	0	0	2		1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		2	1	3
4:00 PM - 4:15 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	1		0	1	1
4:15 PM - 4:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	2	0	2		0	2	2
4:45 PM - 5:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 PM - 5:15 PM	2	0	0	0	2		1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		2	1	3
5:15 PM - 5:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 PM - 5:45 PM	2	0	0	0	2		1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		2	1	3
5:45 PM - 6:00 PM	4	0	0	0	4		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		4	0	4
6:00 PM - 6:15 PM	1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
6:15 PM - 6:30 PM	1	0	0	0	1		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	1
6:30 PM - 6:45 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:45 PM - 7:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	13	0	1	0	14		4	0	0	0	4		0	0	0	0	0		0	0	15	0	15		14	19	33
One Hour Volumes																											
6:00 AM - 7:00 AM	0	0	1	0	1	0.3	0	0	0	0	0		0	0	0	0	0		0	0	2	0	2	0.5	1	2	3
6:15 AM - 7:15 AM	0	0	1	0	1	0.3	0	0	0	0	0		0	0	0	0	0		0	0	3	0	3	0.4	1	3	4
6:30 AM - 7:30 AM	0	0	1	0	1	0.3	0	0	0	0	0		0	0	0	0	0		0	0	6	0	6	0.4	1	6	7
6:45 AM - 7:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	6	0	6	0.4	0	6	6
7:00 AM - 8:00 AM	0	0	0	0	0		1	0	0	0	1	0.3	0	0	0	0	0		0	0	9	0	9	0.6	0	10	10
7:15 AM - 8:15 AM	1	0	0	0	1	0.3	1	0	0	0	1	0.3	0	0	0	0	0		0	0	8	0	8	0.5	1	9	10
7:30 AM - 8:30 AM	1	0	0	0	1	0.3	1	0	0	0	1	0.3	0	0	0	0	0		0	0	4	0	4	0.3	1	5	6
7:45 AM - 8:45 AM	1	0	0	0	1	0.3	1	0	0	0	1	0.3	0	0	0	0	0		0	0	4	0	4	0.3	1	5	6
8:00 AM - 9:00 AM	3	0	0	0	3	0.4	1	0	0	0	1	0.3	0	0	0	0	0		0	0	1	0	1	0.3	3	2	5
4:00 PM - 5:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	3	0	3	0.4	0	3	3
4:15 PM - 5:15 PM	2	0	0	0	2	0.3	1	0	0	0	1	0.3	0	0	0	0	0		0	0	2	0	2	0.3	2	3	5
4:30 PM - 5:30 PM	2	0	0	0	2	0.3	1	0	0	0	1	0.3	0	0	0	0	0		0	0	2	0	2	0.3	2	3	5
4:45 PM - 5:45 PM	4	0	0	0	4	0.5	2	0	0	0	2	0.5	0	0	0	0	0		0	0	0	0	0		4	2	6
5:00 PM - 6:00 PM	8	0	0	0	8	0.5	2	0	0	0	2	0.5	0	0	0	0	0		0	0	0	0	0		8	2	10
5:15 PM - 6:15 PM	7	0	0	0	7	0.4	1	0	0	0	1	0.3	0	0	0	0	0		0	0	0	0	0		7	1	8
5:30 PM - 6:30 PM	8	0	0	0	8	0.5	1	0	0	0	1	0.3	0	0	0	0	0		0	0	0	0	0		8	1	9
5:45 PM - 6:45 PM	6	0	0	0	6	0.4	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		6	0	6
6:00 PM - 7:00 PM	2	0	0	0	2	0.5	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		2	0	2

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT: FXUA Herndon
W+A JOB NO: 8834
NTERSECTION: Grove St. & Driveway East
LOCATION: Fairfax County,VA

DATE: 6/8/2022
DAY: Wednesday
WEATHER: clear
COUNTED BY: Agan
INPUTED BY: agan

SOUTHBOUND ROAD: 0
NORTHBOUND ROAD: Driveway - East
WESTBOUND ROAD: Grove Street
EASTBOUND ROAD: Grove Street

Time Period	Southbound 0						Westbound Grove Street						Northbound Driveway - East						Eastbound Grove Street						North & South	East & West	Total
	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:15 AM - 6:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 AM - 6:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:45 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:00 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1		0	1	1
8:45 AM - 9:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1		0	1	1
4:00 PM - 4:15 PM	0	0	0	0	0		0	0	1	0	1		2	0	0	0	2		0	0	0	0	0		2	1	3
4:15 PM - 4:30 PM	0	0	0	0	0		0	0	2	0	2		0	0	1	0	1		0	0	0	0	0		1	2	3
4:30 PM - 4:45 PM	0	0	0	0	0		0	0	0	0	0		1	0	2	0	3		1	0	0	0	1		3	1	4
4:45 PM - 5:00 PM	0	0	0	0	0		0	0	1	0	1		2	0	1	0	3		1	0	0	0	1		3	2	5
5:00 PM - 5:15 PM	0	0	0	0	0		0	0	0	0	0		2	0	4	0	6		2	0	0	0	2		6	2	8
5:15 PM - 5:30 PM	0	0	0	0	0		0	0	1	0	1		1	0	1	0	2		1	0	0	0	1		2	2	4
5:30 PM - 5:45 PM	0	0	0	0	0		0	0	0	0	0		1	0	0	0	1		2	0	0	0	2		1	2	3
5:45 PM - 6:00 PM	0	0	0	0	0		0	0	3	0	3		0	0	0	0	0		0	0	0	0	0		0	3	3
6:00 PM - 6:15 PM	0	0	0	0	0		0	0	5	0	5		2	0	3	0	5		3	0	0	0	3		5	8	13
6:15 PM - 6:30 PM	0	0	0	0	0		0	0	1	0	1		0	0	2	0	2		0	0	0	0	0		2	1	3
6:30 PM - 6:45 PM	0	0	0	0	0		0	0	0	0	0		2	0	3	0	5		1	0	0	0	1		5	1	6
6:45 PM - 7:00 PM	0	0	0	0	0		0	0	2	0	2		1	0	6	0	7		1	0	0	0	1		7	3	10
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	0	0	0	0	0		0	0	16	0	16		14	0	23	0	37		14	0	0	0	14		37	30	67
One Hour Volumes																											
6:00 AM - 7:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:15 AM - 7:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:30 AM - 7:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
6:45 AM - 7:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:15 AM - 8:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:30 AM - 8:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
7:45 AM - 8:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		1	0	0	0	1	0.3	0	1	1
8:00 AM - 9:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		2	0	0	0	2	0.5	0	2	2
4:00 PM - 5:00 PM	0	0	0	0	0		0	0	4	0	4	0.5	5	0	4	0	9	0.8	2	0	0	0	2	0.5	9	6	15
4:15 PM - 5:15 PM	0	0	0	0	0		0	0	3	0	3	0.4	5	0	8	0	13	0.5	4	0	0	0	4	0.5	13	7	20
4:30 PM - 5:30 PM	0	0	0	0	0		0	0	2	0	2	0.5	6	0	8	0	14	0.6	5	0	0	0	5	0.6	14	7	21
4:45 PM - 5:45 PM	0	0	0	0	0		0	0	2	0	2	0.5	6	0	6	0	12	0.5	6	0	0	0	6	0.8	12	8	20
5:00 PM - 6:00 PM	0	0	0	0	0		0	0	4	0	4	0.3	4	0	5	0	9	0.4	5	0	0	0	5	0.6	9	9	18
5:15 PM - 6:15 PM	0	0	0	0	0		0	0	9	0	9	0.5	4	0	4	0	8	0.4	6	0	0	0	6	0.5	8	15	23
5:30 PM - 6:30 PM	0	0	0	0	0		0	0	9	0	9	0.5	3	0	5	0	8	0.4	5	0	0	0	5	0.4	8	14	22
5:45 PM - 6:45 PM	0	0	0	0	0		0	0	9	0	9	0.5	4	0	8	0	12	0.6	4	0	0	0	4	0.3	12	13	25
6:00 PM - 7:00 PM	0	0	0	0	0		0	0	8	0	8	0.4	5	0	14	0	19	0.7	5	0	0	0	5	0.4	19	13	32

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT: FXUA Herndon
W+A JOB NO: 8834
NTERSECTION: Grove St. & Grant St.
LOCATION: Town of Herndon, VA

DATE: 6/2/2022
DAY: Thursday
WEATHER: clear AM, rain PM
COUNTED BY: Agan
INPUTED BY: agan

SOUTHBOUND ROAD: Grant Street
NORTHBOUND ROAD: Grant Street
WESTBOUND ROAD: Grove Street
EASTBOUND ROAD: Grove Street

Time Period	Southbound Grant Street						Westbound Grove Street						Northbound Grant Street						Eastbound Grove Street						North & South	East & West	Total
	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF	Right	Thru	Left	-Turn	Total	PHF			
15 Minute Volumes																											
6:00 AM - 6:15 AM	1	0	2	0	3		0	3	0	0	3		0	0	0	0	0		0	21	0	0	21		3	24	27
6:15 AM - 6:30 AM	0	0	0	0	0		1	0	0	0	1		0	0	0	0	0		0	24	0	0	24		0	25	25
6:30 AM - 6:45 AM	3	0	3	0	6		0	3	0	0	3		0	0	0	0	0		0	29	2	0	31		6	34	40
6:45 AM - 7:00 AM	1	0	2	0	3		0	4	0	0	4		0	0	0	0	0		0	26	3	0	29		3	33	36
7:00 AM - 7:15 AM	2	1	3	0	6		1	4	1	0	6		0	0	0	0	0		0	22	2	0	24		6	30	36
7:15 AM - 7:30 AM	2	3	4	0	9		1	6	0	0	7		0	0	2	0	2		0	28	9	0	37		11	44	55
7:30 AM - 7:45 AM	5	1	4	0	10		3	8	2	0	13		2	2	0	0	4		1	37	6	0	44		14	57	71
7:45 AM - 8:00 AM	7	2	2	0	11		2	8	3	0	13		1	3	1	0	5		7	47	7	0	61		16	74	90
8:00 AM - 8:15 AM	12	0	3	0	15		4	12	0	0	16		0	1	3	0	4		0	38	2	0	40		19	56	75
8:15 AM - 8:30 AM	4	2	5	0	11		0	7	0	0	7		0	0	1	0	1		2	40	7	0	49		12	56	68
8:30 AM - 8:45 AM	6	1	3	0	10		0	8	2	0	10		0	1	2	0	3		3	31	6	0	40		13	50	63
8:45 AM - 9:00 AM	5	1	3	0	9		1	10	4	0	15		2	3	1	0	6		2	32	5	0	39		15	54	69
4:00 PM - 4:15 PM	17	0	0	0	17		5	45	3	0	53		4	2	3	0	9		0	15	7	0	22		26	75	101
4:15 PM - 4:30 PM	11	1	2	0	14		4	32	0	0	36		3	0	0	0	3		3	9	4	0	16		17	52	69
4:30 PM - 4:45 PM	16	0	5	0	21		5	38	0	0	43		1	0	0	0	1		1	10	1	0	12		22	55	77
4:45 PM - 5:00 PM	21	0	1	0	22		4	31	0	0	35		2	0	0	0	2		1	9	3	0	13		24	48	72
5:00 PM - 5:15 PM	11	1	2	0	14		4	26	2	0	32		0	1	1	0	2		1	16	3	0	20		16	52	68
5:15 PM - 5:30 PM	11	0	1	0	12		2	43	2	0	47		1	1	2	0	4		1	14	3	0	18		16	65	81
5:30 PM - 5:45 PM	21	2	2	0	25		2	39	0	0	41		0	0	0	0	0		0	12	1	0	13		25	54	79
5:45 PM - 6:00 PM	7	0	2	0	9		1	20	2	0	23		2	2	0	0	4		1	6	5	0	12		13	35	48
6:00 PM - 6:15 PM	11	1	2	0	14		4	27	0	0	31		2	1	1	0	4		0	16	7	0	23		18	54	72
6:15 PM - 6:30 PM	4	0	6	0	10		4	23	2	0	29		2	1	0	0	3		0	11	7	0	18		13	47	60
6:30 PM - 6:45 PM	6	0	2	0	8		3	19	1	0	23		3	0	2	0	5		0	6	7	0	13		13	36	49
6:45 PM - 7:00 PM	5	1	4	0	10		0	17	0	0	17		0	0	0	0	0		0	11	3	0	14		10	31	41
4:00 AM - 4:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0
Total	189	17	63	0	269		51	433	24	0	508		25	18	19	0	62		23	510	100	0	633		331	###	###
One Hour Volumes																											
6:00 AM - 7:00 AM	5	0	7	0	12	0.5	1	10	0	0	11	0.7	0	0	0	0	0		0	100	5	0	105	0.8	12	116	128
6:15 AM - 7:15 AM	6	1	8	0	15	0.6	2	11	1	0	14	0.6	0	0	0	0	0		0	101	7	0	108	0.9	15	122	137
6:30 AM - 7:30 AM	8	4	12	0	24	0.7	2	17	1	0	20	0.7	0	0	2	0	2	0.3	0	105	16	0	121	0.8	26	141	167
6:45 AM - 7:45 AM	10	5	13	0	28	0.7	5	22	3	0	30	0.6	2	2	2	0	6	0.4	1	113	20	0	134	0.8	34	164	198
7:00 AM - 8:00 AM	16	7	13	0	36	0.8	7	26	6	0	39	0.8	3	5	3	0	11	0.6	8	134	24	0	166	0.7	47	205	252
7:15 AM - 8:15 AM	26	6	13	0	45	0.8	10	34	5	0	49	0.8	3	6	6	0	15	0.8	8	150	24	0	182	0.7	60	231	291
7:30 AM - 8:30 AM	28	5	14	0	47	0.8	9	35	5	0	49	0.8	3	6	5	0	14	0.7	10	162	22	0	194	0.8	61	243	304
7:45 AM - 8:45 AM	29	5	13	0	47	0.8	6	35	5	0	46	0.7	1	5	7	0	13	0.7	12	156	22	0	190	0.8	60	236	296
8:00 AM - 9:00 AM	27	4	14	0	45	0.8	5	37	6	0	48	0.8	2	5	7	0	14	0.6	7	141	20	0	168	0.9	59	216	275
4:00 PM - 5:00 PM	65	1	8	0	74	0.8	18	146	3	0	167	0.8	10	2	3	0	15	0.4	5	43	15	0	63	0.7	89	230	319
4:15 PM - 5:15 PM	59	2	10	0	71	0.8	17	127	2	0	146	0.8	6	1	1	0	8	0.7	6	44	11	0	61	0.8	79	207	286
4:30 PM - 5:30 PM	59	1	9	0	69	0.8	15	138	4	0	157	0.8	4	2	3	0	9	0.6	4	49	10	0	63	0.8	78	220	298
4:45 PM - 5:45 PM	64	3	6	0	73	0.7	12	139	4	0	155	0.8	3	2	3	0	8	0.5	3	51	10	0	64	0.8	81	219	300
5:00 PM - 6:00 PM	50	3	7	0	60	0.6	9	128	6	0	143	0.8	3	4	3	0	10	0.6	3	48	12	0	63	0.8	70	206	276
5:15 PM - 6:15 PM	50	3	7	0	60	0.6	9	129	4	0	142	0.8	5	4	3	0	12	0.8	2	48	16	0	66	0.7	72	208	280
5:30 PM - 6:30 PM	43	3	12	0	58	0.6	11	109	4	0	124	0.8	6	4	1	0	11	0.7	1	45	20	0	66	0.7	69	190	259
5:45 PM - 6:45 PM	28	1	12	0	41	0.7	12	89	5	0	106	0.9	9	4	3	0	16	0.8	1	39	26	0	66	0.7	57	172	229
6:00 PM - 7:00 PM	26	2	14	0	42	0.8	11	86	3	0	100	0.8	7	2	3	0	12	0.6	0	44	24	0	68	0.7	54	168	222

