Agenda

PLANNING COMMISSION REGULAR DOCKET
TUESDAY, May 10, 2022 at 5:30 P.M.
Hybrid Meeting

I. Commission Pre-Meeting (Agenda discussion(s))
Beginning: 5:00 p.m.
Location: (CitySpace, 100 5th St NE, Charlottesville, VA 22902 and Electronic/Virtual)

II. Commission Regular Meeting
Beginning: 5:30 p.m.
Location: (CitySpace, 100 5th St NE, Charlottesville, VA 22902 and Electronic/Virtual)

A. COMMISSIONERS' REPORTS
B. UNIVERSITY REPORT
C. CHAIR'S REPORT
D. DEPARTMENT OF NDS
E. MATTERS TO BE PRESENTED BY THE PUBLIC NOT ON THE FORMAL AGENDA
F. CONSENT AGENDA
(Items removed from the consent agenda will be considered at the end of the regular agenda)
i. Minutes – Regular meeting – July 13, 2021

G. Entrance Corridor Review - Recommendation on SUP for 2005 and 2007 Jefferson Park Avenue and 104 Observatory Avenue (will be discussed with SP22-00001)

III. JOINT MEETING OF COMMISSION/ COUNCIL
Beginning: 6:00 p.m.
Continuing: until all public hearings are completed
Format: (i) Staff Report, (ii) Applicant, (iii) Hearing

1. **SP22-00001 – 2005 and 2007 Jefferson Park Avenue and 104 Observatory Avenue –** Aspen Topco II Acquisitions, LLC ("Contract Purchaser/Applicant") and Mitchell Matthews Architects ("Applicant's Representative") have submitted an application seeking approval of a Special Use Permit (SUP) for the properties located at 2005 and 2007 Jefferson Park Avenue and 104 Observatory Avenue, identified by Tax Map and Parcels (TMP) 170104000, 170103100, and 170103000 (owners, Norman Lamson, Trustee of the Gadient Land Trust Agreement) (the "Subject Properties"). Pursuant to City Code Sec. 34-420, 34-353(3), and 34-162(a) an application has been submitted requesting increased density from a By-Right 21 Dwelling Units per Acre ("DUA") to 70 DUA, increased height from a By-Right of 45 feet to 75 feet, a reduction of the rear yard setback from a required 75 feet to 36 feet, and a reduction of the onsite parking by 22% from the requirements stated in Sec. 34-984. The applicant is proposing a multifamily building with 119 units and underground parking. The Subject Properties are approximately 1.71 acres with road frontage on Jefferson Park Avenue, Observatory Avenue, and Washington Avenue and fall within the City Entrance Corridor. The properties are zoned R-3 Medium Density Residential. The Comprehensive Land Use Map for this area calls for Urban Mixed Use Corridor which recommends higher intensity mixed use developments up to 5 stories in height, up to 8 stories in height at key intersections and affordable units depending on zoning allowances. Additional information pertaining to this application may be viewed online at www.charlottesville.gov/agenda. Persons interested in the Special Use Permit application may also contact NDS Planner Matt Alfele by e-mail (alfelem@charlottesville.gov) or by telephone (434-970-3636).

2. **SP22-00004 – 923 Harris Street –** 923 Harris Street LLC (the "Owner") and Shimp Engineering (the "Applicant") have submitted an application seeking approval of a Special Use Permit (SUP) for the property located at 923 Harris Street, near the intersection of Harris Street and Cynthianna Drive identified by Tax Map and Parcel (TMP)

350112000 (the "Subject Property"). The property is currently zoned IC Industrial Corridor. The Comprehensive Land Use Map for this area calls for Business and Technology Mixed Use which recommends light industrial/production uses along with allowing for other commercial/residential uses and buildings up to 6 stories in height. Pursuant to City Code Sec. 34-458(b) and 34-480 the Applicant and Owner submitted a request for increased density from a By-Right 21 Dwelling Units per Acre ("DUA") to 54 DUA. The Applicant is proposing a multifamily building with 7 units and as the Subject Property is approximately 0.13 acres with road frontage on Harris Street, the SUP, if approved, would allow for the construction of the 7 units on the Subject Property. Additional information pertaining to this application may be viewed online at www.charlottesville.gov/agenda. Persons interested in the Special Use Permit application may also contact NDS Planner Brian Haluska by e-mail (haluska@charlottesville.gov) or by telephone (434-970-3186). **THE HEARING FOR THIS ITEM WILL BE REPEATED JUNE 2022 DUE TO AN ADVERTISING CONFLICT.**

IV. COMMISSION'S ACTION ITEMS

Continuing: until all action items are concluded.

1. Entrance Corridor Review - 1150 5th Street SW – new convenience store and gas canopy

V. FUTURE MEETING SCHEDULE/ADJOURN

Tuesday May 24, 2022 – 5:00 PM	Work session	5th Street Design and Safety Improvements – Joint discussion with City Council
Tuesday June 14, 2022 – 5:00 PM	Pre-Meeting	
Tuesday June 14, 2022 – 5:30 PM	Regular Meeting	Minutes - August 10, 2021, August 31, 2021, September 14, 2021, October 11, 2021, October 12, 2021, October 21, 2021, November 9, 2021 Comprehensive Plan Amendment – Manufactured Housing Critical Slope Waiver – Azalea Springs Special Use Permit –1000 Monticello

Anticipated Items on Future Agendas

Zoning Text Amendments –Off-street parking facilities requirements along streets designated as "framework streets" (initiated May 8, 2018), Site Plan Requirements, Accessory Dwelling Unit, Middle Density zoning and Affordable Dwelling Unit , 12th and Rosser/CH Brown Historic Conservation District (six properties)
Rezoning and SUP – 0 Carlton Road
Rezoning – 415 10th Street NW, Mount View PUD
Preliminary Site Plan - 218 West Market Street
Critical Slopes Waiver – Belmont Condominiums
Site Plan –Flint Hill PUD, 1223 Harris, Lyndhall Apartments
Special Use Permit – Fire Station on 250 Bypass
Future Entrance Corridor

- 920 E High Street - Comprehensive Sign Plan Request (*Sentara*)
- 1815 JPA - New apartment building (Wassenaar+Winkler Architects)
- 1801 Hydraulic Road – revised Comp Sign Plan, revised design review (*Hillsdale Place*, Riverbend)

PLEASE NOTE: THIS AGENDA IS SUBJECT TO CHANGE PRIOR TO THE MEETING.

PLEASE NOTE: We are including suggested time frames on Agenda items. These times are subject to change at any time during the meeting.

Individuals with disabilities who require assistance or special arrangements to participate in the public meeting may call the ADA Coordinator at (434) 970-3182 or submit a request via email to ada@charlottesville.gov. The City of Charlottesville requests that you provide a 48 hour notice so that proper arrangements may be made.

During the local state of emergency related to the Coronavirus (COVID19), City Hall and City Council Chambers are closed to the public and meetings are being conducted virtually via a Zoom webinar. The webinar is broadcast on Comcast Channel 10 and on all the City's streaming platforms including: Facebook, Twitter, and www.charlottesville.gov/streaming. Public hearings and other matters from the public will be heard via the Zoom webinar which requires advanced registration here: www.charlottesville.gov/zoom . You may also participate via telephone and a number is provided with the Zoom registration or by contacting staff at 434-970-3182 to ask for the dial in number for each meeting.

LIST OF SITE PLANS AND SUBDIVISIONS APPROVED ADMINISTRATIVELY
4/1/2022 TO 4/30/2022

1. **Preliminary Site Plans**
2. **Final Site Plans**
    a. Center for Christian Studies 128 Chancellor St – April 29, 2022
3. **Site Plan Amendments**
4. **Subdivision**
    a. 201 Montebello Circle (TMP 160017000) - April 19, 2022
    b. 105 University Manor (BLA) – April 15, 2022

July 13, 2021 Planning Commission Minutes are included as the last documents in this packet.

CITY OF CHARLOTTESVILLE
DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES
STAFF REPORT

ERB Review of Special Use Permit Request within the Fontaine Avenue / Jefferson Park Avenue Entrance Corridor
2005 Jefferson Park Avenue

PLANNING COMMISSION REGULAR MEETING
DATE OF PLANNING COMMISSION MEETING: May 10, 2022

Project Planner: Matt Alfele
Date of Hearing: May 10, 2022
Application Number: SP-15-00001
Zoning: R-3 Residential with Entrance Corridor Overlay (Fontaine Ave/JPA; Sub-area C.)
Tax Parcels: 17-104, 17-103, 17-103.1 (Note: 17-104 is not within the EC Overlay.)
Site Acreage: 1.7 acres (74,531 sq ft)
ERB Staff report prepared by: Jeff Werner, AICP, Preservation and Design Planner

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Relevant Code Section

Section 34-157 (a)(7). When a property that is the subject of the application for a SUP is within an Entrance Corridor (EC), City Council shall refer the application to the Entrance Corridor Review Board (ERB) for recommendations as to *whether the proposed use will have an adverse impact on the district, and for recommendations as to reasonable conditions which, if imposed, that would mitigate any such impacts*. The ERB shall return a written report of its recommendations to the City Council.

Note: Regardless of the approval or denial of the requested SUP, per Section 34-309, any subsequent development of this site will require design review by the ERB [applying the City's Entrance Corridor Design Guidelines (design guidelines)] and approval of a Certificate of Appropriateness (CoA).

Background

The 1.7-acre project site is comprised of three parcels; two (1.5 acres) are within the Fontaine Avenue/Jefferson Park Avenue Entrance Corridor, Sub-area C (Maury Avenue to Emmet Street). The site is the location currently of six (6) residential structures: a c1899, two-story house (converted to apartments), a 1948 single-story house; a 1957 two-story apartment building, a c2000, four-story apartment building, and two c2000, three-story apartment buildings.

SUP request[1] to increase residential density from 21 DUA to 70 DUA. (87 DUA is the max allowed by SUP), will require the following:

- Increase building height from 45-ft to 75-ft (101-ft is the max allowed by SUP).
- Reduce the rear yard setback from 75-ft (w/25-ft S-3 buffer) to 40-ft (w/25-ft S-3 buffer).
- Reduce off-street parking requirements from 200 spaces to 125.

Discussion

		Zoning	Requested	SUP	Comp Plan	2013 EC Vision
Setback (min.)	**Rear**	75-ft	36-ft		n/a	n/a
	Front	25-ft	26-ft		n/a	15-ft
	Side	20-ft	20-ft		n/a	15-ft
Height (max.)		45-ft	75-ft	101-ft *	5-stories, up to 8 at key intersections	60-ft
Density (max)		21 DUA	70 DUA	87 DUA	*Higher intensity mixed use*	*High density residential*
On-site parking (min)		200	125		n/a	n/a

* w/44 DUA and up

Approx. equivalents: 5-stories = 60-ft. 8-stories = 90-ft.

Increased residential density

Staff comment: ***No adverse impact on EC***.

The design guidelines do not address how density, in and of itself, visually impacts an EC. (Whether a building contains 100 small apartments or a single large one, the design review applies the same guidelines relative to scale and design.)

Increased height (including massing and scale)

Staff comment: ***No adverse impact on EC; impact(s) of increased height can be mitigated.***

Note: Following the April 12 deferral, design staff revaluated this request and suggests the increased height will not adversely impact this EC. Importantly, staff's broader conclusion remains unchanged: *The impacts of increased height can be adequately mitigated by application of the design guidelines and addressed during the required ERB design review*.

EC Guidelines and Comp Plan:

- EC design guidelines (adopted 2011). Corridor-specific recommendations for this EC--and sub-area—suggest a 60-feet height maximum for structures on parcels zoned *University High Density*.
- 2013 revisions to the Land Use Map designated the parcels *University High Density*.

[1] Mitchell Matthews SUP Application for 2005 Jefferson Park Avenue, dated January 11, 2022: Cover, pages 2 through 37.

- Comprehensive Plan and Land Use Map (adopted 2021): Recommends development as an *Urban Mixed-Use Corridor,* with a maximum height of five stories, up to eight stories for properties at key intersections. [Note: JPA is not designated a key intersection.]

The requested height increase differs from what is recommended for by-right development; however, it is allowed by Special Use Permit and is generally consistent with the Comprehensive Plan, which envisions this corridor becoming an area of higher residential density and mixed-use, facilitated by allowing taller and larger structures than the current built form.

As presented conceptually, this project is generally consistent with the design guidelines relative to streetscape, site design, and architectural design. This evaluation reflects the City's vision for this corridor, which is to transform it, not replicate the existing built form. Additionally, during the later design review, application of the design guidelines will further mitigate the impacts of the building's height, massing, and scale.

Perception of a building's height is a response to its massing and scale--more so than to its vertical or planar dimensions--and is experienced primarily at the pedestrian level. *Massing* refers to how one perceives a building's shape and size, its three-dimensional form. *Scale* refers to the dimensional perception of building within the context of its setting. This perception is further affected by architectural elements, materials, colors, setbacks, and even landscaping.

Staff suggests envisioning this project as experienced at the pedestrian level and viewing the site as an *urban block* bounded by Jefferson Park Avenue Washington Avenue, Observatory Avenue, and the rear setback. The approximately 196-ft by 380-ft block is comparable to other blocks in the City, providing context. (Dimensions are approximate. Illustrations in Appendix.)

Location typical block; curb-to-curb	Front	Side	Total Length	Area (SF)
Downtown Charlottesville	210	256	466	53,760
2005 Jefferson Park Ave	196	380	576	74,480
Rose Hill Neighborhood	350	295	645	103,250
Venable Neighborhood	360	320	680	115,200
Martha Jeff Neighborhood	350	350	700	122,500
Belmont Neighborhood	500	290	790	145,000
Fifeville Neighborhood	800	200	1,000	160,000
10th and Page Neighborhood	800	275	1,075	220,000
Woolen Mills Neighborhood	680	400	1,080	272,000

Facing JPA, the building façade spans approximately 150-feet of the approximately 196-foot wide block. (On Main Street, at the Downtown Mall, buildings generally span approximately 196-feet of the 210-foot wide blocks.) Viewed from JPA, the two, five-story, apartment buildings are separated by a courtyard and sit atop and back from the façade of a two-story,

masonry foundation. The height, scale, and massing are mitigated by the variation of materials, door and window openings, articulated facades, and street level landscaping, walls and terraces.*

Facing Washington Avenue and Observatory Avenue, the building elevations span approximately 310-feet of the approximately 380-foot long block. (The 310-foot elevation is comparable to Memorial Gym (320-ft) and the Culbreth Parking Garage (285-ft). Less than the Water Street Parking Garage (400-ft) and the West Main facades of The Standard (380-ft), The Lark (380-ft), and The Flats (370-ft).) *

From the front, NE corner to the back, SW corner the site rises 37-feet. On Observatory Avenue, this allows the masonry foundation to recede into the topography, transitioning the seven-story building to five. On Washington Avenue, the masonry foundation remains visible; however, the wall is articulated, features windows and entrances, and walls and terraces at street level. The building transitions from seven-stories to six; however, at the street level, the elevation of the masonry foundation reads as a two-story building, mitigating the perceived height, scale, and massing of the apartments above.*

(* See Appendix for examples of building lengths.)

Reduced rear setback
Staff comment: ***No adverse impact on EC***.

The rear setback is not visible from JPA; reduction will not visually impact the corridor.

On-site Parking
Staff comment: ***No adverse impact on EC***.

The design guidelines address the visual impacts of on-site parking. (Screening, etc.) The on-site parking here will be concealed below-grade and accessed via a single entrance at the NW corner of the site, providing a solution consistent with the design guidelines.

Recommendation

As demonstrated, the impacts of the increased height are mitigated by design elements [as presented conceptually] and can be further addressed during the ERB's design review process. The increased height is not prohibited (allowed by SUP) and anticipated by the Comprehensive Plan. Staff recommends the increased height and related massing and scale will not adversely impact Sub-Area C of the Fontaine Avenue/Jefferson Park Avenue Entrance Corridor.

During that later design review and approval of a Certificate of Appropriateness, the ERB will consider all design elements; however, staff suggests for the SUP three conditions that will help mitigate the increased height and memorialize desirable elements of the conceptual design.

- To establish the block-level scale of this project, consideration should be given to dedicating and constructing within the rear setback a multipurpose (bike/ped) path linking Washington Avenue and Observatory Avenue.
- Building's façade and elevations, relative to form, massing, step backs, variation in materiality, and landscaping, shall be generally consistent with the conceptual design presented for the SUP request,
- Organization and arrangement of the buildings shall be generally consistent with the conceptual design presented for the SUP request.

Public Comments Received

See special use permit staff report for comments received.

Suggested Motion

Finding of no adverse impact: I move to find the impacts of increased building height and related massing and scale can be mitigated during the required design review process and, therefore, will not adversely impact the Fontaine Avenue/Jefferson Park Avenue Entrance Corridor[.]

> [and, relative to mitigating those impacts, recommend the following conditions for the SUP: …]. (See staff's recommendations above.)

Alternate Motions

Finding of adverse impact, mitigation available: I move to find the impacts of increased height and related massing and scale will adversely impact the Fontaine Avenue/Jefferson Park Avenue Entrance Corridor; however, these impacts can be mitigated during the required design review process[.]

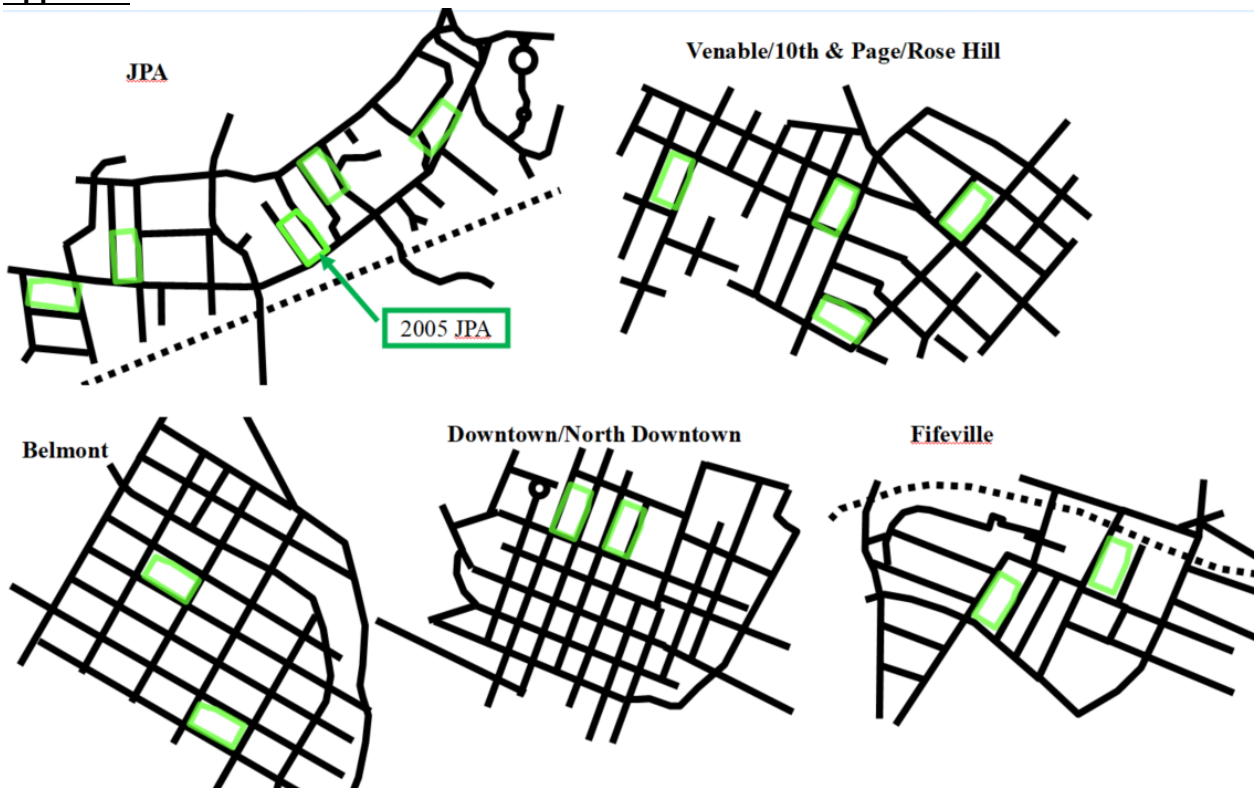
> [and, relative to mitigating those impacts, recommend the following conditions for the SUP: …]. (See staff's recommendations above.)

Finding of adverse impact, no mitigation available: I move to find the impacts of increased height and related massing and scale will--and in a manner that cannot be mitigated during the required design review process--adversely impact the Fontaine Avenue/Jefferson Park Avenue Entrance Corridor.

Attachments

- Attachment 1: Charlottesville Entrance Corridor Design Guidelines Chapter V: Fontaine Avenue/Jefferson Park Avenue Entrance Corridor (pages 17-19)
- Attachment 2: Relevant Entrance Corridor Design Guidelines

Appendix


JPA
2005 JPA
Venable/10th & Page/Rose Hill
Belmont
Downtown/North Downtown
Fifeville


Market St
235'
235'
196'
196'
DT Mail


235'
320'
156'
196'
JPA

Building façade lengths, for context:

- 15th Street NW façade *Grand Marc Apartments* (5 stories) approx. 450-feet.
- Water Street façade *Water Street Parking Garage* (4 stories) approx. 400-feet.
- West Main façade *The Standard* (5 stories) approx. 380-feet.
- 10th Street elevation *The Lark* (6 stories) approx. 380-feet.
- West Main façade *The Flats* (6 stories) approx. 370-feet.
- Water Street facade *City Walk Apartments* (4 stories) approx. 360-feet

- Memorial Gym: (4 stories) approx. 320-ft
- ***2005 JPA (conceptual): Side elevations*** **(6 stories, mid-block) approx. 310-feet**.
- *Culbreth Parking Garage* (3 stories) approx. 285-feet.
- Side streets, Downtown Mall: Building wall approx. 235-feet.
- West Main facade *The Omni* (6 stories) approx. 232-feet.
- Maywood Lane façade of 1800 JPA (3 stories) approx. 221-feet
- Water Street façade *CODE Building* (8 stories) approx. 215-feet.
- 2111 JPA (apartments) front façade (3 stories) approx. 210-feet.
- East High Street façade *Queen Charlotte* condos (4 stories) approx. 200-feet.

- Main Street (facing Downtown Mall). Building wall approx. 196-feet.
- 1600 JPA west façade *South Range Apartments* (4 stories) approx. 188-feet
- Grady Avenue façade *Preston Court Apartments* (4 stories) approx. 160-feet
- 1815 JPA apartments façade (5 stories) approx. 160-feet
- ***2005 JPA (conceptual):*** **JPA façade (seven stories) approx. 150-feet**
- 1600 Monticello Avenue (apartments) (5 stories) approx. 150-feet.
- Stadium Road facade *Woodrow Apartments* (2 stories) approx. 145-feet.
- 1830 JPA (apartments) Shamrock Road facade (3 stories) approx. 124-feet.
- 1725 JPA (apartments) front façade (6 stories) approx. 100-feet.

V Corridors

F. Corridor 5: Fontaine Avenue/Jefferson Park Avenue from the corporate limits to Emmet Street

Sub-Area A: Corporate limits to Lewis Street

Sub-Area B: Lewis Street to Maury Avenue

Sub-Area C: Maury Avenue to Emmet Street

Overall Description

Fontaine Avenue is known locally and historically as the Fry's Spring area of Charlottesville. Fontaine continues west as an extension of the road named Jefferson Park Avenue (JPA), while JPA turns south toward Fry's Spring Beach Club. The Fontaine section of the corridor is one of the gateways to the City and University, and its commercial sections serve as a neighborhood village center. The JPA section serves as a concentration of multi-unit apartment buildings for University students.

Positive Aspects

- Largely intact residential corridor serving as gateway
- Core of commercial uses to serve the area
- Mature street trees and planted median along much of corridor
- Well-defined and landscaped gateway at Fontaine research park entry
- Comprehensive transportation network with divided corridor, bus routes, bike paths, and sidewalks

Vision

This corridor transitions quickly from accommodating highway speed autos to more congested auto, transit, pedestrian and bicycle traffic. Foremost considerations are traffic calming, provisions for pedestrian safety, and pedestrian amenities such as sidewalks, landscaping and transit stops. The neighborhood center, Maury Avenue intersection, is currently a bustling, mixed use pedestrian activity area that newer developments strive to emulate. The pedestrian and mixed use characteristics of this neighborhood intersection should not be lost as redevelopment occurs. New mixed use and apartment project design should reflect the character and importance of this major entrance to the City and the University. Historic assets to be protected include the JPA median that formerly accommodated a trolley line, the Fry Spring's Service Station, and the Oakhurst-Gildersleeve Neighborhood. This corridor is a potential location for public way-finding signage.

Sub-Area A: Corporate Limits to Lewis Street

Description

Streetscape: canopied effect, planted slopes, overhead utilities, cobra-head lights, intermittent sidewalks, some on-street parking.

Site: Wooded edges, pole-mounted signs, mature landscaping, large trees, low stone walls, chain link fences.

Buildings: Post-war, small-scale residences with deep setbacks - colonial revival, bungalows, English cottages, Cape Cod.

Recommended General Guidelines

- Retain tree canopy at gateway
- Maintain residential uses and character
- Add sidewalks on Fontaine Avenue per the Fontaine Avenue Plan
- Upgrade older retail parcels as opportunity arises

Guidelines Specific to the Zoning

B-2: The B-2 business district is established to provide for commercial uses of limited size, primarily serving neighborhood needs for convenience goods. The intent of the B-2 regulations is to encourage clustering of these neighborhood-serving commercial uses. The uses permitted

within this district are those which will generate minimal traffic originating outside the neighborhood areas served and that will generate minimal noise, odors and fumes, smoke, fire or explosion hazards, lighting glare, heat or vibration.

- Height regulation:
  Maximum height: 45 feet.
- Setback:
  20 feet, minimum.

R-2U ("university"): Consisting of quiet, lowdensity residential areas in the vicinity of the University of Virginia campus, in which single family attached and two-family dwellings are encouraged.

- Height regulation:
  Maximum height: 35 feet.
- Setback:
  25 feet, minimum.

SUB-AREA B: LEWIS STREET TO MAURY AVENUE

Description

Streetscape: Mixed-use, auto-oriented on three corners, curb cuts, overhead utilities, cobra-head lights, road widens, no crosswalks, no streetscape amenities.

Site: Pole-mounted signs, front yards used for parking.

Buildings: 1-2 story houses converted to commercial uses, restaurants, 3-story new infill.

Recommended General Guidelines

- Develop commercial sites into higher density mixed-use projects
- Upgrade streetscape amenities with underground utilities, streetlights and plantings

Guidelines Specific to the Zoning

(NCC) Neighborhood Commercial Corridor district: The intent of the Neighborhood Commercial Corridor district is to establish a zoning classification for the Fontaine and Belmont commercial areas that recognize their compact nature, their pedestrian orientation, and the small neighborhood nature of the businesses. This zoning district recognizes the areas as small town center type commercial areas, and provides for the ability to develop on small lots with minimal parking dependent upon pedestrian access. The regulations recognize the character of the existing area and respect that they are neighborhood commercial districts located within established residential neighborhoods.

- Height regulation:
  Maximum height: 1 to 3 stories; however, up to 5 stories may be allowed by special permii, subject to streetwall regulations; recommend 2 to 4 stories.
- Stepback:
  The maximum height of the street wall of any building or structure shall be 3 stories. After 3 stories, there shall be a minimum stepback of 15 feet along at least 50% of the length of the streetwall.
- Setback:
  Primary street frontage: no minimum required; 10 feet, maximum.
  Linking street frontage: none required.
  Side and Rear, adjacent to low-density residential district: 10 feet, minimum.
  Side and Rear, adjacent to any other zoning districts: none required.
- Buffer regulations: Adjacent to any low-density residential district, side and rear buffers (S-1 type) shall be required, 5 feet, minimum.

SUB-AREA C: MAURY AVENUE TO EMMET STREET

Description

Streetscape: Overhead utilities, cobra-head lights, planted median, on-street parking, bike lanes, concrete sidewalks, canopy of trees.

Site: Large mature site trees, some front site parking, sloped, block and wood retaining walls, split rail and chain link fences.

Buildings:Student housing, residential large scale, multi-family, materials include wood, stone, brick and stucco, majority of structures are of traditional designs, some smaller dwellings remain among the large scale infill buildings. Recent Past/Historic: Fry Spring Service Station

Recommended General Guidelines

- Put utilities underground that are now located within median
- Ensure that off street parking areas are well defined and screened as needed
- Design new apartment buildings to break up their large scale and use traditional materials

Guidelines Specific to the Zoning

R-UHD ("university high density"): Consisting of areas in the vicinity of the University of Virginia campus, in which high-density residential developments, including multi-family uses, are encouraged.

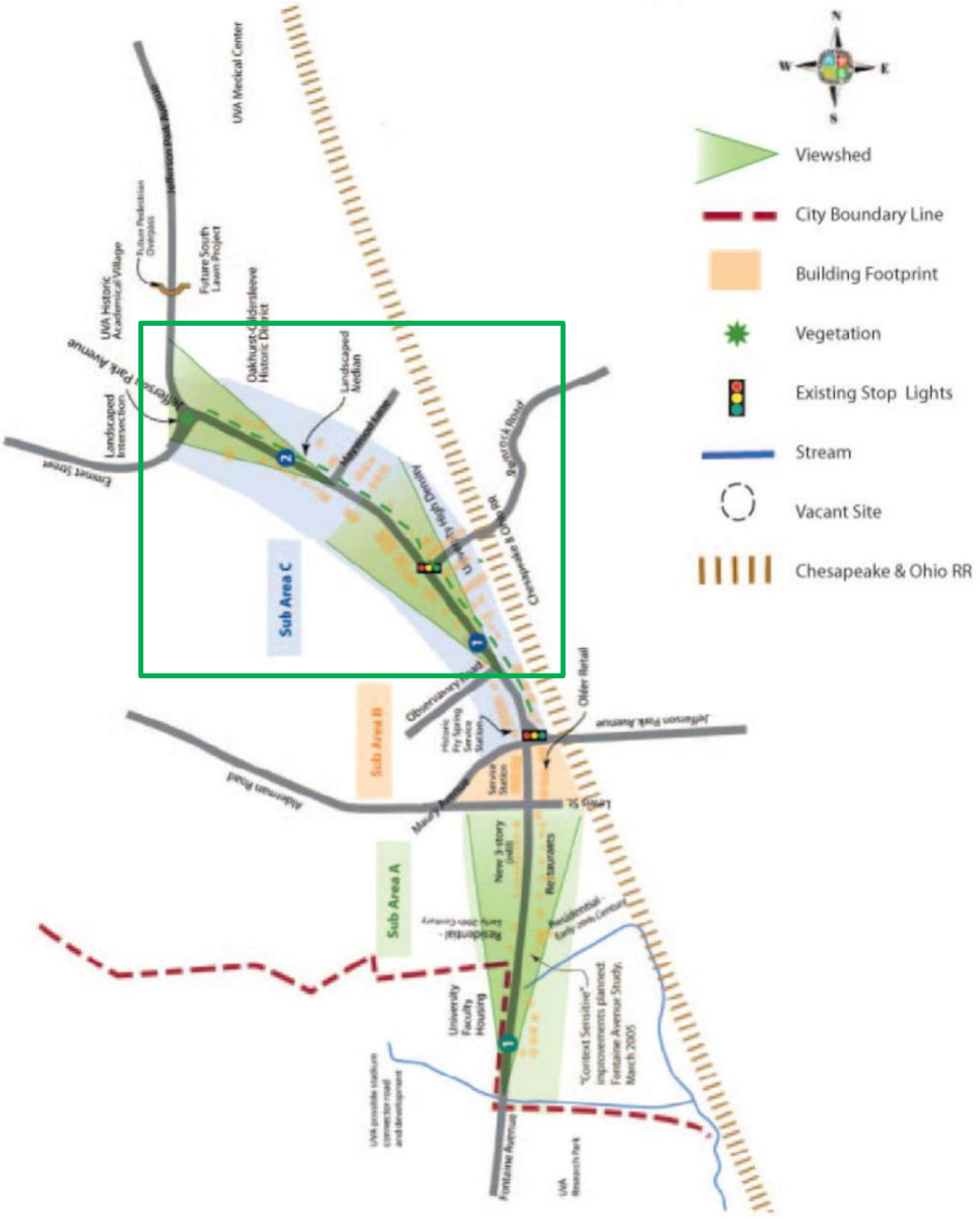
- Height regulation:
  Maximum height: 60 feet
- Setback:
  15 feet, minimum.

R-2U ("university"): Consisting of quiet, lowdensity residential areas in the vicinity of the University of Virginia campus, in which single family attached and two-family dwellings are encouraged.

- Height regulation:
  Maximum height: 35 feet
- Setback:
  25 feet, minimum.

V Corridors

F. Corridor 5: Fontaine Avenue/Jefferson Park Avenue from the corporate limits to Emmet Street



Attachment 2. Entrance Corridor Design Guidelines

- Chapter I: Introduction
  - http://weblink.charlottesville.org/public/0/edoc/793359/1_Introduction_ERB.pdf
- Chapter II: Streetscape
  - http://weblink.charlottesville.org/public/0/edoc/793360/2_Chapter%20II%20Streetscape_ERB.pdf
- Chapter III: Site
  - http://weblink.charlottesville.org/public/0/edoc/793361/3_Chapter%20III%20Site_ERB.pdf
- Chapter IV: Buildings
  - http://weblink.charlottesville.org/public/0/edoc/793362/4_Chapter%20IV%20Buildings_ERB.pdf
- Chapter V: Entrance Corridors
  - http://weblink.charlottesville.org/public/0/edoc/793363/5_Chapter%20V%20Maps%20of%20Corridors_ERB.pdf

Design Guidelines relevant to Density

n/a

Design Guidelines relevant to Height (including massing and scale)

Chapter I:

Maintain Human Scale in Buildings and Spaces: Consider the impact of building design, especially height, mass, complexity of form, and architectural details, and the impact of spaces created, on the people who will pass by, live, work, or shop there. The size, placement and number of doors, windows, portals and openings define human scale.

Chapter IV: Guidelines for Buildings

C. Building Mass, Scale & Height

1. Break up the front of a large building by dividing it into individual bays of 25 to 40 feet wide.
2. Use variation in materials, textures, patterns, colors and details to break down the mass and scale of the building.
   a. Avoid an unmodulated mass
   b. Use stepped-back height
   c. Use varied wall surfaces
   d. Use varied heights with regular width
3. Use building mass appropriate to the site. Place buildings of the greatest footprint, massing, and height in the core of commercial or office developments where the impact on adjacent uses is the least. Follow setback requirements for upper story according to zoning classification of the corridor.
4. When making transitions to lower density areas, modulate the mass of the building to relate to smaller buildings. Heights can be greater if the mass is modulated and other scale techniques are adopted. Reduce height near lower density uses.

5. Use massing reduction techniques of articulated base, watertables, string courses, cornices, material changes and patterns, and fenestration to reduce the apparent height of a large building. Fake windows and similar details are not appropriate articulation. Floor-to-floor heights of a building can have an impact on the mass of a building. For instance, typical ceiling heights in a residence are 8-9 feet. First floors of office buildings or retail shops can range from 10-15 feet. Upper floors that include residential or office are generally 8-12 feet in height. When actual or implied floor-to-floor heights exceed 15-20 feet on the exterior, then a building may begin to read as more massive than human-scaled. When articulating large buildings, keep these dimensions in mind.

Design Guidelines relevant to Setbacks.

Chapter III: Guidelines for Sites, D. Building Placement

1. Orient the facade of new buildings to front on the corridor.
2. Limit setback of new buildings according to the zoning of the particular corridor.
3. Limit setbacks at major intersections so that the architecture can help define the area.
4. Use compact building arrangements to reduce the feeling of seas of parking, encourage pedestrian activity and define space.
5. Strive for contiguous building arrangement along the street face, and avoid large breaks between buildings in identified development sites.
6. Ensure that larger developments orient their design to any adjoining neighborhoods and to side streets.
7. Provide breaks in large developments and building masses to allow pedestrian connections between developments.
8. Orient service areas to limit their impact on the development and any neighboring areas.
9. Each side of a corner building that faces a street should be considered a facade of the building for design purposes.

Design Guidelines relevant to Parking.

Chapter I. Design Principles

Mask the Utilitarian: Provide screening from adjacent properties and public view of parking lots, outdoor storage and loading areas, refuse areas, mechanical and communication equipment, and other uses that have adverse impacts. Where feasible, relegate parking behind buildings.

Chapter III: Guidelines for Sites,

E. Parking

3. Reduce the visibility of residential garages by:
    a. Not allowing a garage to become the primary architectural feature when a development is viewed from the street, especially for attached housing.
    b. Placing garages behind the building setback, preferably facing to the side or rear of attached housing.
    c. Placing garages and parking in the rear with alley access

Chapter IV: Guidelines for Buildings,
E. Facade Organization & Storefronts

3. Secondary entries may be created to allow convenient access from adjacent buildings, sidewalks, parking, bicycle paths and transit stops.

Design Guidelines specific to Fontaine Avenue/Jefferson Park Avenue Entrance Corridor

(Ref. Entrance Corridor Design Guidelines, Chapter V: Corridors, pages 17-19.)

Vision statement for Fontaine Avenue/Jefferson Park Avenue Entrance Corridor:
This corridor transitions quickly from accommodating highway speed autos to more congested auto, transit, pedestrian and bicycle traffic. Foremost considerations are traffic calming, provisions for pedestrian safety, and pedestrian amenities such as sidewalks, landscaping and transit stops. The neighborhood center, Maury Avenue intersection, is currently a bustling, mixed use pedestrian activity area that newer developments strive to emulate. The pedestrian and mixed use characteristics of this neighborhood intersection should not be lost as redevelopment occurs. New mixed use and apartment project design should reflect the character and importance of this major entrance to the City and the University. Historic assets to be protected include the JPA median that formerly accommodated a trolley line, the Fry Spring's Service Station, and the Oakhurst-Gildersleeve Neighborhood. This corridor is a potential location for public way-finding signage.

Recommended General Guidelines for Sub-area: Maury Avenue to Emmet Street:

- Put utilities underground that are now located within median
- Ensure that off street parking areas are well defined and screened as needed
- Design new apartment buildings to break up their large scale and use traditional materials

CITY OF CHARLOTTESVILLE

DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES

STAFF REPORT

JOINT CITY COUNCIL AND PLANNING COMMISSION PUBLIC HEARING

APPLICATION FOR A SPECIAL USE PERMIT

APPLICATION NUMBER: SP22-00001

DATE OF HEARING: May 10, 2022

Project Planner: Matt Alfele, AICP
Date of Staff Report: April 27, 2022

Applicant: Aspen Topco II Acquisitions, LLC (Contract Purchaser)
Applicant's Representative(s): Erin Hannegan with Michell/Matthews Architects & Planners
Current Property Owner: Norman Lamson, Trustee of the Gadient Land Trust Agreement
Application Information
Property Street Address: 2005/2007 Jefferson Park Avenue and 104 Observatory Avenue ("Subject Properties")
Tax Map & Parcel/Tax Status: 170104000, 170103100, and 170103000 (real estate taxes paid current - Sec. 34-10)
Total Square Footage/ Acreage Site: Approx. 1.71 acres (74,487 square feet)
Comprehensive Plan (Future Land Use Map): Mixed Use Corridor
Current Zoning Classification: R-3 Medium-density Residential
Overlay District: Entrance Corridor for 2005/2007 Jefferson Park Avenue. No Overlay District for 104 Observatory Avenue

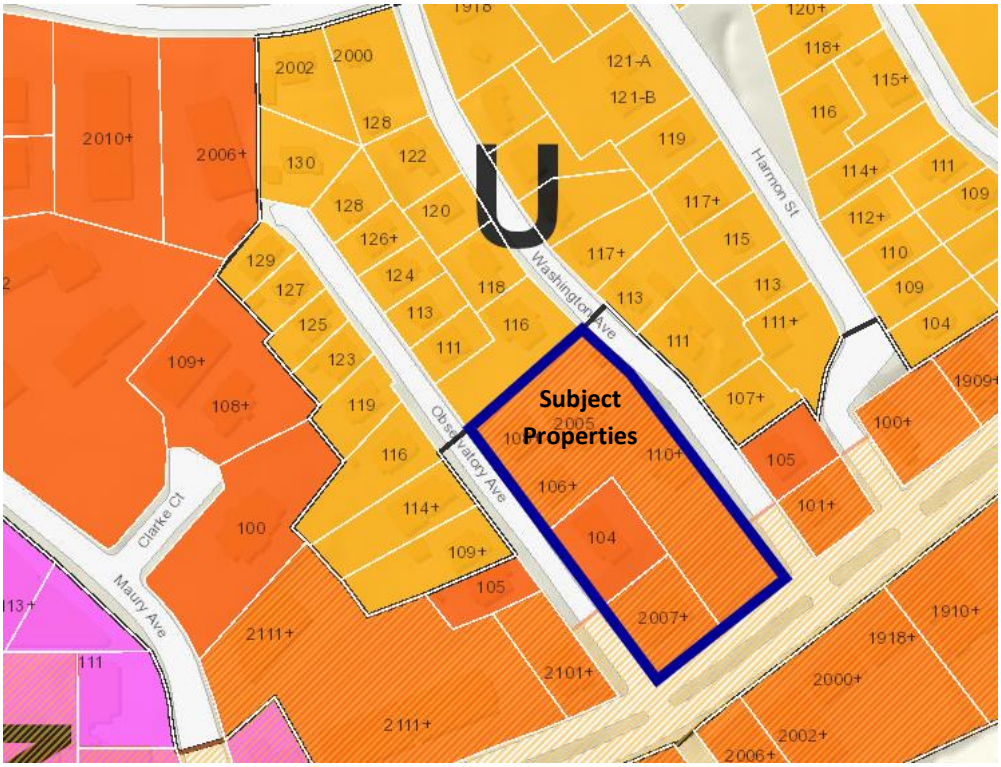
Applicant's Request (Summary)

The applicant is requesting a Special Use Permit (SUP) pursuant to Code Sec. 34-420, 34-353(3), and Sec. 34-162(a), which allows increased residential density, additional height, and modifications to parking and setbacks. The Subject Properties have street frontage on Jefferson Park Avenue, Observatory Avenue, and Washington Avenue; and a by-right density of 21 dwelling units per acre (DUA). The applicant is looking to increase density to 70 DUA, increase height from a by-right 45 feet to 75 feet, reduce the rear yard setback from the required 75 feet to 36 feet, and reduce the onsite parking by 22% from what is required under Sec. 34-984. The SUP is required in order to accommodate the development being proposed for a 119-unit multifamily building with underground parking.

Vicinity Map

Context Map 1

Context Map 2- Zoning Classifications



KEY - Light Orange: R-2U, Orange: R-3, Orange (lower right) UHD, Purple: NCC, Hatch: Entrance Corridor

Context Map 3- Future Land Use Map, 2021 Comprehensive Plan

KEY – Brown: Higher-Intensity Residential, Purple: Urban Mixed Use Corridor, Yellow: General Residential

Standard of Review

City Council may grant an applicant a special permit or special use permit, giving consideration to a number of factors set forth within Zoning Ordinance Sec. 34-157. If Council finds that a proposed use or development will have potentially adverse impacts, and if Council identifies development conditions that could satisfactorily mitigate such impacts, then Council may set forth reasonable conditions within its SUP approval. The role of the Planning Commission is to make an advisory recommendation to the City Council, as to (i) whether or not Council should approve a proposed SUP and if so, (ii) whether there are any reasonable development conditions that could mitigate potentially adverse impacts of the proposed use or development.

Section 34-157 of the City's Zoning Ordinance lists a number of factors that Council will consider in making a decision on a proposed SUP. Following below is staff's analysis of those factors, based on the information provided by the applicant.

For the applicant analysis of their application per Sec. 34-157, see attachment B.

(1) Whether the proposed use or development will be harmonious with existing patterns of use and development within the neighborhood.

The properties immediately surrounding the Subject properties are described as:

Direction	Use	Zoning
North	Single Family Detached	R-2U
South	Multi-Family Apartments (across JPA)	University High Density, EC
East	Single Family Detached and Multi-Family Apartments	R-3, R-2U, EC
West	Single Family Detached and Multi-Family Apartments	R-3, R-2U, EC

The Subject Properties footprint takes up almost an entire city block and is surrounded by a variety of dwelling types. Directly to the south, across the seventy-foot plus (70+) right of way (ROW) of JPA, are located two multi-family apartments buildings of different sizes. The larger is approximately four (4) stories in height and sits at the highest point of the intersection. Heading northeast along JPA the grade drops and the next structures (multi-family apartments) become only two (2) stories in height. To the north of the Subject Properties (the highest point abutting the proposed development) are moderate single family detached dwellings one (1) to two (2) stories in height. On the eastern side of the Subject Properties the grade rises from JPA heading north along Washington Avenue and the surrounding dwellings are single family detached with heights of one (1) to two (2) stories. This pattern is repeated to the west of the Subject Properties along Observatory

Avenue, with the exception of the intersection of JPA and Observatory Avenue where a four (4) story multi-family apartment is located.

The uses surrounding the Subject Properties consist of single family, two-family, small multi-family, and moderate multi-family residential as defined by Sec. 34-420. Although commercial and retail uses are within a ¼ mile of the Subject Properties, the overwhelming use type for this location, and surrounding neighborhood, is residential. Within the residential use, the majority of units are rentals, but owner occupied units still exist primarily to the north of the Subject Properties. It should also be noted that although a majority of the dwelling "type" is single family detached, this is only referencing the structure and not the use. Due to the proximity to UVA many of the single family detached units are functioning as small apartments or two-family dwellings. This is a product of bedroom count and allowable unrelated inhabitants per Sec. 34-420.

Staff Analysis: The by-right density for the Subject Properties could create a residential development with a maximum of thirty-five (35) units. The proposed SUP would increase that density and would have a maximum unit count of one hundred and nineteen (119). This would be an increase of eight four (84) units over that of a by-right development. Under R-3 regulations, each unit within a residential development can have up to four (4) unrelated persons living in the unit (Sec. 34-420). This would mean a by-right development could have as many as one hundred and forty (140) bedrooms. Although the application materials do not indicate a final bedroom count, page two (2) of attachment B indicates the required parking for the development would be two hundred (200) spaces. This indicates the total bedroom count would be under the maximum allowable of four hundred and seventy-six (476) bedrooms under Sec. 34-420. The most likely final outcome will be a mix of one-, two-, three-, and four-bedroom units. The applicant's Traffic Impact Analysis (attachment E) indicates the bedroom count will be around three hundred and ninety (390). This number will need to be finalized during the final site plan review.

The majority of residential developments surrounding the Subject Properties have a unit count from one (1) to ten (10) with more density (over twenty units per dwelling) to the south of JPA (information provided by the City Assessor's Office). Developing the Subject Properties to a unit count of one hundred and nineteen (119) would create one of the largest multi-family residential developments in the area. Although it is true that comparable developments are located in this area (as it relates to density and height), these developments are located farther north on JPA. For comparison, below are the dwelling unit counts for the larger multi-family residential developments in the immediate area:

- 1725 JPA = nineteen (19) units and six (6) stories (DUA of 49)

- 1815 JPA = thirty (30) units and four (4) stories (DUA of 47)
- 2111 JPA = thirty-four (34) units and (3) stories (DUA of 55)

These counts only indicate units and not bedrooms. For a maximum bedroom count the unit count can be multiplied by four (4).

Based on the surrounding uses, staff believes the "use" of multi-family residential on the Subject Properties is harmonious with the existing patterns of development. By contrast, staff believes the scale and density of the development is not harmonious with the existing patterns within the neighborhood.

(2) Whether the proposed use or development and associated public facilities will substantially conform to the city's comprehensive plan.

Below are specific areas of the Comprehensive Plan for which the request could be in compliance:

a. Land Use, Urban Form, and Historic & Cultural Preservation

Goal 2: Future Land Use Vision.

Guide implementation of the Future Land Use vision contained in this Comprehensive Plan, including support for existing neighborhoods and preventing displacement.

Goal 7: Entrance Corridors.

Ensure that the quality of development in Charlottesville's designated Entrance Corridor Overlay Districts is compatible with the City's requirements and standards, and with the adjacent neighborhood's historic, architectural, and cultural resources, while allowing for reuse of structures and evolution of uses in these areas.

b. Housing

Goal 2: Diverse Housing Throughout the City.

Support a wide range of rental and homeownership housing choices that are integrated and balanced across the city, and that meet multiple City goals including community sustainability, walkability, bikeability, ADA accessibility, public transit use, increased support for families with children and low0income households, access to food, access to local jobs, thriving local businesses, and decreased vehicle use.

c. Transportation

Goal 1: Complete Streets

Create and maintain a connected network of safe, convenient, and pleasant accommodations for pedestrians, bicyclists, and transit riders, including people of all ages and abilities.

Goal 2: Coordination with Land Use & Community Design

Improve quality of life and promote active living by reducing automobile use and congestion and supporting multimodal options for safe and convenient travel in conjunction with implementation of the Future Land Use Vision.

Goal 4: Parking Supply and Management

Provide a balanced approach to parking that supports economic vitality, achieves urban form goals, minimizes environmental impacts, and accommodates pedestrians, bicycles, transit users, and disabled individuals.

d. Environment, Climate, and Food Equity

Goal 6: Tree Canopy

Contribute to the creation, protection, and expansion of robust urban forests.

Below are specific areas of the Comprehensive Plan for which the request may not be in compliance:

a. Land Use, Urban Form, and Historic & Cultural Preservation

Goal 3: Balance Conservation and Preservation with Change.

Protect and enhance the existing distinct identities of the city's neighborhoods and places while promoting and prioritizing infill development, housing options, a mix of uses, and sustainable reuse in our community

Goal 7: Entrance Corridors.

Ensure that the quality of development in Charlottesville's designated Entrance Corridor Overlay Districts is compatible with the City's requirements and standards, and with the adjacent neighborhood's historic, architectural, and cultural resources, while allowing for reuse of structures and evolution of uses in these areas.

b. Environment, Climate, and Food Equity

Goal 6: Tree Canopy

Contribute to the creation, protection, and expansion of robust urban forests.

Comprehensive Plan- *Staff Analysis:*

The Subject Properties are zoned R-3 with Entrance Corridor overlay. R-3 consists of mainly medium density residential units with small to medium apartment buildings being the most common use. In this section of the City most development on R-3 lots are by-right and have a density of twenty-one (21) DUA. Some of the larger developments in the area, ones with DUA over 21, were granted SUPs, constructed prior to the current code, or are located within the UHD zoning district. The 2021 Comprehensive Future Land Use Map indicates the

Subject Properties remain Urban Mixed Use Corridor. The land use section of the comprehensive plan states the following for Urban Mixed Use Corridor:
Description: Higher intensity mixed use development arranged along corridors between employment, commercial, and civic hubs of the City.
Form: Respond to existing residential, environmental, historic context. building heights according to context.
Height: 5 stories, up to 8 at key intersections, such as intersections of Streets That Work Downtown, Industrial, Mixed Use, or Neighborhood corridors.
Use and Affordability: Commercial, employment, residential. Include an inclusionary zoning mechanism to support housing affordability.

As presented, the development will be required to provide nine (9) affordable dwelling units on or off site; or pay $493,094.88 into the City's Affordable Housing fund per Sec. 34-12 (attachment C).

Staff finds the proposed development conforms to the Future Land Use Map as it relates to *Description* and *Use* and the general goal of the plan and map as it relates to increasing density along the JPA corridor but would not conform to *Form* and *Height*. The application, as proposed, would have seven (7) stories at the JPA and Washington/Observatory Avenue intersections. It is stated that buildings up to eight (8) stories are appropriate at "key intersections" in this district. Key intersections are not called out in any City planning documents, but it is staff's professional opinion that Washington Avenue and Observatory Avenue would not be categorized as "key intersections" due to existing conditions and level of use. Key intersections for this area would most likely be JPA at Maury Avenue and JPA at Shamrock Road. The applicant is noting that although Washington/Observatory are not "key intersections', a seven (7) story building at this location would transition from the stated goal of five (5) within the district to a future eight (8) at Maury. Staff finds that design elements being incorporated into the building, such as stepping back the bulk after two (2) stories on the western frontage and additional articulation could make the building feel smaller than seven (7) stories. Staff is concerned with the eastern frontage of the building as it is the tallest portion of the structure due to grade. A five (5) story building would be more appropriate in this location, but the impacts of the increased height can be mitigated during the subsequent design review process and application of the Entrance Corridor Design Guidelines. In addition, staff cannot make a full determination on Affordability or Density as those aspects of the land use map are tied to a future zoning code.

Streets that Work Plan

The 2016 Streets that Work Plan labels Jefferson Park Avenue (JPA) as *Mixed Use B* typology. *Mixed Use B* streets are characterized as able to support high levels of walking, bicycling, and transit as they connect important destinations within the City and surrounding county. The Streets that Work Plan recommends a minimum clear zone width of seven (7) feet for sidewalks, which are noted along with a curbside buffer zone (the area between the curb and sidewalk) as the highest priority items in the *Mixed Use B* typology. The next level (high) priority items for Mixed Use B typology are five (5) to seven (7) foot bike lanes, turn boxes, ten (10) foot shared use paths, and bicycle parking in curbside buffer zoned or on-street.

The existing conditions for JPA include a 4.5 foot wide sidewalks with no buffer, on street parking, a marked bike lane, and crosswalk markings over Washington Avenue. As part of the development, per attachment B, the applicant will provide a larger sidewalk (no dimensions given) and additional pedestrian access next to the building.

The Streets that Work Plans labels Washington Avenue and Observatory Avenue as “Local”. Local streets are found throughout the city and provide immediate access to all types of land uses. Although local streets form the majority of the street network, there is no specific typology associated with them. This is due in part to the many variations in context and right-of-way width, as well as the community’s expressed desire to replicate as nearly as possible the feel of older local streets that do not meet current engineering and fire code standards.

The existing conditions for Washington Avenue are similar to many of the Local streets in the City. No sidewalk exists on the Subject Properties side and only a partial four (4) foot wide sidewalk is constructed on the opposite (eastern) side. This sidewalk starts at the intersection of JPA and runs north for about one-hundred and fifty (150) feet before ending. The conditions are the same for Observatory Avenue, but with a newer four (4.5) foot wide sidewalk on the side opposite (western) to the Subject Properties. This sidewalk also starts at the intersection of JPA and runs north for about one-hundred and fifty (150) feet. On the Subject Properties side a four (4.5) foot wide sidewalk (with no buffer) starts about two-hundred (200) feet from the intersection with JPA and continues north to the end of the Subject Properties. In relation to connectivity, Washington Avenue connects JPA to Stadium Road. Observatory Avenue terminates into a dead-end about three-hundred (300) feet north of the Subject Properties. As part of the proposed development a sidewalk (no dimensions provided) without a planting buffer will be constructed along Washington Avenue and JPA. Along Observatory Avenue a sidewalk (no dimensions provided) with a

buffer is being proposed. The development also proposes on street parking for both Washington Avenue and Observatory Avenue. This would be permitted parking but not available to residents and guest of the development (see 4(a) below).

Staff Analysis: Based on the application package, staff concludes that the pedestrian network along Washington and Observatory as shown on attachment B, would be consistent with the City's Streets that Work Plan and would be an upgrade to the existing conditions. It should be noted that any by-right development on the Subject Properties would not require the construction of sidewalks per Sec. 34-1124 as the Subject Properties are not vacant. For JPA staff believes the pedestrian network is not consistent with the City's Streets That Work Plan. Staff would like to see a seven (7) foot sidewalk with a three (3) foot landscape buffer proposed for JPA. This would address the highest priorities of Mixed Use B Streets for this area.

Bike Ped Master Plan

The City's 2015 Bike Ped Master Plan indicates JPA to have "Bike Lanes or Buffered Bike Lanes". Bicycle lanes are one-way, on-road bike facilities that provide a dedicated space for people bicycling parallel to motor vehicle traffic. Bicycle lines are often delineated with pavement marking stripes and, in some cases, may be fully colored for higher visibility, especially at intersections. Additional striping or hatching between a bicycle lane and vehicular travel lane is recommended to provide a buffer between the person bicycling and the person driving, where roadway widths allow. Bicycle lanes without a buffer require a minimum width of 5-6 feet and bicycle lanes with a buffer require 7-8 feet. JPA currently has bike lanes and nothing in the proposed plan alters this existing feature. No improvements are recommended for Washington and Observatory Avenues within the Bike Ped Master Plan.

(3) Whether proposed use or development of any buildings or structures will comply with all applicable building code regulations.

Based on the information contained within the application the proposed development would likely comply with applicable building code regulations, but final determination cannot be made until final site plan review.

(4) Potential adverse impacts, including, but not necessarily limited to:

a) Traffic or parking congestion

Traffic

The City Traffic Engineer has reviewed the Traffic Impact Analysis (Attachment E) provided by the applicant. The following information is a synopsis of the information provided in the Traffic Impact Analysis. Please see Attachment E for more information.

Trip generation information (VPD): The trip generation figures provided by the applicant indicate that a development of off campus student housing apartments will have 1,070 vehicular trips per day.

Peak-hour traffic: As shown in the trip generation, the morning peak hour would have 38 trips. The afternoon peak hour would have 53 trips. A mid-day peak would also occur with 84 trips. As this development is targeted toward campus housing, the newest edition of the ITE manual accounts for this different use rather than a normal apartment building as it generally has a different time of day trip generation.

Traffic Counts, adjacent streets—The applicant conducted a traffic count study on August 31st, 2021 (background data included in Attachment E). The study found that the existing traffic volumes are as follows:

- Jefferson Park Avenue: Approximately 12,000 vehicles per day (ADT)
- Stadium Road: Approximately 3,800 vehicles per day (ADT)
- Observatory Avenue: Approximately 200 vehicles per day (ADT)
- Washington Avenue: Approximately 200 vehicles per day (ADT)

At the direction of staff, the applicant did evaluate the intersections most effected by the development to see if the increased traffic would satisfy requirements for additional traffic signals. It was found that signalized intersections would not be warranted.

Staff Analysis: The City Traffic Engineer has reviewed the provided Traffic Impact Analysis, and found the information provided to be sufficient and appropriate. The proposed development and increased residential density, while increasing traffic on the roadway, will not create an adverse effect on traffic on surrounding City streets. Much of this is due to the redistribution of trips in the “off campus student housing” and the location of the project to UVA and proximity to both CAT and UTS transit options.

<u>Vehicular Access</u>

The proposed project will only have one vehicular access point off of Washington Avenue to an underground parking facility.

Staff Analysis: While in many conditions multiple access points are desirable, for this particular location the traffic engineer has agreed that a singular access point is not only acceptable, but desirable. The building will be close enough to Observatory for fire apparatus to service the building if needed. As Observatory and Washington Avenue are less than 250 feet apart, having a singular access point for the traveling public to have to anticipate vehicles turning in and out is beneficial. Observatory is also a sub-standard roadway and would have difficulty accommodating additional traffic while still maintaining the on-street parking that is currently present.

Parking

As part of the applicants request to increase density, the applicant is also requesting to reduce the onsite parking by twenty-two percent (22%) of the requirements under Sec. 34-984. Under Sec. 34-984 efficiency, one-bedroom and two-bedroom units need to provide a minimum of one (1) space per unit. Three- and four-bedroom units need to provide two (2) spaces per units. The application materials do not call out a final unit count for each type, but it is indicated studio, one-, two-, three- and four-bedroom units are being considered. If built out to a max of one-hundred and nineteen (119) four-bedroom units, two-hundred and thirty-eight (238) onsite parking spots would be required. With a twenty-two percent (22%) reduction the minimum parking required, in this configuration, would be one-hundred and eighty-six (186). The application materials indicate the final space count will be one-hundred and twenty-five (125). This indicates some of the units will fall under the requirement of only needing one (1) space per unit and not two (2). Under the current plan all parking will be provided under the proposed development with one access point on Washington Avenue. Due to current regulations, the proposed development would not be eligible to obtain on street parking permits in this zone (Zone 1). This means residents and guest of the proposed development would not be allowed to park on Washington or Observatory within the restricted hours setout is Section 15-208: *Sunday, 12:01 a.m. to 7:00 a.m., Monday through Saturday, 12:01 a.m. to 7:00 p.m. restricted parking areas designated within zone 1 on or after May 20, 2002.* Non permit parking is allowed on JPA.

Other Modes of Transportation

There are several mass transit stops located within a quarter (1/4) mile, including stops on JPA, Shamrock, Fontaine and Stadium that are serviced by both the UTS and the CAT's free trolly. JPA has bike lanes in both directions that connect all the way to UVA and to West Main Street. The proposed development is also served by a complete (but mostly un-buffered) sidewalk network immediately adjacent to the Subject Properties along JPA but has limited sidewalk along Washington Avenue (see the above Streets

that Work and Bike Ped Master Plan sections). The Subject Properties could be served by a system of scooter and bicycle programs due to the proximity to UVA.

Staff Analysis: Staff believes a condition should be placed on the applicant to upgrade the existing pedestrian crossing at Harmon Street for residents to have a more manageable way to access all transit options that are being so heavily leveraged in the proposed development. Additional sidewalk along Washington Avenue to connect to Stadium Road, while ideal, is not practical with this project.

Staff Analysis: Based on the information provided in the application it appears an increase in density from twenty-one (21) DUA to seventy (70) DUA would not have an adverse impact related to traffic and transportation. The proposed development could have an adverse impact on the surrounding neighborhood as it relates to parking should adequate measures not be implemented. Staff recommends conditioning the applicant work with the City Traffic Engineer to develop a detailed parking plan that is kept on file with the City.

Staff Analysis: Staff finds the existing pedestrian circulation plan is not adequate and the sidewalk on JPA should be updated to meet the standards described in the Streets that work Plan. Staff recommends a condition that the applicant provide seven (7) foot sidewalks with a planting buffer on JPA.

b) Noise, lights, dust, odor, fumes, vibration, and other factors which adversely affect the natural environment

The proposed development will not result in any additional dust, odor, fumes, vibration, or other factors that could also be present with any by-right development. It should be noted that due to the height and density, noise and lighting could be more intense than would be present in a by-right development. Any site plan submitted would need to conform to Division 3 *Lighting* of the Zoning Ordinance.

c) Displacement of existing residents or businesses

There are currently six (6) buildings on the Subject Properties totaling seventeen (17) dwelling units. These units would be removed to accommodate the proposed development. The application materials indicate construction would not begin until existing leases expire. With the replacement of the existing units the net gain for the Subject Properties will be one hundred-two (102) units.

d) Discouragement of economic development activities that may provide desirable employment or enlarge the tax base

No discouragement of economic development activities will be associated with the proposed development. The existing rental unit count will be multiplied by seven (7) upon completion. Prior to completion of the project, the Subject Properties would be vacant and not contributing at current levels.

e) Undue density of population or intensity of use in relation to the community facilities existing or available

The City's Comprehensive Plan identifies community facilities as fire protection, police enforcement, and emergency response services; public utilities and infrastructure; and public parks and recreation opportunities. Although final determination for capacity and code compliance will take place at Final Site Plan review, each of these departments have reviewed the SUP applicant and determined the development, as proposed, would not have an adverse impact on community facilities.

f) Reduction in the availability of affordable housing in the neighborhood

This application includes the Affordable Dwelling Unit (ADU) Ordinance Worksheet, which currently identifies a minimum of nine (9) ADUs required pursuant to the gross floor area proposed in excess of 1.0 FAR (per Sec. 34-12. - Affordable dwelling units.). Cash-in-Lieu Payment information is also included on the worksheet. The applicant has indicated they will be pursuing the cash-in-lieu option.

The Office of Community Solutions offers the following comments as to this application:

- preference that on-site affordable dwelling units be provided for City residents (not students) with this project vs. cash-in-lieu payment
- "affordable dwelling units" means dwelling units that are affordable to households with incomes at not more than 80% of the area median income and that are committed to remain affordable for a term of not more than thirty (30) years
- A marketing plan on how to market the designated affordable units shall be provided to the City's Office of Community Solutions
- When completed and occupied, owner shall provide an annual report on affordability compliance to the City on a template provided by the City's Office of Community Solutions

The table below shows the 2022 HUD guidelines for Fair Market Rent. If this application is approved, the FMR will be based on the HUD guidelines for the year that the Certificate of Occupancy for the unit is issued.

	Eff	1 BR	2 BR	3 BR	4 BR
2022 HUD FMR	1,024	1,063	1,264	1,562	1,959
Monthly cost includes tenant-paid utilities					

g) Impact on school population and facilities

Because housing is open to all, there is a possibility that families with children could take residence here. Therefore, some impact could be created on school population and facilities.

h) Destruction of or encroachment upon conservation or historic districts

The subject property is not within any of these design control districts.

i) Conformity with federal, state and local laws, as demonstrated and certified by the applicant

Based on the information contained within the application, the proposed development would likely comply with applicable federal and state laws. As to local ordinances (zoning, water protection, etc.), it generally appears that this project, as detailed in the application, can be accommodated on this site in compliance with applicable local ordinances; however, final determinations cannot be made prior to having the details required for final site plan and building permit approvals. Specific Z.O. requirements reviewed preliminarily at this stage include massing and scale (building height, setbacks, stepbacks, etc.) and general planned uses.

j) Massing and scale of project

The building being proposed has a footprint of approximately fifty-one thousand two hundred (51,200) square feet and will take up the entire block between Washington Avenue and Observatory Avenue. The height of the building will be seventy-five (75) feet as measured per Sec. 34-1100 and Sec. 34-1200 but could appear taller from JPA and shorter from the back of the Subject Properties. The application materials indicate the building will be five (5) stories of apartment over two (2) stories of underground parking. This makes the building seven (7) stories as viewed from JPA and five (5) stories as viewed from the back of the Subject Properties. In the application renderings, the apartments are configured in a “U” shape above the underground parking. This

configuration makes the overall development appear as two (2) buildings and breaks up the massing as viewed from JPA. The front setback will be just over twenty-six (26) feet with side setbacks of twenty (20) feet. The rear setback will be thirty-six (36) feet.

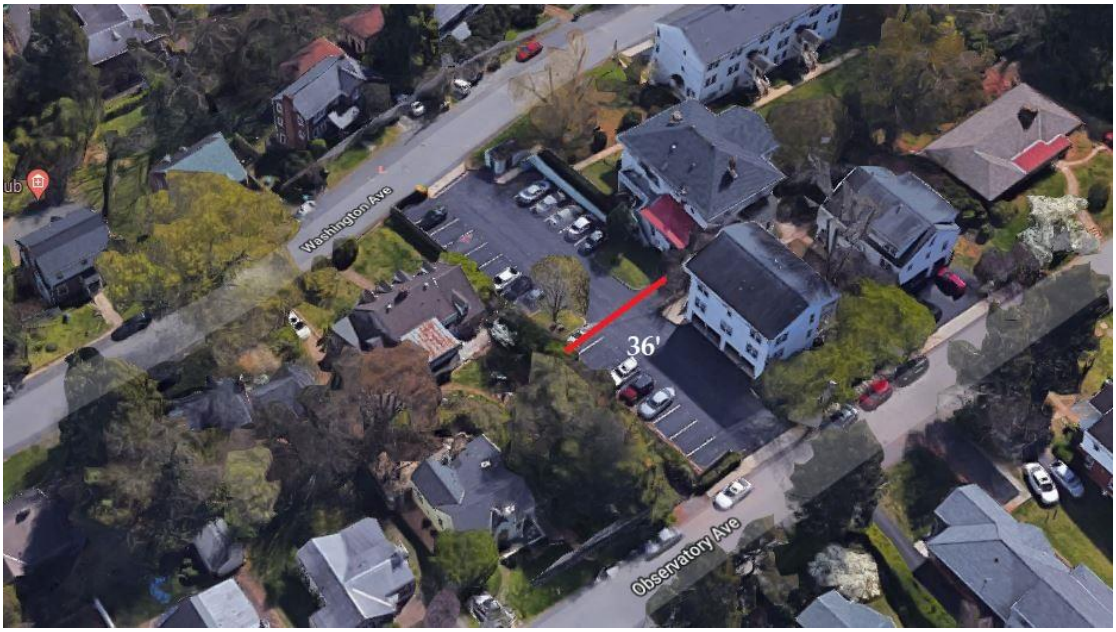
The maximum height allowed in this zoning district is one-hundred and one (101) feet with a Special Use Permit and a DUA of forty-four (44) or above per Sec. 34-353(b)(3). Buildings in the R-3 zoning district are measured by feet and not stories. This conflicts with the 2021 Future Land Use Map as "Height" is measured in stories for this land use designation. Should the Subject Properties be developed by-right, the max height allowed would be forty-five (45) feet. Another characteristic of the R-3 zoning districts is side yard setbacks are calculated based on the height and density of the building. But this is only applicable for side setbacks "not" adjacent to ROW or considered "corner lots". For corner lot setbacks, the required distance is a set twenty (20) feet and is not altered by the height and/or density of the building per Sec. 34-343(a). The development as presented would meet side and front setback requirements. Sec. 34-343(b)(4) requires a seventy-five (75) foot setback from any multifamily development with a DUA of forty-four (44) and above when adjacent to a low density zoned district. The proposed development is adjacent to a R-2U lot which is considered low density. As part of the SUP the applicant is requesting to modify this requirement to make the rear yard setback thirty-six (36) feet.

Staff Analysis: This section reflects staff's analysis as it relates to Massing and Scale for the SUP. For more detailed information on design and how the proposed development could impact the Entrance Corridor, see the ERB Staff Report. Also, it should be noted that the final design of the proposed development is subject to review by the Entrance Corridor Review Board and to date that application has not been submitted.

According to the City's Future Land Use Map the JPA corridor is anticipated to go through a significant change in the coming years based off the stated goals of the plan. These goals include more "intense" mixed use developments within five (5) and eight (8) story buildings. Although this is the vision for the corridor, the neighborhood directly impacted by the proposed development is still mainly a mix of one (1) and two (2) story residential dwellings. Staff is concerned with the impact such a large building could have on these properties. Staff believes some of the massing has been broken up by arranging the apartment units in a "U". This makes the building look like two (2) smaller buildings sitting on a pedestal from a pedestrian perspective on JPA. Staff would like to see the seven (7) story section of the building that is located at the corner of JPA and Washington Avenue pushed back or articulated more in order to scale back the massing

at that intersection. In general, staff does believe the massing and scale of the development as it relates to JPA will activate the street and create an inviting pedestrian experience.

Staff's biggest concern with the massing and scale relates to the portion of the building that abuts the low density residential zoned district. The application materials (attachment B) indicate the five (5) story section of the building will only be twenty (20) feet taller than max by-right height of any future building to the north thirty-five (35) feet. There is currently one (1) two-story building and one (1) three-story building within approximately thirty-six (36) feet of the property line. This is the same setback the application is requesting for the new development. See insert below:

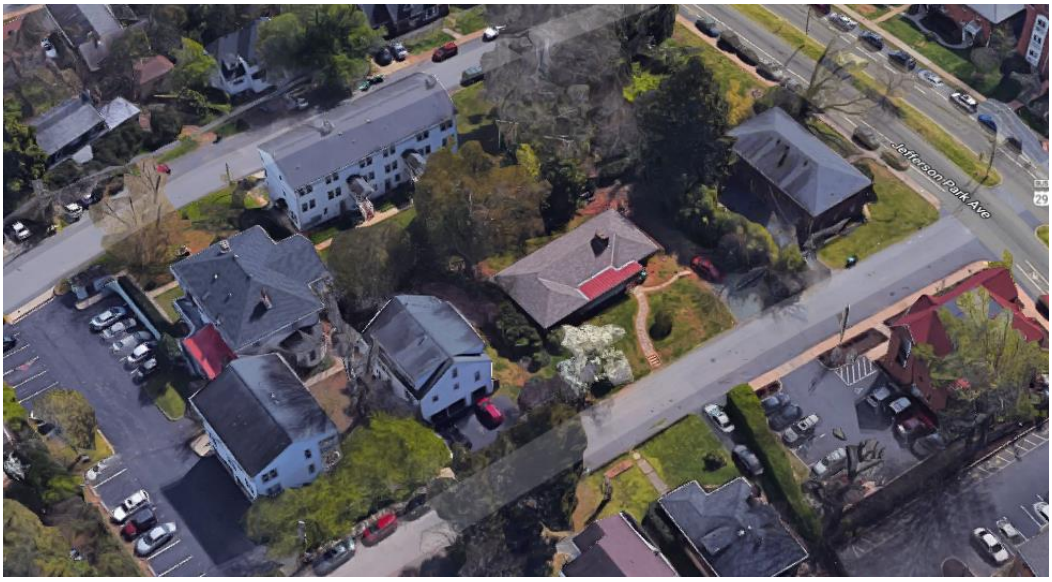


In addition, below is a view of the existing two-story building (far left) as seen in relation to the existing low density residential unit (far right) from Washington Avenue.

As is evident, the existing two-story unit is already taller than the existing low density structure. Staff is concerned three (3) additional stories on the Subject Properties could create an inappropriate transition to that existing structure. Should that property be redeveloped in the future, the height difference would only be twenty (20) feet. Staff believes the twenty-five (25) foot S-3 planting buffer will offer protection and it may be appropriate to incorporate a privacy fence too in some areas. This would be addressed at final site plan review. Staff would like to see the building step-back after two-stories or see the grade lowered on the back end of the Subject Properties to ensure a better transition to the low density district if posable, but staff would be satisfied with large mature evergreen trees and screening buffering the twenty-five (25) feet from the property line.

Staff is less concerned with the massing along Washington Avenue as an existing four and one half (4 ½) story building already sits in close proximity to the street. Although the proposed building replacing this structure will be larger, the improved streetscape, setback, and articulation will mitigate the impact.

Although the existing buildings along Observatory Avenue (on the Subject Properties) are not as tall as the one on Washington Avenue, staff believes the improved streetscape, setback, and articulation will mitigate the impact of the proposed five (5) to seven (7) story building.



(5) Whether the proposed use or development will be in harmony with the purposes of the specific zoning district in which it will be placed;

The Subject Properties are currently zoned R-3 with Entrance Corridor (EC) overlay.

The purpose of the multifamily residential zoning district is to provide areas for medium- to high-density residential development. The basic permitted use is medium-density residential development; however, higher density residential development may be permitted where harmonious with surrounding areas. Certain additional uses may be permitted, in cases where the character of the district will not be altered by levels of traffic, parking, lighting, noise, or other impacts associated with such uses.

R-3 consists of medium-density residential areas in which medium-density residential developments, including multifamily uses, are encouraged.

The entrance corridor overlay district (EC) is intended to implement the comprehensive plan goal of protecting the city's historic, architectural and cultural resources, by ensuring a quality of development compatible with those resources through design control measures. The purposes of this article are to stabilize and improve property values; to protect and enhance the city's attractiveness to tourists and other visitors; to sustain and enhance the economic benefits accruing to the city from tourism; to support and stimulate development complimentary to the prominence afforded properties and districts having historic, architectural or cultural significance; all of the foregoing being deemed to advance and promote the health, safety and welfare of the general public.

Staff Analysis: Staff finds that although the Zoning Ordinance does not define “medium-density, Sec. 34-420 indicates any density up to eighty-seven (87) DUA is appropriate in the

R-3 districts. Nothing within the SUP application would conflict with the district regulations. Additional information on the EC is provided under the ERB Staff Report.

(6) Whether the proposed use or development will meet applicable general and specific standards set forth within the zoning ordinance, subdivision regulations, or other city ordinances or regulations; and

Based on the information contained within the application, the proposed development would likely comply with applicable local ordinances. However, final determinations cannot be made prior to having the details required for final site plan and building permit approvals.

(7) When the property that is the subject of the application for a special use permit is within a design control district, city council shall refer the application to the BAR or ERB, as may be applicable, for recommendations as to whether the proposed use will have an adverse impact on the district, and for recommendations as to reasonable conditions which, if imposed, that would mitigate any such impacts. The BAR or ERB, as applicable, shall return a written report of its recommendations to the city council.

The Subject Property is located within an Entrance Corridor Overlay, where the final design of the proposed development is subject to review by the Entrance Corridor Review Board (ERB).

Public Comments Received

Community Meetings Required by Sec. 34-41(c)(2)

The applicant held a community meeting on December 7, 2021 and was well attended by twelve (12) members of the public. A recording of the meeting can be found at the below link. https://transcripts.gotomeeting.com/#/s/9e98af90f4404d2dd2a2a7d7cca2cfaff77ec76ae4c36d12fdfbebefe6788c32

Staff has received a number of emails and phone calls (attachment D) expressing concerns with the development. Below is an outline of these concerns:

- Lack of on street parking: Observatory and Washington already deal with a lack of on street parking that impact everything from trash pick up to blocking driveways.
- Parking will be inadequate for the development and impact the surrounding neighborhood.
- The scale of the building will be much larger than any of the surrounding buildings.
- The project will place too much density in one location.
- The development will remove existing trees that are part of the urban forest.

- Students living in the development will still have cars and not walk and take the bus everywhere.
- Visitor parking is not accounted for.
- The new development will create too much impervious surface and not be environmentally friendly.
- The setback should not be reduced.

Any comments received after the completion of this staff report will be directly sent to Planning Commission and City Council.

Staff Recommendation

Staff finds the applications meets general standards three (3), five (5), and six (6) and with reasonable conditions the application would meet standards two (2), four (4), and seven (7). The application does not meet standard one (1).

Recommended Conditions

Should Planning Commission recommend approval to City Council, Staff recommends that following conditions be included:

1. Up to seventy (70) dwelling units per acre (DUA) are permitted on the Subject Properties.
2. Modification of rear yard setback to thirty-six (36) feet with a twenty-five (25) foot S-3 buffer.
3. A new seven (7) foot sidewalk with three (3) foot curbside buffer shall be constructed along Jefferson Park Avenue in accordance with the City's Streets That Work Plan.
4. The applicant will work with the City's Traffic Engineer to develop a Master Parking Plan for the site. This plan will be kept on file with the City and may be updated or altered from time to time with authorization of the City's Traffic Engineer. The plan shall indicate how the developer will distribute available parking spots on site, how potential residents are informed of their parking opportunities, and any possible offsite parking arrangements for residents, etc.…
5. The pedestrian crossing of JPA at Harmon Street will be upgraded to provide safer access to transit options. The applicant will work with the City's Traffic Engineer to determine appropriate improvements.
6. The rear setback will include a twenty-five (25) foot wide S-3 buffer with mature trees and shrubs at time of planting. As a S-3 screening buffer is only ten (10) feet wide per code, additional trees and shrubs may be required to create an adequate buffer. Staff will determine appropriate screening in line with this condition at final site plan review.

Suggested Motions

1. I move to recommend approval of this application for a Special Use Permit in the R-3 zone at 170104000, 170103000, and 170103100, collectively 2005/2007 Jefferson Park Avenue and 104 Observatory Avenue to permit additional density with the following listed conditions.
    a. The six (6) conditions recommended by staff
    b. [alternative conditions, or additional condition(s)….list here]

Or

2. I move to recommend denial of this application for a Special Use Permit in the R-3 zone at 170104000, 170103000, and 170103100 collectively 2005/2007 Jefferson Park Avenue and 104 Observatory Avenue to permit additional density.

Attachments

A. Special Use Permit Application
B. Special Use Permit Narrative and supporting documents
C. Affordable Dwelling Unit Ordinance Worksheet
D. Public Comments
E. Traffic Impact Analysis

Attachment A

City of Charlottesville

Application for Special Use Permit

Project Name: 2005 Jefferson Park Avenue

Address of Property: 2005 Jefferson Park Avenue, 2007 Jefferson Park Avenue, and 104 Observatory Avenue

Tax Map and Parcel Number(s): TMP 17-104, TMP 17-103, TMP 17-103.1

Current Zoning District Classification: R-3

Comprehensive Plan Land Use Designation: Urban Mixed Use Corridor

Is this an amendment to an existing SUP? No

If "yes", provide the SUP #:

Applicant: Aspen Topco II Acquistitions, LLC

Address: 8008 Corporate Center Drive, Suite #201, Charlotte, NC 28226

Phone: #704-255-4115 **Email:** dhelfrich@ahpliving.com

Applicant's Role in the Development (check one):

☐ Owner ☐ Owner's Agent ☐ Designer ☑ Contract Purchaser

Owner of Record: Norman Lamson, Trustee of the Gadient Land Trust Agreement
c/o Gadient Enterprises, Inc., sole beneficial owner

Address: Att: Anthony J. Gadient, President
529 Rookwood Place, Charlottesville, VA 22903

Phone: 412-979-3779 (cell #) **Email:** gadientaj@gmail.com

Reason for Special Use Permit:

☑ Additional height: 75 feet

☑ Additional residential density: _____ units, or 70 units per acre

☐ Authorize specific land use (identify)_____

☑ Other purpose(s) (specify City Code section): Reduction in rear yard setback (Sec. 34-353) & a parking reduction (Sec. 34-984)

(1) Applicant's and (2) Owner's Signatures

(1) Signature David Helfrich **Print** David Helfrich **Date** 03/09/22

Applicant's (Circle One): LLC Member LLC Manager Corporate Officer (specify) _____

Other (specify): _____

(2) Signature Norman Lamson, Trustee of the Gadient JPA Land Trust under trust agreement dated 1/3/2005 and not individually **Print** NORMAN LAMSON TRUSTEE OF THE GADIENT JPA LAND TRUST UNDER AGREEMENT DATED 1/3/2005 AND NOT INDIVIDUALLY **Date** 3-11-2022

Owner's (Circle One): LLC Member LLC Manager Corporate Officer (specify) _____

Other (specify): Trustee of a Land Trust

Attachment A

City of Charlottesville

Pre-Application Meeting Verification

Project Name: 2005 Jefferson Park Avenue

Pre-Application Meeting Date: 5/27/21 and 6/2/21

Applicant's Representative: John Matthews, Erin Hannegan

Planner: Matt Alfele

Other City Officials in Attendance:

Jeff Werner

The following items will be required supplemental information for this application and must be submitted with the completed application package:

1. Massing Diagram
2. Any documents or studies that may be required by the City's Traffic Engineer.
3. Please contact Brennen Duncan for more Information.
4.
5.

Planner Signature: Matthew Alfele

Attachment A

City of Charlottesville

Application Checklist

Project Name: 2005 Jefferson Park Avenue

I certify that the following documentation is ATTACHED to this application:

- ☐ 34-158(a)(1): a site plan (ref. City Code 34-802(generally); 34-1083(communications facilities)
- ☐ 34-158(a)(3): Low-impact development (LID) methods worksheet (required for developments that include non-residential uses, and developments proposing 3 or more SFDs or TFDs)
- ☐ 34-158(a)(4): a building massing diagram, and building elevations (required for applications proposing alteration of a building height or footprint, or construction of any new building(s))
- ☐ 34-158(a)(5) and 34-12: affordable housing data. (i) how many (if any) existing dwelling units on the property are an "affordable dwelling unit" by the city's definitions? (ii) Will existing affordable units, or equivalent affordable units, remain following the development? (iii) What is the GFA of the project? GFA of residential uses? GFA of non-residential uses?
- ☐ 34-157(a)(1) Graphic materials that illustrate the context of the project, and a narrative statement as to compatibility with existing patterns of use and development
- ☐ 34-157(a)(2) Narrative statement: applicant's analysis of conformity with the Comprehensive Plan
- ☐ 34-157(a)(3) Narrative statement: compliance with applicable USBC provisions
- ☐ 34-157(a)(4) Narrative statement identifying and discussing any potential adverse impacts, as well as any measures included within the development plan, to mitigate those impacts
- ☐ 34-158(a)(6): other pertinent information (narrative, illustrative, etc.)
- ☐ All items noted on the Pre-Application Meeting Verification.

Applicant Aspen Topco II Acquistitions, LLC

Signature _____ **Print** David Helfrich **Date** 01/04/22

By Its: LLC Member

(For entities, specify: Officer, Member, Manager, Trustee, etc.)

Attachment A

City of Charlottesville

Community Meeting

Project Name: 2005 Jefferson Park Avenue

Section 34-41(c)(2) of the Code of the City of Charlottesville (adopted _____, 2015) requires applicants seeking rezonings and special use permits to hold a community meeting. The purpose of a community meeting is to provide citizens an opportunity to receive information about a proposed development, about applicable zoning procedures, about applicable provisions of the comprehensive plan, and to give citizens an opportunity to ask questions. **No application for a rezoning shall be placed on any agenda for a public hearing, until the required community meeting has been held and the director of neighborhood development services determines that the application is ready for final review through the formal public hearing process**.

By signing this document, the applicant acknowledges that it is responsible for the following, in connection to the community meeting required for this project:

1. Following consultation with the city, the applicant will establish a date, time and location for the community meeting. The applicant is responsible for reserving the location, and for all related costs.
2. The applicant will mail, by U.S. mail, first-class, postage pre-paid, a notice of the community meeting to a list of addresses provided by the City. The notice will be mailed at least 14 calendar days prior to the date of the community meeting. The applicant is responsible for the cost of the mailing. At least 7 calendar days prior to the meeting, the applicant will provide the city with an affidavit confirming that the mailing was timely completed.
3. The applicant will attend the community meeting and present the details of the proposed application. If the applicant is a business or other legal entity (as opposed to an individual) then the meeting shall be attended by a corporate officer, an LLC member or manager, or another individual who can speak for the entity that is the applicant. Additionally, the meeting shall be attended by any design professional or consultant who has prepared plans or drawings submitted with the application. The applicant shall be prepared to explain all of the details of the proposed development, and to answer questions from citizens.
4. Depending on the nature and complexity of the application, the City may designate a planner to attend the community meeting. Regardless of whether a planner attends, the City will provide the applicant with guidelines, procedures, materials and recommended topics for the applicant's use in conducting the community meeting.
5. On the date of the meeting, the applicant shall make records of attendance and shall also document that the meeting occurred through photographs, video, or other evidence satisfactory to the City. Records of attendance may include using the mailing list referred to in #1 as a sign-in sheet (requesting attendees to check off their name(s)) and may include a supplemental attendance sheet. The City will provide a format acceptable for use as the supplemental attendance sheet.

Applicant: Aspen Topco II Acquistitions, LLC

By:

Signature _____ **Print** David Helfrich **Date** 01/04/22

Its: LLC Member (Officer, Member, Trustee, etc.)

Attachment A

City of Charlottesville

Owner's Authorizations

(Not Required)

Right of Entry- Property Owner Permission

I, the undersigned, hereby grant the City of Charlottesville, its employees and officials, the right to enter the property that is the subject of this application, for the purpose of gathering information for the review of this Special Use Permit application.

Owner: Norman Lamson, Trustee of the Gradient TPA Land Trust under Agreement dated 1/3/2005 **Date** 3-15-2022

By (sign name): _____ **Print Name:** Norman Lamson, Trustee of the Gradient TPA LAND TRUST UNDER AGREEMENT DATED 1/3/2005

Owner's: LLC Member **LLC Manager** **Corporate Officer (specify):** _____

Other (specific): Trustee of a Land Trust

Owner's Agent

I, the undersigned, hereby certify that I have authorized the following named individual or entity to serve as my lawful agent, for the purpose of making application for this special use permit, and for all related purposes, including, without limitation: to make decisions and representations that will be binding upon my property and upon me, my successors and assigns.

Name of Individual Agent: David Helfrich

Name of Corporate or other legal entity authorized to serve as agent: Aspen Topco II Acquistitions, LLC

Owner: Norman Lamson, Trustee of the Gradient TPA Land Trust under Agreement dated 1/3/2005 **Date:** 3-15-2022

By (sign name): _____ **Print Name:** NORMAN LAMSON, Trustee of the GRADIENT TPA LAND TRUST UNDER AGREEMENT DATED 1/3/2005

Circle one:

Owner's: LLC Member **LLC Manager** **Corporate Officer (specify):** _____

Other (specific): Trustee of a Land Trust

Attachment A

City of Charlottesville

Disclosure of Equitable Ownership

Section 34-8 of the Code of the City of Charlottesville requires that an applicant for a special use permit make complete disclosure of the equitable ownership "real parties in interest") of the real estate to be affected. Following below I have provided the names and addresses of each of the real parties in interest, including, without limitation: each stockholder or a corporation; each of the individual officers and directors of a corporation; each of the individual members of an LLC (limited liability companies, professional limited liability companies): the trustees and beneficiaries of a trust, etc. Where multiple corporations, companies or trusts are involved, identify real parties in interest for each entity listed.

Name Anthony Gadient **Address** 2005 Jefferson Park Ave,104 Observatory Ave., & 2007 Jefferson Park Ave Charlottesville VA 22903

Name Heinz Gadient **Address** 2005 Jefferson Park Ave,104 Observatory Ave., & 2007 Jefferson Park Ave Charlottesville VA 22903

The sole beneficiary of the land trust is Gadient Enterprises, Inc. a Virginia stock corporation. The sole stockholders, directors and officers of Gadient Enterprises Inc., are Anthony J. Gadient and Heinz Gadient. Anthony's personal residence is 529 Rockwood Place, Charlottesville, VA 22903. Heinz's personal residence is 25 White Pine St., Scottsville, VA 24590

Attach additional sheets as needed.

Note: The requirement of listing names of stockholders does not apply to a corporation whose stock is traded on a national or local stock exchange and which corporation has more than five hundred (500) shareholders.

Applicant: Aspen Topco II Acquisitions, LLC

Current Ownership: *Gadient Land Trust*
Beneficiary: *Gadient Enterprisese, Inc., A Virginia Corporation*

By:

Signature David Helfrich **Print** David Helfrich **Date** 03/15/22

Its: LLC Member (Officer, Member, Trustee, etc.)

Attachment A

City of Charlottesville

Fee Schedule

Project Name: 2005 Jefferson Park Avenue

Application Type	Quantity	Fee	Subtotal
Special Use Permit (Residential)		$ 1,500	
Special Use Permit (Mixed Use/Non-Residential)		$ 1,800	
Mailing Costs per letter		$1 per letter	
Newspaper Notice		Payment Due Upon Invoice	
TOTAL			

Office Use Only

Amount Received:_____ **Date Paid**_____ **Received By:** _____

Amount Received:_____ **Date Paid**_____ **Received By:** _____

Amount Received:_____ **Date Paid**_____ **Received By:** _____

Amount Received:_____ **Date Paid**_____ **Received By:** _____

Attachment A

City of Charlottesville

LID Checklist

Project Name: 2005 Jefferson Park Avenue

LID Measure	LID Checklist Points	Points
Compensatory Plantings (see City buffer mitigation manual). 90% of restorable stream buffers restored.	5 points or 1 point for each 18% of the total acreage	
Pervious pavers for parking and driveways with stone reservoir for storage of 0.5 inches of rainfall per impervious drainage area. Surface area must be >1,000 ft.^{2} or ≥ 50% of the total parking and driveway surface area.	7 points or 1 point for each 7% of parking and driveway surface area.	
Shared parking (must have legally binding agreement) that eliminates >30% of on-site parking required.	5 points or 1 point for each 6% of parking surface eliminated.	
Impervious Disconnection. Follow design manual specifications to ensure adequate capture of roof runoff (e.g. cisterns, dry wells, rain gardens)	8 points	8
Bioretention. Percent of site treated must exceed 80%. Biofilter surface area must be ≥ 5% of impervious drainage area.	8 points or 1 point for each 10% of site treated.	5
Rain gardens. All lots, rain garden surface area for each lot ≥ 200 ft.^{2}.	8 points or 1 point for each 10% of lots treated.	
Designed/constructed swales. Percent of site treated must exceed 80%, achieve non-erosive velocities, and able to convey peak discharge from 10 year storm.	8 points or 1 point for each 10% of site treated.	
Manufactured sand filters, filter vaults (must provide filtering rather than just hydrodynamic). Percent of site treated must exceed 80%. Sizing and volume for water quality treatment based on manufacturer's criteria.	8 points or 1 point for each 10% of site treated.	
Green rooftop to treat ≥ 50% of roof area	8 points	
Other LID practices as approved by NDS Engineer.	TBD, not to exceed 8 points	
Off-site contribution to project in City's water quality management plan. This measure to be considered when on site constraints (space, environmentally sensitive areas, hazards) limit application of LID measures. Requires pre-approval by NDS Director.	5 points	
	Total Points	13

Applicant's Signature

Signature David Helfrich **Print** David Helfrich **Date** 01/04/22

Attachment A

Section 34- 8 (b) Certification

OWNER: NORMAN LAMSON, TRUSTEE, of the Gadient JPA Land Trust Under Trust Agreement dated January 3, 2005.

The Undersigned certifies that (i) no member of the Charlottesville Planning Commission, or their immediate family member, has any personal interest in the property or transaction that is the subject of the application; and (ii) no member of the city council, or their immediate family member, has any such interest. For the purposes of this certification, the term "personal interest" shall have the meaning set forth within the State and Local Government Conflicts of Interests Act, Code of Virginia, § 2.2-3101, and may refer to an interest accruing to a person individually, as a result of business or professional relationships.

Norman Lamson, Trustee of the Gadient JPA Land Trust under Trust Agreement dated January 3, 2005

NORMAN LAMSON, TRUSTEE, of the Gadient JPA Land Trust Under Trust Agreement dated January 3, 2005

COMMONWEALTH OF VIRGINIA

CITY/COUNTY OF Charlottesville, to-wit:

Subscribed, sworn and acknowledged before me by on this 21 day of January, 2022 by NORMAN LAMSON, TRUSTEE, of the Gadient JPA Land Trust Under Trust Agreement dated January 3, 2005, as a trustee and not as an individual.

[SEAL]

CHRISTINE MS BOZANIC
NOTARY PUBLIC
REGISTRATION # 7654885
COMMONWEALTH OF VIRGINIA

Notary Public

My commission expires: 31 December 2023

Notary registration number: 7654885

Attachment B

2005 JEFFERSON PARK AVENUE

CHARLOTTESVILLE, VA

SPECIAL USE PERMIT APPLICATION

MITCHELL MATTHEWS ARCHITECTS

JANUARY 11, 2022

Attachment B

REQUEST FOR INFORMAL REVIEW OF SPECIAL USE PERMIT REQUESTS (LISTED BELOW) AND ENTRANCE CORRIDOR CERTIFICATE OF APPROPRIATENESS

INTRODUCTION: 2005 JPA is a proposed multi-family residential development on Jefferson Park Avenue. The project consists of residential units over parking and is situated in close proximity (walking distance) to the University of Virginia's central grounds. The project is within an entrance corridor.

LOCATION: 2005, 2007 Jefferson Park Avenue and 104 Observatory Avenue, an assemblage of 3 lots, with frontage on Jefferson Park Avenue between Observatory Avenue and Washington Avenue.

ZONING: The property is currently zoned R-3 in the City of Charlottesville.

PROPOSED USE: Multi-Family Residential

SPECIAL USE PERMIT REQUEST: A Special Use Permit (SUP) is being requested for:

1) Additional Density:		
Allowable by right: Up to 21 DUA	Allowable by SUP: Up to 87 DUA.	PROPOSED: 70 DUA
2) Additional Height:		
Allowable by right: 45' max	Allowable by SUP: Up to 101' (44-87 DUA)	PROPOSED: 75', from average grade plane
3) Rear yard setback reduction:		
	Required: 75' (for 44-87 DUA), with a 25' S-3 buffer	PROPOSED: 36', with a 25' S-3 buffer
4) Parking reduction:		
	Required: Studios, One and Two Bedroom Apts: **1 space** Three or Four Bedroom Apts: **2 spaces** 200 spaces	PROPOSED: 22% reduction in required spaces (125 spaces after allowable reductions)

JUSTIFICATION FOR THE SPECIAL USE PERMIT FOLLOWS. REFER TO SECTION 1 (page 6) FOR INFORMATION ON THE SURROUNDING CONTEXT. REFER TO SECTION 2 (page 14) FOR ANALYSIS OF THE COMPREHENSIVE PLAN VISION FOR THIS AREA THROUGH THE LAST FEW DECADES. REFER TO SECTION 3 (page 24) FOR ILLUSTRATIVE INFORMATION EXPLAINING THE PROPOSED PROJECT.

1. **Whether the proposed use or development will be harmonious with existing patterns of use and development within the neighborhood:** The proposed multi-family residential project is harmonious with the existing patterns of use in this neighborhood – residential, predominately student rentals. The neighborhood is coincident with Census Tract 6.0, which is characterized by 93% of the current dwellings being renter-occupied and 79% being non-family household types. The proposed project is also consistent with the goals of the current zoning ordinance, and recently approved projects on Jefferson Park Avenue. This project promotes a sustainable community – making efficient use of the land and placing carefully designed student housing in close proximity to UVA. We anticipate that the scale, material choices and detailing of this proposed residential building will strengthen the character of Jefferson Park Avenue and the whole JPA neighborhood.

2. **Whether the proposed use or development and associated public facilities will substantially conform to the city's comprehensive plan:** The redevelopment of 2005 JPA conforms to both the current and previous comprehensive plans in the following areas:

Chapter 4: Land Use:

This stretch of Jefferson Park Avenue is commonly considered a student housing corridor between UVA / UVA Hospital and the Fry's Spring / Fontaine Ave Neighborhood Commercial area. It is predominately vehicular oriented and classified in the Streets that Work typology as Mixed Use B, the equivalent of West Main Street, Millmont Street, Cherry Avenue, and University Avenue. It is a multi-modal street that supports higher density development projects. The vitality of the street comes from its intensity of use for transportation – thus its designation as an Entrance Corridor. A wide range of residential densities and diverse architectural styles currently defines its character. JPA embodies the evolution of off-campus student housing around the University of Virginia. It is currently a corridor that is evolving, as expected. The ongoing comprehensive plan re-write currently envisions it as an urban mixed-use corridor, defined as higher-intensity mixed-use development linking employment, commercial and civic hubs. This project bridges between the current ordinance and the future vision of the corridor, by contributing to the establishment of a vibrant, engaged sense of place that can be replicated along Jefferson Park Avenue - one of a walkable, people-focused, urban project that aids the city in its supply of housing stock.

The project allows for an amenity space at street level for potential conversion to future commercial use – while still fitting the definition of an ancillary consumer service business, allowable within R-3 zoning. This will create a compatible condition that both meets current zoning, the 2013 comprehensive plan's goal of a mix of uses within walking distance of residential that encourages small businesses, and the future vision outlined in the ongoing comprehensive plan work.

Goal #7: Entrance Corridors This proposed project will be a quality development along one of the city's most frequented entrance corridors. Street trees and other landscape elements will enhance the streetscape and contribute to the urban design.

Chapter 5: Housing:

The proposed redevelopment of 2005 JPA will increase the neighborhood's housing stock in a location that can both support increased density and that has been earmarked by the City for increased residential use. Specifically, it will increase purpose-built student housing, which will decrease the pressure on single-family residential neighborhoods that are increasingly being populated by student rentals, such as the adjacent Fry's Spring Neighborhood, or the growth and expansion experienced on other sides of the University, into the Lewis Mountain and the 10th and Page neighborhoods. Displacement within established neighborhoods and affordability issues across the city are directly related to the historical lack of student housing supply.

Of utmost importance is an increase in city housing stock alongside the equitable impact of such development. Placing increased height and reasonable residential density in a predominately student rental neighborhood, along a transit oriented corridor, supports the city's goals and vision.

Not only will this residential project add to the city's existing housing stock, it will also trigger the affordable housing ordinance, supporting affordable housing throughout the city.

This residential building expands the diversity of housing choices in this area of the city, thereby balancing offerings with other areas such as along the West Main Street corridor, or Millmont Street. Increased density in close proximity to UVA, where increased density is desirable, promotes a more sustainable city.

Chapter 6: Transportation:

The proposal will allow students to live in easy walking distance to both UVA and nearby commercial areas (the Corner and Fontaine)—as well as in close proximity to a bus stop - helping to minimize the use of private automobile transportation.

Goal #1: Complete Streets Observatory Avenue and Washington Ave will both benefit from increased pedestrian infrastructure as a result of this project. Jefferson Park Avenue is already a multi-modal through corridor with sufficient pedestrian, bicycle, and vehicular infrastructure to accommodate this project.

Goal #2: Coordination with Land Use & Community Design The proposed development will increase pedestrian safety on all three adjacent streets by minimizing vehicular access points – an improvement over current conditions. All parking will be on site and hidden from view below grade, lessoning the existing pressure for on street parking and assisting in the creation of a more pedestrian friendly environment. Ample on-site bicycle storage facilities will be provided.

3. **Whether proposed use or development of any buildings or structures will comply with all applicable building code regulations:** The structures and site will be designed to comply with all applicable building code regulations.

4. **Whether the proposed use or development will have any potentially adverse impacts on the surrounding neighborhood, or the community in general; and if so, whether there are any reasonable conditions of approval that would satisfactorily mitigate such impacts. Potential adverse impacts to be considered include, but are not necessarily limited to, the following:**

   a. **Traffic or parking congestion;** The project is located near the University of Virginia's central grounds; given this proximity, it is anticipated that residents would not commute daily by car, but would predominately walk. The project's parking enters from Washington Avenue, which is a through street between JPA and Stadium Road, as opposed to Observatory Avenue, which is a dead end. Similarly, the project is near the commercial area at the intersection of JPA Extended, Fontaine Ave, and Maury Ave, providing convenient walk-able services and dining options nearby. The site is also located along the free trolley line, with an existing stop approximately a block away. JPA has significant bike infrastructure in place and the project will provide ample on-site bicycle storage facilities. The project is asking for a parking reduction to balance market demand with actual spaces provided. All of these conditions will limit the potential traffic and parking congestion.

   b. **Noise, lights, dust, odor, fumes, vibration, and other factors, which adversely affect the natural environment;** No activities are anticipated that will adversely affect the natural environment. All exterior lighting will comply with the city's dark sky ordinance. The same functions currently on site will continue on site.

   c. **Displacement of existing residents or businesses;** This project replaces 17 current residential units with 119 units – creating an overall gain of 102 units. Construction will not begin until all leases and occupancies for current tenants have terminated.

   d. **Discouragement of economic development activities that may provide desirable employment or enlarge the tax base;** 2005 JPA will not discourage economic development, but rather will contribute to the vibrancy of a mixed use area along JPA, providing patrons to nearby commercial establishments. It will help spur the development and investment in this area by providing a residential population base in need of additional goods and services.

   e. **Undue density of population or intensity of use in relation to the community facilities existing or available;** The proposed population and intensity of use are consistent with those anticipated under the current zoning designation and under all previous and current versions of the Comprehensive Plan. No adverse effects to the existing or available community facilities are expected. The project will likely have a positive effect of restoring detached single-family housing units within nearby neighborhoods like Fry's Spring, to their intended occupancy as single-family households. The request of 70 DUA is below the maximum available (87 DUA) under an SUP for this zoning district.

   f. **Reduction in the availability of affordable housing in the neighborhood;** The proposed development will comply with the affordable housing ordinance via the cash contribution option. The site does not currently accommodate affordable housing – all units are market rate; therefore no committed affordable housing units will be lost.

   g. **Impact on school population and facilities;** While the units are planned to be market rate rental units and available to the general public, given its proximity to UVA, it is anticipated that students, possibly young professionals and/or employees at the medical school and hospital will primarily occupy the units. It is expected that the project will have minimal to no impact on the school population and facilities.

   h. **Destruction of or encroachment upon conservation or historic districts;** The proposed project is not within a conservation or historic district. No individually protected properties exist on this site. The project is within an entrance corridor overlay district and ERB review will be required.

   i. **Conformity with federal, state and local laws, as demonstrated and certified by the applicant;** The proposed project will conform to all applicable federal, state, and local laws.

   j. **Massing and scale of project.** From the street, the building massing originates with a two-story base along Jefferson Park Avenue, which disappears into grade along the two side streets due to the substantial (37') elevation drop across the site. Above this, the massing of the building is a U-shape – with the open end facing JPA. This arrangement creates two narrow residential wings projecting towards the street, one extending farther than the other – reducing the massing and scale of the project along the JPA streetscape. At the more prominent corner of the site, at Washington Avenue, a vertical expression denotes both the primary, street-level pedestrian entrance, as well as the primary amenity spaces within. This vertical massing is carved away at the top floor to create an outdoor terrace.

   The scale of the project is comparable to other projects along Jefferson Park Avenue, albeit with a more engaging streetscape and a more urban or contemporary form and aesthetic. The scale of the project changes relative to the elevation change across the site. The scale is consistent with the Urban Mixed Use Corridor zoning description – calling for 5 stories up to 8 along key neighborhood corridors designated in the Streets that Work plan (such as JPA). At the western façade, adjacent to R-2U zoning, the proposed project is 5 stories in height – consistent with the comprehensive plan height designation for the adjacent zoning designation – Higher-Intensity Residential.

   Overall, the proposed massing and scale of the proposed project is consistent with the current ordinance and the recently approved comprehensive plan.

5. **Whether the proposed use or development will be in harmony with the purposes of the specific zoning district in which it will be placed:** The proposed use will not change from its current use. The development is in harmony with the purposes of the zoning district, which calls for medium-density residential, including multi-family.

6. **Whether the proposed use or development will meet applicable general and specific standards set forth within the zoning ordinance, subdivision regulations, or other city ordinances or regulations;** The proposed use is identical to the current use. This development is within the city's allowable uses, density (with SUP), and height (with SUP) provided for in this zoning district. The property is located within an entrance corridor overlay district and is subject to review by the Entrance Corridor Review Board. An application will be submitted to the ERB at a future date.

(1) A site plan when required by section 34-802 of the City Code; *provided as an attachment.*

(2) A written disclosure of the information required by section 34-8 of the City Code and, if the applicant is not the owner of the property, written evidence of his status as (i) the authorized agent of the property owner, or (ii) a contract purchaser of the property whose application is with the permission of the property owner; *provided in the application.*

(3) For developments including any non-residential uses, and developments proposing the construction of three (3) or more single- or two-family dwellings, the applicant shall provide a completed low-impact development ("LID") methods worksheet; *provided in the application.*

(4) For applications proposing the alteration of the footprint or height of an existing building, or the construction of one (1) or more new buildings: (i) a building massing diagram and (ii) elevations; *See accompanying graphic materials.*

(5) Information and data identifying how many, if any, existing dwelling units on the development site meet the city's definition of an "affordable dwelling unit" and whether any such existing units, or equivalent affordable units, will remain following the development; *Existing units on site do not meet the city's definition of "affordable dwelling units". Existing units will be replaced for a net gain of 102 units.*

(6) Other supporting data sufficient to demonstrate compliance with the purposes and standards of this Zoning Ordinance, including, without limitation, graphic materials that illustrate the context of the project as well as information and data addressing the factors set forth within section 34-157 above. *See accompanying graphic materials.*

The project site is located on the southeastern side of the City, within blocks of the University's Central Grounds. It is situated in the middle of the JPA neighborhood, which is predominately renter occupied according to both recent census data and GIS records. The site is one block away from a commercial node, at the intersection of Maury Avenue and Jefferson Park Avenue. The project spans between two sides streets, Observatory Avenue - a dead end, and Washington Avenue, a through street between JPA and Stadium Road. The site has only one continguous parcel or neighbor to the rear, which is renter occupied. Nearly all parcels across the bordering streets - JPA, Observatory Ave and Washington Ave, are renter occupied, less two - along Observatory Avenue.

The existing zoning of R-3, approved in 2009, stretches the length of JPA, on the northwest side, while University High Density was designated for the opposite side of the street and R-2U stretches behind to Stadium Road.

Existing conditions along JPA are varied. Newer projects range in scale from five to nine stories facing JPA. These projects have limited engagement with the street, presumably due to topographic challenges. Similarly, the 2005 JPA site drops 37' across the site.

SECTION 1

EXISTING CONDITIONS

SECTION 1:

Attachment B

2005 JPA
Charlottesville VA
01.11.2022

VICINITY MAP

All grades, counts and quantities are approximate and will change as design proceeds.

MITCHELL / MATTHEWS
ARCHITECTS & PLANNERS
434.979.7550

Demographics

† Margin of error is at least 10 percent of the total value. Take care with this statistic.

Age

21.5

Median age

about two-thirds of the figure in Charlottesville: 31.6

about two-thirds of the figure in Charlottesville city: 31.6

Population by age range

Population by age category

Housing

Units & Occupancy

1,385

Number of housing units

Charlottesville: 20,642

Charlottesville city: 20,642

Occupied vs. Vacant

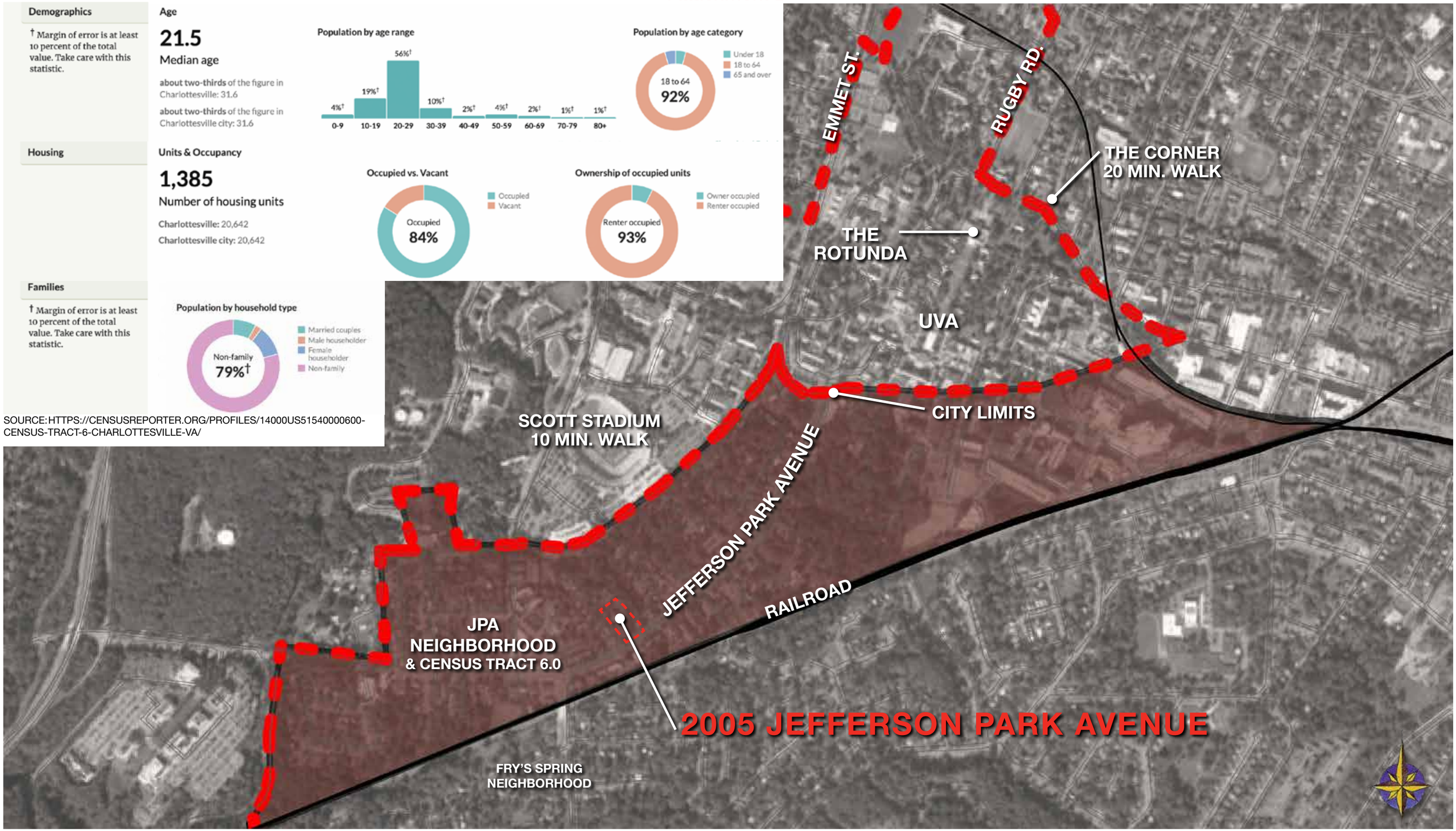
Ownership of occupied units

Families

† Margin of error is at least 10 percent of the total value. Take care with this statistic.

Population by household type

SOURCE: HTTPS://CENSUSREPORTER.ORG/PROFILES/14000US51540000600-CENSUS-TRACT-6-CHARLOTTESVILLE-VA/



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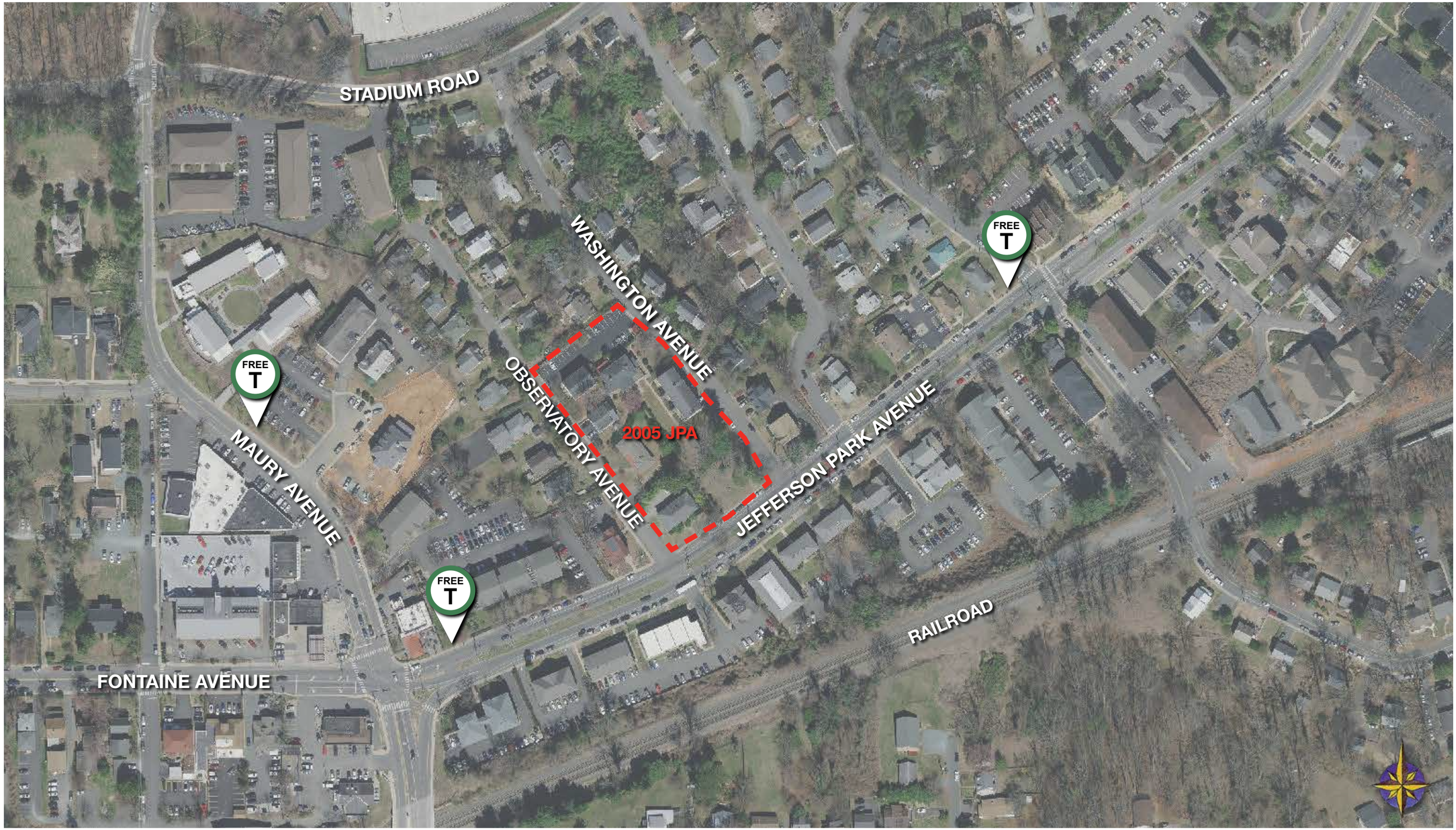

2005 JPA
Charlottesville VA
01.11.2022

LOCATION MAP

All grades, counts and quantities are approximate and will change as design proceeds.