Wells + Associates,Inc

Tysons, Virginia

Turning Movement Count - Total Vehicles

PROJECT: FXUA Herndon
W+A JOB NO: 8834
NTERSECTION: Grant St. & Driveway - South
LOCATION: Fairfax County,VA

DATE: 6/8/2022
DAY: Wednesday
WEATHER: clear
COUNTED BY: Agan
INPUTED BY: agan

SOUTHBOUND ROAD: Grant Street
NORTHBOUND ROAD: Grant Street
WESTBOUND ROAD: 0
EASTBOUND ROAD: Driveway - South

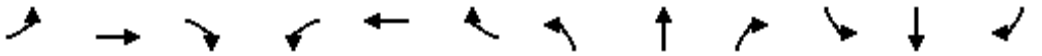
Time Period	Southbound Grant Street					Westbound 0					Northbound Grant Street					Eastbound Driveway - South					North & South	East & West	Total
	Right	Thru	Left	-Turn	Total PHF	Right	Thru	Left	-Turn	Total PHF	Right	Thru	Left	-Turn	Total PHF	Right	Thru	Left	-Turn	Total PHF			
15 Minute Volumes																							
6:00 AM - 6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM - 6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM - 6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
8:15 AM - 8:30 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
8:30 AM - 8:45 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
8:45 AM - 9:00 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
4:00 PM - 4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	2	3
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
4:30 PM - 4:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	2	3
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
5:15 PM - 5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
5:45 PM - 6:00 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	3
6:00 PM - 6:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
6:15 PM - 6:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	2	3	5
6:30 PM - 6:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
6:45 PM - 7:00 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
4:00 AM - 4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM - 4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM - 4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM - 5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM - 5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	1	0	13	0	14	19	14	33
One Hour Volumes																							
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	0	1	1
7:30 AM - 8:30 AM	2	0	0	0	2	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	2	1	3
7:45 AM - 8:45 AM	4	0	0	0	4	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	4	1	5
8:00 AM - 9:00 AM	7	0	0	0	7	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	7	1	8
4:00 PM - 5:00 PM	2	0	0	0	2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0.6	2	5	7
4:15 PM - 5:15 PM	2	0	0	0	2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0.5	2	4	6
4:30 PM - 5:30 PM	3	0	0	0	3	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0.4	3	3	6
4:45 PM - 5:45 PM	2	0	0	0	2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0.5	2	2	4
5:00 PM - 6:00 PM	4	0	0	0	4	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	0.8	4	3	7
5:15 PM - 6:15 PM	4	0	0	0	4	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	0.8	4	3	7
5:30 PM - 6:30 PM	5	0	0	0	5	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	6	0.5	5	6	11
5:45 PM - 6:45 PM	6	0	0	0	6	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	6	0.5	6	6	12
6:00 PM - 7:00 PM	6	0	0	0	6	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0.4	6	5	11

Appendix C
2022 Existing Conditions
Synchro Worksheets

Queues
1: Van Buren & Elden Street

Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	660	41	612	59	91	120	123	158
v/c Ratio	0.29	0.04	0.36	0.36	0.53	0.47	0.54	0.66
Control Delay	10.6	0.1	11.6	56.0	62.0	14.7	57.1	62.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	0.1	11.6	56.0	62.0	14.7	57.1	62.0
Queue Length 50th (ft)	108	0	106	44	68	0	91	117
Queue Length 95th (ft)	175	0	172	80	112	47	146	180
Internal Link Dist (ft)	455		505		445			398
Turn Bay Length (ft)		420		150				
Base Capacity (vph)	2282	1059	1700	339	357	400	398	417
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	0.29	0.04	0.36	0.17	0.25	0.30	0.31	0.38

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	620	39	77	450	11	50	77	102	111	136	6
Future Volume (vph)	0	620	39	77	450	11	50	77	102	111	136	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3539	1583		3503		1770	1863	1583	1770	1850	
Flt Permitted		1.00	1.00		0.75		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3539	1583		2634		1770	1863	1583	1770	1850	
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	0	660	41	88	511	12	59	91	120	123	151	7
RTOR Reduction (vph)	0	0	15	0	1	0	0	0	109	0	2	0
Lane Group Flow (vph)	0	660	26	0	611	0	59	91	11	123	156	0
Turn Type		NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases		2		1	6		4	4		3	3	
Permitted Phases	2		2	6					4			
Actuated Green, G (s)		77.4	77.4		77.4		11.2	11.2	11.2	15.4	15.4	
Effective Green, g (s)		77.4	77.4		77.4		11.2	11.2	11.2	15.4	15.4	
Actuated g/C Ratio		0.65	0.65		0.65		0.09	0.09	0.09	0.13	0.13	
Clearance Time (s)		6.0	6.0		6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		5.0	5.0		5.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		2282	1021		1698		165	173	147	227	237	
v/s Ratio Prot		0.19					0.03	c0.05		0.07	c0.08	
v/s Ratio Perm			0.02		c0.23				0.01			
v/c Ratio		0.29	0.03		0.36		0.36	0.53	0.08	0.54	0.66	
Uniform Delay, d1		9.3	7.7		9.8		51.0	51.9	49.7	49.0	49.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.3	0.0		0.1		1.3	2.9	0.2	2.6	6.5	
Delay (s)		9.6	7.7		10.0		52.4	54.7	49.9	51.6	56.3	
Level of Service		A	A		A		D	D	D	D	E	
Approach Delay (s)		9.5			10.0			52.1			54.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑↑↑			↑↑↑	
Traffic Vol, veh/h	5	706	45	63	554	6	6	1	22	0	0	5
Future Vol, veh/h	5	706	45	63	554	6	6	1	22	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	94	94	94	94	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	751	48	67	589	7	7	1	26	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	596	0	0	799	0	0	1216	1517	400	1115	1538	298
Stage 1	-	-	-	-	-	-	787	787	-	727	727	-
Stage 2	-	-	-	-	-	-	429	730	-	388	811	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	976	-	-	819	-	-	137	118	600	163	115	698
Stage 1	-	-	-	-	-	-	351	401	-	381	427	-
Stage 2	-	-	-	-	-	-	574	426	-	607	391	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	976	-	-	819	-	-	122	102	600	139	100	698
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	102	-	139	100	-
Stage 1	-	-	-	-	-	-	347	397	-	377	375	-
Stage 2	-	-	-	-	-	-	500	374	-	573	387	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.4	18.4	10.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	303	976	-	-	819	-	-	698
HCM Lane V/C Ratio	0.113	0.006	-	-	0.082	-	-	0.008
HCM Control Delay (s)	18.4	8.7	0	-	9.8	0.5	-	10.2
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.3	-	-	0

Intersection	
Int Delay, s/veh	0.4

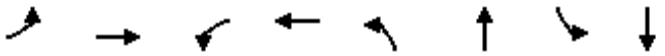
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1	5	41	90	21
Future Vol, veh/h	2	1	5	41	90	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	6	48	106	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	179	119	131	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	811	933	1454	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	808	933	1454	-	-	-
Mov Cap-2 Maneuver	808	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1454	-	846	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Queues
4: Van Buren & Grove Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	272	45	38	77	357	40	251
v/c Ratio	0.05	0.80	0.22	0.09	0.11	0.18	0.06	0.24
Control Delay	25.4	55.1	28.7	22.0	9.7	9.6	9.9	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	55.1	28.7	22.0	9.7	9.6	9.9	16.0
Queue Length 50th (ft)	8	165	23	11	19	44	10	92
Queue Length 95th (ft)	21	221	43	36	47	84	28	175
Internal Link Dist (ft)		204		184		118		445
Turn Bay Length (ft)	170				70		155	
Base Capacity (vph)	429	475	309	473	770	2015	761	1050
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	0.04	0.57	0.15	0.08	0.10	0.18	0.05	0.24

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	134	97	38	19	14	71	207	121	36	227	2
Future Volume (veh/h)	14	134	97	38	19	14	71	207	121	36	227	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	158	114	45	22	16	77	225	132	40	249	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	353	180	130	178	202	147	714	1240	699	672	1025	8
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
Prop Arrive On Green	0.02	0.18	0.18	0.05	0.20	0.20	0.06	0.57	0.57	0.04	0.55	0.55
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.3	0.0	53.8	35.5	0.0	36.0	9.0	11.9	12.0	9.2	0.0	13.1
Ln Grp LOS	D	A	D	D	A	D	A	B	B	A	A	B
Approach Vol, veh/h		288			83			434			291	
Approach Delay, s/veh		52.8			35.7			11.5			12.6	
Approach LOS		D			D			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phs Duration (G+Y+Rc), s	9.4	66.8	9.7	24.1	10.8	65.4	7.2	26.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green (Gmax), s	15.5	32.5	15.5	28.5	15.5	32.5	15.5	28.5
Max Allow Headway (MAH), s	2.8	4.4	2.9	4.5	2.8	4.2	2.9	4.5
Max Q Clear (g_c+I1), s	3.0	7.7	4.2	18.8	3.9	9.6	2.8	4.0
Green Ext Time (g_e), s	0.0	1.4	0.0	0.8	0.1	0.9	0.0	0.1
Prob of Phs Call (p_c)	0.71	1.00	0.75	1.00	0.90	1.00	0.39	1.00
Prob of Max Out (p_x)	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2190		1010		1853		1007

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1235		729		15		732

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	40	0	45	0	77	0	16	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.0	0.0	2.2	0.0	1.9	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	2.2	0.0	1.9	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1024	0	1107	0	1129	0	1370	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	60.9	0.0	19.6	0.0	60.9	0.0	19.6	0.0
Perm LT Serve Time (g_u), s	56.6	0.0	2.8	0.0	53.3	0.0	19.6	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.7	0.0	0.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	672	0	178	0	714	0	353	0
V/C Ratio (X)	0.06	0.00	0.25	0.00	0.11	0.00	0.05	0.00
Avail Cap (c_a), veh/h	843	0	345	0	863	0	560	0
Upstream Filter (I)	0.83	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	9.2	0.0	35.2	0.0	9.0	0.0	35.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	9.2	0.0	35.5	0.0	9.0	0.0	35.3	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.0	0.0	0.7	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	1.0	0.0	0.7	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.14	0.00	0.26	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T						
Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	181	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1006	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1006	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	176	0	272	0	251	0	38
Grp Sat Flow (s), veh/h/ln	0	1648	0	1739	0	1868	0	1739
Q Serve Time (g_s), s	0.0	5.7	0.0	16.8	0.0	7.6	0.0	2.0
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	16.8	0.0	7.6	0.0	2.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.75	0.00	0.42	0.00	0.01	0.00	0.42
Lane Grp Cap (c), veh/h	0	933	0	309	0	1034	0	349
V/C Ratio (X)	0.00	0.19	0.00	0.88	0.00	0.24	0.00	0.11
Avail Cap (c_a), veh/h	0	933	0	451	0	1034	0	450
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.83	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	44.1	0.0	12.7	0.0	35.9
Incr Delay (d2), s/veh	0.0	0.4	0.0	9.8	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.0	0.0	53.8	0.0	13.1	0.0	36.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	7.2	0.0	3.1	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.8	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	8.1	0.0	3.3	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.88	0.00	0.20	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	227	37	12	71	6	2
Future Vol, veh/h	227	37	12	71	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	267	44	14	84	7	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	311	0	359	289
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1248	-	626	749
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1248	-	618	749
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	646	-	-	1248	-
HCM Lane V/C Ratio	0.015	-	-	0.011	-
HCM Control Delay (s)	10.7	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	207	86	6	1	3
Future Vol, veh/h	22	207	86	6	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	244	101	7	1	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	401	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	296	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1483	-	-	-	605	949
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1483	-	-	-	593	949
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1483	-	-	-	825
HCM Lane V/C Ratio	0.017	-	-	-	0.006
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	6	12	90	1	1
Future Vol, veh/h	202	6	12	90	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	7	14	106	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	376	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	134	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1321	-	625	797
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	892	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1321	-	618	797
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	882	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	696	-	-	1321	-
HCM Lane V/C Ratio	0.003	-	-	0.011	-
HCM Control Delay (s)	10.2	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	164	16	16	50	14	6	9	4	15	35	40
Future Vol, veh/h	23	164	16	16	50	14	6	9	4	15	35	40
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	193	19	19	59	16	7	11	5	18	41	47
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

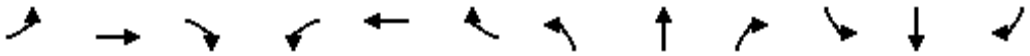
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.3	8.3	8	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	11%	24%	0%	17%
Vol Thru, %	47%	81%	76%	0%	39%
Vol Right, %	21%	8%	0%	100%	44%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	203	66	14	90
LT Vol	6	23	16	0	15
Through Vol	9	164	50	0	35
RT Vol	4	16	0	14	40
Lane Flow Rate	22	239	78	16	106
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.03	0.293	0.111	0.02	0.132
Departure Headway (Hd)	4.776	4.423	5.144	4.318	4.501
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	750	814	698	830	797
Service Time	2.803	2.442	2.865	2.04	2.523
HCM Lane V/C Ratio	0.029	0.294	0.112	0.019	0.133
HCM Control Delay	8	9.3	8.5	7.1	8.2
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.2	0.4	0.1	0.5

Queues
1: Van Buren & Elden Street

Lane Group	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	716	28	835	101	194	248	136	139
v/c Ratio	0.33	0.03	0.58	0.39	0.72	0.56	0.69	0.67
Control Delay	14.5	0.0	19.4	61.0	75.2	11.0	81.1	77.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	0.0	19.4	61.0	75.2	11.0	81.1	77.1
Queue Length 50th (ft)	161	0	231	91	184	0	130	129
Queue Length 95th (ft)	257	0	380	134	239	59	190	189
Internal Link Dist (ft)	455		505		445			398
Turn Bay Length (ft)		420		150				
Base Capacity (vph)	2140	1038	1450	316	332	486	318	332
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	0.33	0.03	0.58	0.32	0.58	0.51	0.43	0.42

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	676	27	141	594	50	86	165	211	118	106	15
Future Volume (vph)	4	676	27	141	594	50	86	165	211	118	106	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected		1.00	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3538	1583		3474		1770	1863	1583	1770	1829	
Flt Permitted		0.95	1.00		0.65		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3366	1583		2278		1770	1863	1583	1770	1829	
Peak-hour factor, PHF	0.95	0.95	0.95	0.94	0.94	0.94	0.85	0.85	0.85	0.87	0.87	0.87
Adj. Flow (vph)	4	712	28	150	632	53	101	194	248	136	122	17
RTOR Reduction (vph)	0	0	10	0	3	0	0	0	212	0	4	0
Lane Group Flow (vph)	0	716	18	0	832	0	101	194	36	136	135	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases		2		1	6		4	4		3	3	
Permitted Phases	2		2	6					4			
Actuated Green, G (s)		95.4	95.4		95.4		21.8	21.8	21.8	16.8	16.8	
Effective Green, g (s)		95.4	95.4		95.4		21.8	21.8	21.8	16.8	16.8	
Actuated g/C Ratio		0.64	0.64		0.64		0.15	0.15	0.15	0.11	0.11	
Clearance Time (s)		6.0	6.0		6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		5.0	5.0		5.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		2140	1006		1448		257	270	230	198	204	
v/s Ratio Prot							0.06	c0.10		c0.08	0.07	
v/s Ratio Perm		0.21	0.01		c0.37				0.02			
v/c Ratio		0.33	0.02		0.57		0.39	0.72	0.16	0.69	0.66	
Uniform Delay, d1		12.6	10.1		15.7		58.1	61.2	56.1	64.1	63.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4	0.0		0.6		1.0	8.8	0.3	9.5	7.9	
Delay (s)		13.0	10.1		16.2		59.1	70.0	56.4	73.6	71.8	
Level of Service		B	B		B		E	E	E	E	E	
Approach Delay (s)		12.9			16.2			61.7			72.7	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	977	14	24	902	2	18	1	58	3	2	14
Future Vol, veh/h	11	977	14	24	902	2	18	1	58	3	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	91	91	95	95	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	1074	15	25	949	2	21	1	68	4	2	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	951	0	0	1089	0	0	1634	2109	545	1564	2115	476
Stage 1	-	-	-	-	-	-	1108	1108	-	1000	1000	-
Stage 2	-	-	-	-	-	-	526	1001	-	564	1115	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	718	-	-	636	-	-	67	51	482	75	50	535
Stage 1	-	-	-	-	-	-	224	284	-	261	319	-
Stage 2	-	-	-	-	-	-	503	319	-	478	282	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	718	-	-	636	-	-	56	45	482	57	44	535
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	45	-	57	44	-
Stage 1	-	-	-	-	-	-	214	271	-	249	293	-
Stage 2	-	-	-	-	-	-	443	293	-	390	269	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	50.1	32.5
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	166	718	-	-	636	-	-	153
HCM Lane V/C Ratio	0.546	0.018	-	-	0.04	-	-	0.146
HCM Control Delay (s)	50.1	10.1	0.2	-	10.9	0.4	-	32.5
HCM Lane LOS	F	B	A	-	B	A	-	D
HCM 95th %tile Q(veh)	2.8	0.1	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	1.6

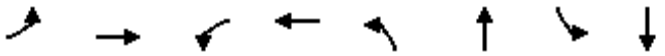
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	8	1	57	50	0
Future Vol, veh/h	15	8	1	57	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	9	1	67	59	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	128	59	59	0	-	0
Stage 1	59	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	866	1007	1545	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	865	1007	1545	-	-	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	954	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.1	0
HCM LOS	A		

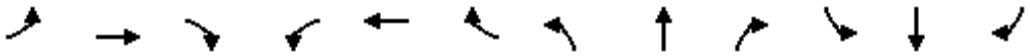
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1545	-	910	-	-
HCM Lane V/C Ratio	0.001	-	0.03	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Queues
4: Van Buren & Grove Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	147	144	149	88	423	23	296
v/c Ratio	0.07	0.65	0.58	0.45	0.12	0.19	0.03	0.26
Control Delay	31.4	27.4	44.6	39.1	6.9	9.0	7.0	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	27.4	44.6	39.1	6.9	9.0	7.0	12.5
Queue Length 50th (ft)	7	19	88	77	17	44	4	93
Queue Length 95th (ft)	20	70	130	141	43	110	16	180
Internal Link Dist (ft)		204		184		118		445
Turn Bay Length (ft)	170				70		155	
Base Capacity (vph)	326	512	288	474	781	2278	773	1139
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	0.04	0.29	0.50	0.31	0.11	0.19	0.03	0.26

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	24	100	128	90	43	84	342	60	21	273	2
Future Volume (veh/h)	11	24	100	128	90	43	84	342	60	21	273	2
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		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	13	28	119	144	101	48	88	360	63	23	294	2
Peak Hour Factor	0.85	0.85	0.84	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	34	146	249	212	101	713	1837	318	656	1075	7
Arrive On Green	0.02	0.11	0.11	0.09	0.18	0.18	0.06	0.61	0.61	0.03	0.58	0.58
Sat Flow, veh/h	1781	311	1322	1781	1198	570	1781	3028	525	1781	1855	13
Grp Volume(v), veh/h	13	0	147	144	0	149	88	210	213	23	0	296
Grp Sat Flow(s),veh/h/ln	1781	0	1632	1781	0	1768	1781	1777	1776	1781	0	1868
Q Serve(g_s), s	0.7	0.0	9.7	7.6	0.0	8.3	2.0	5.8	5.9	0.6	0.0	8.7
Cycle Q Clear(g_c), s	0.7	0.0	9.7	7.6	0.0	8.3	2.0	5.8	5.9	0.6	0.0	8.7
Prop In Lane	1.00		0.81	1.00		0.32	1.00		0.30	1.00		0.01
Lane Grp Cap(c), veh/h	228	0	181	249	0	313	713	1078	1077	656	0	1082
V/C Ratio(X)	0.06	0.00	0.81	0.58	0.00	0.48	0.12	0.19	0.20	0.04	0.00	0.27
Avail Cap(c_a), veh/h	442	0	423	345	0	458	858	1078	1077	850	0	1082
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.81	0.00	0.81
Uniform Delay (d), s/veh	41.8	0.0	47.8	37.5	0.0	40.7	7.8	9.7	9.7	8.4	0.0	11.6
Incr Delay (d2), s/veh	0.0	0.0	3.3	0.8	0.0	0.4	0.0	0.4	0.4	0.0	0.0	0.5
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	0.3	0.0	4.1	3.4	0.0	3.7	0.7	2.3	2.3	0.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	0.0	51.1	38.3	0.0	41.1	7.8	10.1	10.1	8.5	0.0	12.1
LnGrp LOS	D	A	D	D	A	D	A	B	B	A	A	B
Approach Vol, veh/h		160			293			511			319	
Approach Delay, s/veh		50.4			39.7			9.7			11.8	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	71.2	14.1	16.7	11.0	68.2	6.8	23.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	32.5	15.5	28.5	15.5	32.5	15.5	28.5
Max Q Clear Time (g_c+I1), s	2.6	7.9	9.6	11.7	4.0	10.7	2.7	10.3
Green Ext Time (p_c), s	0.0	1.6	0.1	0.5	0.1	1.1	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	63	18	2	206	40	12
Future Vol, veh/h	63	18	2	206	40	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	21	2	242	47	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	210	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	125	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1498	-	769	973
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1498	-	767	973
Mov Cap-2 Maneuver	-	-	-	-	767	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	886	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	806	-	-	1498	-
HCM Lane V/C Ratio	0.076	-	-	0.002	-
HCM Control Delay (s)	9.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	75	186	1	4	22
Future Vol, veh/h	0	75	186	1	4	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	88	219	1	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	220	0	-	0	308	220
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	88	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1349	-	-	-	684	820
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1349	-	-	-	684	820
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1349	-	-	-	796
HCM Lane V/C Ratio	-	-	-	-	0.038
HCM Control Delay (s)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	5	4	177	10	12
Future Vol, veh/h	73	5	4	177	10	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	6	5	208	12	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	92	0	307	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1503	-	685	969
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1503	-	682	969
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	815	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	813	-	-	1503	-
HCM Lane V/C Ratio	0.032	-	-	0.003	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	60	1	4	127	9	9	24	13	11	2	45
Future Vol, veh/h	24	60	1	4	127	9	9	24	13	11	2	45
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	71	1	5	149	11	11	28	15	13	2	53
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	8.2	8.8	7.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	28%	3%	0%	19%
Vol Thru, %	52%	71%	97%	0%	3%
Vol Right, %	28%	1%	0%	100%	78%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	85	131	9	58
LT Vol	9	24	4	0	11
Through Vol	24	60	127	0	2
RT Vol	13	1	0	9	45
Lane Flow Rate	54	100	154	11	68
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.068	0.126	0.211	0.012	0.08
Departure Headway (Hd)	4.518	4.55	4.919	4.201	4.208
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	794	789	734	857	853
Service Time	2.537	2.569	2.619	1.901	2.226
HCM Lane V/C Ratio	0.068	0.127	0.21	0.013	0.08
HCM Control Delay	7.9	8.2	8.9	7	7.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.8	0	0.3

Appendix D
Pipeline Development Information

315 ELDEN ADAPTIVE REUSE
TRAFFIC IMPACT STUDY
TOWN OF HERNDON, VIRGINIA

1ST Submission

Prepared for:

Elden Street Owner, LLC (Applicant)

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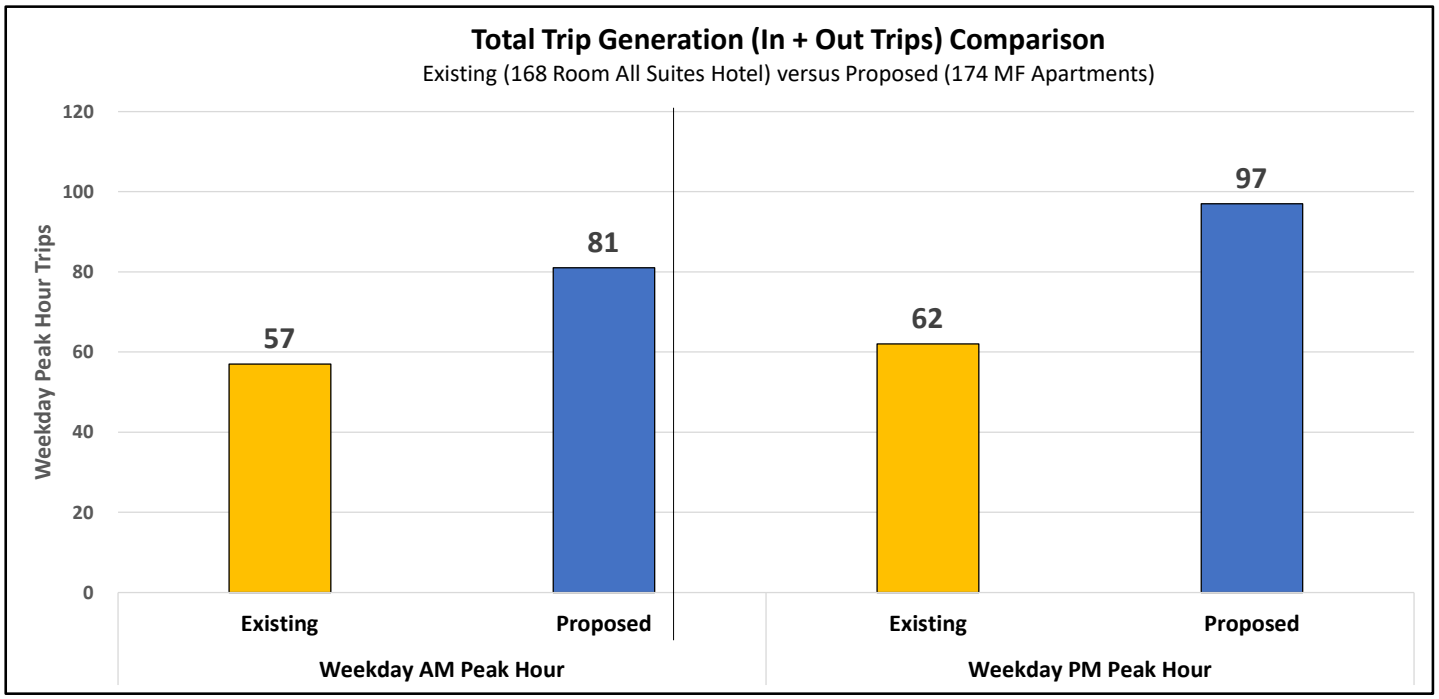
October 26, 2021