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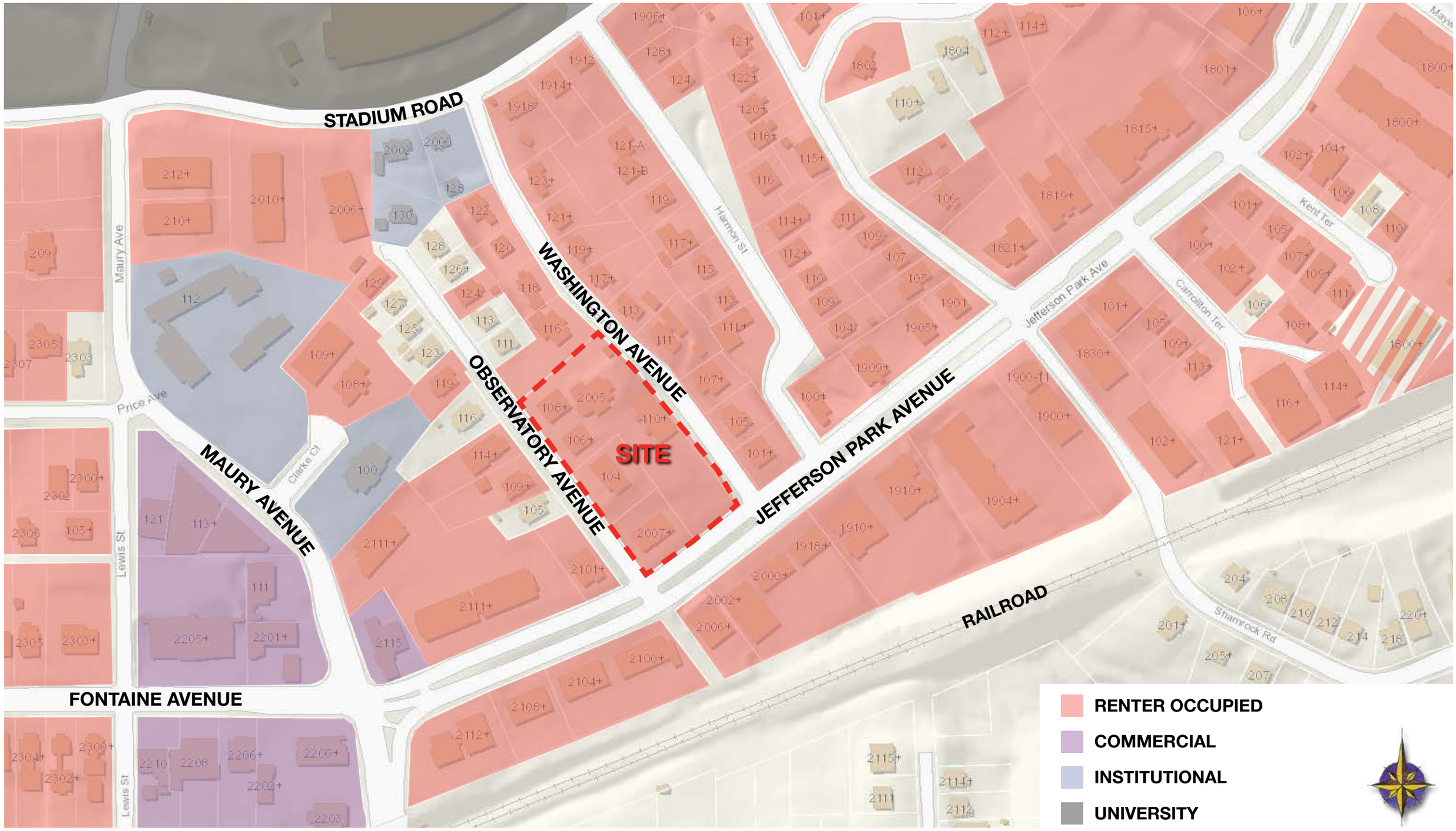

2005 JPA
Charlottesville VA
01.11.2022

RENTER OCCUPIED AND OTHER USES

All grades, counts and quantities are approximate and will change as design proceeds.

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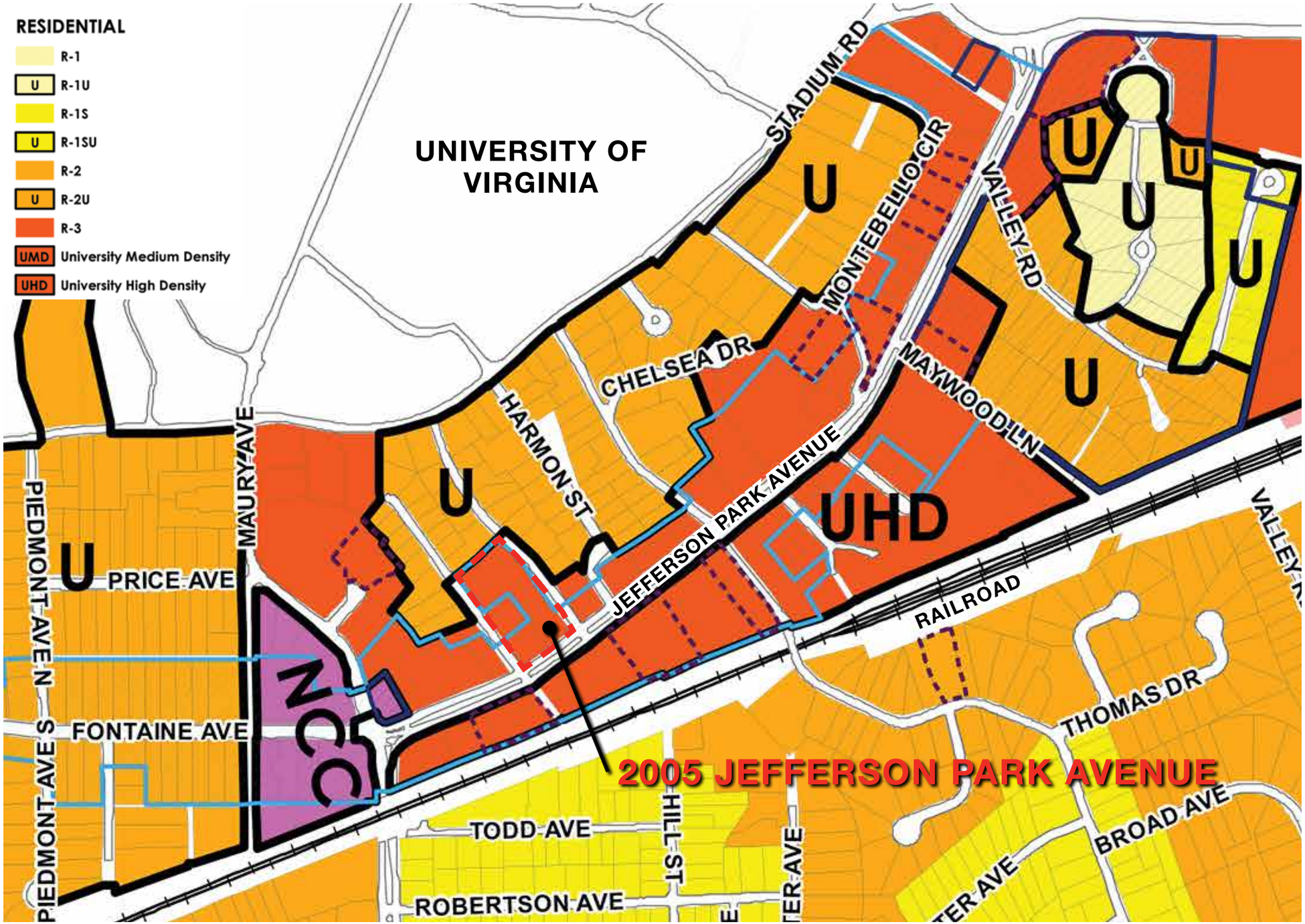

Location	**2005 Jefferson Park Ave.**
Area	**1.711 acres** (74, 531.16 SF)
Zone	**R-3**
Residential Units	up to **21 DUA** *(by right)* **22 - 87 DUA** *(by SUP)*
Parking	Two bedroom apt. or smaller: **1 space** Three or Four bedroom apt.: **2 spaces**
Height	**45'** (max) *(by right)* **80'** (22-43 DUA, *by SUP*) **101'** (44-87 DUA, *by SUP*)
Setbacks (front)	**26.35'** (average of neighboring properties)
Setbacks (side)	**20'** (corner, both sides)
Setbacks (rear)	**25' min.** **50'** (22-43 DUA, adjacent to low density residential) **75'** (44-87 DUA, adjacent to low density residential) (25' Type S-3 buffer, above 21 DUA)
Overlays	**Entrance Corridor**

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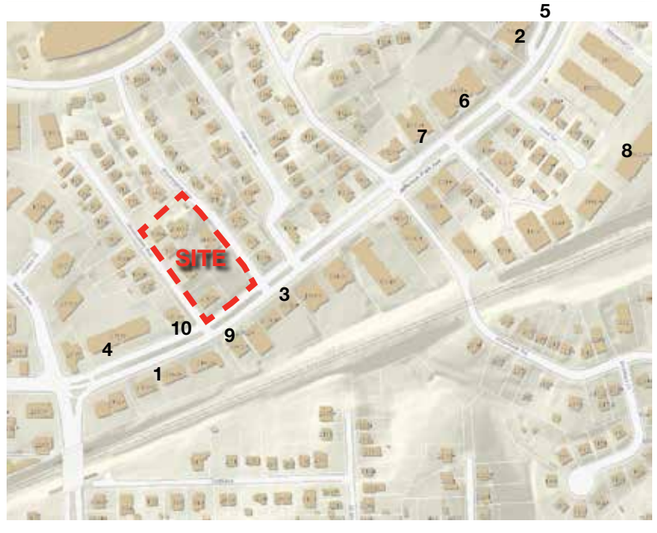

2005 JPA
Charlottesville VA

01.11.2022

NEIGHBORHOOD CONTEXT PHOTOS - JPA CORRIDOR

All grades, counts and quantities are approximate and will change as design proceeds.

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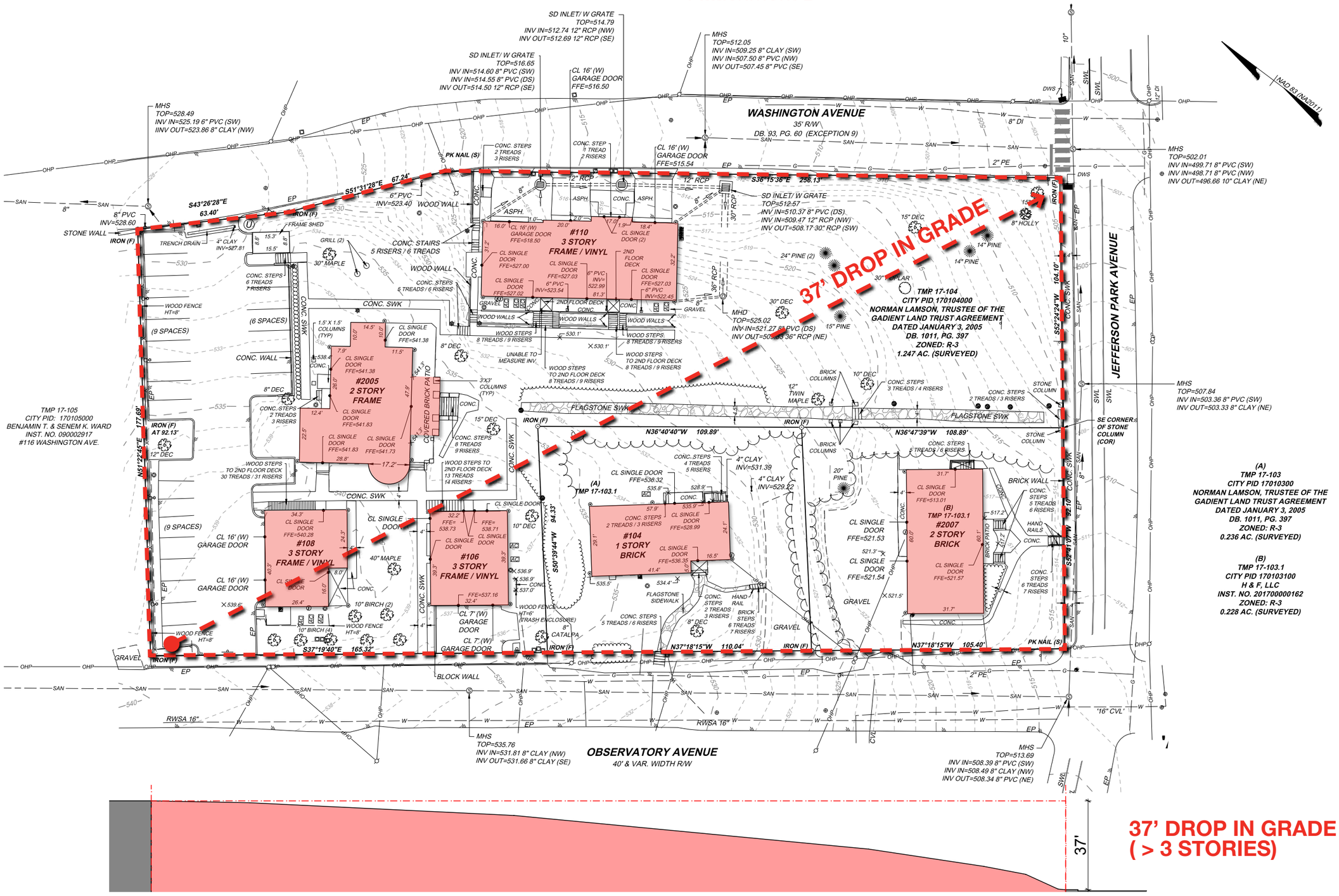

2005 JPA
Charlottesville VA

01.11.2022

SURVEY EXISTING CONDITIONS

All grades, counts and quantities are approximate and will change as design proceeds.

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37' DROP IN GRADE ACROSS SITE
(> 3 STORIES)

Additional justification for height and density (SUP REQUEST):

Comprehensive Plan Trends 2001 - PRESENT

The comprehensive plans of the past 20 years show the community's expectation for increased density and height along the JPA corridor, specifically serving the residential needs of UVA students, as demonstrated by the exhibits in this section.

Two decades ago, in the 2001 Comprehensive Plan, neighborhoods identified the conversion of single-family owner occupied residential homes to rental units to accommodate the increasing demand for student rentals as problematic. The Neighborhoods also identified locations closest to UVA as preferable by students. The planning commission identified higher density along transit corridors as preferable.

The 2003 Comprehensive Plan Land Use Map shows the same conditions as the present zoning.

The 2011 Housing Survey shows a density of housing units congregated 1) in the Venable neighborhood - both behind the Corner and along Madison Avenue, 2) along JPA, and 3) at public housing sites. Additions to this map have been made based on incomplete data of known built or under construction projects, showing the last decades' progress of additional housing units. While projects along West Main Street have garnered lots of attention locally, multi-family residential projects have generally been dispersed across the city's medium to high intensity zoning districts. Other than the projects along West Main Street, no significant, new, purpose-built student housing has been created in close proximity to Central Grounds, even as expectations for it to occur along the JPA corridor have grown.

The 2013 Comprehensive Plan modified the zoning in the JPA neighborhood to increase its density. Rather than UHD, R-3 and R-2U spanning east to west between the railroad and Stadium Road, the entire area was designated as High-Density residential. This vision eliminated the different designation between the 2005 JPA site and the adjacent parcel to the rear.

The 2018 draft land use maps continued this trend, treating the entire cross section of the neighborhood as the same residential density - east to west, north to south, less the commercial area at the intersection of Maury and JPA and extending west along Fontaine.

The recently approved comprehensive plan returns to a vision of a higher density *or intensity* corridor - albeit with the same designation on either side of JPA and with the addition of a mixed-use condition rather than solely residential. The adjacent parcel to the rear, is a different designation (higher-intensity residential), with a suggested height of 5 stories. The 2005 JPA site is designated as Urban Mixed-use Corridor and suggests height may range from 5 to 8 stories. Upon implementation (via a zoning update) of these anticipated changes, the heights and densities of the two designations become more similar.

SECTION 2
COMP. PLAN TRENDS

SECTION 2:

Conversion of Owner Units to Rental: The Housing Strategy, identified the conversion of owner occupied units to rental units and the declining percentage of owner occupied properties in the community as a major concern. There has been a great deal of discussion about how we impact this trend and turn it around to our betterment, including the City becoming actively involved by providing downpayment assistance, by providing tax breaks, and even through assisting in the construction of infrastructure to serve new developments that would in turn lower development costs and reduce the price of housing. **Source: Neighborhoods**

University Housing: The impacts of the University on neighborhoods are apparent to all that have been involved in this planning process. It is apparent that the University will only house 30% to 35% of its students on grounds in the future. It is becoming apparent also that students desire to live off grounds and in areas nearby the grounds and activities on the Corner. The neighborhoods are suffering because as more and more students desire to live in close proximity to the grounds, homes are being converted. **Source: Neighborhoods**

Parking near UVA: A major impact on neighborhoods surrounding the University is parking associated with the University and particularly the Health Sciences Center. The University has not provided the amount of parking that is necessary to support development on grounds or has not created the incentive to use those spaces available and as a result, students, faculty and employees are parking on streets in neighborhoods adjacent to the University and impacting the residents in a very negative way. **Source: Neighborhoods**

Transit Corridors: To increase the use of transit throughout the City and to make it a more viable transportation alternative, higher density of population will be necessary in the areas surrounding transit corridors. **Source: Planning Commission**

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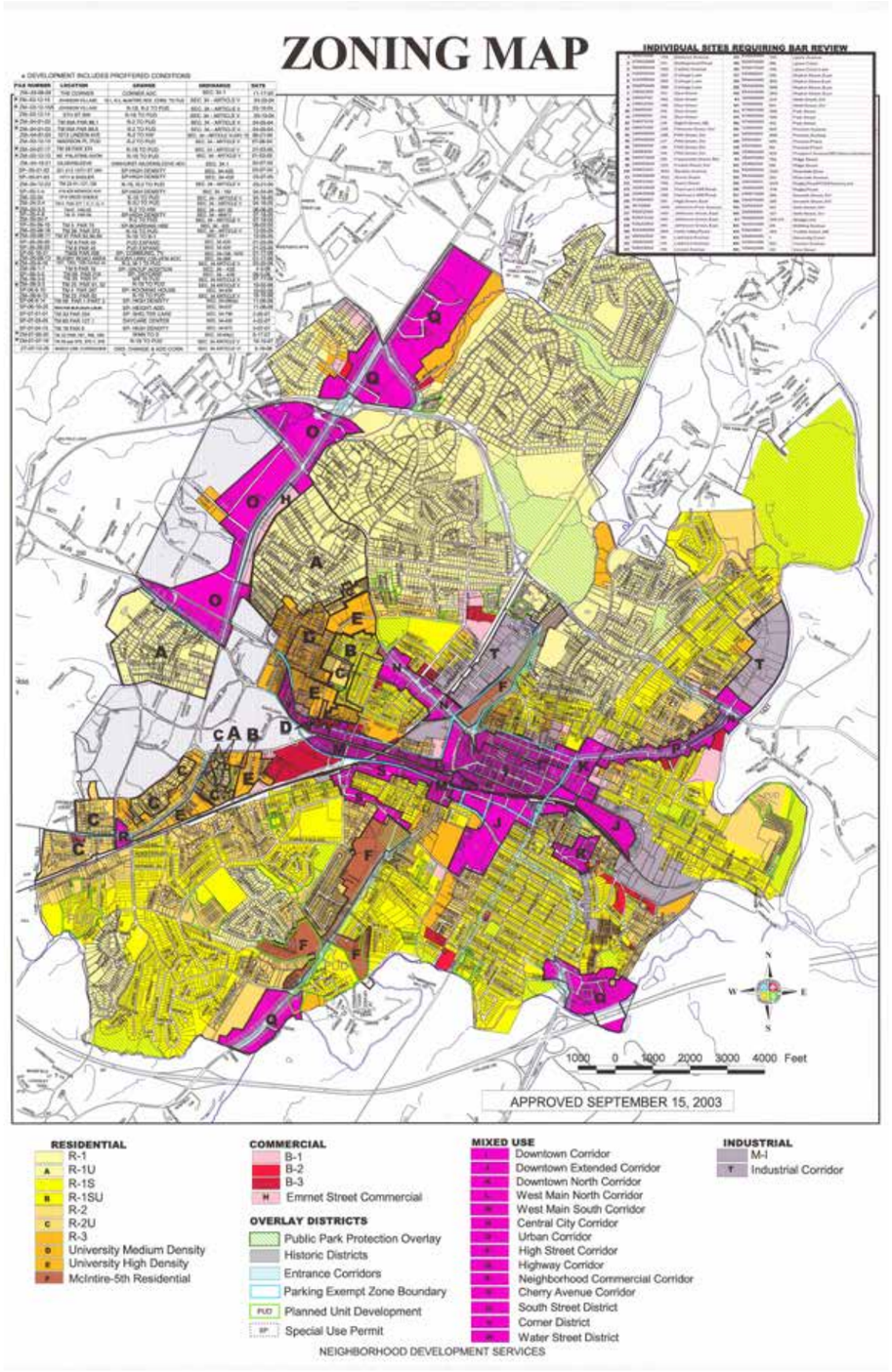
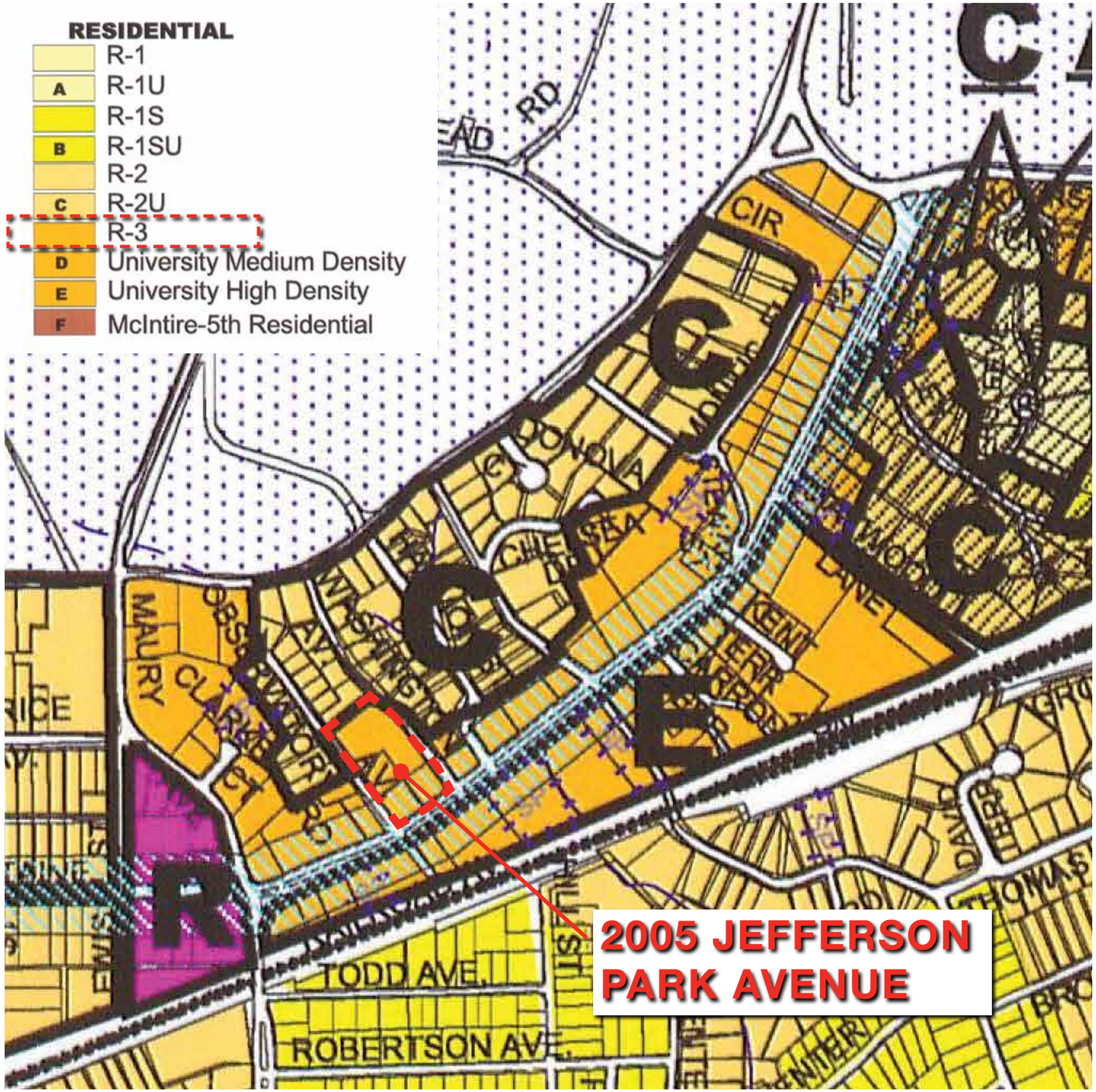


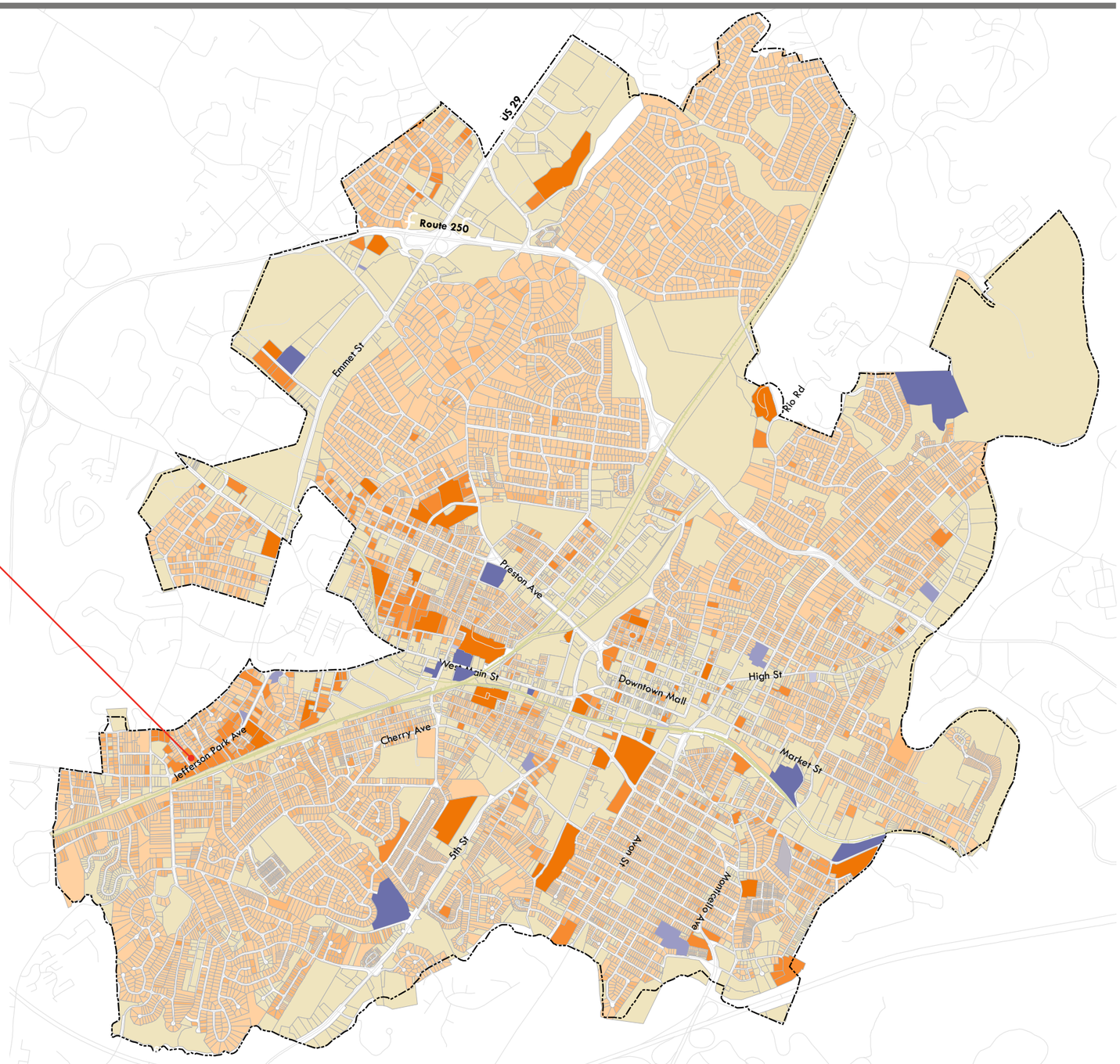


Housing Units

Number of Units on Parcel

- No Units
- 1 Unit
- 2 Units
- 3 - 10 Units
- 11 - 50 Units
- 51 - 240 Units

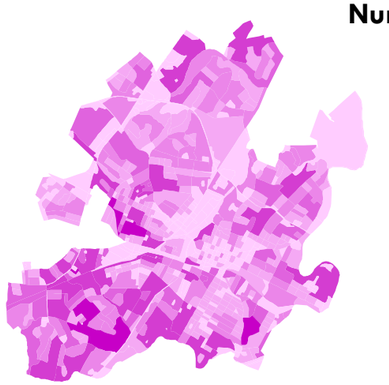
KNOWN ADDITIONAL PROJECTS SINCE 2011



2005 JEFFERSON PARK AVENUE

2011 Land Use and Housing Survey and the 2010 US Census

The housing unit count from the survey and the same count from the Decennial census were within 0.66% of each other, despite the very different methodologies used. The 2011 survey counted 19,062 units and the 2010 Census counted 19,189 units. Most of the variation is accounted for in neighborhoods around the University of Virginia.



Number of Units per Block

- 0 - 10 Units
- 11 - 30 Units
- 31 - 60 Units
- 61 - 100 Units
- 100 - 220 Units
- 221 - 447 Units

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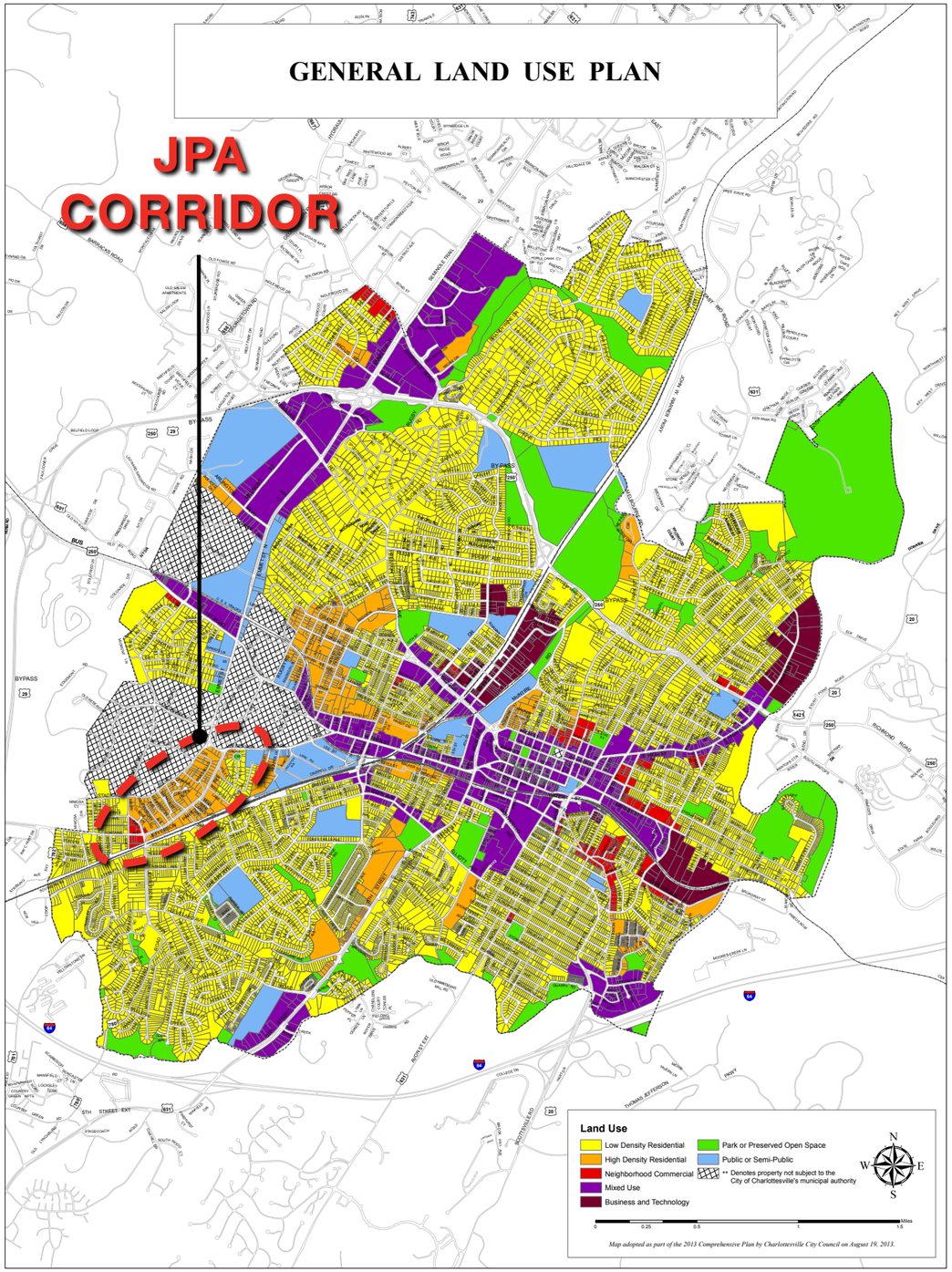

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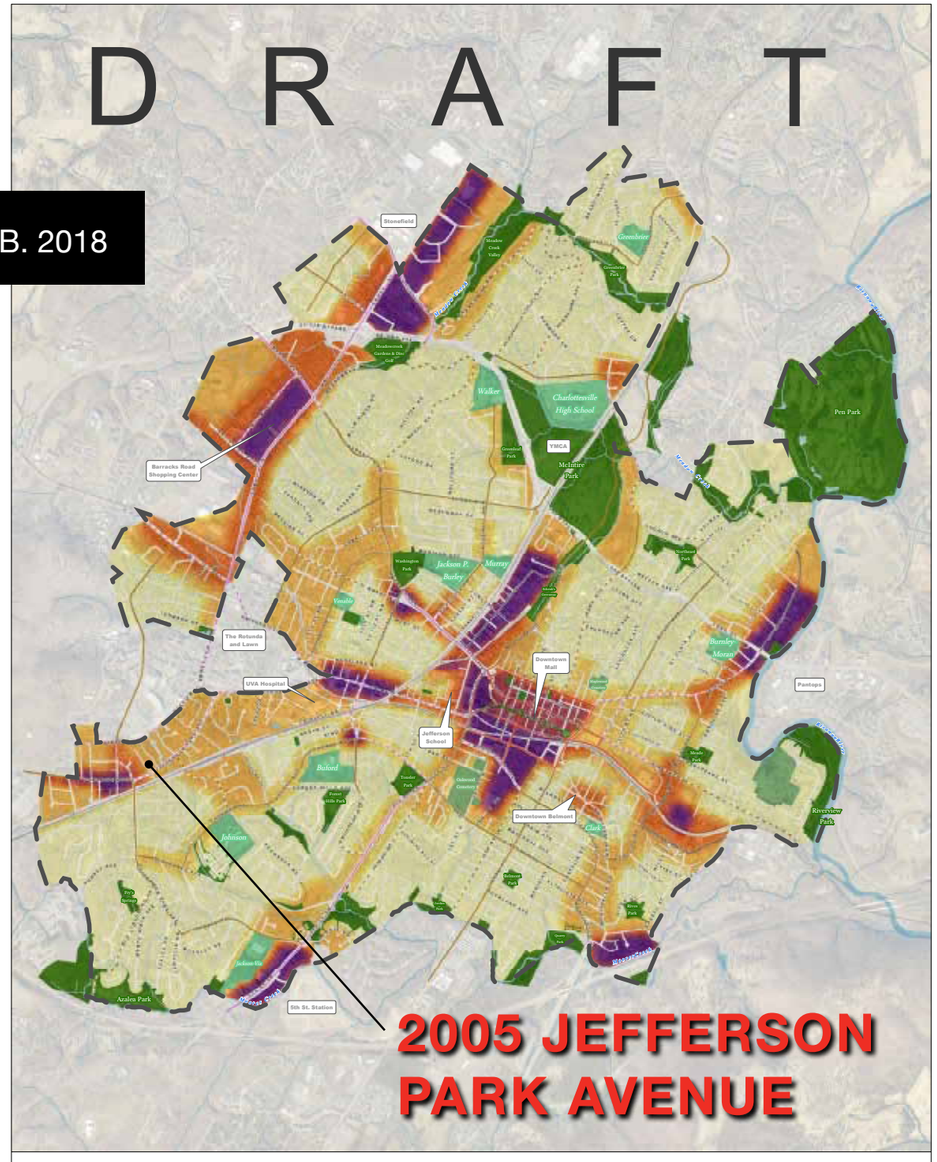
FEB. 2018



City of Charlottesville
Comprehensive Plan 2018
General Land Use Plan

1 inch = 1,000 feet
1:12,000 on 24"x36"

0 0.5 1
Mile

Map By: NDS, City of Charlottesville 12/06/2017
Data Source: City of Charlottesville Planning Commission and City of Charlottesville SDE 12/06/2017
Projection Information: Lambert Conformal Conic, NAD83, Virginia State Plane South

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There is no guarantee of completeness or accuracy.
The City assumes no liability arising from use of this product.

Land Use

Downtown — High Intensity — Low Intensity

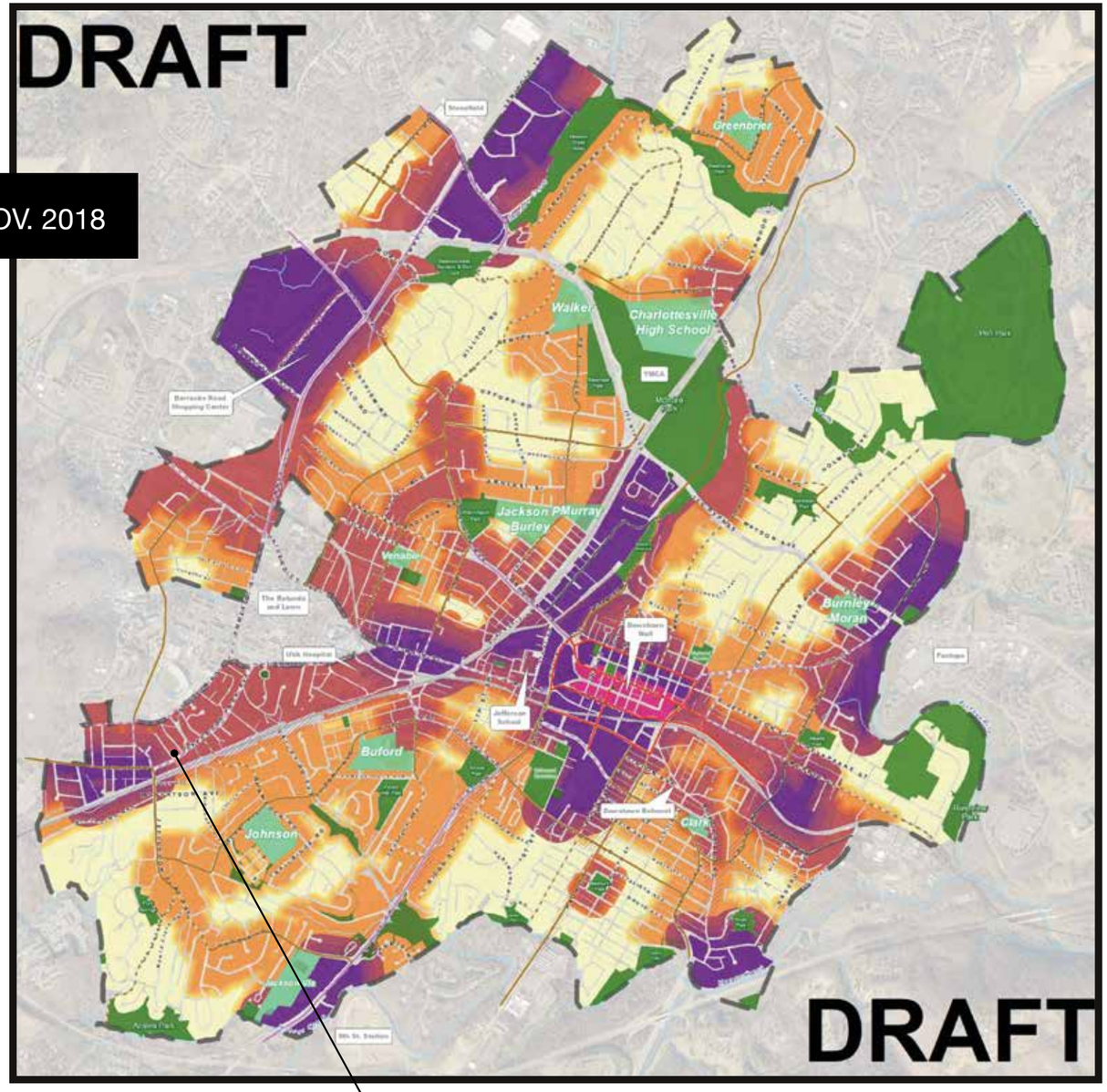
Park and Preserved Open Space
School
Cemetery

STW Typology

- Downtown
- Industrial
- Mixed Use A
- Mixed Use B
- Neighborhood A
- Neighborhood B

N W E S

NOV. 2018



Attachment B

Future Land Use Map

RESIDENTIAL

Limited commercial uses allowed in all residential districts, to be further described in the Zoning Ordinance. Zoning tools will regulate affordability and maximum allowable development for all categories and will consider demolition disincentives, as feasible.

Description

- **General Residential:** Allow for additional housing choice within existing residential neighborhoods throughout the city.
- **General Residential (Sensitive Community Areas):** Allow for additional housing choice, and tools to mitigate displacement, within existing residential neighborhoods that have high proportions of populations that may be sensitive to displacement pressures. (Note: The boundaries for these areas should evolve during the zoningupdate process, as described on page 25 of the Comprehensive Plan.)
- **Medium Intensity Residential:** Increase opportunities for housing development including affordable housing, along neighborhoods corridors, near community amenities, employment centers, and in neighborhoods that are traditionally less affordable.
- **Higher-Intensity Residential:** Provide opportunities for higher density, multi-family focused development. Incentivize affordability and increased intensity to meet Affordable Housing Plan goals.

MIXED USE NODES AND CORRIDORS

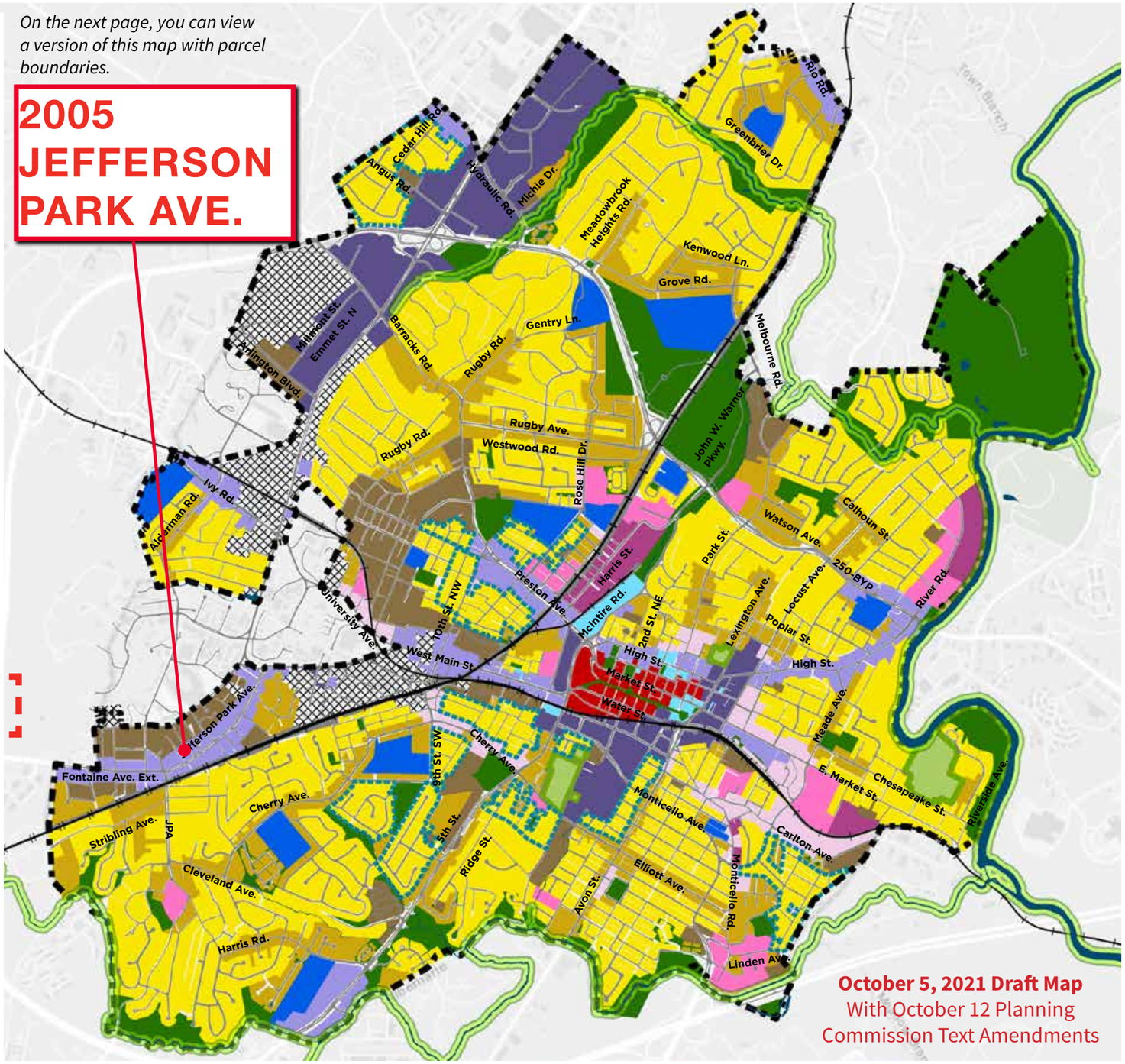
- **Neighborhood Mixed Use Corridor:** Neighborhood-scaled mixed use areas arranged along corridors that support existing residential districts.
- **Neighborhood Mixed Use Node:** Compact neighborhood centers that encompass a mix of land uses arranged in smaller scale buildings.
- **Business and Technology Mixed Use:** Light industrial and production uses, with other commercial and residential uses (where appropriate).
- **Urban Mixed Use Corridor:** Higher intensity mixed use development arranged along corridors between employment, commercial, and civic hubs of the city.
- **Urban Mixed Use Node:** Urban mixed use districts that support community housing, employment, and commercial development.
- **Downtown Core:** A primary, central mixed use activity hub for the city.

OTHER CATEGORIES

- **Open Spaces and Parks:** Includes both public and private spaces
- **Cemetery:** Includes both public and private cemeteries
- **Civic:** Includes governmental buildings
- **Education:** Charlottesville City Schools and Non-City Schools
- **UVA:** Properties owned by the University of Virginia
- **Stream Buffer:** 100' buffer
- **City of Charlottesville Boundary and Urban Development Area**

On the next page, you can view a version of this map with parcel boundaries.

2005 JEFFERSON PARK AVE.



October 5, 2021 Draft Map
With October 12 Planning Commission Text Amendments

Mixed Use Corridors

NEIGHBORHOOD MIXED USE CORRIDOR

Neighborhood mixed use areas arranged along corridors that support existing residential districts.

URBAN MIXED USE CORRIDOR

Higher intensity mixed use development arranged along corridors that link the employment, commercial, and civic hubs of the city.

Business & Technology

BUSINESS AND TECHNOLOGY MIXED USE

Light industrial and production uses as well as additional commercial and residential uses (where appropriate).

2005 JEFFERSON PARK AVENUE

Urban Mixed Use Corridor

USES	Commercial, employment, residential. Active ground floor uses
FORM	Respond to existing residential, environmental and historic context
HEIGHT	5 stories, up to 8 at key intersections (such as intersections of Downtown, Industrial, Mixed Use, or Neighborhood corridors in the Streets That Work plan)

Attachment B

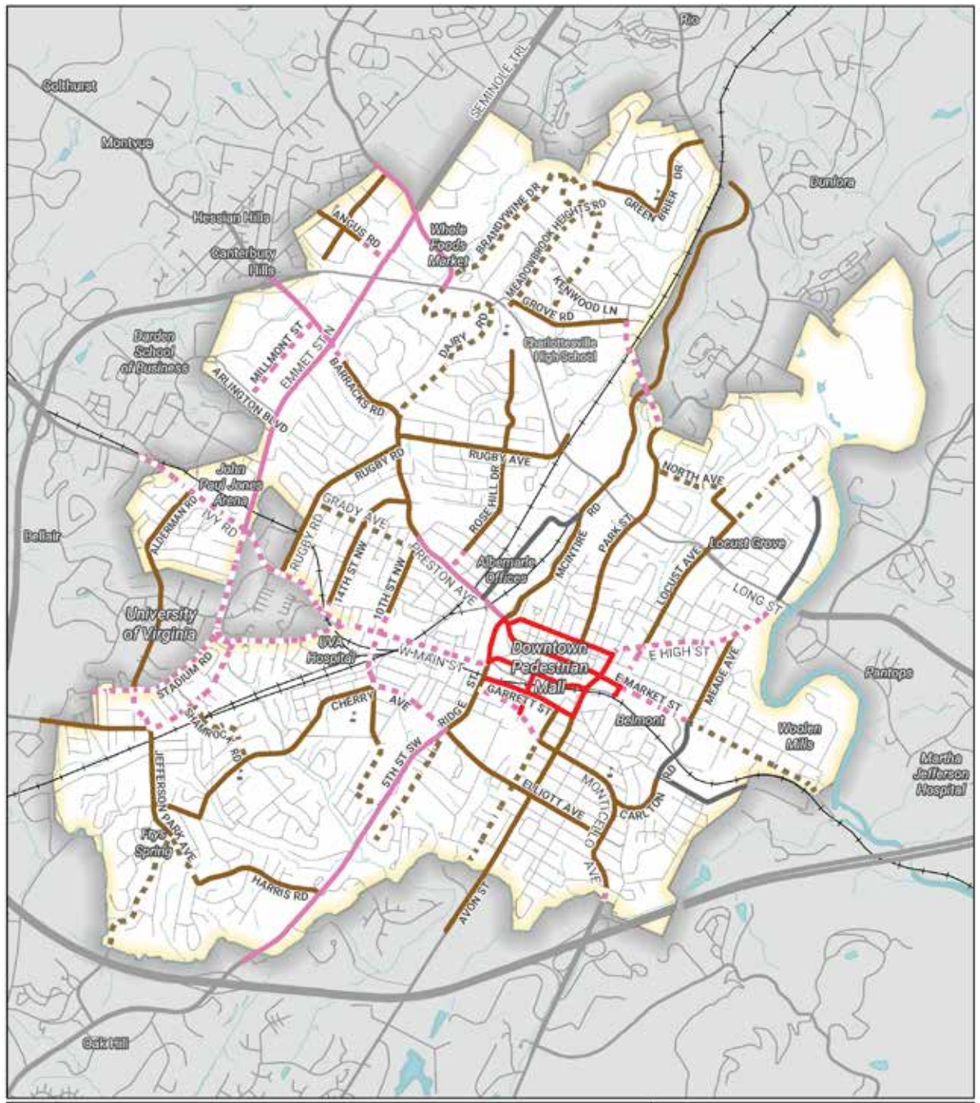


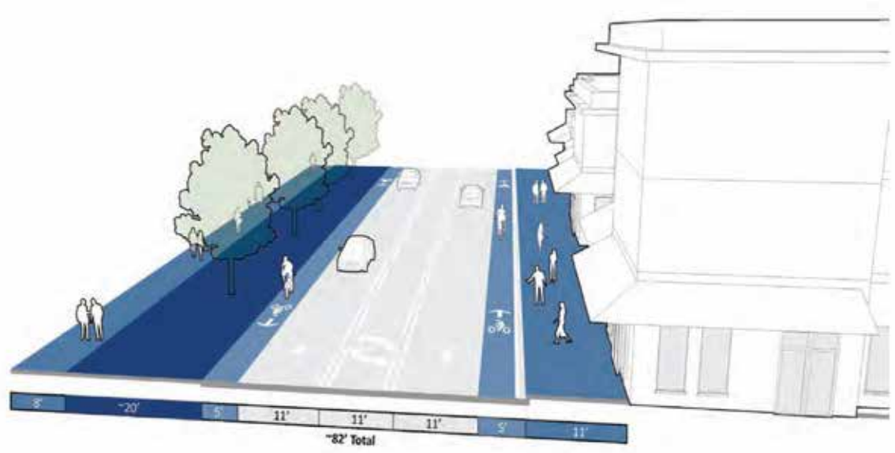
Figure 7: Charlottesville Street Typology Map

JEFFERSON PARK AVENUE IS IDENTIFIED AS A *MIXED USE B* STREET

Mixed Use B

University Avenue and segments of Jefferson Park Avenue are two examples of existing Mixed Use B streets. They are characterized by one vehicular travel lane in each direction, intermittent center turn lanes, sidewalks and bicycle facilities. These streets also may have on-street parking. The adjacent land uses may be commercial, higher density residential or institutional. These streets should support high levels of walking, bicycling, and transit as they connect important destinations within the City and surrounding county. Future development that occurs along these streets will likely include a dense mix of uses.

Existing



ADJACENT DESIGNATION

Residential

HIGHER-INTENSITY RESIDENTIAL

Neighborhoods and sites for multi-unit housing. Incentivize affordability and increased intensity to meet Affordable Housing Plan goals.

USES

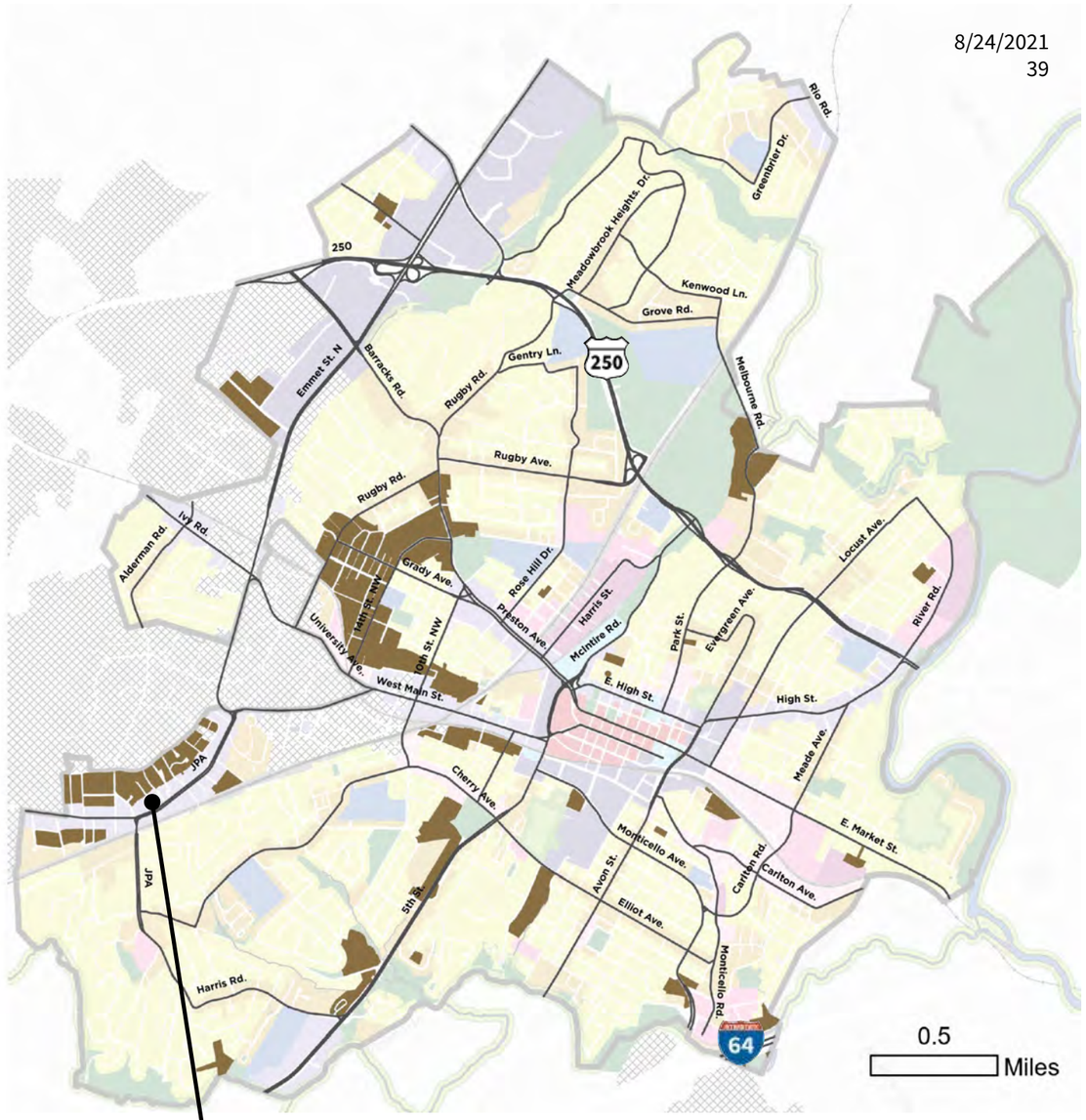
Multi-unit housing (13+). May include large and/or smaller-scaled buildings. Limited ground floor commercial uses encouraged.

FORM

All residential categories: compatible with existing residential and historic neighborhood context. Highest building heights according to context. Zoning tools will define building form and neighborhood compatibility criteria for development (e.g., lot coverage, topography, parking, etc.)

HEIGHT

Up to 5 stories.



2005 JEFFERSON PARK AVENUE

UNITS	119 units
SITE AREA	1.711 Acres
DUA	70 DUA **(SUP REQUEST)**
STORIES	7 stories at JPA, 5 stories adjacent to R-2U zoning
BUILDING HEIGHT	75', from average grade plane **(SUP REQUEST)**
PARKING	125 spaces provided

Justification for rear yard setback reduction (SUP REQUEST):

We are seeking a reduction in the rear yard setback from 75 feet to 36 feet. This request is based on the following argument that contends a setback of 75' is grossly excessive, disproportionate, and obsolete under today's view of (and vision for) this evolving neighborhood. Strict adherence to the Ordinance in this instance seems contrary to the intent originally envisioned - to protect single-family homes, and is in conflict with the long-held belief by City planners and others that reasonable increased density adjacent to the University is preferable and beneficial. The intent of the Ordinance was to separate single-family, owner-occupied homes from multi-family residential buildings. This is no longer the case in this neighborhood where only the smallest vestiges of single-family, owner-occupied residences remain. This is overwhelmingly a neighborhood of student rentals that continues its slow transition to increased density, more pedestrians, and more efficient land use where a 75-foot setback is not necessary.

For this project, the zoning ordinance requires a rear yard setback of 75' due to the property's adjacency to a low-density residential district and based upon the project's proposed density (Sec. 34-353 (b)(4)). The adjacent property has been a student rental for decades. Given, the compatible uses, we propose height as the governing metric of the setback requirement.

As suggested by planning staff, the project investigated the application of the West Main East zoning regulations on the proposed building site with regard to the rear yard setback adjacent to a low-density residential district. The WME regulations require a 20' minimum rear yard setback along with a bulk plane requirement and a 10' Type S-1 buffer. Height is limited to 52'. In comparison, the proposed design would have a 36' setback, and be approximately 56' tall adjacent to the R-2U zoning. The project would be under this hypothetical bulk plane – utilizing the WME zoning requirements of a 20' setback, and using the adjacent R-2U height of 35'. Refer to the conceptual section provided in this section.

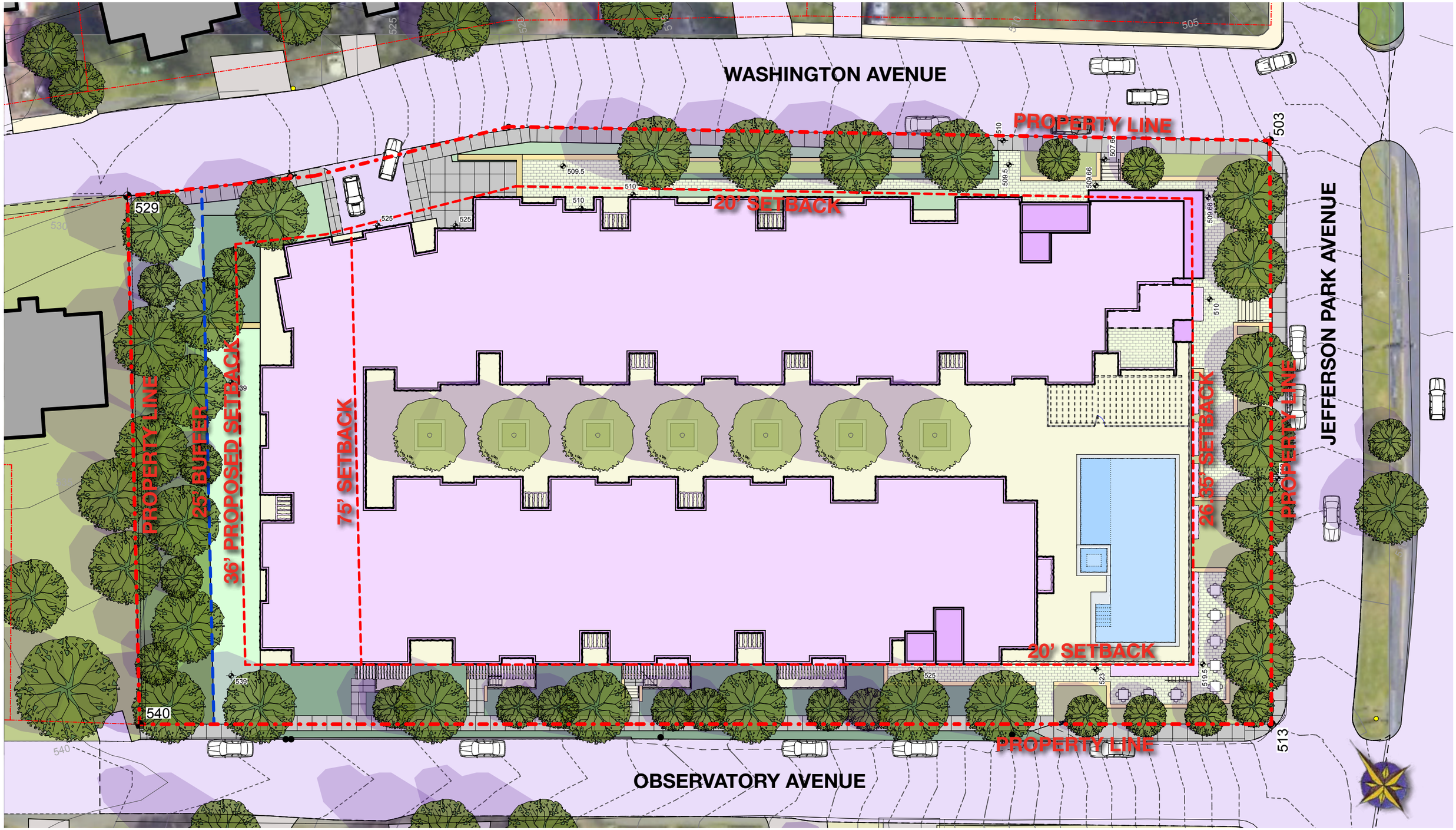
Finally, if the city's zoning re-write implements the comprehensive plan work, the adjacent zoning district will no longer be low-density. The adjacency created will be 5 stories maximum on the adjacent site to 5-8 stories on this site – with both anticipating higher-intensity residential.

In conclusion, the 75-foot setback requirement is an anachronism no longer appropriate for this evolving neighborhood.

SECTION 3
PROPOSED DESIGN

SECTION 2:

Attachment B



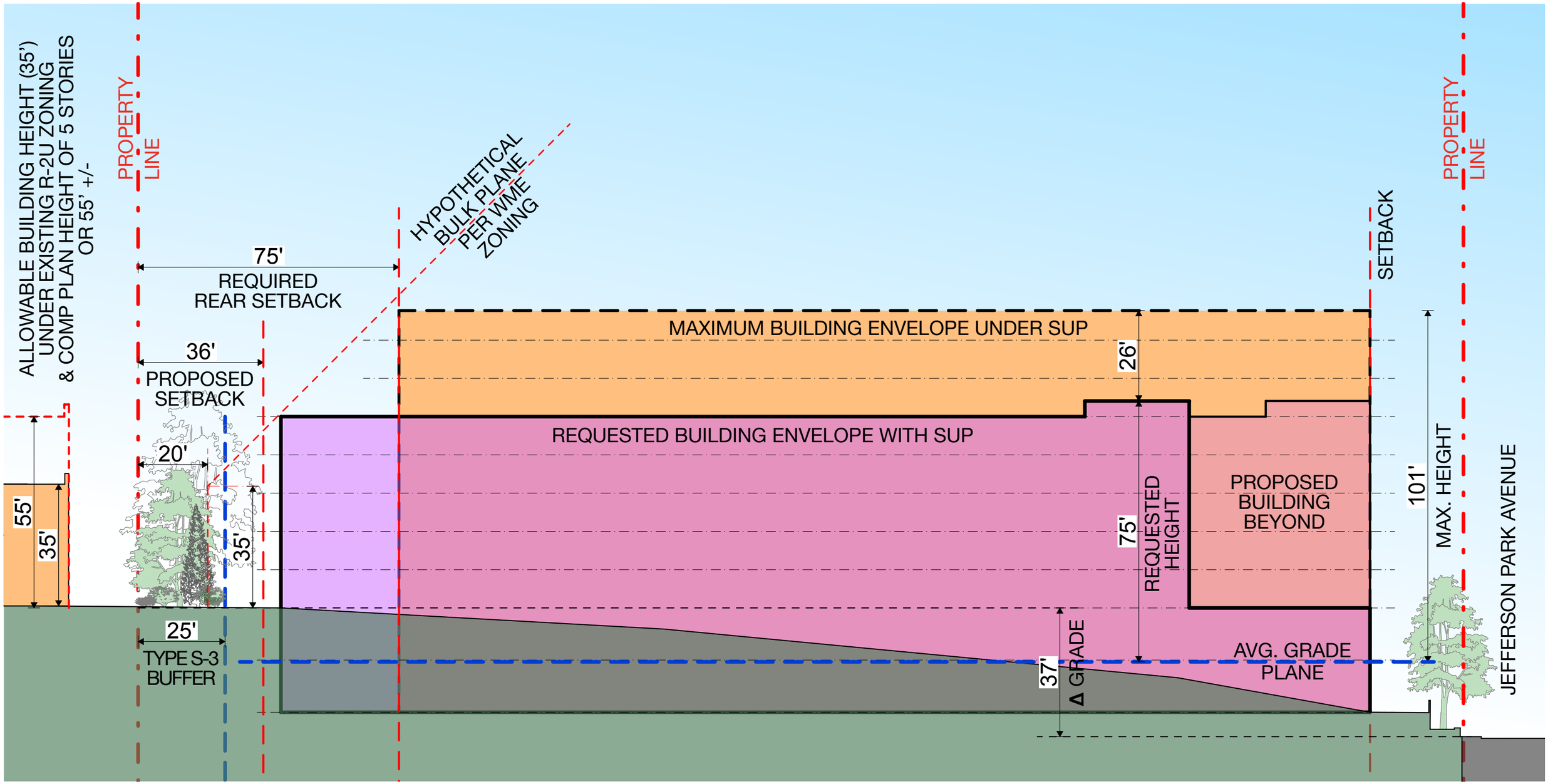
2005 JPA
Charlottesville VA

01.11.2022

SITE PLAN

All grades, counts and quantities are approximate and will change as design proceeds.

MITCHELL / MATTHEWS
ARCHITECTS & PLANNERS
434.979.7550



COMPARISON TO BUILDABLE ENVELOPE UNDER A SPECIAL USE PERMIT

All grades, counts and quantities are approximate and will change as design proceeds.

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2005 JPA
Charlottesville VA

01.11.2022

ELEVATION JEFFERSON PARK AVENUE

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2005 JPA
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ELEVATION OBSERVATORY AVENUE

All grades, counts and quantities are approximate and will change as design proceeds.

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2005 JPA
Charlottesville VA
01.11.2022

ELEVATION WASHINGTON AVENUE

All grades, counts and quantities are approximate and will change as design proceeds.

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434.979.7550

2005 JPA
Charlottesville VA
01.11.2022

ELEVATION REAR

All grades, counts and quantities are approximate and will change as design proceeds.

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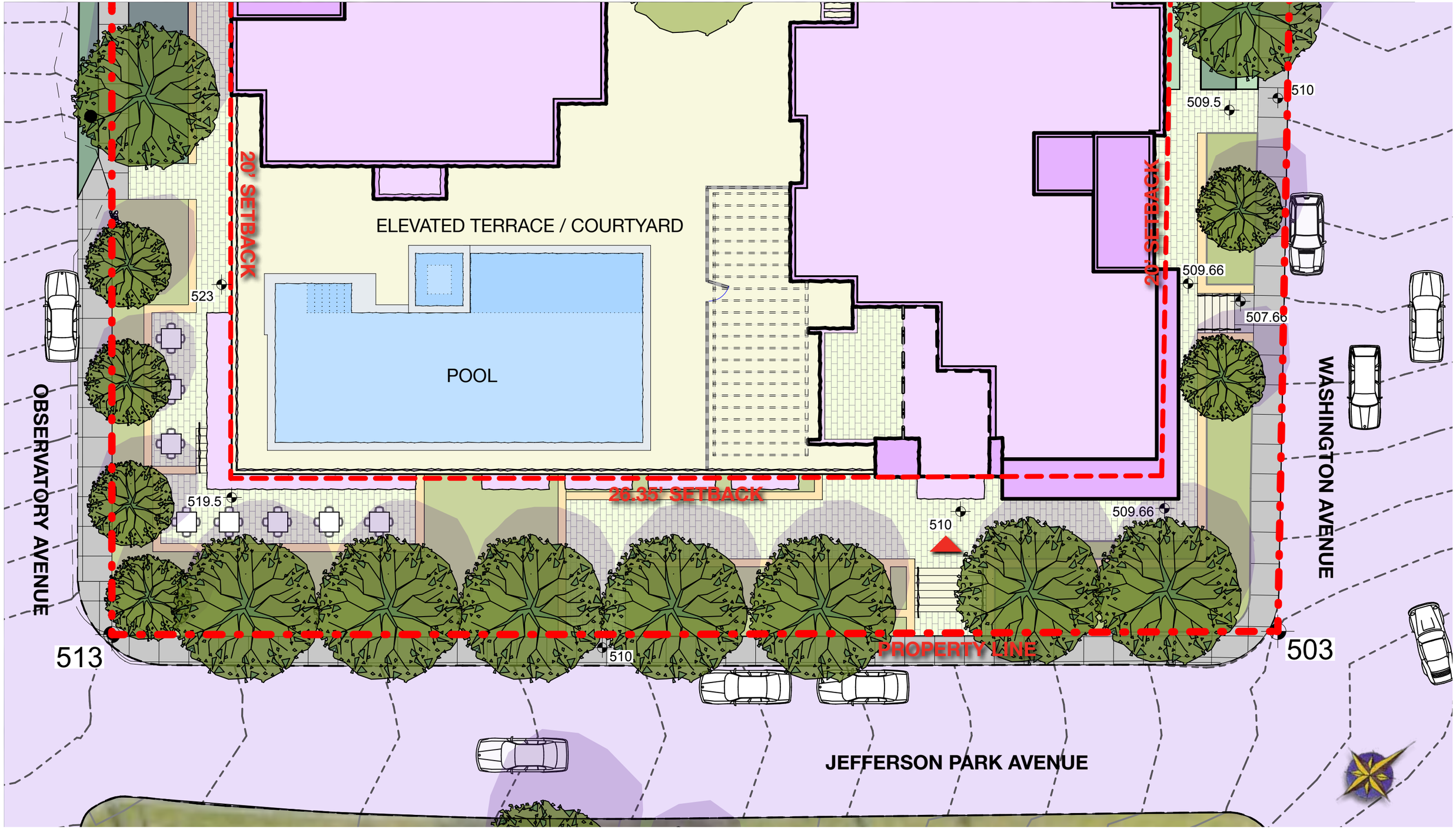

2005 JPA
Charlottesville VA
01.11.2022

ENLARGED STREETSCAPE PLAN / ROOF PLAN

All grades, counts and quantities are approximate and will change as design proceeds.

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ARCHITECTS & PLANNERS
434.979.7550

2005 JPA
Charlottesville VA

01.11.2022

PERSPECTIVE JPA & OBSERVATORY AVENUE CORNER

All grades, counts and quantities are approximate and will change as design proceeds.

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2005 JPA
Charlottesville VA

01.11.2022

PERSPECTIVE LOOKING ACROSS JPA

All grades, counts and quantities are approximate and will change as design proceeds.

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434.979.7550

2005 JPA
Charlottesville VA

01.11.2022

PERSPECTIVE JPA & WASHINGTON AVENUE CORNER

All grades, counts and quantities are approximate and will change as design proceeds.

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Attachment B

2005 JPA
Charlottesville VA

01.11.2022

PERSPECTIVE JPA STREETSCAPE

All grades, counts and quantities are approximate and will change as design proceeds.

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2005 JPA
Charlottesville VA
01.11.2022

PERSPECTIVE JPA STREETSCAPE

All grades, counts and quantities are approximate and will change as design proceeds.

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Attachment B

2005 JPA
Charlottesville VA

01.11.2022

PERSPECTIVE OBSERVATORY AVENUE PARTIAL STREETSCAPE

All grades, counts and quantities are approximate and will change as design proceeds.

MITCHELL / MATTHEWS
ARCHITECTS & PLANNERS
434.979.7550

Attachment B

LEGEND

BUS STOP

BARRACKS ROAD SHOPPING CENTER

UVA LIBRARY

EMMET ST S

UVA OBSERVATORY HILL DINING ROOM

SLAUGHTER REC CENTER

MCCORMICK RD

THE LAWN

AQUATIC AND FITNESS CENTER

UNIVERSITY OF VIRGINIA

WEST MAIN ST

DOWNTOWN MALL

ALDERMAN RD

UVA SCOTT STADIUM

.75 MI. 20 MIN.

UVA UNIVERSITY HOSPITAL

STADIUM RD

.50 MI. 15 MIN.

.25 MI. 10 MIN.

PROJECT LOCATION

JEFFERSON PARK AVE

FONTAINE AVE EXT

FONTAINE RESEARCH PARK

JEFFERSON PARK AVE

FRY'S SPRING BEACH CLUB

NAD 83

SCALE 1"=300'

0 300' 600'

S:\103\48530-JPA_Aspen Heights\DWG\Sheets\SUP\48530-103-C1.0 SITE CONTEXT PLAN.dwg | Plotted on 3/14/2022 4:10 PM | by Kim Roeser

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TIMMONS GROUP

REVISION DESCRIPTION

DATE

DATE

DRAWN BY
T. BRIGHT

DESIGNED BY
T. BRIGHT

CHECKED BY
B. CICHOCKI

SCALE
1" = 300'

ASPEN HEIGHTS (2005 JPA)

CITY OF CHARLOTTESVILLE, VA

SUP SITE CONTEXT

JOB NO.
48530

SHEET NO.
C1.0

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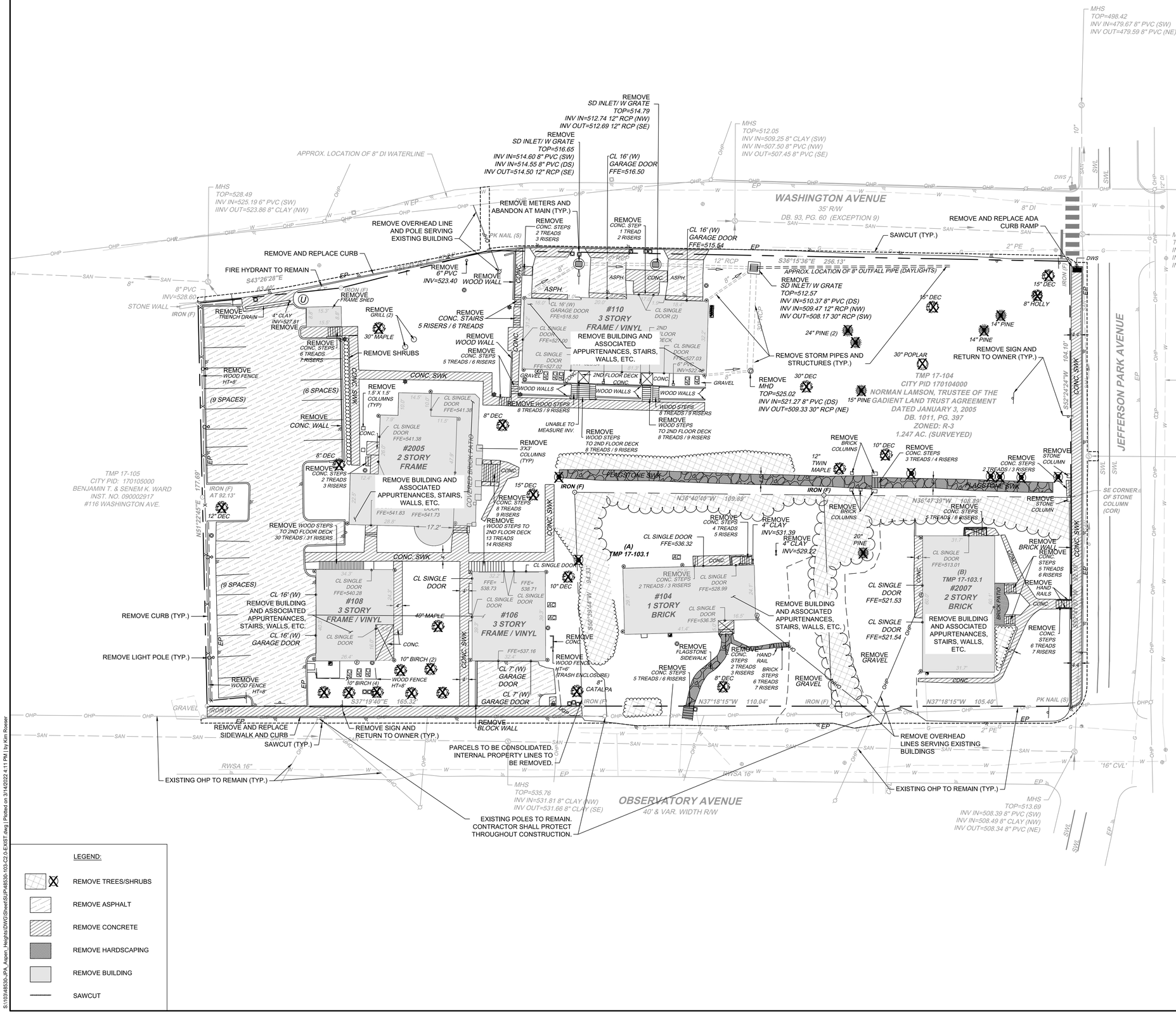

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REVISION DESCRIPTION	DATE

DATE 10/04/2021
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DESIGNED BY K. ROESER
CHECKED BY B. CICHOCKI
SCALE 1" = 20'
JOB NO. 48530
SHEET NO. C2.0

ASPEN HEIGHTS (2005 JPA)

CITY OF CHARLOTTESVILLE, VA

SUP EXISTING CONDITION & DEMO PLAN

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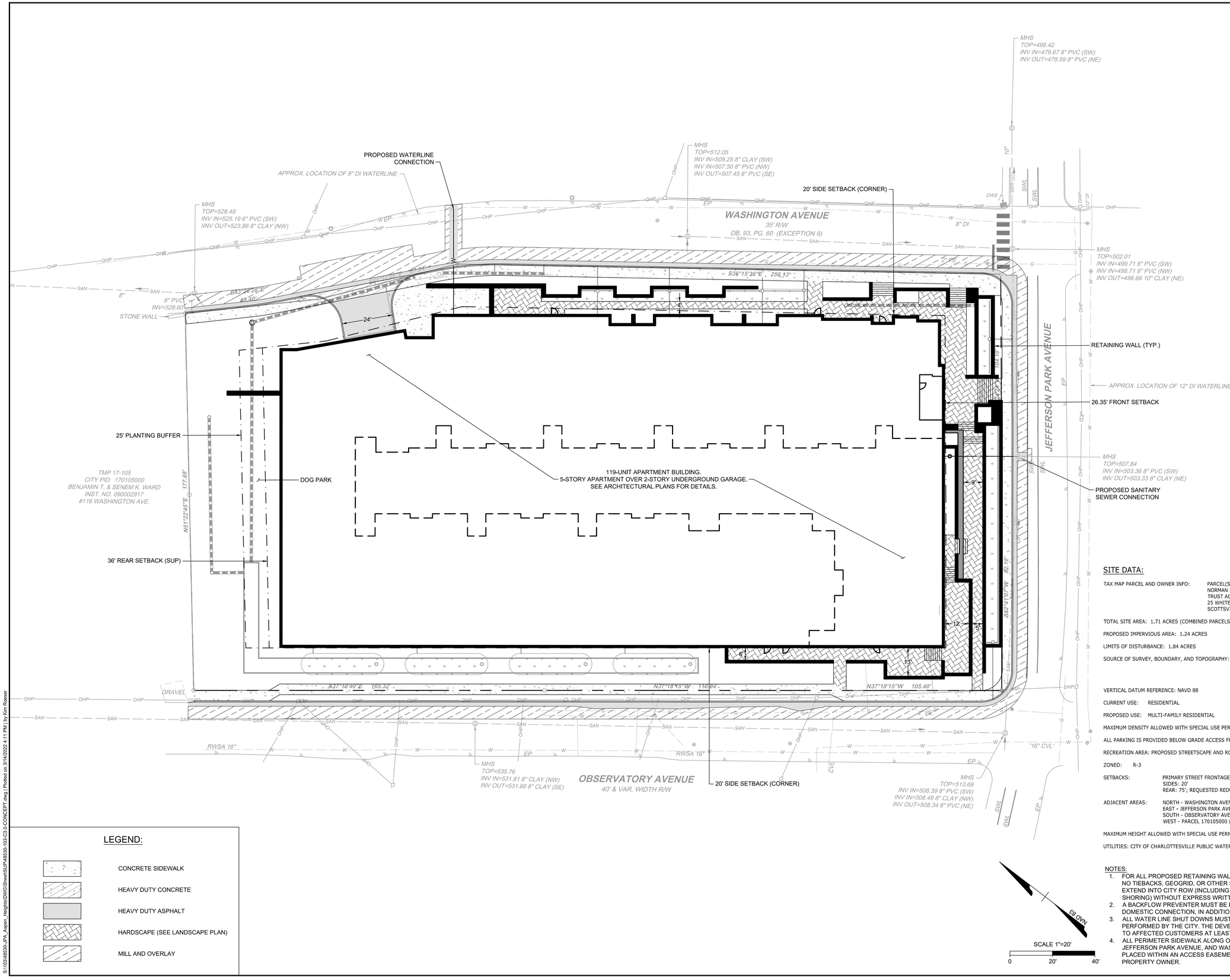

LEGEND:

- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE
- HEAVY DUTY ASPHALT
- HARDSCAPE (SEE LANDSCAPE PLAN)
- MILL AND OVERLAY

SITE DATA:

TAX MAP PARCEL AND OWNER INFO: PARCEL(S) 170104000, 170103000, 170103100
NORMAN LAMSON, TRUSTEE OF THE GADIENT LAND TRUST AGREEMENT
25 WHITE PINE STREET
SCOTTSVILLE, VA 24590

TOTAL SITE AREA: 1.71 ACRES (COMBINED PARCELS)

PROPOSED IMPERVIOUS AREA: 1.24 ACRES

LIMITS OF DISTURBANCE: 1.84 ACRES

SOURCE OF SURVEY, BOUNDARY, AND TOPOGRAPHY: TIMMONS GROUP
28 IMPERIAL DRIVE
STAUNTON, VA 24401
(540) 885-0920

VERTICAL DATUM REFERENCE: NAVD 88

CURRENT USE: RESIDENTIAL

PROPOSED USE: MULTI-FAMILY RESIDENTIAL

MAXIMUM DENSITY ALLOWED WITH SPECIAL USE PERMIT: 87 DUA; 70 DUA PROPOSED

ALL PARKING IS PROVIDED BELOW GRADE ACCESS FROM ENTRANCE ON WASHINGTON AVENUE.

RECREATION AREA: PROPOSED STREETSCAPE AND ROOF TOP AMENITY SPACE

ZONED: R-3

SETBACKS: PRIMARY STREET FRONTAGE (JPA): 26.35'
SIDES: 20'
REAR: 75'; REQUESTED REDUCTION TO 36'

ADJACENT AREAS: NORTH - WASHINGTON AVENUE
EAST - JEFFERSON PARK AVENUE
SOUTH - OBSERVATORY AVENUE
WEST - PARCEL 170105000 (116 WASHINGTON AVE)

MAXIMUM HEIGHT ALLOWED WITH SPECIAL USE PERMIT: 101'; 75' PROPOSED (AVERAGE GRADE)

UTILITIES: CITY OF CHARLOTTESVILLE PUBLIC WATER, SEWER

NOTES:

1. FOR ALL PROPOSED RETAINING WALLS AND BUILDING FOUNDATIONS, NO TIEBACKS, GEOGRID, OR OTHER STRUCTURAL COMPONENT CAN EXTEND INTO CITY ROW (INCLUDING TEMPORARY SHEETING AND SHORING) WITHOUT EXPRESS WRITTEN APPROVAL OF CITY COUNCIL.
2. A BACKFLOW PREVENTER MUST BE PROVIDED FOR THE PROPOSED DOMESTIC CONNECTION, IN ADDITION TO THE FIRE SERVICE LINE.
3. ALL WATER LINE SHUT DOWNS MUST BE COORDINATED WITH AND PERFORMED BY THE CITY. THE DEVELOPER MUST HAND OUT NOTICES TO AFFECTED CUSTOMERS AT LEAST 48 HOURS IN ADVANCE.
4. ALL PERIMETER SIDEWALK ALONG OBSERVATORY AVENUE, JEFFERSON PARK AVENUE, AND WASHINGTON AVENUE WILL BE PLACED WITHIN AN ACCESS EASEMENT AND MAINTAINED BY THE PROPERTY OWNER.

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CITY OF CHARLOTTESVILLE, VA
SUP CONCEPT PLAN

REVISION DESCRIPTION	DATE

DATE: 10/04/2021
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DESIGNED BY: K. ROESER
CHECKED BY: B. CICHOCKI
SCALE: 1" = 20'

JOB NO. 48530
SHEET NO. C3.0

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Attachment B

WATER QUALITY ANALYSIS (PRELIMINARY):

SITE DATA
PRE DEVELOPED AREA
MANAGED TURF = 0.82 AC
IMPERVIOUS = 0.75 AC

PRE DEVELOPMENT LOAD (TP) (LB/YR) = 2.04 LB/YR

POST DEVELOPED AREA
MANAGED TURF= 0.33 AC
IMPERVIOUS = 1.24 AC

TOTAL POST DEVELOPMENT LOAD (TP) (LB/YR) = 3.36 LB/YR

TOTAL LOAD REDUCTION REQUIRED (LB/YR) = 1.48 LB/YR

ONSITE LOAD REDUCTION PROPOSED:
URBAN BIORETENTION PHOSPHORUS REMOVAL (LB/YR) = 1.31 LB/YR
DOWNSTREAM HYDRODYNAMIC PHOSPHORUS REMOVAL (LB/YR) = 0.21 LB/YR
TOTAL PHOSPHORUS REMOVED ON SITE = 1.52 LB/YR

THIS CONCEPTUAL EVALUATION DEMONSTRATES HOW AT SITE PLAN THE VIRGINIA STORMWATER MANAGEMENT PROGRAM REQUIREMENTS FOR WATER QUALITY WILL BE MET.

WATER QUANTITY ANALYSIS (PRELIMINARY):

DRAINAGE AREA ANALYSIS

PRE DEVELOPED
AREA = 1.84 AC
CN = 79
TC = 6 MIN

	Q (CFS)	V (AC-FT)
1 YEAR	3.93	0.190
10 YEAR	10.34	

POST DEVELOPED
AREA = 1.84 AC
CN= 91
TC = 6 MIN

	Q (CFS)	V (AC-FT)
1 YEAR	1.78	0.292
10 YEAR	8.07	

POST Q ABOVE ARE THE DETAINED RATES

CHANNEL PROTECTION (ENERGY BALANCE):

$Q_{DEVELOPED} \leq 0.90*(Q_{PRE\text{-}DEVELOPED}*RV_{PRE\text{-}DEVELOPED})/RV_{DEVELOPED}$

OK 1.78 CFS ≤ 0.80*(3.93 CFS*0.190AC-FT)/(0.292AC-FT)= 2.05 CFS

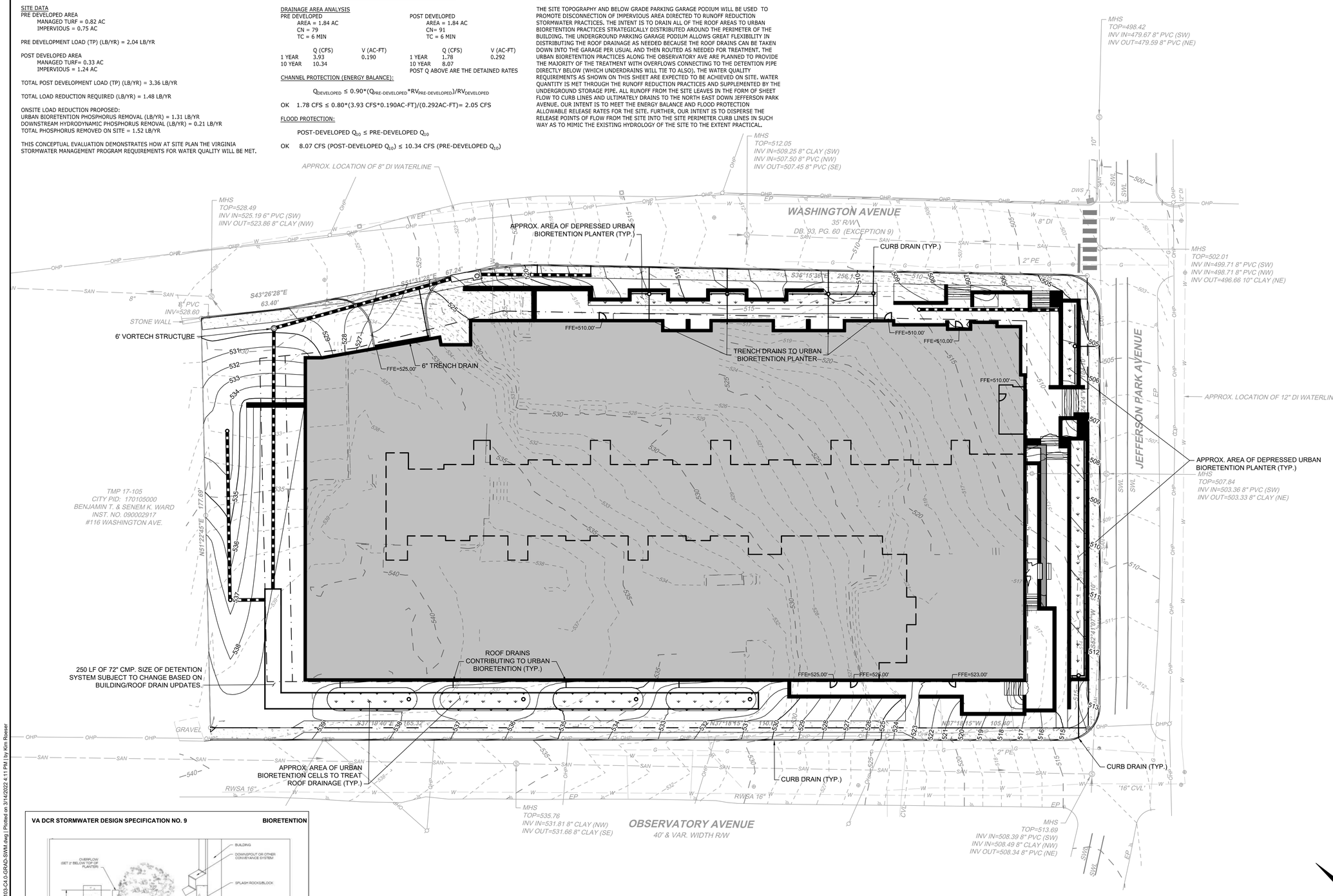
FLOOD PROTECTION:

POST-DEVELOPED Q_{10} ≤ PRE-DEVELOPED Q_{10}

OK 8.07 CFS (POST-DEVELOPED Q_{10}) ≤ 10.34 CFS (PRE-DEVELOPED Q_{10})

STORMWATER MANAGEMENT NARRATIVE

THE SITE TOPOGRAPHY AND BELOW GRADE PARKING GARAGE PODIUM WILL BE USED TO PROMOTE DISCONNECTION OF IMPERVIOUS AREA DIRECTED TO RUNOFF REDUCTION STORMWATER PRACTICES. THE INTENT IS TO DRAIN ALL OF THE ROOF AREAS TO URBAN BIORETENTION PRACTICES STRATEGICALLY DISTRIBUTED AROUND THE PERIMETER OF THE BUILDING. THE UNDERGROUND PARKING GARAGE PODIUM ALLOWS GREAT FLEXIBILITY IN DISTRIBUTING THE ROOF DRAINAGE AS NEEDED BECAUSE THE ROOF DRAINS CAN BE TAKEN DOWN INTO THE GARAGE PER USUAL AND THEN ROUTED AS NEEDED FOR TREATMENT. THE URBAN BIORETENTION PRACTICES ALONG THE OBSERVATORY AVE ARE PLANNED TO PROVIDE THE MAJORITY OF THE TREATMENT WITH OVERFLOWS CONNECTING TO THE DETENTION PIPE DIRECTLY BELOW (WHICH UNDERDRAINS WILL TIE TO ALSO). THE WATER QUALITY REQUIREMENTS AS SHOWN ON THIS SHEET ARE EXPECTED TO BE ACHIEVED ON SITE. WATER QUANTITY IS MET THROUGH THE RUNOFF REDUCTION PRACTICES AND SUPPLEMENTED BY THE UNDERGROUND STORAGE PIPE. ALL RUNOFF FROM THE SITE LEAVES IN THE FORM OF SHEET FLOW TO CURB LINES AND ULTIMATELY DRAINS TO THE NORTH EAST DOWN JEFFERSON PARK AVENUE. OUR INTENT IS TO MEET THE ENERGY BALANCE AND FLOOD PROTECTION ALLOWABLE RELEASE RATES FOR THE SITE. FURTHER, OUR INTENT IS TO DISPERSE THE RELEASE POINTS OF FLOW FROM THE SITE INTO THE SITE PERIMETER CURB LINES IN SUCH WAY AS TO MIMIC THE EXISTING HYDROLOGY OF THE SITE TO THE EXTENT PRACTICAL.



VA DCR STORMWATER DESIGN SPECIFICATION NO. 9 **BIORETENTION**

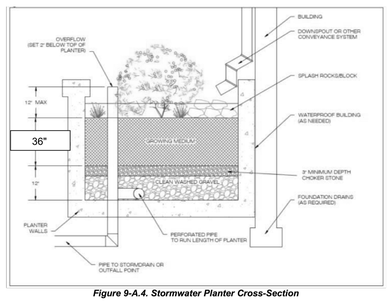


Figure 9-A.4. Stormwater Planter Cross-Section

LEGEND:

URBAN BIORETENTION PLANTER AREA

ROOF AREA TO URBAN BIORETENTION PLANTER

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REVISION DESCRIPTION

DATE

DATE
10/04/2021

DRAWN BY
K. ROESER

DESIGNED BY
K. ROESER

CHECKED BY
B. CICHOCKI

SCALE
1" = 20'

ASPEN HEIGHTS (2005 JPA)

CITY OF CHARLOTTESVILLE, VA

SUP CONCEPT SWM & GRADING

JOB NO.
48530

SHEET NO.
C4.0

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Attachment C

Affordable Dwelling Unit Ordinance Worksheet

Step 1: Total Floor Area Ratio (FAR) of Site

A.	Total size of development site:	1.71	acres				
B.	Total square footage of site:	1.71 (# of acres)	x	43,560.00	=	74,487.60	square feet (sf)
C.	1.0 Floor Area Ratio (FAR):	74,487.60 *(total sf of site)*					
D.	Gross Floor Area (GFA) of **ALL** buildings/uses:	183,648.00	sf				
E.	Total site FAR:	183,648.00 *(total GFA of site)*	÷	74,487.60 *(1.0 FAR)*	=	2.47	
F.	Is E greater than or equal to 1.0 FAR?	NO: Your proposed development does not trigger the ADU ordinance.					
		YES: Proceed to Step 2 or Step 3.					

Step 2: Number of ADUs Required

G.	GFA in excess of 1.0 FAR:	183,648.00 *(D: total site GFA)*	-	74,487.60 *(B: total SF of site)*	=	109,160.40	
H.	Total GFA of ADUs required:	109,160.40 *(G: GFA in excess of 1.0 FAR)*	x	0.05	=	5,458.02	
I.	Equivalent density based on Units Per Acre:						
	i. Dwelling Units per Acre (DUA) approved by SUP:	70.00					
	ii. SF needed for ADUs:	5,458.02 *(H: Total GFA of ADUs)*	÷	43,560.00	=	0.1252989	acres
	iii. Total number of ADUs required:	0.1252989 *(ii: ADU acreage)*	x	70.00 *(i: DUA approved)*	=	8.77	

Step 3: Cash-in-Lieu Payment

J.	Cash-in-Lieu Amount Residential:	183,648.00	x	$2.685	=	**$493,094.88**	
K.	Cash-in-Lieu Amount Mixed-Use:						

Total GFA of development site:	183,648.00		
GFA Occupied Commercial Space:	0.00		
GFA Occupied Residential Space:	183,648.00		
Total GFA Occupied Space:	183,648.00	% Residential:	1.00
GFA Non-Occupied Space*:	0.00	Propotionate amount of non-occupied space GFA for residential use:	0.00
Amount of Payment:	183,648.00 x	$2.685 =	$493,094.88

**GFA of non-occupied space shall include: (i) basements, elevator shafts and stairwells at each story, (ii) spaces used or occupied for mechanical equipment and having a structural head room of six (6) feet six (6) inches or more, (iii) penthouses, (iv) attic space, whether or not a floor has been laid, having a structural head room of six (6) feet six (6) inches or more, (v) interior balconies, and (vi) mezzanines. GFA shall not include outside balconies that do not exceed a projection of six (6) feet beyond the exterior walls of the building; parking structures below or above grade; or and roof top mechanical structures.*

Attachment C

Step 4: Minimum Term of Affordability

L. Residential Project

i. Households earning up to 80% AMI:

Unit Type	Eff.	1BR	2BR	3BR	4BR	5BR	6BR
Number of Units							
Market Rent							
HUD Fair Market Rents	$1,024.00	$1,063.00	$1,264.00	$1,562.00	$1,959.00	$2,253.00	$2,547.00
HUD Utility Allowance							
Difference per Month	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Annual Cost of ADU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

Total Annual Cost of ADUs: 0.00 *(Sum of Annual Cost of ADU)*

Minimum Term of Affordability*: #DIV/0! *(Cash-in-lieu payment / Total annual cost of ADUs)*

***If answer is less than 5, then minimum term of affordability will be 5 years.**

M. Mixed-Use Project

i. Households earning up to 80% AMI:

Unit Type	Eff.	1BR	2BR	3BR	4BR	5BR	6BR
Number of Units							
Market Rent							
HUD Fair Market Rents	$1,024.00	$1,063.00	$1,264.00	$1,562.00	$1,959.00	$2,253.00	$2,547.00
HUD Utility Allowance							
Difference per Month	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Annual Cost of ADU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

Total Annual Cost of ADUs: 0.00 *(Sum of Annual Cost of ADU)*

Minimum Term of Affordability: #DIV/0! *(Cash-in-lieu payment / Total annual cost of ADUs)*

***If answer is less than 5, then minimum term of affordability will be 5 years.**

Source: HUD FY2022 Fair Market Rents

Attachment D

From: **Karimi, Hamid Jim (hk6ty)** hk6ty@virginia.edu
Subject: Aspen Heights Building Plan
Date: November 30, 2021 at 1:31 PM
To: eh@mitchellmatthews.com
Cc: alfelem@charlottesville.gov

HK

Dear Erin Hannegan,

Thank you for your recent letter regarding your upcoming request for a Special Use Permit for 104 Observatory Avenue.

I am the resident and owner of 113 Observatory Avenue. Reading your project proposal, I am primarily concerned about on-street parking. Occasionally, cars parked on the road block my way out of my driveway.

On-street parking has also presented a problem for the trash-pickup services, as their trucks are sometimes unable to navigate through Observatory Avenue.

You are proposing a 10% reduction in required parking spaces for your planned units. I would like to know what you anticipate as an effect of this on on-street parking. With so many new units being proposed, what recommendations do you have, if any, to regulate parking?

I very much appreciate any information and recommendations you may have to help alleviate this problem.

Thank you for your time and consideration.

Regards,

Hamid Karimi

Attachment D

From: **Bill Schaaf** billschaafsr@gmail.com
Subject: 2005 JPA Project
Date: December 15, 2021 at 2:35 PM
To: eh@mitchellmatthews.com

BS

Good Afternoon Erin,

The attached letter expressed my concerns with the proposed development. Please review and comment if you like . I was unable to view the virtual presentation.

Thank you,

Bill Schaaf
814-882-769

Washington AVe 2005 p...ect.odt

Attachment D

December 15, 2021

Mitchell / Matthews Architects
Erin Ferguson, Project manager
PO Box 5603
Chancellorsville, VA 22905

Good Morning Erin,

Thank you for the information on the **2005 JPA** proposed development. I was unable to attend the virtual meeting.

I own the property at 113 Washington Ave. If I understand the plans correctly the proposed ingress and egress for the parking garage would be very close to the front door of my property

I am most concerned that the proposed plan and related appeal would put an unreasonable amount of traffic on Washington Avenue. This street has a downward slope to the south from your parking entrance towards JPA and a rising slope approaching the garage entrance from the stadium. The result, in my opinion, would be creating a potential hazard for vehicles entering and exiting your garage. They would not see approaching vehicles on Washington Ave when turning into or leaving the garage. If everybody followed the speed limit it would be less of a problem, but they do not. This residential street was not designed to handle high density development. Ingress and egress would be more properly facing JPA. It solves the safety of visibility and the wider street would permit the higher density traffic.

The second concern is the request for a decrease in the total parking by 10 % The reality is that it should be increased. My 4 bedroom dwelling has 5 occupants and 5 cars. There is not adequate parking for them on the street and includes using the existing driveway. The typical college student comes to the University with a vehicle. The plan as presented does not address where the others will park. The plan does not recite the number of parking spaces that will be in the garage. The minimum requirement should be one parking space per bedroom.

I don't want to be a property owner that says “NIMBY” – Not in My Back Yard. However, the request for variances serve the best interest of the developers and not the interest of the neighborhood. Perhaps you are asking for the moon and will settle for something reasonable and acceptable to both. I ask you to look very closely at the impact of traffic and parking as you finalize your design.

Sincerely

William E. Schaaf
5017 Westbury Farms Drive

Erie, PA 16506
814-882-7696

cc: Mat Alfele

Attachment D

From: **Kenneth Hill** micasabe@gmail.com
Subject: Fwd: 2005 JPA Project
Date: January 6, 2022 at 5:02 PM
To: eh@mitchellmatthews.com

KH

Hi Erin:

I received notice from Mr. Shaaf about the 2005 JPA project, the next-door owner. My property is at 111 Washington Ave.

According to the project plan video, the vehicle exit and entryway are right across from my property, as well as the trash pickup area. I have serious concerns re 390 tenants and 125 and only parking spaces. I have 8 tenants in my duplex and each has their own car. Five of them park on the street.
It is hard enough to find a parking space on Washington Avenue now and little enforcement, so I can really see this by the numbers for what it is.

I would like to know when the public was first made aware of this project. I was not informed of such and believe a number of my non-resident neighbor owners were not as well.

I would like to know who to contact (emails preferably) in the transportation department and the planning commission to find out more information and to provide feedback accordingly.

Please put my email on a list of any information on the 2005 JPA project moving forward.

V/R
Kenneth Hill
111 Washington Ave owner
703-280-1742
---------- Forwarded message ---------
From: **Bill Schaaf** <billschaafsr@gmail.com>
Date: Sat, Dec 18, 2021 at 10:58 AM
Subject: Fwd: 2005 JPA Project
To: <micasabe@gmail.com>

---------- Forwarded message ---------
From: **Bill Schaaf** <billschaafsr@gmail.com>
Date: Wed, Dec 15, 2021 at 3:48 PM
Subject: Re: 2005 JPA Project
To: Erin Hannegan <eh@mitchellmatthews.com>

Thank you.

I reviewed the video. The parking and traffic seem to be identified by multiple viewers as being of concern. I would like the name and address of the planning commission that asked for a reduction in parking spaces so I can have dialogue with them. It is somewhat naive that students that can pay the rental prices of you building will not have cars available to them. One participant brought up the challenge of visitors and their parking.

Really concerned about those two issues.

Bill Schaaf
814-882-7696

On Wed, Dec 15, 2021 at 2:55 PM Erin Hannegan <eh@mitchellmatthews.com> wrote:

> Bill,
> Thanks for you interest in our project and for your letter. Did you happen to leave me a voicemail just a little while ago? Your partial number below appears to match the voicemail, albeit, no name was left in the VM.
>
> If so, follow the below link to access the archived video of Tuesday, Dec. 7th's Neighborhood meeting for our proposed project titled "2005 JPA". This will remain accessible throughout the review process. Please feel free to forward this email to neighbors who could not attend.
> https://transcripts.gotomeeting.com/#/s/9e98af90f4404d2dd2a2a7d7cca2cfaff77ec76ae4c36d12fdfbebefe6788c32
>
> Additionally, as one slide (#14) had an incorrect title, (explained during the meeting), here is a link to a pdf of the slides, with that title corrected:
> https://mitchellmatthewsarchitects.sharefile.com/d-se9d73fea857143d28596cd8eed6847d3
>
> A pdf of the original slides (used for the meeting) is also available for download from the video archive link (the first link) above.

Attachment D

I will forward your letter on to our civil & traffic engineer.

Please continue to reach out with additional questions or comments. Thank you for your time.

Sincerely,
Erin

Erin Hannegan, LEED AP
Project Manager
Mitchell/Matthews Architects & Planners
a | P.O. Box 5603, Charlottesville, VA 22905
e | eh@mitchellmatthews.com
p | 434.979.7550 x 208
c | 215.266.6943
f | 434.979.5220

> On Dec 15, 2021, at 2:35 PM, Bill Schaaf <billschaafsr@gmail.com> wrote:
>
> Good Afternoon Erin,
>
> The attached letter expressed my concerns with the proposed development. Please review and comment if you like . I was unable to view the virtual presentation.
>
> Thank you,
>
> Bill Schaaf
> 814-882-769

Attachment D

127 Observatory Avenue
Charlottesville, VA 22903

January 21, 2022

Mr. Matt Alfele
AICP City Planner
Department of Neighborhood
Development
City Hall

Dear Mr. Alfele

Re: Special Land Use Permit Request
for 2005 Jefferson Park Avenue

Thank you for your letter of January 18
Concerning the above.

I attach my response statement and
reasons for asking that this request be denied.
In particular, water issues being my major
Concern: Not only underground water weakening
the foundations of the building and its Underground
Parking, but also increase sewage disposal
Problems as well.

For these reasons alone I hope the special
land use permit request will be denied.

Sincerely

Angela Andrews

Attachment D

January 21 2022

Re: Special Land Use permit
for 2005 Jefferson Park Avenue

As a long-term home owner residing on Observatory Avenue, I am asking that this Special Land Use permit request be denied.

This proposed construction, wedged in between Observatory Avenue and Washington Street to accommodate 390 students in 119 Units with only 125 Underground parking spaces in my view is unthinkable.

When I retired from the Virginia Transportation Research Council Library in 2002, even then parking and Traffic issues within the City were a high priority - even more so today. Already Observatory Avenue, a dead-end and narrow street has problems with delivery trucks and trash collection.

I mention too, the proposed construction site may not be able to support the weight of a heavy building, due to possible erosion from the streams underground that ~~Cuss~~ Cross Observatory Avenue and Washington Street

Again, I respectfully ask you to consider denying this special land use permit request

Angela Andrews
127 Observatory Avenue

Attachment D

Alfele, Matthew

From: Anne Benham <apbe4n@gmail.com>
Sent: Thursday, February 10, 2022 5:39 PM
To: Alfele, Matthew; Anne Benham
Subject: ASPEN TOPCO II Special Use Permit (SUP) application / JPA and Observatory Ave
Attachments: TRAFFIC_Parking_Observatory (2)_jpg; TREES_3STORYBLDGS_104_OBSERVATORY_jpg; TREES_JPA_SUP_jpg

Follow Up Flag: FollowUp
Flag Status: Flagged

Dear Mr. Alfele

Re: ASPEN TOPCO II Special Use Permit (SUP) application / JPA and Observatory Ave

It's important to me that the City Department members who will review the above referenced SUP will read and acknowledge receipt of my comments on this application. Please confirm that you have received and read my message in an email to me. I thank you in advance for this.

As a long-time resident homeowner of Observatory Avenue, I'm writing to **urge that you reject t**he Special Use Permit application by Aspen Topco II to build a large student complex on 2005-2007JPA /104 Observatory, for reasons of safety, building scale, density, and the required parking reduction inappropriate for our street. I also have concerns about the destruction of green space and about the reputation of the developer.

Parking, Traffic, Safety Issues

Observatory Avenue is a narrow dead end street, with only one lane of traffic available when there are vehicles parked on the street, which is most of the time. It's very difficult to back out of a driveway when there are cars parked on the street, especially in the snow. Last week I saw my neighbor struggle to avoid hitting a car parked across from her driveway as she backed out.

Large vehicles such as garbage or UPS trucks block traffic when they're on the street. They must back down the street to exit, because there is no space for them to turn around at the end of the street. A fire truck or ambulance would be unable to drive down Observatory if there were other large vehicles on the street or many parked cars. The proposed new complex calls for 390 students, with underground parking provided for only 125. This leaves scores of students without spaces, many of whom (and their visitors) will want to park on our street**.** Observatory Avenue can't possibly handle much more parking. SEE ATTACHED PHOTO, taken from my driveway last week, of traffic and parking conditions on Observatory.

Scale, Height, Density, Duration of Construction

The five to seven story building of the proposed project is much larger than and way out of proportion with the existing structures on Observatory, none of which is currently higher than three stories. PLEASE SEE

ATTACHED PHOTO OF 3-STORY BUILDINGS CURRENTLY ON PROPOSED BUILDING SITE on Observatory. The proposed five to seven story building, at certain times of the day, will cast big shadows on adjacent properties, eliminating or reducing sunlight necessary for established plantings or growing flowers and vegetables in the summer on these properties, mine included. The proposed density of 390 occupants will bring more artificial light at night, more noise and more parked cars to the street, not to mention the destruction of a significant green space (see next item below).

The construction is estimated to take two years – a very long time for Observatory and Washington residents to have to bear the (unhealthy) dust, loud noise, additional parking by employees working on the building, and treeless, bleak, unsightly views of the construction process. The process and completion of the proposed complex will dramatically alter the character of Observatory and reduce quality of life for its residents, in terms of traffic, safety, health, the environment and aesthetics.

Destruction of Tree Canopy and Increased Heat Island Effect

Currently, there are over two dozen trees on the SUP property. They form part of Charlottesville's urban forest, which continues to decline. These trees provide carbon sequestration, shade, cooling, air purification, and stormwater management. They mitigate the urban heat island effect in our neighborhood. If the SUP goes forward, 27 mature trees will be cut down. In their place small, young trees will be planted. However, it takes decades for young trees to provide the same cover as mature trees, as City Planning Commissioner Stolzenberg says in a Charlottesville Tomorrow 2020 article.

According to a Charlottesville Tomorrow 8/30/21 article on heat islands, the JPA neighborhood is already one of the hottest parts of the city. This is corroborated by a January 2021 article, in which Tree Commission Chair Brian Menard is quoted: *Simply put, less shade equals higher levels of heat, negative health outcomes, and higher energy costs …Neighborhoods with tree canopy below 40 percent are effectively unhealthy neighborhoods.* In the January 2021 article graphic the tree canopy percentage listed for the JPA area is 36.6%.

Removal of over two dozen shade-providing trees and the increase of impermeable surfaces, which will occur if this SUP is approved and the complex is built, can only increase the heat island effect in our neighborhood

PLEASE SEE ATTACHED PHOTOS for examples of the trees that would be removed if the proposed project is approved.

Concerns about Aspen Heights History

I'm concerned about a company with major problems in its track record coming to build a complex in my neighborhood. Some reports on problems with their projects:

2020 Baltimore Sun article on Towson students who filed lawsuit against Aspen Heights

2020 Texas law firm reports on a multimillion dollar lawsuit won against a company controlled by the Aspen Heights group of companies.

2014 Columbia Missourian article on high student housing utility bills and connection to Aspen Heights construction of student housing building.

2013 KOMU article reports on unpaid workers controversy concerning Columbia Mo. student housing built by Aspen Heights

Please Note: Aspen Topco II, LLC is registered to Aspen Heights Partners CEO Greg Henry.

Sincerely,

Anne Benham

116 Observatory Ave

apbe4n@gmail.com

Attachment D

Attachment D

Attachment D

Attachment D

Alfele, Matthew

From: Bill Schaaf <billschaafsr@gmail.com>
Sent: Tuesday, February 15, 2022 12:21 PM
To: Alfele, Matthew
Cc: Kenneth Hill
Subject: JPA 2005 project

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Matt.

Let me begin by stating that Iam not in opposition to this development as I have been a real estate investor for years. I own a property at 113 Washington Avenue that will be impacted by the proposed construction. I am confidentthat the project will move forward and neighbors' reasonable concerns will be responded to.

My big concern is that the parking is very inadequate. I base this on the fact that at my property I have 6 tenants and six cars attributed to them. My neighbor to the south has a similar situation . For the developers and planners to ignore this statistic is not a good answer to a significant concern . Of course, related to the vehicles is the single exit and ingress off Washington. WAshington AVe is not designed to handle this traffic flow and the related impact on JPA. The garbage collection site is nearly opposite my property. I believe this will be an ongoing problem with smell, trash flying etc if it is not completely enclosed .

Is there any chance that I could appear virtually? I don't live in Charlottesville.
You can reach me at 814-882-7696 to discuss these concerns.

Bill Schaaf

Attachment D

Alfele, Matthew

From: Erin Hannegan <eh@mitchellmatthews.com>
Sent: Friday, December 3, 2021 12:36 PM
To: Karimi, Hamid Jim (hk6ty)
Cc: Alfele, Matthew; Matthews, John
Subject: Re: Aspen Heights Building Plan

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Hamid,

Thank you for your inquiry into our proposed project and your recent follow up phone call.

As a team, we are aware that Observatory Avenue has owner occupied residences, (as opposed to Washington Avenue) and is a narrower street. I am sorry to hear that you are currently experiencing some parking problems on your street. After further review of the existing conditions, we understand that Observatory Avenue is a permit parking only street already. It appears that the existing street width is typically not wide enough to support on-street parking, which explains your concerns about navigation for trash trucks, etc.

It is our opinion that parking is a problem virtually everywhere in close proximity to the University and the Hospital, and is not specific to newer residential projects. New purpose-built student residences generally do a better job at providing adequate parking and other amenities for their residents when compared to the condition created by conversion of older homes to student residences. As I expect you realize, this project cannot stop illegal or nuisance parking issues, but we expect it will house all its parking needs on site, below grade and out of view, with no vehicular access to/from Observatory Avenue. This should be a major improvement over the current condition. In addition, trash services for our proposed project are also located off of Washington Avenue.

The request for a 10% reduction in parking is based on a few factors: 1) Planning Commission suggested we build less parking during our recent informal discussion, 2) calculation of existing on-street parking at the perimeter of the site, suggests there are at least 16 spaces - 8 available spaces on JPA, 4 spaces on Washington Avenue, and 4 spaces on Observatory Avenue. (Refer to attached image). Observatory Avenue does not appear wide enough to accommodate on-street parking for much of its length, however the city has not restricted the on street parking. The proposed design will eliminate many of the existing access points / driveways, and therefore potentially increase the available spaces on-street, if the city does not enforce its street width requirements. 3) the University has parking available to students at Scott Stadium, within easy walking distance of this project (and the neighborhood at large) as well as at other locations around Grounds accessible via the University Transit System and 4) finally, for your specific benefit as a resident of Observatory Ave, the main entrances to the building are on the corner of JPA and Washington - thus parking on Observatory will be the least convenient location compared to other available on-street parking on JPA and Washington Ave.