Table 5-1
315 Elden Adaptive Reuse
Trip Generation Analysis **(1) (2)**

Use	ITE Land Use (3) (4)	Land Use Code	Amount	Units (5)	Weekday AM Peak Hour of Adjacent Street In	AM Out	AM Total	PM Peak Hour of Adjacent Street In	PM Out	PM Total	Average Daily Trips
EXISTING: Residence Inn Marriott	All Suites Hotel	311	168	Rooms	30	27	57	30	32	62	755
PROPOSED: Apartments	Multifamily Housing (Low-Rise)	220	174	DU	19	62	81	61	36	97	1,275
Difference (Proposed Minus Existing)					**(11)**	**35**	**24**	**31**	**4**	**35**	**520**

Note(s):
(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation, 10th Edition.
(2) The weekday AM and PM peak hours are based on the peak hour of the adjacent street.
(3) An "All Suites Hotel" is a place of lodging that provides sleeping accomodations, a small restaurant and lounge, and small amounts of meeting space. Each suite includes a sitting room and separate bedroom; limited kitchen facilities are provided within the suite.
(4) "Multifamily Housing (Low-Rise)" includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors).
(5) DU = Dwelling Unit



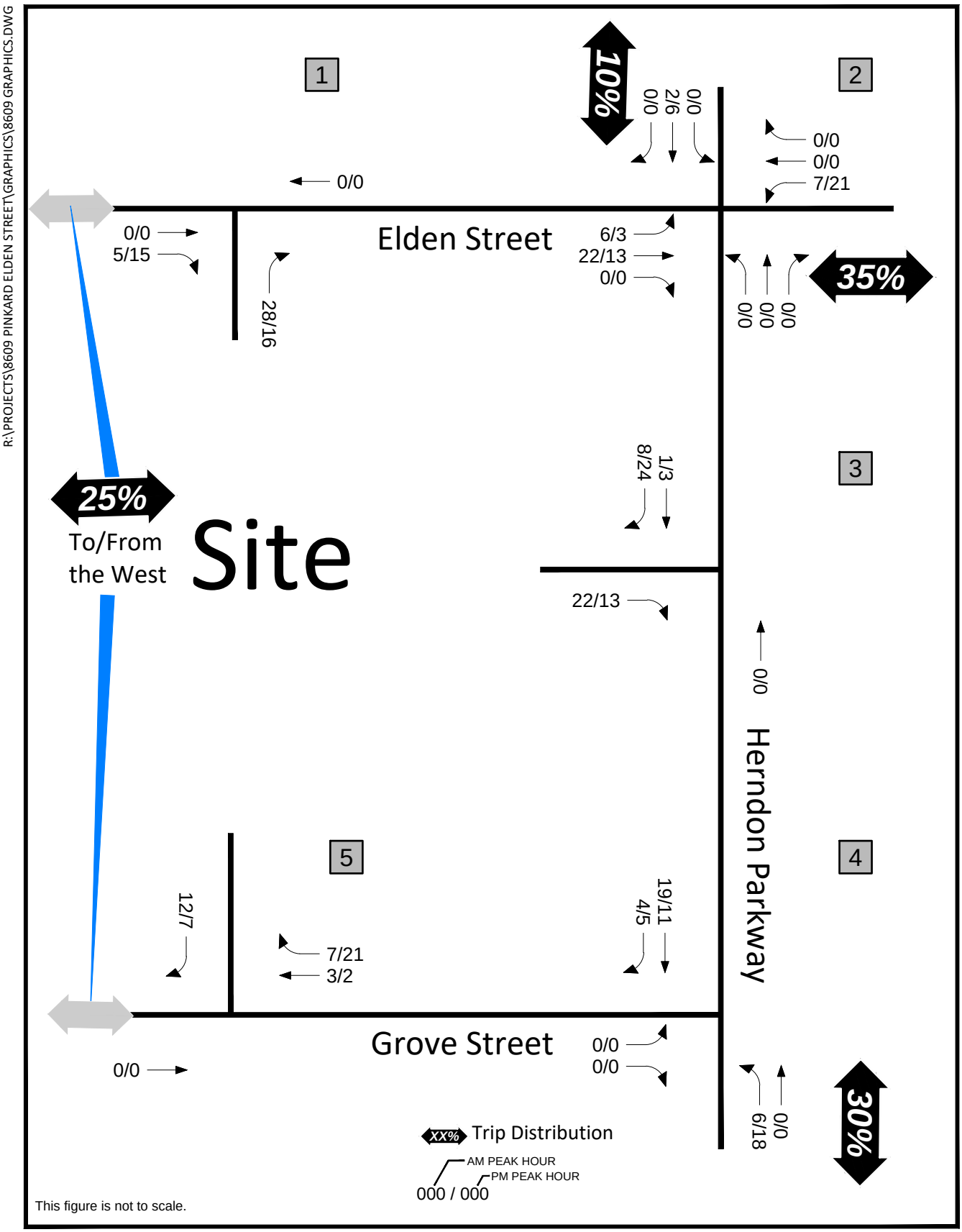


Figure 5-2
New Site Trip Assignments and Percent Distributions

NORTH

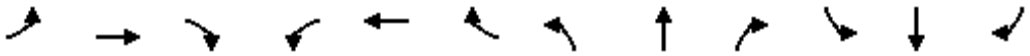
315 Elden Adaptive Reuse
Town of Herndon, Virginia

Appendix E
2026 Background Future
Conditions Synchro Worksheets

Queues
1: Van Buren & Elden Street

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	728	90	540	61	93	124	127	163
v/c Ratio	0.45	0.23	0.27	0.38	0.55	0.48	0.57	0.69
Control Delay	21.4	12.1	11.8	55.7	62.5	14.8	57.3	63.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	12.1	11.8	55.7	62.5	14.8	57.3	63.1
Queue Length 50th (ft)	178	25	92	45	70	0	93	120
Queue Length 95th (ft)	295	59	154	80	113	46	149	184
Internal Link Dist (ft)	455		505		445			398
Turn Bay Length (ft)		300		150				
Base Capacity (vph)	1622	391	1982	305	321	373	358	376
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	0.45	0.23	0.27	0.20	0.29	0.33	0.35	0.43

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	644	40	79	464	11	52	79	105	114	140	6
Future Volume (vph)	0	644	40	79	464	11	52	79	105	114	140	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.99		1.00	1.00		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)		3157		1593	3174		1593	1676	1425	1593	1666	
Flt Permitted		1.00		0.29	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3157		489	3174		1593	1676	1425	1593	1666	
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	0	685	43	90	527	12	61	93	124	127	156	7
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	111	0	2	0
Lane Group Flow (vph)	0	725	0	90	539	0	61	93	13	127	161	0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases	2			6					4			
Actuated Green, G (s)		61.5		74.9	74.9		12.2	12.2	12.2	16.9	16.9	
Effective Green, g (s)		61.5		74.9	74.9		12.2	12.2	12.2	16.9	16.9	
Actuated g/C Ratio		0.51		0.62	0.62		0.10	0.10	0.10	0.14	0.14	
Clearance Time (s)		6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		5.0		3.0	5.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1617		382	1981		161	170	144	224	234	
v/s Ratio Prot		c0.23		0.02	c0.17		0.04	c0.06		0.08	c0.10	
v/s Ratio Perm				0.13					0.01			
v/c Ratio		0.45		0.24	0.27		0.38	0.55	0.09	0.57	0.69	
Uniform Delay, d1		18.5		10.1	10.2		50.4	51.3	48.9	48.1	49.1	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9		0.3	0.3		1.5	3.6	0.3	3.3	8.2	
Delay (s)		19.4		10.4	10.5		51.9	54.8	49.1	51.4	57.2	
Level of Service		B		B	B		D	D	D	D	E	
Approach Delay (s)		19.4			10.5			51.6			54.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	737	46	65	577	12	0	0	30	0	0	5
Future Vol, veh/h	0	737	46	65	577	12	0	0	30	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	94	94	94	94	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	784	49	69	614	14	0	0	35	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	833	0	0	-	-	417	-	-	314
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	796	-	-	0	0	585	0	0	682
Stage 1	0	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	796	-	-	-	-	585	-	-	682
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	11.5	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	585	-	-	796	-	-	682
HCM Lane V/C Ratio	0.06	-	-	0.087	-	-	0.009
HCM Control Delay (s)	11.5	-	-	10	-	-	10.3
HCM Lane LOS	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0.3	-	-	0

Intersection	
Int Delay, s/veh	0.4

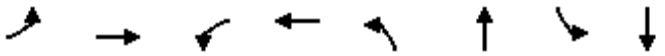
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1	5	42	93	21
Future Vol, veh/h	2	1	5	42	93	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	6	49	109	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	183	122	134	0	-	0
Stage 1	122	-	-	-	-	-
Stage 2	61	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	806	929	1451	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	803	929	1451	-	-	-
Mov Cap-2 Maneuver	803	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	962	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1451	-	841	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Queues
4: Van Buren & Grove Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	280	46	57	79	368	41	259
v/c Ratio	0.05	0.81	0.23	0.14	0.12	0.18	0.06	0.25
Control Delay	25.0	55.1	28.4	25.0	10.0	10.0	10.1	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	55.1	28.4	25.0	10.0	10.0	10.1	16.4
Queue Length 50th (ft)	8	170	24	21	20	47	10	97
Queue Length 95th (ft)	21	226	44	51	49	88	29	183
Internal Link Dist (ft)		204		184		118		445
Turn Bay Length (ft)	170				70		155	
Base Capacity (vph)	431	475	310	488	757	1999	752	1041
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	0.04	0.59	0.15	0.12	0.10	0.18	0.05	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	138	100	39	35	14	73	213	125	37	234	2
Future Volume (veh/h)	14	138	100	39	35	14	73	213	125	37	234	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	162	118	46	41	16	79	232	136	41	257	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	351	183	134	179	264	103	701	1227	692	660	1016	8
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
Prop Arrive On Green	0.02	0.18	0.18	0.05	0.21	0.21	0.06	0.56	0.56	0.05	0.55	0.55
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.9	0.0	54.6	35.1	0.0	35.9	9.3	12.3	12.4	9.4	0.0	13.5
Ln Grp LOS	C	A	D	D	A	D	A	B	B	A	A	B
Approach Vol, veh/h		296			103			447			300	
Approach Delay, s/veh		53.6			35.5			11.8			13.0	
Approach LOS		D			D			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phs Duration (G+Y+Rc), s	9.5	66.2	9.8	24.6	10.9	64.8	7.2	27.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green (Gmax), s	15.5	32.5	15.5	28.5	15.5	32.5	15.5	28.5
Max Allow Headway (MAH), s	2.8	4.4	2.9	4.5	2.8	4.2	2.9	4.5
Max Q Clear (g_c+I1), s	3.1	8.0	4.2	19.3	4.0	10.0	2.8	4.9
Green Ext Time (g_e), s	0.0	1.5	0.0	0.8	0.1	0.9	0.0	0.2
Prob of Phs Call (p_c)	0.71	1.00	0.75	1.00	0.91	1.00	0.39	1.00
Prob of Max Out (p_x)	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2189		1006		1853		1281

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1236		733		14		500

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	41	0	46	0	79	0	16	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.1	0.0	2.2	0.0	2.0	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	2.2	0.0	2.0	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1014	0	1099	0	1120	0	1346	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	60.3	0.0	20.1	0.0	60.3	0.0	20.1	0.0
Perm LT Serve Time (g_u), s	55.7	0.0	2.8	0.0	52.3	0.0	19.8	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.8	0.0	0.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	660	0	179	0	701	0	351	0
V/C Ratio (X)	0.06	0.00	0.26	0.00	0.11	0.00	0.05	0.00
Avail Cap (c_a), veh/h	830	0	344	0	849	0	558	0
Upstream Filter (I)	0.84	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	9.4	0.0	34.8	0.0	9.3	0.0	34.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	9.4	0.0	35.1	0.0	9.3	0.0	34.9	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.0	0.0	0.8	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	1.0	0.0	0.8	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.15	0.00	0.28	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T						
Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	187	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	996	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	996	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.3	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	181	0	280	0	259	0	57
Grp Sat Flow (s), veh/h/ln	0	1648	0	1738	0	1868	0	1780
Q Serve Time (g_s), s	0.0	6.0	0.0	17.3	0.0	8.0	0.0	2.9
Cycle Q Clear Time (g_c), s	0.0	6.0	0.0	17.3	0.0	8.0	0.0	2.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.75	0.00	0.42	0.00	0.01	0.00	0.28
Lane Grp Cap (c), veh/h	0	924	0	317	0	1024	0	366
V/C Ratio (X)	0.00	0.20	0.00	0.88	0.00	0.25	0.00	0.16
Avail Cap (c_a), veh/h	0	924	0	450	0	1024	0	461
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.84	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.9	0.0	43.8	0.0	13.0	0.0	35.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	10.8	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.4	0.0	54.6	0.0	13.5	0.0	35.9
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	7.5	0.0	3.3	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	8.4	0.0	3.4	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.92	0.00	0.20	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	234	37	12	88	6	2
Future Vol, veh/h	234	37	12	88	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	44	14	104	7	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	319	0	377	297
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	80	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1239	-	611	742
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1239	-	604	742
Mov Cap-2 Maneuver	-	-	-	-	604	-
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	633	-	-	1239	-
HCM Lane V/C Ratio	0.015	-	-	0.011	-
HCM Control Delay (s)	10.8	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	213	104	6	1	3
Future Vol, veh/h	22	213	104	6	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	251	122	7	1	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	129	0	-	0	429	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	303	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1457	-	-	-	583	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	749	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1457	-	-	-	571	924
Mov Cap-2 Maneuver	-	-	-	-	571	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	749	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	800
HCM Lane V/C Ratio	0.018	-	-	-	0.006
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	6	12	105	1	1
Future Vol, veh/h	202	6	12	105	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	7	14	124	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	394	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	152	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1321	-	611	797
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1321	-	604	797
Mov Cap-2 Maneuver	-	-	-	-	604	-
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	866	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	687	-	-	1321	-
HCM Lane V/C Ratio	0.003	-	-	0.011	-
HCM Control Delay (s)	10.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	169	16	16	67	14	6	9	4	15	35	41
Future Vol, veh/h	24	169	16	16	67	14	6	9	4	15	35	41
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	199	19	19	79	16	7	11	5	18	41	48
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

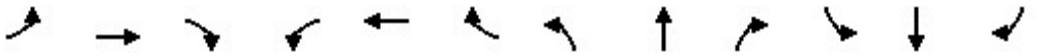
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.4	8.5	8	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	11%	19%	0%	16%
Vol Thru, %	47%	81%	81%	0%	38%
Vol Right, %	21%	8%	0%	100%	45%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	209	83	14	91
LT Vol	6	24	16	0	15
Through Vol	9	169	67	0	35
RT Vol	4	16	0	14	41
Lane Flow Rate	22	246	98	16	107
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.03	0.304	0.139	0.02	0.136
Departure Headway (Hd)	4.844	4.452	5.129	4.328	4.561
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	738	809	700	827	786
Service Time	2.879	2.477	2.856	2.055	2.588
HCM Lane V/C Ratio	0.03	0.304	0.14	0.019	0.136
HCM Control Delay	8	9.4	8.7	7.1	8.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.3	0.5	0.1	0.5

Queues
1: Van Buren & Elden Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	4	777	160	706	105	200	255	140	142
v/c Ratio	0.01	0.48	0.44	0.37	0.43	0.78	0.59	0.71	0.69
Control Delay	14.8	26.5	17.8	17.9	62.1	81.5	11.7	82.4	77.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	26.5	17.8	17.9	62.1	81.5	11.7	82.4	77.8
Queue Length 50th (ft)	1	260	64	172	94	189	0	134	131
Queue Length 95th (ft)	8	358	119	302	144	257	61	193	191
Internal Link Dist (ft)		455		505		445			398
Turn Bay Length (ft)	150		300		150				
Base Capacity (vph)	435	1625	364	1899	283	298	463	286	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.48	0.44	0.37	0.37	0.67	0.55	0.49	0.47

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	711	28	150	612	52	89	170	217	122	109	15
Future Volume (vph)	4	711	28	150	612	52	89	170	217	122	109	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3167		1593	3148		1593	1676	1425	1593	1646	
Flt Permitted	0.38	1.00		0.27	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	634	3167		449	3148		1593	1676	1425	1593	1646	
Peak-hour factor, PHF	0.95	0.95	0.95	0.94	0.94	0.94	0.85	0.85	0.85	0.87	0.87	0.87
Adj. Flow (vph)	4	748	29	160	651	55	105	200	255	140	125	17
RTOR Reduction (vph)	0	1	0	0	3	0	0	0	216	0	4	0
Lane Group Flow (vph)	4	776	0	160	703	0	105	200	39	140	138	0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases	2			6					4			
Actuated Green, G (s)	78.1	76.9		92.6	86.4		22.9	22.9	22.9	18.5	18.5	
Effective Green, g (s)	78.1	76.9		92.6	86.4		22.9	22.9	22.9	18.5	18.5	
Actuated g/C Ratio	0.52	0.51		0.62	0.58		0.15	0.15	0.15	0.12	0.12	
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	337	1623		358	1813		243	255	217	196	203	
v/s Ratio Prot	0.00	c0.24		c0.03	0.22		0.07	c0.12		c0.09	0.08	
v/s Ratio Perm	0.01			0.24					0.03			
v/c Ratio	0.01	0.48		0.45	0.39		0.43	0.78	0.18	0.71	0.68	
Uniform Delay, d1	17.3	23.6		14.1	17.4		57.7	61.2	55.4	63.2	62.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.0		0.9	0.6		1.2	14.6	0.4	11.7	9.1	
Delay (s)	17.3	24.6		15.0	18.0		58.9	75.7	55.8	74.9	72.0	
Level of Service	B	C		B	B		E	E	E	E	E	
Approach Delay (s)		24.6			17.4			63.5			73.4	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1036	16	25	948	14	0	0	80	0	0	19
Future Vol, veh/h	0	1036	16	25	948	14	0	0	80	0	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	91	91	95	95	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1138	18	26	998	16	0	0	94	0	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	1156	0	0	-	-	578	-	-	507
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	600	-	-	0	0	459	0	0	511
Stage 1	0	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	600	-	-	-	-	459	-	-	511
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	14.9	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	459	-	-	600	-	-	511
HCM Lane V/C Ratio	0.205	-	-	0.044	-	-	0.044
HCM Control Delay (s)	14.9	-	-	11.3	-	-	12.4
HCM Lane LOS	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	1.6

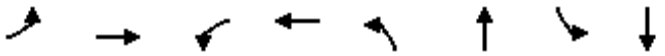
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	8	1	59	52	0
Future Vol, veh/h	15	8	1	59	52	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	9	1	69	61	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	132	61	61	0	-	0
Stage 1	61	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	862	1004	1542	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	861	1004	1542	-	-	-
Mov Cap-2 Maneuver	861	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1542	-	906	-	-
HCM Lane V/C Ratio	0.001	-	0.03	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Queues
4: Van Buren & Grove Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	152	148	164	92	436	24	304
v/c Ratio	0.07	0.66	0.59	0.49	0.13	0.20	0.04	0.27
Control Delay	31.2	27.5	44.8	41.0	7.0	10.1	7.1	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	27.5	44.8	41.0	7.0	10.1	7.1	12.8
Queue Length 50th (ft)	7	20	90	88	18	66	5	96
Queue Length 95th (ft)	20	71	132	156	45	114	16	186
Internal Link Dist (ft)		204		184		118		445
Turn Bay Length (ft)	170				70		155	
Base Capacity (vph)	327	515	290	475	781	2198	763	1133
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	0.04	0.30	0.51	0.35	0.12	0.20	0.03	0.27

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	25	103	132	102	44	87	352	62	22	281	2
Future Volume (veh/h)	11	25	103	132	102	44	87	352	62	22	281	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	29	123	148	115	49	92	371	65	24	302	2
Peak Hour Factor	0.85	0.85	0.84	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	223	35	150	252	226	96	700	1818	316	643	1065	7
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
Prop Arrive On Green	0.02	0.11	0.11	0.09	0.18	0.18	0.06	0.60	0.60	0.03	0.57	0.57
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.5	0.0	51.0	38.0	0.0	41.0	8.1	10.4	10.4	8.7	0.0	12.5
Ln Grp LOS	D	A	D	D	A	D	A	B	B	A	A	B
Approach Vol, veh/h		165			312			528			328	
Approach Delay, s/veh		50.2			39.6			10.0			12.2	
Approach LOS		D			D			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phs Duration (G+Y+Rc), s	8.1	70.6	14.3	17.0	11.1	67.6	6.8	24.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green (Gmax), s	15.5	32.5	15.5	28.5	15.5	32.5	15.5	28.5
Max Allow Headway (MAH), s	2.8	4.3	2.9	4.7	2.8	4.2	2.9	4.5
Max Q Clear (g_c+I1), s	2.6	8.2	9.8	12.0	4.2	11.1	2.7	11.2
Green Ext Time (g_e), s	0.0	1.7	0.1	0.5	0.1	1.1	0.0	0.5
Prob of Phs Call (p_c)	0.52	1.00	0.99	1.00	0.94	1.00	0.33	1.00
Prob of Max Out (p_x)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3027		311		1856		1245

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		526		1321		12		530

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	24	0	148	0	92	0	13	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	0.6	0.0	7.8	0.0	2.2	0.0	0.7	0.0
Cycle Q Clear Time (g_c), s	0.6	0.0	7.8	0.0	2.2	0.0	0.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	953	0	1235	0	1075	0	1222	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	63.1	0.0	14.5	0.0	63.6	0.0	12.5	0.0
Perm LT Serve Time (g_u), s	59.9	0.0	2.5	0.0	54.0	0.0	10.8	0.0
Perm LT Q Serve Time (g_ps), s	0.1	0.0	1.6	0.0	0.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	643	0	252	0	700	0	223	0
V/C Ratio (X)	0.04	0.00	0.59	0.00	0.13	0.00	0.06	0.00
Avail Cap (c_a), veh/h	835	0	345	0	845	0	437	0
Upstream Filter (I)	0.81	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	8.7	0.0	37.2	0.0	8.1	0.0	41.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	8.7	0.0	38.0	0.0	8.1	0.0	41.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	3.4	0.0	0.8	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	3.5	0.0	0.8	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.04	0.00	0.51	0.00	0.29	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T						
Lanes in Grp	0	1	0	0	0	0	0	0
Grp Vol (v), veh/h	0	216	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1067	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1067	0	0	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	220	0	152	0	304	0	164
Grp Sat Flow (s), veh/h/ln	0	1776	0	1633	0	1868	0	1775
Q Serve Time (g_s), s	0.0	6.2	0.0	10.0	0.0	9.1	0.0	9.2
Cycle Q Clear Time (g_c), s	0.0	6.2	0.0	10.0	0.0	9.1	0.0	9.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.30	0.00	0.81	0.00	0.01	0.00	0.30
Lane Grp Cap (c), veh/h	0	1067	0	186	0	1072	0	323
V/C Ratio (X)	0.00	0.21	0.00	0.82	0.00	0.28	0.00	0.51
Avail Cap (c_a), veh/h	0	1067	0	423	0	1072	0	460
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.81	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.0	0.0	47.6	0.0	11.9	0.0	40.6
Incr Delay (d2), s/veh	0.0	0.4	0.0	3.3	0.0	0.5	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.4	0.0	51.0	0.0	12.5	0.0	41.0
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	4.1	0.0	3.7	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	4.3	0.0	3.8	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.40	0.00	0.46	0.00	0.23	0.00	0.60
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	18	2	221	40	12
Future Vol, veh/h	65	18	2	221	40	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	21	2	260	47	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	97	0	221	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	134	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1495	-	757	971
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	879	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1495	-	755	971
Mov Cap-2 Maneuver	-	-	-	-	755	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	877	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1495	-
HCM Lane V/C Ratio	0.077	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	77	201	1	4	22
Future Vol, veh/h	0	77	201	1	4	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	91	236	1	5	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	237	0	-	0	328	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1330	-	-	-	666	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1330	-	-	-	666	802
Mov Cap-2 Maneuver	-	-	-	-	666	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1330	-	-	-	778
HCM Lane V/C Ratio	-	-	-	-	0.039
HCM Control Delay (s)	0	-	-	-	9.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	75	5	4	191	10	12
Future Vol, veh/h	75	5	4	191	10	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	6	5	225	12	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	94	0	326	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	235	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1500	-	668	967
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	804	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1500	-	665	967
Mov Cap-2 Maneuver	-	-	-	-	665	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	802	-	-	1500	-
HCM Lane V/C Ratio	0.032	-	-	0.003	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	62	1	4	140	9	9	24	13	11	2	46
Future Vol, veh/h	25	62	1	4	140	9	9	24	13	11	2	46
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	73	1	5	165	11	11	28	15	13	2	54
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	8.3	9	7.9	7.7
HCM LOS	A	A	A	A

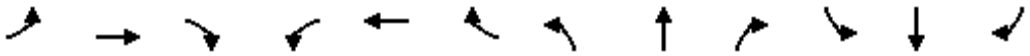
Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	28%	3%	0%	19%
Vol Thru, %	52%	70%	97%	0%	3%
Vol Right, %	28%	1%	0%	100%	78%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	88	144	9	59
LT Vol	9	25	4	0	11
Through Vol	24	62	140	0	2
RT Vol	13	1	0	9	46
Lane Flow Rate	54	104	169	11	69
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.069	0.132	0.232	0.012	0.082
Departure Headway (Hd)	4.569	4.573	4.927	4.211	4.253
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	785	785	734	855	843
Service Time	2.589	2.594	2.627	1.911	2.274
HCM Lane V/C Ratio	0.069	0.132	0.23	0.013	0.082
HCM Control Delay	7.9	8.3	9.1	7	7.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.9	0	0.3

Appendix F
2026 Total Future
Conditions Synchro Worksheets

Queues
1: Van Buren & Elden Street

Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	729	90	540	61	93	124	127	163
v/c Ratio	0.45	0.23	0.27	0.38	0.55	0.48	0.57	0.69
Control Delay	21.4	12.1	11.8	55.7	62.5	14.8	57.3	63.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	12.1	11.8	55.7	62.5	14.8	57.3	63.1
Queue Length 50th (ft)	178	25	92	45	70	0	93	120
Queue Length 95th (ft)	296	59	154	80	113	46	149	184
Internal Link Dist (ft)	455		505		445			398
Turn Bay Length (ft)		300		150				
Base Capacity (vph)	1622	391	1982	305	321	373	358	376
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	0.45	0.23	0.27	0.20	0.29	0.33	0.35	0.43