After we (the neighborhood and our team) jointly understand the city's current monitoring of the area, potential solutions could be improved 'permit parking only' signage and increased frequency of monitoring for non-compliant parking, by city parking enforcement. I would appreciate knowing if you felt these suggestions would be helpful to you and your neighbors.

Attachment D

As requested over the phone, here's a link to our preliminary packet, used during our informal discussion with planning commission. I look forward to meeting you (virtually) on Tuesday. Get in touch if you have further questions.
https://mitchellmatthewsarchitects.sharefile.com/d-s722f7162427c441bad7fccd3d407ba83

Sincerely,
Erin

Erin Hannegan, LEED AP
Project Manager
Mitchell/Matthews Architects & Planners
a | P.O. Box 5603, Charlottesville, VA 22905
e | eh@mitchellmatthews.com
p | 434.979.7550 x 208
c | 215.266.6943
f | 434.979.5220

Attachment D

On Nov 30, 2021, at 1:31 PM, Karimi, Hamid Jim (hk6ty) <hk6ty@virginia.edu> wrote:

Dear Erin Hannegan,

Thank you for your recent letter regarding your upcoming request for a Special Use Permit for 104 Observatory Avenue.

I am the resident and owner of 113 Observatory Avenue. Reading your project proposal, I am primarily concerned about on-street parking. Occasionally, cars parked on the road block my way out of my driveway.

On-street parking has also presented a problem for the trash-pickup services, as their trucks are sometimes unable to navigate through Observatory Avenue.

You are proposing a 10% reduction in required parking spaces for your planned units. I would like to know what you anticipate as an effect of this on on-street parking. With so many new units being proposed, what recommendations do you have, if any, to regulate parking?

I very much appreciate any information and recommendations you may have to help alleviate this problem.

Thank you for your time and consideration.

Regards,

Hamid Karimi

Attachment D

Dear Matt Alfere and City Regulators,

I am writing because I am concerned about Aspen Heights Partners' application for a more than threefold increase in by-right density and a reduction in required parking spaces for their proposed construction of new student housing on Observatory Avenue and the adjacent streets.

I am the resident and owner of 113 Observatory Avenue. I have lived on this address for nearly 10 years.

Occasionally, cars parked on the road block my way out of my driveway. There is a telephone post right at the corner of my driveway. Whenever a car is parked on the other side of the road across from my driveway, there is no way I can navigate my vehicle out and turn onto the road without hitting the car behind or the telephone post. On several occasions I have had to knock on my neighbor's door in the early hours of the morning to ask them to move their cars, so I could get out. It is never a pleasant experience to wake a neighbor early in the morning.

On-street parking has also presented a problem for the trash-pickup services, as their trucks are sometimes unable to pass through Observatory Avenue.

Last year I took the issue up with the local traffic authorities and Neighborhood Development, but I never heard back.

The suggestion, presented by Aspen Heights Partners and their architects, that many students do not own cars and commute on the buses is not at all what we are seeing in this neighborhood. Has their suggestion been independently verified? Our experience is that for every 3 or 4 students, there are 4 or 5 cars parked at and around their residencies. The extra cars belong to their visitors. The proposed 119 new units means many weekly student parties and overnight visitors, who will squeeze their cars into any space available on Observatory and Washington Avenue without worrying about the disruption this may cause for other residents.

I bought this house because Observatory Avenue is a nice and quiet neighborhood, conveniently located within walking distance of where I currently work. Aspen Heights Partners and their architects claim that building a giant edifice in this neighborhood will be nothing more than simply following a trend already happening in this area: homeownership being turned into rentals. Contrary to their claim, the percentage of owner-occupancy has increased on our street over the last few years (111 and 125 Observatory Ave were both rentals, now owner-occupied. I believe 113 was also a rental at some point in the past). This is roughly a 15% increase in owner-occupancy on Observatory Avenue. The proposed construction will not simply follow a trend. It may dictate a new trend: it may force out the existing homeowners, in particular professionals working at UVA and those seeking a retirement in peace, in favor of investors who themselves live outside of this community. I hope that the city officials will protect the interests of the residents in this neighborhood.

Attachment D

I am not opposed to any project that improves student accommodation in our community. In my opinion, students add so much value to our city. I have a job because of them. I want our students to live well and have a good, vibrant time during their tenure at the university. I am only objecting to building a high-density-low-parking edifice that does not adequately address the concerns and the welfare of the existing residents. For this reason, I request that Aspen Heights Partners' application for Special Use Permits for increased density and reduced parking be denied in its current form. More density will bring more vehicles. Any student housing built on this site should provide for more parking spaces. There needs to be more regulations as conditions for any such project. In my view, the parking provisions should sufficiently accommodate not only the need for parking spaces for the residents of the units, but also take into account their guests and overnight visitors.

Thank you for your time and consideration.

Regards,

Hamid Karimi

Attachment D

Alfele, Matthew

From: Jennifer King <jenniferking@chaseinv.com>
Sent: Tuesday, February 22, 2022 9:45 AM
To: Dowell, Taneia; Habbab, Karim; Lahendro, Jody; hosealmitchells@gmail.com; Palmer, William Charles; Russell, Liz; Solla-Yates, Lyle; Stolzenberg, Rory
Cc: Alfele, Matthew
Subject: SUP 2005-2007 JPA/104 Observatory Ave

Follow Up Flag: Follow up
Flag Status: Flagged

To the Planning Commission:

The Jefferson Park Avenue Neighborhood Association Board respectfully requests that the Planning Commission and City Council REJECT the application of Aspen Topco II for Special Use Permits to construct a residential building aimed at student renters at 2005-2007 JPA/104 Observatory Ave. The developer requests a height of 75 feet, almost twice the height permitted by the current R-3 zoning of this location, and a density of 119 units, more than three times the density of 36 units permitted by zoning. They also request a reduction of rear setback from 75 feet to 36 feet and a 22% reduction in required parking.

This application, made soon after City Council approved the FLUM, anticipates a rezoning of the JPA neighborhood as "higher intensity residential" and a redesignation of Jefferson Park Avenue as an "urban mixed use corridor." But this rezoning has not yet happened and it is not a given that it will happen precisely as the FLUM proposes. The 2021 Draft Comprehensive Plan projects rezoning to take 1-3 years, using a deliberative, community-collaborative, step-by-step rezoning process. Moreover, the rezoning proposed in the FLUM is highly controversial; it has already provoked a lawsuit. Aspen Topco II Acquisitions' application not only jumps the gun on the City's collaborative rezoning process, but even requests a radical increase in height (7 stories) compared to that envisaged by the FLUM for "higher intensity residential" (5 stories).

According to the City Code guidelines for Special Use Permits (Section 34-157, item 1) the Planning Commission must consider "whether the proposed use or development will be harmonious with existing patterns of use and development within the neighborhood". The SUP guidelines also specify that the Planning Commission must consider "whether the proposed use or development will have any potentially adverse impacts on the surrounding neighborhood, or the community in general", including traffic or parking congestion (item 4a), undue density of population or intensity of use (item 4e), and massing and scale of project (item 4j). This project has adverse effects in all these ways.

1. Parking and Safety.

Observatory Ave. is a narrow, dead-end street that already has more cars than it can tolerate. The developer proposes to provide only 125 parking spaces for a population of 390 students, on the grounds of proximity to U.Va. and to a bus stop. However, it is well known that students prefer to have cars for purposes other than going to school. Even if the developer increased the number of on-site parking spaces, the addition of hundreds of cars of both residents and their guests would add to the already hazardous traffic conditions on both Observatory Ave. and Washington Ave.

2. Massing and scale.

The developer proposes to place a 5-7 story building directly across from one-story houses on Observatory and two-story houses on Observatory and Washington, and in front of a one-story house on Washington. It would be grossly out

of scale in relation to the surrounding neighborhood, and its shadow would deprive nearby homes of sunlight. Note that on p. 6 of their application the developer misleadingly states that "newer projects range in scale from five to nine stories facing JPA," and they include a photo of the 9-story building in the "neighborhood context photos" on p. 12. In fact that building, 1800 JPA, is located on the side of JPA that is in a higher density zone (University High Density) than the side where the proposed building would be located. 1800 JPA is also set considerably back from the street, unlike the proposed building. Furthermore, the developer also misleadingly claims that "the 2013 Comprehensive Plan modified the zoning in the JPA neighborhood … Rather than UHD, R-3 and R-2U spanning east to west between the railroad and Stadium Road, the entire area was designated as High-Density residential" (p. 14). In fact, there has been no rezoning of the neighborhood, as shown by the developer's own zoning map on p. 11 of their application.

3. This project will not increase the City's inventory of badly-needed affordable housing. On the contrary, it will replace current units on the site that are relatively affordable with luxury units targeting U.Va. students. As stated in their December 7 presentation to the neighborhood, the developer plans to charge rents at "market rate".

4. Environmental concerns.

Considering that six buildings will be removed to make way for one large U-shaped building with underground parking, there are several environmental concerns. The impervious surface will be greatly enlarged, so the ground water absorption will be greatly reduced with increased water into city drainage systems and the local creek for the surface water runoff. The removal of 27 trees will reduce the canopy cover that the city aims to enhance. The addition of 390 students will increase litter, noise, lights and fumes from car uses and personal gatherings.

5. Entrance corridor concerns.

The City's Entrance Corridor Design Guidelines specify that "[n]ew building design should be compatible (in massing, scale, materials, colors) with those structures that contribute to the overall character and quality of the corridor" and that they "should complement the City's character and respect those qualities that distinguish the City's built environment." The proposed structure is hugely disproportionate in massing and scale with nearby buildings in the JPA corridor, and also starkly contrasts with them in materials and color.

6. Aspen Heights Partners, the Texas-based developer behind this project, has a problematic history. For example, according to a 2020 article in the *Baltimore Sun*, a group of Towson University students sued Aspen Heights for charging them rent despite not having completed construction of the units they had leased. A 2014 article in the *Columbia Missourian* describes extraordinarily high electricity bills in another Aspen Heights student building, possibly due to under-sized heating units. Other recent news stories mention multi-million dollar lawsuits against subcontractors controlled by this company.

In summary, this project will not benefit the City. Instead it will create hazardous parking and traffic conditions, will mar the environment, and will do serious harm to the quality of life of residents of the neighborhood. Please do not approve the Special Use Permits for this project.

Sincerely,

Nina Barnes, President
Bobbie Williams, Vice President
Bonnie Reilly, Treasurer
Jennifer King, Secretary
Ellen Contini-Morava, At-Large Member
Nancy Haynes, At-Large Member

Jennifer King
Interim Secretary, JPANA Board
Phone: (434) 293-9104, option 4 or ext. 103

Fax: (434) 293-9002
jenniferking@chaseinv.com

Attachment D

Dear Planning Commissioners and City Councilors

I am writing to express my concern about the proposed apartment building at 2005 Jefferson Park Avenue and 104 Observatory ,I reside at 125 Observatory Avenue. On the front end the project is asking for a special use permit, the developer want to exceed the by-right height for R-3 zoning by 30 feet, which is a seven stories on the JPA front going above and beyond , to triple the by-right density to accommodate close to 400 tenants . This towering structure will certainly impact the quality of life of residents negatively in parking alone the streets around here already maxed and the side entrances on the 5-7floor structure will only invite more side street parking. The road especially Observatory is narrow to begin with my neighbors and I already are constantly making many too adjustments in turning just to get out of the driveway!

With the intended setbacks and reduce parking plans its a no brainer this is going to be ugly for us. I know there is some underground parking but there's no doubt with this dense high population apartment complex will bring agony for us residents on already crowded streets.

I respectfully ask you to deny Aspen Llc request for the special use permits.

I bought my house four years ago and I completely renovated the entire house from the 1928 days of the past all brick and tile block and stucco, I love this home the structure and style and plan on living here for a long time. Its great to be within walking distance to so many places the church ,the school the restaurants , coffee shops etc . We like our calm and comfort here now and see that is going to change on the downside from this towering imposing structure. The word harmonious will transpire and will be sore ears, eyes and headaches for many many months, our living here will be rough then the other problems will begin ,The car Parking Mostly.

I would also would venture to say the old waste lines on our street ,are terra cotta and there are 100 years old ,just believe they will rattle apart along with the shabby power lines when all this digging will start .(The city utility folks already know many of these waste lines are compromised already in these old neighborhoods.) as The rumbling will be going on for a good while I suppose. It is going to be noisy for sure.
We my neighbors and I urge the planning commissioners and city councilors to please give us some thought and ask yourself how would I like this if it were me living next to this expansive construction site for months and months on end . Please think about how this will affect the residents, thank you .
We ask for your help
Sincerely
John Ashworth

3532 Barkley Drive
Fairfax, VA 22031

Attachment D

Matt Alfefe
Charlottesville City Planner
Charlottesville, VA

Subject: Jefferson Park Avenue 2005 condominium project – landowner feedback

I am the owner of 111 Washington Ave (duplex) in Charlottesville near UVA.

A neighbor recently shared the Dec 7, 2021 public presentation by Mitchell/Matthews architects on the proposed "JPA 2005" condominium project, which I was not aware of until now.

After viewing the presentation, I would like to weigh in re the effect this project would have on the Washington Avenue thoroughfare area and my property.

I purchased my property 6 months ago but wasn't aware of the JPA 2005 project at that time, nor were the listing or buyer real estate agents.

The proposal is for 119 units of 1 or 2 and 3 or 4 bedroom size, equating to 290 potential tenants. Permission is being sought for 125-144 vehicles with a single entry point on Washington Avenue.

Parking: A review of the proposal by the city transportation official noted the project would not significantly impact traffic or parking in the area. While vehicle traffic would increase, no changes need to be made to existing traffic patterns or street parking.

I find this hard to believe. Why? Much traffic on that street comes off the bypass to Fontaine with a sharp left turn on Washington Avenue across a divided Jefferson Park Avenue, especially during peak periods. My duplex has 8 renters currently, each who have their own vehicle. Three park on my property while 5 are authorized street parking with a city permit. I can tell you first-hand that it's difficult to find parking on Washington Avenue as it is, so this issue needs further vetting by the city.

The proposed parking garage entry on Washington Ave is right in front of my property, which will be a noise and obsolescence factor for my tenants and those living on Washington Ave or nearby. Citing the proposed single parking entry location plan, the presenter noted reasons to put it on Washington Ave is based on:

- Washington Ave is exclusively renters
- Observatory Ave is mostly long-term residents
- Washington Ave is slightly wider than Observatory Ave
- Observatory Ave is a dead end street
- Washington Ave connects with Stadium Road for easy access to UVA

Given that the JPA proposal will have less than half the on premise parking slots for its tenants, overflow for visitors and other JPA 2005 tenants will invariably be on nearby streets, especially Washington Ave.

My view and that of others regarding parking is:

- There needs to be more on site JPA 2005 parking
- There needs to be more than one entrance for parking given the number of tenants and cars

Attachment D

Trash service: Refuse bins will be kept within 2005 JPA, right next to the facility parking entrance. On trash pick-up days, a large number of trash bins will be placed on the street for pick-up once a week.

The issue with this proposal is that it will be right in front of my property and will affect traffic flows when many trash/recycle bins are picked up as well as cleanliness, litter and stench from it.

Given the factors mentioned above:

The JPA 2005 project plan requests authorization to build a 5-story structure up to 75 feet in height.

It is noted that the Graduate Housing complex at 110 Washington is on terrain that is a good deal higher than the houses on the other side of the street. As such, the 2005 JPA facility, if approved, will tower over residences across the street, with loss of shade provided by trees that will inevitably be removed.

In sum, the proposed project will result in denser activity on Washington Ave, more parked cars clogging nearby streets, stressed water and sewer pipes, more runoff from storm water with fewer trees, litter from the trash pick-up point and other concerns associated with a project of this scope and size.

I believe that the transportation aspects of this project needs to be studied further; the number of proposed parking slots; vehicle entrance location; trash pick-up plan and other aspects-- with revisions made to the developer's plan.

JPA 2005 is a massive project that stands to change a relatively quiet neighborhood and street leading to the university that is already receiving increased foot and vehicular traffic as the UVA student body and staff continue to grow.

Moreover, the proposed 18-month construction period—which will likely last 2-years or more--will have a major impact on a variety of area activities. It will cause disruptions as trucks, materials and worker movements affect the passage of vehicles, pedestrians, associated noise and all else in such a project.

I request that city planners take into consideration issues that I have outlined herein before approving it.

In a nutshell, landlords don't want their properties or bottom line to be negatively affected by activities such a large project will inevitably present, as well as tenants, nearby residents and others in the area.

Sincerely,
Kenneth Hill
Kenneth Hill

Attachment D

Date: January 20, 2022

Subject: Aspen Topco II Acquisitions and Mitchell/Matthews's SUP application for 2005 Jefferson Park Avenue

To: Matt Alfele and the City departments contributing to the analysis

From: Lorna Martens, resident homeowner at 128 Observatory Avenue

Attachment: Photo of Observatory Avenue plat of 1928

Dear Matt and Reviewing Departments:

Aspen Topco II Acquisitions and Mitchell/Matthews have applied for four special use permits in order to construct an apartment building on the site they call 2005 Jefferson Park Avenue. This 1.71 acre site also includes a number of addresses on Observatory Avenue and Washington Avenue. Precisely the special use permits, if granted, would cause trouble if the developer were to build the proposed building. The developer is requesting close to double the by-right height (75' at average grade plane instead of 45') and more than three times the by-right density (119 units instead of 36 units). Nothing would mitigate the problems caused by this height and this density.

1. Height. The 1.7 acre lot is on an eminence. If you drive south from the university along Jefferson Park Avenue and pass Carrolton Terrace, the current buildings on the 2005 Jefferson Park Avenue site, i.e., the mansion and a side building, loom into view. They define the skyline. They are taller than anything else around. Imagine adding two stories to their height at the crest of the hill and four stories to their height where Observatory Avenue and Washington Avenue meet Jefferson Park Avenue. The result would be by far the tallest building in the neighborhood. It would not only block the light for houses on Observatory and Washington, but block afternoon light for houses on Harmon Street and Shamrock Road to the east and morning light for a stretch of residences to the west.

On Observatory Avenue and Washington Avenue, the effect of the height on the light as well as the view would be disastrous. The building would dwarf every structure on both streets. The property, which is currently zoned R-3, is adjacent to R-2 zoning. The developer proposes to erect a 5-7 story edifice directly across from one-story houses on Observatory and two-story houses on Observatory and Washington and in front of a one-story house on Washington. The disproportion is grotesque. The 45' by-right R-3 height is enough; 75' from average grade plane is far too much. The 2021 draft Comprehensive Plan emphasizes context-sensitivity in new development: "forms and scales that are respectful of the surrounding

neighborhood," "adequate transitions such as step downs in scale and intensity to mitigate impacts on adjacent residential and historical areas," and "viewsheds."

The entrance corridor guidelines likewise state:

"When making transitions to lower density areas, modulate the mass of the building to relate to smaller buildings. Heights can be greater if the mass is modulated and other scale techniques are adopted. Reduce height near lower density uses (p. 52)."

2. Density. The main problem with increased density is cars. Seemingly every student who lives off grounds wants to have a car. There are no rules against this. For a student, it's one of the perks of coming to UVA. You've noticed the difference in traffic in Charlottesville generally, and the difference in parking along JPA, during term and during vacations? When classes are in session and students are here, Charlottesville is overwhelmed by student traffic. The students don't want cars in order to drive to classes; in the daytime, there is no place to park on Central Grounds. To get on-grounds parking you have to join a waiting list longer than any student's stay at the university. Students want cars for the many other reasons it's convenient to have a car: to get groceries, to drive to "places like Wal-Mart" (to quote what they've said in the past), to visit their friends, to drive to their local jobs, to drive home during vacations, to drive out of town. In any case, it's not an exaggeration to plan for one car (thus, one parking space) per off-grounds student. 125 parking spots for 390 residents, which is what the developer requests, is a totally inadequate number. Yet even if the developer were to add additional spots, that would not solve the parking problem (see below on "Traffic" and "Safety").

Traffic on Observatory Avenue:
Observatory Avenue is a 1-block long dead end on a steep upgrade from Jefferson Park Avenue that narrows halfway up. There is no turnaround. There is at most one sidewalk, and for stretches no sidewalk at all. On Washington Avenue, too, there is at most one sidewalk. City records show that in 1924 H. Gary Clarke acquired a tract of land whose description corresponds to the location of present-day Observatory Avenue and Washington Avenue (DB 46, pg 29). According to 1925 land records for Charlottesville's "District #1," lot sales on Observatory Avenue took place in that year, and the first houses were built. The "new street" Observatory Avenue, built by H.G. Clarke, is shown together with its numbered lots on a plat of September 1928 (DB 62, pg 362). Please refer to the attached photo of this plat. The size of the road shown on this plat of 1928 has not changed. It is a narrow, hilly little road. Nevertheless, it sees a remarkable amount of traffic for a one-block-long dead end. We homeowners on Observatory Ave. have long been plagued by people driving up our street by mistake and using our driveways to turn around. During the university terms, Observatory Ave. swells with student traffic—not just the cars owned by the student renters, but those brought by their many guests, who come for parties and other get-togethers particularly in the evenings.

Observatory Avenue is also targeted by football game goers looking for parking. Observatory and Washington were not built for such traffic.

Safety on Observatory Avenue:
Observatory Avenue narrows upwards of the large parking lot behind 108 Observatory. Observatory Avenue is 27" wide at the level of 108 Observatory, but only 21.5" wide at the telephone pole in front of 113 Observatory. Currently, if cars park on both sides of the street on the narrow stretch and stay on the asphalt, i.e., do not drive up onto somebody's grass, large vehicles like garbage trucks, fire trucks, and snow plows cannot squeeze through between two cars parked on opposite sides of the street. This has been an ongoing problem for decades and already constitutes a hazard. I've had to call garbage collection many times: why hasn't my trash been picked up? The answer is, the driver couldn't get up the road. Mail vehicles, delivery and other trucks, etc. routinely use the 108 Observatory parking lot (this is the parking lot that the proposed project wants to get rid of) to turn around so as to descend back onto JPA. In short, we have a problem with traffic and parking as it is. Observatory Avenue absolutely cannot support any more traffic of any kind. The 390 residents of 2005 JPA and their guests will exacerbate the traffic and parking problem, because they will park wherever they find space, regardless of the proposed underground parking spots.

Additionally, the exit from Observatory Avenue onto JPA is almost blind and therefore dangerous. If cars park in the legal parking spaces on JPA to the left of Observatory Avenue, then it is difficult to impossible to see traffic coming from the left when exiting Observatory Avenue. The taller the vehicles parked on JPA, and the smaller the vehicle coming from Observatory, the less visibility the driver has. (If you send somebody to check this out, please do not send a 6' 4" guy in a pickup truck! Such a person might actually be able to see over the parked cars. Instead, send somebody who can duplicate the residents' experience, such as a 5'5" woman in a Honda Civic.) The existence of the proposed building fronting on Jefferson Park Avenue as shown in the architect's diagrams would make the exit from Observatory Avenue more blind and more dangerous.

Traffic on Jefferson Park Avenue and Emmett Street:
During the university terms, traffic between Observatory Avenue and Grounds and Route 29 North (BUS), and between Observatory Avenue and UVA Hospital, is heavy and often backed up. Imagine adding several hundred cars (390 cars?) to that traffic. It is worth noting that the traffic analysis that Aspen commissioned is based on traffic observation on a Saturday, and hence not representative of the weekday traffic flow.

Other:

Aesthetic considerations: The buildings along the JPA entrance corridor, as well as on Observatory Avenue and Washington Avenue are largely made of brick, stucco,

and wood. The proposed building does not use these materials. It does not fit in with its surroundings, but—in its context—creates an eyesore. It looks as if it were designed for Stonefield Plaza.

Trees: "Keep Charlottesville green" is a priority in the new draft Comprehensive Plan. Currently, the property has many old trees and some newer flowering trees along Observatory Avenue. The 2005 Jefferson Park Avenue project proposes to get rid of all of them.

Affordable Housing: No affordable housing is envisaged at 2005 Jefferson Park Avenue. Meanwhile, a component of the "affordable housing" concept is "aging in place" (2021 draft Comprehensive Plan, pp. 18, 33). Observatory Avenue has six residents, five of them resident homeowners, over the age of 65. We all hope to be able to "age in place."

For all these reasons, it is not advisable to grant the special use permits.

Sincerely,

Lorna Martens

Attachment D

362

DB 62

Given under my hand this 13 day of Sept.1928.

(SEAL)

Eugene K. Ogilvie
Notary Public.

PLAT

of a division of a block of lots

being parts as shown by dotted line of Marmon and Rixie prop.

situated in the

CITY OF CHARLOTTESVILLE, VIRGINIA.

the property of H. C. CLARKE

Hugh F. Simms, C.E.C. Sept.1928.

VIRGINIA: In the Clerk's Office of the Corporation Court of the City of Charlottesville.

The foregoing instrument of writing, together with certificate of acknowledgment thereto annexed, was presented and admitted to record on the 13th. day of September,1928, at 12:10 o'clock, P.M., and recorded in Deed Book No. 62, page 360.

Teste:-

C C Moran Clerk.

Attachment D

Aspen-Topco II's Application for Special Use Permits

I am a resident homeowner at 123 Observatory Ave., and I have objections to the proposed Special Use Permit requests of Aspen-Topco II for the 2005 Jefferson Park Avenue project.

My first objection is to the permit to increase the allowable residential density and to the permit to reduce the parking requirement.
Both of these SUP's would impact safety, related to parking congestion and traffic. (City Code Standard for Special Use Permits, Sec. 34-157: (4)a)

Parking:

- Aspen-Topco II plans to house 390 students in 119 units, and provide 125 underground parking spots.
- This would leave 265 residents with no on-site parking.
- Observatory Ave is a narrow, one-block-long dead end.
- If cars are parked all along both sides of the street, Fire Trucks, Rescue Squad Vehicles, Garbage Trucks, Repair Trucks, and Delivery Trucks couldn't travel in the narrow space between the cars.
- As it is, delivery trucks need to back down the street after making their deliveries, until they find a place to partly back into a driveway to turn around.
- If cars are parked on the street too close to a driveway, it's very hard to enter or exit the driveway.
- If one driver is entering Observatory Ave. from JPA while another is driving on Observatory Ave. toward JPA, it's now possible for one driver to find a place to pull to one side so the other driver can continue in the single lane in the middle.
- If cars were parked all along both sides of the street, this would be impossible.
- Add snow/ice to all of this, and each of these problems would be worse.
- There are city and university bus stops nearby, and a few places to eat or buy basics like bread and milk.
- There are no complete grocery stores or general all-purpose stores close by.
- Students would need/want to go to places not on the bus lines and not in walking distance, or at times that don't match a bus schedule.

- Would 265 residents be able or willing to park their cars in areas not adjacent to their building, or do without cars entirely?
- The proposed building's residents would also have guests who would need to park.

Traffic:

- Visibility to the left when entering JPA from Observatory Ave. is minimal to non-existent due to cars parked all along JPA between Washington Ave. and Observatory Ave.
- I've turned right onto JPA from Observatory Ave. to see a car, which I was unable to see from Observatory Ave., frighteningly close behind my car once on JPA.
- Traffic will increase on JPA due to cars from the proposed building's underground parking area turning from Washington Ave. onto JPA.
- Some of the increased traffic will turn right and pass Observatory Ave., increasing the possibility of an accident when exiting Observatory Ave. onto JPA.

My second objection is to the permit to increase height.
This SUP is related to massing and scale of the project.
(City Code Standard for Special Use Permits, Sec. 34-157: (4)j)

A building of such height and mass would cast a very large shadow over the smaller houses on Observatory Ave., and would affect the amount of sunlight available for grass, gardens, shrubs, and smaller trees.
Some homeowners would live in almost continuous shadow.

Attachment D

Alfele, Matthew

From: Marilyn Poling <mg2mp5@gmail.com>
Sent: Tuesday, December 7, 2021 8:48 PM
To: Alfele, Matthew
Subject: Re: 2005 JPA

I listened to the Dec. 7 meeting on my phone, and didn't have a way to "sign in." I do have some comments.

A house across the street from me has been rented to students since before I moved here, over 30 years ago. There has always been one car per student, and most students have used their cars almost daily. I don't think it'll be any different for 2005 JPA. If 390 people live in the building, there will be 390 cars. The presence of bus stops is irrelevant. As several people said, students will go places other than the university, that are not on the university or city bus lines, and are not in convenient walking or biking distance. To think otherwise is to indulge a fantasy. If the city were to issue parking permits for Observatory or Washington, I can foresee being unable to enter my own driveway, and trying to find a place to park on another street, for which I would have neither a parking permit nor a driveway. I'm 67 years old, and would find this a hardship. I believe there are people in their 70s who live on this street, and one in her 80s, who would find the situation even more difficult. At one point, the presenter seemed to imply that because there were parking issues here 10 and 20 years ago, it's fine that there will be more parking issues now. Expecting side streets that could barely deal with parking for 50 units/70 students to now deal with 119 units/390 students is unrealistic. What is possible in the comprehensive plan may have no correlation to what's possible on the ground.
> On Dec 6, 2021, at 8:53 AM, Alfele, Matthew <alfelem@charlottesville.gov> wrote:
>
> Marilyn,
> Thank you for the comments. I will make sure to include them in any report that goes to Planning Commission and City Council.
>
> -----Original Message-----
> From: Marilyn Poling <mg2mp5@gmail.com>
> Sent: Sunday, December 5, 2021 7:32 PM
> To: Alfele, Matthew <alfelem@charlottesville.gov>
> Subject: 2005 JPA
>

> ** WARNING: This email has originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.**
>
>
> I live at 123 Observatory Ave., and have concerns about the 2005 JPA project:
>
> 1) Parking—If the current buildings have the by-right maximum density now, it's 21 units/acre. The special use permit requests 70 units/acre, and, since its request is not final, it could change the request to 87 units/acre. Another special use permit requests 10% decrease in parking. The density would more than triple at 70 units/acre, and parking would decrease by 10%? Observatory Ave. is a narrow, one block long dead end. Residents have stickers for parking during weekdays, but one or two rented houses have their driveways filled and a car parked across on the street in front of their driveways when everyone is at home with current parking conditions. Currently, on home football game days, only one side of the street is allowed parked cars; cars on the other side of the street are ticketed/towed, because if cars are parked in available spaces on both sides of the street, no fire truck would be able to go up the street. If cars from the proposed 2005 JPA project are allowed to park along Observatory Ave., this inability of a fire truck (or garbage truck, or snow plow, or utility truck, or some trucks from private companies that need to do work at houses on the street) to go up the street would be a permanent condition. One day while I was in my yard, the driver of a truck that needed to get to a house beyond mine to work on the house was unable to pass my house because a car (not mine) was parked in front of my house and another car was parked directly across the street from it. The driver had to take all his equipment by hand from the truck to the house. A fire truck would not have been able to get as far up the street as my house. When cars are parked on both sides of the street, the middle is wide enough for one car, barely wide enough for an SUV, and two cars, one going up the street and one going down the street, could not pass each other. When cars are parked on both sides of the street with some distance between them, one car can pull between two cars to let the other pass—impossible if maximum cars are parked along the street. Also, cars would park very close to driveways, making it difficult/impossible to enter/exit driveways due to the narrowness of the street.
>
> 2) Entering JPA from Observatory Ave.—Visibility to the left when trying to pull into JPA currently is minimal to non-existent now, when cars are parked all along JPA to the left, as occurs whenever UVA is in session and businesses are open, particularly when it's a high-traffic time of day. Sometimes a minimal amount of visibility is possible if you look further down the street. If the planned building setback is very close to JPA and Observatory Ave., instead of the current building's further setback, even this occasional minimal visibility would not exist.
>
> 3) Height/bulk of proposed building—The "Perspective Rendering" of the proposed building in the information package from Mitchell/Matthews says the proposed building could be 5-8

stories high. A building of that height and bulk would put quite a bit of Observatory Ave. into shadow, not just the houses directly across from or behind the building. I live on 123 Observatory Ave., three houses up from the back of the site. From the angles that sunlight comes into my windows, it seems that the building would cut off light to my house for part of the year. Would this be enough shadow in some places to interfere with growing lawns, flower/vegetable gardens, shrubs, trees? Could the architects calculate the area of shadow though the day and through the year, and present the results to the neighborhood association?

>

>

> Marilyn Poling

>

>

Attachment D

Megan Buschi & Family
126 Observatory Ave
Charlottesville, VA 22903
megantbuschi@gmail.com
434.466.2632

March 5, 2022
Dear Planning Commissioners,

I'm writing to you to protest any special use permits (SUP) that have been presented to the City from Aspen Topco II Acquisitions, LLC and architects and planners Mitchell Matthews for the property **2005 Jefferson Park Ave.**

My family and I are residents of Observatory Ave and have lived here for over 15 years. We didn't buy the property as an investment, it was a decision made in good conscience to live close to where we work and recreate. I work for UVA (therefore walk to work) and my husband works for Blue Wheel Bicycle downtown (rides his bike to work), where we are part owners. We are a family of four, sometimes five when a parent stays for an extended visit. My husband and I have two elementary-age active boys that play in our yard and along the entire street.

Our community on Observatory Ave is unique…we have 15 houses, 9 are occupied by the homeowners. *(This does not include the homes on 2005 Jefferson Park Ave)*. This is a much higher owner-occupied street than any other in the JPA neighborhood. When you're here you can feel the difference. We are active in our yards/gardens and use our surrounding amenities to the fullest. Many of our residents have lived here for over 25 years…one even 40 years.

We love our neighborhood and how close we are to the students and academic energy that the University provides. I have always enjoyed getting to know the students living in the rental properties and showing/teaching them what it means to be part of our Observatory community. We have had many students come back to visit after graduation.

We oppose the SUP (special use permit) for increased density to 70 dwellings per acre and this amounts to 119 units total. That equals 390 occupants.
This increase in dwellings will increase traffic on an already narrow street. The City of Charlottesville *rescue vehicles* and the City's garbage facilities have a difficult time getting to our street now…an increase in population (cars) will be unsafe!

We oppose the SUP for increasing the height to 75 feet.
This increased height is a direct reflection in the number of units needed. With the increase of units, is an increase in the population. The City of Charlottesville *rescue vehicles* and the City's garbage vehicles have a difficult time getting to our street now…an increase in population (vehicles) will be unsafe!

Attachment D

We oppose the SUP to reduce the rear setback.
I believe the setback should not be reduced to shield the remaining parts of the street from the building. We would love to maintain the charm and character of our hundred-year-old homes.

We oppose the SUP for reducing onsite parking by 22%.
Our street is already at capacity with cars parking on both sides of our narrow road..reducing parking provided by the apartment complex would increase traffic to Observatory Ave..
Increased traffic will cause more issues for the *emergency vehicles*, snowplows, garbage trucks, delivery services.

Thank you for your communication and participation with the community of Observatory Ave and the JPA neighborhood.

Sincerely,
Megan Buschi, Paul Buschi, Sam Buschi and Jack Buschi.

Attachment D

Alfele, Matthew

From: Megan Buschi <megantbuschi@gmail.com>
Sent: Monday, January 31, 2022 6:53 PM
To: Alfele, Matthew
Subject: Fwd: SUP for 2005 Jefferson Park Ave.

Follow Up Flag: FollowUp
Flag Status: Flagged

Matt, I'm not sure where this letter goes after I send it to you but I would love to make sure it gets to the City Council. What's the best action from here...mailing an actual letter?

Best,
Megan Buschi

---------- Forwarded message ---------
From: **Megan Buschi** <megantbuschi@gmail.com>
Date: Mon, Jan 31, 2022 at 3:58 PM
Subject: SUP for 2005 Jefferson Park Ave.
To: Megan Buschi <megantbuschi@gmail.com>

January 30, 2022
Dear members of the Charlottesville City Council,

I'm writing to you to protest any special use permits (SUP) that have been presented to the City from Aspen Topco II Acquisitions, LLC and architects and planners Mitchell Matthews for the property **2005 Jefferson Park Ave.**

My family and I are residents of Observatory Ave and have lived here over 15 years. We didn't buy the property as an investment, it was a decision made in good conscience to live close to where we work and recreate. I work for UVA (therefore walk to work) and my husband works for Blue Wheel Bicycle downtown (rides his bike to work), where we are part owners. We are a family of four, sometimes five when a parent stays for an extended visit. My husband and I have two elementary age active boys that play in our yard and along the entire street.

Our community on Observatory Ave is unique…we have 15 houses, 8 are occupied by the homeowners. *(This does not include the homes on 2005 Jefferson Park Ave)*. This is a much higher owner occupied street than any other in the JPA neighborhood. When you're here you can feel the difference. We are active in our yards/gardens and use our surrounding amenities to the fullest. Many of our residents have lived here for over 25 years…one even 40 years.

We love our neighborhood and how close we are with the students and academic energy that the University provides. I have always enjoyed getting to know the students living in the rental properties and showing/teaching them what it means to be part of our Observatory community. We have had many students come back to visit after graduation.

We oppose the SUP (special use permit) for increased density to 70 dwellings.
This increase in dwellings will increase traffic on an already narrow street. The City of Charlottesville *rescue vehicles* and the City's garbage facilities have a difficult time getting to our street now…an increase in population (cars) will be unsafe!

We oppose the SUP for increasing the height to 75 feet.
This increased height is a direct reflection in the number of units needed. With the increase of units, is an increase in the population. The City of Charlottesville *rescue vehicles* and the City's garbage vehicles have a difficult time getting to our street now…an increase in population (vehicles) will be unsafe! Also, the height will severely and negativity alter the appearance of the neighborhood and reduce visibility to the sky.

We oppose the SUP to reduce the rear set back.
I believe the setback should not be reduced to shield the remaining parts of the street from the building. We would love to maintain the charm and character of our hundred year old homes.

We oppose the SUP for reducing onsite parking by 22%.
Our street is already at capacity with cars parking on both sides of our narrow road..reducing parking provided by the apartment complex would increase traffic to Observatory Ave.. Increased traffic will cause more issues for the *emergency vehicles*, snow plows, garbage trucks, delivery services.

Special notes and requests:

I believe that the apartment complex will have all of it's utilities placed underground in duct banks with conduit. Mitchell Matthews as architects and planners should offer this service to all the residents on Observatory Ave for no charge.

Any ingress and egress should remain on Washington Ave with no exceptions.

All landscaping plants should be native and any in need of replacement should be replaced with native plantings.

Underground parking should take into consideration exterior lighting. The exterior lighting should consider the residents of Observatory Ave and how the lights will flood their homes.

The dumpsters should be maintained from the garage level or well hidden behind a barrier.

Thank you for your communication and participation with the community of Observatory Ave.

Sincerely,
Megan Buschi, Paul Buschi, Sam Buschi and Jack Buschi.

Attachment D

Alfele, Matthew

From: Bill Schaaf <billschaafsr@gmail.com>
Sent: Wednesday, April 20, 2022 1:59 PM
To: Alfele, Matthew
Cc: Ellen Contini-Morava; Jennifer King; Kenneth Hill; Kenny Valpak; Lorna Martens; Nelson Bickers; Barnes, Nina
Subject: Re: 2005 JPA Special Use Permit

Hi Matt,

Thanks for the update!

I wish to express a concern that the staff should consider making part of their report I focuses on the lack of adequate parking for the residents. My neighbor and I have both indicated that they have at least 1 car per bedroom. This development does not even come close to that. It is short sighted to believe that existing surrounding space can absorb the vehicles the tenants will bring. I have no professional studies to substantiate this. Perhaps you do?

In addition. Washington and Observatory roads are far too narrow to handle the ingress and egress of the vehicles that might park in their garage. This does ot contemplate the potential of an emergency vehicle that might need to traverse these streets. I hope the planning commission will take a realistic and practical look at the traffic mess this structure will create. My "dream" answer would be to see the garage parking (ingress and egress) from JPA.!

Thank you in advance for your input on May 10th . I also welcome any feeed back from other nearby property owners.

Bill Schaaf
113 Washington AVe owner
814-882-7696

On Wed, Apr 20, 2022 at 1:42 PM Alfele, Matthew <alfelem@charlottesville.gov> wrote:

> To interested parties,
>
> I am sending this email to inform interested parities that the applicant for the proposed development at 2005 JPA has elected **not to make changes** to their application. I am not sure why they are not making changes. This means I am anticipating this will be on the Planning Commission agenda for a **Public Hearing on May 10th**. This means all materials are staying the same. There might be some minor updates to the staff report to change some typos or rewording a sentence for more clarity. I will highlight any changes in a future email should it be needed. As a reminder, any Public Hearing notice will be communicated through a mailed letter to property owners within 500' of the proposed development and this email is only an informal way to keep interested parties informed. Once I have more information I will pass it on. Thank you and let me know if you have any questions.

Attachment D

Alfele, Matthew

From: Marilyn Poling <mg2mp5@gmail.com>
Sent: Tuesday, April 26, 2022 9:32 AM
To: Alfele, Matthew
Subject: 2005 Jefferson Park Avenue project SUP application

Follow Up Flag: Follow up
Flag Status: Flagged

Mr. Alfele, this is my response to the City Staff Report of 3/30/2022 concerning the 2005 Jefferson Park Avenue SUP application. Please forward it to the Planning Commission and City Council members.

My concerns with the City Staff Report are based on the Standard of Review factors in Zoning Ordinance Sec. 34-157. My greatest concerns are related to
4) Whether the proposed use or development will have any potentially adverse impacts on the surrounding neighborhood, or the community in general; and if so, whether there are any reasonable conditions;ns of approval that would satisfactorily mitigate such impacts.

a) Traffic or parking congestion

First, parking. Per the review, there will be 390 bedrooms and 125 parking spaces. I have heard assertions that this will not be a problem; that many students don't use cars, and that decreasing car use at universities is a trend. I have not seen any data showing this, or any proof that there is such a trend at UVA among students living in apartments with amenities such as a pool and a dog park. My own observations of student-rented houses and small apartment buildings on Observatory Avenue is that there is one car per student. Lacking any proof to the contrary, I believe my own observations. As the review notes under "Vehicular Access," "Observatory is also a sub-standard roadway and would have difficulty accommodating additional traffic while still maintaining the on-street parking that is currently present." This emphasizes my concern that any increased parking would make the passage of fire trucks, rescue squad vehicles, etc. impossible. The review under "Vehicular Access" also notes that "The building will be close enough to Observatory for fire apparatus to service the building if needed". I interpret this to mean that fire trucks will be able to get to the building, even the back of the building, by way of Observatory Avenue. My concern is that this is not the case.

The review notes that "Due to current regulations, the proposed development would not be eligible to obtain on-street parking permits…residents and guests of the proposed development would not be allowed to park on Washington, Observatory, or JPA." The current permits for Observatory Avenue are for 6:00 a.m. to 5:00 p.m., Monday to Friday. Residents and guests could park on this street after 5:00 p.m. and on weekends. If permits were changed to 24 hours, 7 days a week, how strictly and consistently could this be enforced? Would it be strict and consistent enough to prevent all residents and their guests from ever parking illegally? Would enforcement be ticketing, or towing? How often would the street be checked for illegal parking? Would it be checked during the night ass well as the day? A late party with guests parking illegally could happen during a night when a fire truck or rescue squad vehicle is needed immediately. This happening even once could have fatal consequences.

Second, traffic. As I and several others have stated elsewhere, the outlet from Observatory Avenue to Jefferson Park Avenue is dangerous as it is, since there is no visibility to the left when cars are parked all along JPA. Per the review, the "development and increased residential density, while increasing traffic on the roadway, will not create an adverse effect on surrounding City streets." But any increase in traffic will increase the danger in exiting this particular street.

c) Displacement of existing residents or businesses

I will not be directly displaced, but, if any additional parking occurs, whether legal or illegal, it could get to the point that I need to move because of decreased access to my house for fire trucks or rescue squad vehicles. Indirectly displaced is still displaced. I would not be able to find an affordable house in Charlottesville that is anywhere close to as convenient for all aspects of my life as the house I own is.

e) Undue density of population or intensity of use in relation to the community facilities existing or available

It is the extreme increase in density that would decrease the community facility of street space for emergency vehicles and parking, causing the problems related to a) and c).

Another area of concern is
1) Whether the proposed use or development will be harmonious with existing patterns of use and development within the neighborhood.

The staff analysis of the 2005 JPA project is that "the scale and density of the development is not harmonious with the existing patterns within the neighborhood." I agree with this. As the

review also states, its “footprint takes up almost an entire city block,” and will loom over and overwhelm the one- and two-story houses on Observatory Avenue and Washington Avenue.

Marilyn Poling

Attachment D

Alfele, Matthew

From: Nelson Bickers <peteb21@comcast.net>
Sent: Monday, April 11, 2022 5:01 PM
To: Alfele, Matthew
Subject: JPA Proposed Apartmentss

Follow Up Flag: Follow up
Flag Status: Flagged

My name is Nelson Bickers and I own property at 114 Observatory. I am opposed to the proposed apartment for several reasons, one being that it can only decrease the value of my property and that of the other parcels on Observatory. Another major objection is the impact the small streets of Washington and Observatory. Neither are wide enough for two cars to pass each other with cars parked on the street. Many of the properties don't have off street parking, so they have to park in the street. Trash collectors have to back down Observatory to collect trash.
Exiting Observatory on to JPA is always a challenge as there is no line of sight down JPA to see approaching cars. You must nose into the street and then you can only see one approaching vehicle. It's hard to see how anyone in a planning department or a traffic engineer could see this as a viable location for a project of this size.

Sent from my iPhone

Attachment D

Alfele, Matthew

From: Contini-Morava, Ellen L (elc9j) <elc9j@virginia.edu>
Sent: Wednesday, April 27, 2022 3:34 PM
To: Alfele, Matthew
Cc: Barnes, Nina; Anne Benham; peteb21@comcast.net; rebeccawtju@hotmail.com; Jennifer King; Martens, Lorna (lm2e); jmorava1@jhu.edu; aloisedphelps@gmail.com; Marilyn Poling; jimmy.wright@jeffersonscholars.org
Subject: Response to staff report about 2005 JPA SUP application

Dear Matt,
Below please find a response from JPA homeowners to the city staff report on the SUP application for 2005 JPA that was posted on March 30. Signatures are still coming in, but we wanted to get the letter to you by today's deadline so you could include it in your updated report.
With best wishes,
Ellen
~~~~~~~~~~~~~~~

Ellen Contini-Morava
Professor Emerita
Anthropology and Linguistics
University of Virginia

To: Matt Alfele
Please find here our comments on the City Staff Report of 3/30/2022 apropos of the 2005 Jefferson Park Avenue SUP application.

ERB report:

While we agree with the ERB that the height, mass, and scale of the proposed building exceed what is typical for the JPA corridor, indeed for Charlottesville, and would result in an adverse impact (p. 2), we disagree that this adverse impact could be mitigated in any way other than by significantly reducing the building's height, mass, and scale. The ERB focuses on ways in which the perception of height might be mitigated. But in our view it is the height itself—not just the perception of its height—that would have an adverse impact. The building would tower over nearby houses and their yards, putting them in shadow, cutting their sunlight, blocking their view of the distance, and replacing their close-up view of trees, grass, and sky which give a sense of spaciousness, with a view of the building's tall wall.

Additionally, to return to the issue of perception of height, nothing could possibly mitigate the perception of the unbroken east elevation, which is as long as a city block and rises on a hill, as seen from the intersection of JPA and Shamrock. Agreeing with ERB, we find that "when viewed from a distance, the tall, unbroken walls read as massive and overwhelming" (p. 3). The ERB suggests that the perception of height, mass, and scale could be mitigated at the pedestrian level by interrupting the east and west elevations with breezeways into the central courtyard. Unfortunately, breezeways, or any entryway into the building from Observatory Avenue, would inevitably have the highly undesirable effect of inviting and thereby increasing parking by residents and their guests on Observatory Avenue. Even if such parking is declared illegal, it will occur, especially at times when the street is not monitored. Currently, the worst parking problems on Observatory occur in the evening and overnight when the student residents have guests.

In the ERB report p. 4, we do not understand the second two "conditions" staff recommends for an ERB Certificate of Appropriateness.

Staff report
~~~~~~~~~~~~~~~

In the staff evaluation of the "standard of review," we agree with staff that the scale and density of the development is not harmonious with the existing patterns within the neighborhood (p. 6) and that it therefore does not meet standard # 1 (p. 20).

We appreciate staff's concern with the building's height at the eastern frontage (7 stories, see p. 8 and p. 16) and the north (5 stories, see p. 16), where it would tower over a one-story house. We do not understand why staff does not also point out the adverse effect of the height on 1- and 2-story buildings across the street from it on Observatory. Not just the height on the eastern elevation and at the rear, but the height on the western elevation is unacceptable. As previously stated, we disagree that the proposed mass, height, and scale could be mitigated except by significantly decreasing these dimensions.

Regarding standard # 2, we do not understand how the development could both be in compliance and might not be in compliance with goals 6 and 7 of the Comprehensive Plan.

Regarding standard #4a, our comments on traffic are extensive and so we are placing them at the end of the document.

Regarding the statement on p. 13 that "the proposed development could have an adverse impact on the surrounding neighborhood as it relates to parking should adequate measures not be implemented," we believe the only adequate measure would be 24-hour in-person surveillance by a law enforcement officer. Is the City prepared to dedicate an employee to this task?

Regarding standard # 4b: "Noise, lights, dust, odor, fumes, vibration, and other factors which adversely affect the natural environment. The proposed development will not result in any additional dust, odor, fumes, vibration, or other factors that could also be present with any by-right development. It should be noted that due to the height and density*, noise and lighting could be more intense than would be present in a by-right development.*" (p. 13 of 22)

We have italicized what we feel is an important quality of life issue that will heavily impact Observatory residents for the *two years* the developer has said would be the duration of construction of this project, and that the City minimizes with its description.

Regarding standard # 4e: fire protection, emergency response services, and public utilities have all been historically hampered on Observatory Avenue by the presence of parked cars, which often make it impossible for larger vehicles to get up the narrow road. The proposed development could only make this situation worse.

Staff Report – Traffic Impact Analysis, Attachment E

We disagree with the City Traffic Engineer, who apparently did no more than adopt the figures in the Traffic Impact analysis provided by the applicant. That is, the traffic engineer neither performed independent traffic analysis nor paid attention to the comments of long-term residents of Observatory Avenue about traffic, nor checked and verified the information in the applicant's Traffic Impact Analysis. We ourselves reviewed the Traffic Analysis and find it flawed and untrustworthy on several counts:

1. Data Collection

"Existing AM, Midday, and PM peak hour traffic counts were collected at the existing study intersections on August 28, 2021. A 12-hour turning movement count was also conducted at Jefferson Park Avenue/Washington Avenue on the same date" (Traffic Impact Analysis p. 1-2).

The traffic report says that observations were made on a "typical weekday" (p. 3-1), but August 28, 2021 was a Saturday; this means the data on current traffic conditions is unreliable. Observatory residents consistently experience higher traffic volume and denser parking conditions on JPA during the week than on weekends. We also wish to stress that these factors contribute to hazardous conditions if one is trying to turn left from Observatory onto JPA, especially during peak traffic hours.

2. The calculation of the trips generated by 2005 JPA is based on a trip generator manual whose applicability to actual conditions among the student population here is uncertain; however, they calculate 1070 additional trips per day, 60% of them onto JPA (there is no access to Fontaine except via JPA). We dispute the Traffic Engineer's conclusion that this volume of additional traffic will "not create an adverse effect on traffic on surrounding City streets" (p. 11).

3. The calculation of "background vehicle volumes" for 2023 is based on a 0.2% annual growth rate, with a claim that "per coordination with the City of Charlottesville, no background developments are expected to be completed within the

vicinity of the proposed development." However, 240 Stribling is certain to be developed, whether with 170-unit affordable housing or by-right townhouses or something in between, and the University has committed to building affordable housing in place of Piedmont Faculty Housing on Fontaine Avenue. Both projects will cause steep increases in traffic precisely on the JPA corridor. Although the Piedmont project is unlikely to be completed by 2023, 2005 JPA would also be unlikely to be completed that soon.

We asked the City Traffic Engineer to send us the information on off-campus student housing contained in the Trip Generation Manual used by the developer's Traffic Impact Analysis so we could see how the Traffic Impact Analysis arrived at its figures. The Traffic Engineer told us that the City only owns an older edition of the ITE Trip Generation Manual, which does not include off-campus student housing as a category—the category on which the Traffic Impact Analysis's "site trip generation" (see 6-1) is based. We conclude that the Traffic Engineer did not check the Traffic Impact Analysis' data himself before pronouncing it "sufficient and appropriate" (Staff Report p. 11).

In conclusion, although we appreciate that the staff report acknowledges the disproportionate scale and density of the proposed development, we do not think that cosmetic modifications would alleviate the serious harm this project would cause to the neighborhood.

Sincerely,

Nina Barnes
Anne Benham
Nelson Bickers
Ellen Contini-Morava
Rebecca Foster
Jennifer King
Lorna Martens
Jack Morava
Aloise Phelps
Marilyn Poling
Jimmy Wright

Attachment E

ASPEN HEIGHTS

CITY OF CHARLOTTESVILLE, VIRGINIA

Traffic Impact Analysis

December 23, 2021

Prepared For:

Aspen Topco II Acquisitions, LLC

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Contact: Thomas Ruff, PE, PTOE

1001 Boulders **Parkway, Suite 300 • Richmond, VA 23225**
(804) 200-6500 phone
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1 EXECUTIVE SUMMARY

This report presents the findings of the traffic impact analysis prepared for the proposed Aspen Heights off-campus student housing development in the City of Charlottesville, Virginia.

The proposed development is located between Observatory Avenue and Washington Avenue to the east and west and Jefferson Park Avenue to the south as shown in Figure 1-1 (all figures are located at the end of their respective chapter).

The site is currently zoned R3. The proposed development will consist of 390 beds (119 units) of off-campus student housing apartments. The applicant is submitting this traffic impact analysis in support of a Special Use Permit (SUP).

Access to the site will be provided via one (1) full movement entrance on Washington Avenue. A conceptual plan is shown on Figure 1-2.

For the purposes of this analysis, the development was assumed to be complete and occupied by 2023.

When complete, the proposed development will generate a total of 38 trips (16 in and 22 out) during the AM peak, 55 trips (26 in and 29 out) during the Midday peak, 84 trips (42 in and 42 out) during the PM peak, and 1,070 average weekday daily trips.

The purpose of this analysis is to determine the impact of the proposed development on the surrounding roadway network. The scope of this study was developed in conjunction with the City of Charlottesville staff at a scoping meeting held (virtually) on August 23, 2021.

As agreed upon in the scoping meeting, the study limits include the following seven (7) existing intersections:

1. Jefferson Park Avenue and Shamrock Road (signalized);
2. Jefferson Park Avenue and Harmon Street (unsignalized);
3. Jefferson Park Avenue and Washington Street (unsignalized);
4. Jefferson Park Avenue and Observatory Avenue (unsignalized);
5. Jefferson Park Avenue and Fontaine Avenue/Maury Avenue (Signalized);
6. Maury Avenue/Alderman Road and Stadium Road (unsignalized); and
7. Stadium Road and Washington Avenue (unsignalized)

In addition, the site entrance will be analyzed in future conditions (2023 and 2028).

In accordance with the scoping agreement, analyses were completed for the following scenarios:

1. 2021 Existing Traffic Conditions;
2. 2023 Background Traffic Conditions (without development of the site);
3. 2028 Background Conditions (without development of the site);
4. 2023 Future Traffic Conditions (with development of the site); and
5. 2028 Future Traffic Conditions (with development of the site).

The following steps were taken to determine the potential traffic impacts associated with this project:

1. Data Collection – Existing AM, Midday, and PM peak hour traffic counts were collected at the existing study intersections on August 28, 2021. A 12-hour turning movement count was also conducted at Jefferson Park Avenue/Washington Avenue on the same date.

2. Traffic Growth – In order to be conservative and account for development outside the study area, a 0.2% annual growth rate was applied to the existing vehicle traffic counts and 1.0% annual growth rate was applied to the existing bike and pedestrian volumes at all study intersections for the 2023 and 2028 analysis scenarios.

3. Trip Generation – Traffic generated by the proposed development was estimated using the 10th edition of the Institute of Transportation Engineers' *Trip Generation Manual*.

4. Traffic Distributions – The distribution of trips generated by the proposed developed was based on the existing traffic volumes, the nature of the use, and local knowledge.

5. Site Traffic Projections – Future traffic volumes were determined by combining the 2023 and 2028 background traffic volumes with proposed new trips generated by the site to create the 2023 and 2028 total traffic volumes used in the analysis.

6. Traffic Capacity Analysis – Level of service calculations for existing, background, and future conditions were performed using SYNCHRO Version 10 with SimTraffic for signalized and unsignalized intersections.

7. Queuing Analysis – The 95th percentile queue lengths (Synchro) and maximum queues (SimTraffic) were reviewed at the intersections listed above.

Based on the operational analyses the following is offered:

- Across 2023 and 2028 background conditions during the PM peak, the westbound approach to the intersection of Jefferson Park Avenue/Maury Avenue experiences operational issues with congestion on the westbound approach and the queue extends through Observatory Avenue, Washington Avenue, and Harmon Street intersections. Under 2023 and 2028 total volume conditions, with the addition of the proposed Aspen Heights development site traffic, the westbound approach is expected to experience minimal increases with the proposed development over the 2023 and 2028 background conditions.

- The results of the signal warrant analysis at Jefferson Park Avenue/Washington Avenue under 2028 total build conditions indicate that none of the traffic volume thresholds in Warrants 1 through 3 were met. None of the other warrants were considered at this time.

- Under 2021 existing conditions:

    - All movements at unsignalized intersections within the study area on Jefferson Park Avenue and Stadium Road operate at level of service (LOS) C or better during the AM, Midday, and PM peak hours. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

    - At the signalized intersection of Jefferson Park Avenue and Shamrock Road, the overall intersection operates at a level of service (LOS) B during the AM/Midday/PM peak hours. All turning movements and approaches operate at a LOS C or better during the AM/Midday/PM peaks. All turn bays have adequate storage to accommodate 95th percentile and maximum queue lengths.

    - At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection operates at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. All turning movements and approaches generally operate at a LOS C or better during the AM/Midday/PM peaks. The westbound left queue fills the available storage (AM/Midday) and backs up into the through lane (PM). During the PM peak, the westbound approach queues through the adjacent intersection with Observatory Avenue. During the PM peak, the southbound through queue backs up through the adjacent intersection with Clark Court.

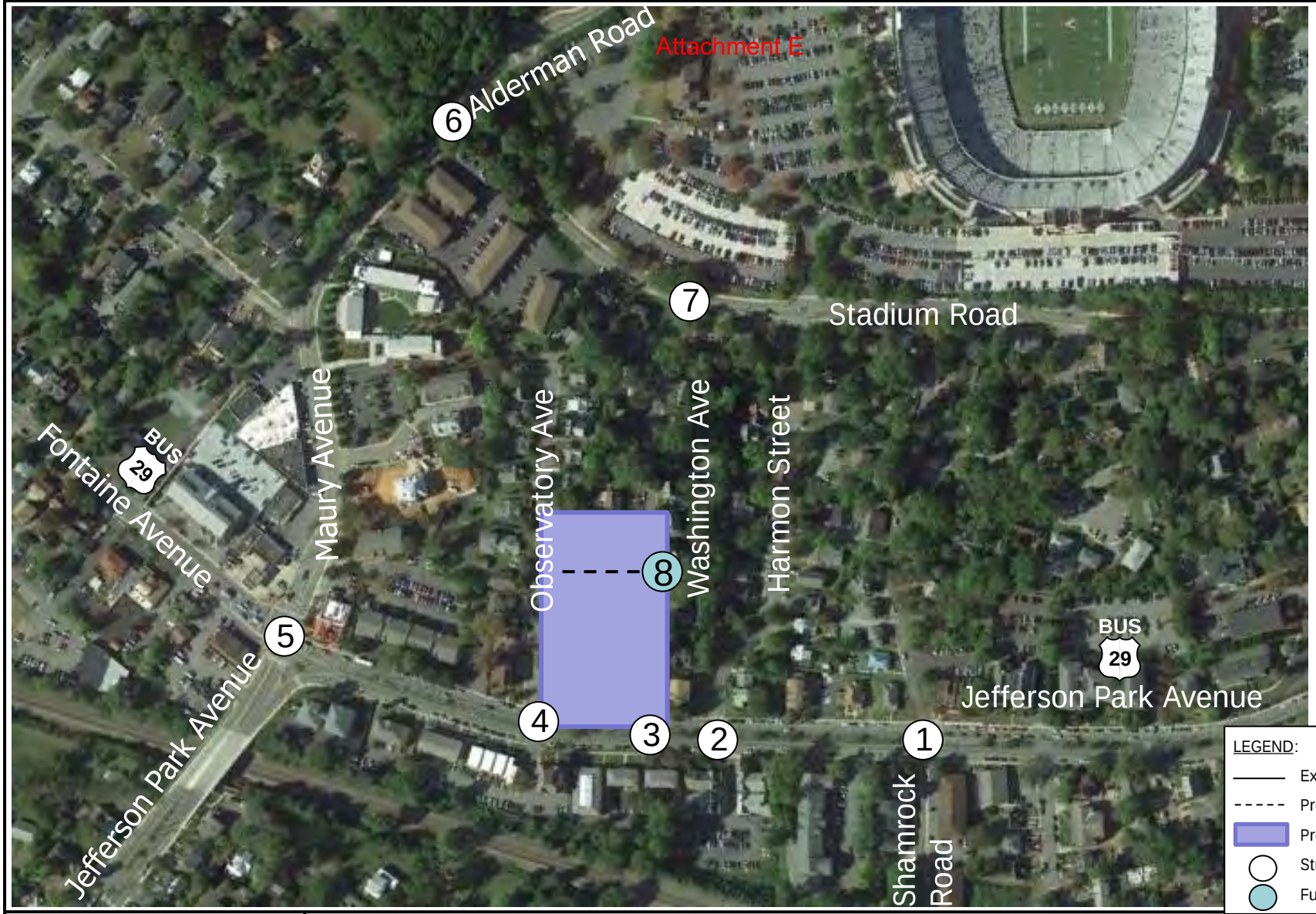
- Under 2023 and 2028 background conditions (without the proposed development):

    - Levels of service at the study intersections do not change significantly from 2021 existing to 2023 or 2028 background conditions. All unsignalized intersections continue to operate at LOS C or better during all peak hours. All signalized intersections continue to operate with LOS B or C during all peak hours.

    - There are no queuing concerns within the study area, with the exception of the westbound approach of Jefferson Park Avenue at Maury Avenue during the PM peak hour. The queues extend to intermittently block the intersections of Observatory Avenue, Washington Avenue, and Harmon Street.

- Under 2023 and 2028 total future conditions (with the proposed development):
    - Levels of service at the study intersections do not change significantly from background to total future conditions in 2023 or 2028.
    - All movements at unsignalized intersections within the study area on Jefferson Park Avenue and Stadium Road operate at level of service (LOS) C or better during the AM, Midday, and PM peak hours. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.
    - At the signalized intersection of Jefferson Park Avenue and Shamrock Road, the overall intersection operates at a level of service (LOS) B during the AM/Midday/PM peak hours. All turning movements and approaches operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the westbound left fills the available storage. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.
    - At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection operates at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. All turning movements and approaches generally operate at a LOS C or better during the AM/Midday/PM peaks. The westbound left queue fills the available storage (AM/Midday) and backs up into the through lane (PM). During the PM peak, the westbound approach queue backs up through the adjacent intersection with Observatory Avenue. During the PM peak, the southbound through queue backs up through the adjacent intersection with Clark Court.

Based on the results of the operational analysis, there are no vehicular and roadway network improvements required based on the additional development traffic volumes. The site will increase the residential density in the area and add to the pedestrian, bicycle, and transit volumes. To address the additional pedestrian, bicycle, and transit volumes, the applicant plans to install sidewalks along the entire frontage of the property.



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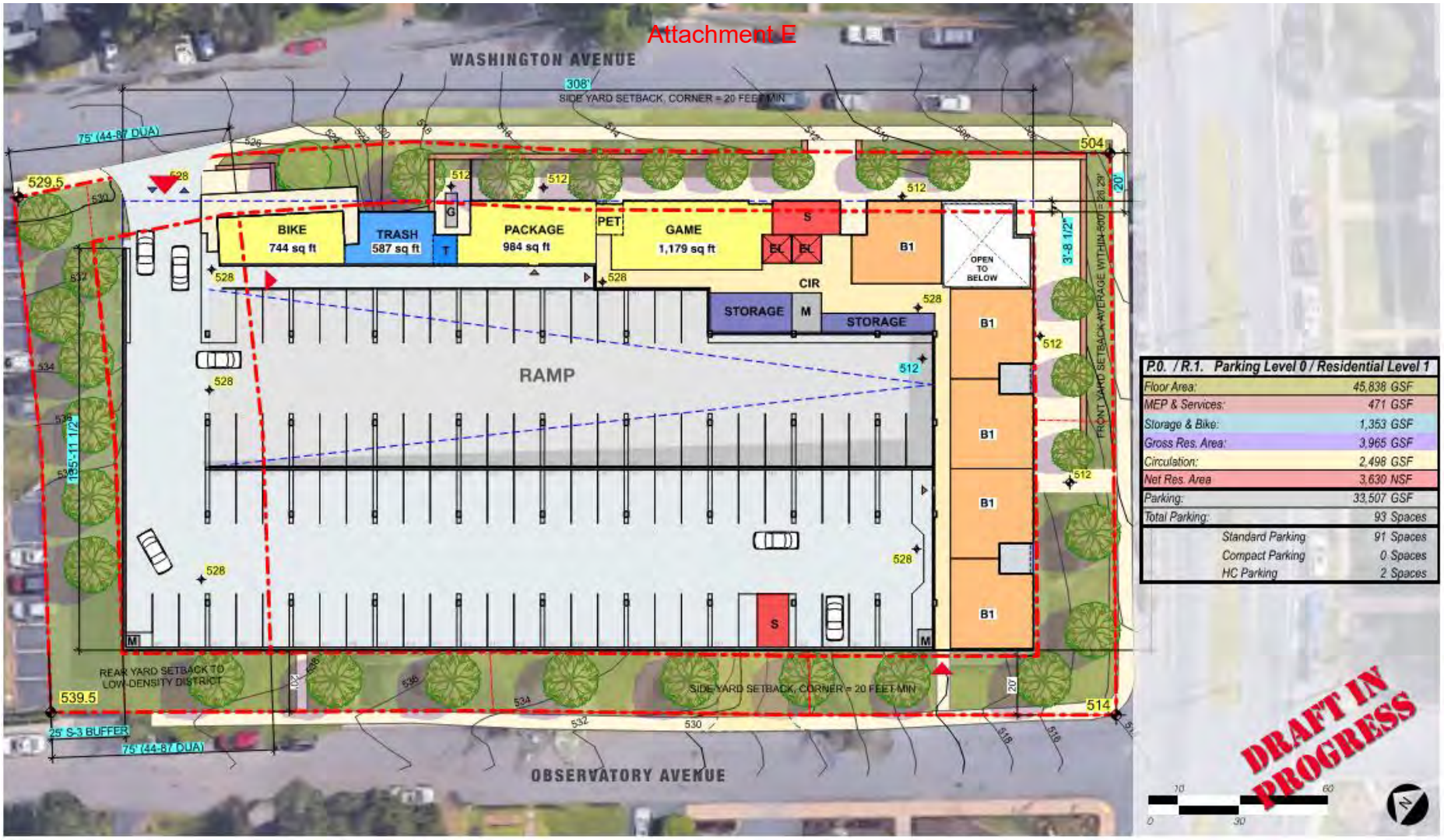
Surrounding Roadway Network and Site Location
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
1-1

Attachment E



P.0. / R.1. Parking Level 0 / Residential Level 1	
Floor Area:	45,838 GSF
MEP & Services:	471 GSF
Storage & Bike:	1,353 GSF
Gross Res. Area:	3,965 GSF
Circulation:	2,498 GSF
Net Res. Area	3,630 NSF
Parking:	33,507 GSF
Total Parking:	93 Spaces
Standard Parking	91 Spaces
Compact Parking	0 Spaces
HC Parking	2 Spaces

NOT TO SCALE

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Conceptual Site Plan
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
1-2

2 BACKGROUND INFORMATION

This report presents the findings of the traffic impact analysis prepared for the proposed Aspen Heights residential development in the City of Charlottesville, Virginia.

2.1 DESCRIPTION OF ON-SITE DEVELOPMENT

The proposed development is located north of Jefferson Park Avenue, between Observatory Avenue and Washington Avenue. The proposed development will consist of 388 bedrooms of off-campus student housing apartments (119 units).

Access to the site is proposed via one (1) full movement entrance on Washington Avenue. A conceptual plan is shown on Figure 1-2.

For purposes of this analysis, the development was assumed to be complete and occupied by 2023.

2.2 STUDY LIMITS

As agreed upon in the scoping agreement, the study limits include the following seven (7) existing intersections:

1. Jefferson Park Avenue and Shamrock Road (signalized);
2. Jefferson Park Avenue and Harmon Street (unsignalized);
3. Jefferson Park Avenue and Washington Street (unsignalized);
4. Jefferson Park Avenue and Observatory Avenue (unsignalized);
5. Jefferson Park Avenue and Fontaine Avenue/Maury Avenue (Signalized);
6. Maury Avenue/Alderman Road and Stadium Road (unsignalized); and
7. Stadium Road and Washington Avenue (unsignalized)

In addition, the proposed site entrance will be analyzed in future conditions (2023 and 2028)

2.3 EXISTING ROADWAYS NETWORK

Jefferson Park Avenue between Maury Avenue and Emmett Street is a two-lane divided principal arterial with a posted speed limit of 35 mph. According to the 2019 VDOT traffic counts, Jefferson Park Avenue services 12,000 vehicles per day. The roadway has one bike lane in each direction with on-street parking and sidewalks on both sides through the study area. Jefferson Park Avenue south of Fontaine Avenue is a two-lane divided minor arterial with a posted speed limit of 30 mph. According to the 2019 VDOT traffic counts, Jefferson Park Avenue services 11,000 vehicles per day. The roadway has one bike lane in each direction with on-street parking and sidewalks on both sides through the study area.

Fontaine Avenue is a two-lane undivided principal arterial with a posted speed limit of 35 mph. According to the 2019 VDOT traffic counts, Fontaine Avenue services 13,000 vehicles per day. The roadway has sidewalks on both sides through the study area.

Maury Avenue is a two-lane undivided minor arterial with a posted speed limit of 25 mph. According to the 2019 VDOT traffic counts, Fontaine Avenue services 6,200 vehicles per day. The roadway has sidewalks on one side through the study area.

Alderman Road is a two-lane undivided minor arterial with a posted speed limit of 25 mph. According to the 2019 VDOT traffic counts, Alderman Road services 6,200 vehicles per day. The roadway has sidewalks on one side through the study area.

Stadium Road is a two-lane undivided major collector with a posted speed limit of 25 mph. According to the 2019 VDOT traffic counts, Stadium Road services 3,800 vehicles per day. The roadway has sidewalks on one side through the study area.

Shamrock Road is a two-lane undivided major collector with a posted speed limit of 25 mph. According to the 2019 VDOT traffic counts, Shamrock Road services 3,500 vehicles per day. The roadway has sidewalks on one side through the study area.

Observatory Avenue is a two-lane undivided local road with a posted speed limit of 25 mph. The roadway has sidewalks on one side in some locations through the study area.

Washington Avenue is a two-lane undivided local road with a posted speed limit of 25 mph. The roadway has sidewalks on one side in some locations through the study area. Currently, it is not possible to walk from Jefferson Park Avenue to Stadium Road using a sidewalk.

Harmon Street is a two-lane undivided local road with a posted speed limit of 25 mph. The roadway has sidewalks on one side through the study area.

The 2021 existing lane use and traffic control at the study intersections is shown on Figure 2-1.

2.4 Future Improvements

Fontaine Avenue from the west city limits to Jefferson Park Avenue is proposed to have streetscape improvements. The proposed typical section is expected to consist of two travel and two bike lanes (one in each direction) and sidewalks on both sides. The project is not expected to change the existing lane configuration of the eastbound approach to the Fontaine Avenue/Jefferson Park Avenue intersection. Construction is tentatively scheduled to start in Fall 2023.

The applicant has committed to install new sidewalks along the frontage of the property on Observatory Avenue and Washington Avenue. In addition, a new north-south marked pedestrian crossing will be installed at the intersection of Observatory Avenue and Jefferson Park Avenue. This will provide access to the UVA Transit bus stop at the SE corner of the intersection.

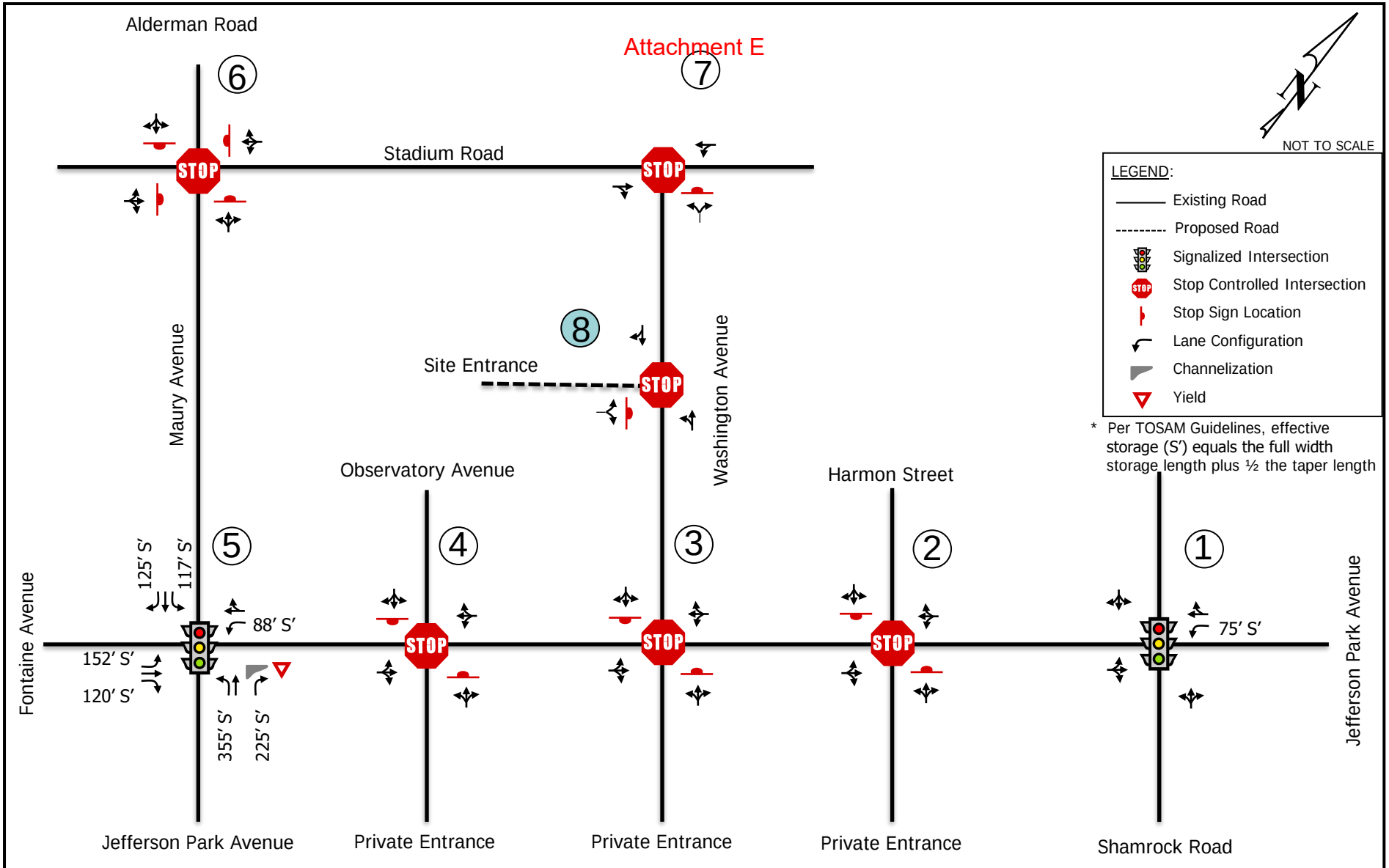
2.5 Other Modes of Transportation

Currently, there are sidewalks and bike lanes throughout the study area that connect the proposed Aspen Heights development to the UVA campus and greater Charlottesville. The applicant is proposing to maintain the existing pedestrian facilities with the construction of the site and to add sidewalks along the frontage of the property on Washington and Observatory Avenues. A map showing the proposed development and City trails and bike lanes is included on Figure 2-2.

It is anticipated that some site trips may be made via walking/biking/transit, however, a reduction from the vehicular trip generation rates provided by the ITE *Trip Generation Manual, 10th Edition*.

The Charlottesville Area Transit (CAT) Route T runs along Jefferson Park Avenue with a bus stop approximately 500 feet away from the proposed development at Jefferson Park Avenue/Maury Avenue. The UVA Transit Orange Line runs along Jefferson Park Avenue, with bus stops approximately 200 feet (Jefferson Park Avenue/Observatory Avenue) and 500 feet (Jefferson Park Avenue/Maury Avenue) away from the proposed development. Transit routes in the vicinity of the site are shown for CAT and UVA Transit on Figures 2-3 and 2-4, respectively.

Attachment E



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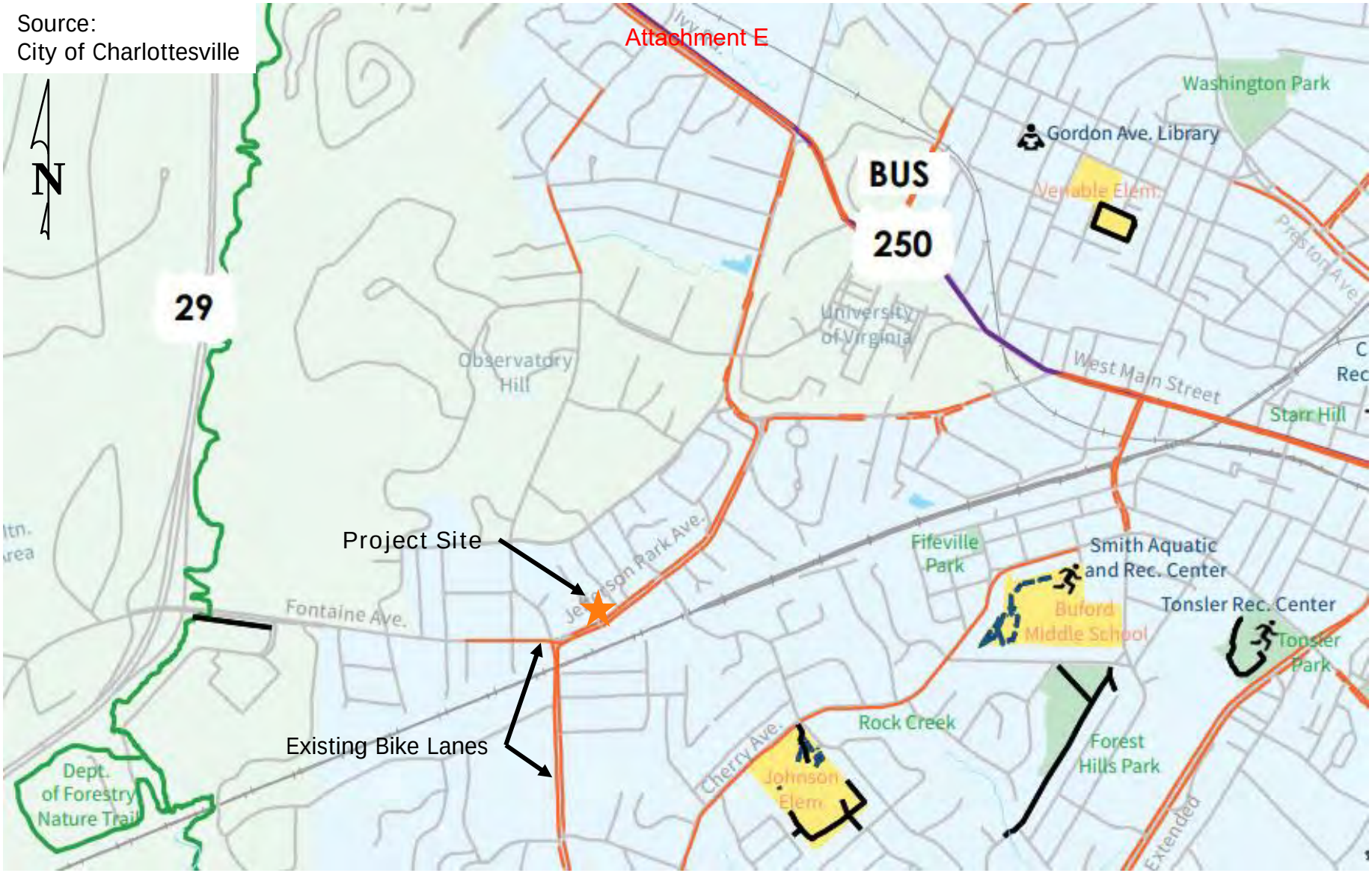
Existing Intersection Geometry
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
2-1

Source:
City of Charlottesville

Attachment E



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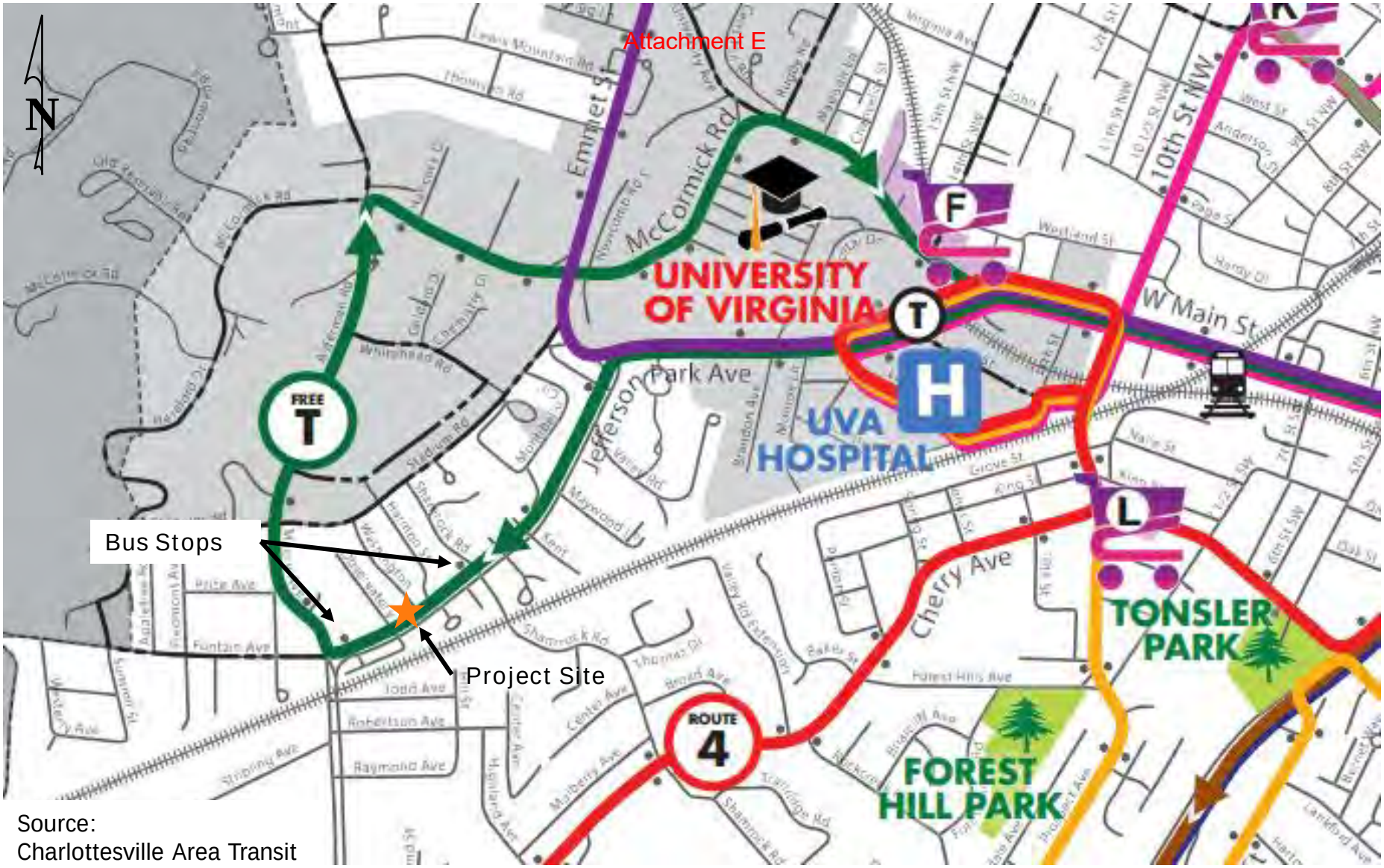
Charlottesville Trails and Bike Lanes
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
2-2

Attachment E



Source:
Charlottesville Area Transit

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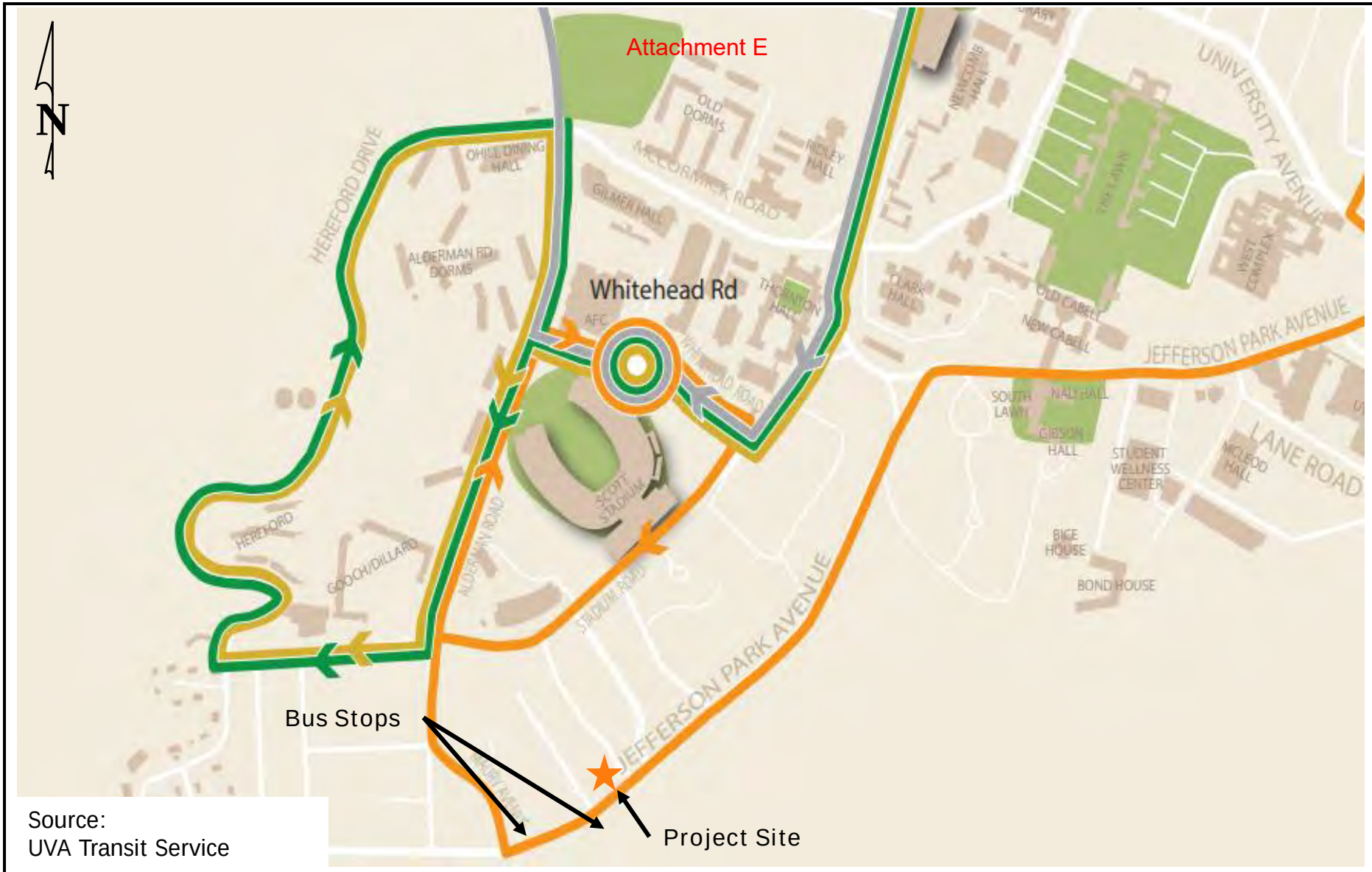
Charlottesville Area Transit (CAT) Service Map
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
2-3

Attachment E



Source:
UVA Transit Service

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UVA University Transit Service Map
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
2-4

3 2021 EXISTING CONDITIONS

3.1 EXISTING TRAFFIC VOLUMES

Existing peak hour turning movement counts were conducted at each of the study intersections during the AM (7:00-9:00), Midday (11:00-1:00), and PM (4:00-6:00) peak hour timeframes. The counts were conducted on August 28, 2021 on a typical weekday when public schools and the University of Virginia were in session. The counts included heavy vehicles by movement, pedestrians, and bikes.

The common peak hours across all study intersections were found to be 7:30–8:30 AM, 12:00–1:00 PM, and 4:45–5:45 PM. The existing vehicle traffic counts are shown on Figure 3-1; existing bike and pedestrian volumes are shown on Figures 3-2 and 3-3, respectively.

In addition, a 12-hour count at the intersection of Jefferson Park Avenue and Washington Avenue was conducted to support a traffic signal warrant analysis. The complete traffic data is included in Appendix A.

Existing signal timings for all intersections were provided by the City of Charlottesville and are included in Appendix B.

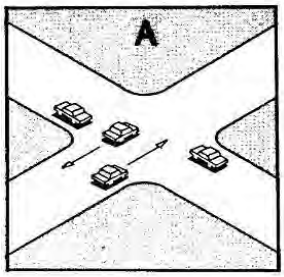
3.2 CAPACITY ANALYSIS

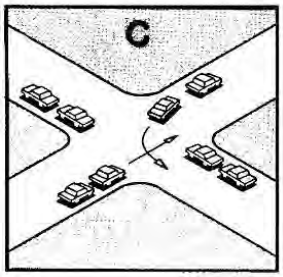
Capacity analysis allows traffic engineers to determine the impacts of traffic on the surrounding roadway network. The Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) methodologies govern how the capacity analyses are conducted and how the results are interpreted. There are six letter grades of Levels of Service (LOS) from A to F, with LOS A representing the best operating conditions and LOS F the worst operating conditions. Table 3-1 shows in detail how each of these levels of service are interpreted.

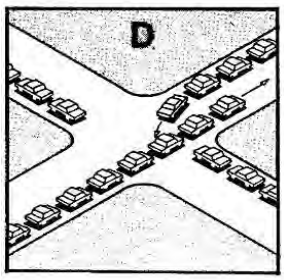
Table 3-1: Level of Service Definitions

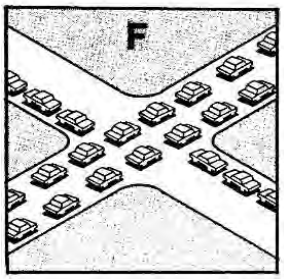
Level of Service	Roadway Segments or Controlled Access Highways	Intersections
A	Free flow, low traffic density.	No vehicle waits longer than one signal indication.
B	Delay is not unreasonable, stable traffic flow.	On a rare occasion motorists wait through more than one signal indication.
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.	Intermittently drivers wait through more than one signal indication, and occasionally backups may develop behind left turning vehicles, traffic flow still stable and acceptable.
D	Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, thus preventing excessive backups.	Delays at intersections may become extensive with some, especially left-turning vehicles waiting two or more signal indications, but enough cycles with lower demand occur to permit periodic clearance, thus preventing excessive backups.
E	Actual capacity of the roadway invloves delay to all motorists due to congestion.	Very long queues may create lengthly delays, especially for left-turning vehicles.
F	Forced flow with demand volumes greater than capacity resulting in complete congestion. Volumes drop to zero in extreme cases.	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a storage ares during part or all of an hour.

SOURCE: *"A Policy on Design of Design of Urban Highways and Arterial Streets"* - AASHTO, 1973 based upon material published in *"Highway Capacity Manual"*, National Academy of Sciences, 1965.









For signalized and unsignalized intersections, level of service is defined in terms of delay, a measure of driver discomfort, frustration, fuel consumption and lost travel time. Table 3-2 summarizes the delay associated with each LOS category:

Table 3-2: Signalized and Unsignalized Intersection Level of Service Criteria

Signalized Intersections		Unsignalized Intersections	
Level of Service	Control Delay per Vehicle (sec/veh)	Level of Service	Average Control Delay (sec/veh)
A	≤ 10	A	0 to 10
B	> 10 to ≤ 20	B	> 10 to ≤ 15
C	> 20 to ≤ 35	C	> 15 to ≤ 25
D	> 35 to ≤ 55	D	> 25 to ≤ 35
E	> 55 to ≤ 80	E	> 35 to ≤ 50
F	> 80	F	> 50

Source: Exhibit 16-2 and Exhibit 17-2 from TRB's "Highway Capacity Manual 2000"

Capacity analyses were performed to assess existing (2021), background (2025), and future (2031) operational conditions. The signalized and unsignalized intersections were analyzed using SYNCHRO Version 10 based on HCM 2000 methodologies with the following assumptions:

- Level terrain;
- 12-foot lane widths;
- Existing peak hour factor as determined by the traffic counts (by intersection) for existing scenario;
- The higher of the existing peak hour factor as determined by traffic counts (by intersection) or a peak hour factor of 0.92 for the background and total future scenarios.
- Heavy vehicle percentage as determined by the traffic counts (by movement); and
- Traffic signals timing data provided by the City of Charlottesville.

3.3 EXISTING CONDITIONS CAPACITY ANALYSIS RESULTS

Table 3-3 summarizes the 2021 existing intersection LOS, delay, 95th percentile queue lengths (Synchro), and longest queue lengths (SimTraffic) based on the 2021 existing intersection geometry (Figure 2-1) and peak hour traffic volumes shown on Figures 3-1, 3-2, and 3-3. The corresponding SYNCHRO and SimTraffic reports are included in Appendix C. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 3-1, under 2021 existing conditions:

- At the signalized intersection of Jefferson Park Avenue and Shamrock Road, the overall intersection operates at a LOS B during the AM/Midday/PM peak hours. During the AM/Midday/PM peaks, the mainline (east-west) approaches and movements operate at a LOS B or better; the side street (north-south) approaches operate at a LOS C. All turn bays have adequate storage to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Harmon Street, the mainline (east-west) approaches operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches operate at a LOS C or better during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Washington Avenue, the mainline (east-west) approaches operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the westbound approach maximum queue length (79 feet) fills the distance to the adjacent intersection with Harmon Street (77 feet away). All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Observatory Avenue, the mainline (east-west) approaches operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches operate at a LOS B during the AM/Midday peaks and a LOS C during the PM peak. During the PM peak, the westbound maximum queue (157 feet) fills the distance to the adjacent intersection with Washington Avenue (174 feet away). All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection operates at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. The north- and southbound approaches and movements generally operate at a LOS C during the AM/Midday/PM peaks. The east- and westbound approaches and movements generally operate at a LOS C or better during the AM/PM peaks and LOS B during the Midday peak.

  - During the AM/Midday peaks, the westbound left maximum queue (87 feet) fills the available storage (88 feet), spilling back into the through lane sometimes. During the PM peak, the 95th percentile queue (178 feet) exceeds the available storage (88 feet), spilling back into the through lane 20% of the time. During the PM peak, the westbound approach maximum queue (445 feet) backs up through the adjacent intersection with Observatory Avenue (432 feet away). Factoring in space for the intersection width, the queue continues past Observatory Avenue a further 157 feet. During the PM peak, the southbound through maximum queue (339 feet) effectively blocks the left and right turn lanes (125 feet max. storage) and backs up through the adjacent intersection with Clark Court (275 feet away). All other turn bays have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Maury Avenue/Alderman Road and Stadium Road, all approaches operate at a LOS B or better during the AM/Midday peaks. During the PM peak, the east- west- and northbound approaches operate at a LOS C or better. The southbound approach operates at a LOS D. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Stadium Road and Washington Avenue, all approaches operate at a LOS A during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

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Table 3-3: Intersection Level of Service and Delay Summary
2021 Existing Peak Hour Traffic

Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				MIDDAY PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Shamrock Road (N-S) and	*EB Approach*		*13.8*	*B*	320	299	*11.8*	*B*	272	248	*14.4*	*B*	212	253
Jefferson Park Avenue (E-W)	WB Left	75	6.4	A	18	66	6.6	A	25	74	8.7	A	47	74
Signalized	WB Thru - Right		5.9	A	46	140	6.8	A	147	199	10.5	B	296	354
	WB Approach		*6.0*	*A*	--	--	*6.8*	*A*	--	--	*10.2*	*B*	--	--
	NB Approach		*31.4*	*C*	157	197	*28.8*	*C*	93	146	*28.0*	*C*	113	152
	SB Approach		*27.1*	*C*	31	63	*27.0*	*C*	32	65	*26.4*	*C*	63	96
	Overall		15.2	B	--	--	11.9	B	--	--	14.2	B	--	--
2. Harmon Street (N-S) and	*EB Approach*		8.2	A	0	68	8.2	A	0	67	9.1	A	0	52
Jefferson Park Avenue (E-W)	*WB Approach*		8.5	A	0	56	8.4	A	0	78	8.2	A	0	159
Unsignalized	*NB Approach*		*15.4*	*C*	0	27	*15.4*	*C*	0	27	11.1	B	0	33
	SB Approach		*15.8*	*C*	0	31	*12.6*	*B*	2	33	18.7	C	6	66
3. Washington Avenue (N-S) and	*EB Approach*		8.4	A	0	65	8.7	A	0	68	9.2	A	0	80
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	38	8.4	A	0	14	8.3	A	0	79
Unsignalized	*NB Approach*		12	B	0	22	16.9	C	2	62	11	B	0	25
	SB Approach		0	A	0	0	14.3	B	2	35	19.8	C	4	42
4. Observatory Avenue (N-S) and	*EB Approach*		8.2	A	0	55	8.2	A	0	11	9.3	A	0	91
Jefferson Park Avenue (E-W)	*WB Approach*		9.2	A	0	61	8.3	A	0	46	8.5	A	0	157
Unsignalized	*NB Approach*		14.3	B	0	31	14.4	B	0	35	19.1	C	2	41
	SB Approach		14.9	B	0	29	10.8	B	0	14	21.3	C	4	46
5. Maury Avenue/Jefferson Park Ave (N-S)	EB Left	152	20.2	C	77	133	16.3	B	53	117	27.7	C	35	90
and Fontaine Avenue (E-W)	EB Thru		25.2	C	275	292	19.9	B	226	237	24.5	C	58	210
Signalized	EB Right	120	9.2	A	19	120	11.3	B	20	120	16.8	B	48	120
	EB Approach		*20.1*	*C*	--	--	*16.8*	*B*	--	--	*18.8*	*B*	--	--
	WB Left	88	16.7	B	52	87	15.2	B	97	87	29.8	C	178	87
	WB Thru - Right		15.7	B	186	211	11.7	B	178	241	23.9	C	294	445
	WB Approach		*15.9*	*B*	--	--	*12.9*	*B*	--	--	*26.1*	*C*	--	--
	NB Left	355	34.1	C	#319	269	29.5	C	126	153	32.9	C	174	187
	NB Thru		27.5	C	215	221	28.0	C	86	113	30.8	C	101	133
	NB Right	200	0.0	A	53	111	0.0	A	32	0	0.0	A	15	0
	NB Approach		*31.2*	*C*	--	--	*28.9*	*C*	--	--	*32.2*	*C*	--	--
	SB Left	117	31.7	C	31	67	27.6	C	40	86	27.8	C	57	117
	SB Thru		32.3	C	59	93	29.4	C	111	157	36.9	D	284	339
	SB Right	125	31.6	C	0	66	27.9	C	0	107	28.1	C	0	125
	SB Approach		*32.1*	*C*	--	--	*28.7*	*C*	--	--	*34.7*	*C*	--	--
	Overall		24.2	C	--	--	19.6	B	--	--	27.8	C	--	--
6. Maury Avenue/Alderman Road (N-S) and	*EB Approach*		*11.7*	*B*	31	101	8.5	A	4	42	10.4	B	6	63
Stadium Road (E-W)	*WB Approach*		*9.8*	*A*	8	73	9.0	A	10	72	15.1	C	55	127
Unsignalized	*NB Approach*		*14.6*	*B*	74	224	9.1	A	20	103	11.4	B	25	122
	SB Approach		*11.4*	*B*	20	101	9.4	A	23	88	30.4	D	168	310
7. Washington Avenue (N-S) and	*EB Approach*		†	†	--	3	†	†	--	6	†	†	--	--
Stadium Road (E-W)	*WB Approach*		*7.6*	*A*	0	--	7.5	A	0	12	*7.6*	*A*	0	28
Unsignalized	*NB Approach*		*9.5*	*A*	0	30	9.8	A	0	39	*9.5*	*A*	0	33

[1] *Overall intersection LOS and delay cannot be reported for unsignalized intersections.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

- 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

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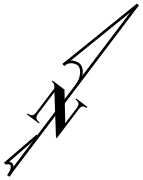
Attachment E



NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- Existing Road
- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

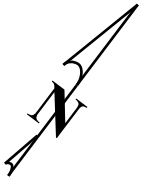
Alderman Road
Stadium Road
Maury Avenue
Washington Avenue
Site Entrance
Observatory Avenue
Harmon Street
Fontaine Avenue
Jefferson Park Avenue
Jefferson Park Avenue
Private Entrance
Private Entrance
Private Entrance
Shamrock Road

2021 Existing Peak Hour Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Figure
3-1

Attachment E



NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- Existing Road
- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

Alderman Road
Stadium Road
Maury Avenue
Site Entrance
Washington Avenue
Observatory Avenue
Harmon Street
Fontaine Avenue
Jefferson Park Avenue
Jefferson Park Avenue
Private Entrance
Private Entrance
Private Entrance
Shamrock Road

2021 Existing Bicycle Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Figure
3-2

Attachment E

NOT TO SCALE

LEGEND:

00 AM Peak Hour

(00) PM Peak Hour

{00} Midday Peak Hour

Existing Road

Proposed Road

Marked Crosswalk

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

Alderman Road

Stadium Road

Maury Avenue

Site Entrance

Washington Avenue

Observatory Avenue

Harmon Street

Fontaine Avenue

Jefferson Park Avenue

Private Entrance

Private Entrance

Private Entrance

Shamrock Road

Jefferson Park Avenue

6: {34} (30) 22; 47 (46) {39}; {17} (17) 15; 8 (11) {19}

7: 1 (1) {1}; {13} (9) 4; 13 (42) {38}

8

5: {5} (3) 3; 23 (69) {14}; {9} (9) 16; 11 (18) {7}

4: {23} (45) 56; 2 (2) {1}; {0} (4) 2; 32 (89) {21}

3: {30} (50) 43; 2 (2) {1}; {0} (4) 2; 26 (66) {24}

2: {22} (42) 57; 16 (21) {22}; {0} (0) 0; 19 (43) {24}

1: {52} (73) 61; 18 (58) {47}; {2} (1) 1; 26 (81) {35}

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

2021 Existing Pedestrian Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
3-3

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4 2023 BACKGROUND CONDITIONS

The background 2023 volumes were analyzed assuming existing intersection geometry in conjunction with projected background traffic volumes.

The background vehicle volumes were developed based on a 0.2% annual growth rate. The background bike and pedestrian volumes were developed based on a 1% annual growth rate.

4.1 2023 BACKGROUND TRAFFIC VOLUMES

The 0.2% and 1% annual growth rates discussed above were compounded annually for the two-year period from 2021 to 2023 and was applied to all movements at the study intersections. The resulting 2023 vehicle background (existing + growth) volumes are shown on Figure 4-1; the 2023 bike and pedestrian background (existing + growth) volumes are shown on Figures 4-2 and 4-3, respectively.

4.2 APPROVED BACKGROUND 2023 DEVELOPMENTS

Per coordination with the City of Charlottesville, no background developments are expected to be completed within the vicinity of the proposed development.

4.3 BACKGROUND 2023 CAPACITY ANALYSIS RESULTS

Table 4-1 summarizes the 2023 background intersection LOS, delay, 95th percentile queue lengths (Synchro), and maximum queue lengths (SimTraffic) based on the intersection geometry (Figure 2-1) and 2023 background peak hour traffic volumes shown on Figures 4-1, 4-2, and 4-3. The corresponding SYNCHRO and SimTraffic reports are included in Appendix D. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 4-1 under 2023 background conditions:

- Levels of service at the study intersections are not expected to change significantly from 2021 existing to 2023 background conditions.

- At the signalized intersection of Jefferson Park Avenue and Shamrock Avenue, the overall intersection continues to operate at a LOS B during the AM/Midday/PM peak hours. During the AM/Midday/PM peaks, the mainline (east-west) approaches and movements continue to operate at a LOS B or better; the side street (north-south) approaches continue to operate at a LOS C. During the PM peak, the westbound left maximum queue (74 feet) fills the available storage (75 feet). All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Harmon Street, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Washington Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the westbound approach maximum queue length

(78 feet) fills the distance to the adjacent intersection with Harmon Street (77 feet away). All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Observatory Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS B during the AM/Midday peaks and a LOS C during the PM peak. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection continues to operate at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. The north- and southbound approaches and movements continue to generally operate at a LOS C during the AM/Midday/PM peaks. The east- and westbound approaches and movements continue to generally operate at a LOS C or better during the AM/PM peaks and LOS B during the Midday peak.

    - During the AM/Midday peaks, the westbound left maximum queue (87 feet) fills the available storage (88 feet), spilling back into the through lane sometimes. During the PM peak, the 95th percentile queue (179 feet) exceeds the available storage (88 feet), spilling back into the through lane 20% of the time. During the PM peak, the westbound approach maximum queue (442 feet) backs up through the adjacent intersection with Observatory Avenue (432 feet away). Factoring in space for the intersection width, the queue continues past Observatory Avenue a further 166 feet. During the PM peak, the southbound through maximum queue (350 feet) effectively blocks the left and right turn lanes (125 feet max. storage) and backs up through the adjacent intersection with Clark Court (275 feet away). All other turn bays have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Maury Avenue/Alderman Road and Stadium Road, all approaches continue to operate at a LOS B or better during the AM/Midday peaks. During the PM peak, the east- west- and northbound approaches continue to operate at a LOS C or better. The southbound approach operates at a LOS D. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Stadium Road and Washington Avenue, all approaches continue operate at a LOS A during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

Table 4-1: Intersection Level of Service and Delay Summary
2023 Total Background Peak Hour Traffic

Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				MIDDAY PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Shamrock Road (N-S) and	*EB Approach*		*13.9*	*B*	321	293	*11.9*	*B*	274	284	*14.5*	*B*	212	261
Jefferson Park Avenue (E-W)	WB Left	75	6.5	A	18	61	6.6	A	25	68	8.7	A	47	74
Signalized	WB Thru - Right		5.9	A	105	144	6.9	A	147	207	10.6	B	298	326
	WB Approach		*6.0*	*A*	--	--	*6.9*	*A*	--	--	*10.3*	*B*	--	--
	NB Approach		*31.4*	*C*	157	200	*28.8*	*C*	93	133	*28.0*	*C*	114	159
	SB Approach		*27.1*	*C*	31	63	*27.0*	*C*	32	53	*26.4*	*C*	63	111
	Overall		15.3	B	--	--	11.9	B	--	--	14.2	B	--	--
2. Harmon Street (N-S) and	*EB Approach*		8.2	A	0	73	8.2	A	0	63	9.1	A	0	62
Jefferson Park Avenue (E-W)	*WB Approach*		8.5	A	0	37	8.4	A	0	82	8.2	A	0	199
Unsignalized	*NB Approach*		*15.4*	*C*	0	21	*15.5*	*C*	0	21	11	B	0	33
	SB Approach		*15.9*	*C*	0	33	*12.6*	*B*	2	35	18.1	C	6	55
3. Washington Avenue (N-S) and	*EB Approach*		8.4	A	0	93	8.7	A	0	32	9.2	A	0	119
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	35	8.4	A	0	11	8.3	A	0	78
Unsignalized	*NB Approach*		12	B	0	22	16.9	C	2	55	11	B	0	19
	SB Approach		0	A	0	0	14.4	B	2	38	19.6	C	4	44
4. Observatory Avenue (N-S) and	*EB Approach*		8.2	A	0	37	8.2	A	0	29	9.3	A	0	77
Jefferson Park Avenue (E-W)	*WB Approach*		9.2	A	0	26	8.4	A	0	51	8.5	A	0	166
Unsignalized	*NB Approach*		14.1	B	0	30	14.4	B	0	33	18.6	C	2	46
	SB Approach		14.7	B	0	31	10.8	B	0	9	20.7	C	4	42
5. Maury Avenue/Jefferson Park Ave (N-S)	EB Left	152	20.8	C	77	143	16.3	B	53	141	27.9	C	35	80
and Fontaine Avenue (E-W)	EB Thru		26.1	C	276	306	20.0	B	227	282	27.2	C	143	198
Signalized	EB Right	120	9.6	A	19	120	11.3	B	20	120	16.9	B	50	120
	EB Approach		*20.9*	*C*	--	--	*16.8*	*B*	--	--	*21.2*	*C*	--	--
	WB Left	88	17.2	B	52	87	15.2	B	98	87	36.6	D	179	88
	WB Thru - Right		16.4	B	187	203	11.7	B	178	256	24.0	C	295	442
	WB Approach		*16.5*	*B*	--	--	*12.9*	*B*	--	--	*28.8*	*C*	--	--
	NB Left	355	35.1	D	#320	269	29.5	C	127	145	32.9	C	175	190
	NB Thru		28.0	C	216	225	28.0	C	86	105	30.8	C	101	129
	NB Right	200	0.0	A	53	156	0.0	A	33	0	0.0	A	15	0
	NB Approach		*32.1*	*C*	--	--	*28.9*	*C*	--	--	*32.2*	*C*	--	--
	SB Left	117	31.4	C	31	65	27.6	C	40	95	27.8	C	57	117
	SB Thru		32.0	C	59	96	29.4	C	111	174	37.0	D	285	350
	SB Right	125	31.3	C	0	67	28.0	C	0	92	28.2	C	0	125
	SB Approach		*31.7*	*C*	--	--	*28.8*	*C*	--	--	*34.8*	*C*	--	--
	Overall		24.9	C	--	--	19.6	B	--	--	28.9	C	--	--
6. Maury Avenue/Alderman Road (N-S) and	*EB Approach*		*11.0*	*B*	25	97	8.4	A	4	49	10.5	B	6	59
Stadium Road (E-W)	*WB Approach*		*9.4*	*A*	6	78	8.9	A	10	7	15.2	C	55	133
Unsignalized	*NB Approach*		*13*	*B*	59	222	9	A	20	120	11.4	B	23	135
	SB Approach		*10.8*	*B*	18	105	9.3	A	23	119	30.8	D	170	294
7. Washington Avenue (N-S) and	*EB Approach*		†	†	--	3	†	†	--	6	†	†	--	11
Stadium Road (E-W)	*WB Approach*		*7.6*	*A*	0	8	7.5	A	0	15	*7.6*	*A*	0	20
Unsignalized	*NB Approach*		*9.3*	*A*	0	30	9.8	A	0	46	*10.0*	*A*	2	40

[1] *Overall intersection LOS and delay cannot be reported for unsignalized intersections.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

- 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

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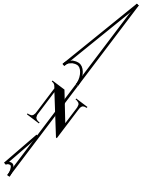


NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- —— Existing Road
- ------- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

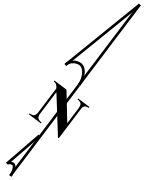
Alderman Road
Stadium Road
Maury Avenue
Site Entrance
Washington Avenue
Observatory Avenue
Harmon Street
Fontaine Avenue
Jefferson Park Avenue
Jefferson Park Avenue
Private Entrance
Private Entrance
Private Entrance
Shamrock Road

2023 Background Peak Hour Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Figure
4-1

Attachment E



NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- Existing Road
- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

Alderman Road
Stadium Road
Maury Avenue
Site Entrance
Washington Avenue
Observatory Avenue
Harmon Street
Fontaine Avenue
Jefferson Park Avenue
Jefferson Park Avenue
Private Entrance
Private Entrance
Private Entrance
Shamrock Road

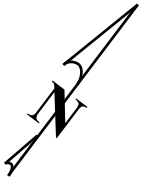
STOP

2023 Background Bicycle Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Figure
4-2

Attachment E



NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- Existing Road
- Proposed Road
- Marked Crosswalk

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

Alderman Road

Stadium Road

Maury Avenue

Site Entrance

Washington Avenue

Observatory Avenue

Harmon Street

Fontaine Avenue

Jefferson Park Avenue

Jefferson Park Avenue

Private Entrance

Private Entrance

Private Entrance

Shamrock Road

2023 Background Pedestrian Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Figure
4-3

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5 2028 BACKGROUND CONDITIONS

The background 2028 volumes were analyzed assuming existing intersection geometry in conjunction with projected background traffic volumes.

The background vehicle volumes were developed based on a 0.2% annual growth rate. The background bike and pedestrian volumes were developed based on a 1% annual growth rate.

5.1 2028 BACKGROUND TRAFFIC VOLUMES

The 0.2% and 1% annual growth rates discussed above were compounded annually for the 7-year period from 2021 to 2028 and was applied to all movements at the study intersections. The resulting 2028 vehicle background (existing + growth) volumes are shown on Figure 5-1; the 2028 bike and pedestrian background (existing + growth) volumes are shown on Figures 5-2 and 5-3, respectively.

5.2 BACKGROUND 2028 CAPACITY ANALYSIS RESULTS

Table 5-1 summarizes the 2028 background intersection LOS, delay, 95th percentile queue lengths (Synchro), and maximum queue lengths (SimTraffic) based on the intersection geometry (Figure 2-1) and 2028 background peak hour traffic volumes shown on Figures 5-1, 5-2, and 5-3. The corresponding SYNCHRO and SimTraffic reports are included in Appendix D. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 5-1 under 2028 background conditions:

- Levels of service at the study intersections are not expected to change significantly from 2021 existing to 2028 background conditions.

- At the signalized intersection of Jefferson Park Avenue and Shamrock Avenue, the overall intersection continues to operate at a LOS B during the AM/Midday/PM peak hours. During the AM/Midday/PM peaks, the mainline (east-west) approaches and movements continue to operate at a LOS B or better; the side street (north-south) approaches continue to operate at a LOS C. During the PM peak, the westbound left maximum queue (74 feet) fills the available storage (75 feet). All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Harmon Street, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Washington Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the westbound approach maximum queue length (82 feet) backs up through the adjacent intersection with Harmon Street (77 feet away). This queue is most often caused by the westbound approach queue at Jefferson Park Avenue/Maury Avenue. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Observatory Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS B during the AM/Midday peaks and a LOS C during the PM peak. During the PM peak, the westbound approach maximum queue (184 feet) backs up through the adjacent intersection with Washington Avenue (174 feet away). This queue is most often caused by the westbound approach queue at Jefferson Park Avenue/Maury Avenue. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection continues to operate at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. The north- and southbound approaches and movements continue to generally operate at a LOS C during the AM/Midday/PM peaks. The east- and westbound approaches and movements continue to generally operate at a LOS C or better during the AM/PM peaks and LOS B during the Midday peak.

    - During the AM/Midday peaks, the westbound left maximum queue (87 feet) fills the available storage (88 feet), spilling back into the through lane sometimes. During the PM peak, the 95th percentile queue (182 feet) exceeds the available storage (88 feet), spilling back into the through lane 24% of the time. During the PM peak, the westbound approach maximum queue (446 feet) backs up through the roadway network at Observatory Avenue (432 feet away), Washington Avenue (606 feet away) and Harmon Street (683 feet away). During the PM peak, the southbound through maximum queue (384 feet) effectively blocks the left and right turn lanes (125 feet max. storage) and backs up through the adjacent intersection with Clark Court (275 feet away). All other turn bays have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Maury Avenue/Alderman Road and Stadium Road, all approaches continue to operate at a LOS B or better during the AM/Midday peaks. During the PM peak, the east- west- and northbound approaches continue to operate at a LOS C or better. The southbound approach operates at a LOS D. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Stadium Road and Washington Avenue, all approaches continue operate at a LOS A during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

Table 5-1: Intersection Level of Service and Delay Summary
2028 Total Background Peak Hour Traffic

Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				MIDDAY PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Shamrock Road (N-S) and	*EB Approach*		*14.1*	*B*	325	298	*12.1*	*B*	278	283	*14.7*	*B*	216	262
Jefferson Park Avenue (E-W)	WB Left	75	6.5	A	18	58	6.7	A	26	73	8.9	A	47	74
Signalized	WB Thru - Right		6.0	A	106	146	7.1	A	149	188	10.8	B	303	326
	WB Approach		*6.0*	*A*	--	--	*7.0*	*A*	--	--	*10.5*	*B*	--	--
	NB Approach		*31.5*	*C*	160	187	*28.7*	*C*	95	138	*28.0*	*C*	115	162
	SB Approach		*27.1*	*C*	31	59	*26.9*	*C*	32	63	*26.3*	*C*	64	97
	Overall		15.4	B	--	--	12.1	B	--	--	14.4	B	--	--
2. Harmon Street (N-S) and	*EB Approach*		8.2	A	0	64	8.2	A	0	69	9.1	A	0	61
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	44	8.4	A	0	82	8.2	A	0	201
Unsignalized	*NB Approach*		*15.6*	*C*	0	27	*15.8*	*C*	0	21	11.1	B	0	31
	SB Approach		*16.1*	*C*	0	33	*12.8*	*B*	2	31	18.4	C	6	61
3. Washington Avenue (N-S) and	*EB Approach*		8.4	A	0	48	8.8	A	0	39	9.2	A	0	97
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	17	8.4	A	0	3	8.4	A	0	82
Unsignalized	*NB Approach*		12	B	0	21	17.2	C	2	60	11.1	B	0	21
	SB Approach		0	A	0	0	14.5	B	2	31	19.9	C	4	42
4. Observatory Avenue (N-S) and	*EB Approach*		8.2	A	0	58	8.3	A	0	28	9.3	A	0	97
Jefferson Park Avenue (E-W)	*WB Approach*		9.2	A	0	39	8.4	A	0	52	8.5	A	0	184
Unsignalized	*NB Approach*		14.3	B	0	31	14.6	B	0	31	18.9	C	2	54
	SB Approach		14.9	B	0	33	10.9	B	0	20	21	C	4	55
5. Maury Avenue/Jefferson Park Ave (N-S)	EB Left	152	21.1	C	78	141	16.5	B	55	132	28.3	C	35	68
and Fontaine Avenue (E-W)	EB Thru		26.7	C	280	358	20.3	C	230	295	27.5	C	144	195
Signalized	EB Right	120	9.8	A	19	120	11.4	B	20	120	16.9	B	52	119
	EB Approach		*21.3*	*C*	--	--	*17.0*	*B*	--	--	*21.3*	*C*	--	--
	WB Left	88	17.5	B	52	87	15.5	B	98	87	37.6	D	181	87
	WB Thru - Right		16.7	B	188	219	11.9	B	180	237	24.4	C	299	446
	WB Approach		*16.9*	*B*	--	--	*13.1*	*B*	--	--	*29.4*	*C*	--	--
	NB Left	355	35.7	D	#326	312	29.5	C	129	145	33.0	C	176	206
	NB Thru		28.1	C	218	293	27.9	C	86	102	30.8	C	102	144
	NB Right	200	0.0	A	54	133	0.0	A	34	0	0.0	A	15	0
	NB Approach		*32.4*	*C*	--	--	*28.9*	*C*	--	--	*32.2*	*C*	--	--
	SB Left	117	31.4	C	31	75	27.6	C	40	98	27.9	C	59	117
	SB Thru		32.0	C	60	118	29.5	C	113	174	37.5	D	#289	384
	SB Right	125	31.4	C	0	65	28.0	C	0	99	28.2	C	0	125
	SB Approach		*31.8*	*C*	--	--	*28.9*	*C*	--	--	*35.2*	*D*	--	--
	Overall		25.3	C	--	--	19.8	B	--	--	29.2	C	--	--
6. Maury Avenue/Alderman Road (N-S) and	*EB Approach*		*11.1*	*B*	27	87	8.4	A	4	41	10.5	B	6	60
Stadium Road (E-W)	*WB Approach*		*9.5*	*A*	6	78	8.9	A	10	81	15.4	C	57	161
Unsignalized	*NB Approach*		*13.2*	*B*	60	225	9	A	20	100	11.5	B	25	150
	SB Approach		*10.9*	*B*	18	102	9.3	A	23	94	32.2	D	178	422
7. Washington Avenue (N-S) and	*EB Approach*		†	†	--	3	†	†	--	6	†	†	--	12
Stadium Road (E-W)	*WB Approach*		*7.6*	*A*	0	6	7.5	A	0	20	*7.6*	*A*	0	18
Unsignalized	*NB Approach*		*9.3*	*A*	0	30	9.8	A	0	46	*10.0*	*A*	2	35

[1] *Overall intersection LOS and delay cannot be reported for unsignalized intersections.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

- 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

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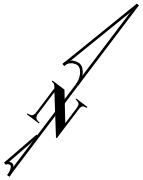


NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- Existing Road
- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

Alderman Road
Stadium Road
Maury Avenue
Washington Avenue
Observatory Avenue
Harmon Street
Site Entrance
Fontaine Avenue
Jefferson Park Avenue
Private Entrance
Private Entrance
Private Entrance
Shamrock Road
Jefferson Park Avenue

STOP

6: 29 (95) {41} | 72 (333) {152} | 26 (62) {17}; 31 (20) {21} | 9 (131) {22} | 18 (130) {54}; {20} (20) 113 | {12} (16) 71 | {2} (3) 6; {5} (6) 2 | {159} (156) 308 | {26} (16) 50

7: 51 (263) {94} | 1 (5) {7}; {48} (81) 145 | {9} (2) 3; {3} (5) 1 | {2} (10) 4

8: 4 (7) {16}; {8} (10) 8

5: 14 (50) {43} | 50 (309) {118} | 20 (50) {31}; 22 (33) {24} | 217 (332) {219} | 54 (225) {127}; {47} (25) 69 | {261} (152) 297 | {146} (259) 138; {134} (186) 313 | {86} (102) 235 | {131} (106) 179

4: 3 (7) {1} | 0 (1) {0} | 2 (6) {0}; 1 (5) {6} | 282 (618) {382} | 4 (8) {3}; {3} (9) 6 | {432} (315) 509 | {3} (3) 0; {2} (4) 1 | {0} (0) 0 | {3} (6) 3

3: 0 (7) {7} | 0 (0) {1} | 0 (7) {4}; 2 (2) {5} | 295 (598) {365} | 2 (2) {1}; {3} (8) 5 | {431} (321) 490 | {1} (1) 2; {2} (0) 0 | {0} (0) 0 | {3} (1) 1

2: 2 (15) {8} | 0 (1) {0} | 2 (6) {2}; 3 (4) {1} | 291 (579) {362} | 4 (13) {8}; {6} (7) 9 | {425} (318) 486 | {3} (1) 1; {1} (0) 1 | {0} (0) 0 | {1} (8) 1

1: 3 (7) {5} | 19 (53) {21} | 4 (9) {2}; 3 (12) {6} | 246 (557) {347} | 31 (105) {55}; {5} (21) 8 | {412} (279) 457 | {33} (56) 32; {39} (44) 66 | {22} (25) 46 | {39} (57) 74

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

2028 Background Peak Hour Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
5-1

Attachment E

NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- —— Existing Road
- ------- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

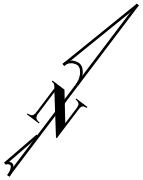
Alderman Road
Stadium Road
Maury Avenue
Washington Avenue
Site Entrance
Observatory Avenue
Harmon Street
Fontaine Avenue
Jefferson Park Avenue
Private Entrance
Private Entrance
Private Entrance
Shamrock Road
Jefferson Park Avenue

2028 Background Bicycle Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Figure
5-2

Attachment E



NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- Existing Road
- Proposed Road
- Marked Crosswalk

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

Alderman Road

{36} (32) 24 | 6 | 50 (49) {42}

{18} (18) 16 | 9 (12) {20}

Stadium Road

7 | {14} (10) 4 | 14 (45) {41} | 1 (1) {1}

Maury Avenue

8 Site Entrance

Washington Avenue

Observatory Avenue

Harmon Street

Fontaine Avenue

Jefferson Park Avenue

{5} (3) 3 | 5 | 25 (74) {15}

{10} (10) 17 | 12 (19) {8}

{25} (48) 60 | 4 | 2 (2) {1}

{0} (4) 2 | 34 (95) {23}

{32} (54) 46 | 3 | 2 (2) {1}

{0} (4) 2 | 27 (71) {26}

{24} (45) 61 | 2 | 17 (23) {24}

{0} (0) 0 | 20 (46) {26}

{56} (78) 65 | 1 | 18 (62) {51}

{2} (1) 1 | 28 (87) {38}

Jefferson Park Avenue | Private Entrance | Private Entrance | Private Entrance | Shamrock Road

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

2028 Background Pedestrian Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
5-3

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6 TRIP GENERATION

Site traffic for the proposed development was estimated based on the site characteristics and subsequently distributed to the surrounding roadway network.

The site is currently zoned R3. The proposed development will consist of 388 beds (119 units) of off-campus student housing apartments. The applicant is submitting this traffic impact analysis in support of a Special Use Permit (SUP) to allow for the additional density beyond the existing zoning. Access to the site is proposed via one (1) full movement entrance on Washington Avenue.

6.1 SITE TRIP GENERATION

The site-generated traffic volumes shown in Table 6-1 were estimated using the 10th Edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* and were calculated using the number of beds as the independent variable and with "adjacent to campus" subcategory. A reduction of 13% was applied for external trips, corresponding with the 13% reduction for parking spaces allowed under City of Charlottesville code for this land use and location. The midday peak hour trips were calculated using Appendix A of the ITE *Trip Generation Manual*, time of day distributions for the midday peak hour (12:00 – 1:00 PM).

Table 6-1: Aspen Heights Trip Generation Summary

LAND USE	ITE CODE	AMOUNT (X)	UNITS	WEEKDAY VEHICULAR TRIPS									
				ADT	AM PEAK HOUR			MIDDAY PEAK HOUR(1)			PM PEAK HOUR		
				TOTAL	IN (41%)	OUT (59%)	TOTAL	IN (48%)	OUT (52%)	TOTAL	IN (50%)	OUT (50%)	TOTAL
Proposed Development													
Off Campus Student Apartment	225	388	Beds	1,230	18	26	44	30	33	63	48	48	96
Trip Reduction	13%			(160)	(2)	(4)	(6)	(4)	(4)	(8)	(6)	(6)	(12)
Total External Primary Trips				1,070	16	22	38	26	29	55	42	42	84

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10th Edition (2017)
(1) Midday peak hour based on the ITE *Trip Generation Manual* 10th Edition, Appendix A time of day distributions for the hour beginning at 12:00 PM
(2) Trip Reduction based on the same percentage used for the parking reduction and approved by the City.

As shown in Table 6-1, the proposed development will generate a total of 38 trips (16 in and 22 out) during the AM peak, 55 trips (26 in and 29 out) during the Midday peak, 84 trips (42 in and 42 out) during the PM peak, and 1,070 average weekday daily trips.

6.2 External Trip Distributions

The distribution of external trips generated by the development was based on the existing travel patterns, the nature of the use, the 2021 existing traffic volumes, and local knowledge.

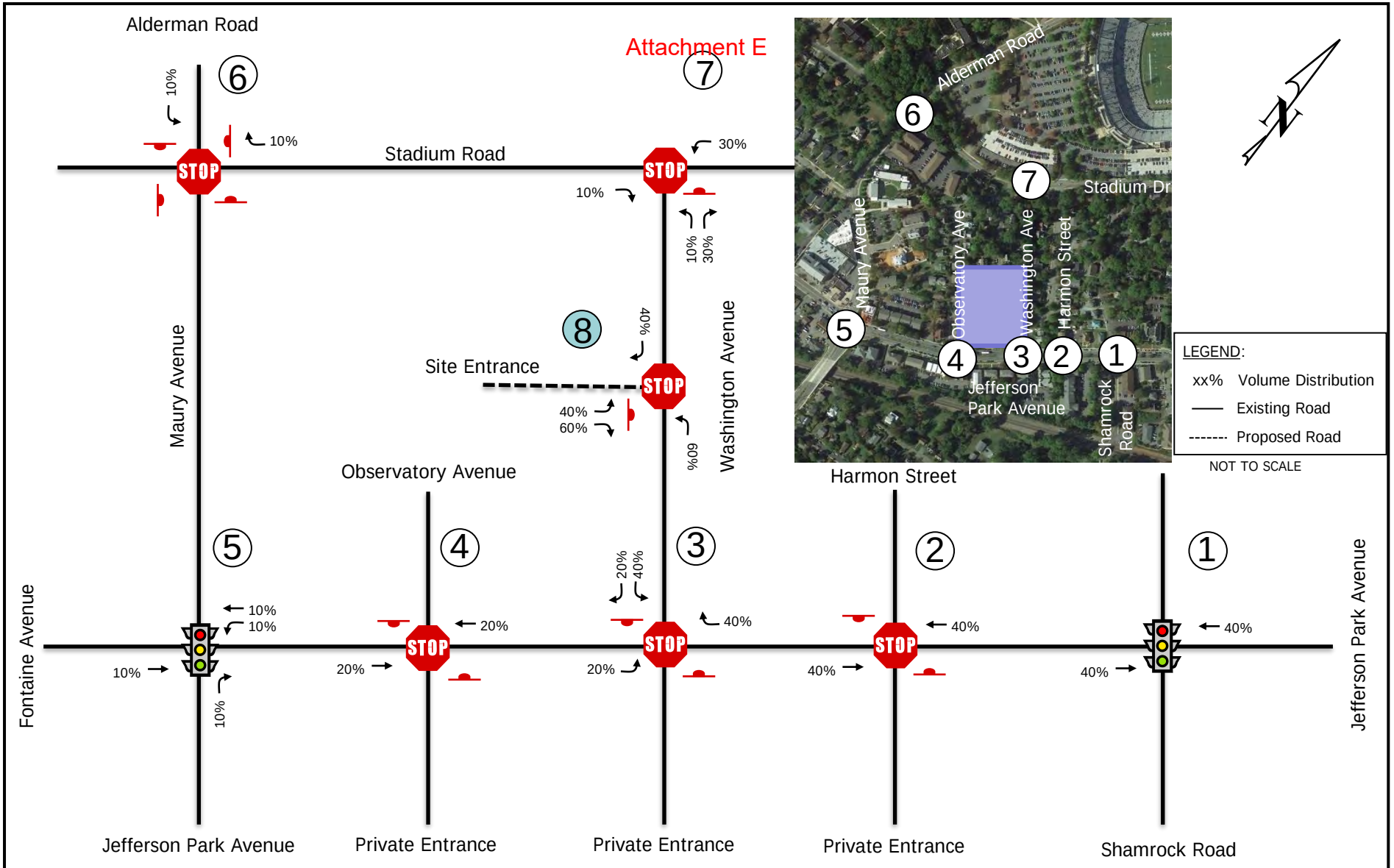
The following directional distributions were assumed for the site and are shown on Figure 6-1:

- 40% to/from the east on Jefferson Park Avenue;
- 30% to/from the east on Stadium Road;
- 10% to/from the west on Fontaine Avenue;
- 10% to/from the north on Alderman Road; and
- 10% to/from the south on Jefferson Park Avenue.

6.3 Traffic Assignment

The trip distribution percentages for the external trips from Figure 6-1 were applied to the trip generation table (Table 6-1) to distribute the external trips to the surrounding roadway network. The resulting site generated external trips are shown on Figure 6-2.

Attachment E



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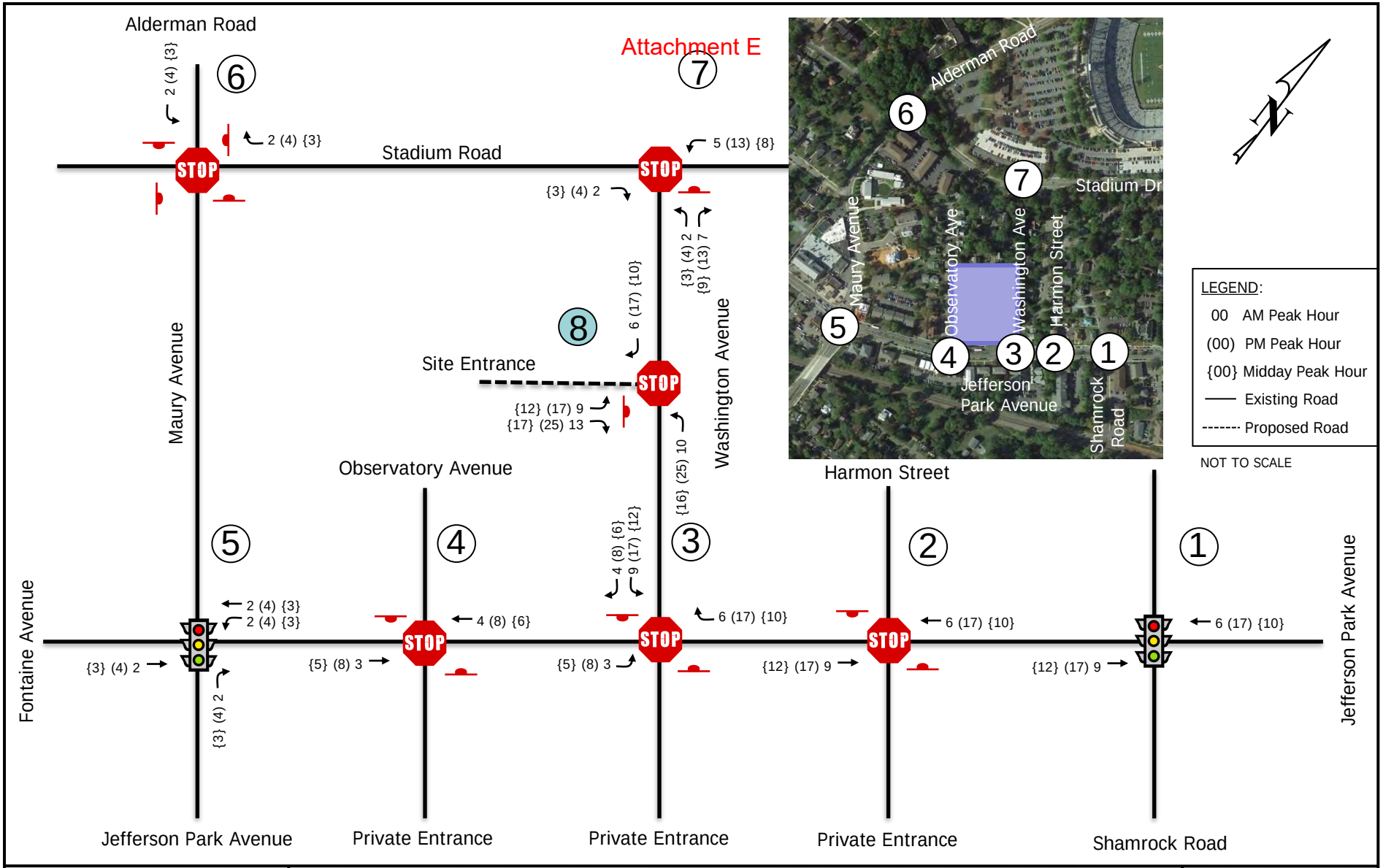
Site Peak Hour Trip Distributions
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
6-1



Total External Site Peak Hour Trips
Aspen Heights TIA
City of Charlottesville, Virginia

Figure 6-2

7 2023 TOTAL FUTURE CONDITIONS

To complete the analysis of 2023 total conditions (with the proposed development), the estimated site trips were added to the background 2023 traffic volumes. The projected volumes were then used to complete the capacity analysis.

7.1 TOTAL FUTURE TRAFFIC VOLUMES

To generate the 2023 total future traffic volumes, the external site trips shown on Figure 6-2 and the background 2023 vehicle volumes shown in Figure 4-1 were summed. The resulting 2023 total future traffic volumes are shown on Figure 7-1.

7.2 2023 FUTURE CONDITIONS ANALYSIS RESULTS

Table 7-1 summarizes the 2023 total future intersection LOS, delay, 95th percentile queue lengths (Synchro), and maximum queue lengths (SimTraffic) based on the intersection geometry and 2023 total future peak hour traffic volumes shown on Figures 2-1 and 7-1, respectively. The corresponding SYNCHRO and SimTraffic reports are included in Appendix E. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 7-1, under 2023 total future conditions with development of the site:

- Levels of service at the study intersections are not expected to change significantly from 2023 background to 2023 total future conditions.
- At the signalized intersection of Jefferson Park Avenue and Shamrock Avenue, the overall intersection continues to operate at a LOS B during the AM/Midday/PM peak hours. During the AM/Midday/PM peaks, the mainline (east-west) approaches and movements continue to operate at a LOS B or better; the side street (north-south) approaches continue to operate at a LOS C. During the Midday/PM peaks, the westbound left maximum queue (75 feet) fills the available storage (75 feet). All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.
- At the unsignalized intersection of Jefferson Park Avenue and Harmon Street, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the eastbound approach maximum queue (75 feet) fills the distance to the adjacent intersection with Washington Avenue (77 feet away). All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.
- At the unsignalized intersection of Jefferson Park Avenue and Washington Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the westbound approach maximum queue length (85 feet) backs up through the adjacent intersection with Harmon Street (77 feet away). This queue is most often caused by the westbound approach queue at Jefferson Park Avenue/Maury Avenue. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Observatory Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS B during the AM/Midday peaks and a LOS C during the PM peak. During the PM peak, the westbound approach maximum queue (184 feet) backs up through the adjacent intersection with Washington Avenue (174 feet away). This queue is most often caused by the westbound approach queue at Jefferson Park Avenue/Maury Avenue. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection continues to operate at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. The north- and southbound approaches and movements continue to generally operate at a LOS C during the AM/Midday/PM peaks. The east- and westbound approaches and movements continue to generally operate at a LOS C or better during the AM/PM peaks and LOS B during the Midday peak.

    - During the AM/Midday peaks, the westbound left maximum queue (87 feet) fills the available storage (88 feet), spilling back into the through lane sometimes. During the PM peak, the 95th percentile queue (182 feet) exceeds the available storage (88 feet), spilling back into the through lane 24% of the time. During the PM peak, the westbound approach maximum queue (447 feet) backs up through the roadway network at Observatory Avenue (432 feet away), Washington Avenue (606 feet away) and Harmon Street (683 feet away). During the PM peak, the southbound through maximum queue (326 feet) effectively blocks the left and right turn lanes (125 feet max. storage) and backs up through the adjacent intersection with Clark Court (275 feet away). All other turn bays have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Maury Avenue/Alderman Road and Stadium Road, all approaches continue to operate at a LOS B or better during the AM/Midday peaks. During the PM peak, the east- west- and northbound approaches continue to operate at a LOS C or better. The southbound approach operates at a LOS D. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Stadium Road and Washington Avenue, all approaches continue operate at a LOS A during the AM/Midday/PM peaks, the exception being the northbound approach changing from a LOS A (10.0 seconds) to LOS B (10.1 seconds) during the PM peak. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of the Site Entrance and Washington Avenue, all approaches will operate at a LOS A during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

Table 7-1: Intersection Level of Service and Delay Summary
2023 Total Future Traffic

Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				MIDDAY PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Shamrock Road (N-S) and	*EB Approach*		*14.1*	*B*	330	297	*12.0*	*B*	285	268	*14.8*	*B*	226	265
Jefferson Park Avenue (E-W)	WB Left	75	6.5	A	18	63	6.6	A	25	75	8.8	A	47	74
Signalized	WB Thru - Right		6.0	A	108	142	7.0	A	152	213	10.8	B	312	402
	WB Approach		*6.0*	*A*	--	--	*6.9*	*A*	--	--	*10.5*	*B*	--	--
	NB Approach		*31.4*	*C*	157	189	*28.7*	*C*	93	124	*28.0*	*C*	114	151
	SB Approach		*27.1*	*C*	31	64	*27.0*	*C*	32	58	*26.4*	*C*	63	90
	Overall		15.3	B	--	--	12.0	B	--	--	14.4	B	--	--
2. Harmon Street (N-S) and	*EB Approach*		8.2	A	0	60	8.2	A	0	64	9.1	A	0	75
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	62	8.4	A	0	89	8.3	A	0	225
Unsignalized	*NB Approach*		*15.7*	*C*	0	31	*15.8*	*C*	0	26	11.2	B	0	35
	SB Approach		*16.1*	*C*	0	31	*12.8*	*B*	2	35	18.7	C	6	61
3. Washington Avenue (N-S) and	*EB Approach*		8.5	A	0	72	8.8	A	0	73	9.3	A	0	139
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	31	8.4	A	0	11	8.3	A	0	85
Unsignalized	*NB Approach*		12	B	0	12	17.3	C	2	58	11	B	0	22
	SB Approach		17.7	C	2	38	16.6	C	6	51	24.2	C	14	92
4. Observatory Avenue (N-S) and	*EB Approach*		8.2	A	0	34	8.2	A	0	15	9.3	A	0	114
Jefferson Park Avenue (E-W)	*WB Approach*		9.2	A	0	52	8.4	A	0	59	8.5	A	0	184
Unsignalized	*NB Approach*		14.2	B	0	31	14.5	B	0	31	19	C	2	53
	SB Approach		14.8	B	0	29	10.9	B	0	14	20.9	C	4	84
5. Maury Avenue/Jefferson Park Ave (N-S)	EB Left	152	20.8	C	77	149	16.3	B	53	133	28.0	C	35	73
and Fontaine Avenue (E-W)	EB Thru		26.3	C	279	289	20.1	C	230	268	27.3	C	146	201
Signalized	EB Right	120	9.7	A	19	120	11.3	B	20	120	16.9	B	50	120
	EB Approach		*21.0*	*C*	--	--	*16.9*	*B*	--	--	*21.3*	*C*	--	--
	WB Left	88	17.3	B	53	87	15.4	B	99	87	37.6	D	182	87
	WB Thru - Right		16.4	B	188	211	11.8	B	180	246	24.2	C	298	447
	WB Approach		*16.6*	*B*	--	--	*13.0*	*B*	--	--	*29.3*	*C*	--	--
	NB Left	355	35.1	D	#320	289	29.5	C	127	160	32.9	C	175	208
	NB Thru		28.0	C	216	221	28.0	C	86	109	30.8	C	101	129
	NB Right	200	0.0	A	53	111	0.0	A	35	0	0.0	A	18	0
	NB Approach		*32.1*	*C*	--	--	*28.9*	*C*	--	--	*32.2*	*C*	--	--
	SB Left	117	31.4	C	31	71	27.6	C	40	92	27.8	C	57	117
	SB Thru		32.0	C	59	96	29.4	C	111	146	37.0	D	285	326
	SB Right	125	31.4	C	0	61	28.0	C	0	108	28.2	C	0	125
	SB Approach		*31.7*	*C*	--	--	*28.8*	*C*	--	--	*34.8*	*C*	--	--
	Overall		24.9	C	--	--	19.6	B	--	--	29.0	C	--	--
6. Maury Avenue/Alderman Road (N-S) and	*EB Approach*		*11.0*	*B*	25	102	8.4	A	4	40	10.5	B	6	51
Stadium Road (E-W)	*WB Approach*		*9.5*	*A*	6	75	8.9	A	10	80	15.4	C	57	160
Unsignalized	*NB Approach*		*13*	*B*	60	208	9	A	20	106	11.5	B	25	135
	SB Approach		*10.9*	*B*	18	106	9.3	A	23	101	31.9	D	176	290
7. Washington Avenue (N-S) and	*EB Approach*		†	†	--	3	†	†	--	6	†	†	--	10
Stadium Road (E-W)	*WB Approach*		*7.6*	*A*	0	24	7.5	A	0	24	*7.6*	*A*	0	35
Unsignalized	*NB Approach*		*9.4*	*A*	2	30	9.8	A	2	64	*10.1*	*B*	2	44
8. Washington Avenue (N-S) and	*EB Approach*		*8.6*	*A*	2	35	*8.7*	*A*	2	40	*8.8*	*A*	2	52
Site Entrance (E-W)	*NB Approach*		*7.2*	*A*	0	--	*4.9*	*A*	0	12	*7.3*	*A*	2	25
Unsignalized	*SB Approach*		†	†	--	--	†	†	--	--	†	†	--	--

[1] *Overall intersection LOS and delay cannot be reported for unsignalized intersections.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

- 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

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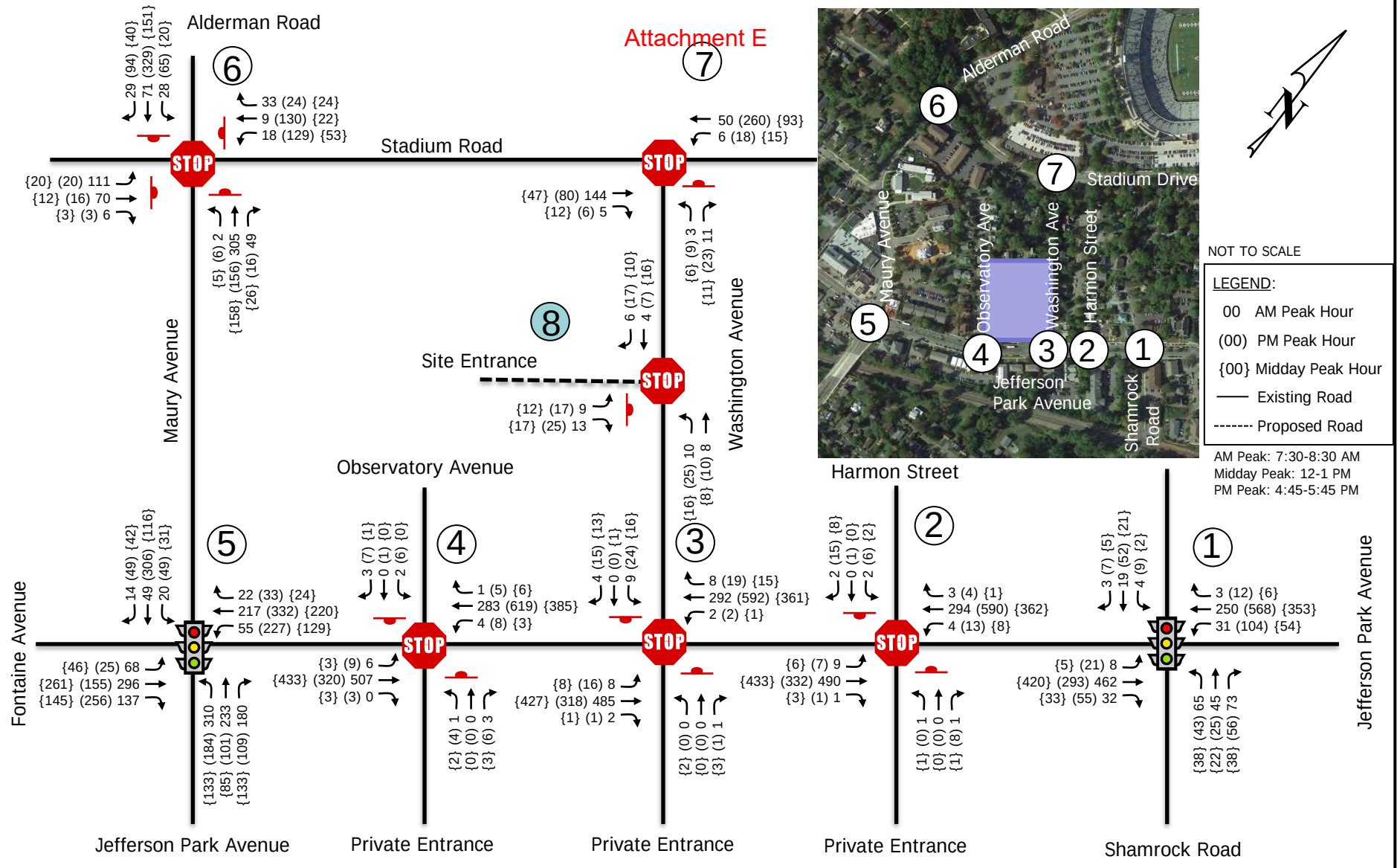
Attachment E



NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- Existing Road
- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

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2023 Total Future Peak Hour Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

Figure
7-1

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8 2028 TOTAL FUTURE CONDITIONS

To complete the analysis of 2028 total conditions (with the proposed development), the estimated site trips were added to the background 2028 traffic volumes. The projected volumes were then used to complete the capacity analysis.

8.1 TOTAL FUTURE TRAFFIC VOLUMES

To generate the 2028 total future traffic volumes, the external site trips shown on Figure 6-2 and the background 2028 vehicle volumes shown in Figure 5-1 were summed. The resulting 2028 total future traffic volumes are shown on Figure 8-1.

8.2 2028 TOTAL FUTURE CONDITIONS ANALYSIS RESULTS

Table 8-1 summarizes the 2028 future intersection LOS, delay, 95th percentile queue lengths (Synchro), and maximum queue lengths (SimTraffic) based on the intersection geometry and 2028 future peak hour traffic volumes shown on Figures 2-1 and 8-1, respectively. The corresponding SYNCHRO and SimTraffic reports are included in Appendix E. Note that the intersection numbers shown on the LOS, delay, and queue length summary tables correspond with the intersection numbers used in the SYNCHRO models and report figures.

As shown in Table 8-1, under 2028 future conditions with development of the site:

- Levels of service at the study intersections are not expected to change significantly from 2028 background to 2028 total future conditions.
- At the signalized intersection of Jefferson Park Avenue and Shamrock Avenue, the overall intersection continues to operate at a LOS B during the AM/Midday/PM peak hours. During the AM/Midday/PM peaks, the mainline (east-west) approaches and movements continue to operate at a LOS B or better; the side street (north-south) approaches continue to operate at a LOS C. During the PM peaks, the westbound left maximum queue (74 feet) fills the available storage (75 feet). All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.
- At the unsignalized intersection of Jefferson Park Avenue and Harmon Street, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.
- At the unsignalized intersection of Jefferson Park Avenue and Washington Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the westbound approach maximum queue length (82 feet) backs up through the adjacent intersection with Harmon Street (77 feet away). This queue is most often caused by the westbound approach queue at Jefferson Park Avenue/Maury Avenue. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Jefferson Park Avenue and Observatory Avenue, the mainline (east-west) approaches continue to operate at a LOS A during the AM/Midday/PM peaks. The side street (north-south) approaches continue to operate at a LOS B during the AM/Midday peaks and a LOS C during the PM peak. During the PM peak, the westbound approach maximum queue (160 feet) fills the distance to the adjacent intersection with Washington Avenue (174 feet away). This queue is most often caused by the westbound approach queue at Jefferson Park Avenue/Maury Avenue. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection continues to operate at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. The north- and southbound approaches and movements continue to generally operate at a LOS C during the AM/Midday/PM peaks. The east- and westbound approaches and movements continue to generally operate at a LOS C or better during the AM/PM peaks and LOS B during the Midday peak.

    - During the AM/Midday peaks, the westbound left maximum queue (87 feet) fills the available storage (88 feet), spilling back into the through lane sometimes. During the PM peak, the 95th percentile queue (184 feet) exceeds the available storage (88 feet), spilling back into the through lane 22% of the time. During the PM peak, the westbound approach maximum queue (444 feet) backs up through the adjacent intersection with Observatory Avenue (432 feet away). During the PM peak, the southbound through maximum queue (402 feet) effectively blocks the left and right turn lanes (125 feet max. storage) and backs up through the adjacent intersection with Clark Court (275 feet away). All other turn bays have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Maury Avenue/Alderman Road and Stadium Road, all approaches continue to operate at a LOS B or better during the AM/Midday peaks. During the PM peak, the east- west- and northbound approaches continue to operate at a LOS C or better. The southbound approach operates at a LOS D. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of Stadium Road and Washington Avenue, all approaches continue operate at a LOS A during the AM/Midday/PM peaks, the exception being the northbound approach changing from a LOS A (10.0 seconds) to LOS B (10.1 seconds) during the PM peak. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

- At the unsignalized intersection of the Site Entrance and Washington Avenue, all approaches will operate at a LOS A during the AM/Midday/PM peaks. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

Table 8-1: Intersection Level of Service and Delay Summary
2028 Total Future Traffic

Intersection and Type of Control	Movement and Approach	Effective Turn Lane Storage (ft)	AM PEAK HOUR				MIDDAY PEAK HOUR				PM PEAK HOUR			
			Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)	Delay [1] (sec/veh)	LOS [1]	Synchro 95th Percentile Queue Length (ft)	SimTraffic Max Queue Length (ft)
1. Shamrock Road (N-S) and	*EB Approach*		*14.2*	*B*	335	293	*12.3*	*B*	288	275	*15.0*	*B*	230	294
Jefferson Park Avenue (E-W)	WB Left	75	6.5	A	18	56	6.7	A	26	72	8.9	A	47	74
Signalized	WB Thru - Right		6.0	A	109	150	7.2	A	154	215	11.1	B	318	356
	WB Approach		*6.1*	*A*	--	--	*7.1*	*A*	--	--	*10.7*	*B*	--	--
	NB Approach		*31.5*	*C*	160	193	*28.7*	*C*	95	118	*28.0*	*C*	115	154
	SB Approach		*27.1*	*C*	31	59	*26.9*	*C*	32	57	*26.3*	*C*	64	87
	Overall		15.4	B	--	--	12.1	B	--	--	14.6	B	--	--
2. Harmon Street (N-S) and	*EB Approach*		8.2	A	0	68	8.2	A	0	68	9.2	A	0	69
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	52	8.5	A	0	31	8.3	A	0	149
Unsignalized	*NB Approach*		*15.8*	*C*	0	24	*16*	*C*	0	27	11.2	B	0	37
	SB Approach		*16.3*	*C*	0	31	*12.9*	*B*	2	31	19	C	6	56
3. Washington Avenue (N-S) and	*EB Approach*		8.5	A	0	58	8.8	A	0	76	9.4	A	2	130
Jefferson Park Avenue (E-W)	*WB Approach*		8.6	A	0	38	8.4	A	0	22	8.4	A	0	88
Unsignalized	*NB Approach*		12	B	0	22	17.6	C	2	57	11.1	B	0	18
	SB Approach		18	C	4	40	16.8	C	6	49	24.7	C	14	67
4. Observatory Avenue (N-S) and	*EB Approach*		8.2	A	0	29	8.3	A	0	19	9.3	A	0	110
Jefferson Park Avenue (E-W)	*WB Approach*		9.2	A	0	71	8.4	A	0	35	8.6	A	0	160
Unsignalized	*NB Approach*		14.4	B	0	31	14.7	B	0	31	19.3	C	2	33
	SB Approach		15	B	0	26	10.9	B	0	20	21.4	C	4	48
5. Maury Avenue/Jefferson Park Ave (N-S)	EB Left	152	21.2	C	78	143	16.5	B	55	129	28.6	C	35	76
and Fontaine Avenue (E-W)	EB Thru		26.8	C	281	302	20.3	C	233	292	27.6	C	147	240
Signalized	EB Right	120	9.8	A	19	120	11.4	B	20	120	17.1	B	53	120
	EB Approach		*21.4*	*C*	--	--	*17.1*	*B*	--	--	*21.4*	*C*	--	--
	WB Left	88	17.6	B	53	87	15.7	B	100	87	38.6	D	184	87
	WB Thru - Right		16.7	B	190	234	12.0	B	182	259	24.6	C	304	444
	WB Approach		*16.9*	*B*	--	--	*13.2*	*B*	--	--	*30.0*	*C*	--	--
	NB Left	355	35.7	D	#326	259	29.5	C	129	148	33.0	C	176	188
	NB Thru		28.1	C	218	211	27.9	C	86	110	30.8	C	102	125
	NB Right	200	0.0	A	54	110	0.0	A	37	0	0.0	A	15	0
	NB Approach		*32.4*	*C*	--	--	*28.9*	*C*	--	--	*32.2*	*C*	--	--
	SB Left	117	31.4	C	31	74	27.6	C	40	93	27.9	C	59	117
	SB Thru		32.0	C	60	101	29.5	C	113	156	37.5	D	#289	402
	SB Right	125	31.4	C	0	55	28.0	C	0	101	28.3	C	0	125
	SB Approach		*31.8*	*C*	--	--	*28.9*	*C*	--	--	*35.2*	*D*	--	--
	Overall		25.3	C	--	--	19.8	B	--	--	29.4	C	--	--
6. Maury Avenue/Alderman Road (N-S) and	*EB Approach*		*11.1*	*B*	27	90	8.5	A	4	47	10.6	B	6	59
Stadium Road (E-W)	*WB Approach*		*9.5*	*A*	8	74	8.9	A	10	84	15.6	C	57	163
Unsignalized	*NB Approach*		*13.2*	*B*	60	210	9	A	20	111	11.6	B	25	143
	SB Approach		*11*	*B*	18	106	9.4	A	23	101	33.4	D	176	366
7. Washington Avenue (N-S) and	*EB Approach*		†	†	--	6	†	†	--	1	†	†	--	14
Stadium Road (E-W)	*WB Approach*		*7.6*	*A*	0	21	7.5	A	0	25	*7.6*	*A*	0	37
Unsignalized	*NB Approach*		*9.4*	*A*	2	35	9.8	A	2	67	*10.1*	*B*	2	47
8. Washington Avenue (N-S) and	*EB Approach*		*8.6*	*A*	2	38	*8.7*	*A*	2	44	*8.8*	*A*	2	47
Site Entrance (E-W)	*NB Approach*		*7.2*	*A*	0	--	*7.3*	*A*	0	9	*7.3*	*A*	2	19
Unsignalized	*SB Approach*		†	†	--	--	†	†	--	--	†	†	--	--

[1] *Overall intersection LOS and delay cannot be reported for unsignalized intersections.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

- 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

SimTraffic queues are average maximum queues after 10 runs of 60 minutes each.

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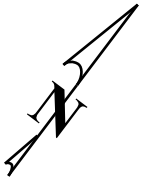
Attachment E



NOT TO SCALE

LEGEND:

- 00 AM Peak Hour
- (00) PM Peak Hour
- {00} Midday Peak Hour
- —— Existing Road
- ------- Proposed Road

AM Peak: 7:30-8:30 AM
Midday Peak: 12-1 PM
PM Peak: 4:45-5:45 PM

Alderman Road
Stadium Road
Maury Avenue
Site Entrance
Washington Avenue
Observatory Avenue
Harmon Street
Fontaine Avenue
Jefferson Park Avenue
Private Entrance
Private Entrance
Private Entrance
Shamrock Road
Jefferson Park Avenue

2028 Total Future Peak Hour Volumes
Aspen Heights TIA
City of Charlottesville, Virginia

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Figure
8-1

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9 TRAFFIC SIGNAL WARRANT ANALYSIS

Signal warrant analyses were completed at the intersection of Jefferson Park Avenue and Washington Avenue using the 2028 total volumes from Figure 8-1. The warrant analyses were conducted following procedures from the 2009 edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) and the hourly volumes from 7:00 AM to 7:00 PM. In accordance with VDOT standards, Warrant 1 (Eight-Hour), Warrant 2 (Four-Hour), and Warrant 3 (Peak Hour) outlined in the 2009 MUTCD was considered for the analyses and are described in detail below.

The MUTCD contains both 100% and 70% volume thresholds that can be used in the signal warrant analysis. The 100% volume thresholds were used to complete the analyses as the conditions for using the 70% volumes are not met in this case.

As noted above, this section of Jefferson Park Avenue has one (1) through travel lane in each direction. The lane geometry used in the traffic signal warrant analysis for the major street is assumed to be one (1) lane and the minor street as one (1) lane.

It is specifically noted in all hours of the warrant analysis that the higher minor street volume is on Washington Avenue. At no time does the traffic from the northbound approach from the private entrance oppositive Washington Avenue have higher hourly volumes than the southbound approach from Washington Avenue.

9.1 WARRANT 1 (EIGHT-HOUR VEHICULAR VOLUME)

According to the MUTCD, "the need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day":

Condition A:

This warrant is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

The need for a traffic control signal is considered when, for each of any eight (8) hours of an average day, a minimum of 500 vehicles per hour exist on the major street approaches and 150 vehicles per hour are present on the higher-volume minor street approach. These are the 100% volume thresholds for a one-lane major street approach and a one-lane minor street approach from the 2009 MUTCD Table 4C-1.

The analysis results indicate the required vehicle volume on the minor street approach was present for zero (0) of the eight (8) required hours under the 100% volume thresholds for the one-lane minor street approach. Therefore, this warrant is not considered met.

Condition B:

This warrant is intended for application at locations where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

The need for a traffic control signal is considered when for each of any eight (8) hours of an average day, a minimum of 750 vehicles per hour exist on the major street approaches and 75 vehicles are present on the higher-volume minor street approach. These are the 100% volume thresholds for a two-lane major street approach and a two-lane minor street approach from the 2009 MUTCD Table 4C-1.

The analysis results indicate the required vehicle volume on the minor street approach was present for zero (0) of the eight (8) required hours under the 100% volume thresholds. Therefore, this warrant is considered not considered met under the 100% volume thresholds.

Combination of Conditions A and B

This warrant reduces the volume thresholds found in Conditions A and B by 20% and considers both conditions simultaneously.

The need for a traffic control signal is considered when for each of any eight (8) hours of an average day, a minimum of 400 vehicles are present on the major street approaches and 120 vehicles are present on the higher volumes minor street approach (Condition A) and a minimum of 600 vehicles are present on the major street approaches and 60 vehicles are present on the higher volumes minor street approach (Condition B). These are the 100% volume thresholds for a one-lane major street approach and a one-lane minor street approach from the 2009 MUTCD Table 4C-1.

The analysis results indicate the required vehicle volume on the minor street approach was present for zero (0) of the eight (8) required hours for Condition A and zero (0) of the eight (8) required hours for Condition B under the 100% volume thresholds. Therefore, this warrant is not considered met.

9.2 WARRANT 2 (FOUR-HOUR VEHICULAR VOLUME)

This warrant is intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic signal. The need for a traffic control signal can be considered when, for each of any four (4) hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor street approach all fall above the applicable curve (on MUTCD Figures 4C-1 and 4C-2) for the existing combination of all approach lanes.

The analysis results indicate the required vehicle volumes were present for zero (0) of the four (4) required hours under the 100% volume thresholds. Therefore, this warrant is not considered met.

9.3 WARRANT 3 (PEAK-HOUR VEHICULAR VOLUME)

This warrant is intended to be applied at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic suffers due to undue delay when entering or crossing the major street. The need for a traffic control signal can be considered when, the following two categories are met:

Condition A:

For the same one hour (any four consecutive 15-minute periods) of an average day, the following conditions exist:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: four vehicle-hours for a one lane approach of five vehicle hours for a two-lane approach; and
2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

Condition B:

The plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in the 2009 MUTCD Figure 4C-3 for the existing combination of approach lanes.

The analysis results indicate the required volumes were present for zero (0) of the one (1) required peak hour under the 100% volume thresholds. Therefore, this warrant is not considered met.

9.4 SIGNAL WARRANT ANALYSIS SUMMARY

The total volumes used in the traffic signal warrant analyses, along with the results, are summarized in Table 9-1. The analysis indicates a traffic signal is not warranted using Warrant 1 (8-hour), Warrant 2 (4-hour), or Warrant 3 (peak hour) for any of the 12 hours analyzed between 7 AM and 7 PM.

The proposed Aspen Heights development does not warrant a traffic signal at the intersection of Jefferson Park Avenue and Washington Avenue.

Table 9-1– Traffic Signal Warrant Analysis
Jefferson Park Avenue/Washington Avenue Intersection

Time Period	Major Street Volume	Minor Street Volume (Highest Approach)	100% WARRANTS					
			#1 (8-hour)				#2 (4-hour)	#3 (Peak Hour)
			Condition A	Condition B	Combination			
					Condition A	Condition B		
07:00 - 08:00	674	13						
08:00 - 09:00	772	15						
09:00 - 10:00	735	22						
10:00 - 11:00	721	20						
11:00 - 12:00	669	19						
12:00 - 13:00	800	29						
13:00 - 14:00	754	24						
14:00 - 15:00	774	27						
15:00 - 16:00	856	29						
16:00 - 17:00	901	29						
17:00 - 18:00	926	39						
18:00 - 19:00	799	35						
# of Hours Warrant is Met			0	0	0	0	0	0
# of Hours Warrant is Required to be Met			8	8	8	8	4	1
Is Warrant Satisfied?			No	No	No		No	No

10 CONCLUSIONS

Based on the operational analyses the following is offered:

- Across 2023 and 2028 background conditions during the PM peak, the westbound approach to the intersection of Jefferson Park Avenue/Maury Avenue experiences operational issues with congestion on the westbound approach and the queue extends through Observatory Avenue, Washington Avenue, and Harmon Street intersections. Under 2023 and 2028 total volume conditions, with the addition of the proposed Aspen Heights development site traffic, the westbound approach is expected to experience minimal increases with the proposed development over the 2023 and 2028 background conditions.

- The results of the signal warrant analysis at Jefferson Park Avenue/Washington Avenue under 2028 total build conditions indicate that none of the traffic volume thresholds in Warrants 1 through 3 were met. None of the other warrants were considered at this time.

- Under 2021 existing conditions:

    - All movements at unsignalized intersections within the study area on Jefferson Park Avenue and Stadium Road operate at level of service (LOS) C or better during the AM, Midday, and PM peak hours. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

    - At the signalized intersection of Jefferson Park Avenue and Shamrock Road, the overall intersection operates at a level of service (LOS) B during the AM/Midday/PM peak hours. All turning movements and approaches operate at a LOS C or better during the AM/Midday/PM peaks. All turn bays have adequate storage to accommodate 95th percentile and maximum queue lengths.

    - At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection operates at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. All turning movements and approaches generally operate at a LOS C or better during the AM/Midday/PM peaks. The westbound left queue fills the available storage (AM/Midday) and backs up into the through lane (PM). During the PM peak, the westbound approach queues through the adjacent intersection with Observatory Avenue. During the PM peak, the southbound through queue backs up through the adjacent intersection with Clark Court.

- Under 2023 and 2028 background conditions (without the proposed development):

    - Levels of service at the study intersections do not change significantly from 2021 existing to 2023 or 2028 background conditions. All unsignalized intersections continue to operate at LOS C or better during all peak hours. All signalized intersections continue to operate with LOS B or C during all peak hours.

    - There are no queuing concerns within the study area, with the exception of the westbound approach of Jefferson Park Avenue at Maury Avenue during the PM peak hour. The queues extend to intermittently block the intersections of Observatory Avenue, Washington Avenue, and Harmon Street.

- Under 2023 and 2028 total future conditions (with the proposed development):

    - Levels of service at the study intersections do not change significantly from background to total future conditions in 2023 or 2028.

    - All movements at unsignalized intersections within the study area on Jefferson Park Avenue and Stadium Road operate at level of service (LOS) C or better during the AM, Midday, and PM peak hours. All approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

    - At the signalized intersection of Jefferson Park Avenue and Shamrock Road, the overall intersection operates at a level of service (LOS) B during the AM/Midday/PM peak hours. All turning movements and approaches operate at a LOS C or better during the AM/Midday/PM peaks. During the PM peak, the westbound left fills the available storage. All other approaches have adequate distance to accommodate 95th percentile and maximum queue lengths.

    - At the signalized intersection of Jefferson Park Avenue and Maury Avenue/Fontaine Avenue, the overall intersection operates at a LOS C during the AM/PM peaks and a LOS B during the Midday peak. All turning movements and approaches generally operate at a LOS C or better during the AM/Midday/PM peaks. The westbound left queue fills the available storage (AM/Midday) and backs up into the through lane (PM). During the PM peak, the westbound approach queue backs up through the adjacent intersection with Observatory Avenue. During the PM peak, the southbound through queue backs up through the adjacent intersection with Clark Court.

Based on the results of the operational analysis, there are no vehicular and roadway network improvements required based on the additional development traffic volumes. The site will increase the residential density in the area and add to the pedestrian, bicycle, and transit volumes. To address the additional pedestrian, bicycle, and transit volumes, the applicant plans to install sidewalks along the entire frontage of the property.

Appendix A

Traffic Counts

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 1

Groups Printed- Passenger Veh - Trucks

	Shamrock Rd From North					JPA From East					Shamrock Rd From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	1	1	0	0	2	0	33	2	0	35	3	4	6	0	13	4	73	1	0	78	128
07:15 AM	0	1	0	0	1	2	39	9	1	51	10	11	12	0	33	4	100	1	1	106	191
07:30 AM	0	4	1	0	5	1	64	4	1	70	24	11	16	0	51	6	115	2	0	123	249
07:45 AM	1	6	1	0	8	0	67	6	0	73	15	13	19	0	47	6	103	3	1	113	241
Total	2	12	2	0	16	3	203	21	2	229	52	39	53	0	144	20	391	7	2	420	809
08:00 AM	2	3	1	0	6	1	54	14	0	69	15	11	12	0	38	13	113	0	1	127	240
08:15 AM	0	6	1	0	7	1	44	5	0	50	19	10	17	0	46	5	109	0	0	114	217
08:30 AM	0	1	1	0	2	1	42	8	1	52	13	11	17	0	41	4	132	1	0	137	232
08:45 AM	2	4	2	0	8	0	49	13	0	62	11	5	5	0	21	5	116	3	0	124	215
Total	4	14	5	0	23	3	189	40	1	233	58	37	51	0	146	27	470	4	1	502	904
11:00 AM	0	2	1	0	3	0	86	12	0	98	7	4	6	0	17	6	83	0	0	89	207
11:15 AM	0	3	0	0	3	0	56	8	0	64	6	4	5	0	15	9	62	1	1	73	155
11:30 AM	0	5	0	0	5	0	72	11	1	84	7	4	13	0	24	8	72	0	0	80	193
11:45 AM	1	3	2	0	6	2	63	7	0	72	16	6	12	0	34	10	92	4	0	106	218
Total	1	13	3	0	17	2	277	38	1	318	36	18	36	0	90	33	309	5	1	348	773
12:00 PM	1	5	0	0	6	2	82	13	0	97	8	6	9	0	23	9	88	1	0	98	224
12:15 PM	1	6	1	0	8	1	85	13	0	99	7	5	12	0	24	6	111	2	0	119	250
12:30 PM	1	5	1	0	7	0	70	13	1	84	4	6	11	0	21	9	81	2	0	92	204
12:45 PM	2	5	0	0	7	3	86	12	0	101	19	5	4	0	28	8	108	0	0	116	252
Total	5	21	2	0	28	6	323	51	1	381	38	22	36	0	96	32	388	5	0	425	930
04:00 PM	3	5	0	0	8	3	97	12	0	112	13	12	14	0	39	11	61	0	0	72	231
04:15 PM	0	10	1	0	11	3	121	20	0	144	16	7	13	0	36	13	82	1	0	96	287
04:30 PM	2	6	1	0	9	2	109	19	0	130	11	4	17	0	32	18	66	1	0	85	256
04:45 PM	1	20	3	0	24	2	135	20	0	157	19	8	12	0	39	10	67	0	1	78	298
Total	6	41	5	0	52	10	462	71	0	543	59	31	56	0	146	52	276	2	1	331	1072
05:00 PM	2	11	3	0	16	3	145	24	0	172	13	7	7	0	27	17	76	2	4	99	314
05:15 PM	2	12	1	0	15	2	140	24	0	166	11	7	11	0	29	13	63	3	0	79	289
05:30 PM	2	9	2	0	13	4	118	35	0	157	11	3	12	0	26	15	63	2	3	83	279
05:45 PM	2	19	0	0	21	3	113	10	2	128	14	5	9	0	28	8	63	0	1	72	249
Total	8	51	6	0	65	12	516	93	2	623	49	22	39	0	110	53	265	7	8	333	1131
Grand Total	26	152	23	0	201	36	1970	314	7	2327	292	169	271	0	732	217	2099	30	13	2359	5619
Apprch %	12.9	75.6	11.4	0		1.5	84.7	13.5	0.3		39.9	23.1	37	0		9.2	89	1.3	0.6		
Total %	0.5	2.7	0.4	0	3.6	0.6	35.1	5.6	0.1	41.4	5.2	3	4.8	0	13	3.9	37.4	0.5	0.2	42	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021

Groups Printed- Passenger Veh - Trucks

	Shamrock Rd From North					JPA From East					Shamrock Rd From South					JPA From West					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Passenger Veh	26	152	22	0	200	33	1893	308	7	2241	287	168	265	0	720	212	2024	29	13	2278	5439
% Passenger Veh	100	100	95.7	0	99.5	91.7	96.1	98.1	100	96.3	98.3	99.4	97.8	0	98.4	97.7	96.4	96.7	100	96.6	96.8
Trucks	0	0	1	0	1	3	77	6	0	86	5	1	6	0	12	5	75	1	0	81	180
% Trucks	0	0	4.3	0	0.5	8.3	3.9	1.9	0	3.7	1.7	0.6	2.2	0	1.6	2.3	3.6	3.3	0	3.4	3.2

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 3

	Shamrock Rd From North					JPA From East					Shamrock Rd From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	4	**1**	0	5	**1**	64	4	**1**	70	**24**	11	16	0	**51**	6	**115**	2	0	123	**249**
07:45 AM	1	**6**	1	0	**8**	0	**67**	6	0	**73**	15	**13**	**19**	0	47	6	103	**3**	**1**	113	241
08:00 AM	**2**	3	1	0	6	1	54	**14**	0	69	15	11	12	0	38	**13**	113	0	1	**127**	240
08:15 AM	0	6	1	0	7	1	44	5	0	50	19	10	17	0	46	5	109	0	0	114	217
Total Volume	3	19	4	0	26	3	229	29	1	262	73	45	64	0	182	30	440	5	2	477	947
% App. Total	11.5	73.1	15.4	0		1.1	87.4	11.1	0.4		40.1	24.7	35.2	0		6.3	92.2	1	0.4		
PHF	.375	.792	1.00	.000	.813	.750	.854	.518	.250	.897	.760	.865	.842	.000	.892	.577	.957	.417	.500	.939	.951
Passenger Veh	3	19	4	0	26	3	215	28	1	247	73	45	63	0	181	28	429	4	2	463	917
% Passenger Veh	100	100	100	0	100	100	93.9	96.6	100	94.3	100	100	98.4	0	99.5	93.3	97.5	80.0	100	97.1	96.8
Trucks	0	0	0	0	0	0	14	1	0	15	0	0	1	0	1	2	11	1	0	14	30
% Trucks	0	0	0	0	0	0	6.1	3.4	0	5.7	0	0	1.6	0	0.5	6.7	2.5	20.0	0	2.9	3.2

Data Collection Group

Attachment E

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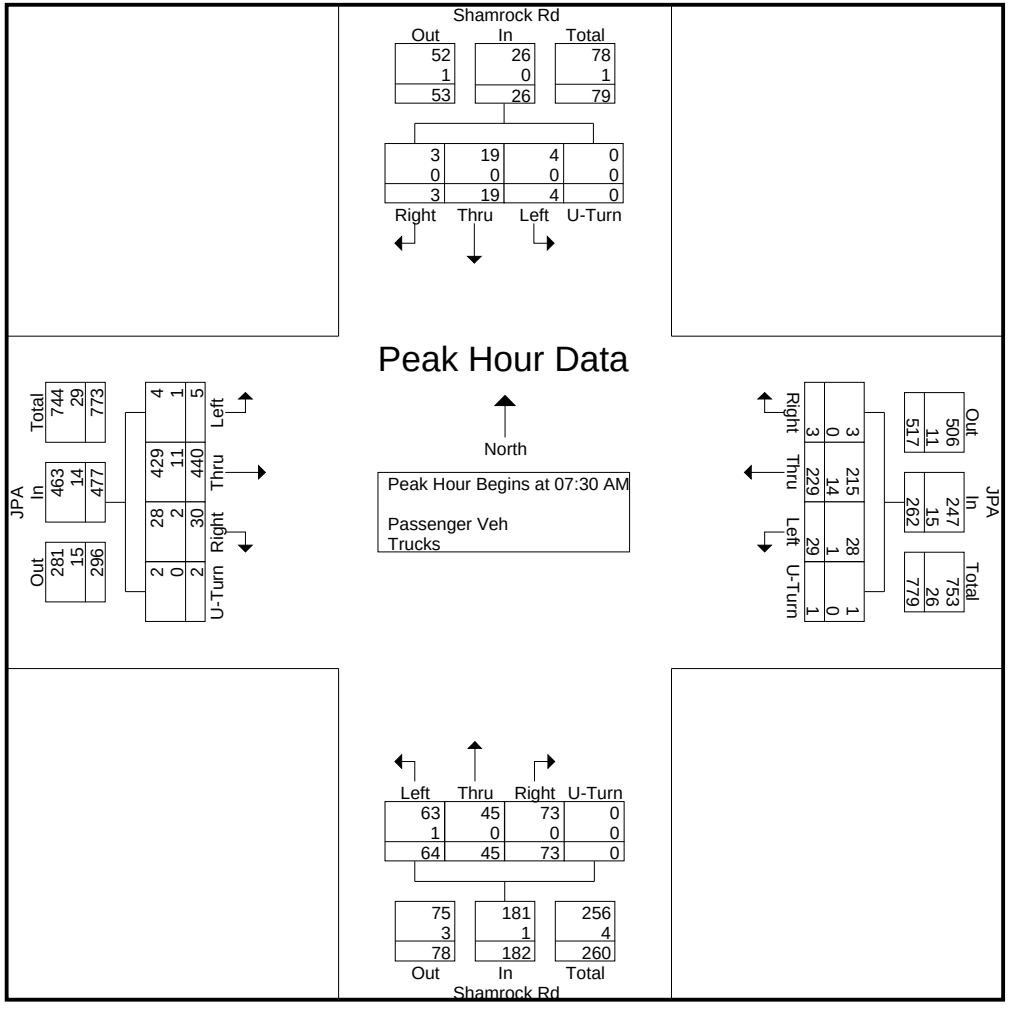
File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 4



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 5

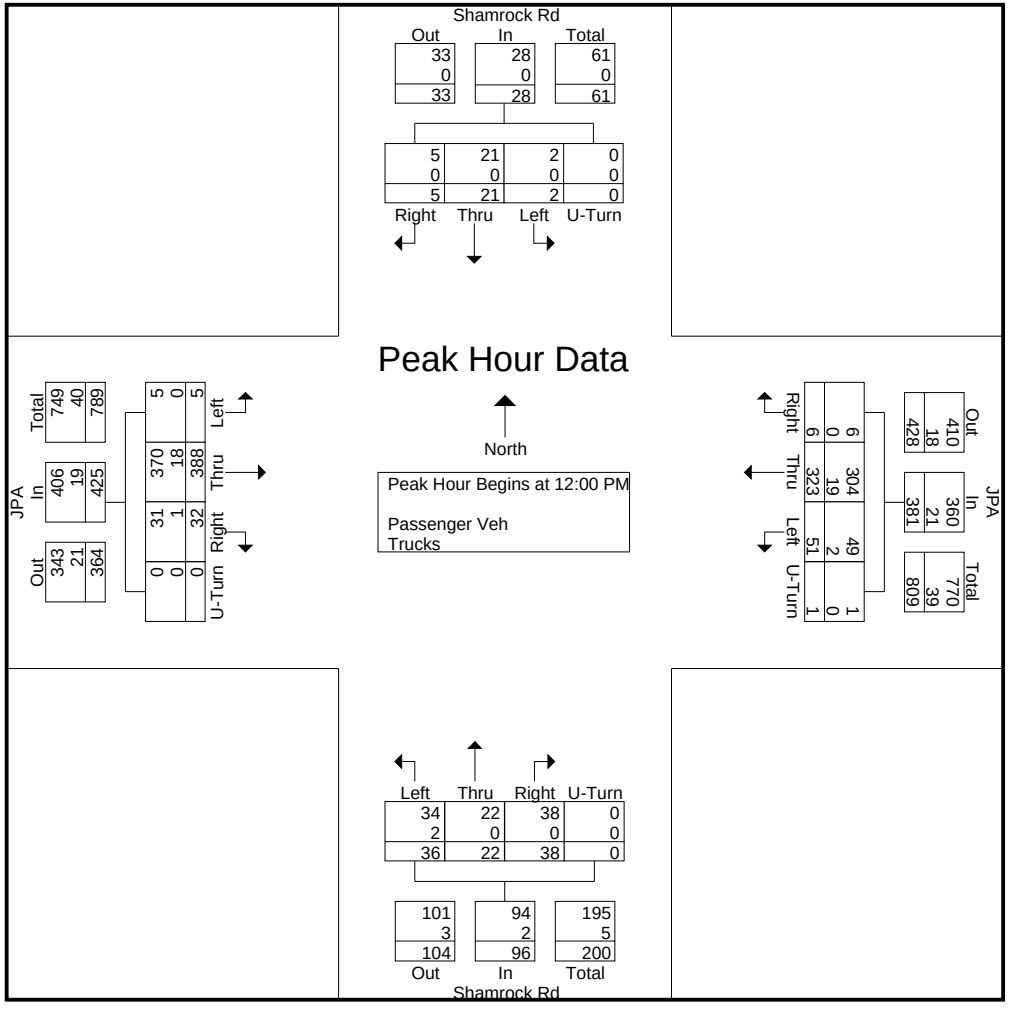
	Shamrock Rd From North					JPA From East					Shamrock Rd From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	1	5	0	0	6	2	82	**13**	0	97	8	**6**	9	0	23	**9**	88	1	0	98	224
12:15 PM	1	**6**	**1**	0	**8**	1	85	13	0	99	7	5	**12**	0	24	6	**111**	**2**	0	**119**	250
12:30 PM	1	5	1	0	7	0	70	13	**1**	84	4	6	11	0	21	9	81	2	0	92	204
12:45 PM	**2**	5	0	0	7	**3**	**86**	12	0	**101**	**19**	5	4	0	**28**	8	108	0	0	116	**252**
Total Volume	5	21	2	0	28	6	323	51	1	381	38	22	36	0	96	32	388	5	0	425	930
% App. Total	17.9	75	7.1	0		1.6	84.8	13.4	0.3		39.6	22.9	37.5	0		7.5	91.3	1.2	0		
PHF	.625	.875	.500	.000	.875	.500	.939	.981	.250	.943	.500	.917	.750	.000	.857	.889	.874	.625	.000	.893	.923
Passenger Veh	5	21	2	0	28	6	304	49	1	360	38	22	34	0	94	31	370	5	0	406	888
% Passenger Veh	100	100	100	0	100	100	94.1	96.1	100	94.5	100	100	94.4	0	97.9	96.9	95.4	100	0	95.5	95.5
Trucks	0	0	0	0	0	0	19	2	0	21	0	0	2	0	2	1	18	0	0	19	42
% Trucks	0	0	0	0	0	0	5.9	3.9	0	5.5	0	0	5.6	0	2.1	3.1	4.6	0	0	4.5	4.5

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 6



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 7

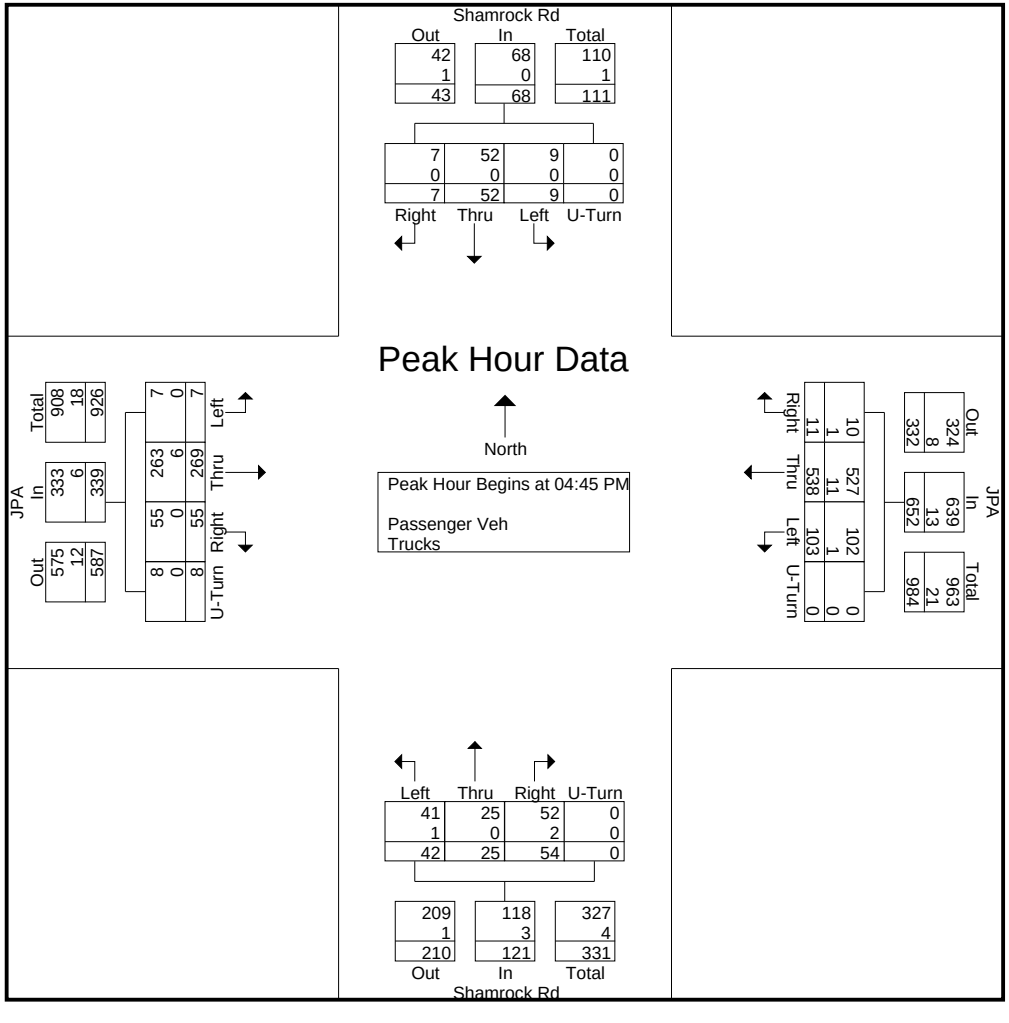
	Shamrock Rd From North					JPA From East					Shamrock Rd From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	1	**20**	**3**	0	**24**	2	135	20	0	157	**19**	**8**	**12**	0	**39**	10	67	0	1	78	298
05:00 PM	**2**	11	3	0	16	3	**145**	24	0	**172**	13	7	7	0	27	**17**	**76**	2	**4**	**99**	**314**
05:15 PM	2	12	1	0	15	2	140	24	0	166	11	7	11	0	29	13	63	**3**	0	79	289
05:30 PM	2	9	2	0	13	**4**	118	**35**	0	157	11	3	12	0	26	15	63	2	3	83	279
Total Volume	7	52	9	0	68	11	538	103	0	652	54	25	42	0	121	55	269	7	8	339	1180
% App. Total	10.3	76.5	13.2	0		1.7	82.5	15.8	0		44.6	20.7	34.7	0		16.2	79.4	2.1	2.4		
PHF	.875	.650	.750	.000	.708	.688	.928	.736	.000	.948	.711	.781	.875	.000	.776	.809	.885	.583	.500	.856	.939
Passenger Veh	7	52	9	0	68	10	527	102	0	639	52	25	41	0	118	55	263	7	8	333	1158
% Passenger Veh	100	100	100	0	100	90.9	98.0	99.0	0	98.0	96.3	100	97.6	0	97.5	100	97.8	100	100	98.2	98.1
Trucks	0	0	0	0	0	1	11	1	0	13	2	0	1	0	3	0	6	0	0	6	22
% Trucks	0	0	0	0	0	9.1	2.0	1.0	0	2.0	3.7	0	2.4	0	2.5	0	2.2	0	0	1.8	1.9

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 8



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 1

Groups Printed- Bikes - Peds

	Shamrock Rd From North					JPA From East					Shamrock Rd From South					JPA From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	3	3	0	0	0	2	2	1	0	0	8	9	0	0	0	0	0	14
07:15 AM	0	0	0	3	3	0	1	0	4	5	0	0	0	8	8	0	3	0	0	3	19
07:30 AM	0	0	0	10	10	0	1	0	3	4	0	0	0	24	24	0	0	0	0	0	38
07:45 AM	0	0	0	4	4	1	2	0	7	10	2	0	0	24	26	0	9	0	0	9	49
Total	0	0	0	20	20	1	4	0	16	21	3	0	0	64	67	0	12	0	0	12	120
08:00 AM	0	0	0	4	4	1	0	0	4	5	0	2	0	7	9	0	5	0	1	6	24
08:15 AM	0	0	0	8	8	1	0	0	4	5	0	2	0	6	8	0	0	0	0	0	21
08:30 AM	0	0	0	4	4	0	1	0	5	6	1	1	0	13	15	0	6	0	1	7	32
08:45 AM	0	0	0	8	8	0	1	0	10	11	0	3	0	13	16	0	5	0	0	5	40
Total	0	0	0	24	24	2	2	0	23	27	1	8	0	39	48	0	16	0	2	18	117
11:00 AM	0	0	0	6	6	0	1	0	6	7	1	1	0	15	17	0	2	1	0	3	33
11:15 AM	0	0	0	6	6	0	0	0	6	6	0	2	0	9	11	0	1	0	0	1	24
11:30 AM	0	0	0	3	3	0	1	1	2	4	0	0	0	8	8	0	1	0	0	1	16
11:45 AM	0	0	0	5	5	0	1	0	5	6	0	0	0	6	6	0	0	0	0	0	17
Total	0	0	0	20	20	0	3	1	19	23	1	3	0	38	42	0	4	1	0	5	90
12:00 PM	0	2	2	5	9	0	3	0	15	18	0	2	0	16	18	0	0	0	0	0	45
12:15 PM	0	0	0	14	14	0	7	0	16	23	1	1	0	13	15	0	3	0	1	4	56
12:30 PM	0	0	0	10	10	0	0	0	10	10	0	0	0	15	15	0	0	0	1	1	36
12:45 PM	0	1	0	6	7	0	1	0	6	7	0	0	0	8	8	0	2	0	0	2	24
Total	0	3	2	35	40	0	11	0	47	58	1	3	0	52	56	0	5	0	2	7	161
04:00 PM	0	0	0	8	8	0	0	0	6	6	0	0	0	10	10	0	0	0	1	1	25
04:15 PM	0	0	0	5	5	0	6	0	7	13	1	0	0	11	12	0	0	0	1	1	31
04:30 PM	0	2	0	3	5	0	7	1	8	16	0	0	0	10	10	0	1	0	1	2	33
04:45 PM	1	7	2	8	18	1	9	2	19	31	0	2	0	10	12	0	0	1	1	2	63
Total	1	9	2	24	36	1	22	3	40	66	1	2	0	41	44	0	1	1	4	6	152
05:00 PM	1	1	0	21	23	0	8	0	22	30	0	0	0	34	34	1	0	0	0	1	88
05:15 PM	0	0	0	41	41	0	2	2	10	14	0	1	0	17	18	0	1	0	0	1	74
05:30 PM	1	2	0	11	14	1	2	2	7	12	0	0	0	12	12	0	3	0	0	3	41
05:45 PM	0	2	0	33	35	0	5	2	6	13	0	0	0	19	19	0	0	0	0	0	67
Total	2	5	0	106	113	1	17	6	45	69	0	1	0	82	83	1	4	0	0	5	270
Grand Total	3	17	4	229	253	5	59	10	190	264	7	17	0	316	340	1	42	2	8	53	910
Apprch %	1.2	6.7	1.6	90.5		1.9	22.3	3.8	72		2.1	5	0	92.9		1.9	79.2	3.8	15.1		
Total %	0.3	1.9	0.4	25.2	27.8	0.5	6.5	1.1	20.9	29	0.8	1.9	0	34.7	37.4	0.1	4.6	0.2	0.9	5.8	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Shamrock
Site Code :
Start Date : 8/31/2021
Page No : 2

Groups Printed- Bikes - Peds

	Shamrock Rd From North					JPA From East					Shamrock Rd From South					JPA From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Bikes	3	17	4	0	24	5	59	10	0	74	7	17	0	0	24	1	42	2	0	45	167
% Bikes	100	100	100	0	9.5	100	100	100	0	28	100	100	0	0	7.1	100	100	100	0	84.9	18.4
Peds	0	0	0	229	229	0	0	0	190	190	0	0	0	316	316	0	0	0	8	8	743
% Peds	0	0	0	100	90.5	0	0	0	100	72	0	0	0	100	92.9	0	0	0	100	15.1	81.6

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 1

Groups Printed- Passenger Veh - Trucks

	Harmon From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
07:00 AM	0	0	1	0	1	0	43	1	0	44	1	0	0	0	1	0	76	0	0	76	122
07:15 AM	1	0	0	0	1	1	49	0	0	50	1	0	0	0	1	0	102	0	0	102	154
07:30 AM	0	0	0	0	0	2	74	0	1	77	0	0	0	0	0	1	122	3	0	126	203
07:45 AM	0	0	2	0	2	0	86	0	1	87	1	0	1	0	2	0	117	4	1	122	213
Total	1	0	3	0	4	3	252	1	2	258	3	0	1	0	4	1	417	7	1	426	692
08:00 AM	1	0	0	0	1	0	68	0	0	68	0	0	0	0	0	0	124	0	0	124	193
08:15 AM	1	0	0	0	1	1	59	0	2	62	0	0	0	0	0	0	116	1	0	117	180
08:30 AM	2	0	0	1	3	0	59	0	0	59	0	0	0	0	0	0	135	1	0	136	198
08:45 AM	1	0	2	0	3	1	49	0	2	52	0	0	1	0	1	0	128	3	2	133	189
Total	5	0	2	1	8	2	235	0	4	241	0	0	1	0	1	0	503	5	2	510	760
*** BREAK ***																					
11:00 AM	1	0	0	0	1	2	89	1	0	92	1	0	0	0	1	1	83	1	0	85	179
11:15 AM	0	0	1	0	1	0	62	0	2	64	0	0	1	0	1	1	70	0	0	71	137
11:30 AM	0	0	0	0	0	0	79	0	3	82	0	0	0	0	0	0	73	2	0	75	157
11:45 AM	2	0	0	0	2	1	75	0	0	76	1	0	0	0	1	0	101	2	0	103	182
Total	3	0	1	0	4	3	305	1	5	314	2	0	1	0	3	2	327	5	0	334	655
12:00 PM	0	0	0	0	0	0	86	0	1	87	0	0	0	0	0	1	106	0	0	107	194
12:15 PM	3	0	1	0	4	0	98	0	1	99	1	0	0	0	1	1	108	3	0	112	216
12:30 PM	3	0	0	0	3	0	81	2	1	84	0	0	0	0	0	0	92	2	0	94	181
12:45 PM	2	0	1	0	3	1	86	0	3	90	0	0	1	0	1	1	113	1	0	115	209
Total	8	0	2	0	10	1	351	2	6	360	1	0	1	0	2	3	419	6	0	428	800
*** BREAK ***																					
04:00 PM	2	0	1	0	3	2	116	0	1	119	2	0	0	0	2	0	75	1	0	76	200
04:15 PM	1	0	0	0	1	0	130	1	0	131	2	0	0	0	2	0	92	0	0	92	226
04:30 PM	4	0	0	0	4	0	128	0	1	129	1	0	1	0	2	2	80	1	0	83	218
04:45 PM	3	0	1	0	4	1	146	0	1	148	2	0	0	0	2	1	74	3	1	79	233
Total	10	0	2	0	12	3	520	1	3	527	7	0	1	0	8	3	321	5	1	330	877
05:00 PM	7	1	2	0	10	1	151	3	3	158	1	0	0	0	1	0	93	1	0	94	263
05:15 PM	2	0	1	0	3	1	142	0	3	146	1	0	0	0	1	0	76	0	0	76	226
05:30 PM	3	0	2	0	5	1	132	0	3	136	4	0	0	0	4	0	71	2	0	73	218
05:45 PM	3	0	1	0	4	1	117	2	0	120	1	0	0	0	1	0	67	1	1	69	194
Total	15	1	6	0	22	4	542	5	9	560	7	0	0	0	7	0	307	4	1	312	901
Grand Total	42	1	16	1	60	16	2205	10	29	2260	20	0	5	0	25	9	2294	32	5	2340	4685
Apprch %	70	1.7	26.7	1.7		0.7	97.6	0.4	1.3		80	0	20	0		0.4	98	1.4	0.2		
Total %	0.9	0	0.3	0	1.3	0.3	47.1	0.2	0.6	48.2	0.4	0	0.1	0	0.5	0.2	49	0.7	0.1	49.9	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 2

Groups Printed- Passenger Veh - Trucks

	Harmon From North					JPA From East					Driveway From South					JPA From West					
	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Passenger Veh	40	1	16	1	58	16	2117	10	29	2172	20	0	5	0	25	9	2219	32	5	2265	4520
% Passenger Veh	95.2	100	100	100	96.7	100	96	100	100	96.1	100	0	100	0	100	100	96.7	100	100	96.8	96.5
Trucks	2	0	0	0	2	0	88	0	0	88	0	0	0	0	0	0	75	0	0	75	165
% Trucks	4.8	0	0	0	3.3	0	4	0	0	3.9	0	0	0	0	0	0	3.3	0	0	3.2	3.5

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 3

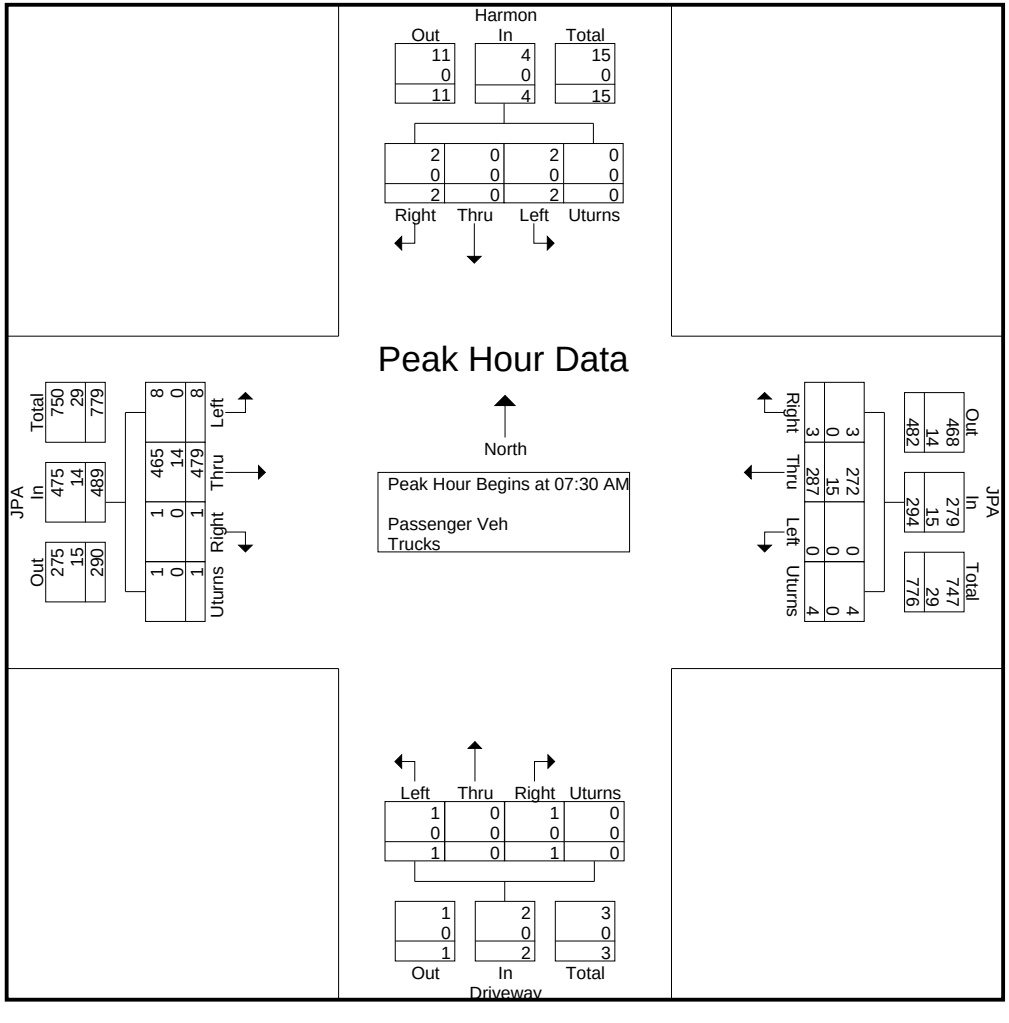
	Harmon From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	**2**	74	0	1	77	0	0	0	0	0	**1**	122	3	0	**126**	203
07:45 AM	0	0	**2**	0	**2**	0	**86**	0	1	**87**	**1**	0	**1**	0	**2**	0	117	**4**	**1**	122	**213**
08:00 AM	**1**	0	0	0	1	0	68	0	0	68	0	0	0	0	0	0	**124**	0	0	124	193
08:15 AM	1	0	0	0	1	1	59	0	**2**	62	0	0	0	0	0	0	116	1	0	117	180
Total Volume	2	0	2	0	4	3	287	0	4	294	1	0	1	0	2	1	479	8	1	489	789
% App. Total	50	0	50	0		1	97.6	0	1.4		50	0	50	0		0.2	98	1.6	0.2		
PHF	.500	.000	.250	.000	.500	.375	.834	.000	.500	.845	.250	.000	.250	.000	.250	.250	.966	.500	.250	.970	.926
Passenger Veh	2	0	2	0	4	3	272	0	4	279	1	0	1	0	2	1	465	8	1	475	760
% Passenger Veh	100	0	100	0	100	100	94.8	0	100	94.9	100	0	100	0	100	100	97.1	100	100	97.1	96.3
Trucks	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	14	0	0	14	29
% Trucks	0	0	0	0	0	0	5.2	0	0	5.1	0	0	0	0	0	0	2.9	0	0	2.9	3.7

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 4



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 5

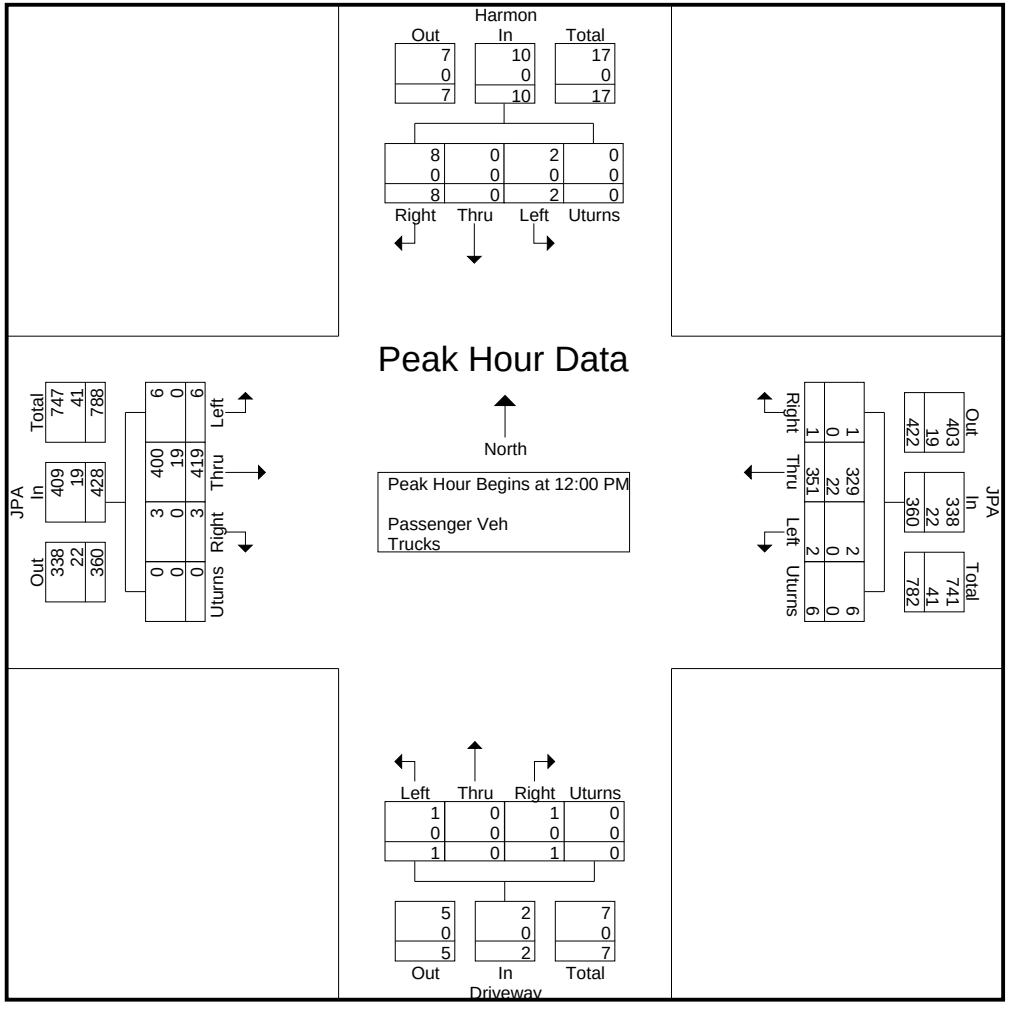
	Harmon From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	0	0	0	0	0	86	0	1	87	0	0	0	0	0	**1**	106	0	0	107	194
12:15 PM	**3**	0	**1**	0	**4**	0	**98**	0	1	**99**	**1**	0	0	0	**1**	1	108	**3**	0	112	**216**
12:30 PM	3	0	0	0	3	0	81	**2**	1	84	0	0	0	0	0	0	92	2	0	94	181
12:45 PM	2	0	1	0	3	**1**	86	0	**3**	90	0	0	**1**	0	1	1	**113**	1	0	**115**	209
Total Volume	8	0	2	0	10	1	351	2	6	360	1	0	1	0	2	3	419	6	0	428	800
% App. Total	80	0	20	0		0.3	97.5	0.6	1.7		50	0	50	0		0.7	97.9	1.4	0		
PHF	.667	.000	.500	.000	.625	.250	.895	.250	.500	.909	.250	.000	.250	.000	.500	.750	.927	.500	.000	.930	.926
Passenger Veh	8	0	2	0	10	1	329	2	6	338	1	0	1	0	2	3	400	6	0	409	759
% Passenger Veh	100	0	100	0	100	100	93.7	100	100	93.9	100	0	100	0	100	100	95.5	100	0	95.6	94.9
Trucks	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	19	0	0	19	41
% Trucks	0	0	0	0	0	0	6.3	0	0	6.1	0	0	0	0	0	0	4.5	0	0	4.4	5.1

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 6



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 7

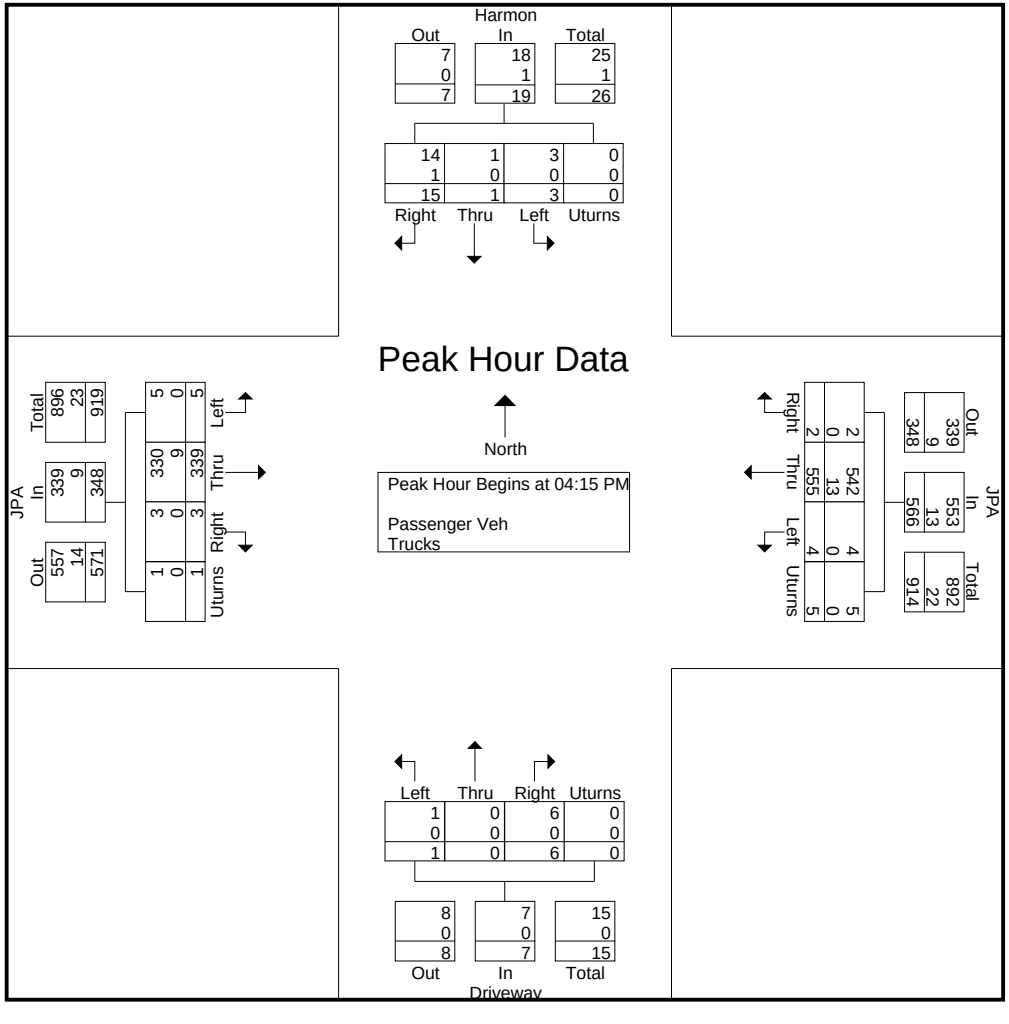
	Harmon From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	1	0	0	0	1	0	130	1	0	131	**2**	0	0	0	**2**	0	92	0	0	92	226
04:30 PM	4	0	0	0	4	0	128	0	1	129	1	0	**1**	0	2	**2**	80	1	0	83	218
04:45 PM	3	0	1	0	4	**1**	146	0	1	148	2	0	0	0	2	1	74	**3**	**1**	79	233
05:00 PM	**7**	**1**	**2**	0	**10**	1	**151**	**3**	**3**	**158**	1	0	0	0	1	0	**93**	1	0	**94**	**263**
Total Volume	15	1	3	0	19	2	555	4	5	566	6	0	1	0	7	3	339	5	1	348	940
% App. Total	78.9	5.3	15.8	0		0.4	98.1	0.7	0.9		85.7	0	14.3	0		0.9	97.4	1.4	0.3		
PHF	.536	.250	.375	.000	.475	.500	.919	.333	.417	.896	.750	.000	.250	.000	.875	.375	.911	.417	.250	.926	.894
Passenger Veh	14	1	3	0	18	2	542	4	5	553	6	0	1	0	7	3	330	5	1	339	917
% Passenger Veh	93.3	100	100	0	94.7	100	97.7	100	100	97.7	100	0	100	0	100	100	97.3	100	100	97.4	97.6
Trucks	1	0	0	0	1	0	13	0	0	13	0	0	0	0	0	0	9	0	0	9	23
% Trucks	6.7	0	0	0	5.3	0	2.3	0	0	2.3	0	0	0	0	0	0	2.7	0	0	2.6	2.4

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 8



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 1

Groups Printed- Bikes - Peds

	Harmon From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	5	5	0	0	0	1	1	0	0	0	4	4	0	2	0	0	2	12
07:15 AM	0	0	0	2	2	0	1	0	1	2	0	0	0	11	11	0	3	0	0	3	18
07:30 AM	0	0	0	8	8	0	1	0	6	7	0	0	0	26	26	0	0	0	0	0	41
07:45 AM	1	0	0	3	4	0	1	0	4	5	0	0	0	15	15	0	8	0	0	8	32
Total	1	0	0	18	19	0	3	0	12	15	0	0	0	56	56	0	13	0	0	13	103
08:00 AM	0	0	0	3	3	0	0	0	3	3	1	0	0	4	5	0	7	0	0	7	18
08:15 AM	0	0	0	5	5	0	0	0	3	3	0	0	0	12	12	0	2	0	0	2	22
08:30 AM	0	0	0	4	4	0	1	0	3	4	0	0	0	14	14	0	5	0	0	5	27
08:45 AM	0	0	0	7	7	0	1	0	3	4	0	0	0	12	12	0	9	0	0	9	32
Total	0	0	0	19	19	0	2	0	12	14	1	0	0	42	43	0	23	0	0	23	99
*** BREAK ***																					
11:00 AM	0	0	0	3	3	0	1	0	3	4	0	0	0	3	3	0	0	0	0	0	10
11:15 AM	0	0	0	5	5	0	0	0	2	2	0	0	0	1	1	0	2	0	0	2	10
11:30 AM	0	0	0	2	2	0	1	0	3	4	0	0	0	6	6	0	1	0	0	1	13
11:45 AM	0	0	0	2	2	0	1	0	3	4	0	0	0	4	4	0	1	0	0	1	11
Total	0	0	0	12	12	0	3	0	11	14	0	0	0	14	14	0	4	0	0	4	44
12:00 PM	0	0	0	3	3	0	2	0	3	5	0	0	0	8	8	0	1	0	0	1	17
12:15 PM	0	0	0	3	3	1	3	0	7	11	0	0	0	1	1	0	2	0	0	2	17
12:30 PM	0	0	0	4	4	0	0	0	9	9	0	0	0	4	4	0	0	0	0	0	17
12:45 PM	0	0	0	4	4	0	1	0	3	4	0	0	0	1	1	0	2	0	0	2	11
Total	0	0	0	14	14	1	6	0	22	29	0	0	0	14	14	0	5	0	0	5	62
*** BREAK ***																					
04:00 PM	0	0	0	4	4	0	0	0	6	6	0	0	0	7	7	0	0	0	0	0	17
04:15 PM	0	0	0	3	3	0	5	0	2	7	0	0	0	3	3	0	1	0	0	1	14
04:30 PM	0	0	0	4	4	0	8	0	9	17	0	0	0	5	5	0	1	0	0	1	27
04:45 PM	1	0	0	1	2	0	7	0	5	12	0	0	0	3	3	0	0	1	0	1	18
Total	1	0	0	12	13	0	20	0	22	42	0	0	0	18	18	0	2	1	0	3	76
05:00 PM	0	0	0	2	2	1	7	0	10	18	0	0	0	19	19	0	2	0	0	2	41
05:15 PM	1	0	0	34	35	0	4	0	6	10	0	0	0	13	13	0	1	0	0	1	59
05:30 PM	0	0	0	6	6	0	3	0	0	3	0	0	0	7	7	0	3	0	0	3	19
05:45 PM	1	0	0	26	27	0	6	0	2	8	0	0	0	6	6	0	0	0	0	0	41
Total	2	0	0	68	70	1	20	0	18	39	0	0	0	45	45	0	6	0	0	6	160
Grand Total	4	0	0	143	147	2	54	0	97	153	1	0	0	189	190	0	53	1	0	54	544
Apprch %	2.7	0	0	97.3		1.3	35.3	0	63.4		0.5	0	0	99.5		0	98.1	1.9	0		
Total %	0.7	0	0	26.3	27	0.4	9.9	0	17.8	28.1	0.2	0	0	34.7	34.9	0	9.7	0.2	0	9.9	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Harmon
Site Code : 00000115
Start Date : 8/31/2021
Page No : 2

Groups Printed- Bikes - Peds

	Harmon From North					JPA From East					Driveway From South					JPA From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Bikes	4	0	0	0	4	2	54	0	0	56	1	0	0	0	1	0	53	1	0	54	115
% Bikes	100	0	0	0	2.7	100	100	0	0	36.6	100	0	0	0	0.5	0	100	100	0	100	21.1
Peds	0	0	0	143	143	0	0	0	97	97	0	0	0	189	189	0	0	0	0	0	429
% Peds	0	0	0	100	97.3	0	0	0	100	63.4	0	0	0	100	99.5	0	0	0	0	0	78.9

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 1

Groups Printed- Passenger Veh - Trucks

	Washington Ave From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	41	0	0	41	1	0	0	0	1	0	72	0	0	72	114
07:15 AM	1	0	1	0	2	0	50	0	0	50	0	0	0	0	0	0	107	1	0	108	160
07:30 AM	0	0	0	0	0	1	76	0	0	77	0	0	0	0	0	0	120	1	0	121	198
07:45 AM	0	0	0	0	0	1	89	0	0	90	0	0	0	0	0	0	126	0	1	127	217
Total	1	0	1	0	2	2	256	0	0	258	1	0	0	0	1	0	425	2	1	428	689
08:00 AM	0	0	0	0	0	0	69	0	0	69	1	0	0	0	1	0	118	1	0	119	189
08:15 AM	0	0	0	0	0	0	57	2	0	59	0	0	0	0	0	0	119	1	0	120	179
08:30 AM	0	0	0	0	0	1	59	1	0	61	1	0	1	0	2	1	136	0	1	138	201
08:45 AM	2	0	0	0	2	0	55	0	0	55	0	0	0	0	0	0	131	0	0	131	188
Total	2	0	0	0	2	1	240	3	0	244	2	0	1	0	3	1	504	2	1	508	757
09:00 AM	0	0	0	0	0	0	56	0	0	56	1	0	0	0	1	0	133	2	0	135	192
09:15 AM	1	0	2	0	3	1	59	1	0	61	2	0	0	0	2	0	119	2	0	121	187
09:30 AM	3	0	0	0	3	0	53	0	1	54	0	0	0	0	0	0	111	3	0	114	171
09:45 AM	2	0	0	0	2	2	58	0	0	60	1	0	0	0	1	0	109	2	0	111	174
Total	6	0	2	0	8	3	226	1	1	231	4	0	0	0	4	0	472	9	0	481	724
10:00 AM	1	0	1	0	2	1	76	0	0	77	1	0	1	0	2	0	98	1	0	99	180
10:15 AM	1	0	1	0	2	1	57	0	0	58	1	0	0	0	1	1	120	1	0	122	183
10:30 AM	1	0	1	0	2	0	59	1	1	61	0	0	0	0	0	0	104	0	0	104	167
10:45 AM	0	0	0	0	0	0	64	0	0	64	0	0	0	0	0	2	112	1	0	115	179
Total	3	0	3	0	6	2	256	1	1	260	2	0	1	0	3	3	434	3	0	440	709
11:00 AM	0	0	0	0	0	0	90	0	0	90	3	0	0	0	3	0	81	2	0	83	176
11:15 AM	2	0	0	0	2	0	61	0	0	61	0	0	0	0	0	0	72	0	0	72	135
11:30 AM	0	0	0	0	0	1	82	0	0	83	0	0	0	0	0	0	78	0	0	78	161
11:45 AM	1	1	0	0	2	0	77	0	0	77	1	0	0	0	1	0	103	1	0	104	184
Total	3	1	0	0	4	1	310	0	0	311	4	0	0	0	4	0	334	3	0	337	656
12:00 PM	3	0	1	0	4	1	90	0	0	91	0	0	0	0	0	0	110	1	0	111	206
12:15 PM	1	1	1	0	3	3	97	0	0	100	0	0	0	0	0	0	108	0	2	110	213
12:30 PM	2	0	1	0	3	0	82	0	0	82	1	0	0	0	1	0	92	0	0	92	178
12:45 PM	1	0	1	0	2	1	91	1	0	93	2	0	0	0	2	0	115	0	0	115	212
Total	7	1	4	0	12	5	360	1	0	366	3	0	0	0	3	0	425	1	2	428	809
01:00 PM	1	0	2	0	3	0	82	1	0	83	0	0	0	0	0	0	96	1	0	97	183
01:15 PM	1	0	0	0	1	2	82	0	0	84	0	0	0	0	0	0	93	1	0	94	179
01:30 PM	1	0	0	0	1	0	95	1	0	96	0	0	1	0	1	0	82	2	0	84	182

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 2

Groups Printed- Passenger Veh - Trucks

	Washington Ave From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
01:45 PM	0	0	1	0	1	0	91	1	0	92	0	0	0	0	0	0	99	1	0	100	193
Total	3	0	3	0	6	2	350	3	0	355	0	0	1	0	1	0	370	5	0	375	737
02:00 PM	0	0	1	0	1	1	110	0	1	112	1	0	0	0	1	0	86	0	0	86	200
02:15 PM	2	0	3	0	5	3	96	0	0	99	0	0	0	0	0	0	72	1	0	73	177
02:30 PM	0	0	1	0	1	1	92	2	0	95	0	0	1	0	1	0	88	0	0	88	185
02:45 PM	1	0	1	0	2	1	92	0	1	94	3	0	0	0	3	0	101	0	0	101	200
Total	3	0	6	0	9	6	390	2	2	400	4	0	1	0	5	0	347	1	0	348	762
03:00 PM	1	0	0	0	1	0	91	0	1	92	1	0	0	0	1	0	103	0	0	103	197
03:15 PM	0	0	1	0	1	1	112	0	1	114	1	0	0	0	1	1	88	0	0	89	205
03:30 PM	4	0	1	0	5	1	150	0	2	153	1	0	0	0	1	0	80	1	0	81	240
03:45 PM	0	1	2	0	3	1	111	0	2	114	0	0	0	0	0	0	79	1	0	80	197
Total	5	1	4	0	10	3	464	0	6	473	3	0	0	0	3	1	350	2	0	353	839
04:00 PM	2	0	0	0	2	2	112	0	0	114	0	0	0	0	0	0	79	0	0	79	195
04:15 PM	1	0	1	0	2	1	132	0	0	133	1	0	0	0	1	1	93	1	1	96	232
04:30 PM	3	0	0	0	3	0	132	0	0	132	1	0	0	0	1	0	82	2	1	85	221
04:45 PM	1	0	0	0	1	1	152	1	0	154	0	0	0	0	0	0	76	0	0	76	231
Total	7	0	1	0	8	4	528	1	0	533	2	0	0	0	2	1	330	3	2	336	879
05:00 PM	2	0	4	0	6	0	157	0	0	157	0	0	0	0	0	1	92	0	1	94	257
05:15 PM	2	0	0	0	2	1	140	1	0	142	1	0	0	0	1	0	81	0	0	81	226
05:30 PM	2	0	3	0	5	0	141	0	0	141	0	0	0	0	0	0	68	7	0	75	221
05:45 PM	2	0	0	0	2	1	124	0	0	125	0	0	1	0	1	1	69	2	3	75	203
Total	8	0	7	0	15	2	562	1	0	565	1	0	1	0	2	2	310	9	4	325	907
06:00 PM	0	0	1	0	1	1	96	0	0	97	0	0	0	0	0	0	84	2	2	88	186
06:15 PM	2	0	0	0	2	1	124	2	0	127	1	0	1	0	2	0	90	1	1	92	223
06:30 PM	1	0	1	0	2	0	95	0	1	96	0	0	0	0	0	0	109	0	1	110	208
06:45 PM	4	0	2	0	6	1	79	0	0	80	2	1	0	0	3	0	72	1	2	75	164
Total	7	0	4	0	11	3	394	2	1	400	3	1	1	0	5	0	355	4	6	365	781
Grand Total	55	3	35	0	93	34	4336	15	11	4396	29	1	6	0	36	8	4656	44	16	4724	9249
Apprch %	59.1	3.2	37.6	0		0.8	98.6	0.3	0.3		80.6	2.8	16.7	0		0.2	98.6	0.9	0.3		
Total %	0.6	0	0.4	0	1	0.4	46.9	0.2	0.1	47.5	0.3	0	0.1	0	0.4	0.1	50.3	0.5	0.2	51.1	
Passenger Veh	53	3	35	0	91	30	4171	15	10	4226	27	1	6	0	34	7	4487	43	15	4552	8903
% Passenger Veh	96.4	100	100	0	97.8	88.2	96.2	100	90.9	96.1	93.1	100	100	0	94.4	87.5	96.4	97.7	93.8	96.4	96.3
Trucks	2	0	0	0	2	4	165	0	1	170	2	0	0	0	2	1	169	1	1	172	346
% Trucks	3.6	0	0	0	2.2	11.8	3.8	0	9.1	3.9	6.9	0	0	0	5.6	12.5	3.6	2.3	6.2	3.6	3.7

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 3

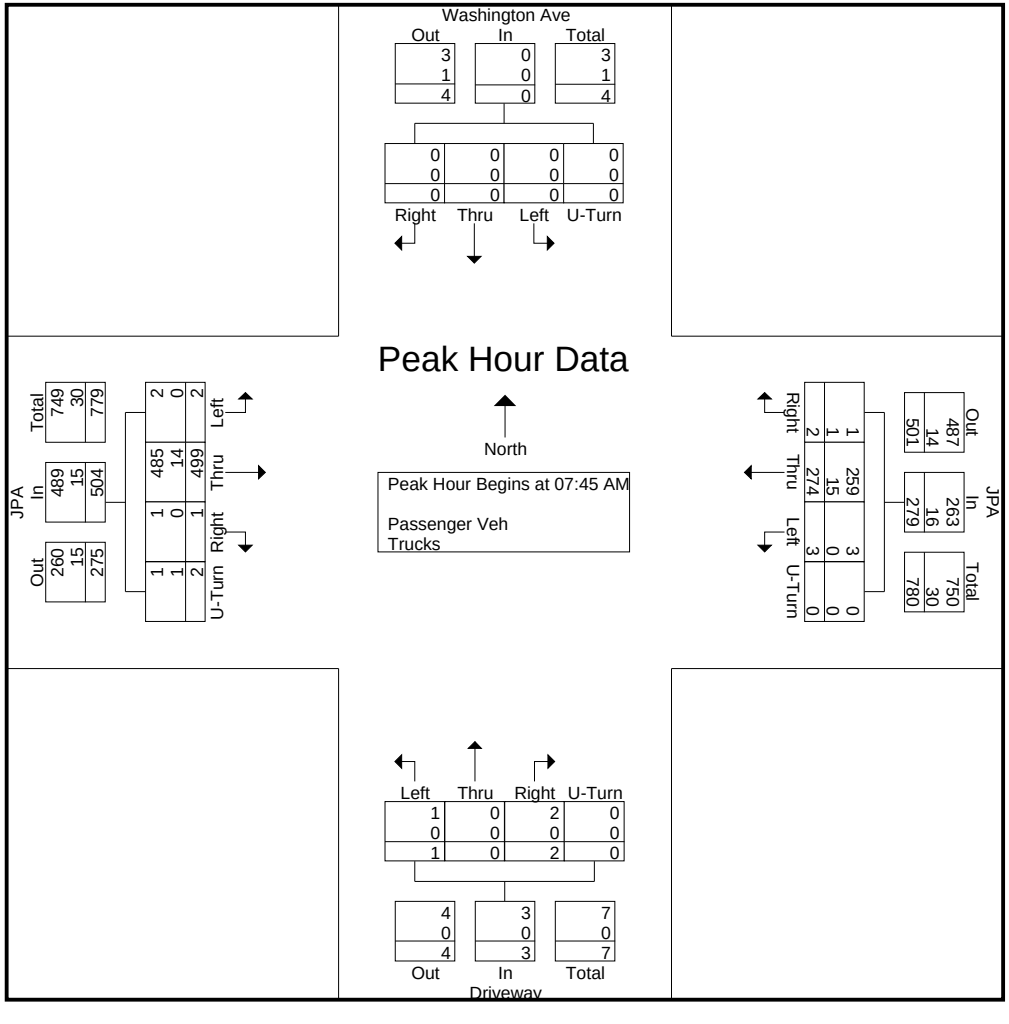
	Washington Ave From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	**1**	**89**	0	0	**90**	0	0	0	0	0	0	126	0	**1**	127	**217**
08:00 AM	0	0	0	0	0	0	69	0	0	69	**1**	0	0	0	1	0	118	**1**	0	119	189
08:15 AM	0	0	0	0	0	0	57	**2**	0	59	0	0	0	0	0	0	119	1	0	120	179
08:30 AM	0	0	0	0	0	1	59	1	0	61	1	0	**1**	0	**2**	**1**	**136**	0	1	**138**	201
Total Volume	0	0	0	0	0	2	274	3	0	279	2	0	1	0	3	1	499	2	2	504	786
% App. Total	0	0	0	0		0.7	98.2	1.1	0		66.7	0	33.3	0		0.2	99	0.4	0.4		
PHF	.000	.000	.000	.000	.000	.500	.770	.375	.000	.775	.500	.000	.250	.000	.375	.250	.917	.500	.500	.913	.906
Passenger Veh	0	0	0	0	0	1	259	3	0	263	2	0	1	0	3	1	485	2	1	489	755
% Passenger Veh	0	0	0	0	0	50.0	94.5	100	0	94.3	100	0	100	0	100	100	97.2	100	50.0	97.0	96.1
Trucks	0	0	0	0	0	1	15	0	0	16	0	0	0	0	0	0	14	0	1	15	31
% Trucks	0	0	0	0	0	50.0	5.5	0	0	5.7	0	0	0	0	0	0	2.8	0	50.0	3.0	3.9

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 4



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 5

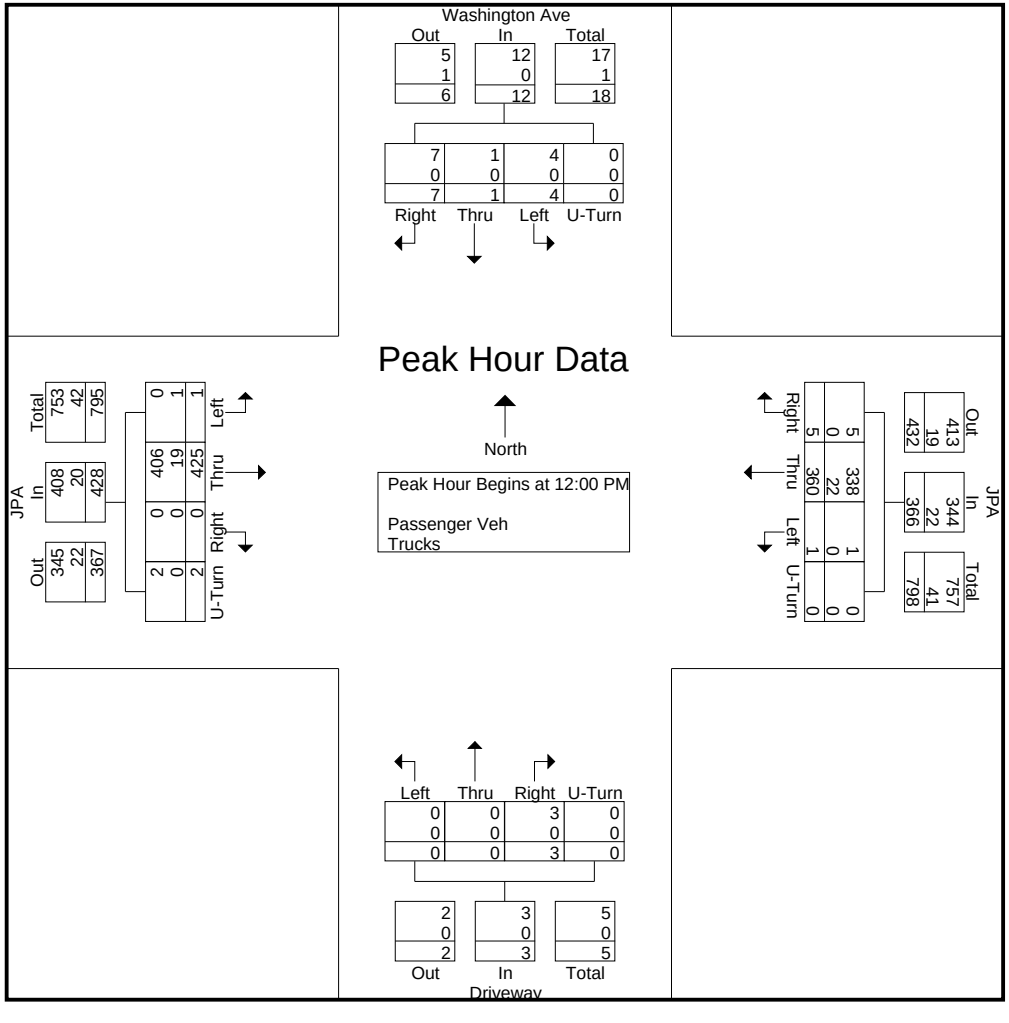
	Washington Ave From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	**3**	0	**1**	0	**4**	1	90	0	0	91	0	0	0	0	0	0	110	**1**	0	111	206
12:15 PM	1	**1**	1	0	3	**3**	**97**	0	0	**100**	0	0	0	0	0	0	108	0	**2**	110	**213**
12:30 PM	2	0	1	0	3	0	82	0	0	82	1	0	0	0	1	0	92	0	0	92	178
12:45 PM	1	0	1	0	2	1	91	**1**	0	93	**2**	0	0	0	**2**	0	**115**	0	0	**115**	212
Total Volume	7	1	4	0	12	5	360	1	0	366	3	0	0	0	3	0	425	1	2	428	809
% App. Total	58.3	8.3	33.3	0		1.4	98.4	0.3	0		100	0	0	0		0	99.3	0.2	0.5		
PHF	.583	.250	1.00	.000	.750	.417	.928	.250	.000	.915	.375	.000	.000	.000	.375	.000	.924	.250	.250	.930	.950
Passenger Veh	7	1	4	0	12	5	338	1	0	344	3	0	0	0	3	0	406	0	2	408	767
% Passenger Veh	100	100	100	0	100	100	93.9	100	0	94.0	100	0	0	0	100	0	95.5	0	100	95.3	94.8
Trucks	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	19	1	0	20	42
% Trucks	0	0	0	0	0	0	6.1	0	0	6.0	0	0	0	0	0	0	4.5	100	0	4.7	5.2