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	645	40	79	464	11	52	79	105	114	140	6
Future Volume (vph)	0	645	40	79	464	11	52	79	105	114	140	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.99		1.00	1.00		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)		3157		1593	3174		1593	1676	1425	1593	1666	
Flt Permitted		1.00		0.29	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		3157		488	3174		1593	1676	1425	1593	1666	
Peak-hour factor, PHF	0.94	0.94	0.94	0.88	0.88	0.88	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	0	686	43	90	527	12	61	93	124	127	156	7
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	111	0	2	0
Lane Group Flow (vph)	0	726	0	90	539	0	61	93	13	127	161	0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases	2			6					4			
Actuated Green, G (s)		61.5		74.9	74.9		12.2	12.2	12.2	16.9	16.9	
Effective Green, g (s)		61.5		74.9	74.9		12.2	12.2	12.2	16.9	16.9	
Actuated g/C Ratio		0.51		0.62	0.62		0.10	0.10	0.10	0.14	0.14	
Clearance Time (s)		6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		5.0		3.0	5.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1617		381	1981		161	170	144	224	234	
v/s Ratio Prot		c0.23		0.02	c0.17		0.04	c0.06		0.08	c0.10	
v/s Ratio Perm				0.13					0.01			
v/c Ratio		0.45		0.24	0.27		0.38	0.55	0.09	0.57	0.69	
Uniform Delay, d1		18.5		10.1	10.2		50.4	51.3	48.9	48.1	49.1	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9		0.3	0.3		1.5	3.6	0.3	3.3	8.2	
Delay (s)		19.4		10.4	10.5		51.9	54.8	49.1	51.4	57.2	
Level of Service		B		B	B		D	D	D	D	E	
Approach Delay (s)		19.4			10.5			51.6			54.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	737	47	67	577	12	0	0	31	0	0	5
Future Vol, veh/h	0	737	47	67	577	12	0	0	31	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	94	94	94	94	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	784	50	71	614	14	0	0	36	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	834	0	0	-	-	417	-	-	314
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	795	-	-	0	0	585	0	0	682
Stage 1	0	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	795	-	-	-	-	585	-	-	682
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	11.6	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	585	-	-	795	-	-	682
HCM Lane V/C Ratio	0.062	-	-	0.09	-	-	0.009
HCM Control Delay (s)	11.6	-	-	10	-	-	10.3
HCM Lane LOS	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0.3	-	-	0

Intersection	
Int Delay, s/veh	0.4

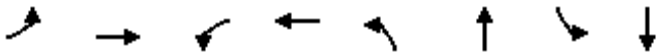
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1	5	43	95	22
Future Vol, veh/h	2	1	5	43	95	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	6	51	112	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	188	125	138	0	-	0
Stage 1	125	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	801	926	1446	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	798	926	1446	-	-	-
Mov Cap-2 Maneuver	798	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.8	0
HCM LOS	A		

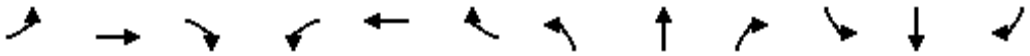
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	837	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Queues
4: Van Buren & Grove Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	282	47	57	79	370	41	259
v/c Ratio	0.05	0.81	0.23	0.13	0.12	0.19	0.06	0.25
Control Delay	24.9	55.0	28.4	24.9	10.1	9.9	10.2	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	55.0	28.4	24.9	10.1	9.9	10.2	16.5
Queue Length 50th (ft)	8	171	24	21	20	47	10	97
Queue Length 95th (ft)	21	228	44	51	49	88	29	183
Internal Link Dist (ft)		204		184		118		445
Turn Bay Length (ft)	170				70		155	
Base Capacity (vph)	433	475	310	489	754	1992	749	1037
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	0.04	0.59	0.15	0.12	0.10	0.19	0.05	0.25

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	139	100	40	35	14	73	213	127	37	234	2
Future Volume (veh/h)	14	139	100	40	35	14	73	213	127	37	234	2
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		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	16	164	118	47	41	16	79	232	138	41	257	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	186	134	180	266	104	699	1217	697	657	1013	8
Arrive On Green	0.02	0.18	0.18	0.05	0.21	0.21	0.06	0.56	0.56	0.05	0.55	0.55
Sat Flow, veh/h	1781	1012	728	1781	1281	500	1781	2177	1246	1781	1853	14
Grp Volume(v), veh/h	16	0	282	47	0	57	79	188	182	41	0	259
Grp Sat Flow(s),veh/h/ln	1781	0	1739	1781	0	1780	1781	1777	1646	1781	0	1868
Q Serve(g_s), s	0.8	0.0	17.4	2.3	0.0	2.9	2.0	5.7	6.0	1.1	0.0	8.0
Cycle Q Clear(g_c), s	0.8	0.0	17.4	2.3	0.0	2.9	2.0	5.7	6.0	1.1	0.0	8.0
Prop In Lane	1.00		0.42	1.00		0.28	1.00		0.76	1.00		0.01
Lane Grp Cap(c), veh/h	353	0	319	180	0	369	699	993	920	657	0	1021
V/C Ratio(X)	0.05	0.00	0.88	0.26	0.00	0.15	0.11	0.19	0.20	0.06	0.00	0.25
Avail Cap(c_a), veh/h	560	0	451	344	0	461	847	993	920	827	0	1021
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.84	0.00	0.84
Uniform Delay (d), s/veh	34.8	0.0	43.8	34.7	0.0	35.7	9.3	12.0	12.0	9.5	0.0	13.1
Incr Delay (d2), s/veh	0.0	0.0	11.0	0.3	0.0	0.1	0.0	0.4	0.5	0.0	0.0	0.5
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	0.3	0.0	8.5	1.0	0.0	1.3	0.8	2.3	2.3	0.4	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	54.8	35.0	0.0	35.8	9.3	12.4	12.5	9.5	0.0	13.6
LnGrp LOS	C	A	D	C	A	D	A	B	B	A	A	B
Approach Vol, veh/h		298			104			449			300	
Approach Delay, s/veh		53.7			35.4			11.9			13.1	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	66.0	9.8	24.7	10.9	64.6	7.2	27.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	32.5	15.5	28.5	15.5	32.5	15.5	28.5
Max Q Clear Time (g_c+I1), s	3.1	8.0	4.3	19.4	4.0	10.0	2.8	4.9
Green Ext Time (p_c), s	0.0	1.5	0.0	0.8	0.1	0.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	236	39	13	89	7	2
Future Vol, veh/h	236	39	13	89	7	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	46	15	105	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	324	0	384	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1234	-	605	738
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	931	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1234	-	597	738
Mov Cap-2 Maneuver	-	-	-	-	597	-
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	919	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	623	-	-	1234	-
HCM Lane V/C Ratio	0.017	-	-	0.012	-
HCM Control Delay (s)	10.9	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	214	105	6	1	3
Future Vol, veh/h	23	214	105	6	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	252	124	7	1	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	131	0	-	0	434	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1454	-	-	-	579	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	747	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1454	-	-	-	566	922
Mov Cap-2 Maneuver	-	-	-	-	566	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	747	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1454	-	-	-	797
HCM Lane V/C Ratio	0.019	-	-	-	0.006
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	6	13	106	1	1
Future Vol, veh/h	202	6	13	106	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	7	15	125	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	397	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	155	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1321	-	608	797
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	873	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1321	-	601	797
Mov Cap-2 Maneuver	-	-	-	-	601	-
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	685	-	-	1321	-
HCM Lane V/C Ratio	0.003	-	-	0.012	-
HCM Control Delay (s)	10.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	170	16	17	68	14	6	9	4	15	36	42
Future Vol, veh/h	24	170	16	17	68	14	6	9	4	15	36	42
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	200	19	20	80	16	7	11	5	18	42	49
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

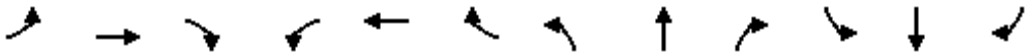
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	9.5	8.5	8	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	11%	20%	0%	16%
Vol Thru, %	47%	81%	80%	0%	39%
Vol Right, %	21%	8%	0%	100%	45%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	210	85	14	93
LT Vol	6	24	17	0	15
Through Vol	9	170	68	0	36
RT Vol	4	16	0	14	42
Lane Flow Rate	22	247	100	16	109
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.03	0.306	0.143	0.02	0.139
Departure Headway (Hd)	4.858	4.462	5.14	4.336	4.57
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	736	805	698	825	784
Service Time	2.893	2.486	2.868	2.063	2.597
HCM Lane V/C Ratio	0.03	0.307	0.143	0.019	0.139
HCM Control Delay	8	9.5	8.7	7.2	8.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.3	0.5	0.1	0.5

Queues
1: Van Buren & Elden Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	4	785	160	706	95	200	255	140	142
v/c Ratio	0.01	0.48	0.45	0.37	0.39	0.78	0.59	0.71	0.69
Control Delay	14.8	26.6	17.9	17.9	60.8	81.5	11.7	82.4	77.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	26.6	17.9	17.9	60.8	81.5	11.7	82.4	77.8
Queue Length 50th (ft)	1	262	64	172	84	189	0	134	131
Queue Length 95th (ft)	8	362	119	302	132	257	61	193	191
Internal Link Dist (ft)		455		505		445			398
Turn Bay Length (ft)	150		300		150				
Base Capacity (vph)	435	1626	361	1899	283	298	463	286	299
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.48	0.44	0.37	0.34	0.67	0.55	0.49	0.47

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	715	30	150	612	52	81	170	217	122	109	15
Future Volume (vph)	4	715	30	150	612	52	81	170	217	122	109	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3166		1593	3148		1593	1676	1425	1593	1646	
Flt Permitted	0.38	1.00		0.26	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	634	3166		444	3148		1593	1676	1425	1593	1646	
Peak-hour factor, PHF	0.95	0.95	0.95	0.94	0.94	0.94	0.85	0.85	0.85	0.87	0.87	0.87
Adj. Flow (vph)	4	753	32	160	651	55	95	200	255	140	125	17
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	216	0	4	0
Lane Group Flow (vph)	4	783	0	160	703	0	95	200	39	140	138	0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases	2			6					4			
Actuated Green, G (s)	78.1	76.9		92.6	86.4		22.9	22.9	22.9	18.5	18.5	
Effective Green, g (s)	78.1	76.9		92.6	86.4		22.9	22.9	22.9	18.5	18.5	
Actuated g/C Ratio	0.52	0.51		0.62	0.58		0.15	0.15	0.15	0.12	0.12	
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	337	1623		356	1813		243	255	217	196	203	
v/s Ratio Prot	0.00	c0.25		c0.03	0.22		0.06	c0.12		c0.09	0.08	
v/s Ratio Perm	0.01			0.25					0.03			
v/c Ratio	0.01	0.48		0.45	0.39		0.39	0.78	0.18	0.71	0.68	
Uniform Delay, d1	17.3	23.7		14.2	17.4		57.3	61.2	55.4	63.2	62.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.0		0.9	0.6		1.0	14.6	0.4	11.7	9.1	
Delay (s)	17.3	24.7		15.1	18.0		58.3	75.7	55.8	74.9	72.0	
Level of Service	B	C		B	B		E	E	E	E	E	
Approach Delay (s)		24.7			17.5			63.5			73.4	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1036	20	37	948	14	0	0	64	0	0	19
Future Vol, veh/h	0	1036	20	37	948	14	0	0	64	0	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	125	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	91	91	95	95	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1138	22	39	998	16	0	0	75	0	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	1160	0	0	-	-	580	-	-	507
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.14	-	-	-	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.22	-	-	-	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	598	-	-	0	0	458	0	0	511
Stage 1	0	-	-	-	-	-	0	0	-	0	0	-
Stage 2	0	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	598	-	-	-	-	458	-	-	511
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	14.4	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	458	-	-	598	-	-	511
HCM Lane V/C Ratio	0.164	-	-	0.065	-	-	0.044
HCM Control Delay (s)	14.4	-	-	11.4	-	-	12.4
HCM Lane LOS	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

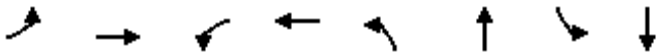
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	6	2	48	63	4
Future Vol, veh/h	10	6	2	48	63	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	7	2	56	74	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	137	77	79	0	-	0
Stage 1	77	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	856	984	1519	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	855	984	1519	-	-	-
Mov Cap-2 Maneuver	855	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1519	-	899	-	-
HCM Lane V/C Ratio	0.002	-	0.021	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Queues
4: Van Buren & Grove Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	157	134	149	92	447	26	304
v/c Ratio	0.06	0.67	0.56	0.45	0.13	0.20	0.04	0.27
Control Delay	31.2	28.4	43.7	40.6	7.0	10.0	7.0	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	28.4	43.7	40.6	7.0	10.0	7.0	12.7
Queue Length 50th (ft)	7	23	81	81	18	66	5	95
Queue Length 95th (ft)	20	75	121	143	46	117	18	188
Internal Link Dist (ft)		204		184		118		445
Turn Bay Length (ft)	170				70		155	
Base Capacity (vph)	327	516	287	475	786	2202	759	1139
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	0.04	0.30	0.47	0.31	0.12	0.20	0.03	0.27