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 6



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 7

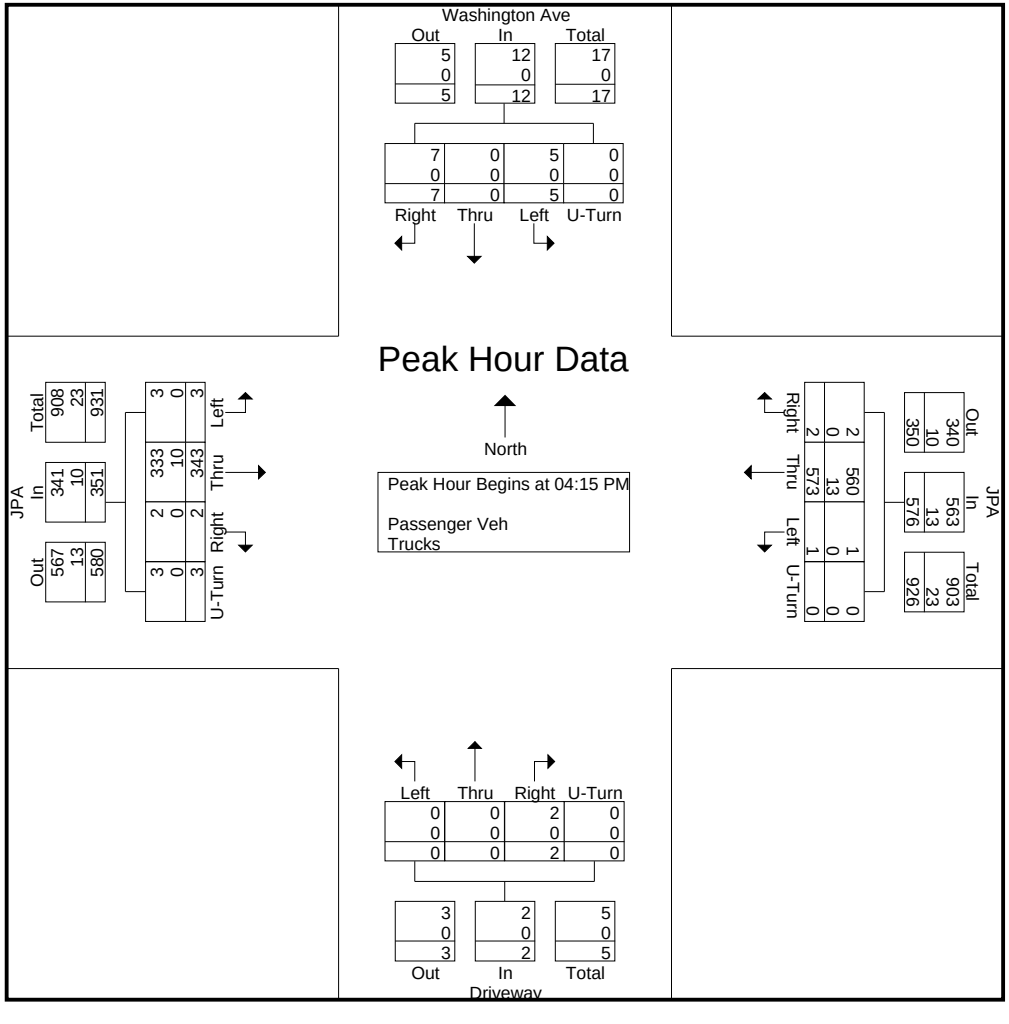
	Washington Ave From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	1	0	1	0	2	**1**	132	0	0	133	**1**	0	0	0	**1**	**1**	**93**	1	**1**	**96**	232
04:30 PM	**3**	0	0	0	3	0	132	0	0	132	1	0	0	0	1	0	82	**2**	1	85	221
04:45 PM	1	0	0	0	1	1	152	**1**	0	154	0	0	0	0	0	0	76	0	0	76	231
05:00 PM	2	0	**4**	0	**6**	0	**157**	0	0	**157**	0	0	0	0	0	1	92	0	1	94	**257**
Total Volume	7	0	5	0	12	2	573	1	0	576	2	0	0	0	2	2	343	3	3	351	941
% App. Total	58.3	0	41.7	0		0.3	99.5	0.2	0		100	0	0	0		0.6	97.7	0.9	0.9		
PHF	.583	.000	.313	.000	.500	.500	.912	.250	.000	.917	.500	.000	.000	.000	.500	.500	.922	.375	.750	.914	.915
Passenger Veh	7	0	5	0	12	2	560	1	0	563	2	0	0	0	2	2	333	3	3	341	918
% Passenger Veh	100	0	100	0	100	100	97.7	100	0	97.7	100	0	0	0	100	100	97.1	100	100	97.2	97.6
Trucks	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	10	0	0	10	23
% Trucks	0	0	0	0	0	0	2.3	0	0	2.3	0	0	0	0	0	0	2.9	0	0	2.8	2.4

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 8



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 1

Groups Printed- Bikes - Peds

	Washington Ave From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	5	5	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2	8
07:15 AM	0	0	0	2	2	0	1	0	0	1	0	0	0	7	7	0	3	0	0	3	13
07:30 AM	0	0	0	9	9	0	2	0	0	2	0	0	0	18	18	0	0	0	0	0	29
07:45 AM	0	0	0	4	4	0	2	0	0	2	0	0	0	10	10	0	9	0	0	9	25
Total	0	0	0	20	20	0	5	0	0	5	0	0	0	36	36	0	14	0	0	14	75
08:00 AM	0	0	0	9	9	0	0	0	1	1	0	0	0	3	3	0	7	0	1	8	21
08:15 AM	0	0	0	4	4	0	0	0	1	1	0	0	0	12	12	0	2	0	1	3	20
08:30 AM	0	0	0	4	4	0	0	0	2	2	0	0	0	7	7	0	6	0	2	8	21
08:45 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	9	9	0	8	0	0	8	20
Total	0	0	0	20	20	0	0	0	4	4	0	0	0	31	31	0	23	0	4	27	82
09:00 AM	0	0	0	16	16	0	0	0	1	1	0	0	0	32	32	0	8	1	0	9	58
09:15 AM	0	0	0	10	10	0	2	0	0	2	0	1	0	11	12	0	11	0	0	11	35
09:30 AM	0	0	0	5	5	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	8
09:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	4	4	0	4	0	0	4	9
Total	0	0	0	32	32	0	2	0	1	3	0	1	0	49	50	0	23	1	1	25	110
10:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	6	6	0	3	0	0	3	10
10:15 AM	0	0	0	3	3	0	0	0	1	1	0	0	0	9	9	0	4	0	0	4	17
10:30 AM	0	0	0	9	9	0	1	0	0	1	0	0	0	12	12	0	4	0	0	4	26
10:45 AM	0	0	2	5	7	0	3	0	0	3	0	0	0	6	6	0	8	0	0	8	24
Total	0	0	2	18	20	0	4	0	1	5	0	0	0	33	33	0	19	0	0	19	77
11:00 AM	0	0	0	3	3	0	1	0	1	2	0	0	0	3	3	0	2	0	0	2	10
11:15 AM	0	0	0	5	5	0	0	0	0	0	0	1	0	4	5	0	2	0	0	2	12
11:30 AM	0	0	0	3	3	0	1	0	0	1	0	0	0	4	4	0	1	0	0	1	9
11:45 AM	0	0	0	1	1	0	1	0	1	2	0	0	0	2	2	0	1	0	0	1	6
Total	0	0	0	12	12	0	3	0	2	5	0	1	0	13	14	0	6	0	0	6	37
12:00 PM	0	0	0	6	6	0	2	0	0	2	0	0	0	10	10	0	1	0	0	1	19
12:15 PM	0	0	0	6	6	0	4	0	0	4	0	0	0	9	9	0	2	0	0	2	21
12:30 PM	0	0	0	6	6	0	0	0	1	1	0	0	0	8	8	0	0	0	0	0	15
12:45 PM	0	0	0	6	6	0	1	0	0	1	0	1	0	3	4	0	2	0	0	2	13
Total	0	0	0	24	24	0	7	0	1	8	0	1	0	30	31	0	5	0	0	5	68
01:00 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	3	3	0	1	0	0	1	7
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0	0	0	0	0	9
01:30 PM	0	0	0	3	3	0	2	0	2	4	0	0	0	11	11	0	2	0	0	2	20

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Washington
Site Code :
Start Date : 8/31/2021
Page No : 2

Groups Printed- Bikes - Peds

	Washington Ave From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
01:45 PM	0	0	1	6	7	0	6	0	0	6	0	0	0	4	4	0	3	0	0	3	20
Total	0	0	1	12	13	0	8	0	2	10	0	0	0	27	27	0	6	0	0	6	56
02:00 PM	0	0	0	8	8	0	5	0	0	5	0	0	0	5	5	0	0	0	0	0	18
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	5
02:30 PM	0	0	0	3	3	0	3	0	0	3	0	0	0	3	3	0	0	0	1	1	10
02:45 PM	0	1	0	2	3	0	2	0	0	2	0	0	0	6	6	0	2	0	0	2	13
Total	0	1	0	13	14	0	10	0	0	10	0	0	0	19	19	0	2	0	1	3	46
03:00 PM	0	0	0	5	5	0	2	0	0	2	0	0	0	9	9	0	1	0	1	2	18
03:15 PM	0	0	0	6	6	0	3	1	2	6	0	0	0	18	18	0	2	0	0	2	32
03:30 PM	0	0	0	8	8	0	2	0	0	2	0	0	0	11	11	0	0	0	1	1	22
03:45 PM	0	0	0	6	6	0	2	0	1	3	0	0	0	5	5	0	0	0	3	3	17
Total	0	0	0	25	25	0	9	1	3	13	0	0	0	43	43	0	3	0	5	8	89
04:00 PM	0	0	0	6	6	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	8
04:15 PM	0	0	0	5	5	0	7	0	0	7	0	0	0	12	12	1	1	0	0	2	26
04:30 PM	0	0	0	9	9	0	7	0	0	7	0	0	0	9	9	0	1	0	0	1	26
04:45 PM	0	0	0	5	5	0	9	0	2	11	0	0	0	12	12	0	0	0	2	2	30
Total	0	0	0	25	25	0	23	0	2	25	0	0	0	34	34	1	2	0	3	6	90
05:00 PM	0	0	0	14	14	0	8	0	0	8	0	0	0	21	21	0	2	0	1	3	46
05:15 PM	0	0	0	38	38	0	5	0	0	5	0	0	0	20	20	0	1	0	0	1	64
05:30 PM	0	0	0	9	9	0	3	0	0	3	0	0	0	9	9	0	3	1	1	5	26
05:45 PM	0	0	0	31	31	0	6	0	0	6	0	0	0	14	14	0	0	1	0	1	52
Total	0	0	0	92	92	0	22	0	0	22	0	0	0	64	64	0	6	2	2	10	188
06:00 PM	0	0	0	4	4	0	4	0	0	4	0	0	0	11	11	0	0	0	0	0	19
06:15 PM	0	1	0	11	12	0	3	0	0	3	0	0	0	17	17	0	1	0	1	2	34
06:30 PM	0	0	0	11	11	1	5	0	0	6	0	0	0	8	8	0	2	0	0	2	27
06:45 PM	0	0	0	11	11	0	3	0	2	5	0	0	0	7	7	0	1	0	1	2	25
Total	0	1	0	37	38	1	15	0	2	18	0	0	0	43	43	0	4	0	2	6	105
Grand Total	0	2	3	330	335	1	108	1	18	128	0	3	0	422	425	1	113	3	18	135	1023
Apprch %	0	0.6	0.9	98.5		0.8	84.4	0.8	14.1		0	0.7	0	99.3		0.7	83.7	2.2	13.3		
Total %	0	0.2	0.3	32.3	32.7	0.1	10.6	0.1	1.8	12.5	0	0.3	0	41.3	41.5	0.1	11	0.3	1.8	13.2	
Bikes	0	2	3	0	5	1	108	1	0	110	0	3	0	0	3	1	113	3	0	117	235
% Bikes	0	100	100	0	1.5	100	100	100	0	85.9	0	100	0	0	0.7	100	100	100	0	86.7	23
Peds	0	0	0	330	330	0	0	0	18	18	0	0	0	422	422	0	0	0	18	18	788
% Peds	0	0	0	100	98.5	0	0	0	100	14.1	0	0	0	100	99.3	0	0	0	100	13.3	77

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 1

Groups Printed- Passenger Veh - Trucks

	Observatory From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	42	0	0	42	0	0	0	0	0	0	86	0	0	86	128
07:15 AM	0	0	0	0	0	0	59	0	0	59	1	0	0	0	1	1	102	0	0	103	163
07:30 AM	1	0	0	0	1	0	81	0	0	81	0	0	1	0	1	0	131	0	4	135	218
07:45 AM	0	0	0	2	2	0	80	1	0	81	0	0	0	0	0	0	140	0	0	140	223
Total	1	0	0	2	3	0	262	1	0	263	1	0	1	0	2	1	459	0	4	464	732
08:00 AM	1	0	0	0	1	1	66	1	0	68	1	0	0	0	1	0	117	0	0	117	187
08:15 AM	1	0	0	0	1	0	51	0	2	53	3	0	0	0	3	0	114	0	2	116	173
08:30 AM	3	0	0	0	3	0	55	0	0	55	1	0	0	0	1	0	132	0	0	132	191
08:45 AM	2	0	0	0	2	2	52	1	1	56	0	0	0	0	0	2	131	2	2	137	195
Total	7	0	0	0	7	3	224	2	3	232	5	0	0	0	5	2	494	2	4	502	746
*** BREAK ***																					
11:00 AM	0	0	1	0	1	1	92	0	0	93	4	0	0	0	4	1	76	1	0	78	176
11:15 AM	0	0	1	0	1	1	64	0	0	65	2	0	0	0	2	0	74	0	0	74	142
11:30 AM	0	0	0	0	0	0	85	0	0	85	3	0	1	0	4	2	77	0	0	79	168
11:45 AM	0	0	0	0	0	0	79	1	0	80	1	0	0	0	1	1	115	0	1	117	198
Total	0	0	2	0	2	2	320	1	0	323	10	0	1	0	11	4	342	1	1	348	684
12:00 PM	0	0	0	0	0	3	102	0	1	106	1	0	0	0	1	0	104	1	0	105	212
12:15 PM	1	0	0	0	1	3	98	0	0	101	0	0	0	0	0	1	107	0	1	109	211
12:30 PM	0	0	0	0	0	0	81	0	0	81	1	0	0	0	1	1	101	0	0	102	184
12:45 PM	0	0	0	0	0	0	96	2	0	98	1	0	2	0	3	1	114	0	1	116	217
Total	1	0	0	0	1	6	377	2	1	386	3	0	2	0	5	3	426	1	2	432	824
*** BREAK ***																					
04:00 PM	1	0	0	0	1	1	119	0	1	121	0	0	0	0	0	0	73	2	0	75	197
04:15 PM	2	0	1	0	3	1	139	0	0	140	1	0	2	0	3	0	89	1	0	90	236
04:30 PM	1	0	0	0	1	1	132	1	1	135	0	0	0	0	0	0	91	0	0	91	227
04:45 PM	3	0	3	0	6	1	147	0	0	148	1	0	0	0	1	1	70	0	1	72	227
Total	7	0	4	0	11	4	537	1	2	544	2	0	2	0	4	1	323	3	1	328	887
05:00 PM	3	0	0	0	3	1	175	1	1	178	1	0	0	0	1	0	90	0	1	91	273
05:15 PM	1	0	2	0	3	1	133	2	0	136	2	0	1	0	3	1	84	1	2	88	230
05:30 PM	0	1	1	0	2	2	154	1	0	157	2	0	3	0	5	1	67	1	3	72	236
05:45 PM	2	0	2	0	4	4	127	0	1	132	0	0	0	0	0	0	72	3	1	76	212
Total	6	1	5	0	12	8	589	4	2	603	5	0	4	0	9	2	313	5	7	327	951
Grand Total	22	1	11	2	36	23	2309	11	8	2351	26	0	10	0	36	13	2357	12	19	2401	4824
Apprch %	61.1	2.8	30.6	5.6		1	98.2	0.5	0.3		72.2	0	27.8	0		0.5	98.2	0.5	0.8		
Total %	0.5	0	0.2	0	0.7	0.5	47.9	0.2	0.2	48.7	0.5	0	0.2	0	0.7	0.3	48.9	0.2	0.4	49.8	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 2

Groups Printed- Passenger Veh - Trucks

	Observatory From North					JPA From East					Driveway From South					JPA From West					
	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Passenger Veh	21	1	11	2	35	22	2250	10	8	2290	25	0	10	0	35	13	2295	12	19	2339	4699
% Passenger Veh	95.5	100	100	100	97.2	95.7	97.4	90.9	100	97.4	96.2	0	100	0	97.2	100	97.4	100	100	97.4	97.4
Trucks	1	0	0	0	1	1	59	1	0	61	1	0	0	0	1	0	62	0	0	62	125
% Trucks	4.5	0	0	0	2.8	4.3	2.6	9.1	0	2.6	3.8	0	0	0	2.8	0	2.6	0	0	2.6	2.6

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 3

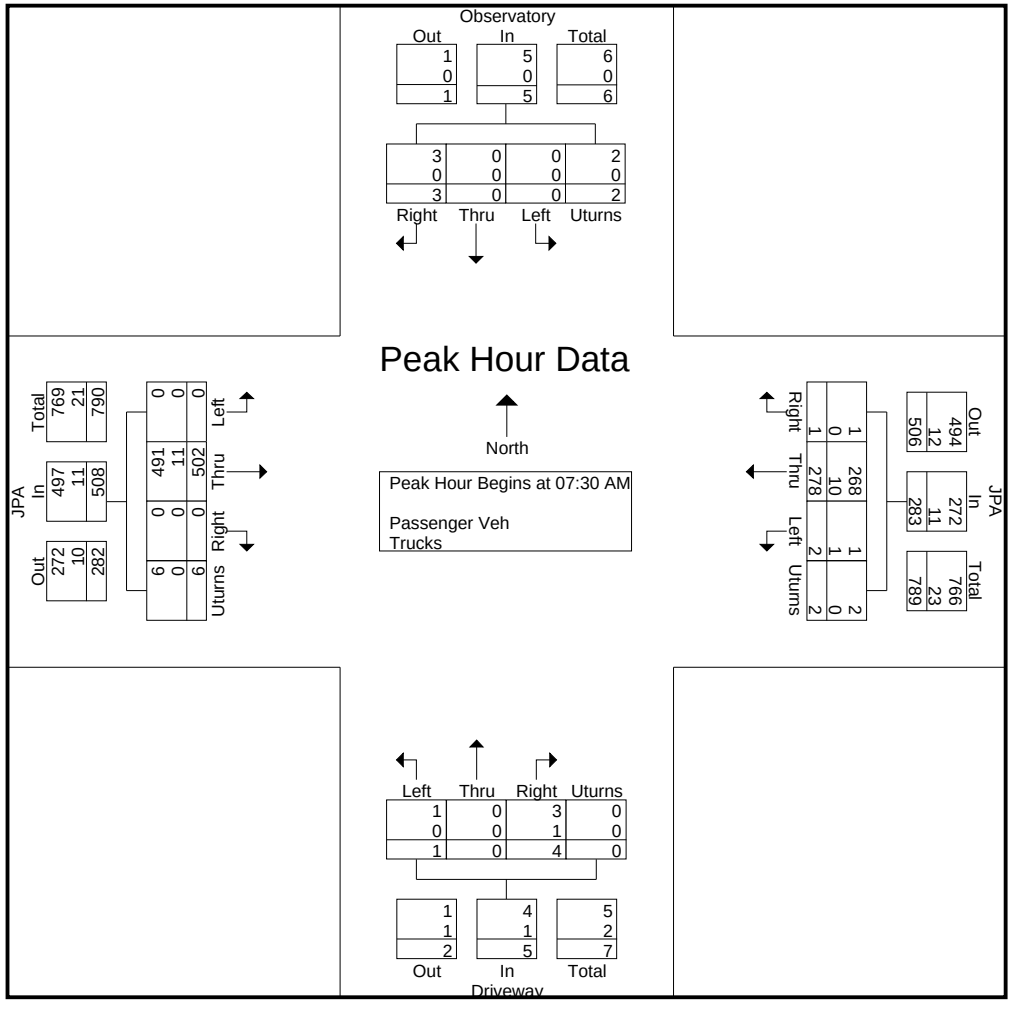
	Observatory From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**1**	0	0	0	1	0	**81**	0	0	**81**	0	0	**1**	0	1	0	131	0	**4**	135	218
07:45 AM	0	0	0	**2**	**2**	0	80	**1**	0	81	0	0	0	0	0	0	**140**	0	0	**140**	**223**
08:00 AM	1	0	0	0	1	**1**	66	1	0	68	1	0	0	0	1	0	117	0	0	117	187
08:15 AM	1	0	0	0	1	0	51	0	**2**	53	**3**	0	0	0	**3**	0	114	0	2	116	173
Total Volume	3	0	0	2	5	1	278	2	2	283	4	0	1	0	5	0	502	0	6	508	801
% App. Total	60	0	0	40		0.4	98.2	0.7	0.7		80	0	20	0		0	98.8	0	1.2		
PHF	.750	.000	.000	.250	.625	.250	.858	.500	.250	.873	.333	.000	.250	.000	.417	.000	.896	.000	.375	.907	.898
Passenger Veh	3	0	0	2	5	1	268	1	2	272	3	0	1	0	4	0	491	0	6	497	778
% Passenger Veh	100	0	0	100	100	100	96.4	50.0	100	96.1	75.0	0	100	0	80.0	0	97.8	0	100	97.8	97.1
Trucks	0	0	0	0	0	0	10	1	0	11	1	0	0	0	1	0	11	0	0	11	23
% Trucks	0	0	0	0	0	0	3.6	50.0	0	3.9	25.0	0	0	0	20.0	0	2.2	0	0	2.2	2.9

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 4



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 5

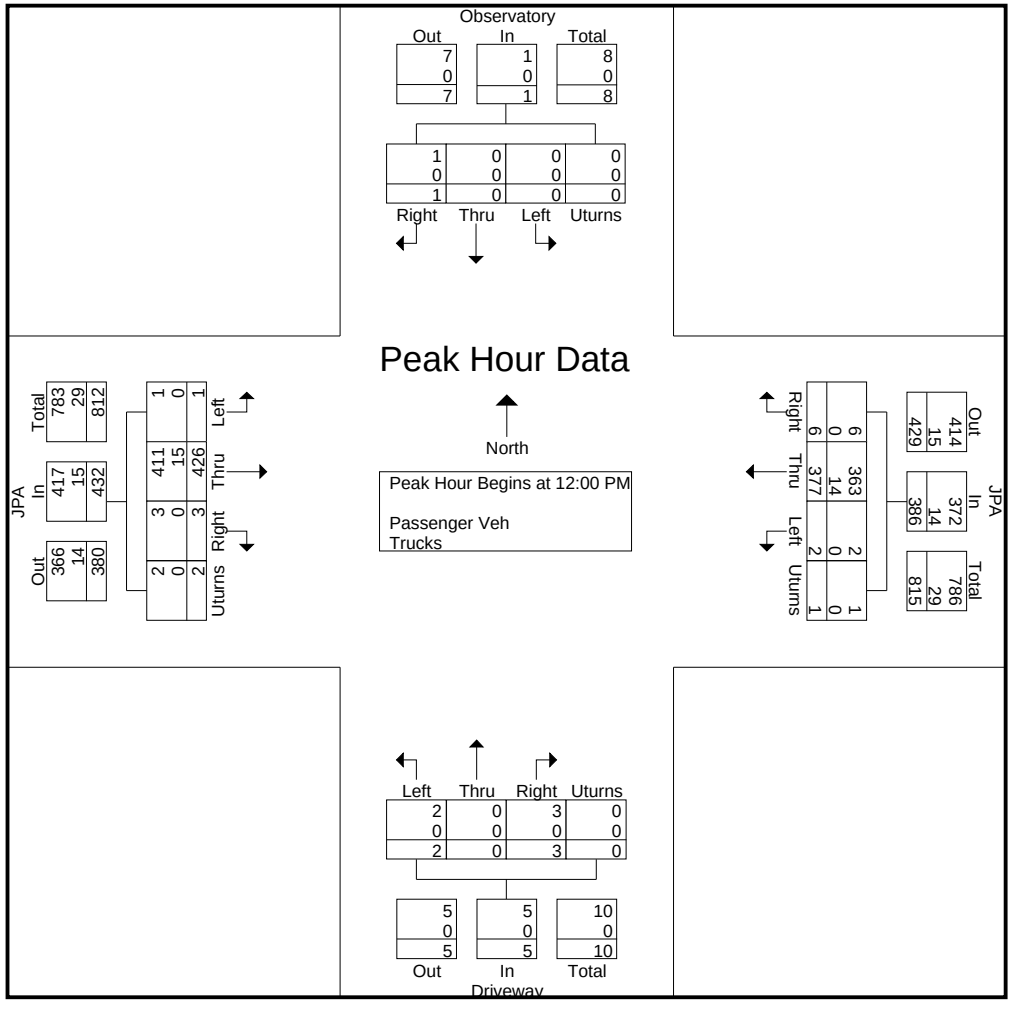
	Observatory From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	0	0	0	0	**3**	**102**	0	**1**	**106**	**1**	0	0	0	1	0	104	**1**	0	105	212
12:15 PM	**1**	0	0	0	**1**	3	98	0	0	101	0	0	0	0	0	**1**	107	0	**1**	109	211
12:30 PM	0	0	0	0	0	0	81	0	0	81	1	0	0	0	1	1	101	0	0	102	184
12:45 PM	0	0	0	0	0	0	96	**2**	0	98	1	0	**2**	0	**3**	1	**114**	0	1	**116**	**217**
Total Volume	1	0	0	0	1	6	377	2	1	386	3	0	2	0	5	3	426	1	2	432	824
% App. Total	100	0	0	0		1.6	97.7	0.5	0.3		60	0	40	0		0.7	98.6	0.2	0.5		
PHF	.250	.000	.000	.000	.250	.500	.924	.250	.250	.910	.750	.000	.250	.000	.417	.750	.934	.250	.500	.931	.949
Passenger Veh	1	0	0	0	1	6	363	2	1	372	3	0	2	0	5	3	411	1	2	417	795
% Passenger Veh	100	0	0	0	100	100	96.3	100	100	96.4	100	0	100	0	100	100	96.5	100	100	96.5	96.5
Trucks	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	15	0	0	15	29
% Trucks	0	0	0	0	0	0	3.7	0	0	3.6	0	0	0	0	0	0	3.5	0	0	3.5	3.5

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 6



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 7

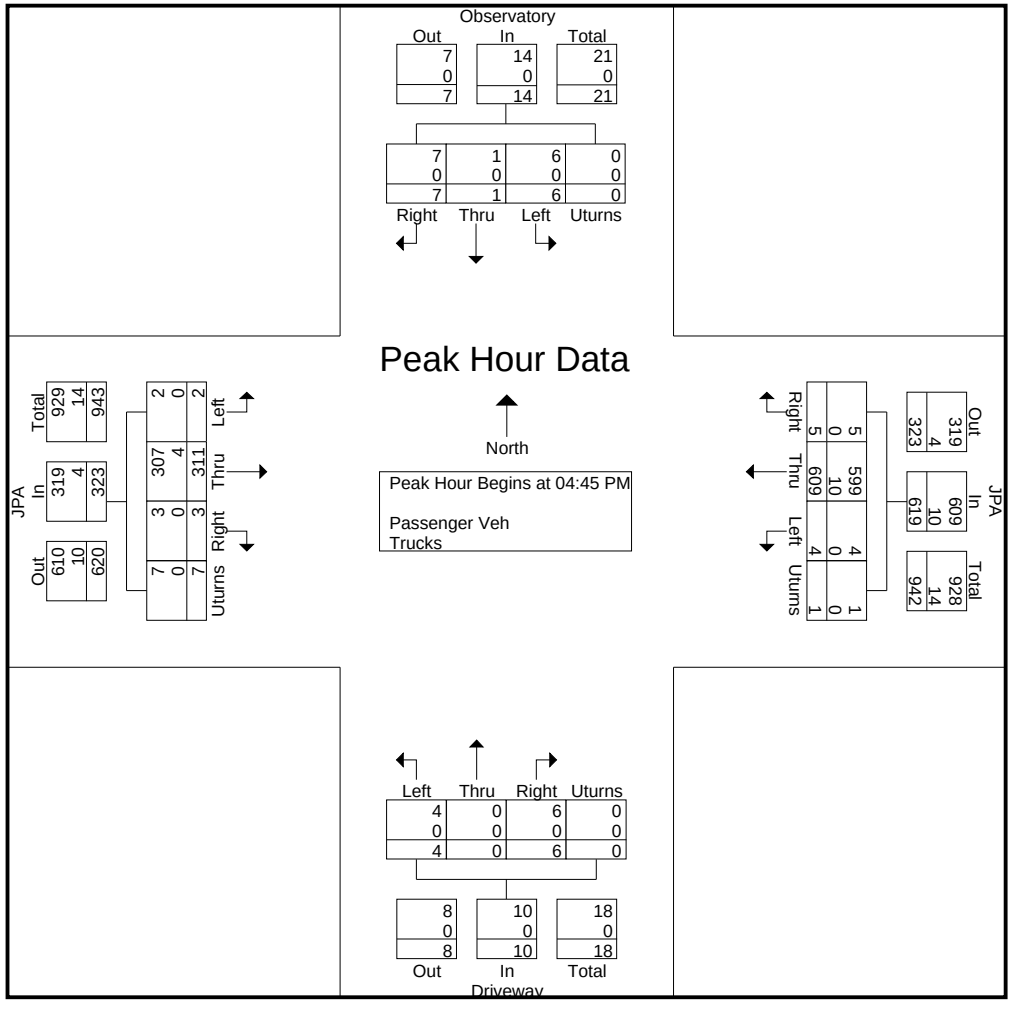
	Observatory From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**3**	0	**3**	0	**6**	1	147	0	0	148	1	0	0	0	1	**1**	70	0	1	72	227
05:00 PM	3	0	0	0	3	1	**175**	1	**1**	**178**	1	0	0	0	1	0	**90**	0	1	**91**	**273**
05:15 PM	1	0	2	0	3	1	133	**2**	0	136	**2**	0	1	0	3	1	84	**1**	2	88	230
05:30 PM	0	**1**	1	0	2	**2**	154	1	0	157	2	0	**3**	0	**5**	1	67	1	**3**	72	236
Total Volume	7	1	6	0	14	5	609	4	1	619	6	0	4	0	10	3	311	2	7	323	966
% App. Total	50	7.1	42.9	0		0.8	98.4	0.6	0.2		60	0	40	0		0.9	96.3	0.6	2.2		
PHF	.583	.250	.500	.000	.583	.625	.870	.500	.250	.869	.750	.000	.333	.000	.500	.750	.864	.500	.583	.887	.885
Passenger Veh	7	1	6	0	14	5	599	4	1	609	6	0	4	0	10	3	307	2	7	319	952
% Passenger Veh	100	100	100	0	100	100	98.4	100	100	98.4	100	0	100	0	100	100	98.7	100	100	98.8	98.6
Trucks	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	4	0	0	4	14
% Trucks	0	0	0	0	0	0	1.6	0	0	1.6	0	0	0	0	0	0	1.3	0	0	1.2	1.4

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 8



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021
Page No : 1

Groups Printed- Bikes - Peds

	Observatory From North					JPA From East					Driveway From South					JPA From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	5	5	0	0	0	0	0	0	0	0	7	7	0	3	0	0	3	15
07:15 AM	0	0	0	2	2	0	1	0	0	1	0	0	0	12	12	0	3	1	0	4	19
07:30 AM	0	0	0	12	12	0	2	0	0	2	0	0	0	22	22	0	3	0	0	3	39
07:45 AM	0	0	0	2	2	0	2	0	0	2	0	0	0	11	11	0	7	0	0	7	22
Total	0	0	0	21	21	0	5	0	0	5	0	0	0	52	52	0	16	1	0	17	95
08:00 AM	0	0	0	11	11	0	0	0	1	1	0	0	0	5	5	0	6	0	0	6	23
08:15 AM	0	0	0	7	7	0	0	0	0	0	0	0	0	18	18	0	1	0	1	2	27
08:30 AM	0	0	0	6	6	0	1	0	1	2	0	0	0	12	12	0	5	0	0	5	25
08:45 AM	0	0	0	6	6	0	0	0	3	3	0	0	0	11	11	0	9	0	1	10	30
Total	0	0	0	30	30	0	1	0	5	6	0	0	0	46	46	0	21	0	2	23	105
*** BREAK ***																					
11:00 AM	0	0	0	2	2	0	1	0	3	4	0	0	0	2	2	0	1	0	0	1	9
11:15 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	5	5	0	1	0	0	1	10
11:30 AM	0	0	0	2	2	0	1	0	0	1	0	0	0	2	2	0	1	0	0	1	6
11:45 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	0	3	0	0	3	7
Total	0	0	0	10	10	0	2	0	3	5	0	0	0	11	11	0	6	0	0	6	32
12:00 PM	0	0	0	6	6	0	2	0	2	4	0	0	0	8	8	0	0	0	1	1	19
12:15 PM	0	0	0	6	6	0	4	0	0	4	0	0	0	7	7	0	3	0	0	3	20
12:30 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	6	6	0	0	0	5	5	16
12:45 PM	0	0	0	4	4	1	0	0	0	1	0	0	0	2	2	0	3	0	0	3	10
Total	0	0	0	21	21	1	6	0	2	9	0	0	0	23	23	0	6	0	6	12	65
*** BREAK ***																					
04:00 PM	0	0	0	8	8	0	2	0	0	2	0	0	0	8	8	0	1	0	1	2	20
04:15 PM	0	0	0	5	5	0	5	0	0	5	0	0	0	8	8	0	1	0	0	1	19
04:30 PM	0	0	1	10	11	0	8	0	2	10	0	0	0	7	7	0	1	0	1	2	30
04:45 PM	0	0	0	11	11	0	9	1	0	10	0	0	0	3	3	0	0	0	0	0	24
Total	0	0	1	34	35	0	24	1	2	27	0	0	0	26	26	0	3	0	2	5	93
05:00 PM	0	0	0	11	11	1	5	1	3	10	0	0	0	17	17	0	2	0	0	2	40
05:15 PM	0	0	0	55	55	0	4	0	2	6	0	0	1	15	16	1	2	0	0	3	80
05:30 PM	0	0	0	12	12	0	3	0	0	3	0	0	0	10	10	0	3	0	1	4	29
05:45 PM	0	0	0	38	38	0	5	0	1	6	0	0	0	16	16	0	1	0	0	1	61
Total	0	0	0	116	116	1	17	1	6	25	0	0	1	58	59	1	8	0	1	10	210
Grand Total	0	0	1	232	233	2	55	2	18	77	0	0	1	216	217	1	60	1	11	73	600
Apprch %	0	0	0.4	99.6		2.6	71.4	2.6	23.4		0	0	0.5	99.5		1.4	82.2	1.4	15.1		
Total %	0	0	0.2	38.7	38.8	0.3	9.2	0.3	3	12.8	0	0	0.2	36	36.2	0.2	10	0.2	1.8	12.2	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Observatory
Site Code : 12222222
Start Date : 8/31/2021

Groups Printed- Bikes - Peds

	Observatory From North					JPA From East					Driveway From South					JPA From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Bikes	0	0	1	0	1	2	55	2	0	59	0	0	1	0	1	1	60	1	0	62	123
% Bikes	0	0	100	0	0.4	100	100	100	0	76.6	0	0	100	0	0.5	100	100	100	0	84.9	20.5
Peds	0	0	0	232	232	0	0	0	18	18	0	0	0	216	216	0	0	0	11	11	477
% Peds	0	0	0	100	99.6	0	0	0	100	23.4	0	0	0	100	99.5	0	0	0	100	15.1	79.5

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 1

Groups Printed- Passenger Veh - Trucks

	Maury From North					JPA From East					JPA From South					Fontaine From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	3	5	2	0	10	4	28	11	0	43	17	34	30	0	81	18	56	23	0	97	231
07:15 AM	1	11	3	0	15	4	34	12	0	50	39	35	40	0	114	30	62	20	0	112	291
07:30 AM	4	9	2	0	15	3	69	8	0	80	39	68	66	0	173	25	86	23	0	134	402
07:45 AM	2	10	7	0	19	4	62	16	0	82	50	62	98	0	210	31	73	14	0	118	429
Total	10	35	14	0	59	15	193	47	0	255	145	199	234	0	578	104	277	80	0	461	1353
08:00 AM	5	14	8	0	27	11	39	18	0	68	38	55	77	0	170	45	72	18	0	135	400
08:15 AM	3	16	3	0	22	4	44	11	0	59	50	47	68	0	165	35	62	13	0	110	356
08:30 AM	8	19	7	0	34	3	44	15	0	62	54	44	70	0	168	31	70	14	0	115	379
08:45 AM	6	14	4	0	24	3	30	17	0	50	51	47	61	0	159	36	79	10	0	125	358
Total	22	63	22	0	107	21	157	61	0	239	193	193	276	0	662	147	283	55	0	485	1493
11:00 AM	4	23	3	0	30	6	44	39	0	89	24	15	28	0	67	30	54	10	0	94	280
11:15 AM	9	18	3	0	30	6	32	22	0	60	21	23	26	0	70	35	41	6	0	82	242
11:30 AM	8	24	7	0	39	4	51	25	0	80	24	23	32	0	79	33	48	9	0	90	288
11:45 AM	13	28	6	0	47	5	44	24	0	73	33	15	42	0	90	35	74	11	0	120	330
Total	34	93	19	0	146	21	171	110	0	302	102	76	128	0	306	133	217	36	0	386	1140
12:00 PM	6	36	4	0	46	4	58	35	0	97	19	22	30	1	72	31	68	13	0	112	327
12:15 PM	14	29	7	0	50	9	54	34	0	97	43	21	27	0	91	47	58	16	0	121	359
12:30 PM	10	30	11	0	51	8	46	29	0	83	34	19	30	0	83	34	52	9	0	95	312
12:45 PM	12	21	9	0	42	3	58	27	0	88	33	23	44	0	100	32	79	8	0	119	349
Total	42	116	31	0	189	24	216	125	0	365	129	85	131	1	346	144	257	46	0	447	1347
04:00 PM	14	49	8	0	71	7	75	28	0	110	15	20	53	0	88	51	44	5	0	100	369
04:15 PM	12	41	8	0	61	10	81	48	0	139	32	17	37	0	86	65	57	5	0	127	413
04:30 PM	16	64	13	0	93	6	81	51	0	138	30	11	45	0	86	67	43	4	0	114	431
04:45 PM	14	69	11	0	94	5	80	54	0	139	26	29	41	0	96	59	33	9	0	101	430
Total	56	223	40	0	319	28	317	181	0	526	103	77	176	0	356	242	177	23	0	442	1643
05:00 PM	15	74	20	0	109	7	91	62	0	160	26	28	40	0	94	70	38	4	0	112	475
05:15 PM	10	84	11	0	105	13	79	48	0	140	30	25	52	0	107	68	42	6	0	116	468
05:30 PM	10	78	7	0	95	8	77	58	0	143	23	19	50	0	92	58	37	6	0	101	431
05:45 PM	10	59	12	0	81	13	69	57	0	139	27	25	50	0	102	45	42	15	0	102	424
Total	45	295	50	0	390	41	316	225	0	582	106	97	192	0	395	241	159	31	0	431	1798
Grand Total	209	825	176	0	1210	150	1370	749	0	2269	778	727	1137	1	2643	1011	1370	271	0	2652	8774
Apprch %	17.3	68.2	14.5	0		6.6	60.4	33	0		29.4	27.5	43	0		38.1	51.7	10.2	0		
Total %	2.4	9.4	2	0	13.8	1.7	15.6	8.5	0	25.9	8.9	8.3	13	0	30.1	11.5	15.6	3.1	0	30.2	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 2

Groups Printed- Passenger Veh - Trucks

	Maury From North					JPA From East					JPA From South					Fontaine From West					
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Passenger Veh	197	814	155	0	1166	119	1331	735	0	2185	766	705	1110	1	2582	985	1325	258	0	2568	8501
% Passenger Veh	94.3	98.7	88.1	0	96.4	79.3	97.2	98.1	0	96.3	98.5	97	97.6	100	97.7	97.4	96.7	95.2	0	96.8	96.9
Trucks	12	11	21	0	44	31	39	14	0	84	12	22	27	0	61	26	45	13	0	84	273
% Trucks	5.7	1.3	11.9	0	3.6	20.7	2.8	1.9	0	3.7	1.5	3	2.4	0	2.3	2.6	3.3	4.8	0	3.2	3.1

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 3

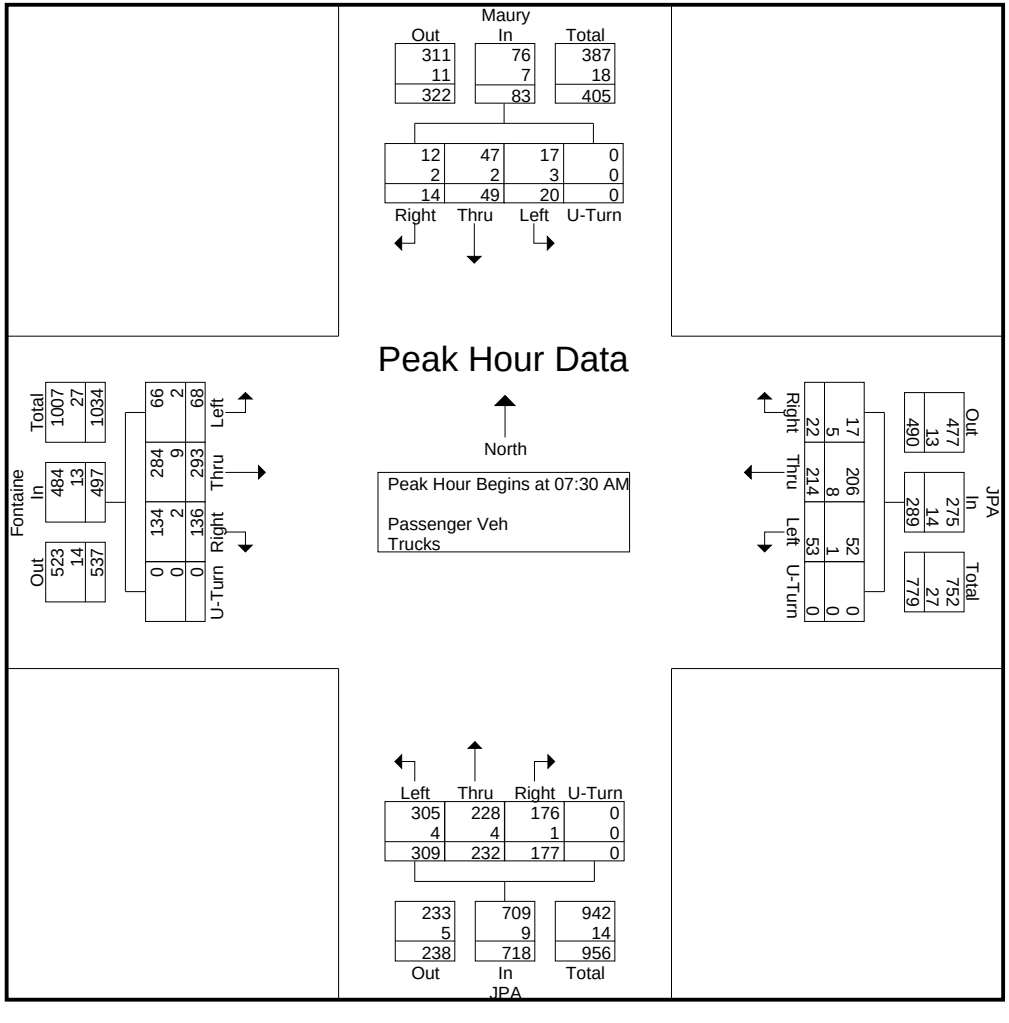
	Maury From North					JPA From East					JPA From South					Fontaine From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	4	9	2	0	15	3	**69**	8	0	80	39	**68**	66	0	173	25	**86**	**23**	0	134	402
07:45 AM	2	10	7	0	19	4	62	16	0	**82**	**50**	62	**98**	0	**210**	31	73	14	0	118	**429**
08:00 AM	**5**	14	**8**	0	**27**	**11**	39	**18**	0	68	38	55	77	0	170	**45**	72	18	0	**135**	400
08:15 AM	3	**16**	3	0	22	4	44	11	0	59	50	47	68	0	165	35	62	13	0	110	356
Total Volume	14	49	20	0	83	22	214	53	0	289	177	232	309	0	718	136	293	68	0	497	1587
% App. Total	16.9	59	24.1	0		7.6	74	18.3	0		24.7	32.3	43	0		27.4	59	13.7	0		
PHF	.700	.766	.625	.000	.769	.500	.775	.736	.000	.881	.885	.853	.788	.000	.855	.756	.852	.739	.000	.920	.925
Passenger Veh	12	47	17	0	76	17	206	52	0	275	176	228	305	0	709	134	284	66	0	484	1544
% Passenger Veh	85.7	95.9	85.0	0	91.6	77.3	96.3	98.1	0	95.2	99.4	98.3	98.7	0	98.7	98.5	96.9	97.1	0	97.4	97.3
Trucks	2	2	3	0	7	5	8	1	0	14	1	4	4	0	9	2	9	2	0	13	43
% Trucks	14.3	4.1	15.0	0	8.4	22.7	3.7	1.9	0	4.8	0.6	1.7	1.3	0	1.3	1.5	3.1	2.9	0	2.6	2.7

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 4



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 5

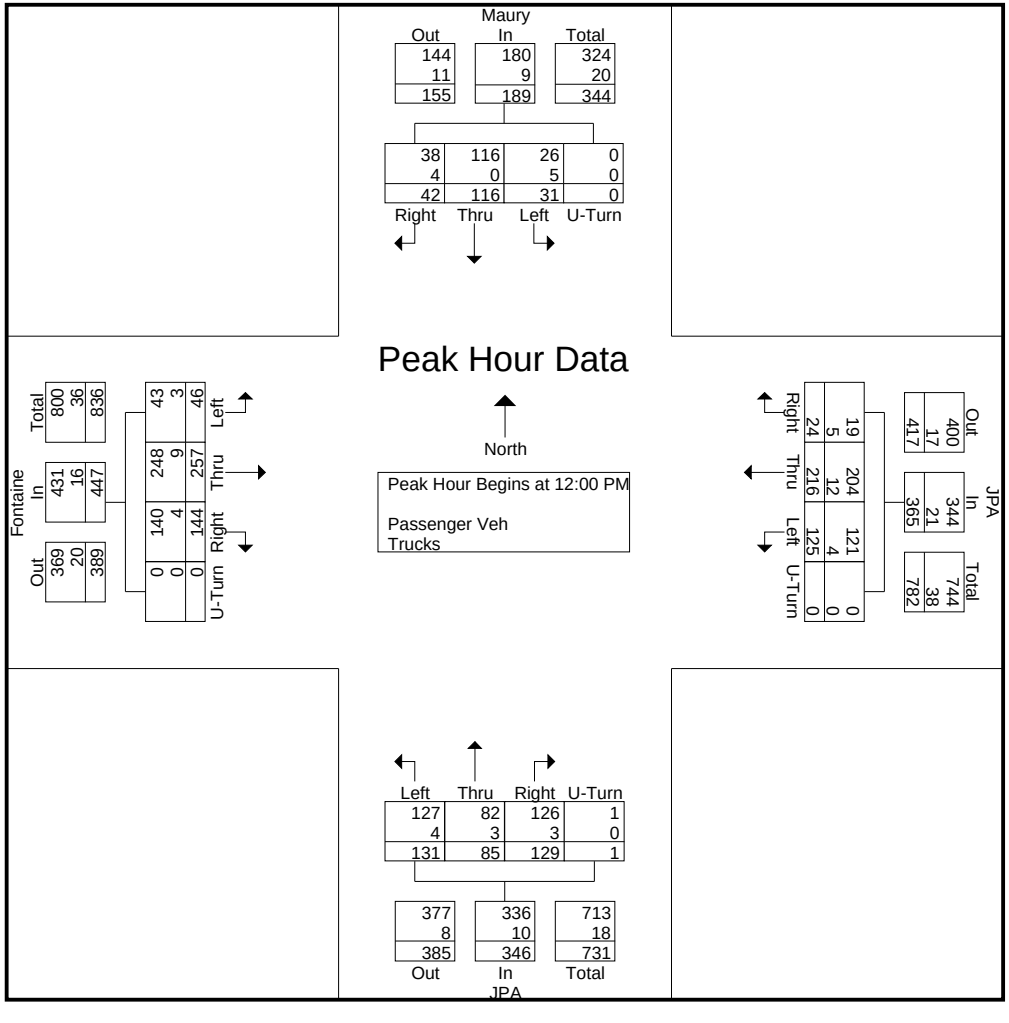
	Maury From North					JPA From East					JPA From South					Fontaine From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	6	**36**	4	0	46	4	**58**	**35**	0	**97**	19	22	30	**1**	72	31	68	13	0	112	327
12:15 PM	**14**	29	7	0	50	**9**	54	34	0	97	**43**	21	27	0	91	**47**	58	**16**	0	**121**	**359**
12:30 PM	10	30	**11**	0	**51**	8	46	29	0	83	34	19	30	0	83	34	52	9	0	95	312
12:45 PM	12	21	9	0	42	3	58	27	0	88	33	**23**	**44**	0	**100**	32	**79**	8	0	119	349
Total Volume	42	116	31	0	189	24	216	125	0	365	129	85	131	1	346	144	257	46	0	447	1347
% App. Total	22.2	61.4	16.4	0		6.6	59.2	34.2	0		37.3	24.6	37.9	0.3		32.2	57.5	10.3	0		
PHF	.750	.806	.705	.000	.926	.667	.931	.893	.000	.941	.750	.924	.744	.250	.865	.766	.813	.719	.000	.924	.938
Passenger Veh	38	116	26	0	180	19	204	121	0	344	126	82	127	1	336	140	248	43	0	431	1291
% Passenger Veh	90.5	100	83.9	0	95.2	79.2	94.4	96.8	0	94.2	97.7	96.5	96.9	100	97.1	97.2	96.5	93.5	0	96.4	95.8
Trucks	4	0	5	0	9	5	12	4	0	21	3	3	4	0	10	4	9	3	0	16	56
% Trucks	9.5	0	16.1	0	4.8	20.8	5.6	3.2	0	5.8	2.3	3.5	3.1	0	2.9	2.8	3.5	6.5	0	3.6	4.2

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 6



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 7

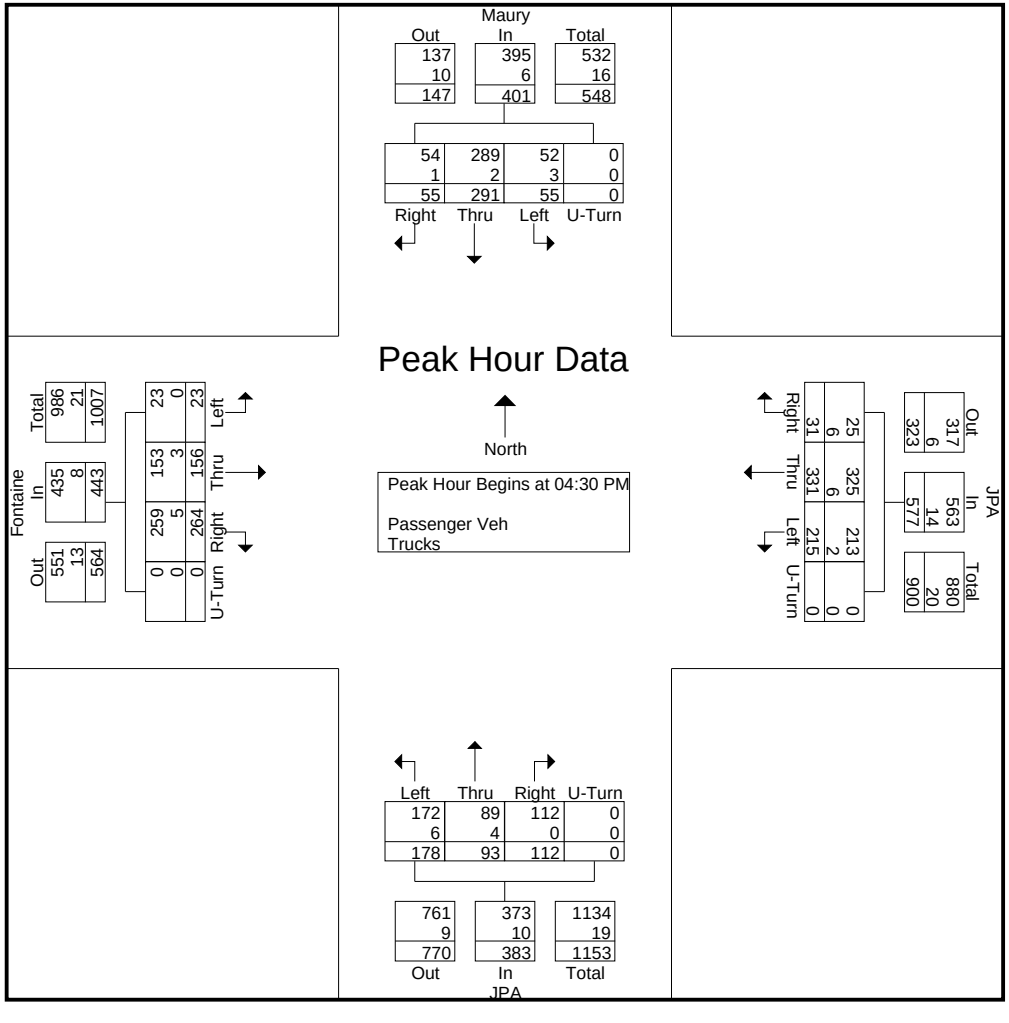
	Maury From North					JPA From East					JPA From South					Fontaine From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**16**	64	13	0	93	6	81	51	0	138	**30**	11	45	0	86	67	**43**	4	0	114	431
04:45 PM	14	69	11	0	94	5	80	54	0	139	26	**29**	41	0	96	59	33	**9**	0	101	430
05:00 PM	15	74	**20**	0	**109**	7	**91**	**62**	0	**160**	26	28	40	0	94	**70**	38	4	0	112	**475**
05:15 PM	10	**84**	11	0	105	**13**	79	48	0	140	30	25	**52**	0	**107**	68	42	6	0	**116**	468
Total Volume	55	291	55	0	401	31	331	215	0	577	112	93	178	0	383	264	156	23	0	443	1804
% App. Total	13.7	72.6	13.7	0		5.4	57.4	37.3	0		29.2	24.3	46.5	0		59.6	35.2	5.2	0		
PHF	.859	.866	.688	.000	.920	.596	.909	.867	.000	.902	.933	.802	.856	.000	.895	.943	.907	.639	.000	.955	.949
Passenger Veh	54	289	52	0	395	25	325	213	0	563	112	89	172	0	373	259	153	23	0	435	1766
% Passenger Veh	98.2	99.3	94.5	0	98.5	80.6	98.2	99.1	0	97.6	100	95.7	96.6	0	97.4	98.1	98.1	100	0	98.2	97.9
Trucks	1	2	3	0	6	6	6	2	0	14	0	4	6	0	10	5	3	0	0	8	38
% Trucks	1.8	0.7	5.5	0	1.5	19.4	1.8	0.9	0	2.4	0	4.3	3.4	0	2.6	1.9	1.9	0	0	1.8	2.1

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 8



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021
Page No : 1

Groups Printed- Bikes - Peds

	Maury From North					JPA From East					JPA From South					Fontaine From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	1	1	0	0	0	9	9	1	1	0	0	2	0	0	0	0	0	12
07:15 AM	0	1	0	2	3	0	1	0	6	7	1	1	0	3	5	0	0	0	2	2	17
07:30 AM	0	0	0	3	3	0	2	0	3	5	0	3	0	3	6	0	0	0	1	1	15
07:45 AM	0	0	0	1	1	0	1	1	1	3	3	2	0	6	11	0	0	0	6	6	21
Total	0	1	0	7	8	0	4	1	19	24	5	7	0	12	24	0	0	0	9	9	65
08:00 AM	0	2	0	2	4	0	0	0	8	8	6	3	0	2	11	0	1	0	3	4	27
08:15 AM	0	1	0	0	1	0	0	0	11	11	0	4	0	0	4	0	1	0	6	7	23
08:30 AM	0	1	0	0	1	0	0	0	5	5	1	0	0	2	3	1	1	0	5	7	16
08:45 AM	0	0	0	2	2	0	1	0	13	14	4	0	1	8	13	1	1	0	1	3	32
Total	0	4	0	4	8	0	1	0	37	38	11	7	1	12	31	2	4	0	15	21	98
11:00 AM	0	1	0	1	2	0	0	1	2	3	1	2	0	3	6	1	1	0	1	3	14
11:15 AM	0	0	0	1	1	0	0	0	5	5	0	1	0	2	3	1	1	0	2	4	13
11:30 AM	0	2	0	1	3	0	0	1	1	2	1	1	0	3	5	0	0	0	0	0	10
11:45 AM	0	0	0	0	0	0	0	2	1	3	1	2	0	0	3	1	0	0	1	2	8
Total	0	3	0	3	6	0	0	4	9	13	3	6	0	8	17	3	2	0	4	9	45
12:00 PM	0	0	0	0	0	0	0	1	4	5	0	1	0	5	6	1	1	0	2	4	15
12:15 PM	1	1	0	1	3	0	0	4	5	9	2	6	0	1	9	0	0	0	2	2	23
12:30 PM	0	1	0	2	3	0	0	0	3	3	0	0	1	1	2	0	0	0	3	3	11
12:45 PM	0	0	0	2	2	0	0	0	2	2	2	2	0	0	4	0	0	0	2	2	10
Total	1	2	0	5	8	0	0	5	14	19	4	9	1	7	21	1	1	0	9	11	59
04:00 PM	0	2	0	4	6	0	0	0	2	2	0	0	0	3	3	0	0	0	6	6	17
04:15 PM	0	1	0	1	2	1	2	2	8	13	0	0	0	4	4	0	2	0	2	4	23
04:30 PM	0	6	1	0	7	0	0	6	7	13	0	0	1	6	7	0	0	0	2	2	29
04:45 PM	0	2	0	2	4	0	1	6	9	16	0	2	0	6	8	0	0	0	1	1	29
Total	0	11	1	7	19	1	3	14	26	44	0	2	1	19	22	0	2	0	11	13	98
05:00 PM	0	1	1	1	3	0	1	4	7	12	0	0	0	6	6	0	1	0	3	4	25
05:15 PM	0	4	0	0	4	0	0	2	39	41	0	0	1	5	6	0	0	0	5	5	56
05:30 PM	0	2	0	0	2	0	0	3	14	17	1	0	0	1	2	1	2	0	0	3	24
05:45 PM	0	0	0	3	3	0	0	4	31	35	2	1	0	0	3	0	0	0	1	1	42
Total	0	7	1	4	12	0	1	13	91	105	3	1	1	12	17	1	3	0	9	13	147
Grand Total	1	28	2	30	61	1	9	37	196	243	26	32	4	70	132	7	12	0	57	76	512
Apprch %	1.6	45.9	3.3	49.2		0.4	3.7	15.2	80.7		19.7	24.2	3	53		9.2	15.8	0	75		
Total %	0.2	5.5	0.4	5.9	11.9	0.2	1.8	7.2	38.3	47.5	5.1	6.2	0.8	13.7	25.8	1.4	2.3	0	11.1	14.8	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : JPA and Maury
Site Code :
Start Date : 8/31/2021

Groups Printed- Bikes - Peds

	Maury From North					JPA From East					JPA From South					Fontaine From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Bikes	1	28	2	0	31	1	9	37	0	47	26	32	4	0	62	7	12	0	0	19	159
% Bikes	100	100	100	0	50.8	100	100	100	0	19.3	100	100	100	0	47	100	100	0	0	25	31.1
Peds	0	0	0	30	30	0	0	0	196	196	0	0	0	70	70	0	0	0	57	57	353
% Peds	0	0	0	100	49.2	0	0	0	100	80.7	0	0	0	100	53	0	0	0	100	75	68.9

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 1

Groups Printed- Passenger Veh - Trucks

	Alderman From North					Stadium From East					Maury From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
07:00 AM	3	12	7	0	22	3	3	2	0	8	9	65	1	0	75	1	17	31	0	49	154
07:15 AM	8	9	9	0	26	4	1	1	0	6	12	72	1	0	85	1	16	32	0	49	166
07:30 AM	4	10	9	0	23	6	3	5	0	14	16	96	1	0	113	1	20	45	0	66	216
07:45 AM	10	16	6	0	32	9	2	4	0	15	10	84	0	0	94	3	21	45	0	69	210
Total	25	47	31	0	103	22	9	12	0	43	47	317	3	0	367	6	74	153	0	233	746
08:00 AM	6	24	8	0	38	8	2	7	0	17	14	70	1	0	85	1	19	11	0	31	171
08:15 AM	9	21	3	0	33	8	2	2	0	12	9	54	0	0	63	1	10	10	0	21	129
08:30 AM	6	31	4	0	41	5	5	3	0	13	9	58	0	0	67	1	13	15	0	29	150
08:45 AM	7	23	2	0	32	3	2	2	0	7	10	51	2	0	63	0	10	11	0	21	123
Total	28	99	17	0	144	24	11	14	0	49	42	233	3	0	278	3	52	47	0	102	573
*** BREAK ***																					
11:00 AM	4	32	6	0	42	2	4	6	0	12	4	27	1	0	32	1	6	6	0	13	99
11:15 AM	6	23	2	0	31	5	6	6	0	17	9	24	0	0	33	1	7	5	0	13	94
11:30 AM	13	29	1	0	43	3	8	9	0	20	11	30	1	0	42	1	4	7	0	12	117
11:45 AM	5	44	2	0	51	4	3	8	0	15	2	28	3	0	33	1	6	5	0	12	111
Total	28	128	11	0	167	14	21	29	0	64	26	109	5	0	140	4	23	23	0	50	421
12:00 PM	3	45	4	0	52	6	7	8	0	21	7	44	1	0	52	0	0	4	0	4	129
12:15 PM	11	34	4	0	49	9	3	11	0	23	7	49	0	0	56	0	6	7	0	13	141
12:30 PM	10	38	5	0	53	4	6	16	0	26	4	27	2	0	33	0	3	6	0	9	121
12:45 PM	10	30	3	0	43	2	6	15	0	23	8	27	2	0	37	2	3	3	0	8	111
Total	34	147	16	0	197	21	22	50	0	93	26	147	5	0	178	2	12	20	0	34	502
*** BREAK ***																					
04:00 PM	16	64	13	0	93	10	14	18	0	42	4	26	1	0	31	0	3	4	0	7	173
04:15 PM	20	59	11	0	90	6	23	24	0	53	2	32	3	0	37	2	3	3	0	8	188
04:30 PM	21	74	8	0	103	2	21	38	0	61	2	15	1	0	18	2	5	7	0	14	196
04:45 PM	23	84	12	0	119	9	30	32	0	71	4	41	1	0	46	1	5	5	0	11	247
Total	80	281	44	0	405	27	88	112	0	227	12	114	6	0	132	5	16	19	0	40	804
05:00 PM	25	76	10	0	111	1	35	34	0	70	6	36	0	0	42	2	2	3	0	7	230
05:15 PM	19	78	12	0	109	5	40	30	0	75	2	38	3	0	43	0	6	3	0	9	236
05:30 PM	20	87	6	0	113	5	24	29	0	58	4	30	2	0	36	0	3	8	0	11	218
05:45 PM	8	70	10	0	88	6	16	15	0	37	6	31	1	0	38	3	4	8	0	15	178
Total	72	311	38	0	421	17	115	108	0	240	18	135	6	0	159	5	15	22	0	42	862
Grand Total	267	1013	157	0	1437	125	266	325	0	716	171	1055	28	0	1254	25	192	284	0	501	3908
Apprch %	18.6	70.5	10.9	0		17.5	37.2	45.4	0		13.6	84.1	2.2	0		5	38.3	56.7	0		
Total %	6.8	25.9	4	0	36.8	3.2	6.8	8.3	0	18.3	4.4	27	0.7	0	32.1	0.6	4.9	7.3	0	12.8	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 2

Groups Printed- Passenger Veh - Trucks

	Alderman From North					Stadium From East					Maury From South					Stadium From West					
	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Passenger Veh	232	999	86	0	1317	124	263	306	0	693	171	994	27	0	1192	25	192	282	0	499	3701
% Passenger Veh	86.9	98.6	54.8	0	91.6	99.2	98.9	94.2	0	96.8	100	94.2	96.4	0	95.1	100	100	99.3	0	99.6	94.7
Trucks	35	14	71	0	120	1	3	19	0	23	0	61	1	0	62	0	0	2	0	2	207
% Trucks	13.1	1.4	45.2	0	8.4	0.8	1.1	5.8	0	3.2	0	5.8	3.6	0	4.9	0	0	0.7	0	0.4	5.3

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 3

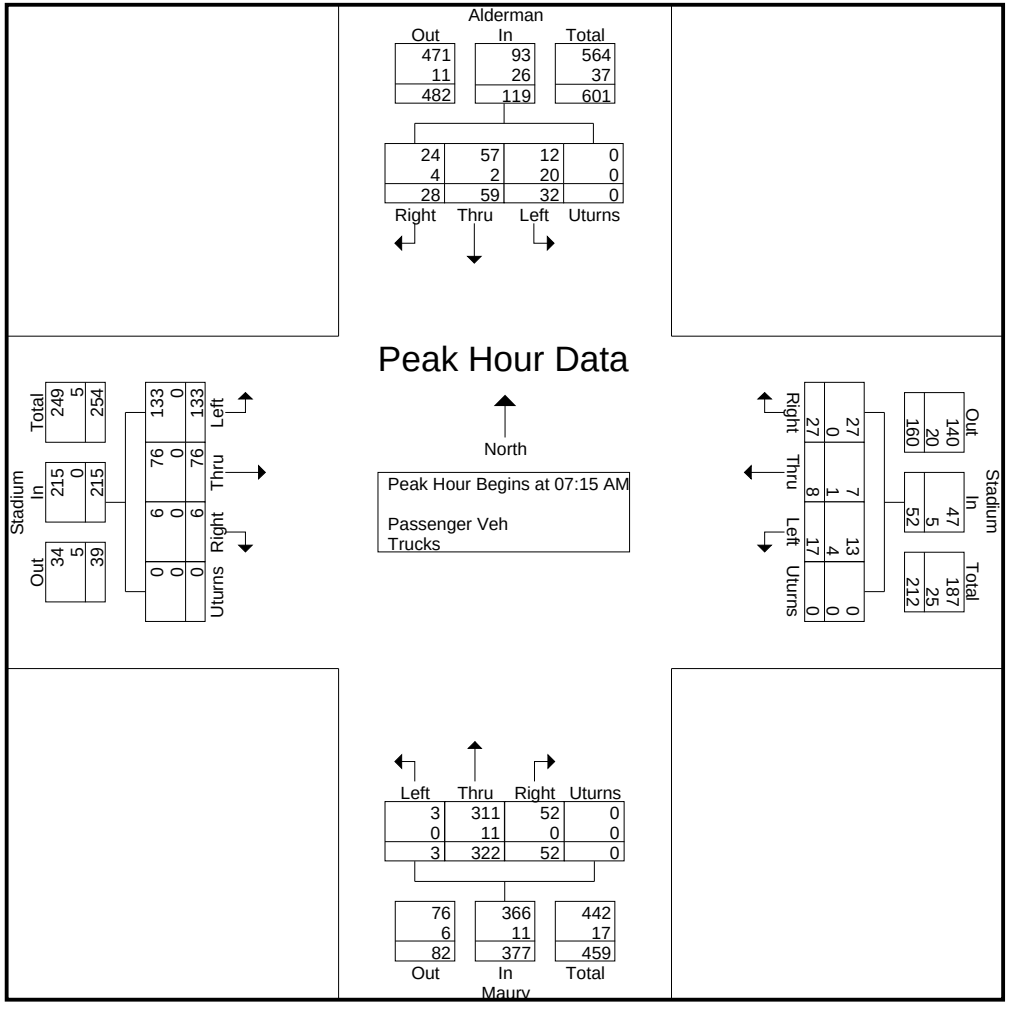
	Alderman From North					Stadium From East					Maury From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	8	9	**9**	0	26	4	1	1	0	6	12	72	**1**	0	85	1	16	32	0	49	166
07:30 AM	4	10	9	0	23	6	**3**	5	0	14	**16**	**96**	1	0	**113**	1	20	**45**	0	66	**216**
07:45 AM	**10**	16	6	0	32	**9**	2	4	0	15	10	84	0	0	94	**3**	**21**	45	0	**69**	210
08:00 AM	6	**24**	8	0	**38**	8	2	**7**	0	**17**	14	70	1	0	85	1	19	11	0	31	171
Total Volume	28	59	32	0	119	27	8	17	0	52	52	322	3	0	377	6	76	133	0	215	763
% App. Total	23.5	49.6	26.9	0		51.9	15.4	32.7	0		13.8	85.4	0.8	0		2.8	35.3	61.9	0		
PHF	.700	.615	.889	.000	.783	.750	.667	.607	.000	.765	.813	.839	.750	.000	.834	.500	.905	.739	.000	.779	.883
Passenger Veh	24	57	12	0	93	27	7	13	0	47	52	311	3	0	366	6	76	133	0	215	721
% Passenger Veh	85.7	96.6	37.5	0	78.2	100	87.5	76.5	0	90.4	100	96.6	100	0	97.1	100	100	100	0	100	94.5
Trucks	4	2	20	0	26	0	1	4	0	5	0	11	0	0	11	0	0	0	0	0	42
% Trucks	14.3	3.4	62.5	0	21.8	0	12.5	23.5	0	9.6	0	3.4	0	0	2.9	0	0	0	0	0	5.5

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 4



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 5

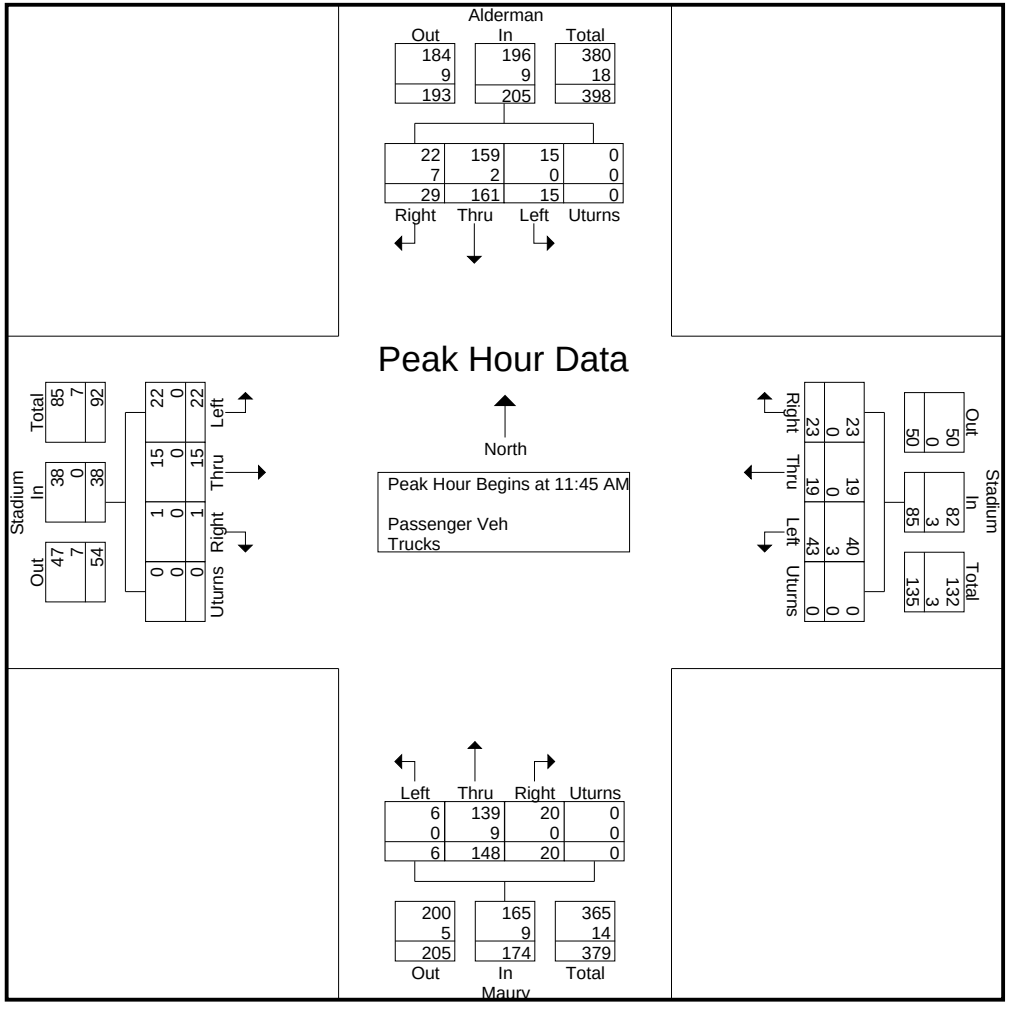
	Alderman From North					Stadium From East					Maury From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	5	44	2	0	51	4	3	8	0	15	2	28	**3**	0	33	**1**	**6**	5	0	12	111
12:00 PM	3	**45**	4	0	52	6	**7**	8	0	21	**7**	44	1	0	52	0	0	4	0	4	129
12:15 PM	**11**	34	4	0	49	**9**	3	11	0	23	7	**49**	0	0	**56**	0	6	**7**	0	**13**	**141**
12:30 PM	10	38	**5**	0	**53**	4	6	**16**	0	**26**	4	27	2	0	33	0	3	6	0	9	121
Total Volume	29	161	15	0	205	23	19	43	0	85	20	148	6	0	174	1	15	22	0	38	502
% App. Total	14.1	78.5	7.3	0		27.1	22.4	50.6	0		11.5	85.1	3.4	0		2.6	39.5	57.9	0		
PHF	.659	.894	.750	.000	.967	.639	.679	.672	.000	.817	.714	.755	.500	.000	.777	.250	.625	.786	.000	.731	.890
Passenger Veh	22	159	15	0	196	23	19	40	0	82	20	139	6	0	165	1	15	22	0	38	481
% Passenger Veh	75.9	98.8	100	0	95.6	100	100	93.0	0	96.5	100	93.9	100	0	94.8	100	100	100	0	100	95.8
Trucks	7	2	0	0	9	0	0	3	0	3	0	9	0	0	9	0	0	0	0	0	21
% Trucks	24.1	1.2	0	0	4.4	0	0	7.0	0	3.5	0	6.1	0	0	5.2	0	0	0	0	0	4.2

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 6



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 7

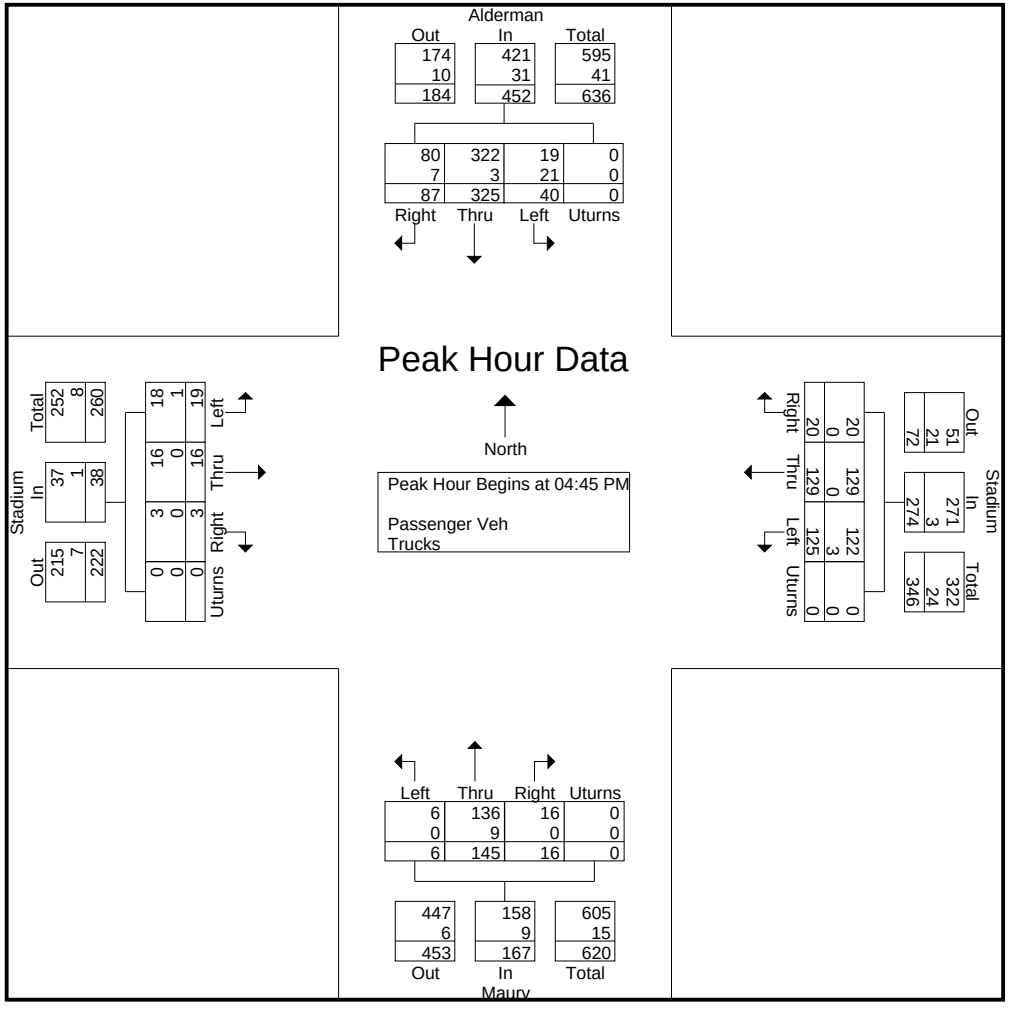
	Alderman From North					Stadium From East					Maury From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	23	84	**12**	0	**119**	**9**	30	32	0	71	4	**41**	1	0	**46**	1	5	5	0	**11**	**247**
05:00 PM	**25**	76	10	0	111	1	35	**34**	0	70	**6**	36	0	0	42	**2**	2	3	0	7	230
05:15 PM	19	78	12	0	109	5	**40**	30	0	**75**	2	38	**3**	0	43	0	**6**	3	0	9	236
05:30 PM	20	**87**	6	0	113	5	24	29	0	58	4	30	2	0	36	0	3	**8**	0	11	218
Total Volume	87	325	40	0	452	20	129	125	0	274	16	145	6	0	167	3	16	19	0	38	931
% App. Total	19.2	71.9	8.8	0		7.3	47.1	45.6	0		9.6	86.8	3.6	0		7.9	42.1	50	0		
PHF	.870	.934	.833	.000	.950	.556	.806	.919	.000	.913	.667	.884	.500	.000	.908	.375	.667	.594	.000	.864	.942
Passenger Veh	80	322	19	0	421	20	129	122	0	271	16	136	6	0	158	3	16	18	0	37	887
% Passenger Veh	92.0	99.1	47.5	0	93.1	100	100	97.6	0	98.9	100	93.8	100	0	94.6	100	100	94.7	0	97.4	95.3
Trucks	7	3	21	0	31	0	0	3	0	3	0	9	0	0	9	0	0	1	0	1	44
% Trucks	8.0	0.9	52.5	0	6.9	0	0	2.4	0	1.1	0	6.2	0	0	5.4	0	0	5.3	0	2.6	4.7

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 8



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021
Page No : 1

Groups Printed- Bikes - Peds

	Alderman From North					Stadium From East					Maury From South					Stadium From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	2	0	2	4	0	0	0	9	9	2	5	0	0	7	0	0	0	1	1	21
07:15 AM	0	1	0	6	7	0	0	0	7	7	0	2	0	1	3	0	1	1	3	5	22
07:30 AM	0	0	0	2	2	1	0	0	10	11	0	1	0	3	4	0	0	3	2	5	22
07:45 AM	0	0	0	1	1	0	0	0	6	6	0	5	0	0	5	0	0	1	5	6	18
Total	0	3	0	11	14	1	0	0	32	33	2	13	0	4	19	0	1	5	11	17	83
08:00 AM	0	0	0	2	2	0	0	0	16	16	0	2	0	2	4	0	1	3	1	5	27
08:15 AM	2	0	1	12	15	0	1	0	15	16	0	5	0	3	8	0	1	4	7	12	51
08:30 AM	0	1	0	12	13	0	0	0	16	16	0	1	0	2	3	0	0	1	7	8	40
08:45 AM	0	0	0	12	12	0	0	0	19	19	0	4	0	0	4	0	0	4	5	9	44
Total	2	1	1	38	42	0	1	0	66	67	0	12	0	7	19	0	2	12	20	34	162
*** BREAK ***																					
11:00 AM	1	2	0	5	8	1	1	0	11	13	0	3	0	4	7	0	0	1	3	4	32
11:15 AM	0	1	0	2	3	0	0	0	4	4	0	1	0	0	1	0	0	0	3	3	11
11:30 AM	1	1	0	5	7	1	0	0	2	3	0	0	0	1	1	0	0	2	3	5	16
11:45 AM	0	2	0	7	9	0	0	0	8	8	0	2	0	1	3	0	0	0	1	1	21
Total	2	6	0	19	27	2	1	0	25	28	0	6	0	6	12	0	0	3	10	13	80
12:00 PM	0	0	1	12	13	0	0	1	8	9	0	3	1	5	9	0	0	1	2	3	34
12:15 PM	2	3	0	9	14	0	1	0	15	16	1	8	0	3	12	0	1	1	6	8	50
12:30 PM	1	2	0	8	11	0	0	0	12	12	0	0	0	2	2	0	0	0	8	8	33
12:45 PM	2	1	0	5	8	0	0	0	4	4	0	2	0	1	3	0	0	0	1	1	16
Total	5	6	1	34	46	0	1	1	39	41	1	13	1	11	26	0	1	2	17	20	133
*** BREAK ***																					
04:00 PM	1	1	0	6	8	0	1	0	6	7	0	0	0	0	0	0	0	0	0	0	15
04:15 PM	1	3	0	3	7	0	0	0	12	12	0	1	1	3	5	0	0	1	9	10	34
04:30 PM	0	7	0	12	19	1	0	0	13	14	0	0	0	3	3	0	0	0	2	2	38
04:45 PM	3	6	0	5	14	0	1	1	13	15	1	0	0	3	4	0	0	3	6	9	42
Total	5	17	0	26	48	1	2	1	44	48	1	1	1	9	12	0	0	4	17	21	129
05:00 PM	3	2	0	14	19	0	0	0	16	16	0	1	0	2	3	0	1	1	4	6	44
05:15 PM	1	9	0	7	17	0	2	0	6	8	0	4	0	10	14	0	0	1	5	6	45
05:30 PM	2	5	0	4	11	0	0	0	11	11	0	1	0	4	5	0	0	2	2	4	31
05:45 PM	1	0	0	12	13	0	1	0	12	13	0	3	0	5	8	0	0	0	5	5	39
Total	7	16	0	37	60	0	3	0	45	48	0	9	0	21	30	0	1	4	16	21	159
Grand Total	21	49	2	165	237	4	8	2	251	265	4	54	2	58	118	0	5	30	91	126	746
Apprch %	8.9	20.7	0.8	69.6		1.5	3	0.8	94.7		3.4	45.8	1.7	49.2		0	4	23.8	72.2		
Total %	2.8	6.6	0.3	22.1	31.8	0.5	1.1	0.3	33.6	35.5	0.5	7.2	0.3	7.8	15.8	0	0.7	4	12.2	16.9	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Maury and Stadium
Site Code : 23333333
Start Date : 8/31/2021

Groups Printed- Bikes - Peds

	Alderman From North					Stadium From East					Maury From South					Stadium From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Bikes	21	49	2	0	72	4	8	2	0	14	4	54	2	0	60	0	5	30	0	35	181
% Bikes	100	100	100	0	30.4	100	100	100	0	5.3	100	100	100	0	50.8	0	100	100	0	27.8	24.3
Peds	0	0	0	165	165	0	0	0	251	251	0	0	0	58	58	0	0	0	91	91	565
% Peds	0	0	0	100	69.6	0	0	0	100	94.7	0	0	0	100	49.2	0	0	0	100	72.2	75.7

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 1

Groups Printed- Passenger Veh - Trucks

	From North					Stadium From East					Washington From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	34	0	0	34	40
07:15 AM	0	0	0	0	0	0	8	0	0	8	0	0	1	0	1	1	34	0	0	35	44
07:30 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	1	46	0	0	47	56
07:45 AM	0	0	0	0	0	0	14	0	0	14	1	0	1	0	2	0	35	0	0	35	51
Total	0	0	0	0	0	0	37	0	0	37	1	0	2	0	3	2	149	0	0	151	191
08:00 AM	0	0	0	0	0	0	16	1	0	17	2	0	0	0	2	1	42	0	0	43	62
08:15 AM	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	1	20	0	0	21	33
08:30 AM	0	0	0	0	0	0	14	0	0	14	1	0	1	0	2	0	24	0	0	24	40
08:45 AM	0	0	0	0	0	0	7	4	0	11	0	0	1	0	1	1	17	0	0	18	30
Total	0	0	0	0	0	0	48	5	0	53	4	0	2	0	6	3	103	0	0	106	165
*** BREAK ***																					
11:00 AM	0	0	0	0	0	0	16	1	0	17	1	0	1	0	2	1	15	0	0	16	35
11:15 AM	0	0	0	0	0	0	14	1	0	15	0	0	2	0	2	3	14	0	0	17	34
11:30 AM	0	0	0	0	0	0	15	0	0	15	0	0	1	0	1	2	16	0	0	18	34
11:45 AM	0	0	0	0	0	0	16	2	0	18	2	0	1	0	3	1	11	0	0	12	33
Total	0	0	0	0	0	0	61	4	0	65	3	0	5	0	8	7	56	0	0	63	136
12:00 PM	0	0	0	0	0	0	22	1	0	23	1	0	1	0	2	2	9	0	0	11	36
12:15 PM	0	0	0	0	0	0	20	3	0	23	0	0	2	0	2	2	13	0	0	15	40
12:30 PM	0	0	0	0	0	0	27	1	0	28	1	0	0	0	1	4	11	0	0	15	44
12:45 PM	0	0	0	0	0	0	24	2	0	26	0	0	0	0	0	1	14	0	0	15	41
Total	0	0	0	0	0	0	93	7	0	100	2	0	3	0	5	9	47	0	0	56	161
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	37	0	0	37	2	0	0	0	2	2	17	0	0	19	58
04:15 PM	0	0	0	0	0	0	57	1	0	58	1	0	1	0	2	0	13	0	0	13	73
04:30 PM	0	0	0	0	0	0	63	0	0	63	2	0	0	0	2	0	16	0	0	16	81
04:45 PM	0	0	0	0	0	0	70	3	0	73	1	0	2	0	3	1	23	0	0	24	100
Total	0	0	0	0	0	0	227	4	0	231	6	0	3	0	9	3	69	0	0	72	312
05:00 PM	0	0	0	0	0	0	71	1	0	72	1	0	2	0	3	0	20	0	0	20	95
05:15 PM	0	0	0	0	0	0	61	1	0	62	5	0	0	0	5	1	22	0	0	23	90
05:30 PM	0	0	0	0	0	0	57	0	0	57	3	0	1	0	4	0	15	0	0	15	76
05:45 PM	0	0	0	0	0	0	39	2	0	41	1	0	2	0	3	5	15	0	0	20	64
Total	0	0	0	0	0	0	228	4	0	232	10	0	5	0	15	6	72	0	0	78	325
Grand Total	0	0	0	0	0	0	694	24	0	718	26	0	20	0	46	30	496	0	0	526	1290
Apprch %	0	0	0	0		0	96.7	3.3	0		56.5	0	43.5	0		5.7	94.3	0	0		
Total %	0	0	0	0	0	0	53.8	1.9	0	55.7	2	0	1.6	0	3.6	2.3	38.4	0	0	40.8	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 2

Groups Printed- Passenger Veh - Trucks

	From North					Stadium From East					Washington From South					Stadium From West					
	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Passenger Veh	0	0	0	0	0	0	673	23	0	696	25	0	19	0	44	30	425	0	0	455	1195
% Passenger Veh	0	0	0	0	0	0	97	95.8	0	96.9	96.2	0	95	0	95.7	100	85.7	0	0	86.5	92.6
Trucks	0	0	0	0	0	0	21	1	0	22	1	0	1	0	2	0	71	0	0	71	95
% Trucks	0	0	0	0	0	0	3	4.2	0	3.1	3.8	0	5	0	4.3	0	14.3	0	0	13.5	7.4

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 3

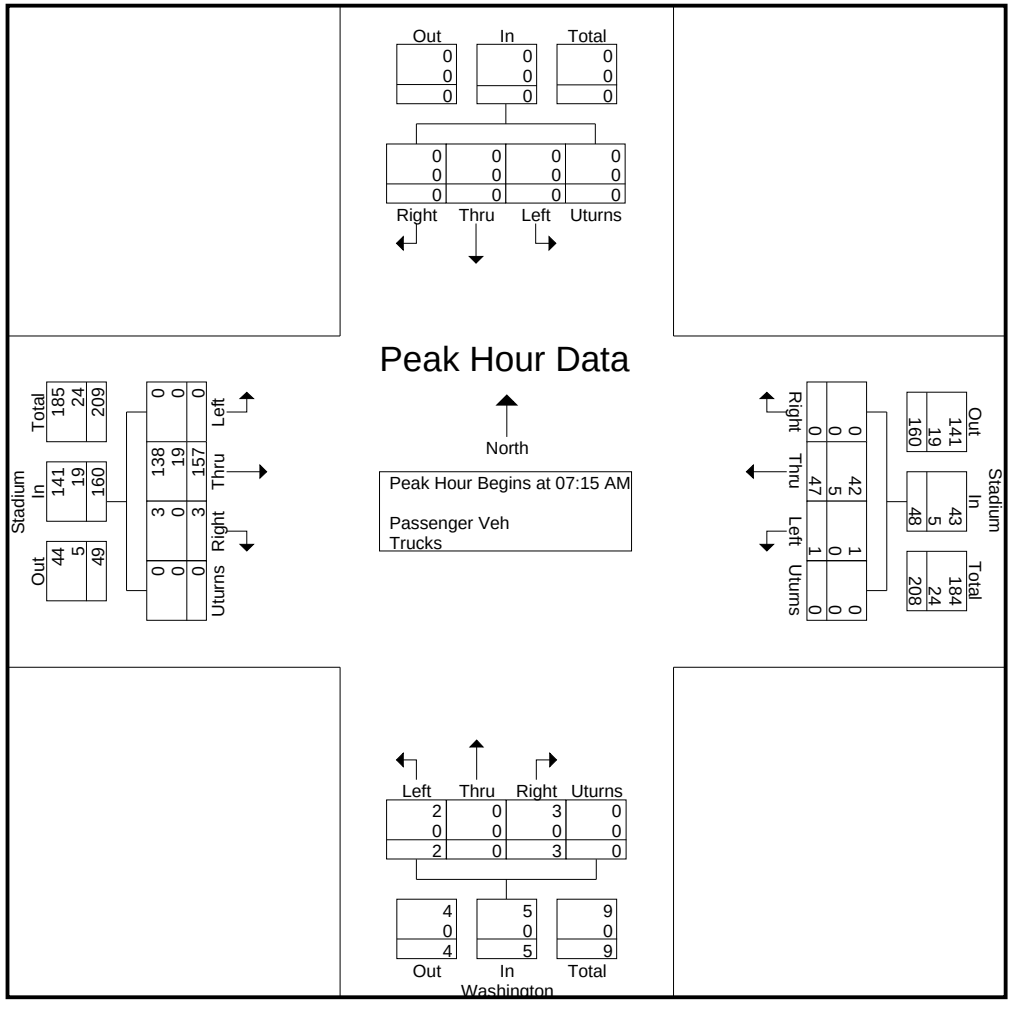
	From North					Stadium From East					Washington From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	0	8	0	0	8	0	0	**1**	0	1	**1**	34	0	0	35	44
07:30 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	1	**46**	0	0	**47**	56
07:45 AM	0	0	0	0	0	0	14	0	0	14	1	0	1	0	**2**	0	35	0	0	35	51
08:00 AM	0	0	0	0	0	0	**16**	**1**	0	**17**	**2**	0	0	0	2	1	42	0	0	43	**62**
Total Volume	0	0	0	0	0	0	47	1	0	48	3	0	2	0	5	3	157	0	0	160	213
% App. Total	0	0	0	0		0	97.9	2.1	0		60	0	40	0		1.9	98.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.734	.250	.000	.706	.375	.000	.500	.000	.625	.750	.853	.000	.000	.851	.859
Passenger Veh	0	0	0	0	0	0	42	1	0	43	3	0	2	0	5	3	138	0	0	141	189
% Passenger Veh	0	0	0	0	0	0	89.4	100	0	89.6	100	0	100	0	100	100	87.9	0	0	88.1	88.7
Trucks	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	24
% Trucks	0	0	0	0	0	0	10.6	0	0	10.4	0	0	0	0	0	0	12.1	0	0	11.9	11.3

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 4



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 5

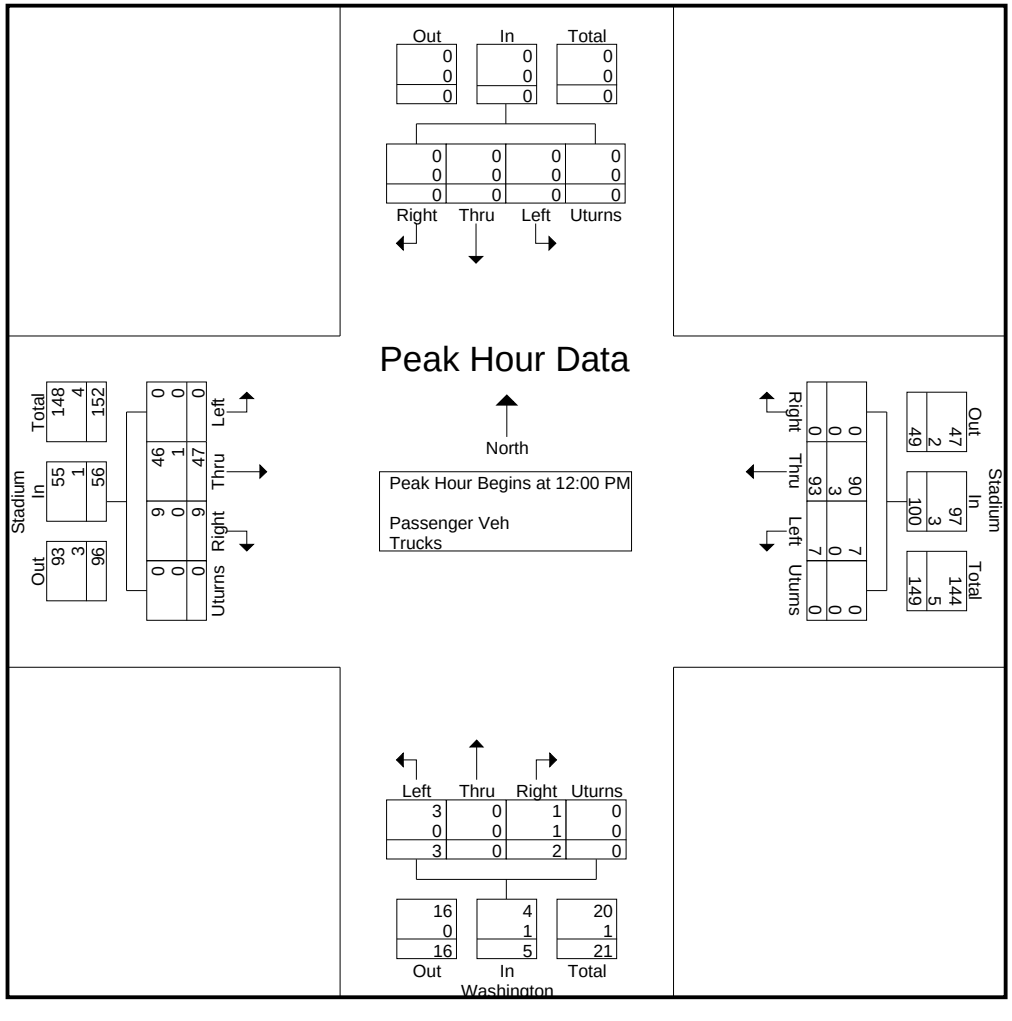
	From North					Stadium From East					Washington From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	0	0	0	0	0	22	1	0	23	**1**	0	1	0	**2**	2	9	0	0	11	36
12:15 PM	0	0	0	0	0	0	20	**3**	0	23	0	0	**2**	0	2	2	13	0	0	**15**	40
12:30 PM	0	0	0	0	0	0	**27**	1	0	**28**	1	0	0	0	1	**4**	11	0	0	15	**44**
12:45 PM	0	0	0	0	0	0	24	2	0	26	0	0	0	0	0	1	**14**	0	0	15	41
Total Volume	0	0	0	0	0	0	93	7	0	100	2	0	3	0	5	9	47	0	0	56	161
% App. Total	0	0	0	0		0	93	7	0		40	0	60	0		16.1	83.9	0	0		
PHF	.000	.000	.000	.000	.000	.000	.861	.583	.000	.893	.500	.000	.375	.000	.625	.563	.839	.000	.000	.933	.915
Passenger Veh	0	0	0	0	0	0	90	7	0	97	1	0	3	0	4	9	46	0	0	55	156
% Passenger Veh	0	0	0	0	0	0	96.8	100	0	97.0	50.0	0	100	0	80.0	100	97.9	0	0	98.2	96.9
Trucks	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	1	0	0	1	5
% Trucks	0	0	0	0	0	0	3.2	0	0	3.0	50.0	0	0	0	20.0	0	2.1	0	0	1.8	3.1

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 6



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 7

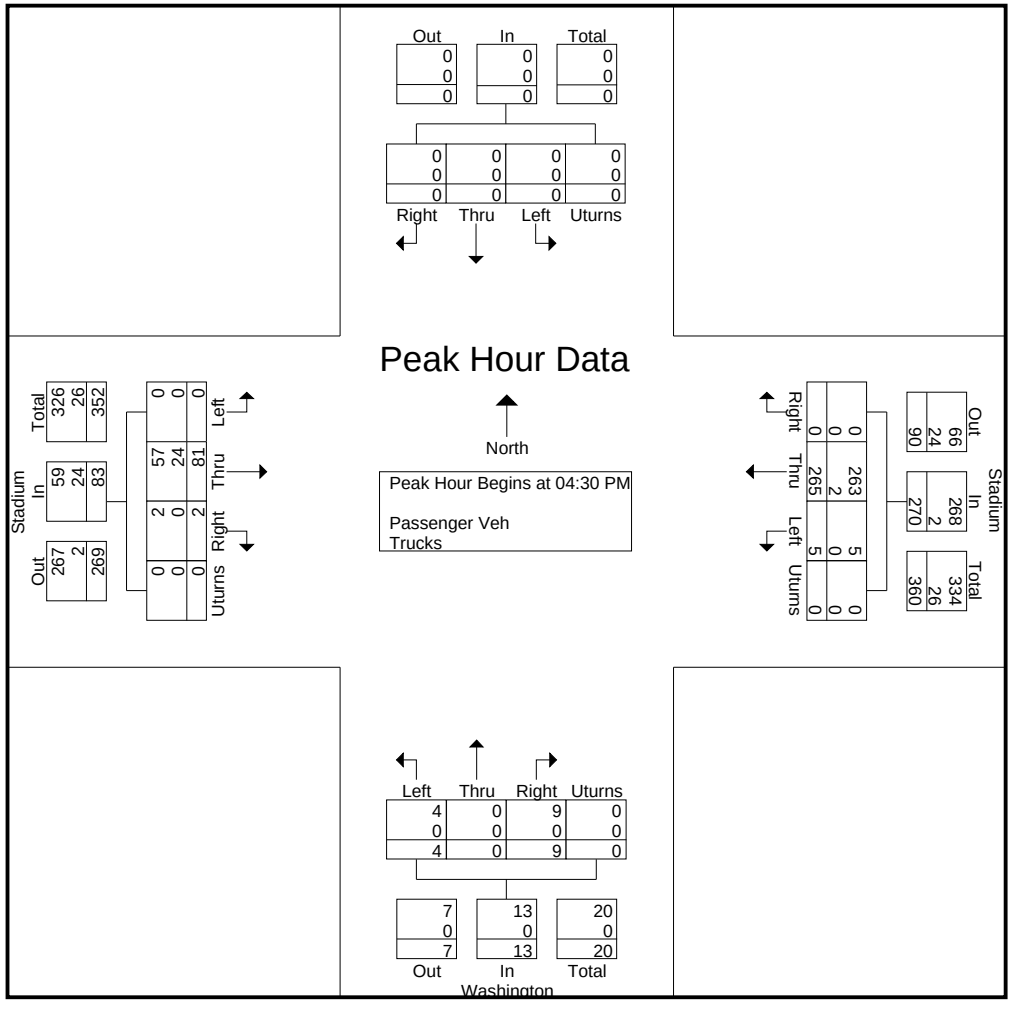
	From North					Stadium From East					Washington From South					Stadium From West					
Start Time	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Right	Thru	Left	Uturns	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	63	0	0	63	2	0	0	0	2	0	16	0	0	16	81
04:45 PM	0	0	0	0	0	0	70	**3**	0	**73**	1	0	**2**	0	3	**1**	**23**	0	0	**24**	**100**
05:00 PM	0	0	0	0	0	0	**71**	1	0	72	1	0	2	0	3	0	20	0	0	20	95
05:15 PM	0	0	0	0	0	0	61	1	0	62	**5**	0	0	0	**5**	1	22	0	0	23	90
Total Volume	0	0	0	0	0	0	265	5	0	270	9	0	4	0	13	2	81	0	0	83	366
% App. Total	0	0	0	0		0	98.1	1.9	0		69.2	0	30.8	0		2.4	97.6	0	0		
PHF	.000	.000	.000	.000	.000	.000	.933	.417	.000	.925	.450	.000	.500	.000	.650	.500	.880	.000	.000	.865	.915
Passenger Veh	0	0	0	0	0	0	263	5	0	268	9	0	4	0	13	2	57	0	0	59	340
% Passenger Veh	0	0	0	0	0	0	99.2	100	0	99.3	100	0	100	0	100	100	70.4	0	0	71.1	92.9
Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	24	0	0	24	26
% Trucks	0	0	0	0	0	0	0.8	0	0	0.7	0	0	0	0	0	0	29.6	0	0	28.9	7.1

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 8



Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 1

Groups Printed- Bikes - Peds

	From North					Stadium From East					Washington From South					Stadium From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2	0	0	2	4
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	3	3	0	1	0	0	1	5
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0	6
Total	0	0	0	0	0	0	1	0	3	4	0	0	0	11	11	0	3	0	0	3	18
08:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	3	3	0	0	0	0	0	5
08:15 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	4	4	0	2	0	1	3	8
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2
08:45 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	0	1	0	0	1	4
Total	0	0	0	0	0	0	1	1	2	4	0	0	0	9	9	0	4	0	2	6	19
*** BREAK ***																					
11:00 AM	0	0	0	0	0	0	0	1	1	2	1	0	0	5	6	0	0	0	0	0	8
11:15 AM	0	0	0	0	0	0	0	0	2	2	0	0	1	4	5	0	0	0	0	0	7
11:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	5	5	0	1	0	1	2	8
11:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	4	4	0	0	0	0	0	5
Total	0	0	0	0	0	0	1	1	4	6	1	0	1	18	20	0	1	0	1	2	28
12:00 PM	0	0	0	0	0	0	0	0	5	5	3	0	0	12	15	0	1	0	0	1	21
12:15 PM	0	0	0	0	0	0	2	2	6	10	0	0	0	14	14	0	2	0	0	2	26
12:30 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	8	8	0	0	0	0	0	10
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	1	1	5
Total	0	0	0	0	0	0	2	2	13	17	3	0	0	38	41	0	3	0	1	4	62
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	1	1	2	4	0	0	0	3	3	0	0	0	0	0	7
04:15 PM	0	0	0	0	0	0	0	2	1	3	0	0	0	4	4	0	0	0	0	0	7
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	8	8	0	0	0	0	0	9
04:45 PM	0	0	0	0	0	0	2	0	3	5	2	0	0	8	10	0	0	0	0	0	15
Total	0	0	0	0	0	0	4	3	6	13	2	0	0	23	25	0	0	0	0	0	38
05:00 PM	0	0	0	0	0	0	2	0	4	6	0	0	0	6	6	0	2	0	0	2	14
05:15 PM	0	0	0	0	0	0	2	0	1	3	0	0	0	21	21	0	0	0	0	0	24
05:30 PM	0	0	0	0	0	0	0	0	1	1	1	0	0	7	8	0	0	0	1	1	10
05:45 PM	0	0	0	0	0	0	0	1	4	5	2	0	0	8	10	0	0	0	0	0	15
Total	0	0	0	0	0	0	4	1	10	15	3	0	0	42	45	0	2	0	1	3	63
Grand Total	0	0	0	0	0	0	13	8	38	59	9	0	1	141	151	0	13	0	5	18	228
Apprch %	0	0	0	0		0	22	13.6	64.4		6	0	0.7	93.4		0	72.2	0	27.8		
Total %	0	0	0	0	0	0	5.7	3.5	16.7	25.9	3.9	0	0.4	61.8	66.2	0	5.7	0	2.2	7.9	

Data Collection Group

Attachment E

LSmith@DataCollectionGroup.net

File Name : Stadium and Washington
Site Code : 11111111
Start Date : 8/31/2021
Page No : 2

Groups Printed- Bikes - Peds

	From North					Stadium From East					Washington From South					Stadium From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Bikes	0	0	0	0	0	0	13	8	0	21	9	0	1	0	10	0	13	0	1	14	45
% Bikes	0	0	0	0	0	0	100	100	0	35.6	100	0	100	0	6.6	0	100	0	20	77.8	19.7
Peds	0	0	0	0	0	0	0	0	38	38	0	0	0	141	141	0	0	0	4	4	183
% Peds	0	0	0	0	0	0	0	0	100	64.4	0	0	0	100	93.4	0	0	0	80	22.2	80.3

Appendix B

Traffic Signal Timings

Attachment E

1000066 - JPA @ Shamrock
Table 1 - Timing and Functions Page 0
10/6/2021
4:51 PM

0 + Key			Phase + Key					Phase				
FUNCTION	KEY	12345678	FUNCTION	KEY	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
Vehicle Recall	0	2 6	Max I	0	10	50	0	25	0	50	0	15
Ped Recall	1		Max II/HFDW	1	0	0	0	0	0	0	0	0
Red Lock	2		Walk	2	0	7	0	10	0	7	0	0
Yellow Lock	3		Flashing DW	3	0	10	0	14	0	10	0	0
Permits	4	12 4 6 8	Max Initial	4	7	30	0	7	0	30	0	7
Ped Phases	5	2 4 6	Min Green	5	7	30	0	7	0	30	0	7
Lead Phases	6	1 3 5 7	TBR	6	7	30	0	7	0	30	0	7
Double Entry	7		TTR	7	7	30	0	7	0	30	0	7
Sequential Timing	8		Observe Gap	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Startup Green	9	2 6	Passage	9	2.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0
Overlap A	A		Min Gap	A	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Overlap B	B		Added Actuation	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overlap C	C		Yellow	C	4.0	4.0	0.0	4.0	0.0	4.0	0.0	4.0
Overlap D	D		Red Clear	D	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Exclusive	E		Red Revert	E	5.0	5.0	0.0	5.0	0.0	5.0	0.0	5.0
Simultaneous Gap	F		Walk II	F	0	0	0	0	0	0	0	0

Attachment E

1000066 - JPA @ Shamrock
Table 2 - Overlaps Page 0
10/6/2021
4:51 PM

9 + Key			C + F + Key		
FUNCTION	KEY	VALUE	FUNCTION	KEY	VALUE
Short Power Down	0	4	Page ID	0	0
Long Power Down	1	4	Reserved	1	0
EVA Delay Type	2	0	Reserved	2	0
EVB Delay Type	3	0	Reserved	3	0
EVC Delay Type	4	0	OLA Red	4	0.0
EVD Delay Type	5	0	OLB Red	5	0.0
RR Delay Type	6	0	OLC Red	6	0.0
Ped Inhibit	7	0	OLD Red	7	0.0
OLA Green	8	0.0			12345678
OLA Yellow	9	0.0	Overlap E	8	
OLB Green	A	0.0	Overlap F	9	
OLB Yellow	B	0.0	Red Rest	A	
OLC Green	C	0.0	Max Recall	B	
OLC Yellow	D	0.0	Flash Green	C	
OLD Green	E	0.0	Flash Walk	D	
OLD Yellow	F	0.0	Advance Walk	E	
			Restrictive Phase	F	

Attachment E

1000066 - JPA @ Shamrock
Table 3 - Preempts
10/6/2021
4:51 PM

C + Key			E + Key		
FUNCTION	KEY	VALUE	FUNCTION	KEY	VALUE
Year	0	0	EVA Delay	0	0
Month	1	0	EVA Minimum	1	5
Day of Month	2	0	EVB Delay	2	0
		1234567	EVB Minimum	3	5
Day of Week	3		EVC Delay	4	0
		VALUE	EVC Minimum	5	5
Hour	4	0	EVD Delay	6	0
Minute	5	0	EVD Minimum	7	5
Second	6	0	OL Red Revert	8	0.0
Reserved	7	0	RR Delay	9	0
Triggers On In Flash	8	0	RR Clear	A	0
		12345678			12345678
Startup Yellow	9		RR Clear Phases	B	
EVA Phases	A		RR Permit	C	
EVB Phases	B		RR OL Permit	D	
EVC Phases	C		NEMA Hold Phases	E	
EVD Phases	D		Reserved	F	
Handicap Ped	E				
Reserved	F				

Attachment E

1000066 - JPA @ Shamrock
Table 6 - Coordination Functions
10/6/2021
4:51 PM

B + 0 + Key			D + Key		
FUNCTION	KEY	VALUE	FUNCTION	KEY	VALUE
Present Plan	0	0	Floating Ped	2E	0
TOD/DOW Plan	1	0	ID Number	2F	66
Hardwire Plan	2	0	No Coord Ped Recall	3E	1
Modem Plan	3	0	Rest In Walk	3F	0
Mode (0-4)	4	0	Adv Warning EOG	4E	0
Master (0 = Off)	5	0	Adv Warning SOG	4F	0
Master Clock	6	0	RR Red Clear	5E	0
Local Clock	7	0	RR Clear Color	5F	0
Dwell Clock	8	0	Bus Delay	6D	0.0
Reserved	9	0	Bus Free T1	6E	0
Reserved	A	0	Bus Free T3	6F	0
Reserved	B	0	EV Min After Clear	7E	1
		12345678	EV Indicators	7F	1
Reserved	C		NEMA Inputs	66	0
NEMA CNA Phase	D		Reserved		0
Adv Warning Phase	E		Reserved		0
MRI Phase	F				

Attachment E

1000066 - JPA @ Shamrock
Table 8 - Bus Preemption
10/6/2021
4:51 PM

B + A + Key			B + B + Key			B + C + Key		
FUNCTION	KEY	VALUE	FUNCTION	KEY	VALUE	FUNCTION	KEY	VALUE
Bus P1 T1	0	0	Bus P4 T1	0	0	Bus P7 T1	0	0
Bus P1 T2	1	0	Bus P4 T2	1	0	Bus P7 T2	1	0
Bus P1 T3	2	0	Bus P4 T3	2	0	Bus P7 T3	2	0
Bus P2 T1	3	0	Bus P5 T1	3	0	Bus P8 T1	3	0
Bus P2 T2	4	0	Bus P5 T2	4	0	Bus P8 T2	4	0
Bus P2 T3	5	0	Bus P5 T3	5	0	Bus P8 T3	5	0
Bus P3 T1	6	0	Bus P6 T1	6	0	Bus P9 T1	6	0
Bus P3 T2	7	0	Bus P6 T2	7	0	Bus P9 T2	7	0
Bus P3 T3	8	0	Bus P6 T3	8	0	Bus P9 T3	8	0
Perm 2 P1	9	0	Perm 2 P4	9	0	Perm 2 P7	9	0
Perm 2 P2	A	0	Perm 2 P5	A	0	Perm 2 P8	A	0
Perm 2 P3	B	0	Perm 2 P6	B	0	Perm 2 P9	B	0
		12345678			12345678			12345678
Flash Yellow	C	2 6	OL Flash Yellow	C		Coordinated Max	C	
Flash Circuit	D		OL Flash Clear	D		TOD Red Rest	D	
TOD/DOW Max	E		TOD/DOW Ped	E		OLA Switchpack	E	
OLB Switchpack	F		OLC Switchpack	F		OLD Switchpack	F	

Attachment E

1000066 - JPA @ Shamrock
Table 9 - Input Reassignments Page 0
10/6/2021
4:51 PM

A + 4 + Key			A + 5 + Key			A + 6 + Key		
C1 PIN	KEY	VALUE	C1 PIN	KEY	VALUE	C1 PIN	KEY	VALUE
39	0	34	55	0	0	67	0	0
40	1	32	56	1	12	68	1	0
41	2	0	57	2	0	69	2	0
42	3	0	58	3	11	70	3	0
43	4	0	59	4	0	71	4	0
44	5	0	60	5	0	72	5	0
45	6	0	61	6	0	73	6	0
46	7	22	62	7	0	74	7	0
47	8	0	N/U	8	0	75	8	0
48	9	18	N/U	9	0	76	9	0
49	A	0	N/U	A	0	77	A	0
50	B	0	N/U	B	0	78	B	0
51	C	0	63	C	0	79	C	0
52	D	0	64	D	0	80	D	0
53	E	0	65	E	0	81	E	0
54	F	0	66	F	0	82	F	0

Attachment E

1000066 - JPA @ Shamrock
Table 13 - Additional Overlaps
10/6/2021
4:51 PM

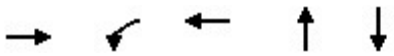
D + 9 + 0 + Key			D + 9 + 3 + Key			E + F + Key		
FUNCTION	KEY	12345678	FUNCTION	KEY	VALUE	FUNCTION	KEY	VALUE
Overlap H	0		OLH Green	0	0.0	RR Max II	0	0
Overlap J	1		OLH Yellow	1	0.0	Ped Perm Plan 1	1	0
Overlap K	2		OLH Red	2	0.0	Ped Perm Plan 2	2	0
Overlap L	3		OLJ Green	3	0.0	Ped Perm Plan 3	3	0
OLH Switchpack	4		OLJ Yellow	4	0.0	Ped Perm Plan 4	4	0
OLJ Switchpack	5		OLJ Red	5	0.0	Ped Perm Plan 5	5	0
OLK Switchpack	6		OLK Green	6	0.0	Ped Perm Plan 6	6	0
OLL Switchpack	7		OLK Yellow	7	0.0	Ped Perm Plan 7	7	0
Reserved	8		OLK Red	8	0.0	Ped Perm Plan 8	8	0
Reserved	9		OLL Green	9	0.0	Ped Perm Plan 9	9	0
Reserved	A		OLL Yellow	A	0.0	Long Power Outs	A	0
Reserved	B		OLL Red	B	0.0	Short Power Outs	B	0
Reserved	C		Reserved	C	0	Failed Detectors	C	0
Reserved	D		Reserved	D	0	Max II On	D	0
Reserved	E		Reserved	E	0	No Daylight Savings	E	165
Reserved	F		Reserved	F	0	Revision Level	F	60