Intersection Summary

HCM 6th Signalized Intersection Summary
4: Van Buren & Grove Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	29	103	119	97	36	87	352	72	24	281	2
Future Volume (veh/h)	11	29	103	119	97	36	87	352	72	24	281	2
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		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	13	34	123	134	109	40	92	371	76	26	302	2
Peak Hour Factor	0.85	0.85	0.84	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	41	150	239	231	85	706	1776	360	642	1074	7
Arrive On Green	0.02	0.12	0.12	0.08	0.18	0.18	0.06	0.60	0.60	0.03	0.58	0.58
Sat Flow, veh/h	1781	355	1284	1781	1305	479	1781	2943	597	1781	1856	12
Grp Volume(v), veh/h	13	0	157	134	0	149	92	222	225	26	0	304
Grp Sat Flow(s),veh/h/ln	1781	0	1639	1781	0	1784	1781	1777	1763	1781	0	1868
Q Serve(g_s), s	0.7	0.0	10.3	7.0	0.0	8.2	2.2	6.2	6.4	0.6	0.0	9.0
Cycle Q Clear(g_c), s	0.7	0.0	10.3	7.0	0.0	8.2	2.2	6.2	6.4	0.6	0.0	9.0
Prop In Lane	1.00		0.78	1.00		0.27	1.00		0.34	1.00		0.01
Lane Grp Cap(c), veh/h	229	0	191	239	0	316	706	1072	1064	642	0	1081
V/C Ratio(X)	0.06	0.00	0.82	0.56	0.00	0.47	0.13	0.21	0.21	0.04	0.00	0.28
Avail Cap(c_a), veh/h	443	0	425	345	0	462	850	1072	1064	831	0	1081
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.81	0.00	0.81
Uniform Delay (d), s/veh	41.2	0.0	47.5	37.3	0.0	40.6	7.9	9.9	9.9	8.4	0.0	11.7
Incr Delay (d2), s/veh	0.0	0.0	3.3	0.8	0.0	0.4	0.0	0.4	0.5	0.0	0.0	0.5
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	0.3	0.0	4.4	3.1	0.0	3.7	0.8	2.5	2.5	0.2	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	0.0	50.8	38.1	0.0	41.0	7.9	10.3	10.4	8.4	0.0	12.2
LnGrp LOS	D	A	D	D	A	D	A	B	B	A	A	B
Approach Vol, veh/h		170			283			539			330	
Approach Delay, s/veh		50.1			39.6			9.9			11.9	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	70.9	13.5	17.3	11.1	68.1	6.8	24.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	32.5	15.5	28.5	15.5	32.5	15.5	28.5
Max Q Clear Time (g_c+I1), s	2.6	8.4	9.0	12.3	4.2	11.0	2.7	10.2
Green Ext Time (p_c), s	0.0	1.7	0.1	0.5	0.1	1.1	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	26	5	208	27	9
Future Vol, veh/h	73	26	5	208	27	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	31	6	245	32	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	117	0	237	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	135	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1470	-	741	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1470	-	737	953
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	781	-	-	1470	-
HCM Lane V/C Ratio	0.054	-	-	0.004	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	77	199	2	2	14
Future Vol, veh/h	5	77	199	2	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	91	234	2	2	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	236	0	-	0	338	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	103	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1331	-	-	-	658	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	921	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	655	804
Mov Cap-2 Maneuver	-	-	-	-	655	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	921	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	782
HCM Lane V/C Ratio	0.004	-	-	-	0.024
HCM Control Delay (s)	7.7	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	7	7	192	8	8
Future Vol, veh/h	72	7	7	192	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	8	8	226	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	93	0	331	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	242	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1501	-	664	969
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	798	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	660	969
Mov Cap-2 Maneuver	-	-	-	-	660	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	785	-	-	1501	-
HCM Lane V/C Ratio	0.024	-	-	0.005	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	57	2	7	144	10	6	16	9	9	10	49
Future Vol, veh/h	22	57	2	7	144	10	6	16	9	9	10	49
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	67	2	8	169	12	7	19	11	11	12	58
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	8.2	9	7.8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	19%	27%	5%	0%	13%
Vol Thru, %	52%	70%	95%	0%	15%
Vol Right, %	29%	2%	0%	100%	72%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	81	151	10	68
LT Vol	6	22	7	0	9
Through Vol	16	57	144	0	10
RT Vol	9	2	0	10	49
Lane Flow Rate	36	95	178	12	80
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.046	0.121	0.237	0.013	0.095
Departure Headway (Hd)	4.576	4.554	4.811	4.086	4.257
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	785	790	735	861	845
Service Time	2.588	2.568	2.61	1.884	2.266
HCM Lane V/C Ratio	0.046	0.12	0.242	0.014	0.095
HCM Control Delay	7.8	8.2	9.1	6.9	7.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.9	0	0.3

TOWN OF HERNDON, VIRGINIA

RESOLUTION

AUGUST 8, 2023

Resolution- to authorize the Reserve of Fiscal Year (FY) 2023 funding for ongoing operations & maintenance, Capital Projects, ARPA Projects, and for Outstanding Encumbrances on June 30, 2023 for the FY 2024 Adopted Budget.

The Town of Herndon closes its fiscal year (FY) on June 30, 2023. The FY 2023 Annual Budget, and subsequent amendments to the annual budget, authorized and appropriated various monies for specific activities which were expected to be concluded at the close of the fiscal year. It is the intent of the Town Council to reserve, encumber, and re-appropriate these funds into the next fiscal year.

THEREFORE, BE IT RESOLVED by the Town Council of the Town of Herndon, Virginia, that:

1. The reserved or encumbered amounts for the fiscal year ended June 30, 2023 is established and re-appropriated as listed on the attached Schedules for Fiscal Year 2024 Budget.

2. This resolution is effective retroactively to June 30, 2023.

FY 2024 Supporting Schedules for reserves, encumbrances, and requests

Schedule 1 – Operations & Maintenance Reserves

Fund	Dept	Cost Center	Amount	Description
General Fund	Department of Public Works	0010885/0886/0893	$452,000	Paving, Traffic, Playground
General Fund	Community Development	0010660	$152,000	TRG Professional Services
General Fund	Finance	0010550	$54,500	Software implementations
General Fund	Non-Departmental	0019797	$4,000,000	Downtown Parking
		Total O&M	**$4,658,500**	

Schedule 2 – Capital Reserves

Fund	Account Number	Description	Amount
Capital Projects	015-08-80-000-491710	Stream Restoration South	26,210
Capital Projects	015-08-85-000-491050	Gateway/Wayfinding/Historical	53,807
Capital Projects	015-08-86-000-491630	Sidewalks Trails & Bicycles	294,481
Capital Projects	015-08-86-000-491640	Central Elden Walkability	1,087,000
Capital Projects	015-08-86-000-491650	Elden-Center St Intersection	402,770
Capital Projects	015-08-86-000-491740	H Parkway/VanBuren Intersection	106,772
Capital Projects	015-08-86-000-491780	Trails to Herndon Metro	36,428
Capital Projects	015-08-86-000-491790	Veh/Ped Access to Metro	16,610
Capital Projects	015-08-86-000-491810	Van Buren Complete Streets	177,489
Capital Projects	015-08-86-000-491820	Worldgate Ext-30%	150,000
Capital Projects	015-08-86-000-491830	Elden/Monroe Intersection	1,328,377
Capital Projects	015-08-86-000-491850	Sterling Road Improvements	204,000
Capital Projects	015-08-86-000-491870	Herndon Pkwy/Sunset Intersection	75,000
Capital Projects	015-99-99-000-490080	Stormwater Drain Improve	452,088
Capital Projects	015-99-99-000-491900	Arts Center Project	462,500
		Total Capital Projects Fund	**$4,873,532**
Golf Fund	007-04-22-000-480020	Master Plan Project	1,126,240
		Total Capital Projects and Golf	**$5,999,772**

Schedule 3 – ARPA Reserves

Fund	Description	Amount
ARPA	HCC Backlog (Maint & Repair)	$507,767
ARPA	HMC Town Hall Backlog (Maint & Repair)	975,818
ARPA	IT Infrastructure	508,914
ARPA	Aquatics Center Program	353,010
ARPA	Tennis Court and Bubble	211,130
ARPA	Ball/Sports Field & Park Improvement	41,872
ARPA	Park Equipment Replacement	278,281
ARPA	HPD Parking Lot Expansion	200,960
ARPA	HPD Special Police Equipment	13,001
ARPA	HPD Records Management System	25,093
ARPA	Convert of AutoCAD	100,000
ARPA	Town Shop Improvement – 1479 Backlog	50,000
ARPA	Town Hall, Square & Depot Improvement	250,000
ARPA	Fire Alarm System at HMC	618,915
ARPA	Town-wide Security Initiatives	342,682
ARPA	Underground Storage Tank	456,267
ARPA	Sewer Vehicle/Equipment	1,275
ARPA	Sewer Utility Master Plan	1,116,000
ARPA	Sewer Main Relining	2,382
ARPA	Water Utility Master Plan	198,000
ARPA	Water Facility Security Improvement	485,000
ARPA	DPW Vehicles/Equipment	59,608
ARPA	Cemetery Expansion	900,000
ARPA	Net adjustment to total project list	260,488
	Total ARPA reserves	**$7,956,463**

Schedule 4 – Estimated Outstanding Encumbrances at June 30, 2022

General Fund	$1,213,797
Water & Sewer Fund	1,170,052
Chestnut Grove Cemetery Fund	171,802
Herndon Centennial Golf Course Fund	195,300
Capital Projects Fund	2,920,855
ARPA Fund	12,526,175
Total Estimated Encumbrances	**$18,197,981**

TOWN OF HERNDON, VIRGINIA

ORDINANCE

AUGUST 8, 2023

Ordinance- **to amend the Fiscal Year (FY) 2024 Adopted Budget for the General Fund, Water and Sewer Fund, Chestnut Grove Cemetery Fund, Herndon Centennial Golf Fund, Capital Projects Fund, and ARPA Fund.**

BE IT ORDAINED, by the Town Council of the Town of Herndon, Virginia, that:

1. The financial adjustments to the FY 2024 Budget, as described in Attachment A, FY 2024 Budget Amendment Number 1, are approved.

2. This ordinance shall be effective on and after the date of its adoption.

TOWN OF HERNDON, VA
FY 2024

BUDGET AMENDMENT NUMBER 1

The following appropriations and revenue sources are proposed for amendment:

GENERAL FUND		
Expenditure Appropriations increasing:		
Estimated Outstanding Encumbrances at June 30, 2023	$1,213,797	
Authorized Reserves at June 30, 2023	$4,658,500	
Amendment Request: Comprehensive Plan	$720,000	
Total General Fund Appropriation increase:		$6,592,297
Revenue Account Budgets increasing:		
General Fund – Grant Revenue	$720,000	
General Fund – Use of Fund Balance	$5,872,297	
Total General Fund Revenue Increase		$6,592,297

WATER & SEWER FUND		
Expenditure Appropriations increasing:		
Estimated Outstanding Encumbrances at June 30, 2023	$1,170,052	
Authorized Reserves at June 30, 2023	$0	
Total Water & Sewer Appropriation Increase:		$1,170,052
Revenue Account Budgets increasing:		
Use of Fund Net Position	$1,170,052	
Total Water & Sewer Revenue Increase:		$1,170,052

CHESTNUT GROVE CEMETERY FUND		
Expenditure Appropriations increasing:		
Estimated Outstanding Encumbrances at June 30, 2023	$171,802	
Authorized Reserves at June 30, 2023	$0	
Total Cemetery Fund Appropriation Increase:		$171,802
Revenue Account Budgets increasing:		
Use of Fund Net Position	$171,802	
Total Cemetery Fund Revenue Increase:		$171,802

FY 2024 Budget Amendment Number 1

HERNDON CENTENNIAL GOLF COURSE FUND		
Expenditure Appropriations Increasing:		
Estimated Outstanding Encumbrances at June 30, 2023	$195,300	
Authorized Reserves at June 30, 2023	$1,126,240	
Amendment Request: Master Plan Project	$573,560	
Total Golf Course Fund Appropriation Increase:		$1,895,100
Revenue Account Budgets increasing:		
Use of Fund Net Position	$1,895,100	
Total Golf Course Fund Revenue Increase:		$1,895,100

CAPITAL PROJECTS FUNDS		
Expenditure Appropriations increasing:		
Estimated Outstanding Encumbrances at June 30, 2023	$2,920,855	
Authorized Reserves at June 30, 2023	$4,873,532	
Total Capital Projects Funds Appropriation Increase:		$7,794,387
Revenue Account Budgets increasing:		
Use of Fund Balance	$7,794,387	
Total Capital Project Revenue Increasing:		$7,794,387

ARPA FUNDS		
Expenditure Appropriations increasing:		
Estimated Outstanding Encumbrances at June 30, 2023	$12,526,175	
Authorized Reserves at June 30, 2023	$7,956,463	
Amendments to project list estimates, net	$0	
Total ARPA Funds Appropriation Increase:		$20,482,638
Revenue Account Budgets increasing:		
Use of Fund Balance	$20,482,638	
Total ARPA Revenue Increasing:		$20,482,638

TOWN OF HERNDON, VIRGINIA

RESOLUTION

August 8, 2023

Resolution- to endorse and authorize an FY2025-FY2026 Transportation Alternatives Program (TAP) funding application to the Virginia Department of Transportation for the *'Spring Street ADA Sidewalk Improvements'* project.

The Transportation Alternatives Program for fiscal years 2025 and 2026 is administered by the Virginia Department of Transportation to provide funding for pedestrian and bicycle facilities and community improvements. A 20% local match is required under the program.

The town desires to finalize the processing of a Transportation Alternatives Program application of up to $2,500,000 of which 20% or up to $625,000 is to serve as the town's local match to be directed to fund the 'Spring Street ADA Sidewalk Improvements' project.

This resolution evidences support for this application for funds and commits to and supports the town's match of 20% of the amount awarded, to be divided equally across FY 2025 and FY 2026.

The town's local match will comprise town general funds, town bond funds, and/or Northern Virginia Transportation Authority (NVTA) Local Revenue funds within the two fiscal years after funding allocation.

THEREFORE, BE IT RESOLVED by the Town Council for the Town of Herndon, Virginia, that:

1. Town Council supports and authorizes this application to be submitted for the allocation of up to $2,500,000 through the Transportation Alternatives-Set-Aside funding Program.

2. The Town Manager is authorized to execute project administration agreements and/or addendums for any approved Transportation Alternative Program projects with the Virginia Department of Transportation.

TOWN OF HERNDON, VIRGINIA

RESOLUTION

August 8, 2023

Resolution- to endorse and authorize an FY2025-FY2026 Transportation Alternatives Program (TAP) funding application to the Virginia Department of Transportation for the *'Central Elden Walkability Improvements'* project.