Attachment E
1000043 - JPA @ Maury
Table 1 - Timing and Functions Page 0
9/22/2021
9:47 AM

0 + Key			Phase + Key		Phase							
FUNCTION	KEY	12345678	FUNCTION	KEY	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
Vehicle Recall	0	2 6	Max I	0	10	30	20	30	0	30	0	30
Ped Recall	1	2 6	Max II/HFDW	1	0	0	0	0	0	0	0	0
Red Lock	2		Walk	2	0	7	0	7	0	7	0	7
Yellow Lock	3		Flashing DW	3	0	14	0	14	0	14	0	14
Permits	4	1234 6 8	Max Initial	4	7	7	7	7	0	7	0	7
Ped Phases	5	2 4 6 8	Min Green	5	7	7	7	7	0	7	0	7
Lead Phases	6	1 3 5 7	TBR	6	7	7	7	7	0	7	0	7
Double Entry	7		TTR	7	7	7	7	7	0	7	0	7
Sequential Timing	8		Observe Gap	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Startup Green	9	2 6	Passage	9	2.0	3.0	2.0	2.0	0.0	3.0	0.0	2.0
Overlap A	A		Min Gap	A	1.5	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Overlap B	B		Added Actuation	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overlap C	C		Yellow	C	4.0	4.0	4.0	4.0	0.0	4.0	0.0	4.0
Overlap D	D		Red Clear	D	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Exclusive	E	4	Red Revert	E	5.0	5.0	5.0	5.0	0.0	5.0	0.0	5.0
Simultaneous Gap	F		Walk II	F	0	0	0	0	0	0	0	0

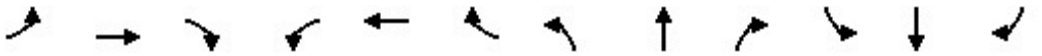
Appendix C

Synchro/SimTraffic Outputs for 2021 Existing Conditions



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	517	33	259	192	27
v/c Ratio	0.59	0.06	0.24	0.66	0.09
Control Delay	17.0	6.4	7.1	41.9	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	6.4	7.1	41.9	24.6
Queue Length 50th (ft)	162	5	46	92	10
Queue Length 95th (ft)	320	18	104	157	31
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	883	516	1065	447	469
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.06	0.24	0.43	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	451	32	31	243	3	65	45	73	4	19	3
Future Volume (veh/h)	8	451	32	31	243	3	65	45	73	4	19	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.95	0.97		0.95
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	1707	1870	1811	1856	1811	1900	1870	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	475	34	33	256	3	68	47	77	4	20	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	2	6	3	6	0	2	0	0	0	0	0
Cap, veh/h	49	916	65	575	1180	14	143	97	121	74	283	38
Arrive On Green	0.54	0.54	0.54	0.05	0.66	0.66	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	8	1701	120	1767	1784	21	436	505	630	122	1475	200
Grp Volume(v), veh/h	517	0	0	33	0	259	192	0	0	27	0	0
Grp Sat Flow(s),veh/h/ln	1829	0	0	1767	0	1805	1571	0	0	1797	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	4.6	5.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.8	0.0	0.0	0.6	0.0	4.6	9.0	0.0	0.0	1.0	0.0	0.0
Prop In Lane	0.02		0.07	1.00		0.01	0.35		0.40	0.15		0.11
Lane Grp Cap(c), veh/h	1030	0	0	575	0	1194	361	0	0	396	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.06	0.00	0.22	0.53	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1030	0	0	575	0	1194	517	0	0	571	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	0.0	0.0	6.3	0.0	5.5	30.2	0.0	0.0	27.1	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.2	0.0	0.4	1.2	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	0.0	0.2	0.0	1.5	3.5	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	0.0	0.0	6.4	0.0	5.9	31.4	0.0	0.0	27.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		517			292			192			27	
Approach Delay, s/veh		13.8			6.0			31.4			27.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		21.7		60.0		21.7				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	2.6	16.8		3.0		6.6		11.0				
Green Ext Time (p_c), s	0.0	3.5		0.0		1.6		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			15.2									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	479	1	4	287	3	1	0	1	2	0	2
Future Vol, veh/h	9	479	1	4	287	3	1	0	1	2	0	2
Conflicting Peds, #/hr	57	0	19	19	0	57	0	0	16	16	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	3	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	10	515	1	4	309	3	1	0	1	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	369	0	0	535	0	0	875	932	551	928	931	368
Stage 1	-	-	-	-	-	-	555	555	-	376	376	-
Stage 2	-	-	-	-	-	-	320	377	-	552	555	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1201	-	-	1043	-	-	272	269	538	250	269	682
Stage 1	-	-	-	-	-	-	520	516	-	649	620	-
Stage 2	-	-	-	-	-	-	696	619	-	522	516	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1136	-	-	1024	-	-	263	246	520	229	246	645
Mov Cap-2 Maneuver	-	-	-	-	-	-	263	246	-	229	246	-
Stage 1	-	-	-	-	-	-	504	501	-	606	583	-
Stage 2	-	-	-	-	-	-	690	582	-	507	501	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	15.4	15.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	349	1136	-	-	1024	-	-	338
HCM Lane V/C Ratio	0.006	0.009	-	-	0.004	-	-	0.013
HCM Control Delay (s)	15.4	8.2	0	-	8.5	0	-	15.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	483	2	2	291	2	0	0	1	0	0	0
Future Vol, veh/h	5	483	2	2	291	2	0	0	1	0	0	0
Conflicting Peds, #/hr	43	0	26	26	0	43	2	0	2	2	0	2
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	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	20	3	100	0	5	0	0	0	0	0	0	0
Mvmt Flow	6	537	2	2	323	2	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	368	0	0	565	0	0	906	948	566	924	948	369
Stage 1	-	-	-	-	-	-	576	576	-	371	371	-
Stage 2	-	-	-	-	-	-	330	372	-	553	577	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1098	-	-	1017	-	-	259	263	528	252	263	681
Stage 1	-	-	-	-	-	-	506	505	-	653	623	-
Stage 2	-	-	-	-	-	-	687	622	-	521	505	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1053	-	-	992	-	-	250	244	514	239	244	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	244	-	239	244	-
Stage 1	-	-	-	-	-	-	489	488	-	621	596	-
Stage 2	-	-	-	-	-	-	684	595	-	515	488	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	514	1053	-	-	992	-	-	-
HCM Lane V/C Ratio	0.002	0.005	-	-	0.002	-	-	-
HCM Control Delay (s)	12	8.4	0	-	8.6	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	502	0	4	278	1	1	0	3	2	0	3
Future Vol, veh/h	6	502	0	4	278	1	1	0	3	2	0	3
Conflicting Peds, #/hr	56	0	32	32	0	56	2	0	1	1	0	2
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	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	0	25	4	0	0	0	0	0	0	0
Mvmt Flow	7	558	0	4	309	1	1	0	3	2	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	366	0	0	590	0	0	925	978	591	949	978	368
Stage 1	-	-	-	-	-	-	604	604	-	374	374	-
Stage 2	-	-	-	-	-	-	321	374	-	575	604	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1204	-	-	882	-	-	252	252	511	242	252	682
Stage 1	-	-	-	-	-	-	489	491	-	651	621	-
Stage 2	-	-	-	-	-	-	695	621	-	507	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1140	-	-	855	-	-	240	228	495	225	228	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	240	228	-	225	228	-
Stage 1	-	-	-	-	-	-	470	472	-	611	584	-
Stage 2	-	-	-	-	-	-	686	584	-	499	472	-

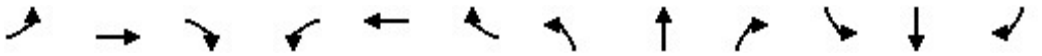
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.3	14.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	391	1140	-	-	855	-	-	369
HCM Lane V/C Ratio	0.011	0.006	-	-	0.005	-	-	0.015
HCM Control Delay (s)	14.3	8.2	0	-	9.2	0	-	14.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	318	148	58	257	336	252	192	22	53	15
v/c Ratio	0.19	0.50	0.15	0.16	0.33	0.77	0.55	0.38	0.12	0.24	0.05
Control Delay	26.8	28.9	1.6	18.4	18.9	41.8	32.4	6.8	34.0	36.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	28.9	1.6	18.4	18.9	41.8	32.4	6.8	34.0	36.0	0.3
Queue Length 50th (ft)	28	135	0	17	82	152	107	0	10	26	0
Queue Length 95th (ft)	77	275	19	52	186	#319	215	53	31	59	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	382	641	1048	359	786	559	582	595	491	571	530
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.50	0.14	0.16	0.33	0.60	0.43	0.32	0.04	0.09	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	293	136	53	214	22	309	232	177	20	49	14
Future Volume (veh/h)	68	293	136	53	214	22	309	232	177	20	49	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		1.00	1.00		0.93
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	1856	1856	1885	1870	1841	1559	1885	1870	1885	1678	1841	1693
Adj Flow Rate, veh/h	74	318	148	58	233	24	336	252	0	22	53	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	1	2	4	23	1	2	1	15	4	14
Cap, veh/h	445	596	868	324	712	73	409	427		172	199	143
Arrive On Green	0.32	0.32	0.32	0.04	0.43	0.43	0.23	0.23	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1100	1856	1570	1781	1639	169	1795	1870	1598	1598	1841	1328
Grp Volume(v), veh/h	74	318	148	58	0	257	336	252	0	22	53	15
Grp Sat Flow(s),veh/h/ln	1100	1856	1570	1781	0	1808	1795	1870	1598	1598	1841	1328
Q Serve(g_s), s	3.8	11.0	3.7	1.6	0.0	7.3	13.9	9.4	0.0	1.0	2.1	0.8
Cycle Q Clear(g_c), s	3.8	11.0	3.7	1.6	0.0	7.3	13.9	9.4	0.0	1.0	2.1	0.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	445	596	868	324	0	785	409	427		172	199	143
V/C Ratio(X)	0.17	0.53	0.17	0.18	0.00	0.33	0.82	0.59		0.13	0.27	0.10
Avail Cap(c_a), veh/h	445	596	868	349	0	785	550	573		490	564	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	21.8	8.8	16.6	0.0	14.6	28.7	27.0	0.0	31.6	32.1	31.5
Incr Delay (d2), s/veh	0.8	3.4	0.4	0.1	0.0	1.1	5.3	0.5	0.0	0.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.0	2.0	0.6	0.0	3.0	6.4	4.1	0.0	0.4	0.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	25.2	9.2	16.7	0.0	15.7	34.1	27.5	0.0	31.7	32.3	31.6
LnGrp LOS	C	C	A	B	A	B	C	C		C	C	C
Approach Vol, veh/h		540			315			588	A		90	
Approach Delay, s/veh		20.1			15.9			31.2			32.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	31.1		14.4		40.0		23.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	3.6	13.0		4.1		9.3		15.9				
Green Ext Time (p_c), s	0.0	2.0		0.2		1.4		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		24.2	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	111	70	6	18	9	31	2	304	49	26	71	29
Future Vol, veh/h	111	70	6	18	9	31	2	304	49	26	71	29
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	22	11	0	0	3	0	54	4	21
Mvmt Flow	132	83	7	21	11	37	2	362	58	31	85	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.7	9.8	14.6	11.4
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	59%	31%	21%
Vol Thru, %	86%	37%	16%	56%
Vol Right, %	14%	3%	53%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	355	187	58	126
LT Vol	2	111	18	26
Through Vol	304	70	9	71
RT Vol	49	6	31	29
Lane Flow Rate	423	223	69	150
Geometry Grp	1	1	1	1
Degree of Util (X)	0.581	0.35	0.115	0.258
Departure Headway (Hd)	4.948	5.659	5.982	6.202
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	634	598	579
Service Time	2.978	3.696	4.028	4.241
HCM Lane V/C Ratio	0.579	0.352	0.115	0.259
HCM Control Delay	14.6	11.7	9.8	11.4
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	3.8	1.6	0.4	1

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	143	3	1	50	1	4
Future Vol, veh/h	143	3	1	50	1	4
Conflicting Peds, #/hr	0	13	13	0	4	1
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	81	81	81	81	81	81
Heavy Vehicles, %	10	0	0	8	0	0
Mvmt Flow	177	4	1	62	1	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	194	0	260	193
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	68	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1391	-	733	854
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	960	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1374	-	721	843
Mov Cap-2 Maneuver	-	-	-	-	721	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	815	-	-	1374	-
HCM Lane V/C Ratio	0.008	-	-	0.001	-
HCM Control Delay (s)	9.5	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	4	0
Future Vol, veh/h	0	0	0	8	4	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	9	4	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	4	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1011	1085	1631	-	-	-
Stage 1	1024	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1011	1085	1631	-	-	-
Mov Cap-2 Maneuver	1011	-	-	-	-	-
Stage 1	1024	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1631	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	299	66	140	197	63
Average Queue (ft)	143	16	54	103	18
95th Queue (ft)	260	45	112	169	51
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	3		
Queuing Penalty (veh)		0	1		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	56	27	31
Average Queue (ft)	7	4	2	4
95th Queue (ft)	37	25	12	20
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	65	38	22
Average Queue (ft)	5	2	1
95th Queue (ft)	35	20	9
Link Distance (ft)	174	77	261
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	61	31	29
Average Queue (ft)	3	4	4	5
95th Queue (ft)	24	30	20	22
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	133	292	120	87	211	269	221	111	67	93	66
Average Queue (ft)	38	117	39	36	93	152	112	6	14	32	14
95th Queue (ft)	92	223	113	82	178	237	188	63	47	72	45
Link Distance (ft)		774			432		770			538	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	150		120	88		355		225	117		125
Storage Blk Time (%)	0	7	0	0	9	0	0	0		0	0
Queuing Penalty (veh)	0	14	1	0	5	0	1	0		0	0

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	101	73	224	101
Average Queue (ft)	49	33	106	47
95th Queue (ft)	79	64	183	83
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

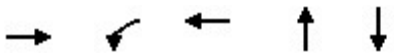
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	3	6	30
Average Queue (ft)	0	0	4
95th Queue (ft)	3	4	22
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

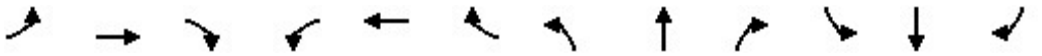
Network Summary

Network wide Queuing Penalty: 24



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	482	59	379	106	30
v/c Ratio	0.44	0.10	0.32	0.49	0.12
Control Delay	11.6	5.2	6.1	37.6	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	5.2	6.1	37.6	25.1
Queue Length 50th (ft)	126	7	57	48	11
Queue Length 95th (ft)	272	25	147	93	32
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	1084	612	1198	444	499
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.10	0.32	0.24	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	406	33	54	342	6	38	22	38	2	21	5
Future Volume (veh/h)	5	406	33	54	342	6	38	22	38	2	21	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.92	0.99		0.93	0.89		0.88	0.91		0.88
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	1900	1841	1856	1841	1811	1900	1826	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	441	36	59	372	7	41	24	41	2	23	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	3	4	6	0	5	0	0	0	0	0
Cap, veh/h	47	910	74	576	1162	22	149	90	112	53	287	59
Arrive On Green	0.55	0.55	0.55	0.04	0.66	0.66	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	4	1660	134	1753	1769	33	445	458	570	30	1455	297
Grp Volume(v), veh/h	482	0	0	59	0	379	106	0	0	30	0	0
Grp Sat Flow(s),veh/h/ln	1799	0	0	1753	0	1802	1474	0	0	1783	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	7.5	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.6	0.0	0.0	1.1	0.0	7.5	4.7	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.01		0.07	1.00		0.02	0.39		0.39	0.07		0.17
Lane Grp Cap(c), veh/h	1030	0	0	576	0	1184	351	0	0	398	0	0
V/C Ratio(X)	0.47	0.00	0.00	0.10	0.00	0.32	0.30	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	1030	0	0	598	0	1184	486	0	0	563	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	0.0	6.5	0.0	6.1	28.3	0.0	0.0	26.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	0.7	0.5	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	0.4	0.0	2.5	1.8	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	0.0	6.6	0.0	6.8	28.8	0.0	0.0	27.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		482			438			106			30	
Approach Delay, s/veh		11.8			6.8			28.8			27.0	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	51.0		22.2		60.0		22.2				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	3.1	15.6		3.1		9.5		6.7				
Green Ext Time (p_c), s	0.0	3.2		0.0		2.5		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			11.9									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	419	3	8	351	1	1	0	1	2	0	8
Future Vol, veh/h	6	419	3	8	351	1	1	0	1	2	0	8
Conflicting Peds, #/hr	22	0	24	24	0	22	0	0	22	22	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	6	451	3	9	377	1	1	0	1	2	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	400	0	0	478	0	0	889	907	499	905	908	400
Stage 1	-	-	-	-	-	-	489	489	-	418	418	-
Stage 2	-	-	-	-	-	-	400	418	-	487	490	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1170	-	-	1095	-	-	266	278	576	260	277	654
Stage 1	-	-	-	-	-	-	564	553	-	616	594	-
Stage 2	-	-	-	-	-	-	630	594	-	566	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1145	-	-	1070	-	-	253	261	551	245	260	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	261	-	245	260	-
Stage 1	-	-	-	-	-	-	547	536	-	599	575	-
Stage 2	-	-	-	-	-	-	615	575	-	549	535	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	15.4	12.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	1145	-	-	1070	-	-	484
HCM Lane V/C Ratio	0.006	0.006	-	-	0.008	-	-	0.022
HCM Control Delay (s)	15.4	8.2	0	-	8.4	0	-	12.6
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	425	1	1	360	5	2	0	3	4	1	7
Future Vol, veh/h	3	425	1	1	360	5	2	0	3	4	1	7
Conflicting Peds, #/hr	30	0	24	24	0	30	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	33	4	100	0	6	0	100	0	0	0	0	0
Mvmt Flow	3	447	1	1	379	5	2	0	3	4	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	414	0	0	472	0	0	866	894	473	870	892	412
Stage 1	-	-	-	-	-	-	478	478	-	414	414	-
Stage 2	-	-	-	-	-	-	388	416	-	456	478	-
Critical Hdwy	4.43	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	997	-	-	1100	-	-	189	283	595	274	283	644
Stage 1	-	-	-	-	-	-	421	559	-	620	597	-
Stage 2	-	-	-	-	-	-	478	595	-	588	559	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	969	-	-	1075	-	-	181	267	581	264	267	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	267	-	264	267	-
Stage 1	-	-	-	-	-	-	410	544	-	600	579	-
Stage 2	-	-	-	-	-	-	471	577	-	582	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	16.9	14.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	308	969	-	-	1075	-	-	399
HCM Lane V/C Ratio	0.017	0.003	-	-	0.001	-	-	0.032
HCM Control Delay (s)	16.9	8.7	0	-	8.4	0	-	14.3
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	426	3	3	377	6	2	0	3	0	0	1
Future Vol, veh/h	3	426	3	3	377	6	2	0	3	0	0	1
Conflicting Peds, #/hr	23	0	21	21	0	23	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	4	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	3	448	3	3	397	6	2	0	3	0	0	1

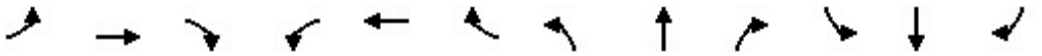
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	426	0	0	472	0	0	884	909	472	887	907	423
Stage 1	-	-	-	-	-	-	477	477	-	429	429	-
Stage 2	-	-	-	-	-	-	407	432	-	458	478	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1144	-	-	1100	-	-	268	277	596	267	278	635
Stage 1	-	-	-	-	-	-	573	559	-	608	587	-
Stage 2	-	-	-	-	-	-	625	586	-	587	559	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1119	-	-	1078	-	-	260	263	584	258	264	621
Mov Cap-2 Maneuver	-	-	-	-	-	-	260	263	-	258	264	-
Stage 1	-	-	-	-	-	-	559	546	-	592	572	-
Stage 2	-	-	-	-	-	-	621	571	-	581	546	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.4	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	390	1119	-	-	1078	-	-	621
HCM Lane V/C Ratio	0.013	0.003	-	-	0.003	-	-	0.002
HCM Control Delay (s)	14.4	8.2	0	-	8.3	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	273	153	133	256	140	90	137	33	123	45
v/c Ratio	0.13	0.44	0.18	0.31	0.30	0.51	0.31	0.36	0.14	0.44	0.12
Control Delay	23.0	24.9	1.8	17.1	15.8	36.3	31.5	6.3	30.3	35.2	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	24.9	1.8	17.1	15.8	36.3	31.5	6.3	30.3	35.2	0.7
Queue Length 50th (ft)	15	92	0	31	63	58	36	0	13	51	0
Queue Length 95th (ft)	53	226	20	97	178	126	86	32	40	111	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	363	627	1100	436	846	601	639	627	534	652	639
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.44	0.14	0.31	0.30	0.23	0.14	0.22	0.06	0.19	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	257	144	125	216	24	132	85	129	31	116	42
Future Volume (veh/h)	46	257	144	125	216	24	132	85	129	31	116	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		1.00	1.00		0.94
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	1796	1841	1856	1856	1811	1589	1856	1870	1885	1663	1900	1900
Adj Flow Rate, veh/h	49	273	153	133	230	26	140	90	0	33	123	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	4	3	3	6	21	3	2	1	16	0	0
Cap, veh/h	470	631	743	421	775	88	235	249		197	236	189
Arrive On Green	0.34	0.34	0.34	0.06	0.49	0.49	0.13	0.13	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1071	1841	1556	1767	1597	180	1767	1870	1598	1584	1900	1519
Grp Volume(v), veh/h	49	273	153	133	0	256	140	90	0	33	123	45
Grp Sat Flow(s),veh/h/ln	1071	1841	1556	1767	0	1777	1767	1870	1598	1584	1900	1519
Q Serve(g_s), s	2.2	8.0	4.0	3.3	0.0	6.1	5.2	3.1	0.0	1.3	4.2	1.9
Cycle Q Clear(g_c), s	2.2	8.0	4.0	3.3	0.0	6.1	5.2	3.1	0.0	1.3	4.2	1.9
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	631	743	421	0	863	235	249		197	236	189
V/C Ratio(X)	0.10	0.43	0.21	0.32	0.00	0.30	0.60	0.36		0.17	0.52	0.24
Avail Cap(c_a), veh/h	470	631	743	421	0	863	606	641		543	651	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	17.7	10.7	13.2	0.0	10.8	28.6	27.6	0.0	27.4	28.7	27.7
Incr Delay (d2), s/veh	0.4	2.2	0.6	2.0	0.0	0.9	0.9	0.3	0.0	0.1	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.5	1.8	1.4	0.0	2.3	2.2	1.3	0.0	0.5	1.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	19.9	11.3	15.2	0.0	11.7	29.5	28.0	0.0	27.6	29.4	27.9
LnGrp LOS	B	B	B	B	A	B	C	C		C	C	C
Approach Vol, veh/h		475			389			230	A		201	
Approach Delay, s/veh		16.8			12.9			28.9			28.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		14.7		40.0		15.3				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	5.3	10.0		6.2		8.1		7.2				
Green Ext Time (p_c), s	0.0	1.9		0.5		1.5		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	12	2	53	22	21	5	157	26	17	150	40
Future Vol, veh/h	20	12	2	53	22	21	5	157	26	17	150	40
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	6	0	0	0	6	0	6	2	15
Mvmt Flow	22	13	2	60	25	24	6	176	29	19	169	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	9	9.1	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	59%	55%	8%
Vol Thru, %	84%	35%	23%	72%
Vol Right, %	14%	6%	22%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	34	96	207
LT Vol	5	20	53	17
Through Vol	157	12	22	150
RT Vol	26	2	21	40
Lane Flow Rate	211	38	108	233
Geometry Grp	1	1	1	1
Degree of Util (X)	0.261	0.054	0.151	0.291
Departure Headway (Hd)	4.455	5.134	5.028	4.509
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	805	695	711	795
Service Time	2.489	3.186	3.073	2.541
HCM Lane V/C Ratio	0.262	0.055	0.152	0.293
HCM Control Delay	9.1	8.5	9	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.5	1.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	9	7	93	3	2
Future Vol, veh/h	47	9	7	93	3	2
Conflicting Peds, #/hr	0	38	38	0	13	1
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	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	3	0	50
Mvmt Flow	52	10	8	102	3	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	226	96
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1505	-	767	844
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	900	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1451	-	726	813
Mov Cap-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	758	-	-	1451	-
HCM Lane V/C Ratio	0.007	-	-	0.005	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	16	0
Future Vol, veh/h	0	0	0	8	16	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	9	17	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	17	17	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	995	1068	1613	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	995	1068	1613	-	-	-
Mov Cap-2 Maneuver	995	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1613	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	248	74	199	146	65
Average Queue (ft)	113	28	78	60	18
95th Queue (ft)	218	64	156	112	50
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	6		
Queuing Penalty (veh)		1	3		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	67	78	27	33
Average Queue (ft)	7	9	2	9
95th Queue (ft)	36	45	14	32
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	14	62	35
Average Queue (ft)	3	0	8	12
95th Queue (ft)	32	8	37	36
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	11	46	35	14
Average Queue (ft)	1	3	4	1
95th Queue (ft)	7	22	22	10
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	117	237	120	87	241	153	113	86	157	107
Average Queue (ft)	28	105	45	57	93	72	44	23	68	25
95th Queue (ft)	77	195	118	96	184	127	90	62	121	69
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	5	0	2	7			0	2	0
Queuing Penalty (veh)	0	9	1	5	9			0	1	0

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	42	72	103	88
Average Queue (ft)	21	37	54	49
95th Queue (ft)	47	61	85	76
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	12	39
Average Queue (ft)	0	1	4
95th Queue (ft)	5	10	24
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 30

Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	374	111	597	133	72
v/c Ratio	0.44	0.18	0.53	0.56	0.27
Control Delay	13.3	6.2	9.6	39.4	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	6.2	9.6	39.4	28.5
Queue Length 50th (ft)	93	15	119	61	29
Queue Length 95th (ft)	212	47	296	113	63
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	841	606	1130	424	479
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.18	0.53	0.31	0.15

Intersection Summary

JPA Aspen Heights
1: Shamrock Rd & Jefferson Park Ave

2021 Existing - PM
HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	275	55	104	549	12	43	25	56	9	52	7
Future Volume (veh/h)	21	275	55	104	549	12	43	25	56	9	52	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.89	0.99		0.91	0.89		0.88	0.91		0.88
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	1900	1870	1900	1885	1870	1781	1870	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	22	293	59	111	584	13	46	27	60	10	55	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	1	2	8	2	0	4	0	0	0
Cap, veh/h	68	715	138	642	1138	25	149	94	154	77	346	40
Arrive On Green	0.51	0.51	0.51	0.05	0.63	0.63	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	47	1402	271	1795	1818	40	397	399	654	124	1474	172
Grp Volume(v), veh/h	374	0	0	111	0	597	133	0	0	72	0	0
Grp Sat Flow(s),veh/h/ln	1720	0	0	1795	0	1858	1451	0	0	1769	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	15.3	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.2	0.0	0.0	2.4	0.0	15.3	6.2	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.06		0.16	1.00		0.02	0.35		0.45	0.14		0.10
Lane Grp Cap(c), veh/h	922	0	0	642	0	1164	397	0	0	463	0	0
V/C Ratio(X)	0.41	0.00	0.00	0.17	0.00	0.51	0.34	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	922	0	0	642	0	1164	458	0	0	537	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	8.1	0.0	8.9	27.5	0.0	0.0	26.3	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.6	0.0	1.6	0.5	0.0	0.0	0.2	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	0.9	0.0	5.7	2.3	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	8.7	0.0	10.5	28.0	0.0	0.0	26.4	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		374			708			133			72	
Approach Delay, s/veh		14.4			10.2			28.0			26.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		26.2		60.0		26.2				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	4.4	13.2		4.7		17.3		8.2				
Green Ext Time (p_c), s	0.0	2.5		0.1		4.4		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			14.2									
HCM 6th LOS			B									

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	7	314	1	13	571	4	0	0	8	6	1	15
Future Vol, veh/h	7	314	1	13	571	4	0	0	8	6	1	15
Conflicting Peds, #/hr	42	0	43	43	0	42	0	0	21	21	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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	7
Mvmt Flow	8	353	1	15	642	4	0	0	9	7	1	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	688	0	0	397	0	0	1096	1131	418	1111	1129	686
Stage 1	-	-	-	-	-	-	413	413	-	716	716	-
Stage 2	-	-	-	-	-	-	683	718	-	395	413	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	916	-	-	1173	-	-	193	205	639	188	206	439
Stage 1	-	-	-	-	-	-	620	597	-	424	437	-
Stage 2	-	-	-	-	-	-	442	436	-	634	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	879	-	-	1125	-	-	173	183	601	170	184	421
Mov Cap-2 Maneuver	-	-	-	-	-	-	173	183	-	170	184	-
Stage 1	-	-	-	-	-	-	588	566	-	402	411	-
Stage 2	-	-	-	-	-	-	414	410	-	605	566	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.1	18.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	601	879	-	-	1125	-	-	288
HCM Lane V/C Ratio	0.015	0.009	-	-	0.013	-	-	0.086
HCM Control Delay (s)	11.1	9.1	0	-	8.2	0	-	18.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	317	1	2	590	2	0	0	1	7	0	7
Future Vol, veh/h	8	317	1	2	590	2	0	0	1	7	0	7
Conflicting Peds, #/hr	50	0	66	66	0	50	4	0	2	2	0	4
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	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	9	348	1	2	648	2	0	0	1	8	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	700	0	0	415	0	0	1094	1137	417	1072	1136	703
Stage 1	-	-	-	-	-	-	433	433	-	703	703	-
Stage 2	-	-	-	-	-	-	661	704	-	369	433	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	906	-	-	1155	-	-	193	203	640	200	204	441
Stage 1	-	-	-	-	-	-	605	585	-	431	443	-
Stage 2	-	-	-	-	-	-	455	443	-	655	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	863	-	-	1082	-	-	175	178	599	187	179	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	178	-	187	179	-
Stage 1	-	-	-	-	-	-	560	541	-	405	420	-
Stage 2	-	-	-	-	-	-	444	420	-	644	541	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	11	19.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	863	-	-	1082	-	-	258
HCM Lane V/C Ratio	0.002	0.01	-	-	0.002	-	-	0.06
HCM Control Delay (s)	11	9.2	0	-	8.3	0	-	19.8
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

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	9	311	3	8	609	5	4	0	6	6	1	7
Future Vol, veh/h	9	311	3	8	609	5	4	0	6	6	1	7
Conflicting Peds, #/hr	45	0	89	89	0	45	4	0	2	2	0	4
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	10	349	3	9	684	6	4	0	7	7	1	8

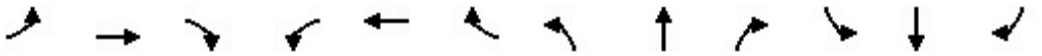
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	735	0	0	441	0	0	1174	1213	442	1126	1211	736
Stage 1	-	-	-	-	-	-	460	460	-	750	750	-
Stage 2	-	-	-	-	-	-	714	753	-	376	461	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	879	-	-	1130	-	-	170	183	620	184	184	422
Stage 1	-	-	-	-	-	-	585	569	-	407	422	-
Stage 2	-	-	-	-	-	-	425	420	-	649	569	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	841	-	-	1034	-	-	148	156	566	170	156	402
Mov Cap-2 Maneuver	-	-	-	-	-	-	148	156	-	170	156	-
Stage 1	-	-	-	-	-	-	528	513	-	384	398	-
Stage 2	-	-	-	-	-	-	408	396	-	630	513	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	19.1	21.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	266	841	-	-	1034	-	-	237
HCM Lane V/C Ratio	0.042	0.012	-	-	0.009	-	-	0.066
HCM Control Delay (s)	19.1	9.3	0	-	8.5	0	-	21.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	158	268	234	379	193	106	111	52	321	52
v/c Ratio	0.09	0.30	0.33	0.55	0.52	0.63	0.34	0.31	0.14	0.80	0.12
Control Delay	28.0	28.8	4.2	27.4	24.5	43.3	34.5	3.7	29.4	48.7	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	28.8	4.2	27.4	24.5	43.3	34.5	3.7	29.4	48.7	0.5
Queue Length 50th (ft)	10	67	16	85	149	98	51	0	23	163	0
Queue Length 95th (ft)	35	142	50	178	294	174	101	15	57	284	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	288	529	966	426	732	502	524	493	483	534	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.30	0.28	0.55	0.52	0.38	0.20	0.23	0.11	0.60	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	150	255	222	327	33	183	101	105	49	305	49
Future Volume (veh/h)	25	150	255	222	327	33	183	101	105	49	305	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.98	1.00		1.00	1.00		0.84
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	1900	1870	1900	1885	1870	1678	1870	1856	1900	1811	1885	1841
Adj Flow Rate, veh/h	26	158	268	234	344	35	193	106	0	52	321	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	1	2	15	2	3	0	6	1	4
Cap, veh/h	308	509	731	359	642	65	340	355		379	414	289
Arrive On Green	0.27	0.27	0.27	0.05	0.39	0.39	0.19	0.19	0.00	0.22	0.22	0.22
Sat Flow, veh/h	1002	1870	1557	1795	1666	169	1781	1856	1610	1725	1885	1315
Grp Volume(v), veh/h	26	158	268	234	0	379	193	106	0	52	321	52
Grp Sat Flow(s),veh/h/ln	1002	1870	1557	1795	0	1835	1781	1856	1610	1725	1885	1315
Q Serve(g_s), s	1.8	5.9	9.8	4.0	0.0	14.1	8.7	4.3	0.0	2.1	14.1	2.8
Cycle Q Clear(g_c), s	5.9	5.9	9.8	4.0	0.0	14.1	8.7	4.3	0.0	2.1	14.1	2.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	509	731	359	0	707	340	355		379	414	289
V/C Ratio(X)	0.08	0.31	0.37	0.65	0.00	0.54	0.57	0.30		0.14	0.78	0.18
Avail Cap(c_a), veh/h	308	509	731	359	0	707	485	505		469	513	358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	25.5	15.4	27.3	0.0	21.0	32.4	30.6	0.0	27.7	32.4	28.0
Incr Delay (d2), s/veh	0.5	1.6	1.4	8.9	0.0	2.9	0.6	0.2	0.0	0.1	4.5	0.1
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	0.5	2.8	5.1	3.3	0.0	6.3	3.7	1.9	0.0	0.9	6.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	27.1	16.8	36.2	0.0	23.9	32.9	30.8	0.0	27.8	36.9	28.1
LnGrp LOS	C	C	B	D	A	C	C	C		C	D	C
Approach Vol, veh/h		452			613			299	A		425	
Approach Delay, s/veh		21.0			28.6			32.2			34.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		25.4		40.0		22.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	6.0	11.8		16.1		16.1		10.7				
Green Ext Time (p_c), s	0.0	1.6		1.0		2.1		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			28.7									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	21.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	16	3	128	129	20	6	154	16	61	328	94
Future Vol, veh/h	20	16	3	128	129	20	6	154	16	61	328	94
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	0	0	2	0	0	0	6	0	34	1	7
Mvmt Flow	21	17	3	136	137	21	6	164	17	65	349	100
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	15.1	11.4	30.4
HCM LOS	B	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	51%	46%	13%
Vol Thru, %	88%	41%	47%	68%
Vol Right, %	9%	8%	7%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	39	277	483
LT Vol	6	20	128	61
Through Vol	154	16	129	328
RT Vol	16	3	20	94
Lane Flow Rate	187	41	295	514
Geometry Grp	1	1	1	1
Degree of Util (X)	0.302	0.079	0.497	0.825
Departure Headway (Hd)	5.802	6.859	6.074	5.778
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	526	589	627
Service Time	3.879	4.859	4.145	3.834
HCM Lane V/C Ratio	0.304	0.078	0.501	0.82
HCM Control Delay	11.4	10.4	15.1	30.4
HCM Lane LOS	B	B	C	D
HCM 95th-tile Q	1.3	0.3	2.8	8.6

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	2	5	259	5	10
Future Vol, veh/h	80	2	5	259	5	10
Conflicting Peds, #/hr	0	42	42	0	9	1
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	81	81	81	81	81	81
Heavy Vehicles, %	26	0	0	1	0	0
Mvmt Flow	99	2	6	320	6	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	483	143
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1452	-	546	910
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1394	-	517	873
Mov Cap-2 Maneuver	-	-	-	-	517	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1394	-
HCM Lane V/C Ratio	0.026	-	-	0.004	-
HCM Control Delay (s)	10.2	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	7	0
Future Vol, veh/h	0	0	0	10	7	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	11	8	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	19	8	8	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1004	1080	1625	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1004	1080	1625	-	-	-
Mov Cap-2 Maneuver	1004	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1625	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	253	74	354	152	96
Average Queue (ft)	125	41	154	73	40
95th Queue (ft)	225	78	288	128	80
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	17		
Queuing Penalty (veh)		5	18		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	52	159	33	66
Average Queue (ft)	6	34	8	19
95th Queue (ft)	31	161	31	49
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0	1		
Queuing Penalty (veh)	0	3		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	80	79	25	42
Average Queue (ft)	7	14	1	14
95th Queue (ft)	40	65	12	41
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)		4		
Queuing Penalty (veh)		22		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	91	157	41	46
Average Queue (ft)	6	41	9	13
95th Queue (ft)	39	149	33	42
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)		4		
Queuing Penalty (veh)		25		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	90	210	120	87	445	187	133	117	339	125
Average Queue (ft)	18	78	62	83	296	96	58	42	184	46
95th Queue (ft)	56	156	122	99	489	163	112	112	295	125
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)					7					
Queuing Penalty (veh)					43					
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	2	0	21	38			0	27	0
Queuing Penalty (veh)	0	5	1	76	85			0	26	1

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	165	124	271
Average Queue (ft)	25	67	65	117
95th Queue (ft)	53	121	105	213
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	18	35
Average Queue (ft)	1	13
95th Queue (ft)	9	37
Link Distance (ft)	658	455
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

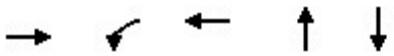
Network Summary

Network wide Queuing Penalty: 311

Attachment E

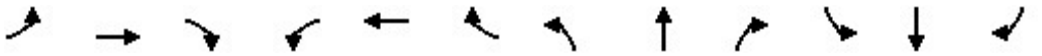
Appendix D

Synchro/SimTraffic Outputs for 2023/2028 Background Conditions



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	519	33	260	192	27
v/c Ratio	0.59	0.06	0.24	0.66	0.09
Control Delay	17.1	6.4	7.1	41.9	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	6.4	7.1	41.9	24.6
Queue Length 50th (ft)	164	5	46	92	10
Queue Length 95th (ft)	321	18	105	157	31
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	882	515	1064	447	469
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.06	0.24	0.43	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	453	32	31	244	3	65	45	73	4	19	3
Future Volume (veh/h)	8	453	32	31	244	3	65	45	73	4	19	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.93	0.97		0.95
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	1707	1870	1811	1856	1811	1900	1870	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	477	34	33	257	3	68	47	77	4	20	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	2	6	3	6	0	2	0	0	0	0	0
Cap, veh/h	49	915	64	572	1179	14	143	96	120	74	284	39
Arrive On Green	0.54	0.54	0.54	0.05	0.66	0.66	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	8	1700	120	1767	1785	21	431	499	623	123	1476	200
Grp Volume(v), veh/h	519	0	0	33	0	260	192	0	0	27	0	0
Grp Sat Flow(s),veh/h/ln	1829	0	0	1767	0	1806	1554	0	0	1798	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	4.7	6.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.9	0.0	0.0	0.6	0.0	4.7	9.1	0.0	0.0	1.0	0.0	0.0
Prop In Lane	0.02		0.07	1.00		0.01	0.35		0.40	0.15		0.11
Lane Grp Cap(c), veh/h	1029	0	0	572	0	1192	359	0	0	397	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.06	0.00	0.22	0.53	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1029	0	0	572	0	1192	512	0	0	571	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.2	0.0	0.0	6.3	0.0	5.5	30.2	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.2	0.0	0.4	1.2	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	0.0	0.2	0.0	1.5	3.5	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	0.0	0.0	6.5	0.0	5.9	31.4	0.0	0.0	27.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		519			293			192			27	
Approach Delay, s/veh		13.9			6.0			31.4			27.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		21.8		60.0		21.8				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	2.6	16.9		3.0		6.7		11.1				
Green Ext Time (p_c), s	0.0	3.5		0.0		1.6		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			15.3									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	481	1	4	288	3	1	0	1	2	0	2
Future Vol, veh/h	9	481	1	4	288	3	1	0	1	2	0	2
Conflicting Peds, #/hr	58	0	19	19	0	58	0	0	16	16	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	3	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	10	517	1	4	310	3	1	0	1	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	371	0	0	537	0	0	878	936	553	932	935	370
Stage 1	-	-	-	-	-	-	557	557	-	378	378	-
Stage 2	-	-	-	-	-	-	321	379	-	554	557	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1199	-	-	1041	-	-	271	267	537	249	267	680
Stage 1	-	-	-	-	-	-	518	515	-	648	619	-
Stage 2	-	-	-	-	-	-	695	618	-	520	515	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1133	-	-	1022	-	-	262	244	519	228	244	642
Mov Cap-2 Maneuver	-	-	-	-	-	-	262	244	-	228	244	-
Stage 1	-	-	-	-	-	-	502	500	-	605	582	-
Stage 2	-	-	-	-	-	-	689	581	-	505	500	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	15.4	15.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	348	1133	-	-	1022	-	-	336
HCM Lane V/C Ratio	0.006	0.009	-	-	0.004	-	-	0.013
HCM Control Delay (s)	15.4	8.2	0	-	8.5	0	-	15.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	485	2	2	292	2	0	0	1	0	0	0
Future Vol, veh/h	5	485	2	2	292	2	0	0	1	0	0	0
Conflicting Peds, #/hr	44	0	27	27	0	44	2	0	2	2	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	3	100	0	5	0	0	0	0	0	0	0
Mvmt Flow	5	527	2	2	317	2	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	363	0	0	556	0	0	889	932	557	907	932	364
Stage 1	-	-	-	-	-	-	565	565	-	366	366	-
Stage 2	-	-	-	-	-	-	324	367	-	541	566	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1103	-	-	1025	-	-	266	269	534	259	269	685
Stage 1	-	-	-	-	-	-	513	511	-	657	626	-
Stage 2	-	-	-	-	-	-	692	626	-	529	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1057	-	-	999	-	-	257	249	519	246	249	655
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	249	-	246	249	-
Stage 1	-	-	-	-	-	-	496	494	-	625	598	-
Stage 2	-	-	-	-	-	-	689	598	-	523	494	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	519	1057	-	-	999	-	-	-
HCM Lane V/C Ratio	0.002	0.005	-	-	0.002	-	-	-
HCM Control Delay (s)	12	8.4	0	-	8.6	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	504	0	4	279	1	1	0	3	2	0	3
Future Vol, veh/h	6	504	0	4	279	1	1	0	3	2	0	3
Conflicting Peds, #/hr	57	0	32	32	0	57	2	0	1	1	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	25	4	0	0	0	0	0	0	0
Mvmt Flow	7	548	0	4	303	1	1	0	3	2	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	580	0	0	909	963	581	934	963	363
Stage 1	-	-	-	-	-	-	594	594	-	369	369	-
Stage 2	-	-	-	-	-	-	315	369	-	565	594	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1209	-	-	890	-	-	258	258	517	248	258	686
Stage 1	-	-	-	-	-	-	495	496	-	655	624	-
Stage 2	-	-	-	-	-	-	700	624	-	513	496	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1143	-	-	863	-	-	246	233	501	230	233	648
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	233	-	230	233	-
Stage 1	-	-	-	-	-	-	476	477	-	614	587	-
Stage 2	-	-	-	-	-	-	691	587	-	505	477	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.1	14.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	398	1143	-	-	863	-	-	375
HCM Lane V/C Ratio	0.011	0.006	-	-	0.005	-	-	0.014
HCM Control Delay (s)	14.1	8.2	0	-	9.2	0	-	14.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

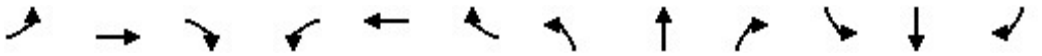
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	320	149	58	258	337	253	193	22	53	15
v/c Ratio	0.19	0.50	0.15	0.16	0.33	0.77	0.55	0.38	0.12	0.24	0.05
Control Delay	26.8	29.1	1.5	18.4	19.0	41.9	32.5	6.9	34.0	36.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	29.1	1.5	18.4	19.0	41.9	32.5	6.9	34.0	36.0	0.3
Queue Length 50th (ft)	28	136	0	17	83	153	108	0	10	26	0
Queue Length 95th (ft)	77	276	19	52	187	#320	216	53	31	59	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	382	641	1047	358	785	559	582	587	491	571	528
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.50	0.14	0.16	0.33	0.60	0.43	0.33	0.04	0.09	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

JPA Aspen Heights
5: Jefferson Park Ave & Fontaine Ave & Maury Ave

2023 Background AM
HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	294	137	53	215	22	310	233	178	20	49	14
Future Volume (veh/h)	68	294	137	53	215	22	310	233	178	20	49	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		1.00	1.00		0.88
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	1856	1856	1885	1870	1841	1559	1885	1870	1885	1678	1841	1693
Adj Flow Rate, veh/h	74	320	149	58	234	24	337	253	0	22	53	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	1	2	4	23	1	2	1	15	4	14
Cap, veh/h	438	586	848	315	699	72	408	425		190	219	150
Arrive On Green	0.32	0.32	0.32	0.04	0.43	0.43	0.23	0.23	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1099	1856	1535	1781	1636	168	1795	1870	1598	1598	1841	1258
Grp Volume(v), veh/h	74	320	149	58	0	258	337	253	0	22	53	15
Grp Sat Flow(s),veh/h/ln	1099	1856	1535	1781	0	1803	1795	1870	1598	1598	1841	1258
Q Serve(g_s), s	3.9	11.3	3.9	1.7	0.0	7.6	14.2	9.6	0.0	1.0	2.1	0.8
Cycle Q Clear(g_c), s	3.9	11.3	3.9	1.7	0.0	7.6	14.2	9.6	0.0	1.0	2.1	0.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	438	586	848	315	0	771	408	425		190	219	150
V/C Ratio(X)	0.17	0.55	0.18	0.18	0.00	0.33	0.83	0.60		0.12	0.24	0.10
Avail Cap(c_a), veh/h	438	586	848	339	0	771	542	564		482	555	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	22.5	9.2	17.1	0.0	15.2	29.2	27.5	0.0	31.3	31.8	31.2
Incr Delay (d2), s/veh	0.8	3.6	0.5	0.1	0.0	1.2	5.9	0.5	0.0	0.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.2	2.1	0.6	0.0	3.1	6.6	4.2	0.0	0.4	0.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	26.1	9.6	17.2	0.0	16.4	35.1	28.0	0.0	31.4	32.0	31.4
LnGrp LOS	C	C	A	B	A	B	D	C		C	C	C
Approach Vol, veh/h		543			316			590	A		90	
Approach Delay, s/veh		20.9			16.5			32.1			31.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	31.1		15.5		40.0		24.1				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	3.7	13.3		4.1		9.6		16.2				
Green Ext Time (p_c), s	0.0	2.0		0.2		1.4		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			24.9									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	111	70	6	18	9	31	2	305	49	26	71	29
Future Vol, veh/h	111	70	6	18	9	31	2	305	49	26	71	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	22	11	0	0	3	0	54	4	21
Mvmt Flow	121	76	7	20	10	34	2	332	53	28	77	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11	9.4	13	10.8
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	59%	31%	21%
Vol Thru, %	86%	37%	16%	56%
Vol Right, %	14%	3%	53%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	356	187	58	126
LT Vol	2	111	18	26
Through Vol	305	70	9	71
RT Vol	49	6	31	29
Lane Flow Rate	387	203	63	137
Geometry Grp	1	1	1	1
Degree of Util (X)	0.52	0.31	0.101	0.229
Departure Headway (Hd)	4.84	5.485	5.761	6.029
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	751	657	622	596
Service Time	2.84	3.515	3.798	4.058
HCM Lane V/C Ratio	0.515	0.309	0.101	0.23
HCM Control Delay	13	11	9.4	10.8
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	3	1.3	0.3	0.9

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	3	1	50	1	4
Future Vol, veh/h	144	3	1	50	1	4
Conflicting Peds, #/hr	0	13	13	0	4	1
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	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	8	0	0
Mvmt Flow	157	3	1	54	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	232	173
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	60	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	761	876
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1398	-	748	864
Mov Cap-2 Maneuver	-	-	-	-	748	-
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	838	-	-	1398	-
HCM Lane V/C Ratio	0.006	-	-	0.001	-
HCM Control Delay (s)	9.3	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	4	0
Future Vol, veh/h	0	0	0	8	4	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	9	4	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	4	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1011	1085	1631	-	-	-
Stage 1	1024	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1011	1085	1631	-	-	-
Mov Cap-2 Maneuver	1011	-	-	-	-	-
Stage 1	1024	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1631	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	293	61	144	200	63
Average Queue (ft)	142	15	54	98	19
95th Queue (ft)	264	44	113	169	51
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	4		
Queuing Penalty (veh)		0	1		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	73	37	21	33
Average Queue (ft)	9	3	2	3
95th Queue (ft)	41	25	15	19
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	93	35	22
Average Queue (ft)	7	2	2
95th Queue (ft)	50	15	12
Link Distance (ft)	174	77	261
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	37	26	30	31
Average Queue (ft)	3	2	4	5
95th Queue (ft)	18	15	20	23
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	143	306	120	87	203	269	225	156	65	96	67
Average Queue (ft)	43	128	42	40	93	147	114	8	15	37	13
95th Queue (ft)	105	256	117	86	170	230	192	76	45	79	45
Link Distance (ft)		774			432		770			538	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	150		120	88		355		225	117		125
Storage Blk Time (%)	0	9	0	0	8		0	0	0	0	
Queuing Penalty (veh)	0	18	1	0	4		2	0	0	0	

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	97	78	222	105
Average Queue (ft)	48	33	108	48
95th Queue (ft)	78	63	186	86
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

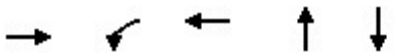
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	3	8	30
Average Queue (ft)	0	0	4
95th Queue (ft)	3	6	20
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 30



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	484	59	380	106	30
v/c Ratio	0.45	0.10	0.32	0.49	0.12
Control Delay	11.6	5.2	6.1	37.7	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	5.2	6.1	37.7	25.1
Queue Length 50th (ft)	127	7	58	48	11
Queue Length 95th (ft)	274	25	147	93	32
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	1084	610	1198	443	498
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.10	0.32	0.24	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	408	33	54	343	6	38	22	38	2	21	5
Future Volume (veh/h)	5	408	33	54	343	6	38	22	38	2	21	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.99		0.93	0.89		0.86	0.91		0.86
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	1900	1841	1856	1841	1811	1900	1826	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	443	36	59	373	7	41	24	41	2	23	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	3	4	6	0	5	0	0	0	0	0
Cap, veh/h	47	909	73	573	1160	22	148	90	112	53	287	59
Arrive On Green	0.55	0.55	0.55	0.04	0.66	0.66	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	4	1662	134	1753	1769	33	441	452	563	30	1447	295
Grp Volume(v), veh/h	484	0	0	59	0	380	106	0	0	30	0	0
Grp Sat Flow(s),veh/h/ln	1800	0	0	1753	0	1802	1456	0	0	1772	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	7.6	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.7	0.0	0.0	1.1	0.0	7.6	4.8	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.01		0.07	1.00		0.02	0.39		0.39	0.07		0.17
Lane Grp Cap(c), veh/h	1029	0	0	573	0	1182	350	0	0	398	0	0
V/C Ratio(X)	0.47	0.00	0.00	0.10	0.00	0.32	0.30	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	1029	0	0	595	0	1182	481	0	0	559	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	0.0	6.6	0.0	6.2	28.3	0.0	0.0	26.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	0.7	0.5	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	0.0	0.4	0.0	2.5	1.8	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	0.0	6.6	0.0	6.9	28.8	0.0	0.0	27.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		484			439			106			30	
Approach Delay, s/veh		11.9			6.9			28.8			27.0	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	51.0		22.3		60.0		22.3				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	3.1	15.7		3.1		9.6		6.8				
Green Ext Time (p_c), s	0.0	3.2		0.0		2.5		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		11.9	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	421	3	8	352	1	1	0	1	2	0	8
Future Vol, veh/h	6	421	3	8	352	1	1	0	1	2	0	8
Conflicting Peds, #/hr	22	0	25	25	0	22	0	0	22	22	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	6	453	3	9	378	1	1	0	1	2	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	401	0	0	481	0	0	893	911	502	908	912	401
Stage 1	-	-	-	-	-	-	492	492	-	419	419	-
Stage 2	-	-	-	-	-	-	401	419	-	489	493	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1169	-	-	1092	-	-	264	276	573	258	276	653
Stage 1	-	-	-	-	-	-	562	551	-	616	593	-
Stage 2	-	-	-	-	-	-	630	593	-	564	550	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1145	-	-	1066	-	-	251	259	548	244	259	639
Mov Cap-2 Maneuver	-	-	-	-	-	-	251	259	-	244	259	-
Stage 1	-	-	-	-	-	-	545	534	-	599	574	-
Stage 2	-	-	-	-	-	-	615	574	-	547	533	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	15.5	12.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	344	1145	-	-	1066	-	-	483
HCM Lane V/C Ratio	0.006	0.006	-	-	0.008	-	-	0.022
HCM Control Delay (s)	15.5	8.2	0	-	8.4	0	-	12.6
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	427	1	1	361	5	2	0	3	4	1	7
Future Vol, veh/h	3	427	1	1	361	5	2	0	3	4	1	7
Conflicting Peds, #/hr	31	0	25	25	0	31	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	33	4	100	0	6	0	100	0	0	0	0	0
Mvmt Flow	3	449	1	1	380	5	2	0	3	4	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	416	0	0	475	0	0	870	899	476	874	897	414
Stage 1	-	-	-	-	-	-	481	481	-	416	416	-
Stage 2	-	-	-	-	-	-	389	418	-	458	481	-
Critical Hdwy	4.43	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	995	-	-	1098	-	-	188	281	593	272	281	643
Stage 1	-	-	-	-	-	-	419	557	-	618	595	-
Stage 2	-	-	-	-	-	-	477	594	-	587	557	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	966	-	-	1072	-	-	180	265	578	261	265	624
Mov Cap-2 Maneuver	-	-	-	-	-	-	180	265	-	261	265	-
Stage 1	-	-	-	-	-	-	407	541	-	598	577	-
Stage 2	-	-	-	-	-	-	470	576	-	581	541	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	16.9	14.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	307	966	-	-	1072	-	-	396
HCM Lane V/C Ratio	0.017	0.003	-	-	0.001	-	-	0.032
HCM Control Delay (s)	16.9	8.7	0	-	8.4	0	-	14.4
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	428	3	3	379	6	2	0	3	0	0	1
Future Vol, veh/h	3	428	3	3	379	6	2	0	3	0	0	1
Conflicting Peds, #/hr	23	0	21	21	0	23	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	4	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	3	451	3	3	399	6	2	0	3	0	0	1

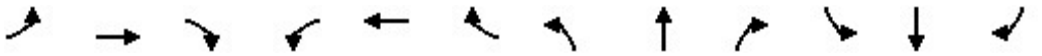
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	428	0	0	475	0	0	889	914	475	892	912	425
Stage 1	-	-	-	-	-	-	480	480	-	431	431	-
Stage 2	-	-	-	-	-	-	409	434	-	461	481	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1142	-	-	1098	-	-	266	275	594	265	276	634
Stage 1	-	-	-	-	-	-	571	558	-	607	586	-
Stage 2	-	-	-	-	-	-	623	585	-	584	557	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1117	-	-	1076	-	-	259	262	582	256	262	620
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	262	-	256	262	-
Stage 1	-	-	-	-	-	-	557	545	-	591	571	-
Stage 2	-	-	-	-	-	-	619	570	-	578	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.4	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	388	1117	-	-	1076	-	-	620
HCM Lane V/C Ratio	0.014	0.003	-	-	0.003	-	-	0.002
HCM Control Delay (s)	14.4	8.2	0	-	8.4	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	274	154	134	257	141	90	138	33	123	45
v/c Ratio	0.14	0.44	0.18	0.31	0.30	0.51	0.31	0.37	0.14	0.44	0.12
Control Delay	23.0	24.9	1.8	17.2	15.8	36.3	31.5	6.5	30.3	35.2	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	24.9	1.8	17.2	15.8	36.3	31.5	6.5	30.3	35.2	0.7
Queue Length 50th (ft)	15	92	0	31	64	59	36	0	13	51	0
Queue Length 95th (ft)	53	227	20	98	178	127	86	33	40	111	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	362	627	1099	434	846	601	639	620	534	652	637
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.44	0.14	0.31	0.30	0.23	0.14	0.22	0.06	0.19	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	258	145	126	217	24	133	85	130	31	116	42
Future Volume (veh/h)	46	258	145	126	217	24	133	85	130	31	116	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.99	1.00		1.00	1.00		0.92
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	1796	1841	1856	1856	1811	1589	1856	1870	1885	1663	1900	1900
Adj Flow Rate, veh/h	49	274	154	134	231	26	141	90	0	33	123	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	4	3	3	6	21	3	2	1	16	0	0
Cap, veh/h	470	631	732	420	775	87	236	250		197	236	184
Arrive On Green	0.34	0.34	0.34	0.06	0.49	0.49	0.13	0.13	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1070	1841	1524	1767	1597	180	1767	1870	1598	1584	1900	1480
Grp Volume(v), veh/h	49	274	154	134	0	257	141	90	0	33	123	45
Grp Sat Flow(s),veh/h/ln	1070	1841	1524	1767	0	1777	1767	1870	1598	1584	1900	1480
Q Serve(g_s), s	2.2	8.1	4.1	3.3	0.0	6.1	5.3	3.1	0.0	1.3	4.2	1.9
Cycle Q Clear(g_c), s	2.2	8.1	4.1	3.3	0.0	6.1	5.3	3.1	0.0	1.3	4.2	1.9
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	631	732	420	0	863	236	250		197	236	184
V/C Ratio(X)	0.10	0.43	0.21	0.32	0.00	0.30	0.60	0.36		0.17	0.52	0.24
Avail Cap(c_a), veh/h	470	631	732	420	0	863	606	641		543	651	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	17.8	10.7	13.2	0.0	10.8	28.6	27.6	0.0	27.4	28.7	27.7
Incr Delay (d2), s/veh	0.4	2.2	0.7	2.0	0.0	0.9	0.9	0.3	0.0	0.1	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.5	1.8	1.4	0.0	2.3	2.2	1.3	0.0	0.5	1.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	20.0	11.3	15.2	0.0	11.7	29.5	28.0	0.0	27.6	29.4	28.0
LnGrp LOS	B	B	B	B	A	B	C	C		C	C	C
Approach Vol, veh/h		477			391			231	A		201	
Approach Delay, s/veh		16.8			12.9			28.9			28.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		14.7		40.0		15.3				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	5.3	10.1		6.2		8.1		7.3				
Green Ext Time (p_c), s	0.0	2.0		0.5		1.5		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	12	2	53	22	21	5	158	26	17	151	40
Future Vol, veh/h	20	12	2	53	22	21	5	158	26	17	151	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	6	0	0	0	6	0	6	2	15
Mvmt Flow	22	13	2	58	24	23	5	172	28	18	164	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.9	9	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	59%	55%	8%
Vol Thru, %	84%	35%	23%	73%
Vol Right, %	14%	6%	22%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	34	96	208
LT Vol	5	20	53	17
Through Vol	158	12	22	151
RT Vol	26	2	21	40
Lane Flow Rate	205	37	104	226
Geometry Grp	1	1	1	1
Degree of Util (X)	0.253	0.052	0.145	0.282
Departure Headway (Hd)	4.432	5.097	4.997	4.486
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	809	700	716	800
Service Time	2.464	3.147	3.04	2.518
HCM Lane V/C Ratio	0.253	0.053	0.145	0.282
HCM Control Delay	9	8.4	8.9	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.5	1.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	9	7	93	3	2
Future Vol, veh/h	47	9	7	93	3	2
Conflicting Peds, #/hr	0	39	39	0	13	1
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	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	3	0	50
Mvmt Flow	52	10	8	102	3	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	101	0	227	97
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1504	-	766	843
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	900	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1448	-	725	811
Mov Cap-2 Maneuver	-	-	-	-	725	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	757	-	-	1448	-
HCM Lane V/C Ratio	0.007	-	-	0.005	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	16	0
Future Vol, veh/h	0	0	0	8	16	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	9	17	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	17	17	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	995	1068	1613	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	995	1068	1613	-	-	-
Mov Cap-2 Maneuver	995	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1613	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	284	68	207	133	53
Average Queue (ft)	121	25	76	61	18
95th Queue (ft)	243	59	153	112	48
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	7		
Queuing Penalty (veh)		1	4		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	63	82	21	35
Average Queue (ft)	8	6	2	8
95th Queue (ft)	39	36	14	31
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	32	11	55	38
Average Queue (ft)	2	1	7	10
95th Queue (ft)	15	9	34	34
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	29	51	33	9
Average Queue (ft)	1	2	5	0
95th Queue (ft)	19	24	24	6
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	141	282	120	87	256	145	105	95	174	92
Average Queue (ft)	34	114	48	58	102	71	47	26	70	28
95th Queue (ft)	93	218	122	99	209	122	90	71	133	71
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	6	0	2	7			0	2	0
Queuing Penalty (veh)	0	11	1	5	9			0	1	0

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	49	73	120	119
Average Queue (ft)	22	38	57	54
95th Queue (ft)	46	63	93	93
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	15	46
Average Queue (ft)	0	0	6
95th Queue (ft)	5	6	29
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 35

Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	375	111	599	133	72
v/c Ratio	0.45	0.18	0.53	0.56	0.27
Control Delay	13.3	6.2	9.6	39.5	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	6.2	9.6	39.5	28.5
Queue Length 50th (ft)	94	15	119	61	29
Queue Length 95th (ft)	212	47	298	114	63
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	841	604	1130	423	478
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.18	0.53	0.31	0.15

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	276	55	104	551	12	43	25	56	9	52	7
Future Volume (veh/h)	21	276	55	104	551	12	43	25	56	9	52	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.90	0.99		0.90	0.89		0.85	0.91		0.84
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	1900	1870	1900	1885	1870	1781	1870	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	22	294	59	111	586	13	46	27	60	10	55	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	1	2	8	2	0	4	0	0	0
Cap, veh/h	68	715	138	640	1137	25	149	93	152	77	346	40
Arrive On Green	0.51	0.51	0.51	0.05	0.63	0.63	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	47	1404	271	1795	1818	40	392	393	646	124	1466	171
Grp Volume(v), veh/h	375	0	0	111	0	599	133	0	0	72	0	0
Grp Sat Flow(s),veh/h/ln	1722	0	0	1795	0	1858	1432	0	0	1761	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	15.4	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	2.4	0.0	15.4	6.3	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.06		0.16	1.00		0.02	0.35		0.45	0.14		0.10
Lane Grp Cap(c), veh/h	922	0	0	640	0	1162	394	0	0	463	0	0
V/C Ratio(X)	0.41	0.00	0.00	0.17	0.00	0.52	0.34	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	922	0	0	640	0	1162	452	0	0	534	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.2	0.0	0.0	8.2	0.0	8.9	27.5	0.0	0.0	26.3	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.6	0.0	1.6	0.5	0.0	0.0	0.2	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	0.9	0.0	5.7	2.3	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	0.0	0.0	8.7	0.0	10.6	28.0	0.0	0.0	26.4	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		375			710			133			72	
Approach Delay, s/veh		14.5			10.3			28.0			26.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		26.4		60.0		26.4				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	4.4	13.3		4.7		17.4		8.3				
Green Ext Time (p_c), s	0.0	2.5		0.1		4.4		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		14.2	
HCM 6th LOS		B	

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	7	315	1	13	573	4	0	0	8	6	1	15
Future Vol, veh/h	7	315	1	13	573	4	0	0	8	6	1	15
Conflicting Peds, #/hr	43	0	44	44	0	43	0	0	21	21	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	7
Mvmt Flow	8	342	1	14	623	4	0	0	9	7	1	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	670	0	0	387	0	0	1065	1101	408	1080	1099	668
Stage 1	-	-	-	-	-	-	403	403	-	696	696	-
Stage 2	-	-	-	-	-	-	662	698	-	384	403	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	930	-	-	1183	-	-	202	214	648	197	214	450
Stage 1	-	-	-	-	-	-	628	603	-	435	446	-
Stage 2	-	-	-	-	-	-	454	445	-	643	603	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	892	-	-	1133	-	-	181	191	608	178	191	432
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	191	-	178	191	-
Stage 1	-	-	-	-	-	-	595	571	-	412	420	-
Stage 2	-	-	-	-	-	-	427	419	-	614	571	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11	18.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	608	892	-	-	1133	-	-	299
HCM Lane V/C Ratio	0.014	0.009	-	-	0.012	-	-	0.08
HCM Control Delay (s)	11	9.1	0	-	8.2	0	-	18.1
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	318	1	2	592	2	0	0	1	7	0	7
Future Vol, veh/h	8	318	1	2	592	2	0	0	1	7	0	7
Conflicting Peds, #/hr	51	0	67	67	0	51	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	9	346	1	2	643	2	0	0	1	8	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	696	0	0	414	0	0	1088	1132	416	1066	1131	699
Stage 1	-	-	-	-	-	-	432	432	-	699	699	-
Stage 2	-	-	-	-	-	-	656	700	-	367	432	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	909	-	-	1156	-	-	195	205	641	202	205	443
Stage 1	-	-	-	-	-	-	606	586	-	434	445	-
Stage 2	-	-	-	-	-	-	458	444	-	657	586	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	865	-	-	1082	-	-	176	180	599	189	180	420
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	180	-	189	180	-
Stage 1	-	-	-	-	-	-	560	541	-	408	422	-
Stage 2	-	-	-	-	-	-	447	421	-	646	541	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	11	19.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	865	-	-	1082	-	-	261
HCM Lane V/C Ratio	0.002	0.01	-	-	0.002	-	-	0.058
HCM Control Delay (s)	11	9.2	0	-	8.3	0	-	19.6
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

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	9	312	3	8	611	5	4	0	6	6	1	7
Future Vol, veh/h	9	312	3	8	611	5	4	0	6	6	1	7
Conflicting Peds, #/hr	46	0	91	91	0	46	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	10	339	3	9	664	5	4	0	7	7	1	8

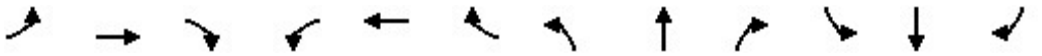
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	715	0	0	433	0	0	1145	1185	434	1097	1184	717
Stage 1	-	-	-	-	-	-	452	452	-	731	731	-
Stage 2	-	-	-	-	-	-	693	733	-	366	453	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	895	-	-	1137	-	-	178	191	626	192	191	433
Stage 1	-	-	-	-	-	-	591	574	-	416	430	-
Stage 2	-	-	-	-	-	-	437	429	-	657	573	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	1038	-	-	155	162	571	177	162	412
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	162	-	177	162	-
Stage 1	-	-	-	-	-	-	532	517	-	392	405	-
Stage 2	-	-	-	-	-	-	420	405	-	639	516	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	18.6	20.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	275	856	-	-	1038	-	-	245
HCM Lane V/C Ratio	0.04	0.011	-	-	0.008	-	-	0.062
HCM Control Delay (s)	18.6	9.3	0	-	8.5	0	-	20.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	159	269	235	380	194	106	111	52	322	52
v/c Ratio	0.09	0.30	0.34	0.55	0.52	0.64	0.34	0.31	0.14	0.80	0.12
Control Delay	28.2	29.0	4.3	27.7	24.7	43.7	34.7	3.8	29.3	48.1	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	29.0	4.3	27.7	24.7	43.7	34.7	3.8	29.3	48.1	0.5
Queue Length 50th (ft)	10	67	17	86	150	98	51	0	23	164	0
Queue Length 95th (ft)	35	143	50	179	295	175	101	15	57	285	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	287	528	963	425	730	501	523	490	482	533	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.30	0.28	0.55	0.52	0.39	0.20	0.23	0.11	0.60	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	151	256	223	328	33	184	101	105	49	306	49
Future Volume (veh/h)	25	151	256	223	328	33	184	101	105	49	306	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.94	0.99		0.96	1.00		1.00	1.00		0.81
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	1900	1870	1900	1885	1870	1678	1870	1856	1900	1811	1885	1841
Adj Flow Rate, veh/h	26	159	269	235	345	35	194	106	0	52	322	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	1	2	15	2	3	0	6	1	4
Cap, veh/h	305	508	721	358	640	65	342	356		379	414	278
Arrive On Green	0.27	0.27	0.27	0.05	0.38	0.38	0.19	0.19	0.00	0.22	0.22	0.22
Sat Flow, veh/h	1002	1870	1519	1795	1662	169	1781	1856	1610	1725	1885	1265
Grp Volume(v), veh/h	26	159	269	235	0	380	194	106	0	52	322	52
Grp Sat Flow(s),veh/h/ln	1002	1870	1519	1795	0	1831	1781	1856	1610	1725	1885	1265
Q Serve(g_s), s	1.8	6.0	10.2	4.0	0.0	14.2	8.7	4.3	0.0	2.1	14.2	3.0
Cycle Q Clear(g_c), s	6.1	6.0	10.2	4.0	0.0	14.2	8.7	4.3	0.0	2.1	14.2	3.0
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	508	721	358	0	704	342	356		379	414	278
V/C Ratio(X)	0.09	0.31	0.37	0.66	0.00	0.54	0.57	0.30		0.14	0.78	0.19
Avail Cap(c_a), veh/h	305	508	721	358	0	704	484	504		469	512	344
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	25.6	15.5	27.5	0.0	21.1	32.4	30.6	0.0	27.7	32.4	28.0
Incr Delay (d2), s/veh	0.5	1.6	1.5	9.1	0.0	3.0	0.6	0.2	0.0	0.1	4.6	0.1
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	0.5	2.8	5.1	3.4	0.0	6.3	3.7	1.9	0.0	0.9	6.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	27.2	16.9	36.6	0.0	24.0	32.9	30.8	0.0	27.8	37.0	28.2
LnGrp LOS	C	C	B	D	A	C	C	C		C	D	C
Approach Vol, veh/h		454			615			300	A		426	
Approach Delay, s/veh		21.2			28.8			32.2			34.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		25.4		40.0		22.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	6.0	12.2		16.2		16.2		10.7				
Green Ext Time (p_c), s	0.0	1.6		1.0		2.1		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		28.9	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	22
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	16	3	129	130	20	6	155	16	61	329	94
Future Vol, veh/h	20	16	3	129	130	20	6	155	16	61	329	94
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	0	0	2	0	0	0	6	0	34	1	7
Mvmt Flow	21	17	3	137	138	21	6	165	17	65	350	100
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	15.2	11.4	30.8
HCM LOS	B	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	51%	46%	13%
Vol Thru, %	88%	41%	47%	68%
Vol Right, %	9%	8%	7%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	39	279	484
LT Vol	6	20	129	61
Through Vol	155	16	130	329
RT Vol	16	3	20	94
Lane Flow Rate	188	41	297	515
Geometry Grp	1	1	1	1
Degree of Util (X)	0.304	0.079	0.502	0.828
Departure Headway (Hd)	5.817	6.877	6.085	5.79
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	524	591	623
Service Time	3.894	4.877	4.154	3.847
HCM Lane V/C Ratio	0.306	0.078	0.503	0.827
HCM Control Delay	11.4	10.5	15.2	30.8
HCM Lane LOS	B	B	C	D
HCM 95th-tile Q	1.3	0.3	2.8	8.7

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	2	5	260	5	10
Future Vol, veh/h	80	2	5	260	5	10
Conflicting Peds, #/hr	0	42	42	0	9	1
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	92	92	92	92	92	92
Heavy Vehicles, %	26	0	0	1	0	0
Mvmt Flow	87	2	5	283	5	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	131	0	432	131
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1467	-	584	924
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1408	-	554	886
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	738	-	-	1408	-
HCM Lane V/C Ratio	0.022	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	7	0
Future Vol, veh/h	0	0	0	10	7	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	11	8	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	19	8	8	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1004	1080	1625	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1004	1080	1625	-	-	-
Mov Cap-2 Maneuver	1004	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1625	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	261	74	326	159	111
Average Queue (ft)	123	45	154	75	40
95th Queue (ft)	228	80	273	133	84
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	18		
Queuing Penalty (veh)		6	19		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	62	199	33	55
Average Queue (ft)	8	29	7	19
95th Queue (ft)	39	130	28	47
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	1	1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	119	78	19	44
Average Queue (ft)	12	13	1	12
95th Queue (ft)	59	60	10	38
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)	0	2		
Queuing Penalty (veh)	0	13		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	77	166	46	42
Average Queue (ft)	7	41	11	11
95th Queue (ft)	38	152	47	35
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)		3		
Queuing Penalty (veh)		19		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	80	198	120	88	442	190	129	117	350	125
Average Queue (ft)	19	76	59	81	298	98	58	44	191	54
95th Queue (ft)	52	155	116	102	491	164	110	115	305	139
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)					6					
Queuing Penalty (veh)					40					
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	2	0	20	37			0	28	0
Queuing Penalty (veh)	0	6	1	72	82			1	28	1

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	59	133	135	294
Average Queue (ft)	25	70	66	131
95th Queue (ft)	52	113	109	245
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

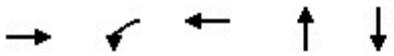
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	11	20	40
Average Queue (ft)	0	1	13
95th Queue (ft)	6	13	38
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 288



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	523	33	262	195	27
v/c Ratio	0.59	0.06	0.25	0.67	0.09
Control Delay	17.3	6.4	7.2	42.2	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	6.4	7.2	42.2	24.5
Queue Length 50th (ft)	167	5	47	93	10
Queue Length 95th (ft)	325	18	106	160	31
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	881	512	1063	446	469
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.06	0.25	0.44	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	457	32	31	246	3	66	46	74	4	19	3
Future Volume (veh/h)	8	457	32	31	246	3	66	46	74	4	19	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.93	0.97		0.95
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	1707	1870	1811	1856	1811	1900	1870	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	481	34	33	259	3	69	48	78	4	20	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	2	6	3	6	0	2	0	0	0	0	0
Cap, veh/h	49	914	64	568	1177	14	143	97	121	74	286	39
Arrive On Green	0.54	0.54	0.54	0.05	0.66	0.66	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	8	1701	119	1767	1785	21	433	500	622	124	1476	200
Grp Volume(v), veh/h	523	0	0	33	0	262	195	0	0	27	0	0
Grp Sat Flow(s),veh/h/ln	1828	0	0	1767	0	1806	1554	0	0	1799	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	4.7	6.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.1	0.0	0.0	0.6	0.0	4.7	9.3	0.0	0.0	1.0	0.0	0.0
Prop In Lane	0.02		0.07	1.00		0.01	0.35		0.40	0.15		0.11
Lane Grp Cap(c), veh/h	1027	0	0	568	0	1191	361	0	0	399	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.06	0.00	0.22	0.54	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1027	0	0	568	0	1191	511	0	0	570	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	0.0	0.0	6.3	0.0	5.6	30.2	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.2	0.0	0.4	1.3	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	0.0	0.2	0.0	1.6	3.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	0.0	6.5	0.0	6.0	31.5	0.0	0.0	27.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		523			295			195			27	
Approach Delay, s/veh		14.1			6.0			31.5			27.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		21.9		60.0		21.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	2.6	17.1		3.0		6.7		11.3				
Green Ext Time (p_c), s	0.0	3.5		0.0		1.6		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	486	1	4	291	3	1	0	1	2	0	2
Future Vol, veh/h	9	486	1	4	291	3	1	0	1	2	0	2
Conflicting Peds, #/hr	61	0	20	20	0	61	0	0	17	17	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	3	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	10	523	1	4	313	3	1	0	1	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	544	0	0	888	949	561	945	948	376
Stage 1	-	-	-	-	-	-	564	564	-	384	384	-
Stage 2	-	-	-	-	-	-	324	385	-	561	564	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1193	-	-	1035	-	-	267	262	531	244	263	675
Stage 1	-	-	-	-	-	-	514	512	-	643	615	-
Stage 2	-	-	-	-	-	-	692	614	-	516	512	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1124	-	-	1015	-	-	257	238	512	223	239	636
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	238	-	223	239	-
Stage 1	-	-	-	-	-	-	498	496	-	598	576	-
Stage 2	-	-	-	-	-	-	686	575	-	500	496	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	15.6	16.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	1124	-	-	1015	-	-	330
HCM Lane V/C Ratio	0.006	0.009	-	-	0.004	-	-	0.013
HCM Control Delay (s)	15.6	8.2	0	-	8.6	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	490	2	2	295	2	0	0	1	0	0	0
Future Vol, veh/h	5	490	2	2	295	2	0	0	1	0	0	0
Conflicting Peds, #/hr	46	0	27	27	0	46	2	0	2	2	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	3	100	0	5	0	0	0	0	0	0	0
Mvmt Flow	5	533	2	2	321	2	0	0	1	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	369	0	0	562	0	0	899	944	563	919	944	370
Stage 1	-	-	-	-	-	-	571	571	-	372	372	-
Stage 2	-	-	-	-	-	-	328	373	-	547	572	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1097	-	-	1019	-	-	262	264	530	254	264	680
Stage 1	-	-	-	-	-	-	509	508	-	653	622	-
Stage 2	-	-	-	-	-	-	689	622	-	525	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1049	-	-	993	-	-	253	244	515	240	244	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	244	-	240	244	-
Stage 1	-	-	-	-	-	-	492	491	-	620	593	-
Stage 2	-	-	-	-	-	-	686	593	-	519	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	515	1049	-	-	993	-	-	-
HCM Lane V/C Ratio	0.002	0.005	-	-	0.002	-	-	-
HCM Control Delay (s)	12	8.4	0	-	8.6	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	509	0	4	282	1	1	0	3	2	0	3
Future Vol, veh/h	6	509	0	4	282	1	1	0	3	2	0	3
Conflicting Peds, #/hr	60	0	34	34	0	60	2	0	1	1	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	25	4	0	0	0	0	0	0	0
Mvmt Flow	7	553	0	4	307	1	1	0	3	2	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	368	0	0	587	0	0	920	977	588	946	977	370
Stage 1	-	-	-	-	-	-	601	601	-	376	376	-
Stage 2	-	-	-	-	-	-	319	376	-	570	601	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1202	-	-	884	-	-	254	253	513	243	253	680
Stage 1	-	-	-	-	-	-	491	493	-	649	620	-
Stage 2	-	-	-	-	-	-	697	620	-	510	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1133	-	-	855	-	-	241	227	496	225	227	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	241	227	-	225	227	-
Stage 1	-	-	-	-	-	-	471	473	-	606	581	-
Stage 2	-	-	-	-	-	-	688	581	-	502	473	-

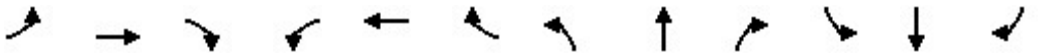
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.3	14.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	392	1133	-	-	855	-	-	368
HCM Lane V/C Ratio	0.011	0.006	-	-	0.005	-	-	0.015
HCM Control Delay (s)	14.3	8.2	0	-	9.2	0	-	14.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	323	150	59	260	340	255	195	22	54	15
v/c Ratio	0.20	0.50	0.15	0.17	0.33	0.77	0.56	0.39	0.12	0.24	0.05
Control Delay	26.9	29.2	1.6	18.5	19.1	42.1	32.5	6.9	34.1	36.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	29.2	1.6	18.5	19.1	42.1	32.5	6.9	34.1	36.1	0.3
Queue Length 50th (ft)	28	138	0	17	84	155	109	0	11	26	0
Queue Length 95th (ft)	78	280	19	52	188	#326	218	54	31	60	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	381	640	1046	354	785	558	581	585	490	570	526
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.50	0.14	0.17	0.33	0.61	0.44	0.33	0.04	0.09	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	297	138	54	217	22	313	235	179	20	50	14
Future Volume (veh/h)	69	297	138	54	217	22	313	235	179	20	50	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		1.00	1.00		0.87
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	1856	1856	1885	1870	1841	1559	1885	1870	1885	1678	1841	1693
Adj Flow Rate, veh/h	75	323	150	59	236	24	340	255	0	22	54	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	1	2	4	23	1	2	1	15	4	14
Cap, veh/h	433	581	845	309	695	71	411	428		195	224	152
Arrive On Green	0.31	0.31	0.31	0.04	0.42	0.42	0.23	0.23	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1096	1856	1532	1781	1637	166	1795	1870	1598	1598	1841	1250
Grp Volume(v), veh/h	75	323	150	59	0	260	340	255	0	22	54	15
Grp Sat Flow(s),veh/h/ln	1096	1856	1532	1781	0	1803	1795	1870	1598	1598	1841	1250
Q Serve(g_s), s	4.0	11.6	4.0	1.7	0.0	7.8	14.4	9.7	0.0	1.0	2.1	0.9
Cycle Q Clear(g_c), s	4.0	11.6	4.0	1.7	0.0	7.8	14.4	9.7	0.0	1.0	2.1	0.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	433	581	845	309	0	766	411	428		195	224	152
V/C Ratio(X)	0.17	0.56	0.18	0.19	0.00	0.34	0.83	0.60		0.11	0.24	0.10
Avail Cap(c_a), veh/h	433	581	845	333	0	766	538	561		479	552	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	22.9	9.3	17.4	0.0	15.5	29.4	27.6	0.0	31.3	31.8	31.2
Incr Delay (d2), s/veh	0.9	3.8	0.5	0.1	0.0	1.2	6.3	0.5	0.0	0.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.4	2.1	0.7	0.0	3.2	6.7	4.3	0.0	0.4	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	26.7	9.8	17.5	0.0	16.7	35.7	28.1	0.0	31.4	32.0	31.4
LnGrp LOS	C	C	A	B	A	B	D	C		C	C	C
Approach Vol, veh/h		548			319			595	A		91	
Approach Delay, s/veh		21.3			16.9			32.4			31.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	31.1		15.8		40.0		24.3				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	3.7	13.6		4.1		9.8		16.4				
Green Ext Time (p_c), s	0.0	2.0		0.2		1.5		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			25.3									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	113	71	6	18	9	31	2	308	50	26	72	29
Future Vol, veh/h	113	71	6	18	9	31	2	308	50	26	72	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	22	11	0	0	3	0	54	4	21
Mvmt Flow	123	77	7	20	10	34	2	335	54	28	78	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.1	9.5	13.2	10.9
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	59%	31%	20%
Vol Thru, %	86%	37%	16%	57%
Vol Right, %	14%	3%	53%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	360	190	58	127
LT Vol	2	113	18	26
Through Vol	308	71	9	72
RT Vol	50	6	31	29
Lane Flow Rate	391	207	63	138
Geometry Grp	1	1	1	1
Degree of Util (X)	0.528	0.316	0.101	0.232
Departure Headway (Hd)	4.855	5.504	5.787	6.048
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	747	653	618	594
Service Time	2.855	3.536	3.827	4.08
HCM Lane V/C Ratio	0.523	0.317	0.102	0.232
HCM Control Delay	13.2	11.1	9.5	10.9
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	3.1	1.4	0.3	0.9

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	145	3	1	51	1	4
Future Vol, veh/h	145	3	1	51	1	4
Conflicting Peds, #/hr	0	14	14	0	4	1
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	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	8	0	0
Mvmt Flow	158	3	1	55	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	175	0	235	175
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1414	-	758	874
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1395	-	744	862
Mov Cap-2 Maneuver	-	-	-	-	744	-
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	962	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	835	-	-	1395	-
HCM Lane V/C Ratio	0.007	-	-	0.001	-
HCM Control Delay (s)	9.3	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	4	0
Future Vol, veh/h	0	0	0	8	4	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	9	4	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	4	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1011	1085	1631	-	-	-
Stage 1	1024	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1011	1085	1631	-	-	-
Mov Cap-2 Maneuver	1011	-	-	-	-	-
Stage 1	1024	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1631	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	298	58	146	187	59
Average Queue (ft)	149	16	51	100	19
95th Queue (ft)	270	45	110	163	50
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	3		
Queuing Penalty (veh)		0	1		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	44	27	33
Average Queue (ft)	9	4	2	5
95th Queue (ft)	41	24	15	24
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	48	17	21
Average Queue (ft)	4	1	1
95th Queue (ft)	24	10	9
Link Distance (ft)	174	77	261
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	39	31	33
Average Queue (ft)	3	3	4	5
95th Queue (ft)	25	26	20	22
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	141	358	120	87	219	312	293	133	75	118	65
Average Queue (ft)	43	123	45	37	96	164	117	8	14	35	13
95th Queue (ft)	100	252	123	83	182	265	215	75	47	82	43
Link Distance (ft)		774			432		770			538	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	150		120	88		355		225	117		125
Storage Blk Time (%)	0	8	0	0	9	0	0	0	0	0	
Queuing Penalty (veh)	0	16	1	1	5	1	1	0	0	0	

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	87	78	225	102
Average Queue (ft)	47	32	107	48
95th Queue (ft)	74	64	183	81
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	3	6	30
Average Queue (ft)	0	0	6
95th Queue (ft)	3	6	25
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 28

Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	489	60	384	108	30
v/c Ratio	0.45	0.10	0.32	0.50	0.12
Control Delay	11.7	5.3	6.2	37.9	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	5.3	6.2	37.9	25.0
Queue Length 50th (ft)	129	7	59	49	11
Queue Length 95th (ft)	278	26	149	95	32
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	1083	605	1197	440	497
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.10	0.32	0.25	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	412	33	55	347	6	39	22	39	2	21	5
Future Volume (veh/h)	5	412	33	55	347	6	39	22	39	2	21	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.99		0.93	0.88		0.85	0.90		0.85
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	1900	1841	1856	1841	1811	1900	1826	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	448	36	60	377	7	42	24	42	2	23	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	3	4	6	0	5	0	0	0	0	0
Cap, veh/h	46	905	72	566	1155	21	150	89	114	53	292	60
Arrive On Green	0.54	0.54	0.54	0.04	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	4	1663	133	1753	1769	33	444	440	563	31	1444	295
Grp Volume(v), veh/h	489	0	0	60	0	384	108	0	0	30	0	0
Grp Sat Flow(s),veh/h/ln	1800	0	0	1753	0	1802	1447	0	0	1769	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	7.8	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.0	0.0	0.0	1.2	0.0	7.8	4.9	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.01		0.07	1.00		0.02	0.39		0.39	0.07		0.17
Lane Grp Cap(c), veh/h	1023	0	0	566	0	1176	353	0	0	404	0	0
V/C Ratio(X)	0.48	0.00	0.00	0.11	0.00	0.33	0.31	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1023	0	0	587	0	1176	476	0	0	556	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	6.7	0.0	6.3	28.2	0.0	0.0	26.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	0.7	0.5	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.0	0.4	0.0	2.6	1.9	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	0.0	0.0	6.7	0.0	7.1	28.7	0.0	0.0	26.9	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		489			444			108			30	
Approach Delay, s/veh		12.1			7.0			28.7			26.9	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	51.0		22.7		60.0		22.7				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	3.2	16.0		3.1		9.8		6.9				
Green Ext Time (p_c), s	0.0	3.3		0.0		2.5		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			12.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	425	3	8	362	1	1	0	1	2	0	8
Future Vol, veh/h	6	425	3	8	362	1	1	0	1	2	0	8
Conflicting Peds, #/hr	24	0	26	26	0	24	0	0	24	24	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	6	457	3	9	389	1	1	0	1	2	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	414	0	0	486	0	0	909	929	509	927	930	414
Stage 1	-	-	-	-	-	-	497	497	-	432	432	-
Stage 2	-	-	-	-	-	-	412	432	-	495	498	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1156	-	-	1087	-	-	258	270	568	251	269	643
Stage 1	-	-	-	-	-	-	559	548	-	606	586	-
Stage 2	-	-	-	-	-	-	621	586	-	560	548	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1130	-	-	1060	-	-	245	253	541	236	252	628
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	253	-	236	252	-
Stage 1	-	-	-	-	-	-	541	530	-	588	566	-
Stage 2	-	-	-	-	-	-	606	566	-	542	530	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	15.8	12.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	337	1130	-	-	1060	-	-	471
HCM Lane V/C Ratio	0.006	0.006	-	-	0.008	-	-	0.023
HCM Control Delay (s)	15.8	8.2	0	-	8.4	0	-	12.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	431	1	1	365	5	2	0	3	4	1	7
Future Vol, veh/h	3	431	1	1	365	5	2	0	3	4	1	7
Conflicting Peds, #/hr	32	0	26	26	0	32	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	33	4	100	0	6	0	100	0	0	0	0	0
Mvmt Flow	3	454	1	1	384	5	2	0	3	4	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	421	0	0	481	0	0	880	910	482	884	908	419
Stage 1	-	-	-	-	-	-	487	487	-	421	421	-
Stage 2	-	-	-	-	-	-	393	423	-	463	487	-
Critical Hdwy	4.43	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	990	-	-	1092	-	-	184	277	588	268	277	638
Stage 1	-	-	-	-	-	-	416	554	-	614	592	-
Stage 2	-	-	-	-	-	-	475	591	-	583	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	960	-	-	1065	-	-	176	261	573	257	261	619
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	261	-	257	261	-
Stage 1	-	-	-	-	-	-	404	538	-	593	574	-
Stage 2	-	-	-	-	-	-	468	573	-	577	538	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	17.2	14.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	301	960	-	-	1065	-	-	391
HCM Lane V/C Ratio	0.017	0.003	-	-	0.001	-	-	0.032
HCM Control Delay (s)	17.2	8.8	0	-	8.4	0	-	14.5
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	432	3	3	382	6	2	0	3	0	0	1
Future Vol, veh/h	3	432	3	3	382	6	2	0	3	0	0	1
Conflicting Peds, #/hr	25	0	23	23	0	25	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	4	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	3	455	3	3	402	6	2	0	3	0	0	1

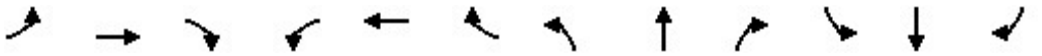
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	433	0	0	481	0	0	898	925	481	901	923	430
Stage 1	-	-	-	-	-	-	486	486	-	436	436	-
Stage 2	-	-	-	-	-	-	412	439	-	465	487	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1137	-	-	1092	-	-	262	271	589	261	272	629
Stage 1	-	-	-	-	-	-	566	554	-	603	583	-
Stage 2	-	-	-	-	-	-	621	582	-	581	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1110	-	-	1068	-	-	254	257	576	252	258	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	257	-	252	258	-
Stage 1	-	-	-	-	-	-	551	540	-	586	567	-
Stage 2	-	-	-	-	-	-	617	566	-	575	540	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.6	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	382	1110	-	-	1068	-	-	614
HCM Lane V/C Ratio	0.014	0.003	-	-	0.003	-	-	0.002
HCM Control Delay (s)	14.6	8.3	0	-	8.4	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	50	278	155	135	259	143	91	139	33	126	46
v/c Ratio	0.14	0.44	0.18	0.31	0.31	0.51	0.31	0.37	0.14	0.45	0.13
Control Delay	23.1	25.1	1.8	17.4	15.9	36.4	31.6	6.6	30.3	35.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	25.1	1.8	17.4	15.9	36.4	31.6	6.6	30.3	35.4	0.7
Queue Length 50th (ft)	15	94	0	32	64	60	37	0	13	53	0
Queue Length 95th (ft)	55	230	20	98	180	129	86	34	40	113	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	361	625	1096	429	845	600	638	617	533	650	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.44	0.14	0.31	0.31	0.24	0.14	0.23	0.06	0.19	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	261	146	127	219	24	134	86	131	31	118	43
Future Volume (veh/h)	47	261	146	127	219	24	134	86	131	31	118	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.99	1.00		1.00	1.00		0.92
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	1796	1841	1856	1856	1811	1589	1856	1870	1885	1663	1900	1900
Adj Flow Rate, veh/h	50	278	155	135	233	26	143	91	0	33	126	46
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	4	3	3	6	21	3	2	1	16	0	0
Cap, veh/h	466	628	732	414	772	86	240	254		199	238	185
Arrive On Green	0.34	0.34	0.34	0.06	0.48	0.48	0.14	0.14	0.00	0.13	0.13	0.13
Sat Flow, veh/h	1067	1841	1521	1767	1599	178	1767	1870	1598	1584	1900	1475
Grp Volume(v), veh/h	50	278	155	135	0	259	143	91	0	33	126	46
Grp Sat Flow(s),veh/h/ln	1067	1841	1521	1767	0	1777	1767	1870	1598	1584	1900	1475
Q Serve(g_s), s	2.3	8.3	4.2	3.3	0.0	6.2	5.4	3.1	0.0	1.3	4.4	2.0
Cycle Q Clear(g_c), s	2.3	8.3	4.2	3.3	0.0	6.2	5.4	3.1	0.0	1.3	4.4	2.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	466	628	732	414	0	858	240	254		199	238	185
V/C Ratio(X)	0.11	0.44	0.21	0.33	0.00	0.30	0.60	0.36		0.17	0.53	0.25
Avail Cap(c_a), veh/h	466	628	732	414	0	858	602	638		540	648	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	18.0	10.7	13.4	0.0	11.0	28.6	27.6	0.0	27.5	28.8	27.8
Incr Delay (d2), s/veh	0.5	2.3	0.7	2.1	0.0	0.9	0.9	0.3	0.0	0.1	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	1.8	1.4	0.0	2.3	2.2	1.4	0.0	0.5	2.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	20.3	11.4	15.5	0.0	11.9	29.5	27.9	0.0	27.6	29.5	28.0
LnGrp LOS	B	C	B	B	A	B	C	C		C	C	C
Approach Vol, veh/h		483			394			234	A		205	
Approach Delay, s/veh		17.0			13.1			28.9			28.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		14.8		40.0		15.6				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	5.3	10.3		6.4		8.2		7.4				
Green Ext Time (p_c), s	0.0	2.0		0.5		1.5		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			19.8									
HCM 6th LOS			B									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	12	2	54	22	21	5	159	26	17	152	41
Future Vol, veh/h	20	12	2	54	22	21	5	159	26	17	152	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	6	0	0	0	6	0	6	2	15
Mvmt Flow	22	13	2	59	24	23	5	173	28	18	165	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.9	9	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	59%	56%	8%
Vol Thru, %	84%	35%	23%	72%
Vol Right, %	14%	6%	22%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	190	34	97	210
LT Vol	5	20	54	17
Through Vol	159	12	22	152
RT Vol	26	2	21	41
Lane Flow Rate	207	37	105	228
Geometry Grp	1	1	1	1
Degree of Util (X)	0.255	0.052	0.147	0.285
Departure Headway (Hd)	4.438	5.107	5.007	4.49
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	808	698	714	799
Service Time	2.472	3.159	3.052	2.522
HCM Lane V/C Ratio	0.256	0.053	0.147	0.285
HCM Control Delay	9	8.4	8.9	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.5	1.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	9	7	94	3	2
Future Vol, veh/h	48	9	7	94	3	2
Conflicting Peds, #/hr	0	41	41	0	14	1
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	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	3	0	50
Mvmt Flow	52	10	8	102	3	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	103	0	230	99
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1502	-	763	840
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	899	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1443	-	720	806
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	882	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	752	-	-	1443	-
HCM Lane V/C Ratio	0.007	-	-	0.005	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	8	16	0
Future Vol, veh/h	0	0	0	8	16	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	9	17	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	17	17	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	995	1068	1613	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	995	1068	1613	-	-	-
Mov Cap-2 Maneuver	995	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1613	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	283	73	188	138	63
Average Queue (ft)	126	27	80	62	19
95th Queue (ft)	247	63	155	111	52
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	7		
Queuing Penalty (veh)		1	4		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	69	82	21	31
Average Queue (ft)	8	9	1	9
95th Queue (ft)	39	42	10	31
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	39	3	60	31
Average Queue (ft)	2	0	7	9
95th Queue (ft)	21	3	33	31
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	52	31	20
Average Queue (ft)	1	3	5	2
95th Queue (ft)	15	24	22	12
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	132	295	120	87	237	145	102	98	174	99
Average Queue (ft)	31	118	51	58	99	70	44	24	68	26
95th Queue (ft)	82	226	125	96	198	124	85	68	128	67
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	7	0	2	9			0	2	0
Queuing Penalty (veh)	0	13	1	4	11			0	1	0

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	41	81	100	94
Average Queue (ft)	22	39	55	52
95th Queue (ft)	46	65	86	83
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

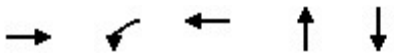
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	20	46
Average Queue (ft)	0	1	4
95th Queue (ft)	6	12	24
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 36



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	379	112	606	135	73
v/c Ratio	0.45	0.19	0.54	0.57	0.27
Control Delay	13.5	6.3	9.8	39.7	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	6.3	9.8	39.7	28.4
Queue Length 50th (ft)	96	15	123	62	29
Queue Length 95th (ft)	216	47	303	115	64
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	837	597	1128	421	479
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.19	0.54	0.32	0.15

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	279	56	105	557	12	44	25	57	9	53	7
Future Volume (veh/h)	21	279	56	105	557	12	44	25	57	9	53	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.89	0.99		0.90	0.89		0.87	0.90		0.87
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	1900	1870	1900	1885	1870	1781	1870	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	22	297	60	112	593	13	47	27	61	10	56	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	1	2	8	2	0	4	0	0	0
Cap, veh/h	68	710	138	633	1133	25	151	93	155	76	352	40
Arrive On Green	0.51	0.51	0.51	0.05	0.62	0.62	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	46	1399	272	1795	1818	40	399	390	651	122	1477	170
Grp Volume(v), veh/h	379	0	0	112	0	606	135	0	0	73	0	0
Grp Sat Flow(s),veh/h/ln	1717	0	0	1795	0	1858	1440	0	0	1768	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	15.8	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.6	0.0	0.0	2.4	0.0	15.8	6.4	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.06		0.16	1.00		0.02	0.35		0.45	0.14		0.10
Lane Grp Cap(c), veh/h	916	0	0	633	0	1158	399	0	0	469	0	0
V/C Ratio(X)	0.41	0.00	0.00	0.18	0.00	0.52	0.34	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	916	0	0	633	0	1158	453	0	0	535	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.3	0.0	0.0	8.3	0.0	9.1	27.5	0.0	0.0	26.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.6	0.0	1.7	0.5	0.0	0.0	0.2	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.0	0.9	0.0	5.9	2.4	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	0.0	8.9	0.0	10.8	28.0	0.0	0.0	26.3	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		379			718			135			73	
Approach Delay, s/veh		14.7			10.5			28.0			26.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		26.7		60.0		26.7				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	4.4	13.6		4.7		17.8		8.4				
Green Ext Time (p_c), s	0.0	2.6		0.1		4.4		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		14.4	
HCM 6th LOS		B	

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	7	318	1	13	579	4	0	0	8	6	1	15
Future Vol, veh/h	7	318	1	13	579	4	0	0	8	6	1	15
Conflicting Peds, #/hr	45	0	46	46	0	45	0	0	23	23	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	7
Mvmt Flow	8	346	1	14	629	4	0	0	9	7	1	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	678	0	0	393	0	0	1077	1115	416	1094	1113	676
Stage 1	-	-	-	-	-	-	409	409	-	704	704	-
Stage 2	-	-	-	-	-	-	668	706	-	390	409	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	923	-	-	1177	-	-	198	210	641	193	210	445
Stage 1	-	-	-	-	-	-	623	600	-	431	443	-
Stage 2	-	-	-	-	-	-	451	442	-	638	600	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	883	-	-	1125	-	-	177	186	599	174	186	426
Mov Cap-2 Maneuver	-	-	-	-	-	-	177	186	-	174	186	-
Stage 1	-	-	-	-	-	-	589	567	-	408	416	-
Stage 2	-	-	-	-	-	-	424	415	-	608	567	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.1	18.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	883	-	-	1125	-	-	293
HCM Lane V/C Ratio	0.015	0.009	-	-	0.013	-	-	0.082
HCM Control Delay (s)	11.1	9.1	0	-	8.2	0	-	18.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	321	1	2	598	2	0	0	1	7	0	7
Future Vol, veh/h	8	321	1	2	598	2	0	0	1	7	0	7
Conflicting Peds, #/hr	54	0	71	71	0	54	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	9	349	1	2	650	2	0	0	1	8	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	706	0	0	421	0	0	1102	1149	423	1079	1148	709
Stage 1	-	-	-	-	-	-	439	439	-	709	709	-
Stage 2	-	-	-	-	-	-	663	710	-	370	439	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	902	-	-	1149	-	-	191	200	635	198	200	438
Stage 1	-	-	-	-	-	-	601	582	-	428	440	-
Stage 2	-	-	-	-	-	-	454	440	-	654	582	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	856	-	-	1071	-	-	172	174	591	185	174	414
Mov Cap-2 Maneuver	-	-	-	-	-	-	172	174	-	185	174	-
Stage 1	-	-	-	-	-	-	553	535	-	401	416	-
Stage 2	-	-	-	-	-	-	443	416	-	643	535	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	11.1	19.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	591	856	-	-	1071	-	-	256
HCM Lane V/C Ratio	0.002	0.01	-	-	0.002	-	-	0.059
HCM Control Delay (s)	11.1	9.2	0	-	8.4	0	-	19.9
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

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	9	315	3	8	618	5	4	0	6	6	1	7
Future Vol, veh/h	9	315	3	8	618	5	4	0	6	6	1	7
Conflicting Peds, #/hr	48	0	95	95	0	48	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	10	342	3	9	672	5	4	0	7	7	1	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	725	0	0	440	0	0	1160	1202	441	1110	1201	727
Stage 1	-	-	-	-	-	-	459	459	-	741	741	-
Stage 2	-	-	-	-	-	-	701	743	-	369	460	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	887	-	-	1131	-	-	174	186	621	188	186	427
Stage 1	-	-	-	-	-	-	586	570	-	411	426	-
Stage 2	-	-	-	-	-	-	433	425	-	655	569	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	846	-	-	1029	-	-	151	157	564	173	157	406
Mov Cap-2 Maneuver	-	-	-	-	-	-	151	157	-	173	157	-
Stage 1	-	-	-	-	-	-	525	511	-	386	401	-
Stage 2	-	-	-	-	-	-	416	400	-	636	510	-

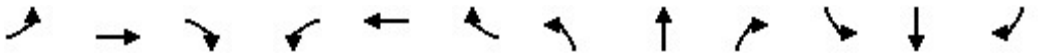
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	18.9	21
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	269	846	-	-	1029	-	-	240
HCM Lane V/C Ratio	0.04	0.012	-	-	0.008	-	-	0.063
HCM Control Delay (s)	18.9	9.3	0	-	8.5	0	-	21
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	160	273	237	384	196	107	112	53	325	53
v/c Ratio	0.09	0.30	0.34	0.56	0.53	0.64	0.34	0.31	0.14	0.80	0.12
Control Delay	28.3	29.1	4.5	28.1	25.1	43.7	34.7	3.9	29.4	48.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	29.1	4.5	28.1	25.1	43.7	34.7	3.9	29.4	48.5	0.5
Queue Length 50th (ft)	10	68	18	87	154	100	51	0	23	166	0
Queue Length 95th (ft)	35	144	52	181	299	176	102	15	59	#289	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	285	526	958	423	727	500	521	485	480	531	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.30	0.28	0.56	0.53	0.39	0.21	0.23	0.11	0.61	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	152	259	225	332	33	186	102	106	50	309	50
Future Volume (veh/h)	25	152	259	225	332	33	186	102	106	50	309	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.99		0.98	1.00		1.00	1.00		0.83
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	1900	1870	1900	1885	1870	1678	1870	1856	1900	1811	1885	1841
Adj Flow Rate, veh/h	26	160	273	237	349	35	196	107	0	53	325	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	1	2	15	2	3	0	6	1	4
Cap, veh/h	300	506	732	354	639	64	345	360		380	416	286
Arrive On Green	0.27	0.27	0.27	0.05	0.38	0.38	0.19	0.19	0.00	0.22	0.22	0.22
Sat Flow, veh/h	997	1870	1554	1795	1668	167	1781	1856	1610	1725	1885	1298
Grp Volume(v), veh/h	26	160	273	237	0	384	196	107	0	53	325	53
Grp Sat Flow(s),veh/h/ln	997	1870	1554	1795	0	1835	1781	1856	1610	1725	1885	1298
Q Serve(g_s), s	1.9	6.1	10.1	4.0	0.0	14.5	8.8	4.4	0.0	2.2	14.4	2.9
Cycle Q Clear(g_c), s	6.4	6.1	10.1	4.0	0.0	14.5	8.8	4.4	0.0	2.2	14.4	2.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	506	732	354	0	703	345	360		380	416	286
V/C Ratio(X)	0.09	0.32	0.37	0.67	0.00	0.55	0.57	0.30		0.14	0.78	0.19
Avail Cap(c_a), veh/h	300	506	732	354	0	703	482	502		466	510	351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	25.8	15.5	27.9	0.0	21.4	32.4	30.6	0.0	27.8	32.6	28.1
Incr Delay (d2), s/veh	0.6	1.6	1.5	9.7	0.0	3.0	0.5	0.2	0.0	0.1	4.9	0.1
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	0.5	2.8	5.2	3.5	0.0	6.5	3.8	1.9	0.0	0.9	7.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	27.5	16.9	37.6	0.0	24.4	33.0	30.8	0.0	27.9	37.5	28.2
LnGrp LOS	C	C	B	D	A	C	C	C		C	D	C
Approach Vol, veh/h		459			621			303	A		431	
Approach Delay, s/veh		21.3			29.4			32.2			35.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		25.6		40.0		23.2				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	6.0	12.1		16.4		16.5		10.8				
Green Ext Time (p_c), s	0.0	1.6		1.0		2.1		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		29.2	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	22.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	16	3	130	131	20	6	156	16	62	333	95
Future Vol, veh/h	20	16	3	130	131	20	6	156	16	62	333	95
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	0	0	2	0	0	0	6	0	34	1	7
Mvmt Flow	21	17	3	138	139	21	6	166	17	66	354	101
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	15.4	11.5	32.2
HCM LOS	B	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	51%	46%	13%
Vol Thru, %	88%	41%	47%	68%
Vol Right, %	9%	8%	7%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	178	39	281	490
LT Vol	6	20	130	62
Through Vol	156	16	131	333
RT Vol	16	3	20	95
Lane Flow Rate	189	41	299	521
Geometry Grp	1	1	1	1
Degree of Util (X)	0.307	0.08	0.507	0.841
Departure Headway (Hd)	5.844	6.919	6.109	5.806
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	521	586	620
Service Time	3.923	4.919	4.184	3.863
HCM Lane V/C Ratio	0.31	0.079	0.51	0.84
HCM Control Delay	11.5	10.5	15.4	32.2
HCM Lane LOS	B	B	C	D
HCM 95th-tile Q	1.3	0.3	2.9	9.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	81	2	5	263	5	10
Future Vol, veh/h	81	2	5	263	5	10
Conflicting Peds, #/hr	0	45	45	0	10	1
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	92	92	92	92	92	92
Heavy Vehicles, %	26	0	0	1	0	0
Mvmt Flow	88	2	5	286	5	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	440	135
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1462	-	578	919
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1399	-	546	879
Mov Cap-2 Maneuver	-	-	-	-	546	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	741	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	730	-	-	1399	-
HCM Lane V/C Ratio	0.022	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	7	0
Future Vol, veh/h	0	0	0	10	7	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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	11	8	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	19	8	8	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1004	1080	1625	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1004	1080	1625	-	-	-
Mov Cap-2 Maneuver	1004	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1625	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	262	74	326	162	97
Average Queue (ft)	117	42	154	77	40
95th Queue (ft)	215	78	284	135	82
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0		0		
Queuing Penalty (veh)	0		0		
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	18		
Queuing Penalty (veh)		6	19		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	61	201	31	61
Average Queue (ft)	7	39	7	20
95th Queue (ft)	36	162	28	55
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0	1		
Queuing Penalty (veh)	0	5		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	97	82	21	42
Average Queue (ft)	8	18	1	11
95th Queue (ft)	46	72	10	37
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)	0	4		
Queuing Penalty (veh)	0	25		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	97	184	54	55
Average Queue (ft)	7	59	13	13
95th Queue (ft)	45	183	47	46
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)		6		
Queuing Penalty (veh)		34		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	68	195	119	87	446	206	144	117	384	125
Average Queue (ft)	19	78	62	83	329	105	60	42	203	55
95th Queue (ft)	51	156	124	100	512	175	117	111	330	138
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)					10					
Queuing Penalty (veh)					66					
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)		2	1	24	41			0	30	0
Queuing Penalty (veh)		5	1	87	92			1	30	1

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	161	150	422
Average Queue (ft)	24	73	67	148
95th Queue (ft)	52	126	117	313
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	12	18	35
Average Queue (ft)	0	1	13
95th Queue (ft)	9	8	37
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

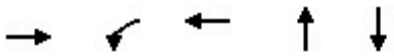
Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 373

Appendix E

Synchro/SimTraffic Outputs for 2023/2028 Total Future Conditions



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	528	33	266	192	27
v/c Ratio	0.60	0.06	0.25	0.66	0.09
Control Delay	17.4	6.4	7.2	41.9	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	6.4	7.2	41.9	24.6
Queue Length 50th (ft)	168	5	47	92	10
Queue Length 95th (ft)	330	18	108	157	31
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	882	511	1064	447	469
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.06	0.25	0.43	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	462	32	31	250	3	65	45	73	4	19	3
Future Volume (veh/h)	8	462	32	31	250	3	65	45	73	4	19	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.93	0.97		0.95
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	1707	1870	1811	1856	1811	1900	1870	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	486	34	33	263	3	68	47	77	4	20	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	2	6	3	6	0	2	0	0	0	0	0
Cap, veh/h	49	917	63	566	1179	13	143	96	120	74	284	39
Arrive On Green	0.54	0.54	0.54	0.05	0.66	0.66	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	8	1703	118	1767	1785	20	431	499	623	123	1476	200
Grp Volume(v), veh/h	528	0	0	33	0	266	192	0	0	27	0	0
Grp Sat Flow(s),veh/h/ln	1829	0	0	1767	0	1806	1554	0	0	1798	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	4.8	6.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.3	0.0	0.0	0.6	0.0	4.8	9.1	0.0	0.0	1.0	0.0	0.0
Prop In Lane	0.02		0.06	1.00		0.01	0.35		0.40	0.15		0.11
Lane Grp Cap(c), veh/h	1029	0	0	566	0	1193	359	0	0	397	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.06	0.00	0.22	0.53	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1029	0	0	566	0	1193	512	0	0	571	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.2	0.0	0.0	6.3	0.0	5.5	30.2	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.2	0.0	0.4	1.2	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.0	0.2	0.0	1.6	3.5	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	0.0	6.5	0.0	6.0	31.4	0.0	0.0	27.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		528			299			192			27	
Approach Delay, s/veh		14.1			6.0			31.4			27.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		21.8		60.0		21.8				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	2.6	17.3		3.0		6.8		11.1				
Green Ext Time (p_c), s	0.0	3.6		0.0		1.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		15.3	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	490	1	4	294	3	1	0	1	2	0	2
Future Vol, veh/h	9	490	1	4	294	3	1	0	1	2	0	2
Conflicting Peds, #/hr	58	0	19	19	0	58	0	0	16	16	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	3	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	10	527	1	4	316	3	1	0	1	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	547	0	0	894	952	563	948	951	376
Stage 1	-	-	-	-	-	-	567	567	-	384	384	-
Stage 2	-	-	-	-	-	-	327	385	-	564	567	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1193	-	-	1033	-	-	264	261	530	243	262	675
Stage 1	-	-	-	-	-	-	512	510	-	643	615	-
Stage 2	-	-	-	-	-	-	690	614	-	514	510	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1127	-	-	1014	-	-	255	238	512	223	239	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	255	238	-	223	239	-
Stage 1	-	-	-	-	-	-	496	494	-	599	578	-
Stage 2	-	-	-	-	-	-	684	577	-	499	494	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	15.7	16.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	340	1127	-	-	1014	-	-	330
HCM Lane V/C Ratio	0.006	0.009	-	-	0.004	-	-	0.013
HCM Control Delay (s)	15.7	8.2	0	-	8.6	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	485	2	2	292	8	0	0	1	9	0	4
Future Vol, veh/h	8	485	2	2	292	8	0	0	1	9	0	4
Conflicting Peds, #/hr	44	0	27	27	0	44	2	0	2	2	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	3	100	0	5	0	0	0	0	0	0	0
Mvmt Flow	9	527	2	2	317	9	0	0	1	10	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	370	0	0	556	0	0	903	947	557	919	944	368
Stage 1	-	-	-	-	-	-	573	573	-	370	370	-
Stage 2	-	-	-	-	-	-	330	374	-	549	574	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1096	-	-	1025	-	-	260	263	534	254	264	682
Stage 1	-	-	-	-	-	-	508	507	-	654	624	-
Stage 2	-	-	-	-	-	-	687	621	-	524	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1050	-	-	999	-	-	249	242	519	240	243	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	249	242	-	240	243	-
Stage 1	-	-	-	-	-	-	489	488	-	619	597	-
Stage 2	-	-	-	-	-	-	680	594	-	516	487	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12	17.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	519	1050	-	-	999	-	-	298
HCM Lane V/C Ratio	0.002	0.008	-	-	0.002	-	-	0.047
HCM Control Delay (s)	12	8.5	0	-	8.6	0	-	17.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	507	0	4	283	1	1	0	3	2	0	3
Future Vol, veh/h	6	507	0	4	283	1	1	0	3	2	0	3
Conflicting Peds, #/hr	57	0	32	32	0	57	2	0	1	1	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	25	4	0	0	0	0	0	0	0
Mvmt Flow	7	551	0	4	308	1	1	0	3	2	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	366	0	0	583	0	0	917	971	584	942	971	368
Stage 1	-	-	-	-	-	-	597	597	-	374	374	-
Stage 2	-	-	-	-	-	-	320	374	-	568	597	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1204	-	-	887	-	-	255	255	515	245	255	682
Stage 1	-	-	-	-	-	-	493	495	-	651	621	-
Stage 2	-	-	-	-	-	-	696	621	-	511	495	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1139	-	-	860	-	-	243	231	499	227	231	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	243	231	-	227	231	-
Stage 1	-	-	-	-	-	-	474	476	-	610	584	-
Stage 2	-	-	-	-	-	-	687	584	-	503	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.2	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1139	-	-	860	-	-	371
HCM Lane V/C Ratio	0.011	0.006	-	-	0.005	-	-	0.015
HCM Control Delay (s)	14.2	8.2	0	-	9.2	0	-	14.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

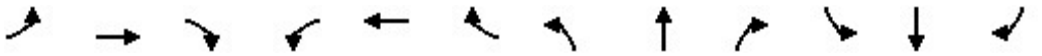
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	322	149	60	260	337	253	196	22	53	15
v/c Ratio	0.19	0.50	0.15	0.17	0.33	0.77	0.55	0.39	0.12	0.24	0.05
Control Delay	26.8	29.1	1.5	18.5	19.0	41.9	32.5	6.8	34.0	36.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	29.1	1.5	18.5	19.0	41.9	32.5	6.8	34.0	36.0	0.3
Queue Length 50th (ft)	28	137	0	18	84	153	108	0	10	26	0
Queue Length 95th (ft)	77	279	19	53	188	#320	216	53	31	59	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	382	641	1047	356	786	559	582	589	491	571	528
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.50	0.14	0.17	0.33	0.60	0.43	0.33	0.04	0.09	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

JPA Aspen Heights
5: Jefferson Park Ave & Fontaine Ave & Maury Ave

2023 Total AM
HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	296	137	55	217	22	310	233	180	20	49	14
Future Volume (veh/h)	68	296	137	55	217	22	310	233	180	20	49	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		1.00	1.00		0.88
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	1856	1856	1885	1870	1841	1559	1885	1870	1885	1678	1841	1693
Adj Flow Rate, veh/h	74	322	149	60	236	24	337	253	0	22	53	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	1	2	4	23	1	2	1	15	4	14
Cap, veh/h	436	585	847	314	700	71	408	425		190	219	150
Arrive On Green	0.32	0.32	0.32	0.04	0.43	0.43	0.23	0.23	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1097	1856	1535	1781	1637	166	1795	1870	1598	1598	1841	1258
Grp Volume(v), veh/h	74	322	149	60	0	260	337	253	0	22	53	15
Grp Sat Flow(s),veh/h/ln	1097	1856	1535	1781	0	1804	1795	1870	1598	1598	1841	1258
Q Serve(g_s), s	3.9	11.4	3.9	1.7	0.0	7.7	14.2	9.6	0.0	1.0	2.1	0.8
Cycle Q Clear(g_c), s	3.9	11.4	3.9	1.7	0.0	7.7	14.2	9.6	0.0	1.0	2.1	0.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	436	585	847	314	0	771	408	425		190	219	150
V/C Ratio(X)	0.17	0.55	0.18	0.19	0.00	0.34	0.83	0.60		0.12	0.24	0.10
Avail Cap(c_a), veh/h	436	585	847	337	0	771	542	564		482	555	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	22.6	9.2	17.2	0.0	15.2	29.2	27.5	0.0	31.3	31.8	31.2
Incr Delay (d2), s/veh	0.8	3.7	0.5	0.1	0.0	1.2	5.9	0.5	0.0	0.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.3	2.1	0.7	0.0	3.1	6.6	4.2	0.0	0.4	0.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	26.3	9.7	17.3	0.0	16.4	35.1	28.0	0.0	31.4	32.0	31.4
LnGrp LOS	C	C	A	B	A	B	D	C		C	C	C
Approach Vol, veh/h		545			320			590	A		90	
Approach Delay, s/veh		21.0			16.6			32.1			31.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.9	31.1		15.5		40.0		24.1				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	3.7	13.4		4.1		9.7		16.2				
Green Ext Time (p_c), s	0.0	2.0		0.2		1.5		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			24.9									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	111	70	6	18	9	33	2	305	49	28	71	29
Future Vol, veh/h	111	70	6	18	9	33	2	305	49	28	71	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	22	11	0	0	3	0	54	4	21
Mvmt Flow	121	76	7	20	10	36	2	332	53	30	77	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11	9.5	13	10.9
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	59%	30%	22%
Vol Thru, %	86%	37%	15%	55%
Vol Right, %	14%	3%	55%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	356	187	60	128
LT Vol	2	111	18	28
Through Vol	305	70	9	71
RT Vol	49	6	33	29
Lane Flow Rate	387	203	65	139
Geometry Grp	1	1	1	1
Degree of Util (X)	0.521	0.31	0.104	0.233
Departure Headway (Hd)	4.85	5.498	5.759	6.041
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	747	654	622	595
Service Time	2.85	3.528	3.796	4.07
HCM Lane V/C Ratio	0.518	0.31	0.105	0.234
HCM Control Delay	13	11	9.5	10.9
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	3.1	1.3	0.3	0.9

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	5	6	50	3	11
Future Vol, veh/h	144	5	6	50	3	11
Conflicting Peds, #/hr	0	13	13	0	4	1
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	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	8	0	0
Mvmt Flow	157	5	7	54	3	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	175	0	245	174
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	72	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1414	-	748	875
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1396	-	732	863
Mov Cap-2 Maneuver	-	-	-	-	732	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	831	-	-	1396	-
HCM Lane V/C Ratio	0.018	-	-	0.005	-
HCM Control Delay (s)	9.4	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	13	10	8	4	6
Future Vol, veh/h	9	13	10	8	4	6
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	14	11	9	4	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	39	8	11	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	31	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	978	1080	1621	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	971	1080	1621	-	-	-
Mov Cap-2 Maneuver	971	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	1033	-	-
HCM Lane V/C Ratio	0.007	-	0.023	-	-
HCM Control Delay (s)	7.2	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	297	63	142	189	64
Average Queue (ft)	151	16	50	98	19
95th Queue (ft)	268	46	107	166	50
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	3		
Queuing Penalty (veh)		0	1		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	62	31	31
Average Queue (ft)	7	4	3	5
95th Queue (ft)	33	30	17	24
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	72	31	12	38
Average Queue (ft)	7	2	0	11
95th Queue (ft)	39	17	6	35
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	34	52	31	29
Average Queue (ft)	2	3	5	4
95th Queue (ft)	16	27	24	19
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	149	289	120	87	211	289	221	111	71	96	61
Average Queue (ft)	42	114	41	38	94	154	117	4	13	33	12
95th Queue (ft)	102	220	116	83	178	247	191	52	44	74	41
Link Distance (ft)		774			432		770			538	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	150		120	88		355		225	117		125
Storage Blk Time (%)	0	6	0	0	9	0	0	0		0	
Queuing Penalty (veh)	0	12	1	1	5	0	1	0		0	

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	102	75	208	106
Average Queue (ft)	50	33	109	51
95th Queue (ft)	81	61	183	89
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

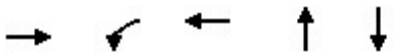
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	3	24	30
Average Queue (ft)	0	1	11
95th Queue (ft)	3	10	35
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement	EB
Directions Served	LR
Maximum Queue (ft)	35
Average Queue (ft)	17
95th Queue (ft)	42
Link Distance (ft)	156
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

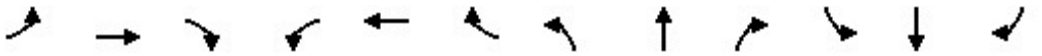
Network Summary

Network wide Queuing Penalty: 24



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	498	59	391	106	30
v/c Ratio	0.46	0.10	0.33	0.49	0.12
Control Delay	11.8	5.2	6.2	37.7	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	5.2	6.2	37.7	25.1
Queue Length 50th (ft)	132	7	60	48	11
Queue Length 95th (ft)	285	25	152	93	32
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	1084	602	1198	443	499
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.10	0.33	0.24	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	420	33	54	353	6	38	22	38	2	21	5
Future Volume (veh/h)	5	420	33	54	353	6	38	22	38	2	21	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.92	1.00		0.93	0.89		0.88	0.91		0.88
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	1900	1841	1856	1841	1811	1900	1826	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	457	36	59	384	7	41	24	41	2	23	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	3	4	6	0	5	0	0	0	0	0
Cap, veh/h	47	911	71	563	1161	21	149	91	113	53	288	59
Arrive On Green	0.55	0.55	0.55	0.04	0.66	0.66	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	4	1666	130	1753	1770	32	445	457	569	30	1455	297
Grp Volume(v), veh/h	498	0	0	59	0	391	106	0	0	30	0	0
Grp Sat Flow(s),veh/h/ln	1800	0	0	1753	0	1803	1471	0	0	1782	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	7.8	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.2	0.0	0.0	1.1	0.0	7.8	4.7	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.01		0.07	1.00		0.02	0.39		0.39	0.07		0.17
Lane Grp Cap(c), veh/h	1029	0	0	563	0	1182	352	0	0	400	0	0
V/C Ratio(X)	0.48	0.00	0.00	0.10	0.00	0.33	0.30	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1029	0	0	586	0	1182	485	0	0	562	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	6.6	0.0	6.2	28.3	0.0	0.0	26.9	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.8	0.5	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.0	0.4	0.0	2.6	1.8	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	0.0	0.0	6.6	0.0	7.0	28.7	0.0	0.0	27.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		498			450			106			30	
Approach Delay, s/veh		12.0			6.9			28.7			27.0	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	51.0		22.3		60.0		22.3				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	3.1	16.2		3.1		9.8		6.7				
Green Ext Time (p_c), s	0.0	3.3		0.0		2.6		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		12.0	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	433	3	8	362	1	1	0	1	2	0	8
Future Vol, veh/h	6	433	3	8	362	1	1	0	1	2	0	8
Conflicting Peds, #/hr	22	0	25	25	0	22	0	0	22	22	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	6	466	3	9	389	1	1	0	1	2	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	494	0	0	917	935	515	932	936	412
Stage 1	-	-	-	-	-	-	505	505	-	430	430	-
Stage 2	-	-	-	-	-	-	412	430	-	502	506	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1158	-	-	1080	-	-	255	267	564	249	267	644
Stage 1	-	-	-	-	-	-	553	544	-	607	587	-
Stage 2	-	-	-	-	-	-	621	587	-	555	543	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1054	-	-	242	250	539	235	250	631
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	250	-	235	250	-
Stage 1	-	-	-	-	-	-	536	527	-	590	568	-
Stage 2	-	-	-	-	-	-	606	568	-	538	526	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	15.8	12.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	334	1134	-	-	1054	-	-	472
HCM Lane V/C Ratio	0.006	0.006	-	-	0.008	-	-	0.023
HCM Control Delay (s)	15.8	8.2	0	-	8.4	0	-	12.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

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	8	427	1	1	361	15	2	0	3	16	1	13
Future Vol, veh/h	8	427	1	1	361	15	2	0	3	16	1	13
Conflicting Peds, #/hr	31	0	25	25	0	31	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	33	4	100	0	6	0	100	0	0	0	0	0
Mvmt Flow	8	449	1	1	380	16	2	0	3	17	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	427	0	0	475	0	0	889	920	476	889	912	419
Stage 1	-	-	-	-	-	-	491	491	-	421	421	-
Stage 2	-	-	-	-	-	-	398	429	-	468	491	-
Critical Hdwy	4.43	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	985	-	-	1098	-	-	182	273	593	266	276	638
Stage 1	-	-	-	-	-	-	413	552	-	614	592	-
Stage 2	-	-	-	-	-	-	471	587	-	579	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	956	-	-	1072	-	-	172	255	578	254	258	619
Mov Cap-2 Maneuver	-	-	-	-	-	-	172	255	-	254	258	-
Stage 1	-	-	-	-	-	-	399	533	-	589	574	-
Stage 2	-	-	-	-	-	-	459	569	-	569	533	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	17.3	16.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	297	956	-	-	1072	-	-	341
HCM Lane V/C Ratio	0.018	0.009	-	-	0.001	-	-	0.093
HCM Control Delay (s)	17.3	8.8	0	-	8.4	0	-	16.6
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	433	3	3	385	6	2	0	3	0	0	1
Future Vol, veh/h	3	433	3	3	385	6	2	0	3	0	0	1
Conflicting Peds, #/hr	23	0	21	21	0	23	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	4	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	3	456	3	3	405	6	2	0	3	0	0	1

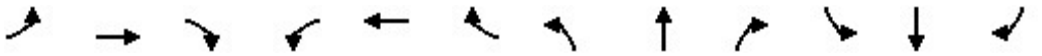
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	434	0	0	480	0	0	900	925	480	903	923	431
Stage 1	-	-	-	-	-	-	485	485	-	437	437	-
Stage 2	-	-	-	-	-	-	415	440	-	466	486	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1136	-	-	1093	-	-	262	271	590	260	272	629
Stage 1	-	-	-	-	-	-	567	555	-	602	583	-
Stage 2	-	-	-	-	-	-	619	581	-	581	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1111	-	-	1071	-	-	255	258	578	251	259	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	255	258	-	251	259	-
Stage 1	-	-	-	-	-	-	553	542	-	586	568	-
Stage 2	-	-	-	-	-	-	615	566	-	575	541	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.5	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	384	1111	-	-	1071	-	-	615
HCM Lane V/C Ratio	0.014	0.003	-	-	0.003	-	-	0.002
HCM Control Delay (s)	14.5	8.2	0	-	8.4	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	278	154	137	260	141	90	141	33	123	45
v/c Ratio	0.14	0.44	0.18	0.32	0.31	0.51	0.31	0.38	0.14	0.44	0.12
Control Delay	23.0	25.0	1.8	17.3	15.9	36.3	31.5	6.8	30.3	35.2	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	25.0	1.8	17.3	15.9	36.3	31.5	6.8	30.3	35.2	0.7
Queue Length 50th (ft)	15	94	0	32	64	59	36	0	13	51	0
Queue Length 95th (ft)	53	230	20	99	180	127	86	35	40	111	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	362	627	1099	431	846	601	639	620	534	652	637
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.44	0.14	0.32	0.31	0.23	0.14	0.23	0.06	0.19	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	261	145	129	220	24	133	85	133	31	116	42
Future Volume (veh/h)	46	261	145	129	220	24	133	85	133	31	116	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.99	1.00		1.00	1.00		0.92
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	1796	1841	1856	1856	1811	1589	1856	1870	1885	1663	1900	1900
Adj Flow Rate, veh/h	49	278	154	137	234	26	141	90	0	33	123	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	4	3	3	6	21	3	2	1	16	0	0
Cap, veh/h	469	631	732	417	777	86	236	250		197	236	184
Arrive On Green	0.34	0.34	0.34	0.06	0.49	0.49	0.13	0.13	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1067	1841	1524	1767	1600	178	1767	1870	1598	1584	1900	1480
Grp Volume(v), veh/h	49	278	154	137	0	260	141	90	0	33	123	45
Grp Sat Flow(s),veh/h/ln	1067	1841	1524	1767	0	1778	1767	1870	1598	1584	1900	1480
Q Serve(g_s), s	2.2	8.2	4.1	3.4	0.0	6.2	5.3	3.1	0.0	1.3	4.2	1.9
Cycle Q Clear(g_c), s	2.2	8.2	4.1	3.4	0.0	6.2	5.3	3.1	0.0	1.3	4.2	1.9
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	469	631	732	417	0	863	236	250		197	236	184
V/C Ratio(X)	0.10	0.44	0.21	0.33	0.00	0.30	0.60	0.36		0.17	0.52	0.24
Avail Cap(c_a), veh/h	469	631	732	417	0	863	606	641		543	651	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	17.8	10.7	13.3	0.0	10.9	28.6	27.6	0.0	27.4	28.7	27.7
Incr Delay (d2), s/veh	0.4	2.2	0.7	2.1	0.0	0.9	0.9	0.3	0.0	0.1	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	1.8	1.4	0.0	2.3	2.2	1.3	0.0	0.5	1.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	20.1	11.3	15.4	0.0	11.8	29.5	28.0	0.0	27.6	29.4	28.0
LnGrp LOS	B	C	B	B	A	B	C	C		C	C	C
Approach Vol, veh/h		481			397			231	A		201	
Approach Delay, s/veh		16.9			13.0			28.9			28.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		14.7		40.0		15.3				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	5.4	10.2		6.2		8.2		7.3				
Green Ext Time (p_c), s	0.0	2.0		0.5		1.5		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		19.6	
HCM 6th LOS		B	

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	12	2	53	22	24	5	158	26	20	151	40
Future Vol, veh/h	20	12	2	53	22	24	5	158	26	20	151	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	6	0	0	0	6	0	6	2	15
Mvmt Flow	22	13	2	58	24	26	5	172	28	22	164	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.9	9	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	59%	54%	9%
Vol Thru, %	84%	35%	22%	72%
Vol Right, %	14%	6%	24%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	34	99	211
LT Vol	5	20	53	20
Through Vol	158	12	22	151
RT Vol	26	2	24	40
Lane Flow Rate	205	37	108	229
Geometry Grp	1	1	1	1
Degree of Util (X)	0.254	0.052	0.149	0.287
Departure Headway (Hd)	4.443	5.111	4.988	4.499
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	807	698	717	798
Service Time	2.477	3.163	3.033	2.531
HCM Lane V/C Ratio	0.254	0.053	0.151	0.287
HCM Control Delay	9	8.4	8.9	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.5	1.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	12	15	93	6	11
Future Vol, veh/h	47	12	15	93	6	11
Conflicting Peds, #/hr	0	39	39	0	13	1
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	91	91	91	91	91	91
Heavy Vehicles, %	2	0	0	3	0	50
Mvmt Flow	52	13	16	102	7	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	104	0	245	99
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1500	-	748	840
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1444	-	703	808
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	768	-	-	1444	-
HCM Lane V/C Ratio	0.024	-	-	0.011	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	17	16	8	16	10
Future Vol, veh/h	12	17	16	8	16	10
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	18	17	9	17	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	66	23	28	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	944	1060	1599	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	934	1060	1599	-	-	-
Mov Cap-2 Maneuver	934	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	1004	-	-
HCM Lane V/C Ratio	0.011	-	0.031	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	268	75	213	124	58
Average Queue (ft)	119	29	83	58	20
95th Queue (ft)	236	64	169	108	51
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	7		
Queuing Penalty (veh)		1	4		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	89	26	35
Average Queue (ft)	8	8	2	10
95th Queue (ft)	36	46	13	34
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	73	11	58	51
Average Queue (ft)	7	0	7	22
95th Queue (ft)	44	8	34	49
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	15	59	31	14
Average Queue (ft)	1	4	5	1
95th Queue (ft)	9	32	22	8
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	133	268	120	87	246	160	109	92	146	108
Average Queue (ft)	30	108	43	59	94	69	49	23	64	27
95th Queue (ft)	82	206	113	100	184	128	92	63	118	69
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	6	0	2	6			0	1	0
Queuing Penalty (veh)	0	12	1	5	8			0	1	0

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	80	106	101
Average Queue (ft)	21	39	56	50
95th Queue (ft)	46	64	89	80
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

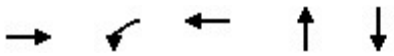
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	24	64
Average Queue (ft)	0	2	19
95th Queue (ft)	4	13	55
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	40	12
Average Queue (ft)	19	0
95th Queue (ft)	44	6
Link Distance (ft)	156	281
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

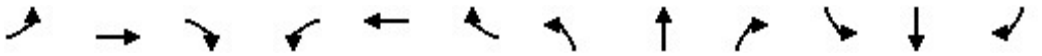
Network Summary

Network wide Queuing Penalty: 31



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	393	111	617	133	72
v/c Ratio	0.47	0.19	0.55	0.56	0.27
Control Delay	13.7	6.3	9.9	39.5	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	6.3	9.9	39.5	28.5
Queue Length 50th (ft)	100	15	125	61	29
Queue Length 95th (ft)	226	47	312	114	63
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	843	593	1131	423	478
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.19	0.55	0.31	0.15

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	293	55	104	568	12	43	25	56	9	52	7
Future Volume (veh/h)	21	293	55	104	568	12	43	25	56	9	52	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.89	0.99		0.90	0.89		0.85	0.91		0.84
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	1900	1870	1900	1885	1870	1781	1870	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	22	312	59	111	604	13	46	27	60	10	55	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	1	2	8	2	0	4	0	0	0
Cap, veh/h	67	723	132	626	1137	24	149	93	152	77	346	40
Arrive On Green	0.51	0.51	0.51	0.05	0.63	0.63	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	45	1420	259	1795	1819	39	392	393	646	124	1466	171
Grp Volume(v), veh/h	393	0	0	111	0	617	133	0	0	72	0	0
Grp Sat Flow(s),veh/h/ln	1723	0	0	1795	0	1858	1432	0	0	1761	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	16.1	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.0	0.0	0.0	2.4	0.0	16.1	6.3	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.06		0.15	1.00		0.02	0.35		0.45	0.14		0.10
Lane Grp Cap(c), veh/h	922	0	0	626	0	1162	394	0	0	463	0	0
V/C Ratio(X)	0.43	0.00	0.00	0.18	0.00	0.53	0.34	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	922	0	0	626	0	1162	452	0	0	534	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.3	0.0	0.0	8.2	0.0	9.1	27.5	0.0	0.0	26.3	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.6	0.0	1.7	0.5	0.0	0.0	0.2	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.0	0.9	0.0	6.0	2.3	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	0.0	0.0	8.8	0.0	10.8	28.0	0.0	0.0	26.4	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		393			728			133			72	
Approach Delay, s/veh		14.8			10.5			28.0			26.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		26.4		60.0		26.4				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	4.4	14.0		4.7		18.1		8.3				
Green Ext Time (p_c), s	0.0	2.7		0.1		4.6		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		14.4	
HCM 6th LOS		B	

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	7	332	1	13	590	4	0	0	8	6	1	15
Future Vol, veh/h	7	332	1	13	590	4	0	0	8	6	1	15
Conflicting Peds, #/hr	43	0	44	44	0	43	0	0	21	21	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	7
Mvmt Flow	8	361	1	14	641	4	0	0	9	7	1	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	688	0	0	406	0	0	1102	1138	427	1117	1136	686
Stage 1	-	-	-	-	-	-	422	422	-	714	714	-
Stage 2	-	-	-	-	-	-	680	716	-	403	422	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	916	-	-	1164	-	-	191	203	632	186	204	439
Stage 1	-	-	-	-	-	-	613	592	-	425	438	-
Stage 2	-	-	-	-	-	-	444	437	-	628	592	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	878	-	-	1115	-	-	171	181	593	168	182	421
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	181	-	168	182	-
Stage 1	-	-	-	-	-	-	581	561	-	403	412	-
Stage 2	-	-	-	-	-	-	417	411	-	600	561	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.2	18.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	593	878	-	-	1115	-	-	286
HCM Lane V/C Ratio	0.015	0.009	-	-	0.013	-	-	0.084
HCM Control Delay (s)	11.2	9.1	0	-	8.3	0	-	18.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

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	16	318	1	2	592	19	0	0	1	24	0	15
Future Vol, veh/h	16	318	1	2	592	19	0	0	1	24	0	15
Conflicting Peds, #/hr	51	0	67	67	0	51	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	17	346	1	2	643	21	0	0	1	26	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	715	0	0	414	0	0	1118	1167	416	1092	1157	709
Stage 1	-	-	-	-	-	-	448	448	-	709	709	-
Stage 2	-	-	-	-	-	-	670	719	-	383	448	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	895	-	-	1156	-	-	186	195	641	194	198	438
Stage 1	-	-	-	-	-	-	594	576	-	428	440	-
Stage 2	-	-	-	-	-	-	450	436	-	644	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	852	-	-	1082	-	-	163	169	599	180	171	415
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	169	-	180	171	-
Stage 1	-	-	-	-	-	-	542	526	-	397	417	-
Stage 2	-	-	-	-	-	-	429	413	-	626	526	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	11	24.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	852	-	-	1082	-	-	230
HCM Lane V/C Ratio	0.002	0.02	-	-	0.002	-	-	0.184
HCM Control Delay (s)	11	9.3	0	-	8.3	0	-	24.2
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.7

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	9	320	3	8	619	5	4	0	6	6	1	7
Future Vol, veh/h	9	320	3	8	619	5	4	0	6	6	1	7
Conflicting Peds, #/hr	46	0	91	91	0	46	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	10	348	3	9	673	5	4	0	7	7	1	8

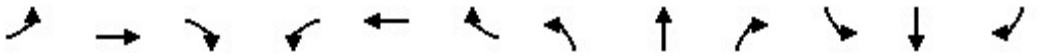
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	724	0	0	442	0	0	1163	1203	443	1115	1202	726
Stage 1	-	-	-	-	-	-	461	461	-	740	740	-
Stage 2	-	-	-	-	-	-	702	742	-	375	462	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	888	-	-	1129	-	-	173	186	619	187	186	428
Stage 1	-	-	-	-	-	-	584	569	-	412	426	-
Stage 2	-	-	-	-	-	-	432	425	-	650	568	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	849	-	-	1031	-	-	150	158	564	173	158	408
Mov Cap-2 Maneuver	-	-	-	-	-	-	150	158	-	173	158	-
Stage 1	-	-	-	-	-	-	526	512	-	388	402	-
Stage 2	-	-	-	-	-	-	415	401	-	632	511	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	19	20.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	268	849	-	-	1031	-	-	241
HCM Lane V/C Ratio	0.041	0.012	-	-	0.008	-	-	0.063
HCM Control Delay (s)	19	9.3	0	-	8.5	0	-	20.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	163	269	239	384	194	106	115	52	322	52
v/c Ratio	0.09	0.31	0.34	0.57	0.53	0.64	0.34	0.32	0.14	0.80	0.12
Control Delay	28.2	29.0	4.3	28.1	24.9	43.7	34.7	4.1	29.3	48.1	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	29.0	4.3	28.1	24.9	43.7	34.7	4.1	29.3	48.1	0.5
Queue Length 50th (ft)	10	69	17	88	153	98	51	0	23	164	0
Queue Length 95th (ft)	35	146	50	182	298	175	101	18	57	285	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	286	528	962	423	730	501	523	490	482	533	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.31	0.28	0.57	0.53	0.39	0.20	0.23	0.11	0.60	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	155	256	227	332	33	184	101	109	49	306	49
Future Volume (veh/h)	25	155	256	227	332	33	184	101	109	49	306	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.94	0.99		0.96	1.00		1.00	1.00		0.81
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	1900	1870	1900	1885	1870	1678	1870	1856	1900	1811	1885	1841
Adj Flow Rate, veh/h	26	163	269	239	349	35	194	106	0	52	322	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	1	2	15	2	3	0	6	1	4
Cap, veh/h	303	508	721	355	640	64	342	356		379	414	278
Arrive On Green	0.27	0.27	0.27	0.05	0.38	0.38	0.19	0.19	0.00	0.22	0.22	0.22
Sat Flow, veh/h	998	1870	1519	1795	1664	167	1781	1856	1610	1725	1885	1265
Grp Volume(v), veh/h	26	163	269	239	0	384	194	106	0	52	322	52
Grp Sat Flow(s),veh/h/ln	998	1870	1519	1795	0	1831	1781	1856	1610	1725	1885	1265
Q Serve(g_s), s	1.8	6.1	10.2	4.0	0.0	14.4	8.7	4.3	0.0	2.1	14.2	3.0
Cycle Q Clear(g_c), s	6.3	6.1	10.2	4.0	0.0	14.4	8.7	4.3	0.0	2.1	14.2	3.0
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	508	721	355	0	705	342	356		379	414	278
V/C Ratio(X)	0.09	0.32	0.37	0.67	0.00	0.54	0.57	0.30		0.14	0.78	0.19
Avail Cap(c_a), veh/h	303	508	721	355	0	705	484	504		469	512	344
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	25.7	15.5	27.8	0.0	21.2	32.4	30.6	0.0	27.7	32.4	28.0
Incr Delay (d2), s/veh	0.6	1.7	1.5	9.8	0.0	3.0	0.6	0.2	0.0	0.1	4.6	0.1
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	0.5	2.9	5.1	3.6	0.0	6.4	3.7	1.9	0.0	0.9	6.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	27.3	16.9	37.6	0.0	24.2	32.9	30.8	0.0	27.8	37.0	28.2
LnGrp LOS	C	C	B	D	A	C	C	C		C	D	C
Approach Vol, veh/h		458			623			300	A		426	
Approach Delay, s/veh		21.3			29.3			32.2			34.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		25.4		40.0		22.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	6.0	12.2		16.2		16.4		10.7				
Green Ext Time (p_c), s	0.0	1.6		1.0		2.1		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			29.0									
HCM 6th LOS			C									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	22.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	16	3	129	130	24	6	155	16	65	329	94
Future Vol, veh/h	20	16	3	129	130	24	6	155	16	65	329	94
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	0	0	2	0	0	0	6	0	34	1	7
Mvmt Flow	21	17	3	137	138	26	6	165	17	69	350	100
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	15.4	11.5	31.9
HCM LOS	B	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	51%	46%	13%
Vol Thru, %	88%	41%	46%	67%
Vol Right, %	9%	8%	8%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	39	283	488
LT Vol	6	20	129	65
Through Vol	155	16	130	329
RT Vol	16	3	24	94
Lane Flow Rate	188	41	301	519
Geometry Grp	1	1	1	1
Degree of Util (X)	0.306	0.08	0.51	0.838
Departure Headway (Hd)	5.846	6.915	6.093	5.81
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	521	587	623
Service Time	3.926	4.915	4.167	3.87
HCM Lane V/C Ratio	0.308	0.079	0.513	0.833
HCM Control Delay	11.5	10.5	15.4	31.9
HCM Lane LOS	B	B	C	D
HCM 95th-tile Q	1.3	0.3	2.9	9

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	6	18	260	9	23
Future Vol, veh/h	80	6	18	260	9	23
Conflicting Peds, #/hr	0	42	42	0	9	1
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	92	92	92	92	92	92
Heavy Vehicles, %	26	0	0	1	0	0
Mvmt Flow	87	7	20	283	10	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	136	0	465	134
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1461	-	559	920
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1403	-	523	882
Mov Cap-2 Maneuver	-	-	-	-	523	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1403	-
HCM Lane V/C Ratio	0.047	-	-	0.014	-
HCM Control Delay (s)	10.1	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	25	25	10	7	17
Future Vol, veh/h	17	25	25	10	7	17
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	27	27	11	8	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	82	17	26	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	925	1068	1601	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	909	1068	1601	-	-	-
Mov Cap-2 Maneuver	909	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	5.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1601	-	997	-	-
HCM Lane V/C Ratio	0.017	-	0.046	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	265	74	402	151	90
Average Queue (ft)	130	42	171	76	40
95th Queue (ft)	233	79	335	133	74
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0		0		
Queuing Penalty (veh)	1		0		
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	20		
Queuing Penalty (veh)		6	20		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	225	35	61
Average Queue (ft)	10	45	6	20
95th Queue (ft)	47	188	26	51
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	1	1		
Queuing Penalty (veh)	2	4		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	139	85	22	92
Average Queue (ft)	24	20	1	34
95th Queue (ft)	96	75	11	79
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)	0	5		
Queuing Penalty (veh)	1	28		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	114	184	53	84
Average Queue (ft)	11	62	16	25
95th Queue (ft)	59	189	69	99
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)		6		
Queuing Penalty (veh)		38		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	73	201	120	87	447	208	129	117	326	125
Average Queue (ft)	19	79	60	83	330	105	56	47	192	52
95th Queue (ft)	51	163	118	101	525	174	107	118	301	133
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)					11					
Queuing Penalty (veh)					69					
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	2	1	24	42			0	29	0
Queuing Penalty (veh)	0	5	1	88	96			1	28	1

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	160	135	290
Average Queue (ft)	24	75	64	138
95th Queue (ft)	49	125	109	248
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

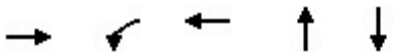
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	10	35	44
Average Queue (ft)	0	3	21
95th Queue (ft)	7	19	44
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	52	25
Average Queue (ft)	25	1
95th Queue (ft)	48	9
Link Distance (ft)	156	281
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 389



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	533	33	268	195	27
v/c Ratio	0.60	0.07	0.25	0.67	0.09
Control Delay	17.6	6.4	7.2	42.2	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	6.4	7.2	42.2	24.5
Queue Length 50th (ft)	171	5	48	93	10
Queue Length 95th (ft)	335	18	109	160	31
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	881	507	1063	446	469
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.07	0.25	0.44	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	466	32	31	252	3	66	46	74	4	19	3
Future Volume (veh/h)	8	466	32	31	252	3	66	46	74	4	19	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.93	0.97		0.95
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	1707	1870	1811	1856	1811	1900	1870	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	491	34	33	265	3	69	48	78	4	20	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	13	2	6	3	6	0	2	0	0	0	0	0
Cap, veh/h	49	916	63	561	1177	13	143	97	121	74	286	39
Arrive On Green	0.54	0.54	0.54	0.05	0.66	0.66	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	8	1704	117	1767	1785	20	433	500	622	124	1476	200
Grp Volume(v), veh/h	533	0	0	33	0	268	195	0	0	27	0	0
Grp Sat Flow(s),veh/h/ln	1829	0	0	1767	0	1806	1554	0	0	1799	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.6	0.0	4.9	6.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.5	0.0	0.0	0.6	0.0	4.9	9.3	0.0	0.0	1.0	0.0	0.0
Prop In Lane	0.02		0.06	1.00		0.01	0.35		0.40	0.15		0.11
Lane Grp Cap(c), veh/h	1027	0	0	561	0	1191	361	0	0	399	0	0
V/C Ratio(X)	0.52	0.00	0.00	0.06	0.00	0.23	0.54	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1027	0	0	561	0	1191	511	0	0	570	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	6.3	0.0	5.6	30.2	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.2	0.0	0.4	1.3	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	0.2	0.0	1.6	3.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	0.0	0.0	6.5	0.0	6.0	31.5	0.0	0.0	27.1	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		533			301			195			27	
Approach Delay, s/veh		14.2			6.1			31.5			27.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		21.9		60.0		21.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	2.6	17.5		3.0		6.9		11.3				
Green Ext Time (p_c), s	0.0	3.6		0.0		1.7		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	495	1	4	297	3	1	0	1	2	0	2
Future Vol, veh/h	9	495	1	4	297	3	1	0	1	2	0	2
Conflicting Peds, #/hr	61	0	20	20	0	61	0	0	17	17	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	3	0	0	5	0	0	0	0	0	0	0
Mvmt Flow	10	532	1	4	319	3	1	0	1	2	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	383	0	0	553	0	0	903	964	570	960	963	382
Stage 1	-	-	-	-	-	-	573	573	-	390	390	-
Stage 2	-	-	-	-	-	-	330	391	-	570	573	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1187	-	-	1027	-	-	260	257	525	238	258	670
Stage 1	-	-	-	-	-	-	508	507	-	638	611	-
Stage 2	-	-	-	-	-	-	687	611	-	510	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1118	-	-	1007	-	-	251	233	507	217	234	631
Mov Cap-2 Maneuver	-	-	-	-	-	-	251	233	-	217	234	-
Stage 1	-	-	-	-	-	-	492	491	-	593	573	-
Stage 2	-	-	-	-	-	-	681	573	-	494	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	15.8	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	336	1118	-	-	1007	-	-	323
HCM Lane V/C Ratio	0.006	0.009	-	-	0.004	-	-	0.013
HCM Control Delay (s)	15.8	8.2	0	-	8.6	0	-	16.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	490	2	2	295	8	0	0	1	9	0	4
Future Vol, veh/h	8	490	2	2	295	8	0	0	1	9	0	4
Conflicting Peds, #/hr	46	0	27	27	0	46	2	0	2	2	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	20	3	100	0	5	0	0	0	0	0	0	0
Mvmt Flow	9	533	2	2	321	9	0	0	1	10	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	562	0	0	913	959	563	931	956	374
Stage 1	-	-	-	-	-	-	579	579	-	376	376	-
Stage 2	-	-	-	-	-	-	334	380	-	555	580	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1090	-	-	1019	-	-	256	259	530	249	260	677
Stage 1	-	-	-	-	-	-	504	504	-	649	620	-
Stage 2	-	-	-	-	-	-	684	617	-	520	503	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1042	-	-	993	-	-	245	238	515	235	239	646
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	238	-	235	239	-
Stage 1	-	-	-	-	-	-	485	485	-	613	591	-
Stage 2	-	-	-	-	-	-	677	589	-	512	484	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	12	18
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	515	1042	-	-	993	-	-	292
HCM Lane V/C Ratio	0.002	0.008	-	-	0.002	-	-	0.048
HCM Control Delay (s)	12	8.5	0	-	8.6	0	-	18
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	512	0	4	286	1	1	0	3	2	0	3
Future Vol, veh/h	6	512	0	4	286	1	1	0	3	2	0	3
Conflicting Peds, #/hr	60	0	34	34	0	60	2	0	1	1	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	25	4	0	0	0	0	0	0	0
Mvmt Flow	7	557	0	4	311	1	1	0	3	2	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	591	0	0	928	985	592	954	985	374
Stage 1	-	-	-	-	-	-	605	605	-	380	380	-
Stage 2	-	-	-	-	-	-	323	380	-	574	605	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1198	-	-	881	-	-	250	250	510	240	250	677
Stage 1	-	-	-	-	-	-	488	491	-	646	617	-
Stage 2	-	-	-	-	-	-	693	617	-	507	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1130	-	-	852	-	-	238	225	493	222	225	637
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	225	-	222	225	-
Stage 1	-	-	-	-	-	-	468	471	-	603	578	-
Stage 2	-	-	-	-	-	-	684	578	-	499	471	-

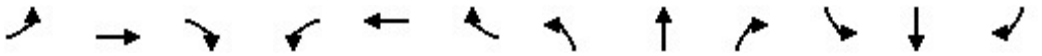
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.4	15
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	389	1130	-	-	852	-	-	364
HCM Lane V/C Ratio	0.011	0.006	-	-	0.005	-	-	0.015
HCM Control Delay (s)	14.4	8.2	0	-	9.2	0	-	15
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	325	150	61	262	340	255	197	22	54	15
v/c Ratio	0.20	0.51	0.15	0.17	0.33	0.77	0.56	0.39	0.12	0.24	0.05
Control Delay	26.9	29.3	1.6	18.6	19.1	42.1	32.5	6.9	34.1	36.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	29.3	1.6	18.6	19.1	42.1	32.5	6.9	34.1	36.1	0.3
Queue Length 50th (ft)	28	139	0	18	85	155	109	0	11	26	0
Queue Length 95th (ft)	78	281	19	53	190	#326	218	54	31	60	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	380	640	1046	353	785	558	581	586	490	570	526
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.51	0.14	0.17	0.33	0.61	0.44	0.34	0.04	0.09	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	299	138	56	219	22	313	235	181	20	50	14
Future Volume (veh/h)	69	299	138	56	219	22	313	235	181	20	50	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		1.00	1.00		0.87
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	1856	1856	1885	1870	1841	1559	1885	1870	1885	1678	1841	1693
Adj Flow Rate, veh/h	75	325	150	61	238	24	340	255	0	22	54	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	1	2	4	23	1	2	1	15	4	14
Cap, veh/h	432	580	844	308	696	70	411	428		195	224	152
Arrive On Green	0.31	0.31	0.31	0.04	0.42	0.42	0.23	0.23	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1094	1856	1532	1781	1638	165	1795	1870	1598	1598	1841	1250
Grp Volume(v), veh/h	75	325	150	61	0	262	340	255	0	22	54	15
Grp Sat Flow(s),veh/h/ln	1094	1856	1532	1781	0	1804	1795	1870	1598	1598	1841	1250
Q Serve(g_s), s	4.1	11.7	4.0	1.8	0.0	7.8	14.4	9.7	0.0	1.0	2.1	0.9
Cycle Q Clear(g_c), s	4.1	11.7	4.0	1.8	0.0	7.8	14.4	9.7	0.0	1.0	2.1	0.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	432	580	844	308	0	766	411	428		195	224	152
V/C Ratio(X)	0.17	0.56	0.18	0.20	0.00	0.34	0.83	0.60		0.11	0.24	0.10
Avail Cap(c_a), veh/h	432	580	844	331	0	766	538	561		479	552	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	22.9	9.3	17.5	0.0	15.5	29.4	27.6	0.0	31.3	31.8	31.2
Incr Delay (d2), s/veh	0.9	3.9	0.5	0.1	0.0	1.2	6.3	0.5	0.0	0.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.4	2.1	0.7	0.0	3.2	6.7	4.3	0.0	0.4	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	26.8	9.8	17.6	0.0	16.7	35.7	28.1	0.0	31.4	32.0	31.4
LnGrp LOS	C	C	A	B	A	B	D	C		C	C	C
Approach Vol, veh/h		550			323			595	A		91	
Approach Delay, s/veh		21.4			16.9			32.4			31.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	31.0		15.8		40.0		24.3				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	3.8	13.7		4.1		9.8		16.4				
Green Ext Time (p_c), s	0.0	2.0		0.2		1.5		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		25.3	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	113	71	6	18	9	33	2	308	50	28	72	29
Future Vol, veh/h	113	71	6	18	9	33	2	308	50	28	72	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	22	11	0	0	3	0	54	4	21
Mvmt Flow	123	77	7	20	10	36	2	335	54	30	78	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.1	9.5	13.2	11
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	59%	30%	22%
Vol Thru, %	86%	37%	15%	56%
Vol Right, %	14%	3%	55%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	360	190	60	129
LT Vol	2	113	18	28
Through Vol	308	71	9	72
RT Vol	50	6	33	29
Lane Flow Rate	391	207	65	140
Geometry Grp	1	1	1	1
Degree of Util (X)	0.529	0.316	0.105	0.236
Departure Headway (Hd)	4.867	5.517	5.786	6.062
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	747	653	619	593
Service Time	2.867	3.55	3.825	4.094
HCM Lane V/C Ratio	0.523	0.317	0.105	0.236
HCM Control Delay	13.2	11.1	9.5	11
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	3.1	1.4	0.4	0.9

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	145	5	6	51	3	11
Future Vol, veh/h	145	5	6	51	3	11
Conflicting Peds, #/hr	0	14	14	0	4	1
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	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	8	0	0
Mvmt Flow	158	5	7	55	3	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	177	0	248	176
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	73	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1411	-	745	872
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1392	-	729	860
Mov Cap-2 Maneuver	-	-	-	-	729	-
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	946	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	828	-	-	1392	-
HCM Lane V/C Ratio	0.018	-	-	0.005	-
HCM Control Delay (s)	9.4	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	13	10	8	4	6
Future Vol, veh/h	9	13	10	8	4	6
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	14	11	9	4	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	39	8	11	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	31	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	978	1080	1621	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	971	1080	1621	-	-	-
Mov Cap-2 Maneuver	971	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	997	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	1033	-	-
HCM Lane V/C Ratio	0.007	-	0.023	-	-
HCM Control Delay (s)	7.2	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	293	56	150	193	59
Average Queue (ft)	153	15	58	104	20
95th Queue (ft)	274	44	121	169	51
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	4		
Queuing Penalty (veh)		0	1		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	52	24	31
Average Queue (ft)	7	5	2	4
95th Queue (ft)	35	26	13	20
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	38	22	40
Average Queue (ft)	6	2	1	10
95th Queue (ft)	32	17	12	34
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	29	71	31	26
Average Queue (ft)	1	5	4	3
95th Queue (ft)	12	34	21	16
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	143	302	120	87	234	259	211	110	74	101	55
Average Queue (ft)	42	125	44	39	101	147	107	6	15	37	11
95th Queue (ft)	101	243	123	85	195	233	181	62	48	79	40
Link Distance (ft)		774			432		770			538	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	150		120	88		355		225	117		125
Storage Blk Time (%)	0	8	0	0	10		0	0	0	0	
Queuing Penalty (veh)	0	16	1	0	6		1	0	0	0	

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	90	74	210	106
Average Queue (ft)	48	32	104	51
95th Queue (ft)	76	59	177	87
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	21	35
Average Queue (ft)	0	1	13
95th Queue (ft)	5	11	37
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement	EB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	15
95th Queue (ft)	40
Link Distance (ft)	156
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 28

Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	502	60	395	108	30
v/c Ratio	0.46	0.10	0.33	0.50	0.12
Control Delay	11.9	5.3	6.3	37.9	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	5.3	6.3	37.9	25.0
Queue Length 50th (ft)	134	7	61	49	11
Queue Length 95th (ft)	288	26	154	95	32
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	1083	599	1197	440	498
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.10	0.33	0.25	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	424	33	55	357	6	39	22	39	2	21	5
Future Volume (veh/h)	5	424	33	55	357	6	39	22	39	2	21	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	1.00		0.93	0.88		0.85	0.90		0.87
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	1900	1841	1856	1841	1811	1900	1826	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	461	36	60	388	7	42	24	42	2	23	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	3	4	6	0	5	0	0	0	0	0
Cap, veh/h	46	907	70	556	1156	21	150	89	114	53	294	60
Arrive On Green	0.54	0.54	0.54	0.04	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	4	1668	129	1753	1771	32	444	440	563	31	1452	297
Grp Volume(v), veh/h	502	0	0	60	0	395	108	0	0	30	0	0
Grp Sat Flow(s),veh/h/ln	1801	0	0	1753	0	1803	1447	0	0	1779	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	8.1	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.5	0.0	0.0	1.2	0.0	8.1	4.9	0.0	0.0	1.1	0.0	0.0
Prop In Lane	0.01		0.07	1.00		0.02	0.39		0.39	0.07		0.17
Lane Grp Cap(c), veh/h	1024	0	0	556	0	1177	353	0	0	406	0	0
V/C Ratio(X)	0.49	0.00	0.00	0.11	0.00	0.34	0.31	0.00	0.00	0.07	0.00	0.00
Avail Cap(c_a), veh/h	1024	0	0	578	0	1177	476	0	0	559	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.9	0.0	0.0	6.7	0.0	6.4	28.2	0.0	0.0	26.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.8	0.5	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	0.0	0.4	0.0	2.7	1.9	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	0.0	0.0	6.7	0.0	7.2	28.7	0.0	0.0	26.9	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		502			455			108			30	
Approach Delay, s/veh		12.3			7.1			28.7			26.9	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	51.0		22.7		60.0		22.7				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	3.2	16.5		3.1		10.1		6.9				
Green Ext Time (p_c), s	0.0	3.4		0.0		2.6		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		12.1	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	437	3	8	366	1	1	0	1	2	0	8
Future Vol, veh/h	6	437	3	8	366	1	1	0	1	2	0	8
Conflicting Peds, #/hr	24	0	26	26	0	24	0	0	24	24	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	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	5	0	0	6	0	0	0	0	0	0	0
Mvmt Flow	6	470	3	9	394	1	1	0	1	2	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	419	0	0	499	0	0	927	947	522	945	948	419
Stage 1	-	-	-	-	-	-	510	510	-	437	437	-
Stage 2	-	-	-	-	-	-	417	437	-	508	511	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1151	-	-	1075	-	-	251	263	559	244	263	638
Stage 1	-	-	-	-	-	-	550	541	-	602	583	-
Stage 2	-	-	-	-	-	-	617	583	-	551	540	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1125	-	-	1048	-	-	238	246	533	229	246	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	246	-	229	246	-
Stage 1	-	-	-	-	-	-	532	524	-	584	563	-
Stage 2	-	-	-	-	-	-	602	563	-	534	523	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	16	12.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	329	1125	-	-	1048	-	-	464
HCM Lane V/C Ratio	0.007	0.006	-	-	0.008	-	-	0.023
HCM Control Delay (s)	16	8.2	0	-	8.5	0	-	12.9
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

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	8	431	1	1	365	15	2	0	3	16	1	13
Future Vol, veh/h	8	431	1	1	365	15	2	0	3	16	1	13
Conflicting Peds, #/hr	32	0	26	26	0	32	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	33	4	100	0	6	0	100	0	0	0	0	0
Mvmt Flow	8	454	1	1	384	16	2	0	3	17	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	432	0	0	481	0	0	899	931	482	899	923	424
Stage 1	-	-	-	-	-	-	497	497	-	426	426	-
Stage 2	-	-	-	-	-	-	402	434	-	473	497	-
Critical Hdwy	4.43	-	-	4.1	-	-	8.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.2	-	-	4.4	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	981	-	-	1092	-	-	178	269	588	262	272	634
Stage 1	-	-	-	-	-	-	410	548	-	610	589	-
Stage 2	-	-	-	-	-	-	469	585	-	576	548	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	951	-	-	1065	-	-	168	251	573	250	254	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	251	-	250	254	-
Stage 1	-	-	-	-	-	-	396	528	-	585	571	-
Stage 2	-	-	-	-	-	-	457	567	-	566	528	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	17.6	16.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	292	951	-	-	1065	-	-	337
HCM Lane V/C Ratio	0.018	0.009	-	-	0.001	-	-	0.094
HCM Control Delay (s)	17.6	8.8	0	-	8.4	0	-	16.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	437	3	3	388	6	2	0	3	0	0	1
Future Vol, veh/h	3	437	3	3	388	6	2	0	3	0	0	1
Conflicting Peds, #/hr	25	0	23	23	0	25	0	0	1	1	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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	4	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	3	460	3	3	408	6	2	0	3	0	0	1

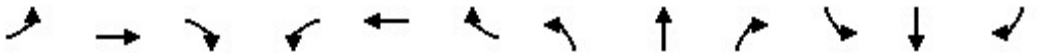
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	486	0	0	909	936	486	912	934	436
Stage 1	-	-	-	-	-	-	491	491	-	442	442	-
Stage 2	-	-	-	-	-	-	418	445	-	470	492	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1132	-	-	1087	-	-	258	267	585	257	268	625
Stage 1	-	-	-	-	-	-	563	552	-	598	580	-
Stage 2	-	-	-	-	-	-	616	578	-	578	551	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1105	-	-	1063	-	-	250	253	572	248	254	610
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	253	-	248	254	-
Stage 1	-	-	-	-	-	-	548	538	-	581	564	-
Stage 2	-	-	-	-	-	-	612	562	-	572	537	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	14.7	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	378	1105	-	-	1063	-	-	610
HCM Lane V/C Ratio	0.014	0.003	-	-	0.003	-	-	0.002
HCM Control Delay (s)	14.7	8.3	0	-	8.4	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	50	281	155	138	262	143	91	143	33	126	46
v/c Ratio	0.14	0.45	0.18	0.32	0.31	0.51	0.31	0.38	0.14	0.45	0.13
Control Delay	23.1	25.2	1.8	17.5	16.0	36.4	31.6	7.1	30.3	35.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	25.2	1.8	17.5	16.0	36.4	31.6	7.1	30.3	35.4	0.7
Queue Length 50th (ft)	15	95	0	33	65	60	37	0	13	53	0
Queue Length 95th (ft)	55	233	20	100	182	129	86	37	40	113	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	359	625	1096	427	845	600	638	617	533	650	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.45	0.14	0.32	0.31	0.24	0.14	0.23	0.06	0.19	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	264	146	130	222	24	134	86	134	31	118	43
Future Volume (veh/h)	47	264	146	130	222	24	134	86	134	31	118	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.99	1.00		1.00	1.00		0.92
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	1796	1841	1856	1856	1811	1589	1856	1870	1885	1663	1900	1900
Adj Flow Rate, veh/h	50	281	155	138	236	26	143	91	0	33	126	46
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	4	3	3	6	21	3	2	1	16	0	0
Cap, veh/h	465	628	732	412	773	85	240	254		199	238	185
Arrive On Green	0.34	0.34	0.34	0.06	0.48	0.48	0.14	0.14	0.00	0.13	0.13	0.13
Sat Flow, veh/h	1064	1841	1521	1767	1601	176	1767	1870	1598	1584	1900	1475
Grp Volume(v), veh/h	50	281	155	138	0	262	143	91	0	33	126	46
Grp Sat Flow(s),veh/h/ln	1064	1841	1521	1767	0	1778	1767	1870	1598	1584	1900	1475
Q Serve(g_s), s	2.3	8.4	4.2	3.4	0.0	6.3	5.4	3.1	0.0	1.3	4.4	2.0
Cycle Q Clear(g_c), s	2.3	8.4	4.2	3.4	0.0	6.3	5.4	3.1	0.0	1.3	4.4	2.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	465	628	732	412	0	859	240	254		199	238	185
V/C Ratio(X)	0.11	0.45	0.21	0.34	0.00	0.31	0.60	0.36		0.17	0.53	0.25
Avail Cap(c_a), veh/h	465	628	732	412	0	859	602	638		540	648	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	18.0	10.7	13.5	0.0	11.0	28.6	27.6	0.0	27.5	28.8	27.8
Incr Delay (d2), s/veh	0.5	2.3	0.7	2.2	0.0	0.9	0.9	0.3	0.0	0.1	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	1.8	1.5	0.0	2.4	2.2	1.4	0.0	0.5	2.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	20.3	11.4	15.7	0.0	12.0	29.5	27.9	0.0	27.6	29.5	28.0
LnGrp LOS	B	C	B	B	A	B	C	C		C	C	C
Approach Vol, veh/h		486			400			234	A		205	
Approach Delay, s/veh		17.1			13.2			28.9			28.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		14.8		40.0		15.6				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	5.4	10.4		6.4		8.3		7.4				
Green Ext Time (p_c), s	0.0	2.0		0.5		1.5		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			19.8									
HCM 6th LOS			B									

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	12	2	54	22	24	5	159	26	20	152	41
Future Vol, veh/h	20	12	2	54	22	24	5	159	26	20	152	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	6	0	0	0	6	0	6	2	15
Mvmt Flow	22	13	2	59	24	26	5	173	28	22	165	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.9	9	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	59%	54%	9%
Vol Thru, %	84%	35%	22%	71%
Vol Right, %	14%	6%	24%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	190	34	100	213
LT Vol	5	20	54	20
Through Vol	159	12	22	152
RT Vol	26	2	24	41
Lane Flow Rate	207	37	109	232
Geometry Grp	1	1	1	1
Degree of Util (X)	0.255	0.053	0.151	0.29
Departure Headway (Hd)	4.453	5.12	4.999	4.504
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	805	697	715	796
Service Time	2.486	3.173	3.044	2.537
HCM Lane V/C Ratio	0.257	0.053	0.152	0.291
HCM Control Delay	9	8.5	8.9	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0.5	1.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	12	15	94	6	11
Future Vol, veh/h	48	12	15	94	6	11
Conflicting Peds, #/hr	0	41	41	0	14	1
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	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	3	0	50
Mvmt Flow	52	13	16	102	7	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	106	0	248	101
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1498	-	745	838
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	698	805
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	764	-	-	1440	-
HCM Lane V/C Ratio	0.024	-	-	0.011	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	17	16	8	16	10
Future Vol, veh/h	12	17	16	8	16	10
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	18	17	9	17	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	66	23	28	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	944	1060	1599	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	934	1060	1599	-	-	-
Mov Cap-2 Maneuver	934	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	1004	-	-
HCM Lane V/C Ratio	0.011	-	0.031	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	275	72	215	118	57
Average Queue (ft)	111	28	81	59	18
95th Queue (ft)	220	63	163	104	49
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	7		
Queuing Penalty (veh)		1	4		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	91	27	31
Average Queue (ft)	6	8	2	11
95th Queue (ft)	34	44	14	34
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	22	57	49
Average Queue (ft)	8	1	6	21
95th Queue (ft)	43	11	32	48
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	19	35	31	20
Average Queue (ft)	1	2	5	1
95th Queue (ft)	18	15	23	9
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	T	R
Maximum Queue (ft)	129	292	120	87	259	148	110	93	156	101
Average Queue (ft)	35	117	51	61	103	76	48	24	68	26
95th Queue (ft)	89	226	127	101	203	135	93	67	122	71
Link Distance (ft)		774			432		770		538	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150		120	88		355		117		125
Storage Blk Time (%)	0	6	0	2	8			0	1	0
Queuing Penalty (veh)	0	13	1	6	10			0	1	0

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	47	84	111	101
Average Queue (ft)	20	38	57	52
95th Queue (ft)	46	65	90	84
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

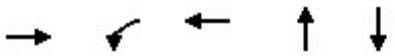
Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	3	25	67
Average Queue (ft)	0	1	18
95th Queue (ft)	5	10	54
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	44	9
Average Queue (ft)	21	0
95th Queue (ft)	45	4
Link Distance (ft)	156	281
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

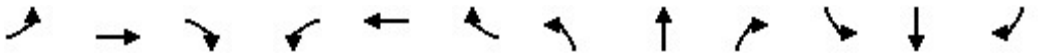
Network Summary

Network wide Queuing Penalty: 37



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	397	112	624	135	73
v/c Ratio	0.47	0.19	0.55	0.57	0.27
Control Delay	13.9	6.3	10.1	39.7	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	6.3	10.1	39.7	28.4
Queue Length 50th (ft)	103	15	129	62	29
Queue Length 95th (ft)	230	47	318	115	64
Internal Link Dist (ft)	301		481	515	490
Turn Bay Length (ft)		75			
Base Capacity (vph)	841	587	1128	421	478
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.19	0.55	0.32	0.15

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	296	56	105	574	12	44	25	57	9	53	7
Future Volume (veh/h)	21	296	56	105	574	12	44	25	57	9	53	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.89	0.99		0.90	0.89		0.85	0.90		0.84
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	1900	1870	1900	1885	1870	1781	1870	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	22	315	60	112	611	13	47	27	61	10	56	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	1	2	8	2	0	4	0	0	0
Cap, veh/h	66	721	132	620	1134	24	150	92	153	76	351	40
Arrive On Green	0.51	0.51	0.51	0.05	0.62	0.62	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	45	1420	261	1795	1820	39	395	385	643	122	1470	169
Grp Volume(v), veh/h	397	0	0	112	0	624	135	0	0	73	0	0
Grp Sat Flow(s),veh/h/ln	1725	0	0	1795	0	1858	1423	0	0	1760	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	16.5	2.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	0.0	0.0	2.4	0.0	16.5	6.5	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.06		0.15	1.00		0.02	0.35		0.45	0.14		0.10
Lane Grp Cap(c), veh/h	920	0	0	620	0	1158	395	0	0	467	0	0
V/C Ratio(X)	0.43	0.00	0.00	0.18	0.00	0.54	0.34	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	920	0	0	620	0	1158	448	0	0	532	0	0
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	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	8.3	0.0	9.3	27.5	0.0	0.0	26.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.6	0.0	1.8	0.5	0.0	0.0	0.2	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	0.9	0.0	6.2	2.4	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	0.0	8.9	0.0	11.1	28.0	0.0	0.0	26.3	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		397			736			135			73	
Approach Delay, s/veh		15.0			10.7			28.0			26.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	50.0		26.7		60.0		26.7				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	44.0		24.0		54.0		24.0				
Max Q Clear Time (g_c+I1), s	4.4	14.2		4.7		18.5		8.5				
Green Ext Time (p_c), s	0.0	2.7		0.1		4.6		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		14.6	
HCM 6th LOS		B	

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	7	335	1	13	596	4	0	0	8	6	1	15
Future Vol, veh/h	7	335	1	13	596	4	0	0	8	6	1	15
Conflicting Peds, #/hr	45	0	46	46	0	45	0	0	23	23	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	7
Mvmt Flow	8	364	1	14	648	4	0	0	9	7	1	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	697	0	0	411	0	0	1114	1152	434	1131	1150	695
Stage 1	-	-	-	-	-	-	427	427	-	723	723	-
Stage 2	-	-	-	-	-	-	687	725	-	408	427	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.363
Pot Cap-1 Maneuver	909	-	-	1159	-	-	187	199	626	182	200	434
Stage 1	-	-	-	-	-	-	610	589	-	421	434	-
Stage 2	-	-	-	-	-	-	440	433	-	624	589	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	870	-	-	1108	-	-	167	176	585	164	177	415
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	176	-	164	177	-
Stage 1	-	-	-	-	-	-	576	557	-	398	407	-
Stage 2	-	-	-	-	-	-	413	406	-	594	557	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.2	19
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	585	870	-	-	1108	-	-	281
HCM Lane V/C Ratio	0.015	0.009	-	-	0.013	-	-	0.085
HCM Control Delay (s)	11.2	9.2	0	-	8.3	0	-	19
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

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	16	321	1	2	598	19	0	0	1	24	0	15
Future Vol, veh/h	16	321	1	2	598	19	0	0	1	24	0	15
Conflicting Peds, #/hr	54	0	71	71	0	54	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	17	349	1	2	650	21	0	0	1	26	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	725	0	0	421	0	0	1132	1184	423	1105	1174	719
Stage 1	-	-	-	-	-	-	455	455	-	719	719	-
Stage 2	-	-	-	-	-	-	677	729	-	386	455	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	887	-	-	1149	-	-	182	191	635	190	193	432
Stage 1	-	-	-	-	-	-	589	572	-	423	436	-
Stage 2	-	-	-	-	-	-	446	431	-	641	572	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	841	-	-	1071	-	-	159	164	591	176	166	408
Mov Cap-2 Maneuver	-	-	-	-	-	-	159	164	-	176	166	-
Stage 1	-	-	-	-	-	-	535	520	-	391	412	-
Stage 2	-	-	-	-	-	-	425	408	-	623	520	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	11.1	24.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	591	841	-	-	1071	-	-	225
HCM Lane V/C Ratio	0.002	0.021	-	-	0.002	-	-	0.188
HCM Control Delay (s)	11.1	9.4	0	-	8.4	0	-	24.7
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.7

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	9	323	3	8	626	5	4	0	6	6	1	7
Future Vol, veh/h	9	323	3	8	626	5	4	0	6	6	1	7
Conflicting Peds, #/hr	48	0	95	95	0	48	4	0	2	2	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	10	351	3	9	680	5	4	0	7	7	1	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	733	0	0	449	0	0	1177	1219	450	1127	1218	735
Stage 1	-	-	-	-	-	-	468	468	-	749	749	-
Stage 2	-	-	-	-	-	-	709	751	-	378	469	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	881	-	-	1122	-	-	169	182	613	183	182	423
Stage 1	-	-	-	-	-	-	579	565	-	407	422	-
Stage 2	-	-	-	-	-	-	428	421	-	648	564	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	841	-	-	1020	-	-	146	153	556	169	153	402
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	153	-	169	153	-
Stage 1	-	-	-	-	-	-	519	506	-	383	397	-
Stage 2	-	-	-	-	-	-	411	396	-	630	505	-

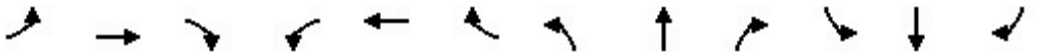
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	19.3	21.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	262	841	-	-	1020	-	-	235
HCM Lane V/C Ratio	0.041	0.012	-	-	0.009	-	-	0.065
HCM Control Delay (s)	19.3	9.3	0	-	8.6	0	-	21.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	164	273	241	389	196	107	112	53	325	53
v/c Ratio	0.09	0.31	0.34	0.58	0.53	0.64	0.34	0.31	0.14	0.80	0.12
Control Delay	28.3	29.2	4.6	28.6	25.2	43.7	34.7	3.9	29.4	48.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	29.2	4.6	28.6	25.2	43.7	34.7	3.9	29.4	48.5	0.6
Queue Length 50th (ft)	10	70	19	89	156	100	51	0	23	166	0
Queue Length 95th (ft)	35	147	53	184	304	176	102	15	59	#289	0
Internal Link Dist (ft)		751			428		732			533	
Turn Bay Length (ft)	150		120	88		355		225	117		125
Base Capacity (vph)	284	526	957	419	728	500	521	484	480	531	530
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.31	0.29	0.58	0.53	0.39	0.21	0.23	0.11	0.61	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	156	259	229	336	33	186	102	106	50	309	50
Future Volume (veh/h)	25	156	259	229	336	33	186	102	106	50	309	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.94	0.99		0.95	1.00		1.00	1.00		0.80
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	1900	1870	1900	1885	1870	1678	1870	1856	1900	1811	1885	1841
Adj Flow Rate, veh/h	26	164	273	241	354	35	196	107	0	53	325	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	1	2	15	2	3	0	6	1	4
Cap, veh/h	296	506	722	352	638	63	345	360		380	416	276
Arrive On Green	0.27	0.27	0.27	0.05	0.38	0.38	0.19	0.19	0.00	0.22	0.22	0.22
Sat Flow, veh/h	993	1870	1516	1795	1667	165	1781	1856	1610	1725	1885	1250
Grp Volume(v), veh/h	26	164	273	241	0	389	196	107	0	53	325	53
Grp Sat Flow(s),veh/h/ln	993	1870	1516	1795	0	1831	1781	1856	1610	1725	1885	1250
Q Serve(g_s), s	1.9	6.2	10.4	4.0	0.0	14.8	8.9	4.4	0.0	2.2	14.4	3.1
Cycle Q Clear(g_c), s	6.6	6.2	10.4	4.0	0.0	14.8	8.9	4.4	0.0	2.2	14.4	3.1
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	296	506	722	352	0	701	345	360		380	416	276
V/C Ratio(X)	0.09	0.32	0.38	0.69	0.00	0.55	0.57	0.30		0.14	0.78	0.19
Avail Cap(c_a), veh/h	296	506	722	352	0	701	481	502		466	510	338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	25.9	15.6	28.2	0.0	21.5	32.4	30.6	0.0	27.8	32.6	28.2
Incr Delay (d2), s/veh	0.6	1.7	1.5	10.4	0.0	3.1	0.5	0.2	0.0	0.1	4.9	0.1
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	0.5	2.9	5.3	3.7	0.0	6.6	3.8	1.9	0.0	0.9	7.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	27.6	17.1	38.6	0.0	24.6	33.0	30.8	0.0	27.9	37.5	28.3
LnGrp LOS	C	C	B	D	A	C	C	C		C	D	C
Approach Vol, veh/h		463			630			303	A		431	
Approach Delay, s/veh		21.4			30.0			32.2			35.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.0	30.0		25.6		40.0		23.2				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	4.0	24.0		24.0		34.0		24.0				
Max Q Clear Time (g_c+I1), s	6.0	12.4		16.4		16.8		10.9				
Green Ext Time (p_c), s	0.0	1.6		1.0		2.1		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		29.4	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	23.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	16	3	130	131	24	6	156	16	66	333	95
Future Vol, veh/h	20	16	3	130	131	24	6	156	16	66	333	95
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	0	0	2	0	0	0	6	0	34	1	7
Mvmt Flow	21	17	3	138	139	26	6	166	17	70	354	101
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	15.6	11.6	33.4
HCM LOS	B	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	51%	46%	13%
Vol Thru, %	88%	41%	46%	67%
Vol Right, %	9%	8%	8%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	178	39	285	494
LT Vol	6	20	130	66
Through Vol	156	16	131	333
RT Vol	16	3	24	95
Lane Flow Rate	189	41	303	526
Geometry Grp	1	1	1	1
Degree of Util (X)	0.309	0.08	0.515	0.85
Departure Headway (Hd)	5.87	6.955	6.118	5.824
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	608	518	585	620
Service Time	3.952	4.955	4.194	3.884
HCM Lane V/C Ratio	0.311	0.079	0.518	0.848
HCM Control Delay	11.6	10.6	15.6	33.4
HCM Lane LOS	B	B	C	D
HCM 95th-tile Q	1.3	0.3	2.9	9.4

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	81	6	18	263	9	23
Future Vol, veh/h	81	6	18	263	9	23
Conflicting Peds, #/hr	0	45	45	0	10	1
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	92	92	92	92	92	92
Heavy Vehicles, %	26	0	0	1	0	0
Mvmt Flow	88	7	20	286	10	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	140	0	473	138
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	336	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1456	-	553	916
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	728	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1394	-	515	876
Mov Cap-2 Maneuver	-	-	-	-	515	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	732	-	-	1394	-
HCM Lane V/C Ratio	0.048	-	-	0.014	-
HCM Control Delay (s)	10.2	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	25	25	10	7	17
Future Vol, veh/h	17	25	25	10	7	17
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	27	27	11	8	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	82	17	26	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	925	1068	1601	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	909	1068	1601	-	-	-
Mov Cap-2 Maneuver	909	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	5.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1601	-	997	-	-
HCM Lane V/C Ratio	0.017	-	0.046	-	-
HCM Control Delay (s)	7.3	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection: 1: Shamrock Rd & Jefferson Park Ave

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (ft)	294	74	356	154	87
Average Queue (ft)	141	43	159	75	42
95th Queue (ft)	245	81	289	135	82
Link Distance (ft)	304		532	559	534
Upstream Blk Time (%)	0		0		
Queuing Penalty (veh)	0		0		
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	18		
Queuing Penalty (veh)		7	19		

Intersection: 2: Private Entrance/Harmon St & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	69	149	37	56
Average Queue (ft)	8	25	9	18
95th Queue (ft)	39	105	32	47
Link Distance (ft)	77	304	320	536
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	1	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Private Entrance/Washington Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	130	88	18	67
Average Queue (ft)	17	12	1	28
95th Queue (ft)	71	57	9	58
Link Distance (ft)	174	77	261	281
Upstream Blk Time (%)	0	2		
Queuing Penalty (veh)	0	11		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Private Entrance/Observatory Ave & Jefferson Park Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	110	160	33	48
Average Queue (ft)	12	35	7	13
95th Queue (ft)	59	138	28	40
Link Distance (ft)	432	174	314	534
Upstream Blk Time (%)		3		
Queuing Penalty (veh)		15		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Jefferson Park Ave & Fontaine Ave & Maury Ave

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB	B22
Directions Served	L	T	R	L	TR	L	T	L	T	R	T
Maximum Queue (ft)	76	240	120	87	444	188	125	117	402	125	4
Average Queue (ft)	19	88	66	82	285	101	57	49	205	50	0
95th Queue (ft)	52	182	127	101	474	169	108	123	344	130	4
Link Distance (ft)		774			432		770		538		452
Upstream Blk Time (%)					6				0		
Queuing Penalty (veh)					39				0		
Storage Bay Dist (ft)	150		120	88		355		117		125	
Storage Blk Time (%)		3	1	22	36			0	29	0	
Queuing Penalty (veh)		8	1	82	83			1	29	1	

Intersection: 6: Maury Ave/Alderman Road & Stadium Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	59	163	143	366
Average Queue (ft)	25	73	65	147
95th Queue (ft)	53	127	110	296
Link Distance (ft)	544	504	452	665
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Washington Ave & Stadium Drive

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	14	37	47
Average Queue (ft)	1	4	21
95th Queue (ft)	8	22	47
Link Distance (ft)	504	658	455
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Washington Ave & Site Entrance

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	47	19
Average Queue (ft)	24	1
95th Queue (ft)	46	10
Link Distance (ft)	156	281
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 298

CITY OF CHARLOTTESVILLE

DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES

STAFF REPORT

JOINT CITY COUNCIL AND PLANNING COMMISSION PUBLIC HEARING

APPLICATION FOR A SPECIAL USE PERMIT

APPLICATION NUMBER: SP22-00004

DATE OF HEARING: May 10, 2022

Project Planner: Brian Haluska
Date of Staff Report: April 21, 2022

Applicant: 923 Harris Street LLC
Applicant's Representative(s): Kelsey Schlein, Shimp Engineering
Current Property Owner: 923 Harris Street, LLC

Application Information

Property Street Address: 923 Harris Street LLC ("Subject Property")
Tax Map & Parcel/Tax Status: 350112000 (real estate taxes paid current - Sec. 34-10)
Total Square Footage/ Acreage Site: Approx. 0.114 acres (4,984 square feet)
Comprehensive Plan (General Land Use Plan): Business and Technology Mixed Use
Current Zoning Classification: IC – Industrial Corridor
Overlay District: None

Applicant's Request (Summary)

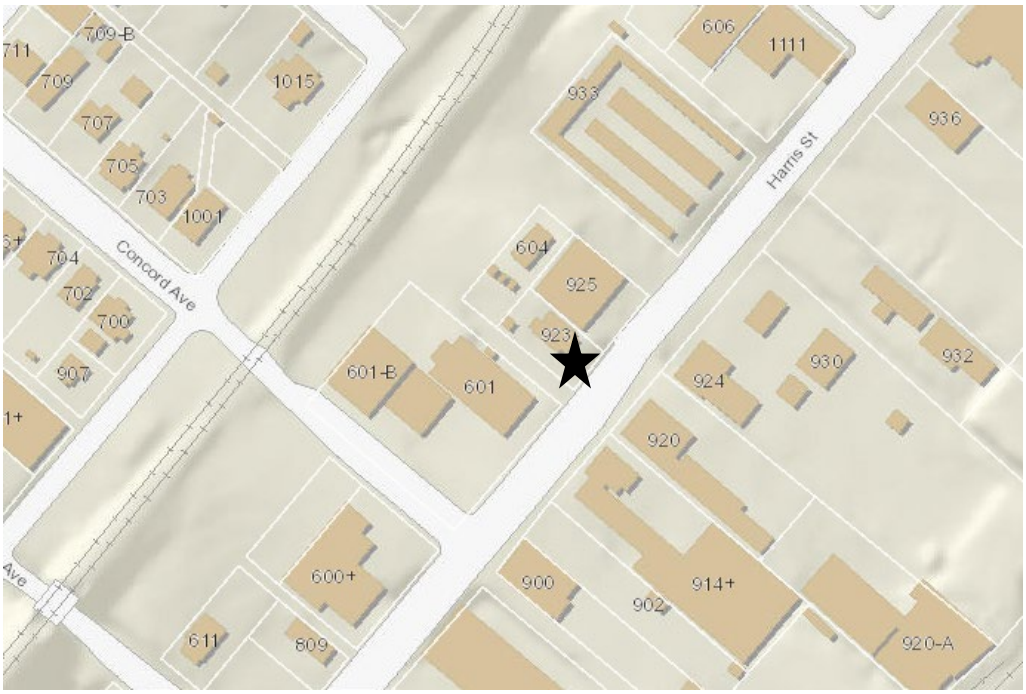
The applicant requests a Special Use Permit (SUP) pursuant to City Code Sec. 34-458 and 34-480, which states that residential density up to 64 DUA is permitted with a SUP. The subject property has street frontage on Harris Street. Under the IC zoning classification, 2 dwelling units could be developed by right on this site (21 DUA), per Z.O. Sec. 34-480 (Use Matrix).

The site plan (Attachment C) submitted with the application depicts a development that would include 7 dwelling units as part of a multi-family residential project; since the development site is 0.114 acres, the proposed density is 62 DUA. See proposal narrative (Attachment A) and site plan submitted by the applicant pursuant to Z.O. Sec. 34-41(d)(1) and (d)(6).

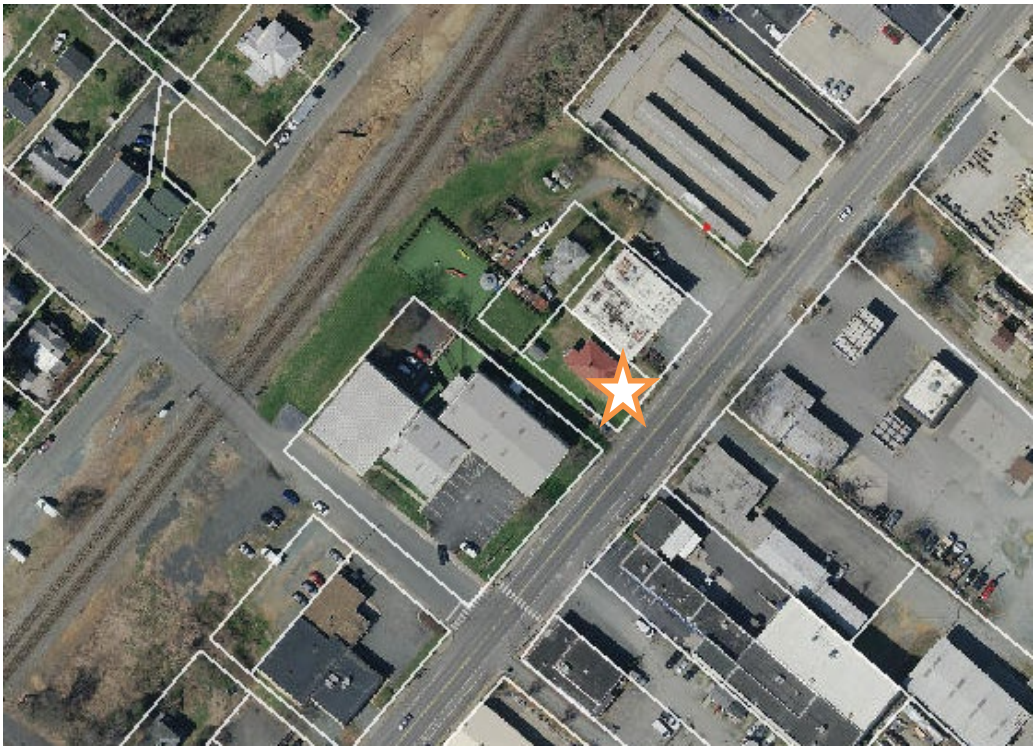
For clarification, the City Assessor's data shows the subject property as having an area of 0.115 acres.

The application narrative describes a mixed-use development that would eventually include 7 multi-family units and a by-right commercial use, arranged in a building that would contain four (4) stories over one (1) story of below grade parking. The applicant is further requesting a modification of parking requirements under Section 34-162(a) to reduce the number of required parking spaces on the site by one space.

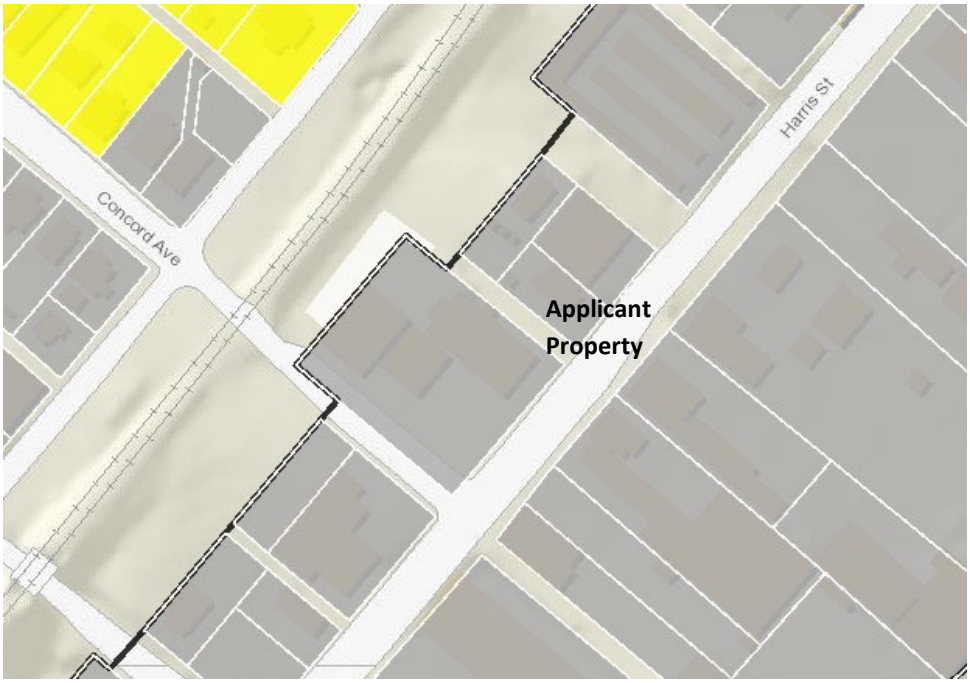
Vicinity Map



Context Map 1



Context Map 2- Zoning Classifications



KEY - Yellow: R1-S, Grey: IC

Context Map 3- General Land Use Plan, 2013 Comprehensive Plan

KEY – Purple: Business and Technology Mixed Use, Blue: Civic, Pink: Neighborhood Mixed Use Corridor, Yellow: Medium Intensity Residential, Bright Yellow: General Residential (Sensitive Community Area)

Standard of Review

City Council may grant an applicant a special permit or special use permit, giving consideration to a number of factors set forth within Zoning Ordinance Sec. 34-157. If Council finds that a proposed use or development will have potentially adverse impacts, and if Council identifies development conditions that could satisfactorily mitigate such impacts, then Council may set forth reasonable conditions within its SUP approval. The role of the Planning Commission is to make an advisory recommendation to the City Council, as to (i) whether or not Council should approve a proposed SUP and if so, (ii) whether there are any reasonable development conditions that could mitigate potentially adverse impacts of the propose use or development.

Section 34-157 of the City's Zoning Ordinance lists a number of factors that Council will consider in making a decision on a proposed SUP. Following below is staff's analysis of those factors, based on the information provided by the applicant.

FOR APPLICANTS ANALYSIS OF THEIR APPLICATION PER SEC 34-157 SEE ATTACHMENT A

(1) Whether the proposed use or development will be harmonious with existing patterns of use and development within the neighborhood.

The properties immediately surrounding the subject property are described as:

Direction	Use	Zoning
North	Engine Repair	IC
South	Pet Boarding	IC
East	Industrial	IC
West	Residence	IC

The buildings immediately surrounding the subject property are mostly one (1) to two (2) story buildings, primarily functioning as offices or industrial uses, with the exception of the subject property and the property behind the subject property. The properties that front along Harris Street are commercial and industrial in use. These properties are zoned Industrial Corridor and could be redeveloped at heights similar to the subject property.

Staff Analysis: The proposed use of the property depicted in the site plan and other application materials is a residential building containing multiple dwelling units ("multi-family dwelling") and a shared art studio with sub-surface structured parking contained within the building footprint. The surrounding area is a mix of office and industrial buildings. The proposed use is a deviation from the existing pattern of development on Harris Street.

(2) Whether the proposed use or development and associated public facilities will substantially conform to the city's comprehensive plan.

Below are specific areas of the Comprehensive Plan for which the development is in compliance:

a. **Land Use - Goal 3**

   3.3: Develop strategies and partnerships that can bring underutilized properties, including historic properties, into productive and sustainable applications that will support increased residential or commercial uses, or a mix of uses.

b. **Housing – Goal 2**

   2.1: Encourage mixed-use and mixed-income neighborhoods and housing developments throughout the city and support zoning changes to allow them by-right.

   2.4: Target a city-wide residential vacancy rate of at least 5 percent in order to assure a well- functioning, liquid housing market.

Below are specific areas of the Comprehensive Plan for which the development may not be in compliance:

c. **Housing – Goal 2**
2.2: Promote housing redevelopment and infill development that supports bicycle and pedestrian- oriented infrastructure improvements and robust public transportation to better connect residents to jobs and commercial activity.

Comprehensive Plan- *Staff Analysis:*
The Future Land Use Plan in the 2021 Comprehensive Plan calls for the subject property and areas immediately adjacent to be Business and Technology Mixed Use land use. The Comprehensive Plan specifies that Business and Technology Mixed Use areas are intended to be the location of "light industrial and production uses, with other commercial and residential uses (where appropriate)". The plan supports building heights up to 6 stories, with residential uses on the upper floors of those buildings.

Several goals in the Comprehensive Plan speak to a desire to increase the amount of housing within the City, and the increase the use of properties as well.

Streets that Work Plan
The May 2016 Streets that Work Plan (approved September 2016 as an amendment to the Comprehensive Plan) labels Harris Street as an *Industrial* typology. The full Streets That Work plan can be viewed at: https://www.charlottesville.gov/DocumentCenter/View/482/2016-Streets-That-Work-Plan-PDF

Industrial streets are characterized as able to support commercial truck traffic, and have frequent curb cuts and limited pedestrian and bicycle infrastructure. The Streets that Work Plan recommends a minimum clear zone width of five to six (5-6) feet for sidewalks, which are noted along with a curbside buffer zone (the area between the curb and sidewalk) as the highest priority items in the *Industrial* typology. Curb extensions are noted as appropriate for *Industrial* streets only when on-street parking is present.

The existing sidewalks along Harris Street do not include a landscaped buffer as separation from the roadway. The lack of marked crosswalks in the vicinity of the property also limits the walkability of the area.

Staff Analysis: Based on the current application package, staff concludes that the pedestrian network along the development frontages is not consistent with the Streets that Work Plan due to the absence of the landscaped buffer zone. The subject property, however, has limited frontage along Harris and will need to tie into an adjacent sidewalk that also lacks a buffer. The addition of a buffer zone would impact the bicycle lanes on Harris Street and would likely not be approved by the City for that reason.

(3) Whether proposed use or development of any buildings or structures will comply with all applicable building code regulations.

Based on the information contained within the application, the proposed development would likely comply with applicable building code regulations. However, final determinations cannot be made prior to having the details required for final site plan and building permit approvals.

(4) Potential adverse impacts, including, but not necessarily limited to:

a) Traffic or parking congestion

Traffic

Trip generation information (VPD): The trip generation figures provided by the applicant (Table A in Attachment A) indicate that a development will have 18 vehicular trips per day according to the ITE Handbook. The category of use referenced in the ITE Manual, from which this peak-hour traffic data has been obtained, is Low Rise Multi-Family Housing and Small Office Building.

Peak-hour traffic: As shown in the trip generation (Table A in Attachment A), the morning peak hour would have 2 trips, 50% of which would be exiting the site. The afternoon peak hour would have 2 trips, with 50% entering the site.

Staff Analysis: Based on the trip generation figures provided by the applicant, staff has no concerns regarding the impact of the development on Harris Street.

Vehicular Access

The property would be accessed exclusively off Harris Street.

Staff Analysis: The existing structure has a driveway access that encourages vehicles exiting the site to back into Harris Street. The proposed layout of the parking for the site would permit vehicles to exit the site moving forward, which is a preferable condition, and an improvement on the existing access.

Parking

The project proposal narrative (Attachment A) indicates 6 parking spaces will be provided under the proposed building. Per Z.O. Sec. 34-984, the proposed building would be required to provide 8 parking spaces to serve the uses contemplated in the building. The Zoning Ordinance permits a reduction of one space. The site plan (Attachment B) shows 6 parking spaces. The project proposal narrative notes that the applicant is requesting a reduction of one space, as permitted under Section 34-162(a) of the Zoning Ordinance in conjunction with the SUP request, and is utilizing applicable City Code sections to reduce the parking requirement by one space.

Staff Analysis: Based on the information provided in the project proposal narrative and site plan, staff supports the proposal to reduce the amount of required parking by one space on the site. There is available on-street parking on Concord Avenue less than 200 feet away from the proposed building.

Other Modes of Transportation

There are no bus lines that run on Harris Street. The closest bus line is the Route 9 bus line that runs down Rose Hill Drive. The closest bus stop is roughly 0.3 miles from the proposed building. The proposed development is also served by an incomplete sidewalk network immediately adjacent to the subject property and within the vicinity of the subject property. Crosswalks in the general vicinity are typically unmarked. Harris Street has a complete sidewalk between the subject property and Preston Avenue on the east side of the street. The sidewalk on the west of side of Harris Street between Preston Avenue and subject property is incomplete, as is the sidewalk north of the subject property along both sides of Harris Street.

The bicycle infrastructure on Harris Street is a mix of dedicated bike lanes and sharrows. The applicant has noted in the narrative (Attachment A) that bicycle lockers will be provided for lockable parking within the garage.

Staff Analysis: Staff believes the applicant's proposal meets all applicable regulations based on the information provided.

b) Noise, lights, dust, odor, fumes, vibration, and other factors which adversely affect the natural environment

The proposed mixed-use development would be located between a pet boarding facility and a small engine repair shop.

Staff Analysis: The proposed development will not impact the surrounding natural environment more than the existing businesses already located on the block.

c) Displacement of existing residents or businesses

The existing building on the property is vacant.

d) Discouragement of economic development activities that may provide desirable employment or enlarge the tax base

As noted above, the existing residential structure on the site is vacant. The proposed building would include a space for an art studio.

e) Undue density of population or intensity of use in relation to the community facilities existing or available

The City's Comprehensive Plan identifies community facilities as fire protection, police enforcement, and emergency response services; public utilities and infrastructure; and public parks and recreation opportunities. The applicant covers this in the project narrative (Attachment A).

The applicant mentions that based on the average household size in Charlottesville, an anticipated 17 residents can be expected to reside in the building.

Staff Analysis: The proposed development will necessarily result in some increased demand on physical facilities and services provided. Some of these impacts, such as impacts on the City's water and sewer facilities, and public streets/ sidewalks, can be adequately evaluated and addressed during the site plan process, and final site plan approval is dependent on confirmation of adequate facilities or improvements provided by the applicant to ensure adequacy. A preliminary review of the proposal indicates the City's existing water and sewer facilities are likely to be adequate to serve the proposed development.

f) Reduction in the availability of affordable housing in the neighborhood

The current use of the subject property is a single-family residential unit. The proposed construction of a new multi-family dwelling may possibly increase the availability of affordable housing, as this project will trigger the requirement for compliance with Sec. 34-12. (Affordable dwelling units). The applicant has indicated in the project narrative (Attachment A) that they intend to pay into the Affordable Housing Fund.

g) Impact on school population and facilities

The applicant addresses this item in the proposed project narrative (Attachment A). The applicant states that they expect a total of two school-aged children to potentially reside in the new building.

Staff Analysis: Because housing is open to all, there is a possibility that families with children could take residence here. Therefore, some impact could be created on school population and facilities. Given the size of the building, any impact would be minimal.

h) Destruction of or encroachment upon conservation or historic districts

The subject property is not within any design control district.

i) Conformity with federal, state and local laws, as demonstrated and certified by the applicant

Based on the information contained within the application, the proposed development would likely comply with applicable federal and state laws. As to local ordinances (zoning, water protection, etc.), it generally appears that this project, as detailed in the application, can be accommodated on this site in compliance with applicable local ordinances; however, final determinations cannot be made prior to having the details required for final site plan and building permit approvals. Specific Z.O. requirements reviewed preliminarily at this stage include massing and scale (building height, setbacks, stepbacks, etc.) and general planned uses.

j) Massing and scale of project

The application materials depict a new building containing four (4) stories above the surface of the subject property, viewed from the Harris Street frontages. Neither the application nor the Site Plan gives a specific height measurement for the building depicted within the materials; however, IC zoning regulations (Z.O. Sec. 34-457) restrict building height to 4 stories, max.

The applicant has also noted that one (1) stories of structured parking will be below the surface of the subject property, which will be accessed from Harris Street. The graphic materials provided by the applicant (Attachment B) depict the proposed layout of the parking. The materials provided by the applicant do not provide a building height measured from grade to the top of the building roof along either of these street frontages. This detail needs to be included on the site plan. The site plan must demonstrate specifically that the building will not exceed 4 stories maximum allowable height in the IC zone. The building can also be no taller than 50 feet maximum height per Section 34-1100(b) of the Zoning Ordinance.

Staff Analysis: While the proposed building will be taller than the surrounding structures, the applicant's proposal is for a building within the by-right height in the IC zone.

(5) Whether the proposed use or development will be in harmony with the purposes of the specific zoning district in which it will be placed;

The description for IC states the district *is to provide areas for light industrial activity that is directed to assembly and technological businesses rather than heavy manufacturing. This district provides opportunities for large scale commercial uses and manufacturing or industrial type uses that are more compatible with the neighborhoods that surround the manufacturing properties. Regulations provide for buffering from incompatible uses, but encourage these important employment centers to locate within the district. .* (Z.O. Sec. 34-440(f)).

The IC zone allows for multi-family residential development by-right. The proposed project is a multi-family residential development.

(6) Whether the proposed use or development will meet applicable general and specific standards set forth within the zoning ordinance, subdivision regulations, or other city ordinances or regulations; and

Based on the information contained within the application, the proposed development would likely comply with applicable local ordinances. However, final determinations cannot be made prior to having the details required for final site plan and building permit approvals.

(7) When the property that is the subject of the application for a special use permit is within a design control district, city council shall refer the application to the BAR or ERB, as may be applicable, for recommendations as to whether the proposed use will have an adverse impact on the district, and for recommendations as to reasonable conditions which, if imposed, that would mitigate any such impacts. The BAR or ERB, as applicable, shall return a written report of its recommendations to the city council.

The subject property is not in a design control district.

Public Comments Received

Community Meetings Required by Z.O. Sec. 34-41(c)(2)

The applicant held a virtual community meeting on March 17th, 2022 beginning at 7:00 Property owners within 500 feet were notified of the meeting per requirements in Section 34-41(c)(2). The letter provided by the applicant can be found in Attachment F. No members of the public attended the meeting.

Staff Recommendation

Staff recommends the Planning Commission approve the proposed application.

Recommended Conditions

Staff recommends that a request for higher density could be approved with the following conditions:

1. Up to 62 dwelling units per acre (DUA) are permitted on the subject property.
2. The height of the building shall be four stories above a floor of structured parking. The overall height of the building shall not exceed 50 feet.
3. The required parking for the project shall be reduced by one space for a requirement of seven on-site space, subject to any applicable reductions in the City Code.

Suggested Motions

1. I move to recommend approval of this application for a Special Use Permit in the IC zone at 923 Harris Street to permit a mixed-use development with additional density with the following listed conditions.
    a. The three (3) conditions recommended by staff
    b. [alternative conditions, or additional condition(s)….list here]

OR,

2. I move to recommend denial of this application for a Special Use Permit in the IC zone at 923 Harris Street.

Attachments

A. Applicant's Project Narrative dated March 21, 2022
B. SUP Exhibit dated March 21, 2022
C. Massing Exhibit dated February 17, 2022
D. ADU Worksheet dated March 21, 2022
E. SUP Application dated March 21, 2022

923 HARRIS STREET PROJECT NARRATIVE

ADDRESS: 923 Harris Street, Charlottesville, VA
PARCEL DESCRIPTION: 350112000
PRE-APP MEETING DATE: January 4, 2022
SUBMIT 1: February 18, 2022
REVISED: March 21, 2022

PARCEL NO.	ACREAGE	EXISTING ZONING	PROPOSED ZONING	COMP. PLAN DESIGNATION
350112000	**0.114 (4,984 SF)**	**IC**	**IC with SUP for additional residential density**	**Business and Technology Mixed Use**
TOTAL	**0.114**			

LOCATION:

The parcel fronts Harris Street and is located in the Rose Hill neighborhood. A wide variety of uses including industrial, office, and residential exist in the project's immediate vicinity.

SURROUNDING USES:

A wide variety of uses surround the project. A pet care facility and an industrial tool store are the immediate neighbors to the Southwest and Northeast, respectively. To the Northwest, in the industrial zone, is a residential property, and beyond that are train tracks. Beyond the train tracks are miscellaneous small businesses and low-density residential housing. Across Harris Street are a wide variety of uses, including a gas station, warehouse space, and office space.

Within walking distance from the site are the Preston Avenue corridor and McIntire Plaza, both of which contain a wide variety of consumer-oriented businesses.

PROJECT PROPOSAL:

On behalf of the property owner, 923 Harris Street LLC, we are requesting an increased residential density from the matter of right 1-21 DUA to 44-64 DUA via special use permit in order to provide seven dwelling units and an art studio space. With a proposed seven (7) residential units, the specific request is for a maximum density of 62 DUA. The parcel's current use is single-family residential.

The Industrial corridor district allows for up to (6) stories of height with a special use permit, however, we are proposing (4) stories, which will house (7) residential units and a shared artist studio space.

Concurrent with the special use permit request and in accordance with Sec. 34-162 of the City Code, which permits certain exceptions and modifications to City Code when approved as a condition of special use permit, we request a modified parking requirement for this project. City parking regulations require one (1) space per residential unit and one (1) space for the artist's studio space, for a total of (8) required parking spaces. We request a reduction from (1) space per residential unit to .75 space per residential unit for a total of 5.25 required spaces for the residential units. With one (1) required parking space for the commercial tenant, a total of 6.25 spaces are required for this building; in accordance with Sec. 34-985 (2), where fractional spaces result, the parking spaces required shall be computed to the nearest whole number and so (6) spaces would need to be provided on-site to serve this use. In summary, (8) parking spaces are required per Sec. 34-984 to serve this proposed building; however, we request a modification to provide (6) parking spaces to serve this building.

The site is designed to accommodate bike lockers to provide parking for an alternative transportation mode and there are on-street parking spaces available approximately 200' northeast of the site along Harris St. as well as southwest of the site along Concord Ave. Further, the mixed-use nature of the building lends itself to take advantage of shared parking between the commercial and residential uses where the commercial tenant could take advantage of on-site parking during weekdays when residents are at work and residents could take advantage of on-site parking during evenings and weekends when the commercial tenant is not occupying the space. The City Code allows for certain reductions in the number of parking spaces for particular uses, however the total reduction in parking spaces in the IC district may not exceed 20%. Given the small-scale nature of this project, a 20% reduction only permits the reduction of (1) parking space. The location of the project, well integrated into the grid network just north of Preston Avenue, creates the opportunity for residents to walk to nearby restaurants, convenience stores, a grocery store, and employers. The combination of the walkable context of this site, where a complete sidewalk network exists along the southeastern side of Harris St. and a largely complete sidewalk network exists along the northwestern side of Harris St.; the mixed-use design of the building, the proposed on-site bike lockers, and the on-street parking available in the vicinity of the site support the reduction of (2) on-site required parking spaces.

PUBLIC NEED OR BENEFIT:

The Comprehensive Regional Housing Study and Needs Analysis completed by Partners for Economic Solutions in 2019 states in the executive summary that, "over the past two decades, housing prices in Planning District 10 have increased rapidly as new construction failed to keep pace with the increase in demand at all but the highest rent and price levels." The recently adopted updated Comprehensive Plan notes a 3.8% vacancy rate in renter-occupied housing units, which is representative of a constrained housing supply. This proposed project will

contribute to housing stock and help to meet demand for housing in Charlottesville City limits in a way that is walkable and convenient to employment opportunities.

INCREASED DENSITY JUSTIFICATION:

The parcel's use is currently a single-family home on a street without any other single-family homes. The greater Charlottesville area has a shortage of housing, particularly in walkable and transit-oriented locations. The Comprehensive Plan suggests that it is advantageous to locate housing where vehicular transportation is not required. This site is walkable to numerous jobs and amenities, including the Preston Avenue shops and stores and McIntire Plaza.

COMPLIANCE WITH SEC. 34-12:

The proposed building triggers the City's affordable housing requirements outlined in Sec. 34-12 as the FAR of the development exceeds 1.0. The owner intends to pay into the affordable housing fund to adhere to the affordable housing regulations.

CONSISTENCY WITH THE COMPREHENSIVE PLAN:

Providing housing in walkable, transit-oriented locations is of great importance to the goals of the comprehensive plan. Specifically, the recently adopted comprehensive plan notes the following Future Land Use Planning Objectives which would be achieved by allowing for additional residential units to take shape on this site:

- *Increase opportunities for development near community amenities such as shopping, employment centers, and transit*
- *Increase access to transit, as well as walking and biking infrastructure, to help achieve the City's climate goals and connect the community to jobs and amenities*
- *Ensure citywide, equitable opportunities for additional housing and enhanced community services*

By increasing the number of housing units on the site from one single-family dwelling to (7) dwelling units, the project enhances Charlottesville's ability to house its growing population in a sustainable manner. The site's location is ideal for walkability, bicycle use, and use of public transportation. Harris Street, Preston Avenue, and McIntire Plaza provide an abundance of diverse potential employment, shopping, and recreational opportunities within walking distance.

There is very little housing on Harris Street currently. The future residents of the development will enhance the viability of adjacent and nearby businesses, just as the multitude of nearby businesses will provide potential employment and amenities to the residents.

IMPACTS ON PUBLIC FACILITIES AND PUBLIC INFRASTRUCTURE:

American Community Survey (ACS) 5-year estimates indicate the average household size in Charlottesville is 2.38 people. Using the ACS average, a multi-family development with a maximum of 7 proposed units could potentially yield 17 new residents within Police District 5

and the fire district. Please note, household size is for all unit sizes and is not limited to one or two-bedroom households. Vehicular trips are expected to be minimal due to the walkable and transit-oriented nature of the site's location; trip generation estimates from ITE are included in Table A. A CAT bus stop is located nearby on Preston Avenue and the development includes providing bike lockers for residents. It is expected that these two alternative transportation methods will lower the already low trip estimate. Harris Street's bike lane facilitates the easy use of bicycles as a mode of transportation.

TABLE A. ITE Trip Generation Estimates

		AM PEAK			PM PEAK			
LAND USE CODE	IV	IN	OUT	TOTAL	IN	OUT	TOTAL	DAILY TOTAL
220 - MF Housing (Low-Rise)	7 units	1	3	4	3	3	6	12
712 - Small Office Bldg	500 SF	1	0	1	0	1	1	8
				5			7	20

IMPACTS ON SCHOOLS:

The property is zoned for Greenbrier Elementary, Walker Upper Elementary, Buford Middle, and Charlottesville High.

ACS 2018 5 year estimates show that there are an estimated 4,800 residents between the ages of 5-17 within City limits. By dividing this estimate by the number of occupied housing units in the city, 18,613, it can be approximated that there are approximately .26 children per housing unit in Charlottesville. Since 7 residential units are proposed on the site, it is estimated the project may contribute an additional two school-aged children.

IMPACTS ON ENVIRONMENTAL FEATURES:

All design and engineering for improving the property will comply with applicable City and State regulations for erosion and sediment control and if applicable during the site plan development phase, stormwater management. There is very little planted greenery on Harris Street, and the property will provide a tree buffer at the rear of the property, a rear garden for occupants' use and enjoyment, and a front garden area to enhance the streetscape.

COMPLIANCE WITH USBC REGULATIONS:

The proposed project will comply with all applicable USBC regulations.

SPECIAL USE PERMIT
APPLICATION EXHIBITS

923 HARRIS STREET

EXISTING CONDITIONS

Sheet 1 of 6

TMP 35-112

Revised 15 March 2022
Submitted 18 February 2022

project: 21.090

SHIMP ENGINEERING, P.C.

923 HARRIS STREET
SITE & SPECIAL USE PERMIT INFO

OWNER/DEVELOPER
923 Harris Street LLC
923 Harris Street
Charlottesville, VA 22903

TMP
35-112

ACREAGE
0.114

NEIGHBORHOOD
Rose Hill

FLOODZONE
According to the FEMA Flood Insurance Rate Map, effective date February 4, 2005 (Community Panel 51003C0286D), this property does not lie within a Zone X 100-year floodplain.

SOURCE OF BOUNDARY & TOPOGRAPHY
Boundary and topographic survey provided by Foresight Survey, P.C., February 10, 2022. Supplementary data of surrounding area provided by Charlottesville GIS.

USE
EXISTING: Residential
PROPOSED: Multifamily + Artist's Workshop

ZONING
EXISTING: IC
PROPOSED: IC, with special use permit request for residential density of 44-64 DUA

DENSITY
COMPREHENSIVE PLAN DESIGNATION: Business & Technology Mixed Use
PROPOSED: 7 units proposed; 62 DUA

BUILDING HEIGHT
Per Section 34-457(b)(5), building height for a mixed-use building or development by special use permit may be permitted up to six stories, provided that no additional height may be allowed for any building that is located within 200 feet of any low-density residential district.

Proposed building height: 4 stories

SETBACKS
Per Section 34-353 of the Charlottesville Zoning Ordinance, setbacks shall be permitted as follows:
FRONT MINIMUM: None
FRONT MAXIMUM: 20'
SIDE MINIMUM: None
REAR MINIMUM: None

TMP 35-112

Revised 15 March 2022
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project: 21.090

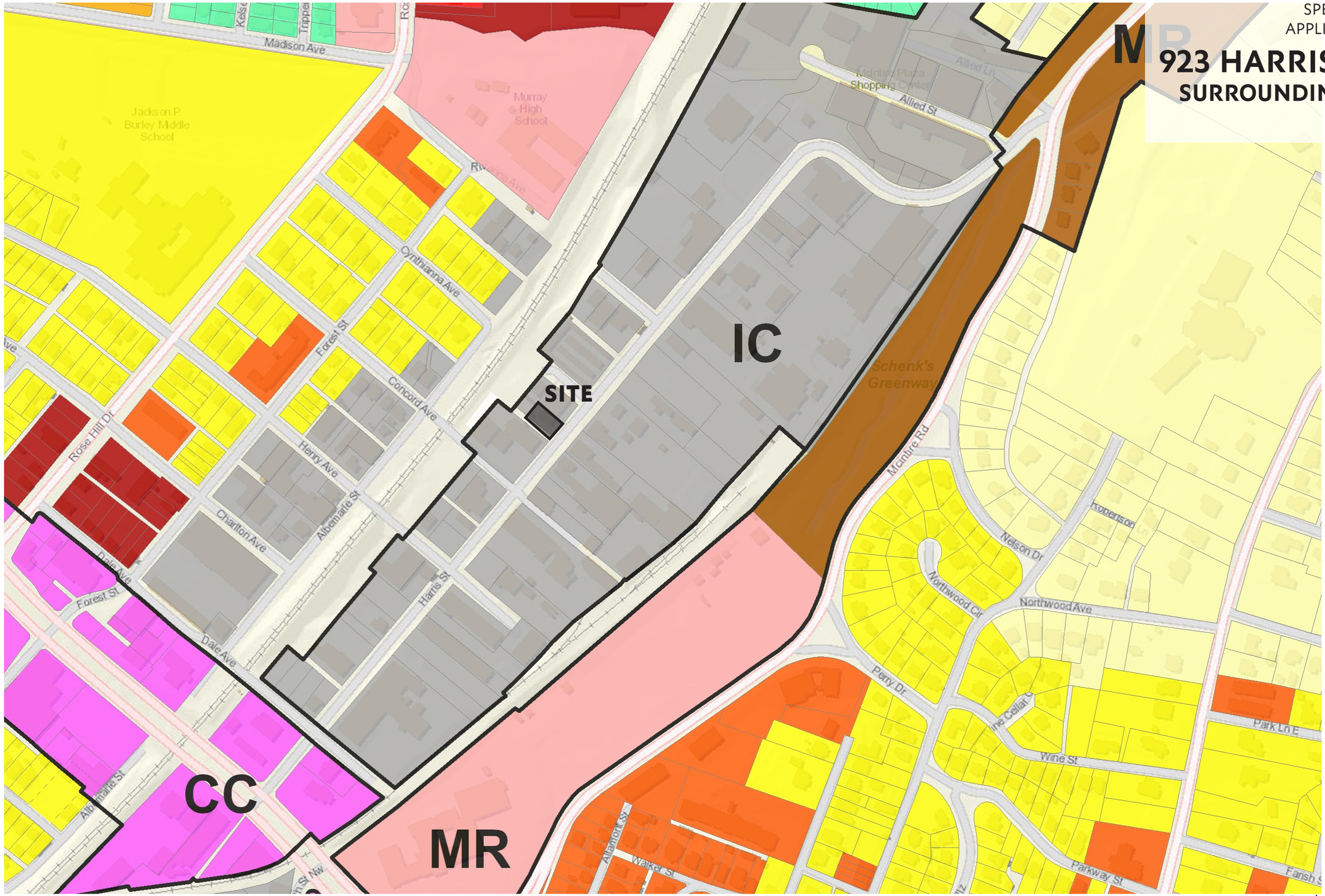
SHIMP ENGINEERING, P.C.

SPECIAL USE PERMIT
APPLICATION EXHIBITS

923 HARRIS STREET

SURROUNDING ZONING

Sheet 3 of 6



TMP 35-112

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SHIMP ENGINEERING, P.C.

SPECIAL USE PERMIT
APPLICATION EXHIBITS

923 HARRIS STREET
EXISTING CONDITIONS

Gingerich Outdoor Power Specialist

Pet Paradise

HARRIS STREET 60' R/W

TMP 35-113
N/F RONALD LEE RHODES
INST. #2014-631
USE: MULTIFAMILY RESIDENTIAL
0.143 AC

TMP 35-111
N/F BROWER LIMITED PARTNERSHIP
DB 709 PG 494
ZONE: IC
USE: COMMERCIAL
0.17 AC

TMP 35-117
N/F 923 HARRIS STREET LLC
INST. #2021-6287
USE: RESIDENTIAL
ZONE: IC
0.114 AC
4,984 S.F.

TMP 35-114
N/F FITZBROWN, LLC
INST. #2014-632
ZONE: IC
USE: COMMERCIAL
0.68 AC

1 STORY FRAME
W/ BASEMENT
#923

FFE=450.78'

BFE=443.88'+/-
FFE=451.06'

BLOCK RETAINING WALL

BLOCK BUILDING

CLP

CLO

LCO

GAS

DHU

N 40°07'28" E 49.70'

S 49°59'20" E 100.00'

N 49°49'01" W 99.98'

S 40°09'07" W 50.00'

IF

150+/- TO CONCORD AVE

NAD83, VA SOUTH ZONE

Graphic Scale: 1"=20'

TMP 35-112

Revised 15 March 2022
Submitted 18 February 2022

project: 21.090

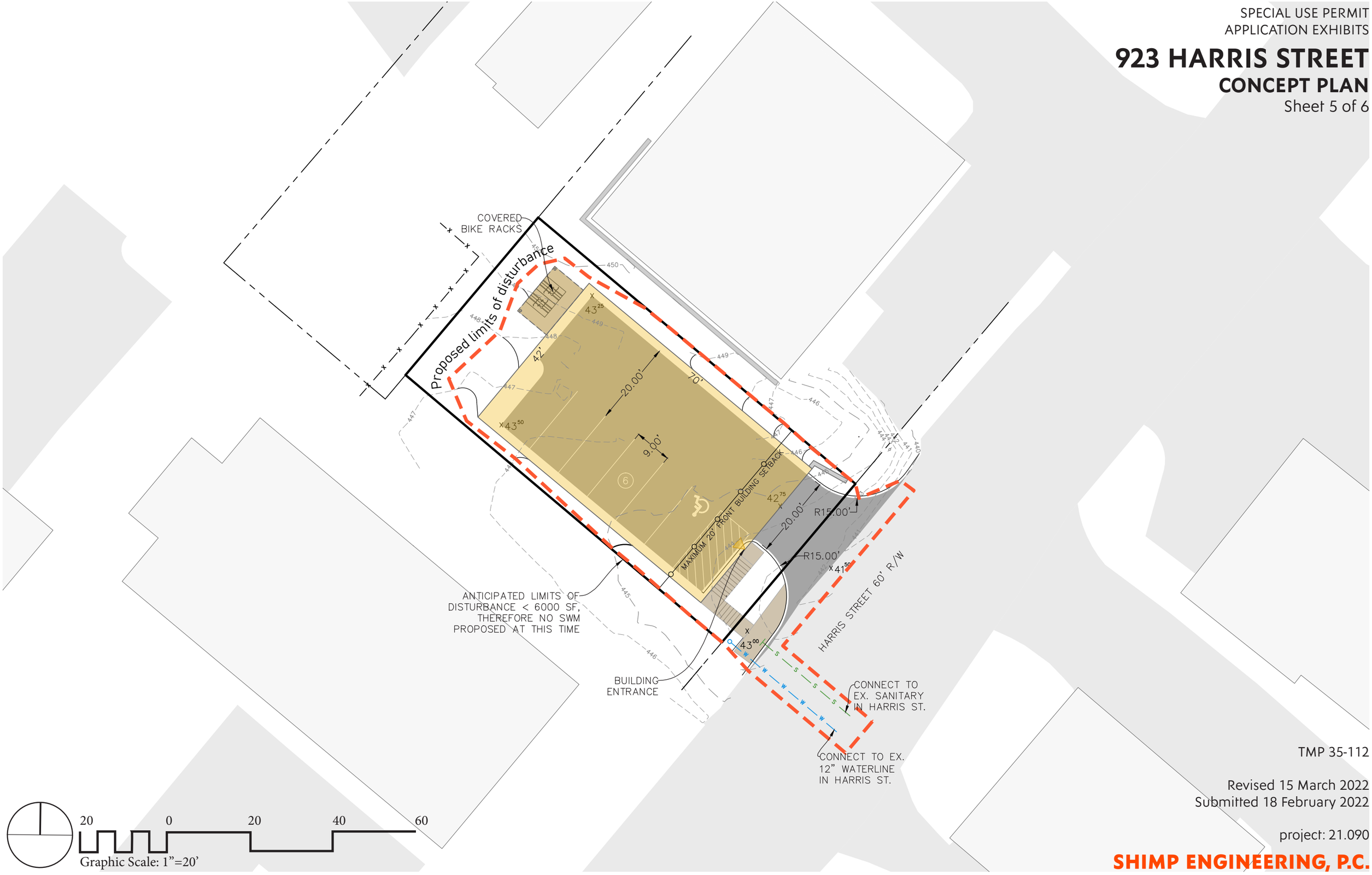
SHIMP ENGINEERING, P.C.

SPECIAL USE PERMIT
APPLICATION EXHIBITS

923 HARRIS STREET

CONCEPT PLAN

Sheet 5 of 6



TMP 35-112

Revised 15 March 2022
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SHIMP ENGINEERING, P.C.

SPECIAL USE PERMIT
APPLICATION EXHIBITS

923 HARRIS STREET

LANDSCAPE PLAN

Sheet 6 of 6

LANDSCAPE SCHEDULE								
Plant Symbol	Planting Type	Botanical Name	Common Name	Min. Cal./Height	Quantity	Total Height(ft) in 10 Yrs	Canopy SF	Total Canopy SF
	Large Deciduous Tree	Quercus phellos	Willow Oak	2" Cal.	4	31	370	1480
	Medium Deciduous Tree	Carpinus betulus "Fastigiata"	European Hornbeam "Fastigiata"	2" Cal.	2	17	69	138
	Evergreen Shrub	Rhododendron	Azalea	12" Ht.	6	4	10	–
	Evergreen Shrub	Viburnum x utile 'Conoy'	"Conoy" Viburnum	12" Ht.	23	4	65	–
	Deciduous Shrub	Buddleia davidii	Butterfly Bush	12" Ht.	4	7	16	64
							TOTAL SF:	1682

20 0 20 40 60

Graphic Scale: 1"=20'

TMP 35-112

Revised 15 March 2022
Submitted 18 February 2022

project: 21.090

SHIMP ENGINEERING, P.C.

923 HARRIS STREET PARCEL ID: 3501120000

LEGEND:

GRID LINE

SECTION TAG

INTERIOR ELEVATION

EXTERIOR ELEVATION

DETAIL TAG

ELEVATION TAG

ELEVATION TAG

WINDOW TAG

DOOR TAG

WALL TYPE

DRAWING TITLE

WALL LEGEND:

DEMO WALL

EXISTING

NEW INTERIOR WALL

NEW EXT. WALL

ABBREVIATIONS:

AB	ANCHOR BOLT	GR	GRADE	R	RISER
A/C	AIR CONDITIONING	GTR	GUTTER	RAD	RADIUS
ACT	ACOUSTICAL CEILING TILE	GWB	GYPSUM WALL BOARD	RD	ROOF DRAIN
ADJ	ADJUSTABLE	HB	HOSE BIB	REBAR	STEEL REINFORCING BAR
AFF	ABOVE FINISHED FLOOR	HC	HANDICAP	REC	RECESSED
BD	BOARD	HD	HEAD	REFG	REFRIGERATOR
BIT	BITUMINOUS	HDR	HEADER	REINF	REINFORCED
BKG	BLOCKING	HDW	HARDWARE	REQ	REQUIRED
BLDG	BUILDING	HGR	HANGER	REV	REVERSE
BM	BEAM	HOR	HORIZONTAL	RFG	ROOFING
BOF	BOTTOM OF FOOTING	HT	HEIGHT	RH	RIGHT HAND
BR	BRICK	HTG	HEATING	RM	ROOM
BRG	BEARING	HVAC	HEATING VENTILATING AND AIR CONDITIONING	RO	ROUGH OPENING
C	COURSE			RTG	RATING
CAB	CABINET	HW	HOT WATER	SCHD	SCHEDULE
CFM	CUBIC FEET PER MINUTE	HWD	HARDWOOD	SECT	SECTION
CI	CAST IRON	ID	INSIDE DIAMETER	SF	SQUARE FOOT
CLG	CEILING	INS	INSULATION	SHT	SHEET
CMU	CONC MASONRY UNIT	INT	INTERIOR	SIM	SIMILAR
COL	COLUMN	JB	JAMB	SM#	SMOOT LUMBER COMPANY DESIGNATION
CONC	CONCRETE	JST	JOIST		
CONT	CONTINUOUS	KIT	KITCHEN	SPEC	SPECIFICATION
CPT	CARPET	LAM	LAMINATED	SPKR	SPRINKLER
CT	CERAMIC TILE	LAV	LAVATORY	SQ	SQUARE
CTR	CENTER	LBS	POUNDS	S&R	SHELF AND ROD
DBL	DOUBLE	LH	LEFT HAND	STD	STANDARD
DEM	DEMOLISH/DEMOLITION	LT	LIGHT	STL	STEEL
DN	DOWN	MAS	MASONRY	STR	STRUCTURE
DR	DOOR	MAX	MAXIMUM	SUSP	SUSPENDED
DS	DOWNSPOUT	MECH	MECHANICAL	SYS	SYSTEM
DWG	DRAWING	MEMB	MEMBRANE	T	TREAD
EA	EACH	MFR	MANUFACTURER	T&G	TONGUE AND GROOVE
EL	ELEVATION	MIN	MINIMUM	TEL	TELEPHONE
ENCL	ENCLOSURE	MISC	MISCELLANEOUS	TEMP	TEMPERED
EQ	EQUAL	MLDG	MOLDING	THK	THICK
EQPT	EQUIPMENT	MO	MASONRY OPENING	TOF	TOP OF FOOTING
EX	EXISTING	MTD	MOUNTED	TOW	TOP OF WALL
EXP	EXPANSION	MTL	METAL	TV	TELEVISION
EXT	EXTERIOR	NO#	NUMBER	TYP	TYPICAL
FBRGL	FIBERGLASS	NTS	NOT TO SCALE	UNO	UNLESS NOTED OTHERWISE
FD	FLOOR DRAIN	OC	ON CENTER	VB	VAPOR BARRIER
FDN	FOUNDATION	OD	OUTSIDE DIAMETER	VCT	VINYL COMPOSITION TILE
FF	FOIL FACE	OPG	OPENING	VERT	VERTICAL
FIN	FINISH	OPP	OPPOSITE	VT	VINYL TILE
FL	FLOOR	PC	PRECAST CONCRETE	W/	WITH
FLG	FLASHING	PL	PLATE	WD	WOOD
FOM	FACE OF MASONRY	PLAM	PLASTIC LAMINATE	WIN	WINDOW
FS	FULL SIZE	PLAS	PLASTER	W/O	WITHOUT
FT	FOOT OR FEET	PNL	PANEL	WP	WATERPROOFING
FTG	FOOTING	PNT	PAINT	WR	WATER RESISTANT
FUR	FURRING	PR	PAIR	WSCT	WAINSCOT
GA	GAUGE	PSF	POUNDS PER SQ FOOT	WT	WEIGHT
GAL	GALVANIZED	PSI	POUNDS PER SQ INCH	WWF	WELDED WIRE FABRIC
GC	GENERAL CONTRACTOR	PVC	POLYVINYL CHLORIDE		
GL	GLASS	PLY	PLYWOOD		

GENERAL NOTES:

CONTRACTOR SHALL VERIFY AND FAMILIARIZE HIMSELF WITH ALL FIELD CONDITIONS PRIOR TO SUBMITTING PROPOSALS AND COMMENCING CONSTRUCTION. FIELD CONDITIONS NOT AGREEING WITH CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER & DESIGNER PRIOR TO BEGINNING WORK. ALL ADDITIONAL WORK NEEDED TO COMPLETE THE PROPOSED PROJECT WHICH IS NOT INDICATED ON DRAWINGS SHALL RECEIVE PRIOR AUTHORIZATION FROM THE HOMEOWNER.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE INCLUSION OF ALL WORK NECESSARY FOR A COMPLETE INSTALLATION WHETHER SUCH WORK IS INDICATED ON DRAWINGS OR SPECIFICATIONS.