The Transportation Alternatives Program for fiscal years 2025 and 2026 is administered by the Virginia Department of Transportation to provide funding for pedestrian and bicycle facilities and community improvements. A 20% local match is required under the program.

The town desires to finalize the processing of a Transportation Alternatives Program application of up to $2,500,000 of which 20% or up to $625,000 is to serve as the town's local match to be directed to fund the 'Central Elden Walkability Improvements' project.

This resolution evidences support for this application for funds and commits to and supports the town's match of 20% of the amount awarded, to be divided equally across FY2025 and FY2026.

The Town's local match will comprise town general funds, town bond funds, and/or Northern Virginia Transportation Authority (NVTA) Local Revenue funds within the two fiscal years after funding allocation

THEREFORE, BE IT RESOLVED by the Town Council for the Town of Herndon, Virginia, that:

1. Town Council supports and authorizes this application to be submitted for the allocation of up to $2,500,000 through the Transportation Alternatives Program.

2. The Town Manager is authorized to execute project administration agreements and/or addendums for any approved Transportation Alternative Program projects with the Virginia Department of Transportation.

TOWN OF HERNDON, VIRGINIA

RESOLUTION

AUGUST 8, 2023

Resolution– to approve and authorize the Mayor to sign a Sublicense Agreement between Town of Herndon and Arts Herndon, Inc., for space at 750 Center Street.

BE IT RESOLVED by the Town Council for the Town of Herndon, Virginia that:

1. The Sublicense dated June 30, 2023, between the Town of Herndon ("Town") and Arts Herndon, Inc ("Sublicensee") is approved.

2. The Mayor is authorized to sign and deliver this Sublicense and any other instrument necessary to evidence or effectuate the Sublicense.

SUBLICENSE AGREEMENT

THIS SUBLICENCE made on the 30th day of June, 2023, by and between THE TOWN OF HERNDON, a municipal corporation (Landlord) and ARTS HERNDON, INC., a Virginia non-profit, charitable corporation (Tenant).

Recitals

Landlord is the licensee of an approximately 6,000 square foot building and surrounding premises located at 750 Center Street, Herndon, Virginia, as shown on Exhibit A attached and incorporated herein pursuant to that certain "Arts Space License Agreement" dated December 15, 2020.

Landlord and Tenant have agreed that Tenant will sublicense from Landlord, in consideration of the rent and other benefits, and under the terms and conditions specified here, an approximately 3,210 square foot portion of the building, outside lawn area, and gravel parking spaces, which shall be to the east and south side of the building commonly known as 750 Center Street, as generally shown on Exhibit A, which shall be called "Premises." Use of parking spaces is non-exclusive and must conform to the Zoning Ordinance (2017), Herndon Town Code.

THEREFORE, the parties agree as follows:

1. Commencement and Ending Date of Term. Beginning July 1, 2023, Landlord sublicenses the Premises to Tenant according to the terms of this sublicense. The Tenant may remain in the Premises on a month-to-month basis with the Tenant having the right to terminate the Sublicense upon 30 days prior written notice to the Landlord, and the Landlord having the right to terminate the Sublicense upon 30 days prior written notice to the Tenant. In any event, the term of this sublicense shall expire June 30, 2024. Tenant is aware that the Premises are part of a large

redevelopment project between the Town of Herndon and Comstock Herndon Venture, LC. At the commencement of the redevelopment project that affects the Premises, the parties understand that Landlord will terminate this sublicense with notice that is reasonable under the circumstances which may be less than 30 days. This last sentence clarifies, not limits, the parties' agreement as set out in this paragraph.

2. Rent. Tenant shall pay Landlord on demand $1.00 per sublicense term.

3. Use of Premises. Tenant shall use the Premises solely for an arts center including an art gallery, meetings with artists, small group sessions with artists and the public, art classes, and artistic events. Tenant may also make all or part of the Premises available for public or private meetings or public or private events for a fee (except with regard to the Landlord as provided below) upon written authorization by Landlord, when Tenant is not using all or part of the Premises. Tenant shall notify the Landlord in advance of events that include serving alcohol. Tenant shall obtain or verify that licenses required by VA Alcohol Beverage Control when events include serving alcohol.

Subject to availability (as determined by Tenant), Tenant shall permit Landlord to use rent free the interior of the Premises for Landlord sponsored community meetings for up to four days or part thereof per calendar year.

Tenant certifies to Landlord that such internal and external uses are consistent with this Sublicence Agreement and Town of Herndon Zoning Ordinance and architectural guidelines and the Herndon Town Code and Tenant shall obtain any required licenses or permits for such uses. Tenant on at least 30 days notice from Landlord shall accommodate its exterior use of the Premises to Landlord's predominant use of this exterior space periodic or unique festivals, events, or activities.

4. Policy Compliance. Tenant shall comply with all Town policies and regulations regarding the use of Town owned or leased real property and buildings, including the prohibition of

alcohol (expect as described in paragraph 3) and the use of recreational drugs or tobacco on town property, as well as the Town building key policy.

5. Utility Charges. Tenant shall maintain and pay the cost of all utilities (including telecommunications) on the Premises. Landlord shall equitably prorate these costs based on building square footage (except telecommunications), advise Tenant quarterly of Tenant's prorata share of these costs (except telecommunications), and then settle up fairly with Tenant on the costs of these utilities, which Tenant shall pay on demand to Landlord.

6. Liability Insurance. Tenant shall keep in effect a General Liability insurance policy with respect to the Premises with a minimum limit of $1,000,000.00 of coverage. The policy shall name the Town of Herndon as an additional insured. Satisfactory proof of insurance will be required. Town reserves the right to require additional insurance.

7. Hold Harmless of Landlord. Tenant shall hold harmless Landlord, its officers, agents, and employees from any and all claims, actions, damages, liability and expense, including reasonable attorney's fees, in connection with loss of life, personal injury or damage to property arising from any occurrence in, upon, or at the Premises, or the occupancy or use by Tenant of the Premises or any part thereof.

8. Default. Tenant shall be in default upon failure to perform any term of this sublicense for more than five days after written notice of such failure shall have been given to Tenant or after Tenant's abandonment of the Premises.

9. Rights and Remedies on Default. Landlord shall have the following rights on default of Tenant, which shall be cumulative, none excluding any other right allowed by this sublicense or by law.

a. Landlord may enter the Premises and repossess the Premises and remove

Tenant and any others who may be occupying the Premises and remove any property.

b. Landlord may seize, remove and sell all of the personal property and fixtures of Tenant on the Premises or remove and store such property at the cost of and for the account of Tenant.

10. Waste or Nuisance. Tenant shall not commit any waste or nuisance upon the Premises.

11. Maintenance by the Parties. Tenant accepts the Premises including the improvements and any equipment in the Premises in their existing condition. Tenant shall at all times keep the Premises in good order, condition, and repair. Tenant shall provide janitorial service to the Premises. Tenant shall maintain the Premises in a clean and sanitary condition. If Landlord is required to make any repairs by reason of Tenant's negligent or intentional act or omission, Tenant shall pay to Landlord the cost of the repairs as additional rent within ten days after written notice.

Except as provided in paragraph 14, Tenant shall return the Premises to its original condition prior to Tenant's vacation of the premises, normal wear and tear excepted.

Landlord shall be responsible for roof, structural integrity of the building, and replacement and repair of utility systems related to the Premises. Landlord shall mow the yard space surrounding the Premises and the building. Tenant shall maintain other landscaping (approved by Landlord) on the Center Street exterior facade of the building. Landlord shall provide a physical separation structure or device between the Premises and Landlord's remaining space in the building.

12. Notification of Hazard. Tenant and Landlord shall give immediate notice to the other in case of fire, accident, or defect in the Premises or in any fixtures or personal property comprising the Premises.

13. Alterations and Improvements. Except as provided in this paragraph, Tenant shall

not make or cause to be made any alterations to the Premises without first obtaining Landlord's written consent. With Town eventual approval of plans (both as a government and as Landlord), Tenant at its expense may make other changes to the Premises consistent with the purposes of this sublicense.

14. Removal of Improvements and Restoration by Tenant. All alterations except lighting not necessary for normal use of the building or conformance with the Virginia Uniform Statewide Building Code made by Tenant shall remain the property of Landlord at the expiration or termination of the sublicense. This property will remain part of the Premises and Tenant shall not have any obligation to remove it.

15. Loss and Damage. Landlord shall not be liable for any loss or damage to property of Tenant located on the Premises. Landlord shall not be liable for any injury, death, or damage to persons or property associated with Tenant resulting from fire, explosion, falling plaster, steam, gas, electricity, water, rain, snow, or leaks from any part of the Premises. Landlord shall not be liable for any latent defect in the leased premises or in the building of which they form a part. All property of Tenant kept or stored on the Premises shall be so kept or stored at the risk of Tenant and Tenant shall hold Landlord harmless from any claims arising out of damage to the same, including subrogation claims by Tenant's insurance carrier.

16. Right of Entry. Landlord, its contractors, agents, or prospective purchasers or licensees, shall have the right to enter the Premises during normal business hours to examine the same upon reasonable notice, either oral or written.

17. Quiet Enjoyment. Upon the observance of all Tenant's obligations of this sublicense, Tenant shall peaceably and quietly hold and enjoy the Premises.

18. Surrender of Premises. At the expiration or termination of the term of this sublicense,

Tenant shall surrender the leased premises in the same condition that the Premises were in at the commencement of this sublicense, except as provided in paragraph 14, reasonable wear and tear excepted, and shall surrender all keys for the Premises to Landlord.

19. Assignment and Subletting. Except as provided in paragraph 3, Tenant may not sublet the premises without prior written consent from Landlord. Sublet agreements shall be subject to the terms of this lease, including paragraph 1. Tenant may not assign this sublicense without prior written consent of Landlord. This prohibition against assigning or subletting shall be construed to include a prohibition against any assignment or subletting by operation of law.

20. Binding on Successors/Assigns. All of the terms of this sublicense shall bind the successors and assigns of Landlord and Tenant, except where the assignment is ineffective due to lack of Landlord's consent.

TOWN OF HERNDON, VIRGINIA

By: _____

Name: _____

Title: _____

ARTS HERNDON, INC

By: _____

Name: Michael L. O'Reilly

Title: Chairman

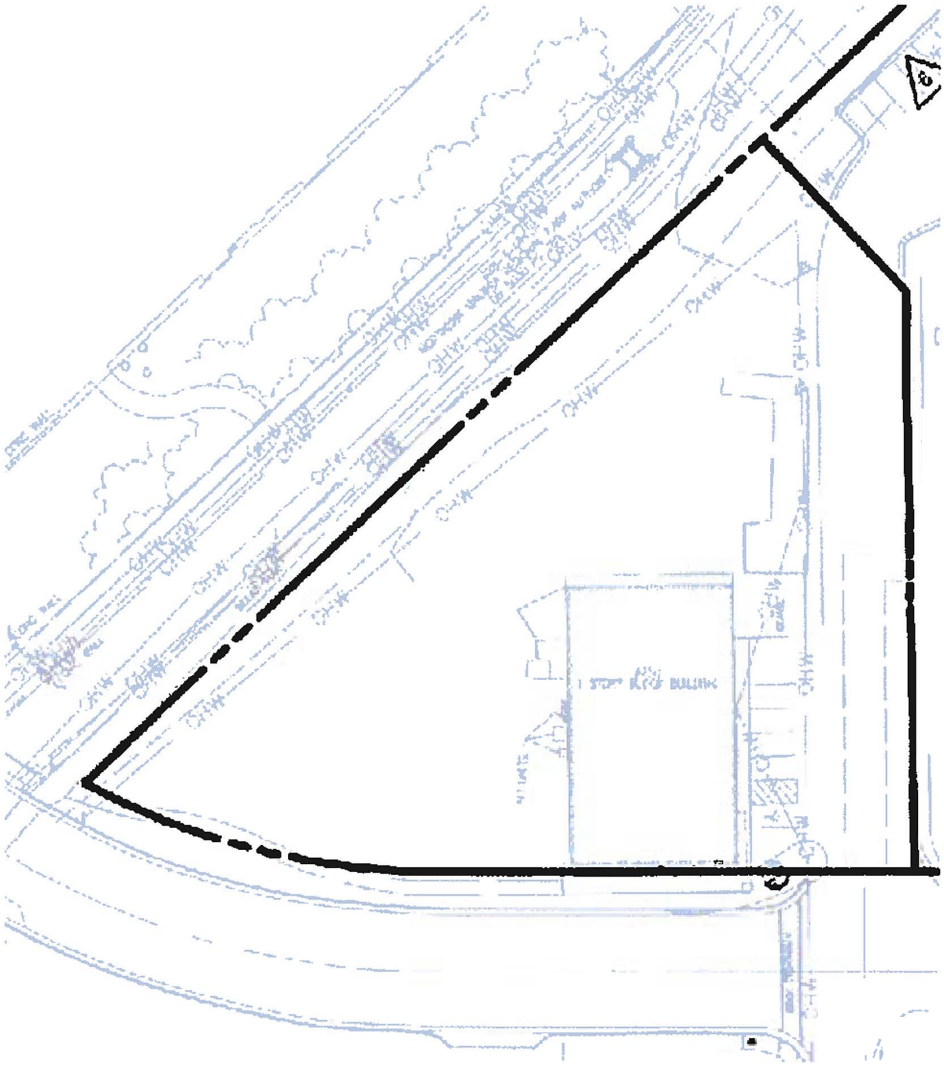
APPROVED AS TO FORM

By: _____

Name: Lesa J. Yeatts

Title: Town Attorney

Exhibit A
750 Center Street



TOWN OF HERNDON, VIRGINIA

RESOLUTION

August 8, 2023

Resolution- to appoint a member to the Herndon Diversity, Equity, and Inclusion Committee (HDEIC)

BE IT RESOLVED by the Town Council of the Town of Herndon, Virginia that:

1. The Town Council appoints **Yelena Barth** as the business member to the HDEIC to fill an unexpired two-year term effective August 8, 2023 through December 31, 2024.