ALL MANUFACTURED / PREFABRICATED ITEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE WRITTEN MANUFACTURES SPECIFICATIONS.

JOB SITE SHALL BE KEPT IN A CLEAN AND ORDERLY FASHION AT THE END OF EACH DAYS WORK. ALL WARRANTIES, GUARANTIES AND MANUFACTURERS INSTRUCTIONS SHALL BE PRESENTED TO THE HOMEOWNER IN A COMPLETE AND ORDERLY MANNER AT THE CONCLUSION OF CONSTRUCTION. ALL WORK PERFORMED SHALL BE EXECUTED TO GREATER THAN STANDARD BUILDING QUALITY AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.

THE DESIGNER SHALL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, OR FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE FAILURE OF THE CLIENT OR HIS CONTRACTORS, SUBCONTRACTORS OR ANYONE PERFORMING WORK, TO CARRY OUT THE WORK IN ACCORDANCE WITH THE APPLICABLE RESIDENTIAL CODES, REGULATIONS, AND CONTRACT DOCUMENTS.

BY A LICENSED GENERAL CONTRACTOR ENTERING INTO AGREEMENT WITH THE HOMEOWNER/PROPERTY OWNER, HE AGREES TO KEEP CURRENT ALL INSURANCES, WORKER'S COMPENSATION AS REQUIRED, AND AGREES TO INDEMNIFY/HOLD HARMLESS THE HOMEOWNER/ PROPERTY OWNER FROM ANY ACCIDENTS OCCURRING FROM THE SCOPE OF WORK REQUIRED TO COMPLETE THE PROPOSED PROJECT.

CONTRACTORS SHALL BE RESPONSIBLE FOR REMOVING & DISPOSING OF DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM WORK AT THE JOB SITE. CONTRACTOR SHALL PROVIDE PROTECTION BETWEEN THE NEW CONSTRUCTION AND THE EXISTING BUILDING AND TAKE ADEQUATE MEASURES TO KEEP DUST TO A MINIMUM. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL CLEAN THE ENTIRE PREMISES AND TURN OVER ALL KEYS USED DURING CONSTRUCTION, OLD AND NEW. SEE NOTE ABOVE.

ALL EXISTING CONDITIONS SHOULD BE FIELD VERIFIED INCLUDING DIMENSIONS AND STRUCTURE. SOME VARIATIONS COULD EXIST AND IT IS THE RESPONSIBILITY OF OTHERS TO CONFIRM THE INFORMATION HEREIN.

PROJECT NARRATIVE:

NEW CONSTRUCTION 4 STORY BUILDING WITH
(7) 2BR APARTMENTS
(6) CAR GARAGE PARKING WITH BICYCLE LOCKERS

DRAWING LIST:

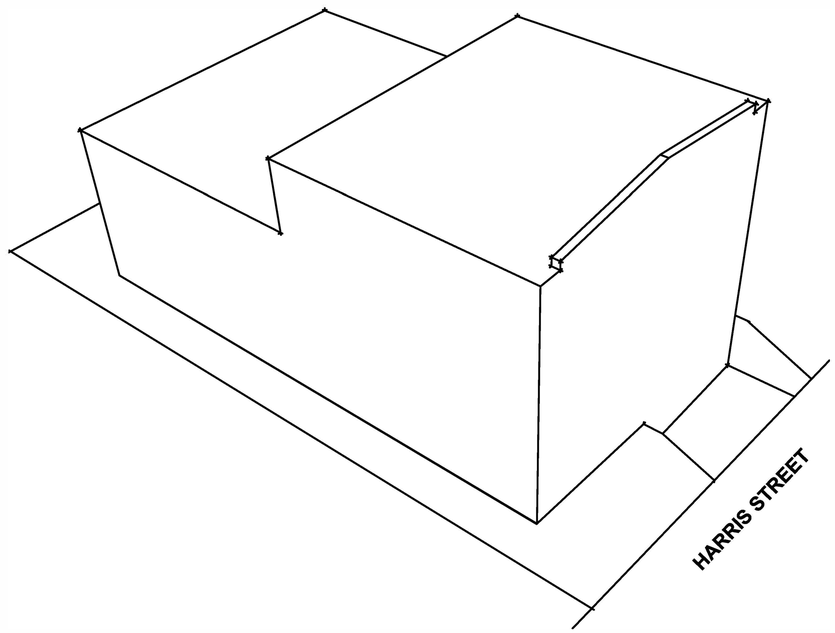
C000 COVER PAGE AND MASSING EXHIBIT

NEARBY RENT DATA:

MCINTIRE PLAZA RENTS

STANDARD 1BR UNIT: $1600
2 BEDROOM UNIT: $1800
SOURCE: ZILLOW

MASSING SKETCH



WWW.DISTRICTDESIGN.COM

PROJECT:
923 HARRIS STREET
CHARLOTTESVILLE, VA 22903

CONSULTANT:

REVISION:

SHEET: C0000

Affordable Dwelling Unit Ordinance Worksheet-923 Harris St. SUP Concept

Step 1: Total Floor Area Ratio (FAR) of Site

A.	Total size of development site:	0.114	acres				
B.	Total square footage of site:	0.114 (# of acres)	x	43,560.00	=	4,984.00	square feet (sf)
C.	1.0 Floor Area Ratio (FAR):	4,984.00 *(total sf of site)*					
D.	Gross Floor Area (GFA) of **ALL** buildings/uses:	8,820.00	sf				
E.	Total site FAR:	8,820.00 *(total GFA of site)*	÷	4,984.00 *(1.0 FAR)*	=	1.77	
F.	Is E greater than or equal to 1.0 FAR?	NO: Your proposed development does not trigger the ADU ordinance.					
		YES: Proceed to Step 2 or Step 3.					

Step 2: Number of ADUs Required

G.	GFA in excess of 1.0 FAR:	8,820.00 *(D: total site GFA)*	-	4,984.00 *(B: total SF of site)*	=	3,836.00	
H.	Total GFA of ADUs required:	3,836.00 *(G: GFA in excess of 1.0 FAR)*	x	0.05	=	191.80	
I.	Equivalent density based on Units Per Acre:						
	i. Dwelling Units per Acre (DUA) approved by SUP:	62.00					
	ii. SF needed for ADUs:	191.80 *(H: Total GFA of ADUs)*	÷	43,560.00	=	0.0044031	acres
	iii. Total number of ADUs required:	0.0044031 *(ii: ADU acreage)*	x	62.00 *(i: DUA approved)*	=	0.27	

Step 3: Cash-in-Lieu Payment

J.	Cash-in-Lieu Amount Residential:	8,820.00	x	$2.370	=	**$20,903.40**	

K. Cash-in-Lieu Amount Mixed-Use:

Total GFA of development site:	8,820.00			
GFA Occupied Commercial Space:	500.00			
GFA Occupied Residential Space:	7,350.00			
Total GFA Occupied Space:	7,850.00	% Residential:	0.94	
GFA Non-Occupied Space*:	970.00	Propotionate amount of non-occupied space GFA for residential use:		908.22
Amount of Payment:	8,258.22	x	$2.370	= $19,571.97

**GFA of non-occupied space shall include: (i) basements, elevator shafts and stairwells at each story, (ii) spaces used or occupied for mechanical equipment and having a structural head room of six (6) feet six (6) inches or more, (iii) penthouses, (iv) attic space, whether or not a floor has been laid, having a structural head room of six (6) feet six (6) inches or more, (v) interior balconies, and (vi) mezzanines. GFA shall not include outside balconies that do not exceed a projection of six (6) feet beyond the exterior walls of the building; parking structures below or above grade; or and roof top mechanical structures.*

Step 4: Minimum Term of Affordability

L. Residential Project

i. Households earning up to 80% AMI:

Unit Type	Eff.	1BR	2BR	3BR	4BR	5BR	6BR
Number of Units							
Market Rent							
HUD Fair Market Rents	$752.00	$1,027.00	$1,179.00	$1,478.00	$1,772.00	$2,037.00	$2,303.00
HUD Utility Allowance							
Difference per Month	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Annual Cost of ADU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

Total Annual Cost of ADUs: 0.00 *(Sum of Annual Cost of ADU)*

Minimum Term of Affordability*: #DIV/0! *(Cash-in-lieu payment / Total annual cost of ADUs)*

***If answer is less than 5, then minimum term of affordability will be 5 years.**

M. Mixed-Use Project

i. Households earning up to 80% AMI:

Unit Type	Eff.	1BR	2BR	3BR	4BR	5BR	6BR
Number of Units							
Market Rent							
HUD Fair Market Rents	$752.00	$1,027.00	$1,179.00	$1,478.00	$1,772.00	$2,037.00	$2,303.00
HUD Utility Allowance							
Difference per Month	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Annual Cost of ADU	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

Total Annual Cost of ADUs: 0.00 *(Sum of Annual Cost of ADU)*

Minimum Term of Affordability: #DIV/0! *(Cash-in-lieu payment / Total annual cost of ADUs)*

***If answer is less than 5, then minimum term of affordability will be 5 years.**

City of Charlottesville

Application for Special Use Permit

Project Name: 923 Harris St.

Address of Property: 923 Harris St. Charlottesville, VA 22903

Tax Map and Parcel Number(s): 350112000

Current Zoning District Classification: IC

Comprehensive Plan Land Use Designation: Business and Technology Mixed Use

Is this an amendment to an existing SUP? no

If "yes", provide the SUP #: _____

Applicant: Shimp Engineering contact: Kelsey Schlein

Address: 912 E. High St. Charlottesville, VA 22902

Phone: (434)227-5140 **Email:** kelsey@shimp-engineering.com

Applicant's Role in the Development (check one):

☐ Owner ☐ Owner's Agent ☑ Designer ☐ Contract Purchaser

Owner of Record: 923 Harris Street LLC

Address: 923 Harris St. Charlottesville, VA 22903

Phone: (202) 251-5291 **Email:** carmel@districtdesign.com

Reason for Special Use Permit:

☐ Additional height: _____ feet

☑ Additional residential density: 7 units, or 62 units per acre

☐ Authorize specific land use (identify)_____

☐ Other purpose(s) (specify City Code section):_____

(1) Applicant's and (2) Owner's Signatures

(1) Signature _____ **Print** Justin Shimp **Date** 2/18/22

Applicant's (Circle One): LLC Member LLC Manager Corporate Officer (specify) _____

Other (specify): President

(2) Signature _____ **Print** Carmel Greer **Date** 2/8/22

Owner's (Circle One): LLC Member LLC Manager Corporate Officer (specify) _____

Other (specify): LLC OWNER

City of Charlottesville

Pre-Application Meeting Verification

Project Name: 923 Harris Street

Pre-Application Meeting Date: 01/04/2022

Applicant's Representative: Kelsey Schlein

Planner: Brian Haluska

Other City Officials in Attendance:

The following items will be required supplemental information for this application and must be submitted with the completed application package:

1. Concept plan showing the parking layout of the site.
2.
3.
4.
5.

Planner Signature: Brian J. Haluska

City of Charlottesville

Application Checklist

Project Name: 923 Harris St.

I certify that the following documentation is ATTACHED to this application:

- [x] 34-158(a)(1): a site plan (ref. City Code 34-802(generally); 34-1083(communications facilities) (concept level plan provided)
- [x] 34-158(a)(3): Low-impact development (LID) methods worksheet (required for developments that include non-residential uses, and developments proposing 3 or more SFDs or TFDs)
- [x] 34-158(a)(4): a building massing diagram, and building elevations (required for applications proposing alteration of a building height or footprint, or construction of any new building(s))
- [x] 34-158(a)(5) and 34-12: affordable housing data. (i) how many (if any) existing dwelling units on the property are an "affordable dwelling unit" by the city's definitions? (ii) Will existing affordable units, or equivalent affordable units, remain following the development? (iii) What is the GFA of the project? GFA of residential uses? GFA of non-residential uses?
- [x] 34-157(a)(1) Graphic materials that illustrate the context of the project, and a narrative statement as to compatibility with existing patterns of use and development
- [x] 34-157(a)(2) Narrative statement: applicant's analysis of conformity with the Comprehensive Plan
- [x] 34-157(a)(3) Narrative statement: compliance with applicable USBC provisions
- [x] 34-157(a)(4) Narrative statement identifying and discussing any potential adverse impacts, as well as any measures included within the development plan, to mitigate those impacts
- [x] 34-158(a)(6): other pertinent information (narrative, illustrative, etc.)
- [x] All items noted on the Pre-Application Meeting Verification.

Applicant

Signature _____ **Print** Justin Shimp **Date** 2/18/22

By Its: President

(For entities, specify: Officer, Member, Manager, Trustee, etc.)

City of Charlottesville

Community Meeting

Project Name: 923 Harris St.

Section 34-41(c)(2) of the Code of the City of Charlottesville (adopted _____, 2015) requires applicants seeking rezonings and special use permits to hold a community meeting. The purpose of a community meeting is to provide citizens an opportunity to receive information about a proposed development, about applicable zoning procedures, about applicable provisions of the comprehensive plan, and to give citizens an opportunity to ask questions. **No application for a rezoning shall be placed on any agenda for a public hearing, until the required community meeting has been held and the director of neighborhood development services determines that the application is ready for final review through the formal public hearing process**.

By signing this document, the applicant acknowledges that it is responsible for the following, in connection to the community meeting required for this project:

1. Following consultation with the city, the applicant will establish a date, time and location for the community meeting. The applicant is responsible for reserving the location, and for all related costs.
2. The applicant will mail, by U.S. mail, first-class, postage pre-paid, a notice of the community meeting to a list of addresses provided by the City. The notice will be mailed at least 14 calendar days prior to the date of the community meeting. The applicant is responsible for the cost of the mailing. At least 7 calendar days prior to the meeting, the applicant will provide the city with an affidavit confirming that the mailing was timely completed.
3. The applicant will attend the community meeting and present the details of the proposed application. If the applicant is a business or other legal entity (as opposed to an individual) then the meeting shall be attended by a corporate officer, an LLC member or manager, or another individual who can speak for the entity that is the applicant. Additionally, the meeting shall be attended by any design professional or consultant who has prepared plans or drawings submitted with the application. The applicant shall be prepared to explain all of the details of the proposed development, and to answer questions from citizens.
4. Depending on the nature and complexity of the application, the City may designate a planner to attend the community meeting. Regardless of whether a planner attends, the City will provide the applicant with guidelines, procedures, materials and recommended topics for the applicant's use in conducting the community meeting.
5. On the date of the meeting, the applicant shall make records of attendance and shall also document that the meeting occurred through photographs, video, or other evidence satisfactory to the City. Records of attendance may include using the mailing list referred to in #1 as a sign-in sheet (requesting attendees to check off their name(s)) and may include a supplemental attendance sheet. The City will provide a format acceptable for use as the supplemental attendance sheet.

Applicant: Shimp Engineering.com

By:

Signature _____ **Print** Justin Shimp **Date** 2/18/22

Its: President (Officer, Member, Trustee, etc.)

City of Charlottesville

Owner's Authorizations

(Not Required)

Right of Entry- Property Owner Permission

I, the undersigned, hereby grant the City of Charlottesville, its employees and officials, the right to enter the property that is the subject of this application, for the purpose of gathering information for the review of this Special Use Permit application.

Owner: 923 HARRIS STREET LLC **Date** 2/8/22

By (sign name): _____ **Print Name:** CARMEL GREER

Owner's: LLC Member **LLC Manager** **Corporate Officer (specify):** _____

Other (specific): LLC OWNER

Owner's Agent

I, the undersigned, hereby certify that I have authorized the following named individual or entity to serve as my lawful agent, for the purpose of making application for this special use permit, and for all related purposes, including, without limitation: to make decisions and representations that will be binding upon my property and upon me, my successors and assigns.

Name of Individual Agent: _____

Name of Corporate or other legal entity authorized to serve as agent: Shimp Engineering P.C.

Owner: 923 HARRIS STREET LLC **Date:** 2/8/22

By (sign name): _____ **Print Name:** CARMEL GREER

Circle one:

Owner's: LLC Member **LLC Manager** **Corporate Officer (specify):** _____

Other (specific): LLC OWNER

City of Charlottesville

Disclosure of Equitable Ownership

Section 34-8 of the Code of the City of Charlottesville requires that an applicant for a special use permit make complete disclosure of the equitable ownership "real parties in interest") of the real estate to be affected. Following below I have provided the names and addresses of each of the real parties in interest, including, without limitation: each stockholder or a corporation; each of the individual officers and directors of a corporation; each of the individual members of an LLC (limited liability companies, professional limited liability companies): the trustees and beneficiaries of a trust, etc. Where multiple corporations, companies or trusts are involved, identify real parties in interest for each entity listed.

Name CARMEL GREER **Address** 6670 BLENHEIM ROAD SCOTTSVILLE VA 24590

Name _____ **Address** _____

Name _____ **Address** _____

Name _____ **Address** _____

Attach additional sheets as needed.

Note: The requirement of listing names of stockholders does not apply to a corporation whose stock is traded on a national or local stock exchange and which corporation has more than five hundred (500) shareholders.

Applicant: 923 HARRIS STREET LLC

By:

Signature _____ **Print** CARMEL GREER **Date** 2/8/22

Its: LLC OWNER (Officer, Member, Trustee, etc.)

City of Charlottesville

Fee Schedule

Project Name: 923 Harris St.

Application Type	Quantity	Fee	Subtotal
Special Use Permit (Residential)		$ 1,500	
Special Use Permit (Mixed Use/Non-Residential)	1	$ 1,800	1,800
Mailing Costs per letter		$1 per letter	
Newspaper Notice		Payment Due Upon Invoice	
TOTAL			$ 1,800

Office Use Only

Amount Received:_____ **Date Paid**_____ **Received By:** _____

Amount Received:_____ **Date Paid**_____ **Received By:** _____

Amount Received:_____ **Date Paid**_____ **Received By:** _____

Amount Received:_____ **Date Paid**_____ **Received By:** _____

City of Charlottesville

LID Checklist

Project Name: 923 Harris St.

LID Measure	LID Checklist Points	Points
Compensatory Plantings (see City buffer mitigation manual). 90% of restorable stream buffers restored.	5 points or 1 point for each 18% of the total acreage	0
Pervious pavers for parking and driveways with stone reservoir for storage of 0.5 inches of rainfall per impervious drainage area. Surface area must be >1,000 ft.^{2} or ≥ 50% of the total parking and driveway surface area.	7 points or 1 point for each 7% of parking and driveway surface area.	0
Shared parking (must have legally binding agreement) that eliminates >30% of on-site parking required.	5 points or 1 point for each 6% of parking surface eliminated.	0
Impervious Disconnection. Follow design manual specifications to ensure adequate capture of roof runoff (e.g. cisterns, dry wells, rain gardens)	8 points	0
Bioretention. Percent of site treated must exceed 80%. Biofilter surface area must be ≥ 5% of impervious drainage area.	8 points or 1 point for each 10% of site treated.	0
Rain gardens. All lots, rain garden surface area for each lot ≥ 200 ft.^{2}.	8 points or 1 point for each 10% of lots treated.	0
Designed/constructed swales. Percent of site treated must exceed 80%, achieve non-erosive velocities, and able to convey peak discharge from 10 year storm.	8 points or 1 point for each 10% of site treated.	0
Manufactured sand filters, filter vaults (must provide filtering rather than just hydrodynamic). Percent of site treated must exceed 80%. Sizing and volume for water quality treatment based on manufacturer's criteria.	8 points or 1 point for each 10% of site treated.	0
Green rooftop to treat ≥ 50% of roof area	8 points	0
Other LID practices as approved by NDS Engineer.	TBD, not to exceed 8 points	0
Off-site contribution to project in City's water quality management plan. This measure to be considered when on site constraints (space, environmentally sensitive areas, hazards) limit application of LID measures. Requires pre-approval by NDS Director.	5 points	0
	Total Points	0

Applicant's Signature

Signature _____ **Print** Justin Shimp **Date** 2/18/22

CITY OF CHARLOTTESVILLE
DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES
STAFF REPORT

ERB Review of CoA Request within the 5th Street SW Entrance Corridor
1150 5th Street SW

PLANNING COMMISSION REGULAR MEETING
DATE OF PLANNING COMMISSION MEETING: May 10, 2022

Project Planner: Carrie Rainey
Date of Hearing: May 10, 2022
Application Number: P22-0034
Zoning: Highway Corridor (HW) with Entrance Corridor (EC) Overlay
Entrance Corridor Overlay District: §34-307(a)(6) 5th Street SW (from corporate limits to beginning of the Ridge Street ADC District)
Tax Parcels:

- 21B048000; 1.14-acres; Owner: RBD Bent Creek, LLC
- 21B047001; 0.689-acres; Owner: RBD Bent Creek, LLC
- 21B047000 2.41-acres; Owner: MCIMetro Access Transmission Services)

Site Acreage: 4.27-acres (186,000 sq ft)
Current Usage: Vacant buildings (21B-48, 21b-47.1); fiber optic transmission facility (21B-47).
ERB Staff report prepared by: Jeff Werner, AICP, Preservation and Design Planner

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Relevant Code Section

Section 34-309(a)(3). The Planning Commission serves as the entrance corridor review board (ERB) responsible for administering the design review process in entrance corridor overlay districts (EC). The ERB reviews EC Certificate of Appropriateness (CoA) requests associated with the construction of new buildings. The ERB shall either approve, approve with conditions, or deny the CoA. Appeal would be to City Council. A Final Site Plan has also been submitted and is currently being reviewed by staff; however, the CoA must be approved prior to site plan agent taking action on the Final Site Plan.

Background

The 4.27-acres site consists of three Tax Map Parcels, all zoned HW (Highway Corridor) and within the Fifth Street Entrance Corridor Overlay District: 21B048000 (1150 5th Street SW; 1.14-acres), 21B047000 (0 5th Street SW; 2.41-acres), and 21B047001, (0 5th Street SW; 0.689-acres).

Formerly the site of a Hardee's restaurant, the existing structure will be razed, replaced with a 1-1/2 story convenience store (approx. 83' W x 61' L), a gas service area with a 2-story canopy (56' W x 96' L) and a dumpster enclosure (approx. 27' W x 21' L). (Note regarding

TMP 21B-47: No alterations are proposed for the existing, 8,400 SF fiber optic transmission building. Planned 1,780 SF building will be treated under a separate CoA request.)

Applicant's Request

Entrance Corridor Certificate of Appropriateness for construction of convenience store, gas service canopy, and associated landscaping and site work. (Note: Signage shown is conceptual only. Signage must comply with City Code Div. 4 – Signs and require a separate sign permit.)

Convenience store to be red brick with white banding and trim, a flat roof features a parapet of faux-Chippendale railing. The central entrance--flanked by framed porches with standing-seam metal roofs--is within a 2-story, brick tower with hipped, standing-seam metal roof. The gas service area is beneath a gabled, standing-seam metal roof on an open-truss supported by red brick piers and metal columns. The dumpster enclosure will be red brick with a precast stone band and wall cap

Vehicular traffic will continue to use the east entrance on 5th Street Station Parkway. The west entrance will be closed, replaced by access from 5th Street. Existing sidewalk along 5th Street and 5th Street Station Parkway will be retained, including a connection to the Rivanna Trail. Landscaping includes site plantings, street trees, and a tree preservation area on the east and north boundaries of the project site.

Submittal information (attached):

- EC CoA application, signed March 4, 2022
- Cuhachi & Peterson drawings, *Wawa 5th Street*, dated 4/02/2021: 2 sheets.
- RLA Technology Solutions photo-sims, *5th Street SW and Bent Creek Road*, undated: 4 sheets.
- Collins Engineering Final Site Plan, *Gas Station at 5th Street Station Parkway*, dated 3/01/2022: Sheets 1, 1A, 3, and 12 (4 sheets).
- Red Leonard Associates photometric plan and lighting specs, dated 02/04/2022: 6 sheets.

Proposed material and elements:

- Walls: Brick, running bond. Convenience store walls feature soldier coursing at the water table, above the windows, and above the stucco accent band. Side elevations feature brick pilasters with pre-cast stone bases and capitals. Brick Color: *Tavern Flash Red,*
- Roofs: Standing-seam metal. Color: *charcoal gray.*
- Parapet screen: Stamped metal panels. Color: *Silversmith*. Metal trim and cap. Colors: *White* and *Silversmith*.
- Scuppers, downspouts, coping, soffit, columns, truss: Painted metal. Color: *White*.

- Storefront: Front elevation (facing 5th Street Parkway) features an approx. 34-ft x 8-ft glazed storefront and entry. Side elevation (facing 5th Street) features three approx. 7-ft x 7-ft picture windows. Metal frame color: *White*.
- EIFS/Stucco: Wall accent bands and signage panels on tower. Color: *Stark white*.

- Lighting: (All lamping as spec'd is dimmable, the Color Temperature does not exceed 3,000K, and the Color Rendering Index is not less than 80.)
    - A4: Area light. Cree ARE-EDG-3MB-0DA-06-E-UL-XX-700-30K-DIM
    - B4: Area light. Cree ARE-EDG-4MB-0DA-06-E-UL-XX-700-30K-DIM
    - C1: Canopy light. Cree CAN-304-SL-RD-06-E-UL-XX-700-30K-DIM
    - D1: Soffit light Cree KR6-20L-30K-120V + KR6T-SSGC-FF
    - S1: Wall sconce. FC/SSL FCWS7170-XXX-30K-2500-CR185-XX-D
    - W1: Wall light. Cree SEC-EDG-3M-WM-04-E-UL-XX-350-30K-DIM
    - W2: Wall light. Cree SEC-EDG-3M-WM-02-E-UL-XX-350-30K-DIM
    - W3: Wall light. Cree SEC-EDG-3M-DM-12-E-UL-XX-350-30K-DIM

- Landscaping:
    - Trees (all listed on City's Master Tree List)
        - Shademaster Locust (large)
        - American Elm (large)
        - American Holly (evergreen, large screening tree)
        - Eastern Redbud (ornamental)
        - Cherokee Princess Dogwood (ornamental)
    - Plants (evergreen, screening, * = listed on City's *Master Tree List*)
        - Inkberry, *ilex glabra shamrock* *
        - Wax Myrtle, *myrica cerifera* (While not on the Tree List, it is native to Virginia and not identified as an invasive. https://dendro.cnre.vt.edu/dendrology/syllabus/factsheet.cfm?ID=172)
        - Mountain Pieris, *pierus floribunda* *
        - Catawba Rhododendron, *rhododendron catawbiense* *

Standard of Review

In conducting review of an application, the ERB must consider certain features and factors in determining the appropriateness of proposed construction, alteration, etc. of buildings or structures located within an entrance corridor overlay district. Following is a list of the standards set forth within §34-310 of the City Code, followed by staff's analysis:

§34-310(1): Overall architectural design, form, and style of the subject building or structure, including, but not limited to the height, mass and scale;

> **Staff Analysis**: The height, mass and scale of the proposed convenience store and gas service canopy are appropriate.

§34-310(2): Exterior architectural details and features of the subject building or structure;

Staff Analysis: The architectural details are appropriate. (At the City's request, the applicant revised the gas service canopy to have a gabled roof.)

§34-310(3): Texture, materials and color of materials proposed for use on the subject building or structure;

Staff Analysis: The textures, materials and colors are appropriate.

§34-310(4): Design and arrangement of buildings and structures on the subject site;

Staff Analysis: The site design is appropriate. The plantings and street trees are generally appropriate; however, staff recommends a condition addressing the proposed trees along 5th Street. (See the recommendation in the motion for approval.)

§34-310(5): The extent to which the features and characteristics described within paragraphs (1)-(4),above, are architecturally compatible (or incompatible) with similar features and characteristics of other buildings and structures having frontage on the same EC street(s) as the subject property.

Staff Analysis: The proposed site design, and building designs and materials are compatible with similar features and characteristics of buildings within the 5th Street Entrance Corridor. (Note: The Wawa constructed on Route 250, Pantops, has an identical design. See photos in attachment 1.)

§34-310(6): Provisions of the Entrance Corridor Design Guidelines.

Staff Analysis: The design principles; the guidelines for streetscape, site design, and building; and the corridor vision have been adequately addressed by this project. The vision for the corridor acknowledges it is auto-oriented with uses related to I-64. The plantings along 5th Street will enhance the streetscape. Access to the Rivanna Trail is provided. The tree preservation area maintains a buffer on Moore's Creek.

Recommended General Guidelines specific to Sub-Area A
(See attachment 2.)

- Retain auto-oriented uses geared to I-64
- Upgrade franchise designs as opportunities arise
- Create stronger gateway presence with plantings
- Maintain 100-foot Moore's Creek buffer

Staff Recommendation

The development as presented addresses the criteria outlined in the Entrance Corridor regulations. Staff recommends approval as submitted with the condition suggested below.

Public Comments Received

No public comments have been received relative to the design.

Suggested Motion

Approval: Having considered the standards set forth within the City's Entrance Corridor Design Guidelines, I move to find that the proposed design for the Wawa Wawa at 1150 5th Street SW is consistent with the Guidelines and compatible with the goals of this Entrance Corridor, and that the ERB approves the CoA request as submitted with the following condition:

- The street trees will be revised as necessary to comply with City Code Article VIII - Improvements required for developments, Division 2 - Landscaping and Screening. To the extent permissible by Sec. 34-868(d), the trees along 5th Street shall be appropriate for locating beneath overhead utilities.

  Note: Sec. 34-868(d). *Only trees having a mature height of less than twenty (20) feet may be installed under overhead utility lines*.

Alternate Motions

Denial: Having considered the standards set forth within the City's Entrance Corridor Design Guidelines, I move to find that the proposed design for the Wawa at 1150 5th Street SW is not consistent with the Guidelines and is not compatible with the goals of this Entrance Corridor, and that for the following reason(s) the ERB denies the Certificate of Appropriateness application as submitted: ...

Attachments

1. Wawa – Pantops, photos
2. Entrance Corridor Design Guidelines - Links and excerpts
3. Applicant's submittal information

Attachment 1. Wawa – Pantops
(photos by J.Werner)


Storage Sense

Attachment 2. Entrance Corridor Design Guidelines

- Chapter I: Introduction
  http://weblink.charlottesville.org/public/0/edoc/793359/1_Introduction_ERB.pdf
- Chapter II: Streetscape
  http://weblink.charlottesville.org/public/0/edoc/793360/2_Chapter%20II%20Streetscape_ERB.pdf
- Chapter III: Site
  http://weblink.charlottesville.org/public/0/edoc/793361/3_Chapter%20III%20Site_ERB.pdf
- Chapter IV: Buildings
  http://weblink.charlottesville.org/public/0/edoc/793362/4_Chapter%20IV%20Buildings_ERB.pdf
- Chapter V: Entrance Corridors
  http://weblink.charlottesville.org/public/0/edoc/793363/5_Chapter%20V%20Maps%20of%20Corridors_ERB.pdf

Design Guidelines: Recommendations specific to the 5th Street EC.

Fifth Street is a major downtown gateway to the city from I-64, and from development areas of Albemarle County in the south. This new street travels relatively parallel to the old Ridge Road but is comprised of four traffic lanes and a wide median. The corridor is lined with street trees and contains wooded hillsides and some small-scale townhouses. Highway oriented commercial uses dominate the southern end of the corridor.

Positive Aspects

- Street trees and planted median
- Wooded hillsides and much open space
- Opportunity to develop a stronger architectural image at a major gateway

Vision

This major southern entry leads to the Ridge Street historic district. It is auto-oriented and relatively undeveloped. The opportunity is to create an attractive boulevard leading to the downtown area. Additional landscaping along the corridor, including median flowers beds, will help define this entrance to the City, and will help make walking a more pleasant experience. Interior road connections should preclude excessive curb cuts along 5th Street. The Moore's Creek buffer area and wooded steep slopes should be maintained to emphasize a green gateway. Individual building designs should complement the existing residential fabric of the Ridge Street historic neighborhood. This corridor is a potential location for public wayfinding signage.

Design Guidelines: Recommendations specific to Sub-Area A.

Description

- *Streetscape*: Interstate-oriented, turn lanes, overhead utilities, cobra-head lights.
- *Site*: Planted banks, planted sites, gas station canopies, elevated sites, parking lots.
- *Buildings*: Mixed-use with retail, strip, national chains, one-story, deep setbacks.

Recommended General Guidelines

- Retain auto-oriented uses geared to I-64
- Upgrade franchise designs as opportunities arise
- Create stronger gateway presence with plantings
- Maintain 100-foot Moore's Creek buffer

Guidelines Specific to the Zoning

(HW) Highway Corridor district:

The intent of the Highway Corridor district is to facilitate development of a commercial nature that is more auto-oriented than the mixed-use and neighborhood commercial corridors. Development in these areas has been traditionally auto-driven and the regulations established by this ordinance continue that trend. This district provides for intense commercial development with very limited residential use. It is intended for the areas where the most intense commercial development in Charlottesville occurs.

Height regulation:

- Maximum height: 1 to 7 stories, recommend 1 to 3.

Setbacks:

- Primary street frontage: 5 feet, minimum; 30 feet, maximum
- Linking street frontage: 5 feet minimum; 20 feet, maximum
- Side and Rear, adjacent to any low density residential district: 20 feet, minimum.
- Side and Rear, adjacent to any other zoning district: none required.

Buffer regulations:

- Adjacent to any low-density residential district, side and rear buffers (S-2 type) shall be required, 10 feet, minimum.

Select pages from the EC Design Guidelines

L. FRANCHISE DESIGN

In recent years national retail chains have developed more options in their standardized designs. They also will create customized designs in a targeted community if local regulations require it.

1. Charlottesville seeks new construction that reflects the unique character, history, and cultural diversity of this place.

2. Franchise design or corporate signature buildings should not reflect "Anywhere, USA" designs but should follow the same guidelines applicable to other buildings. Architectural transplants from other locales or shallow imitations of historic architectural styles, for example, are neither appropriate nor desirable. Incompatible aspects of franchise design or corporate signature buildings must be modified to fit the character of this community.

3. Avoid using false or non-functional design elements to appear compatible with surrounding buildings.

Whole Foods

Taco Bell

Major national chains will customize their designs to fit local guidelines and neighborhood context as these five buildings demonstrate.

McDonald's

Burger King

Rite Aid

IV Guidelines for Buildings

M. Gas Station Canopies

1. Use compatible materials and forms with the building that the canopy serves.

2. Use a complementary scale that relates to the building it serves. Consider designing the canopy to integrate with the rest of the building instead of being a separate element on the site.

3. Do not internally illuminate the canopy cornice.

4. Use fully shielded lighting fixtures.

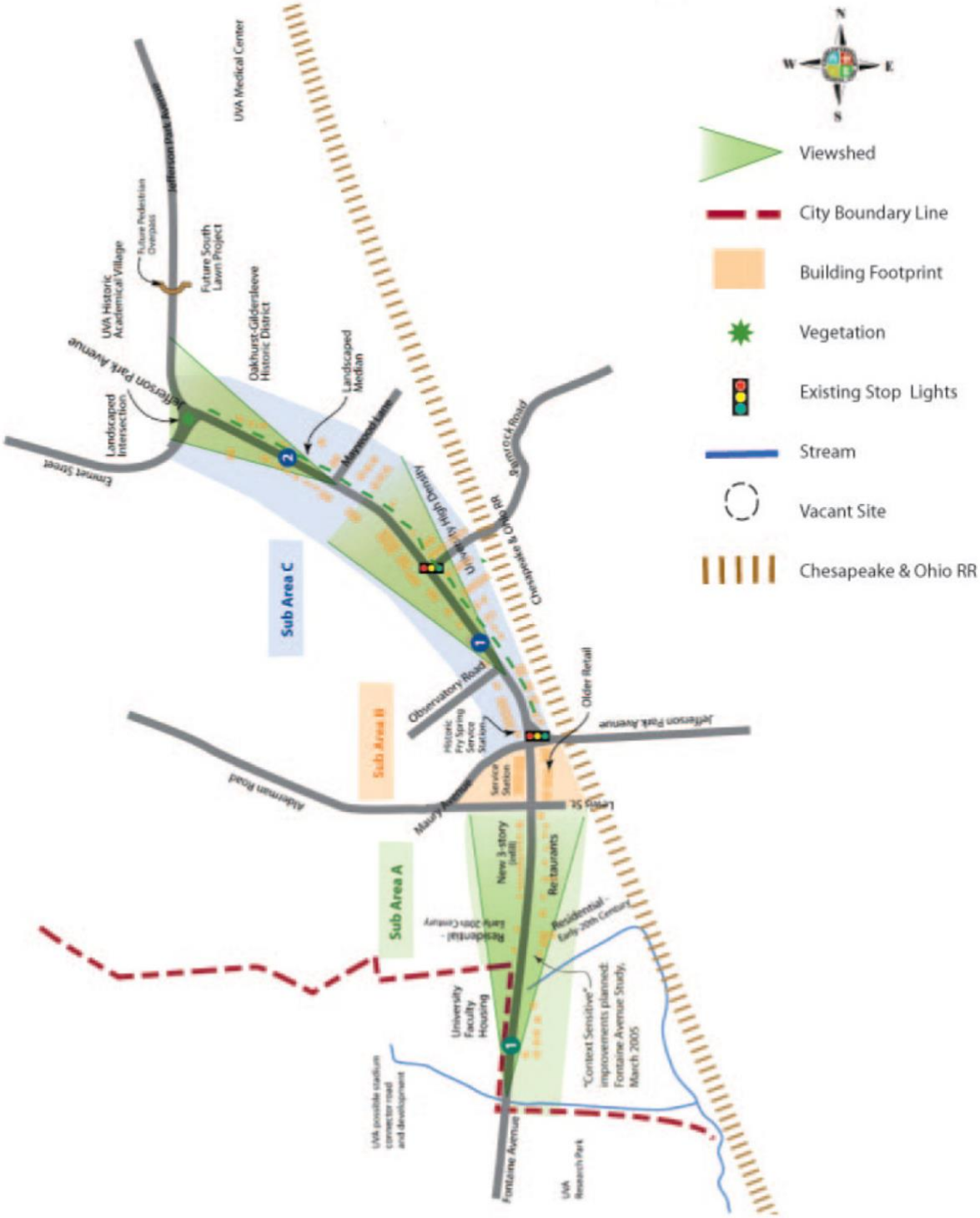
5. Use colors on the canopy that complement the colors used on the building.

6. Minimize number of logos displayed on the canopy.

This gasoline canopy is integated into the roof of the building and creates a more unified design than would a separate element.

The piers supporting this canopy are clad in the same brick as the surrounding buildings and numerous recessed lights provide adequate lighing.

F. Corridor 5: Fontaine Avenue/Jefferson Park Avenue from the corporate limits to Emmet Street



Entrance Corridor Review Application (EC)
Certificate of Appropriateness

Please Return To:
City of Charlottesville
Department of Neighborhood Development Services
P.O. Box 911, City Hall
Charlottesville, Virginia 22902
Telephone (434) 970-3130

Please submit one (1) hard copy and one (1) digital copy of application form and all attachments.
Please include application fee as follows: New construction project $375; Additions and other projects requiring ERB approval $125; Administrative approval $100.
Make checks payable to the City of Charlottesville.

The Entrance Corridor Review Board (ERB) meets the second Tuesday of the month.
Deadline for submittals is Tuesday 3 weeks prior to next ERB meeting by 3:30 p.m.

Owner Name RBD Bent Creek LLC Applicant Name Ashley Davies

Project Name/Description Gas Station with Convenience Store Parcel Number 21B-48 & 21B-47.1

Project Street Address 1150 5th Street SW, Charlottesville, VA 22902

Applicant Information

Address: 455 2nd Street SE, Suite 201
Charlottesville, VA 22902
Email: ashley@riverbenddev.com
Phone: (W) 434-245-4971 (C) 434-409-9127

Property Owner (if not applicant)

Address: 455 2nd Street SE, Suite 201
Charlottesville, VA 22902
Email: alan@riverbenddev.com
Phone: (W) 434-245-4932 (C) _____

Signature of Applicant

I hereby attest that the information I have provided is, to the best of my knowledge, correct.

Signature — Date: 3/4/2022

Ashley Davies — Print Name — Date: 3/4/2022

Property Owner Permission (if not applicant)

I have read this application and hereby give my consent to its submission.

Signature — Date: 3/4/2022

Alan Taylor — Print Name — Date: 3/4/2022

Description of Proposed Work (attach separate narrative if necessary): Demolition of vacant Hardee's building Construction of new gas station, convenience store and fueling pumps with necessary lighting, landscaping and parking.

Attachments (see reverse side for submittal requirements): Architectural elevations and renderings, select sheets of the site plan, including lighting and landscaping, ERB narrative.

For Office Use Only

Received by: _____
Fee paid: _____ Cash/Ck. # _____
Date Received: _____

Approved/Disapproved by: _____
Date: _____
Conditions of approval: _____

Revised 2016

ENTRANCE CORRIDOR ORDINANCE: You can review the *Entrance Corridor Overlay Districts* regulations in the City of Charlottesville Zoning Ordinance starting with Section 34-306 online at www.charlottesville.org or at www.municode.com for the City of Charlottesville.

DESIGN GUIDELINES: Please refer to the current *Entrance Corridor Design Guidelines* online at www.charlottesville.org.

SUBMITTAL REQUIREMENTS: The following information and exhibits shall be submitted along with each application for Certificate of Appropriateness, per *Sec. 34-310-312* in the City of Charlottesville Zoning Ordinance*:*

(1) Overall architectural design, form, and style of the subject building or structure, including, but not limited to: the height, mass and scale;

(2) Exterior architectural details and features of the subject building or structure;

(3) Texture, materials and color of materials proposed for use on the subject building or structure;

(4) Design and arrangement of buildings and structures on the subject site;

(5) The extent to which the features and characteristics described within paragraphs (1)-(4), above, are architecturally compatible (or incompatible) with similar features and characteristics of other buildings and structures having frontage on the same EC street(s) as the subject property.

(6) Provisions of the Entrance Corridor Design Guidelines.

(7) A complete application shall include all plans, maps, studies, reports, photographs, drawings, and other informational materials which may be reasonably required in order make the determinations called for in an particular case.

(8) Building elevations shall be provided, unless waived by the director.

(9) Each application shall include a landscaping plan as outlined in the ordinance

(10) Each application shall include information about proposed lighting as outlined in the provisions of Article IX, Division 3, Sec. 34-100, et seq.

5th Street Wawa Gas Station: ERB Review

3/4/2022

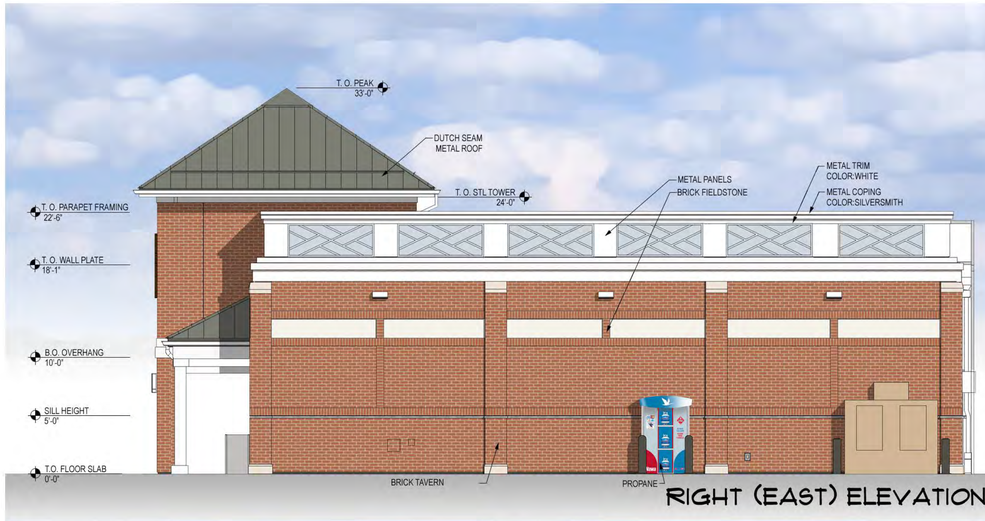
The proposed gas station and convenience store at the corner of 5th Street Station Parkway and 5th Street SW is harmonious with the applicable sections of the City of Charlottesville Zoning Ordinance and Entrance Corridor Guidelines. The information included with this application offers a comprehensive guide to the architectural and site elements. A signage package for the site will be submitted for review separately.

Specific requirements for Gas Stations are covered under Section 34-931 of the Zoning Ordinance. Of note are the two sections below which establish the required setback for the building and the fuel pump island for this use.

- *All buildings shall be setback at least forty (40) feet from the street right-of-way line and at least ten (10) feet from any other property line.*
- *The minimum distance between gasoline pump island and back of sidewalk shall be sixteen (16) feet.*

The architectural elevations of the building are designed with attention to massing and detail, with both vertical and horizontal elements to further define the space. The building is primarily brick with charcoal grey metal roofing. A roof parapet conceals mechanical equipment from view. The gasoline pump island incorporates the same brick elements and metal roofing specified for the convenience store element. Full cutoff lighting is utilized throughout the site, as required by the Zoning Ordinance.

The design, as proposed for the gas station, is in alignment with the pertinent sections of the Entrance Corridor Guidelines, including the requirements for gas station canopies and the goals for the 5th Street Corridor.

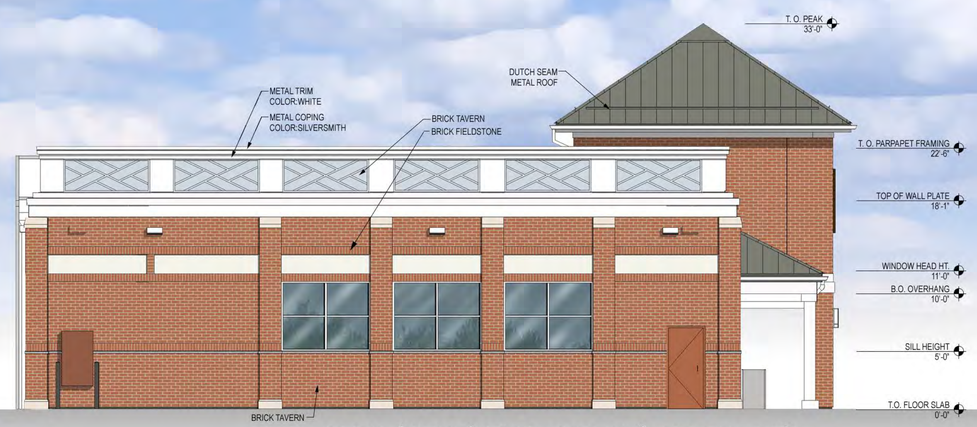


RIGHT (EAST) ELEVATION

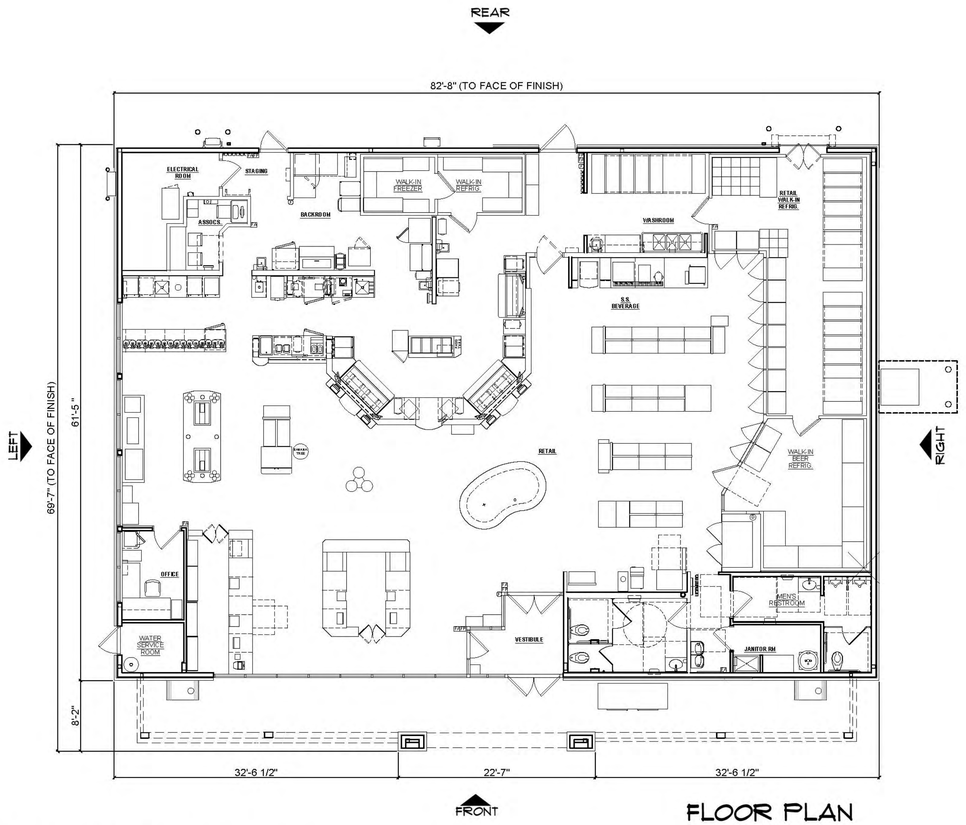
FRONT (SOUTH) ELEVATION (BENT CREEK ROAD)

REAR (NORTH) ELEVATION

Roof Atas Aluminum Corp Charcoal Grey	Gutters/Porch/Soffits Atas Aluminum Corp Ascot White (10)
EIFS 'B' Dryvit Stark White	Thin Brick Tavern Flash Red Marion Ceramics
Trim / Fascia White	Door / Frames White
Service Doors/Frames Benjamin Moore Pumice Stone BM #1197	Ice Storage SW 2828 Colonial Revival Tan



LEFT (WEST) ELEVATION (5TH ST. SW)



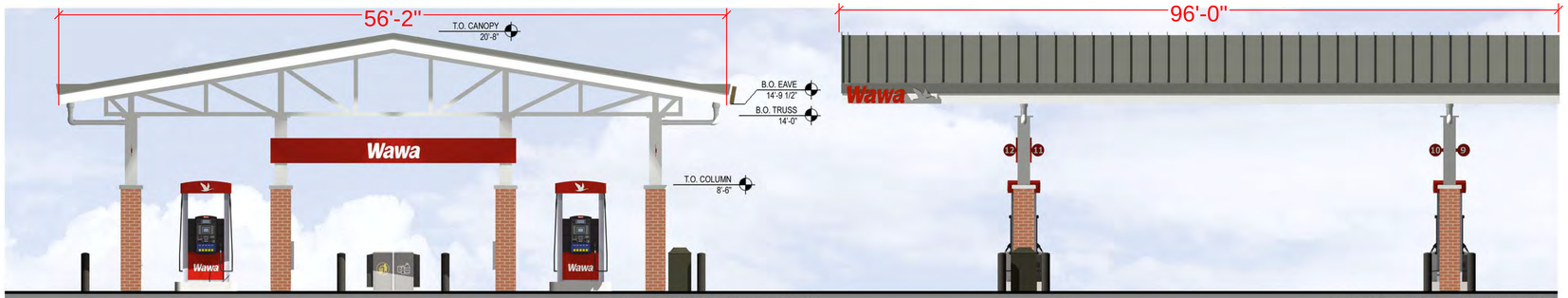
NOTE:
SIGNAGE IS SHOWN FOR REFERENCE ONLY
SEPARATE PERMIT REQUIRED

FLOOR PLAN

Cuhaci & Peterson
Architects Engineers Planners
ORLANDO • PHILADELPHIA

WAWA W50 VA_v.2019.01 - STORE #XXXX

5th St. & Bent Creek Rd., Charlottesville • C&P Project #2210350 • 04-01-2021

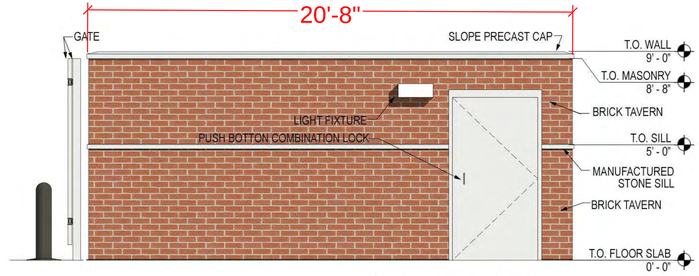


CANOPY END ELEVATION

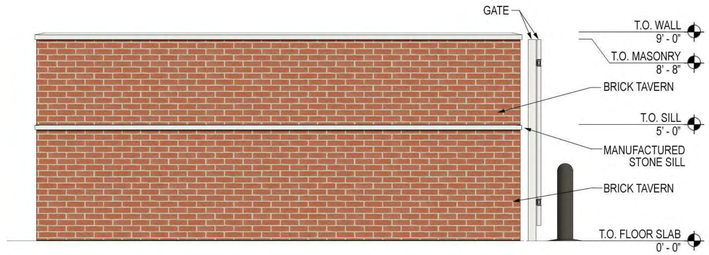
CANOPY SIDE ELEVATION

CANOPY PERSPECTIVE VIEW

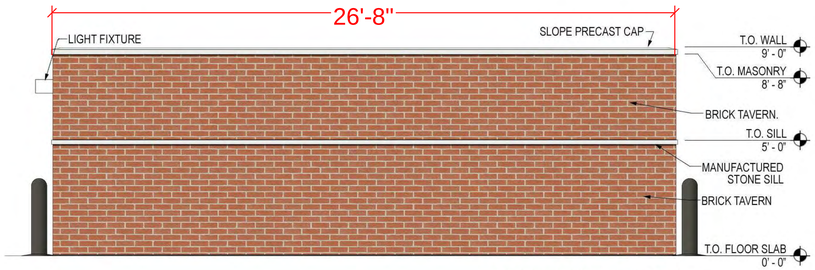
FRONT ELEVATION



RIGHT ELEVATION



LEFT ELEVATION



REAR ELEVATION

Metal Door	Trim	Thin Brick
Benjamin Moore	James Hardie	Tavern Flash Red
White Diamond	Arctic White	Marion Ceramics
BM 2121-60	JH10-20	

Cuhaci & Peterson
Architects Engineers Planners

WAWA GAS CANOPY® STACKED 6 - TRASH COMPOUND MASQ17-R - STORE #8690

5th St. & Bent Creek Rd., Charlottesville, VA • C&P Project #2210350 • 03-08-2022

5th Street SW and
Bent Creek Road
Charlottesville, VA

RLAtechnolgy.com
513-57 4-9500

RLA TECHNOLOGY SOLUTIONS

5th Street SW and
Bent Creek Road
Charlottesville, VA

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Charlottesville, VA

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RLA TECHNOLOGY SOLUTIONS

GAS STATION AT 5TH STREET STATION PARKWAY

FINAL SITE PLAN

CITY OF CHARLOTTESVILLE, VIRGINIA

PROJECT SITE INFO:

TMP: 21B047000 & 21B047001
21B048000
SEE SHEET 1A FOR INFORMATION ASSOCIATED WITH TMP21B051000

ADDRESS: INTERSECTION OF 5TH STREET &
5TH STREET STATION PARKWAY
CHARLOTTESVILLE, VA 22901

ZONING: HW - HIGHWAY CORRIDOR ZONING

ACREAGE: 4.274 AC.

D.B./PG.: TMP 21B048000 (DB 2015, PG.3377)
TMP 21BO47000 (DB 2018, PG.1105)
TMP 21B047001 (DB 2018, PG 1105)

EXISTING USE: FAST FOOD RESTAURANT & FIBER OPTIC TRANSMISSION BLDG

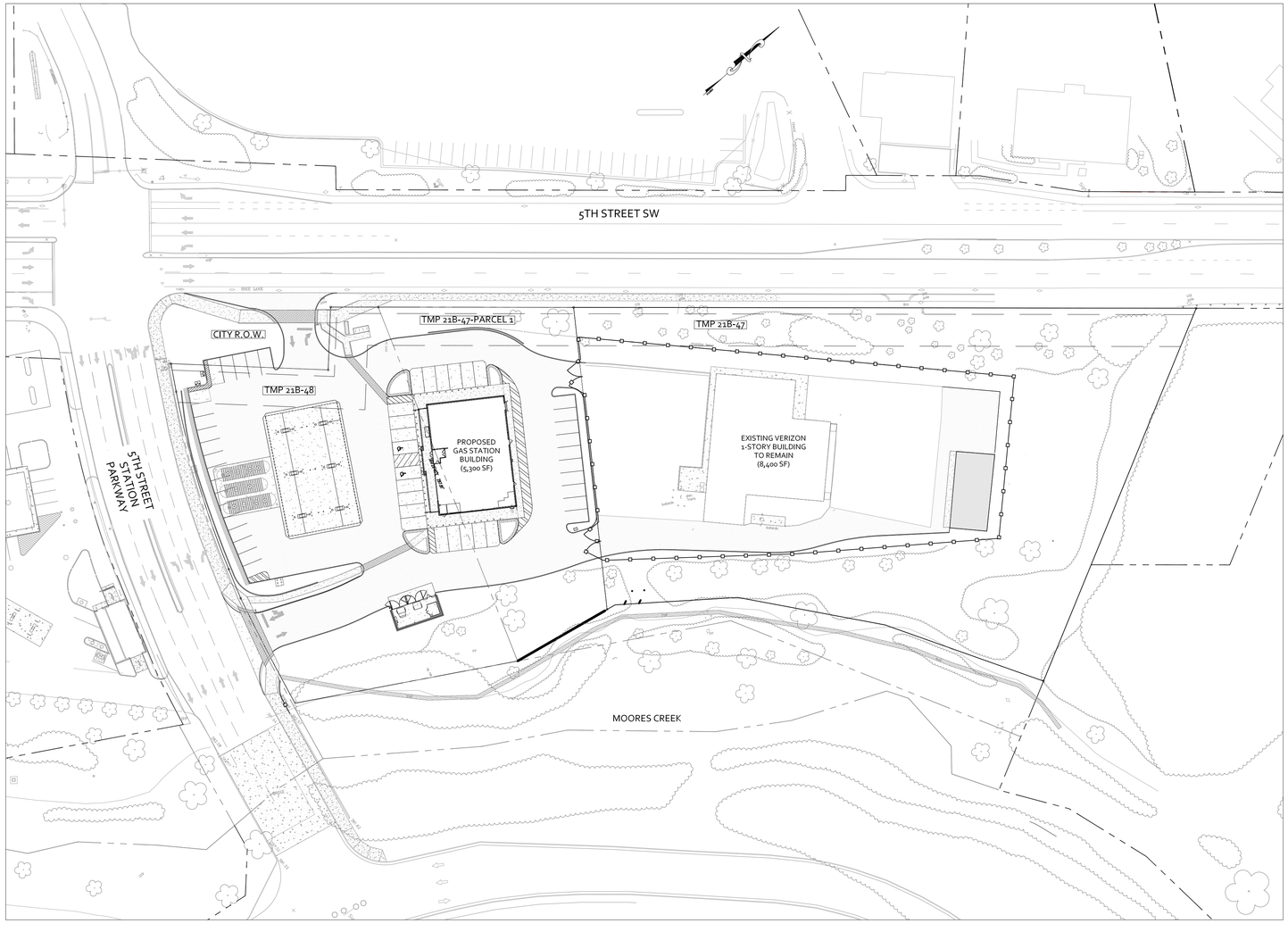
PROPOSED USE: GAS STATION WITH CONVENIENCE STORE & FIBER OPTIC TRANSMISSION BLDG

OWNERS: RBD BENT CREEK, LLC (TMP 21B-48 & TMP 21B-47)
455 2ND ST SE #201
CHARLOTTESVILLE, VA 22902
MCIMETRO ACCESS TRANSMISSION SVCS OF VA, INC. (21B-47A)
PO BOX 2440
SPOKANE, WA 99210

DEVELOPER: RIVERBEND DEVELOPMENT
455 2ND STREET NE, SUITE 400
CHARLOTTESVILLE, VA 22902

ENGINEER: COLLINS ENGINEERING, INC
200 GARRETT STREET, SUITE K
CHARLOTTESVILLE, VA 22902
(434) 293-3719

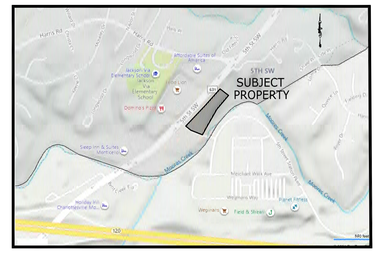
NOTE: SEE SHEET 1A FOR PROJECT NOTES FOR THE DEVELOPMENT



OVERALL DEVELOPMENT PLAN

SCALE: 1" = 50'

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.



VICINITY MAP

SCALE: 1" = 2000'

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16	UTILITY DETAILS
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11B	304 SERIES-LED RECESSED CANOPY LUMINAIRE (C1)	UTILITY DETAILS	
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CITY OF CHARLOTTESVILLE-LAND DISTURBANCE MS4 REPORTING CHART

BMP TYPE	PRACTICE (1-15)	LEVEL (1 or 2)	LATITUDE	LONGITUDE	TOTAL DA (AC)	IMP. DA (AC)	PERV. DA (AC)	P REMOVED	12 DIG. HUC.	*SWM MAINT. AGR. INST. #
UGO System	N/A	N/A	38.01256	-78.501311	3.01	2.21	0.80	0	208020404002	

TOTAL LOD (AC)	2.61
TOTAL P REMOVED BY BMP'S (LBS)	0
TOTAL P CREDITS PURCHASED (LBS)	1.16
TOTAL P CREDITED TO PROJECT (LBS	1.16
TOTAL P REQUIRED (LBS)	1.16
*LAND DISTURBING #	
* SWM BOND RELEASE DATE	

* TO BE ENTERED BY CITY OF CHARLOTTESVILLE STAFF

CITY OF CHARLOTTESVILLE-OUTFALL TABULATION CHART

9VAC25-870-66:				EXISTING										PROPOSED									
Outfall Designation	LOA Designation	Receiving Channel Type	Compliance Method	DA (Acres)	Offsite Contribution (Acres)	CN	Tc (min)	Q1 (CFS)	Q2 (CFS)	Q10 (CFS)	Q100 (CFS)	Runoff Volume (Vr/RV)	Runoff Volume Units	DA (Acres)	Offsite Contribution (Acres)	CN	Tc (min)	Q1 (CFS)	Q2 (CFS)	Q10 (CFS)	Q100 (CFS)	Runoff Volume (Vr/RV)	Runoff Volume Units
1	POA 'A'	Manmade	B.3.a & C.2.b	1.92	9.99	90	0.16	28.96	36.08	65.50	113.38	2.04	inches	3.01	9.99	91	0.16	28.25	36.81	61.75	106.35	2.11	inches
2	POA 'A'	Manmade	B.3.a & C.2.b	0.99		88	0.15	1.69	2.97	3.51	8.87	1.87	inches	0.20		63	0.10	0.11	0.21	0.59	1.45	0.45	inches
3	POA 'C'	Manmade	B.3.a & C.2.b	1.92		94	0.15	1.00	1.20	1.67	4.01	2.35	inches	0.20		69	0.10	0.01	0.00	1.36	2.47	1.94	inches
4	POA 'D'	Manmade	D (Sheetflow)	1.92		67	0.10	28.96	36.08	65.50	113.38	0.61	inches	0.19		67	0.10	0.16	0.27	0.64	1.52	0.60	inches
6	POA 'E'		B.3.a & C.2.b	1.92		94	0.10	0.54	0.69	1.15	2.04	2.36	inches	0.16		91	0.54	0.69	1.15	2.04	106.35	2.18	inches
TOTAL				8.74										8.78									

City of Charlottesville Department of Public Works-Engineering Division Version 1.0-10-21-2020

NOTE: Options for column "Receiving Channel Type" include: "Manmade", "Natural", "Restored", "Sheet", or "Other"
The column for "Compliance Method" requires specific code references, options include: "B.1.a", "B.2.a", "B.3.a (EB)", "D"

SIGNATURE PANEL

DIRECTOR, _____
NEIGHBORHOOD DEVELOPMENT

CITY ENGINEER, _____
NEIGHBORHOOD DEVELOPMENT

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
3/01/22

REVISIONS

REVISION DESCRIPTION	DATE
INITIAL SUBMITTAL FINAL SITE PLAN	8/03/21
SECOND SUBMITTAL FINAL SITE PLAN	3/01/22

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT: GAS STATION AT 5TH STREET STATION PKWY - FINAL SITE PLAN

SHEET TITLE: COVER

JOB NO. 202182

SCALE: AS SHOWN

SHEET NO. 1

GENERAL NOTES:

OWNER: TMP 21B048000 & 21B047001
RBD BENT CREEK, LLC
455 2ND ST SE #201
CHARLOTTESVILLE, VA 22902

TMP21B047000
MCIMETRO ACCESS TRANSMISSION SVCS OF VA, INC
PO BOX 2440
SPOKANE, WA 99210

NOTE: 5TH STREET STATION VENTURES, LLC IS PART OF THE APPLICATION. GRADING AND UTILITIES WILL IMPACT THIS 2' STRIP OF PROPERTY BETWEEN 5TH STREET STATION PKWY AND THE PROPERTY. THE TAX MAP FOR THE PROPERTY IS TMP21B051000 (DB.473, PG.579) INSTR#:201800000938

DEVELOPER: RIVERBEND DEVELOPMENT
455 2ND STREET NE, SUITE 201
CHARLOTTESVILLE, VA 22905

ENGINEER: COLLINS ENGINEERING, INC
200 GARRETT STREET, SUITE K
CHARLOTTESVILLE, VA 22902
(434) 293-3719

PROPERTY: TMP 21B048000, 21B047001, & 21B047000

LOCATION OF PROJECT: INTERSECTION OF 5TH STREET & 5TH STREET STATION PARKWAY

TOTAL ACREAGE OF SITE:

TMP21B048000	1.145 AC
TMP21B047000	2.440 AC
TMP21B047001	0.689 AC
TOTAL	4.274 ACRES

PHASING: SITE CONSTRUCTION SHALL OCCUR WITHIN (1) PHASE

EXISTING ZONING: HW - HIGHWAY COMMERCIAL

EXISTING USE: FAST FOOD RESTAURANT (TMP21B048000)
(2) VERIZON FIBER OPTIC TRANSMISSION BUILDINGS (TMP21B04700 & 21B047A00)

PROPOSED USE: GAS STATION WITH CONVENIENCE STORE (TMP21B048000) & (TMP 21B047A00 - PARCEL A)
EXISTING VERIZON FIBER OPTIC TRANSMISSION BUILDING TO REMAIN(TMP21B047000)

BUILDING/LOT SETBACKS: HW-HIGHWAY CORRIDOR ZONING:
PRIMARY STREET: 5' MINIMUM AND 30' MAXIMUM (5TH STREET)
NOTE: PER SECTION 34-931, GAS STATION BUILDINGS MUST BE SETBACK A MINIMUM OF 40 FEET FROM THE STREET RIGHT OF WAY AND A MINIMUM OF 10' FROM ANY PROPERTY LINE. THIS REQUIREMENT DOES NOT APPLY TO THE CANOPY OVER THE GASOLINE PUMPS.
LINKING STREET: 5' MINIMUM AND 20' MAXIMUM (NONE)
NOTE: 5TH STREET STATION PARKWAY IS NOT A LINKING STREET
SIDE/REAR: 20' ADJACENT TO LOW DENSITY RESIDENTIAL DISTRICT & NO SETBACK ADJACENT TO SIMILAR DENSITY DISTRICTS.

MAXIMUM HEIGHT: 80' MAXIMUM
PROPOSED BUILDING HEIGHTS WILL BE (1) STORY BUILDINGS ON EACH PARCEL. THE PROPOSED GAS STATION CONVENIENCE STORE HEIGHT IS 33 FEET AND THE CANOPY HEIGHT IS 22-11".

GROSS FLOOR AREA: 5,967 SF (CONVENIENCE STORE) & 8,410 SF EXISTING FIBER OPTIC TRANSMISSION BLDG + MAINTENANCE SHED

ADJACENT OWNERS: SEE SHEET 2, EXISTING CONDITIONS, FOR ADJACENT OWNERS AND INFORMATION

FLOODPLAIN: THERE IS AN EXISTING FLOODPLAIN WITHIN THE LIMITS OF THE SUBJECT PROPERTY PER FEMA MAP#51003C0278D, PANEL #0278D DATED FEBRUARY 4, 2005.

STREAM BUFFER: THE DEVELOPMENT OF THIS PROPERTY DOES NOT IMPACT A STREAM BUFFER, WATERCOURSE, OR FLOODPLAIN ON THE PROPERTY.

USGS DATUM: NAD 83 (1994)

SURVEY/BOUNDARY: SURVEY INFORMATION WAS PROVIDED BY ROUDABUSH, GALE & ASSOCIATES INC IN JULY 2021.

TOTAL LAND DISTURBANCE: 2.51 ACRES. CONSTRUCTION ACTIVITIES WILL CONFORM TO THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK GUIDELINES.

UTILITIES/TICKET NUMBER: THE SITE WILL BE SERVED BY PUBLIC WATER AND SEWER. MISS UTILITY TICKET NUMBER: A105401640-00A

CRITICAL SLOPES: NO IMPACTS ARE PROPOSED TO THE EXISTING CRITICAL SLOPES THAT MEET THE CONDITIONS OF THE CITY ORDINANCE SECTION 34-1120, WHICH ARE SHOWN ON THE EXISTING CONDITIONS SHEET AND GRADING AND UTILITY SHEETS.

AREAS PUBLIC USE: NONE

WATER DEMANDS: SEE NOTES AND DETAILS SHEET FOR METER SIZING FORM

INGRESS AND EGRESS: ACCESS TO THE PROPOSED PROPERTY SHALL BE 5TH STREET AND 5TH STREET STATION PARKWAY.

LIGHTING PLAN: A LIGHTING PLAN HAS BEEN INCLUDED WITH THIS FINAL SITE PLAN. ALL PROPOSED LIGHT FIXTURES WILL MEET THE CITY LIGHTING REQUIREMENTS AND BE FULL CUT-OFF WITH NO SPILLOVER AT THE PROPERTY LINES.

WATERSHED: SITE CONTAINS NO EXISTING WATER COURSES, STREAM BUFFERS OR FLOOD PLAINS. THIS SITE DRAINS TO THE EXISTING MOORES CREEK AND WATERSHED.

EXISTING VEGETATION: THE EXISTING CRITICAL SLOPE AREA AND FLOODPLAIN ARE WOODED AND SHALL REMAIN UNDISTURBED.

SITE AREAS:

	EXISTING	PROPOSED
BUILDINGS	102,775 SF	82,700 SF
PAVEMENT	158,175 SF	87,400 SF
SIDEWALK	4,550 SF	54,300 SF
TOTAL IMPERVIOUS	265,500 SF	224,400 SF

PAVED PARKING AND CIRCULATION: 87,400 SF

OPEN SPACE: NONE REQUIRED

RECREATION: NONE REQUIRED

TRASH: A DUMPSTER IS PROPOSED ON THE GAS STATION PARCEL.
NOTE: DUMPSTERS WILL COMPLY WITH SEC. 34-932 WHERE DUMPSTERS WILL BE LOCATED ON A PAD OF SUFFICIENT SIZE TO ADEQUATELY ACCOMMODATE LOADING AND UNLOADING VEHICLES WITHOUT DAMAGE TO THE SURROUNDING SURFACES, WITH A MINIMUM DIMENSION OF TEN (10) FEET IN WIDTH AND TWENTY (20) FEET IN LENGTH. THE LOCATION OF THE DUMPSTER IS IN THE QUARTER OF THE SITE, COMPLYING WITH SEC. 34-931.

SIGNAGE: THE CURRENT SIGNAGE FOR THE PROPERTY SHALL BE UPDATED WITH THE PROPOSED CHANGES IN USE.

FIRE FLOW: THE EXISTING FIRE HYDRANT TO BE REPLACED ON TMP21B047000 FOR THE EXISTING BLDG TO REMAIN. THERE IS ALSO AN EXISTING FIRE HYDRANT LOCATED ALONG 5TH STREET STATION PKWY ACROSS THE STREET FROM THE PROPERTY. PER 2018 IFC, SECTION B105, THE PROPOSED GAS STATION BLDG HAS A NFF OF 1,500 GPM.

DEMOLITION NOTES

1. PRIOR TO DEMOLITION AND CONSTRUCTION, A FIRE PREVENTION PLAN MEETING MUST OCCUR AND A FIRE PREVENTION PLAN MUST BE SUBMITTED TO AND APPROVED BY THE FIRE MARSHAL.
2. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ALL UNDERGROUND UTILITIES NOT SHOWN ON THIS PLAN SHEET AND SHALL DEMOLISH ALL DISCOVERED UTILITIES AS REQUIRED.
3. THE CONTRACTOR SHALL VIDEO AND INSPECT ALL SANITARY SEWER PIPES AND MANHOLES SLATED TO REMAIN TO DETERMINE ADEQUATE STRUCTURAL INTEGRITY. IF EXISTING SANITARY SEWER IS DAMAGED, THE CONTRACTOR SHALL CONTACT THE ENGINEER.
4. THE CONTRACTOR SHALL EXAMINE THE STRUCTURAL INTEGRITY OF EXISTING STORM SEWER STRUCTURES TO REMAIN AND REPLACE TOPS AS NECESSARY; THIS SHALL BE REFLECTED IN THE CONTRACTOR BID.
5. ALL EXISTING WATER, SANITARY, AND STORM SEWER SLATED FOR DEMOLITION SHALL BE REMOVED FROM THE BUILDING TO THE PROPERTY LINE, UNLESS MARKED AS TO REMAIN.
6. UTILITIES THAT ARE DISCONNECTED SHALL BE PROPERLY ABANDONED AT THE MAIN LINE. FOR WATER SERVICE LINES, THE CORP STOP MUST BE TURNED OFF AT THE MAIN LINE AND THE SERVICE DISCONNECTED FROM THE MAIN. FOR SEWER LATERALS, THE LATERAL TAP MUST BE SEALED AT THE MAIN LINE SO THAT IT IS WATER TIGHT AND THE LATERAL REMOVED FROM THE MAIN LINE. FOR SANITARY MANHOLES TO BE ABANDONED THE TOP 2' OF THE MANHOLE STRUCTURE SHALL BE REMOVED, ALL LINES DISCONNECTED, AND THE MANHOLE SHOULD BE FILLED WITH STONE AND COVERED, ALL TAPS MUST BE LOCATED AND DISCONNECTED PER PROCEDURE ABOVE.
7. EXISTING ROOF DRAINS SLATED TO BE DEMOLISHED SHALL BE DISCONNECTED AND REMOVED; ROOFDRAINS TO BE REROUTED AS SHOWN ON THE ARCHITECTURAL PLANS.
8. EXISTING DOMINION OVERHEAD/UNDERGROUND ELECTRIC LINES AND OVERHEAD UTILITIES TO THE EXISTING BUILDING SHALL BE DISCONNECTED AND REROUTED AS PROPOSED ON THE UTILITY PLAN SHEET.
9. ANY EXISTING UNDERGROUND STORAGE TANKS SHALL BE DRAINED BY THE OWNER, AND THE CONTRACTOR SHALL FILL AND TANKS SHALL REMAIN.
10. BUILDINGS BEING DEMOLISHED. WHERE A BUILDING IS BEING DEMOLISHED AND A STANDPIPE IS EXISTING WITHIN SUCH A BUILDING, SUCH STANDPIPE SHALL BE MAINTAINED IN AN OPERABLE CONDITION SO AS TO BE AVAILABLE FOR USE BY THE FIRE DEPARTMENT. SUCH STANDPIPE SHALL BE DEMOLISHED WITH THE BUILDING BUT SHALL NOT BE DEMOLISHED MORE THAN ONE FLOOR BELOW THE FLOOR BEING DEMOLISHED.

FIRE DEPARTMENT NOTES

1. VSFP 1408.1 PROGRAM SUPERINTENDENT. THE OWNER SHALL DESIGNATE A PERSON TO BE THE FIRE PREVENTION PROGRAM SUPERINTENDENT WHO SHALL BE RESPONSIBLE FOR THE FIRE PREVENTION PROGRAM AND ENSURE THAT IT IS CARRIED OUT THROUGH COMPLETION OF THE PROJECT. THE FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL HAVE THE AUTHORITY TO ENFORCE THE PROVISIONS OF THIS CHAPTER AND OTHER PROVISIONS AS NECESSARY TO SECURE THE INTENT OF THIS CHAPTER. WHERE GUARD SERVICE IS PROVIDED, THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE GUARD SERVICE.
2. VSFP 1408.2 PREFIRE PLANS. THE FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL DEVELOP AND MAINTAIN AN APPROVED PREFIRE PLAN IN COOPERATION WITH THE FIRE CHIEF. THE FIRE CHIEF AND THE FIRE CODE OFFICIAL SHALL BE NOTIFIED OF CHANGES AFFECTING THE UTILIZATION OF INFORMATION CONTAINED IN SUCH PREFIRE PLANS.
3. A SITE SPECIFIC FIRE PREVENTION PLAN SHALL BE SUBMITTED TO THE FIRE MARSHAL'S OFFICE PRIOR TO COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION.
4. IFC 505-THE BUILDING STREET NUMBER TO BE PLAINLY VISIBLE FROM THE STREET FOR EMERGENCY RESPONDERS.
5. IFC 506.1-AN APPROVED KEY BOX SHALL BE MOUNTED TO THE SIDE OF THE FRONT OR MAIN ENTRANCE. THE CHARLOTTESVILLE FIRE DEPARTMENT CARRIES THE KNOX BOX MASTER KEY. A KNOX BOX KEY BOX CAN BE ORDERED BY GOING ONLINE TO WWW.KNOXBOX.COM. THE KNOX BOX ALLOWS ENTRY TO THE BUILDING WITHOUT DAMAGING THE LOCK AND DOOR SYSTEM.
6. IFC 1404.1-SMOKING TO BE ALLOWED IN ONLY DESIGNATED SPACES WITH PROPER RECEPTACLES. "NO SMOKING" SIGNS SHALL BE POSTED AT EACH BUILDING SITE AND WITHIN EACH BUILDING DURING CONSTRUCTION. SMOKING WILL ONLY BE ALLOWED OUTSIDE THE CONSTRUCTION FENCING.
7. IFC 1404.2-WASTE DISPOSAL OF COMBUSTIBLE DEBRIS SHALL BE REMOVED FROM THE BUILDING AT THE END OF EACH WORKDAY.
8. IFC 1410.1-ACCESS TO THE BUILDING DURING DEMOLITION AND CONSTRUCTION SHALL BE MAINTAINED.
9. IFC 1404.6-CUTTING AND WELDING. OPERATIONS INVOLVING THE USE OF CUTTING AND WELDING SHALL BE DONE IN ACCORDANCE WITH CHAPTER 26, OF THE INTERNATIONAL FIRE CODE, ADDRESSING WELDING AND HOTWORK OPERATIONS.
10. IFC 1414.1-FIRE EXTINGUISHERS SHALL BE PROVIDED WITH NOT LESS THAN ONE APPROVED PORTABLE FIRE EXTINGUISHER AT EACH STAIRWAY ON ALL FLOOR LEVELS WHERE COMBUSTIBLE MATERIALS HAVE ACCUMULATED.
11. FIRE HYDRANTS, FIRE PUMP TEST HEADER, FIRE DEPARTMENT CONNECTIONS OR FIRE SUPPRESSION SYSTEM CONTROL VALVES SHALL REMAIN CLEAR AND UNOBSTRUCTED BY LANDSCAPING, PARKING OR OTHER OBJECTS. THE FIRE MARSHAL'S OFFICE NO LONGER ALLOWS ANY TYPE OF LANDSCAPING TO BE PLACED IN FRONT OF AND WITHIN 5 FEET OF FIRE HYDRANTS, FIRE PUMP TEST HEADERS, FIRE DEPARTMENT CONNECTIONS OR FIRE SUPPRESSION SYSTEM CONTROL VALVES.
12. AN APPROVED WATER SUPPLY FOR FIRE PROTECTION SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ARRIVES ON THE SITE.
13. ALL PAVEMENT SHALL BE CAPABLE OF SUPPORTING FIRE APPARATUS WEIGHTING 85,000 LBS.
14. REQUIRED VEHICLE ACCESS FOR FIRE FIGHTING SHALL BE PROVIDED TO ALL CONSTRUCTION OR DEMOLITION SITES. VEHICLE ACCESS SHALL BE PROVIDED TO WITHIN 100 FEET OF TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTIONS. VEHICLE ACCESS SHALL BE PROVIDED BY EITHER TEMPORARY OR PERMANENT ROADS, CAPABLE OF SUPPORTING VEHICLE LOADING UNDER ALL WEATHER CONDITIONS. VEHICLE ACCESS SHALL BE MAINTAINED UNTIL PERMANENT FIRE APPARATUS ACCESS ROADS ARE AVAILABLE.
15. FIRE LANES SHALL BE A MINIMUM OF 20 FEET IN WIDTH. SIGNS AND MARKINGS TO DELINATE FIRE LANES AS DESIGNATED BY THE FIRE OFFICIAL SHALL BE PROVIDED AND INSTALLED BY THE OWNER OR HIS/HER AGENT OF THE PROPERTY. FIRE APPARATUS ROADS 20' TO 26' IN WIDTH SHALL BE POSTED OR MARKED ON BOTH SIDES "NO PARKING - FIRE LANE".
16. OVERHEAD WIRING OR OTHER OBSTRUCTIONS SHALL BE HIGHER THAN 13 FEET 6 INCHES.
17. ALL SIGNS SHALL BE IN ACCORDANCE WITH ARTICLE IX, SECTION 34-1020 CITY CODE. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE CONSISTENT WITH THE MUTCD.
18. THE MINIMUM REQUIRED FIRE FLOW FOR ALL BUILDINGS IS 1,500 GALLONS PER MINUTE.
19. CODE EDITIONS FOR THE PROPOSED GAS STATION BUILDING: BUILDING-2018 VCC (2018 IBC), FIRE PREVENTION: 2018 SFPC (2018 IFC), TYPE VB CONSTRUCTION, MERCANTILE OCCUPANCY CLASSIFICATION.

PARKING & TRAFFIC CALCULATIONS

	GAS STATION W/ MARKET 5,300 SF BUILDING	FIBER OPTIC TRANSMISSION BUILDING 8,400 SF BUILDING
PARKING REQUIREMENTS:	1 PARKING SPACE PER 400 SF OF GFA	1 SPACE PER 400 SF OF GFA (OFFICE SPACE) PLUS 1 SPACE PER 2 EMPLOYEES PLUS 1 SPACE FOR EACH COMPANY VEHICLE STORED ON SITE
PARKING REQUIRED:	5,300 SF /400 = 13.3 SPACES TOTAL = 14 PARKING SPACES, INCL. 1 ADA HANDICAP VAN SPACE	2,000 SF / 400 = 5 SPACES 6 EMPLOYEES / 2 = 3 SPACES TOTAL = 8 PARKING SPACES
PARKING PROVIDED:	48 PARKING SPACES (INCLUDING 1 ADA SPACE, 1 ADA VAN SPACE) 6 FUELING PUMPS	8 PARKING SPACES 2,000 SF OFFICE SPACE & 5,400 SF WAREHOUSE SPACE
AVERAGE DAILY TRAFFIC:	322.50 * 6 = 1,935 VPD	9.74 * 2 = 19.48 VPD 1.74 * 5.4 = 9.40 VPD
PEAK AM HOURS:	20.76 * 6 = 124.56 VPH (63 ENTER/62 EXIT)	1.16 * 2 = 2.32 VPH (2 ENTER/1 EXIT) 0.17 * 5.4 = 0.92 VPH (1 ENTER/0 EXIT)
PEAK PM HOURS:	23.04 * 6 = 138.24 VPH (70 ENTER/69 EXIT)	1.15 * 2 = 2.30 VPH (1 EXIT/2 ENTER) 0.19 * 5.4 = 1.03 VPH (0 ENTER/1 EXIT)
BICYCLE PARKING REQUIRED:	1 SPACE/1,000 SF OF PUBLIC USE 5,300 SF /1,000 = 5.3 SPACES	1 SPACE/1,000 SF OF PUBLIC USE 0 SF OF PUBLIC SPACE=0 SPACES
BICYCLE PARKING PROVIDED:	8 SPACES	N/A

SITE NOTES

1. CONTRACTOR SHALL OBTAIN A TEMPORARY STREET CLOSURE PERMIT FOR CLOSURE OF SIDEWALKS, PARKING SPACES & ROADWAYS SUBJECT TO APPROVAL BY THE CITY TRAFFIC ENGINEER PRIOR TO CONSTRUCTION IN THESE EXISTING AREAS.
2. PROPOSED MECHANICAL EQUIPMENT WILL BE LOCATED ON THE ROOF BEHIND THE PARAPET OF THE PROPOSED BUILDINGS. MECHANICAL EQUIPMENT LOCATED ON THE ROOF OF A BUILDING OR STRUCTURE SHALL BE HIDDEN BEHIND A WALL OR OTHER SOLID ENCLOSURE, EXTENDING NO MORE THAN TWELVE (12) INCHES ABOVE THE HEIGHT OR SUCH EQUIPMENT, SUCH WALL TO BE CONSTRUCTED OF A MATERIAL HARMONIOUS WITH THE FACADE OF THE BUILDING OR STRUCTURE. MECHANICAL EQUIPMENT LOCATED ON THE GROUND SHALL BE SCREENED FROM VIEW FROM ALL PUBLIC RIGHTS-OF-WAY AND FROM ADJACENT RESIDENTIAL DISTRICTS; AN S-3 SCREEN SHALL BE PROVIDED, EXTENDING NO MORE THAN TWELVE (12) INCHES ABOVE THE HEIGHT OF SUCH EQUIPMENT. THE SCREENING MATERIALS SHALL BE LOCATED IN SUCH A MANNER TO MOST EFFECTIVELY REFLECT NOISE AWAY FROM ADJACENT RESIDENTIAL DISTRICTS.
3. EXISTING AND PROPOSED DUMPSTERS ON SITE SHALL COMPLY WITH APPLICABLE CODE SECTIONS, INCLUDING BUT NOT LIMITED TO SEC. 34-872 (b)(2) AND SEC. 34-932. DUMPSTERS SHALL NOT BE VISIBLE FROM RIGHT-OF-WAY.
4. ALL SIDEWALK WITHIN THE LIMITS OF THE DEVELOPMENT SHALL BE PRIVATE SIDEWALKS AND SHALL BE PRIVATELY MAINTAINED.
5. ALL SIDEWALKS AND WALKWAYS SHALL HAVE A MINIMUM CLEAR WIDTH OF 5'.
6. ALL WALKWAY CROSSINGS SHALL MEET MINIMUM ADA ACCESSIBILITY STANDARDS AND SHALL HAVE A CROSS SLOPES OF 2% OR LESS.
7. ALL SIGNING AND PAVEMENT MARKINGS SHALL BE INSTALLED CONSISTENT WITH MUTCD STANDARDS.
8. ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE FROM PARKING TO AN ACCESSIBLE ENTRANCE.
9. ALL SIGNS IDENTIFYING ACCESSIBLE PARKING SPACES SHALL BE AT LEAST 60 INCHES ABOVE THE GROUND/SURFACE (FROM BOTTOM OF SIGN) AND INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. ACCESSIBLE VAN PARKING SPACES SHALL CONTAIN THE DESIGNATION 'VAN ACCESSIBLE'.
10. RAMPS OVER 30" IN ELEVATION CHANGE REQUIRE HANDRAILS.
11. ALL SITE AND BUILDING CONSTRUCTION SHALL MEET 2006 IBC SECTION 3409 REQUIREMENTS FOR ACCESSIBILITY AND VA USBC 103.3 FOR CHANGE OF OCCUPANCY.
12. PRIOR TO BUILDING PERMIT APPROVAL, THE BUILDING PLANS MUST MEET THE REQUIREMENTS OF BOTH THE 2012 VA CONSTRUCTION CODE (VCC) 1007.1 & 2015 VCC 1009.1 BOTH REQUIRE TWO ACCESSIBLE MEANS OF EGRESS FOR EACH BUILDING.
13. BUILDING FOUNDATIONS SHALL MEET THE REQUIREMENTS OF THE 2012 OR 2015 VA CONSTRUCTION CODE 1808.7.2 "FOUNDATION SETBACK FROM DESCENDING SLOPES".
14. PER 502.6 OF THE 2010 ADA DESIGN STANDARDS ACCESSIBLE PARKING SPACE IDENTIFICATION SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY COMPLYING WITH 703.7.2.1, AND SIGNS IDENTIFYING VAN PARKING SPACES SHALL CONTAIN THE DESIGNATION "VAN ACCESSIBLE".
15. PER ADA 502.4 PARKING SPACES AND ACCESS AISLES SHALL COMPLY WITH 302, SLOPES NOT STEEPER THAN 2% SHALL BE PERMITTED.
16. PER ADA 403.3 THE RUNNING SLOPE OF AN ACCESSIBLE ROUTE SHALL BE 5% OR LESS. SLOPES OVER 5% WILL REQUIRE A RAMP.
17. PER ADA 206.2.2 AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, FACILITIES, ELEMENTS AND SPACES ON THE SAME SITE.
18. ALL PARKING SPACES SHALL BE A MINIMUM OF 8.5'x18', EXCEPT AS NOTED.
19. ALL HANDICAP PARKING SPACES SHALL BE INDICATED WITH A SIGN.

UTILITY NOTES

1. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY CONTRACTOR OR ITS SUBCONTRACTORS SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY AND REPAIRED AT CONTRACTOR'S EXPENSE.
2. THE CONTRACT DOCUMENTS DO NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE OR LOCATION OF UTILITIES. CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OR THE NON-EXISTENCE OF UTILITIES. AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION, CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-552-7001) AND/OR THE RESPECTIVE UTILITY COMPANIES FOR GAS, WATER, SEWER, POWER, PHONE, AND CABLE. CONTRACTOR SHALL TIMELY ARRANGE TO HAVE THE VARIOUS UTILITIES LOCATED, AND TO HAVE THEM REMOVED OR RELOCATED, OR TO DETERMINE THE METHOD OF PROTECTION ACCEPTABLE TO THE RESPECTIVE OWNER, IF UTILITIES IN ACCORDANCE WITH THE RESPECTIVE UTILITY'S RULES AND REGULATIONS.
3. NO BUILDING OR WALL FOUNDATION SHALL BE CONSTRUCTED WITHIN 10 FEET OF ANY STORM, SANITARY, WATER, OR GAS LINE. ANY COST INCURRED FOR REMOVING, RELOCATIONS, OR PROTECTING UTILITIES SHALL BE BORNE BY CONTRACTOR UNLESS INDICATED OTHERWISE.
4. CONTRACTOR SHALL EXCAVATE TO LOCATE BURIED UTILITIES FAR ENOUGH IN ADVANCE OF ITS WORK TO ALLOW FOR HORIZONTAL AND/OR VERTICAL ADJUSTMENTS TO ITS WORK AND/OR THE UTILITIES. NO ADJUSTMENT IN COMPENSATION OR SCHEDULE WILL BE ALLOWED FOR DELAYS RESULTING FROM CONTRACTOR'S FAILURE TO CONTACT AND COORDINATE WITH UTILITIES.
5. WHEN THE WORK CROSSES EXISTING UTILITIES, THE EXISTING UTILITIES SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO THE WORK. ALL METHODS FOR SUPPORTING AND MAINTAINING THE EXISTING UTILITIES SHALL BE APPROVED BY THE RESPECTIVE UTILITY COMPANY AND/OR THE ENGINEER.
6. CONTRACTOR SHALL EXERCISE CARE TO ENSURE THAT THE GRADE AND ALIGNMENT OF EXISTING UTILITIES ARE MAINTAINED AND THAT NO JOINTS OR CONNECTIONS ARE DISPLACED. BACKFILL SHALL BE CAREFULLY PLACED AND COMPACTED TO PREVENT FUTURE DAMAGE OR SETTLEMENT TO EXISTING UTILITIES. ANY UTILITIES REMOVED AS PART OF THE WORK, AND NOT INDICATED TO BE REMOVED OR ABANDONED, SHALL BE RESTORED USING MATERIALS AND INSTALLATION EQUAL TO THE UTILITY STANDARDS.
7. CONTRACTOR SHALL NOTIFY LANDOWNERS, TENANTS, AND THE ENGINEER PRIOR TO THE INTERRUPTION OF ANY SERVICES. SERVICE INTERRUPTIONS SHALL BE KEPT TO A MINIMUM.
8. CONTRACTOR SHALL COORDINATE WITH THE CITY TO LOCATE SIGNAL LOOP DETECTORS AND CONDUITS IN ORDER TO AVOID DAMAGE TO THEM. CONTRACTOR SHALL REIMBURSE THE CITY FOR REPAIRING ANY DAMAGE TO SIGNAL LOOP DETECTORS AND CONDUITS CAUSED BY CONTRACTOR'S FAILURE TO COORDINATE.
9. ALL RECTANGULAR WATER METER BOXES LOCATED IN SIDEWALKS SHALL BE REPLACED WITH ROUND ONES. THESE WILL BE FURNISHED BY THE CITY UPON ONE FULL WORKING DAY NOTIFICATION. THE ADJUSTMENT OF ALL MANHOLE TOPES, WATER VALVE BOXES, GAS VALVE BOXES, AND WATER METER BOXES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COSTS ARE TO BE INCLUDED UNDER THE VARIOUS UNIT BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE.
10. THE CONTRACTOR SHALL NOTIFY THE CITY UTILITIES DIVISION AT LEAST TWO FULL WORKING DAYS IN ADVANCE TO ARRANGE GAS SERVICE LINE ADJUSTMENTS TO BE PERFORMED BY THE CITY.
11. ALL WATER METER, VALVES, AND FIRE HYDRANT ADJUSTMENTS/RELOCATIONS SHALL BE PERFORMED BY THE CONTRACTOR.
12. A MINIMUM OF 18" VERTICAL & 10' HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER LINES & SANITARY SEWER. A MINIMUM OF 12" VERTICAL AND 5' HORIZONTAL SHALL BE MAINTAINED BETWEEN PARALLEL SANITARY AND STORM SEWER.
13. MINIMUM DEPTH OF COVER FOR WATER LINES SHALL BE 3.5',
14. MINIMUM DEPTH OF COVER FOR SANITARY SEWER SHALL BE 3'.
15. AT ALL UTILITY CROSSINGS A MINIMUM VERTICAL SEPARATION OF 12" SHALL BE MAINTAINED. A MINIMUM VERTICAL SEPARATION OF 18" IS REQUIRED BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE SANITARY SEWER LINE.
16. CONTRACTOR SHALL CONTACT IRENE PETERSON OF CHARLOTTESVILLE GAS ONCE CONSTRUCTION HAS BEGUN (434-970-3812.)
17. CONTRACTOR SHALL VERIFY ALL UTILITY TIE-IN CONNECTIONS TO EXISTING OR UNDER CONSTRUCTION INFRASTRUCTURE. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING UTILITIES AND THE PROPOSED UTILITIES.
18. GATE VALVES SHALL NOT BE CONSTRUCTED WITHIN THE CURBS, GUTTER PANS OR PAVERS.
19. SIGNS AND MARKINGS TO DELINEATE FIRE LANES, AS DESIGNATED BY THE FIRE OFFICIAL, SHALL BE PROVIDED AND INSTALLED BY THE OWNER OR HIS/HER AGENT OF THE PROPERTY INVOLVED.
20. ALL WATERLINE MATERIALS SHALL BE CONSTRUCTED OF CLASS 52 DIP.
21. ALL PAVEMENT SHALL BE CAPABLE OF SUPPORTING FIRE APPARATUS WEIGHING 85,000 LBS.
22. PER THE VIRGINIA DEPARTMENT OF HEALTH WATERWORKS REGULATIONS (PART II, ARTICLE 3, SECTION 12 VAC 5-590 THROUGH 630), ALL BUILDINGS THAT HAVE THE POSSIBILITY OF CONTAMINATING THE POTABLE WATER DISTRIBUTION SYSTEM (HOSPITALS, INDUSTRIAL SITES, BREWERIES, ETC.) SHALL HAVE A BACKFLOW PREVENTION DEVICE INSTALLED WITHIN THE FACILITY. THIS DEVICE SHALL MEET SPECIFICATIONS OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, SHALL BE TESTED IN REGULAR INTERVALS AS REQUIRED, AND TEST RESULTS SHALL BE SUBMITTED TO THE REGULATORY COMPLIANCE ADMINISTRATOR IN THE DEPARTMENT OF UTILITIES.
23. ALL BUILDINGS THAT MAY PRODUCE WASTES CONTAINING MORE THAN ONE HUNDRED (100) PARTS PER MILLION OF FATS, OIL, OR GREASE SHALL INSTALL A GREASE TRAP. THE GREASE TRAP SHALL MEET SPECIFICATIONS OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, MAINTAIN RECORDS OF CLEANING AND MAINTENANCE, AND BE INSPECTED ON REGULAR INTERVALS BY THE REGULATORY COMPLIANCE ADMINISTRATOR IN THE DEPARTMENT OF UTILITIES.
24. PLEASE CONTACT THE REGULATORY COMPLIANCE ADMINISTRATOR AT 970-3032 WITH ANY QUESTIONS REGARDING THE GREASE TRAP OR BACKFLOW PREVENTION DEVICES.
25. ALL CURB & GUTTER MUST BE INSTALLED AND FINAL GRADE MUST BE WITHIN 6" PRIOR TO THE INSTALLATION OF ANY GAS MAIN.

GRADING & DRAINAGE NOTES

1. ALL FORMS SHALL BE INSPECTED BY THE ENGINEER BEFORE ANY CONCRETE IS PLACED. THE ENGINEER MAY REQUIRE CONTRACTOR, AT NO ADDITIONAL COST, TO REMOVE AND REPLACE CONCRETE PLACED PRIOR TO OR WITHOUT SUCH INSPECTION.
2. ALL MATERIAL INSIDE FORMS SHALL BE CLEAN AND FREE OF ALL ROCKS AND OTHER LOOSE DEBRIS. SUB-BASE MATERIAL SHALL BE COMPACTED BY MECHANICAL MEANS.
3. CONCRETE SHALL NOT BE PLACED UNLESS THE AIR TEMPERATURE IS AT LEAST 40 DEGREES FAHRENHEIT (F) IN THE SHADE AND RISING.
4. CONCRETE SHALL NOT BE PLACED UNTIL STEEL DOWELS HAVE BEEN INSTALLED IN EXISTING CONCRETE IN ACCORDANCE WITH CITY STANDARDS.
5. ½" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE PLACED AT A MAXIMUM OF 30' INTERVALS ON NEW SIDEWALK, CURB, CURB & GUTTER, AT EACH END OF DRIVEWAY ENTRANCES, AT EACH END OF HANDICAP RAMPS, SOME POINT ON ENTRANCE WALKS AND STEP ADJUSTMENTS, AND ALONG BUILDINGS AND WALLS WHERE NEW CONCRETE SIDEWALKS ARE PLACED AGAINST THEM UNLESS MORE STRINGENT REQUIREMENTS DICTATE OTHERWISE.
6. ALL EXISTING CURBS, CURB & GUTTER, SIDEWALK, AND STEPS TO BE REMOVED SHALL BE TAKEN OUT TO THE NEAREST JOINT. DEMOLITION AND DISPOSAL COST TO BE INCLUDED IN OTHER UNIT BID ITEMS. NO SEPARATE PERMIT WILL BE MADE FOR THIS WORK.
7. ALL EXISTING GRANITE CURB SHALL REMAIN THE PROPERTY OF THE CITY OF CHARLOTTESVILLE. IT SHALL BE REMOVED AND DELIVERED BY THE CONTRACTOR TO THE CITY'S PUBLIC WORKS COMPLEX. COST TO BE INCLUDED UNDER THE VARIOUS UNIT BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
8. STREET PAVEMENT STRUCTURE AND PATCHING SHALL BE EXTENDED FROM THE FRONT OF NEW CONCRETE TO THE EXISTING PROJECTION OF THE SOUND STREET EDGE AS DIRECTED BY THE ENGINEER.
9. DRIVEWAY ADJUSTMENTS ARE TO BE DONE IN GENTLE TRANSITIONS RATHER THAN ABRUPT BREAKS AT THE BACK OF WALKS. GRAVEL DRIVEWAYS ABOVE STREET GRADE SHALL BE PAVED FOR A MINIMUM DISTANCE OF 20' BEYOND THE BACK OF THE SIDEWALK OR CURB & GUTTER APRON WHERE APPLICABLE.
10. EXISTING ASPHALT CONCRETE PAVEMENT SHALL BE SAW CUT AND REMOVED AS PER THE SPECIFICATIONS. REMOVAL SHALL BE DONE IN SUCH A MANNER AS TO NOT TEAR, BULGE, OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL, ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE DIRECTION OF TRAFFIC.
11. DISPOSAL OF ALL EXCESS MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR.
12. CONTRACTOR SHALL EXERCISE CARE, ESPECIALLY AT INTERSECTIONS AND GUTTER LINES, TO PROVIDE POSITIVE DRAINAGE. ANY AREAS WHERE WATER IS IMPOUNDED SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL COST. POSITIVE DRAINAGE OF ALL ROADWAY AREAS TO THE STORM DRAIN INLETS OR OTHER ACCEPTABLE DRAINAGE CHANNELS AS NOTED ON THE PLANS IS REQUIRED.
13. CONTRACTOR SHALL MAINTAIN EXISTING STREAMS, DITCHES, DRAINAGE STRUCTURES, CULVERTS, AND FLOWS AT ALL TIMES DURING THE WORK. CONTRACTOR SHALL PAY FOR ALL PERSONAL INJURY AND PROPERTY DAMAGE WHICH MAY OCCUR AS A RESULT OF FAILING TO MAINTAIN ADEQUATE DRAINAGE.
14. ALL PIPES, DI'S AND OTHER STRUCTURES SHALL BE INSPECTED BY THE ENGINEER BEFORE BEING BACKFILLED OR BURIED. THE ENGINEER MAY REQUIRE CONTRACTOR, AT NO ADDITIONAL COST, TO UNCOVER AND RE-COVER SUCH STRUCTURES IF THEY HAVE BEEN BACKFILLED OR BURIED WITHOUT SUCH INSPECTION.
15. ALL CATCH BASINS ENCOMPASSED WITHIN NEW CONSTRUCTION SHALL BE CONVERTED TO DROP INLETS.
16. CLASS I RIP RAP MODIFICATIONS ALLOWS FOR A REDUCTION IN STONE DEPTH FROM 2.0' TO A MINIMUM OF 1.0' IF APPROVED BY THE CITY ENGINEER.
17. REMOVED PIPE SHALL BE THE PROPERTY OF CONTRACTOR AND IF NOT SALVAGED FOR RE-USE, SHALL BE DISPOSED OF LAWFULLY.
18. ALL STORM SEWER PIPE AND DROP INLETS SHALL BE CLEARED OF DEBRIS AND ERODED MATERIAL PRIOR TO FINAL ACCEPTANCE.
19. ALL STORM SEWER PIPE JOINTS SHALL BE SEATED AND SEALED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
20. ALL EXISTING ROOF DRAINS AND OTHER DRAINAGE CONDUIT TIED INTO EXISTING PIPE TO BE REMOVED SHALL BE RECONNECTED INTO NEW PIPE, WHERE APPLICABLE.
21. BUILDING AND WALL FOUNDATIONS SHALL NOT BE CONSTRUCTED WITHIN 10' OF ANY PUBLIC STORM, SANITARY, WATER OR GAS MAIN, THIS INCLUDES ALL STRUCTURES THAT ARE AN INTEGRAL PART OF THE UTILITY SYSTEM.
22. MINIMUM DEPTH OF COVER FOR STORM SEWER SHALL BE 3'.
23. A MINIMUM OF 18" VERTICAL & 10' HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER LINES & SANITARY SEWER. A MINIMUM OF 12" VERTICAL AND 5' HORIZONTAL SHALL BE MAINTAINED BETWEEN PARALLEL SANITARY AND STORM SEWER.
24. ALL PUBLIC STORM SEWER SHALL BE RCP OR HDPE & SHALL HAVE A MINIMUM OF 15" DIAMETER WITH A MINIMUM SLOPE OF 0.50% WITHIN THE R/W.
25. ALL CONSTRUCTION CROSSING POINTS SHALL MEET ADA ACCESSIBLE STANDARDS. AND IN ACCORDANCE WITH SECTION 403.3, THE CROSS SLOPES OF THE WALKWAYS SHALL NOT BE STEEPER THAN 2% . ADDITIONALLY, ANY CHANGE IN LEVEL GREATER THAN ½" HIGH SHALL BE RAMPED AND SHALL COMPLY WITH SECTIONS 405 OR 406 PER SECTION 303.4.
26. CONTRACTOR SHALL INSTALL, AND MODIFY AS NECESSARY THE EXISTING RETAINING WALLS BEING UTILIZED, AND ENSURE HANDRAILS AND GUARDRAILS ARE LOCATED ON ALL RETAINING WALLS IN COMPLIANCE WITH ALL CURRENT CITY & STATE REQUIREMENTS. 42" GUARDRAILS ARE REQUIRED IN ACCORDANCE WITH 2012 VA CONSTRUCTION CODE 1013 AT THE TOP OF ANY RETAINING WALL WITH A DIFFERENCE IN GRADE EXCEEDING 30".
27. FINAL DESIGN OF THE BUILDING FOUNDATIONS, WALLS, FACADES & THE CORRESPONDING WATERPROOFING SHALL BE COMPLETED BY THE ARCHITECT TO ALLOW FOR THE PROPOSED GRADE CHANGES SHOWN.
28. DURING CONSTRUCTION THE ACTUAL WALL HEIGHTS MAY VARY FROM THE EXISTING & DESIGN ELEVATIONS. THE CONTRACTOR SHALL CONSULT A PROFESSIONAL LICENSED STRUCTURAL ENGINEER FOR THE CONSTRUCTION OF ANY RETAINING WALL. DESIGNS ARE NOT FURNISHED BY COLLINS ENGINEERING AND ALL FINAL DESIGNS OF THE RETAINING WALLS SHALL BE PROVIDED TO COLLINS ENGINEERING PRIOR TO CONSTRUCTION FOR VERIFICATION. WALL DESIGN SHALL INCORPORATE ALL SITE PLANIMETRICS, INCLUDING BUT NOT LIMITED TO ANY VEHICULAR GUARDRAILS, PEDESTRIAN HANDRAILS, PARKING SPACE OVERHANGS AND LANDSCAPING.
29. CONTRACTOR SHALL GRADE THE AREAS SURROUNDING THE PROPOSED BUILDINGS SUCH THAT RUNOFF DRAINS AWAY FROM IT, ENSURING POSITIVE DRAINAGE AT ALL TIMES. PATIOS, SIDEWALKS AND PAVEMENT SHALL BE SLOPED AWAY FROM THE BUILDING WITH A MAXIMUM ¼" PER 1' CROSS SLOPE WHERE LOCATED WITHIN THE ACCESSIBLE ROUTES AND PERVIOUS LANDSCAPING SHALL BE SLOPED A MINIMUM OF ½" PER 1' FOR THE INITIAL 10' WHERE LOCATED WITHIN THE PROPERTY LIMITS.
30. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE PARKING LOT. THE SITE SHALL HAVE POSITIVE DRAINAGE THROUGHOUT AND SHALL DIRECT RUNOFF TO PROPOSED OR EXISTING DRAINAGE STRUCTURES.
31. CONTRACTOR SHALL VERIFY ALL TIE-IN CONNECTIONS FOR THE PARKING LOTS TO THE EXISTING ROADS. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING ROADS AND/OR CURB AND GUTTER AND THE PROPOSED ROADS, CURB & GUTTER. CONTRACTOR SHALL CONTACT ENGINEER TO INSPECT CURB, ROADWAY & PAVEMENT CONNECTIONS TO EXISTING ROADS, PRIOR TO ANY CONCRETE OR PAVEMENT BEING PLACED.
32. CONTRACTOR SHALL PROVIDE ENGINEER SURVEY WORKSHEETS OF ALL PARKING LOTS, SANITARY SEWER CLEANOUTS, WATER METERS AND DRAINAGE STRUCTURES PRIOR TO INSTALLATION OF CURBING, DRAINAGE, OR UTILITIES TO COLLINS ENGINEERING FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. COLLINS ENGINEERING SHALL VERIFY ALL SURVEY SHEETS TO ENSURE POSITIVE DRAINAGE AND PROPER ELEVATIONS FOR CONSTRUCTION.
33. ALL STORM DRAIN LINES LOCATED WITHIN PUBLIC CITY RIGHT OF WAY SHALL BE CONSTRUCTED WITH CLASS III RCP AND SHALL HAVE A MINIMUM DIAMETER OF 15" WITH A MINIMUM SLOPE OF 0.50%.
34. ALL STORM DRAIN LINES ON PRIVATE PROPERTY, SHALL BE CLASS III RCP OR HDPE WITH MINIMUM STONE BED REQUIREMENTS.
35. CONTRACTOR SHALL GRADE THE SITE TO AVOID STANDING WATER. CONTRACTOR TO PROVIDE A SMOOTHLY GRADED TRANSITION FROM DISTURBED AREAS TO UNDISTURBED AREAS. FINISH GRADE SHALL HAVE A CLEAN TOPSOIL. CONTRACTOR SHALL SEED AND STRAW, AND/OR LANDSCAPE ALL BARE AND DISTURBED AREAS. CONTRACTOR TO PROVIDE GROUND COVER MATERIALS OR SOD FOR SLOPES STEEPER THAN 20%. FOUNDATION PLANTINGS SHALL BE PLANTED IN THE FRONT OF THE BUILDING, OUTSIDE THE LIMITS OF THE SIGHT DISTANCE. CONTRACTOR TO CLEAN THE SITE AND DISPOSE OF ALL CONSTRUCTION DEBRIS. GRASS SHALL BE ESTABLISHED PRIOR TO PROJECT CLOSEOUT.
36. CONTRACTOR TO REMOVE ALL DEAD BUSHES, TREES, TREE-STUMPS, AND THEIR ABOVE-GROUND ROOTS AND REMOVE ALL PORTIONS OF TREE BRANCHES THAT OVERHANG ROOFS AND ALL BRANCHES THAT COME WITHIN 10 FEET OF ROOFS.
37. CONTRACTOR SHALL WORK DIRECTLY WITH THE GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER AND SHALL ENSURE ALL OF THEIR DESIGN REQUIREMENTS ARE MET.

SITE PLAN LEGEND

EXISTING
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT FOR MILL & OVERLAY
- EXISTING CRITICAL SLOPES
- EXISTING CRITICAL SLOPES (LESS THAN 25%)
- EXISTING TRAIL
- EXISTING RIGHT-OF-WAY
- EXISTING CONTOUR
- EXISTING CURB
- EXISTING FLOODPLAIN
- EXISTING GIS FEMA
- EXISTING 100 FT STREAM BUFFER
- EXISTING TREELINE
- EXISTING VEGETATION
- EXISTING SIGN
- EXISTING LIGHT POLE
- EXISTING STORM SEWER PIPE
- EXISTING STORM SEWER STRUCTURE
- EXISTING SANITARY SEWER PIPE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATERLINE
- EXISTING FIRE HYDRANT
- EXISTING CHAINLINK FENCE
- EXISTING GASLINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRICAL
- EXISTING FIBEROPTIC
- EXISTING EASEMENTS
- EXISTING SOIL TYPE LINE

PROPOSED
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONTOUR
- PROPOSED CURB
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- PROPOSED PEDESTRIAN WALKWAY
- PROPOSED OPEN SPACE
- PROPOSED ACCESSIBLE ROUTE
- PROPOSED SIGN
- PROPOSED LIGHT POLE
- PROPOSED STORM SEWER PIPE
- PROPOSED STORM SEWER STRUCTURE
- PROPOSED SANITARY SEWER PIPE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED WATERLINE
- PROPOSED FIRE HYDRANT

EROSION & SEDIMENT CONTROL
- SAFETY FENCE
- CONSTRUCTION ENTRANCE
- CONSTRUCTION ROAD & STABILIZATION (CRS)
- SILT FENCE
- STORM DRAIN INLET PROTECTION
- TEMPORARY DIVERSION DIKE
- TEMPORARY RIGHT-OF-WAY DIVERSION
- SEDIMENT BASIN
- TEMPORARY SLOPE DRAIN
- OUTLET PROTECTION
- TEMPORARY SEEDING (TS)
- PERMANENT SEEDING (PS)
- SODDING
- BLANKET MATTING
- TREE PROTECTION
- DUST CONTROL (DC)

REVISIONS

DATE	REVISION DESCRIPTION
8/03/21	INITIAL SUBMITTAL FINAL SITE PLAN
3/01/22	SECOND SUBMITTAL FINAL SITE PLAN

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT
GAS STATION AT 5TH STREET STATION PKWY - FINAL SITE PLAN

SHEET TITLE
GENERAL NOTES

JOB NO. 202182
SCALE AS SHOWN
SHEET NO. 1A

5TH STREET SW

STATE ROUTE 631
(VARIABLE PUBLIC R/W)

PROPOSED MILL & OVERLAY OF EXISTING 5TH ST TRAVEL LANE (SEE DETAIL SHEET 15)

DISTANCE TO NEAREST INTERSECTION = 160' (5TH STREET)

NOTE: SEE SHEET 5D FOR ROADWAY CROSS SECTIONS AND DETAILS FOR ENTRANCE IMPROVEMENTS

PROPOSED CITY ENTRANCE (SEE DETAIL SHEET 15A)

PROPOSED 5' STAMPED ASPHALT SIDEWALK PAINTED RED

PROPOSED CG-12 TYPE C ADA RAMP

TRANSITION EXISTING TYPICAL CITY SIDEWALK TO A FLUSHED SIDEWALK W/ PROPOSED ENTRANCE

PROPOSED NEW ADA CONCRETE SIDEWALK AT ENTRANCE TO PARCEL (SEE DETAIL SHEET 15)

PROPOSED SEGMENTED RETAINING WALL (SEE DETAIL SHEET 8)

BIKE LANE

EXISTING 25'R

PROPOSED SIGHT DISTANCE =445'

PROPOSED 5' CONCRETE SIDEWALK

PROPOSED CG-12 TYPE B ADA RAMP

PROPOSED MONUMENT SIGN

PROPOSED U-SHAPED BIKE RACK (SEE DETAIL SHEET 15)

PROPOSED "NO PARKING--FIRE LANE" SIGN

PROPOSED AIR STATION CONCRETE PAD (4'x3') WITH BOLLARDS (SEE DETAIL SHEET 14)

PROPOSED R1-1 STOP SIGN

PROPOSED CG-2 CURB

DRIVE AISLE (ACCESS EASEMENT)

PROPOSED MOUNTABLE CURB WITH STAMPED CONCRETE (TYP.)

PROPOSED 5' STAMPED ASPHALT SIDEWALK PAINTED RED

EXISTING 10' SIDEWALK

PROPOSED ASPHALT PARKING LOT AREA (SEE PAVEMENT DESIGN SHEET 15)

PROPOSED ACCESSIBLE ADA ROUTE

PROPOSED ADA PARKING SIGN (SEE DETAIL SHEET 14)

PARKING SPACES FLUSH WITH CONCRETE SIDEWALK

PROPOSED ACCESSIBLE VAN SPACE

AREA HATCHED IS TO MATCH THE DETAIL ON SHEET 14 FOR ADA STRIPING

PROPOSED BUILDING ENTRANCE

KNOX BOX LOCATION

PROPOSED FRONT PORCH/ COVERED WALKWAY

PROPOSED FUEL CANOPY

PROPOSED GAS STATION BUILDING (5,300 SF)

PROPOSED 6" CONCRETE BOLLARD (SEE DETAIL SHEET 14)

PROPOSED 5.5' LANDSCAPING MEDIAN

PROPOSED ASPHALT OVERALY OF EXISTING PARKING LOT AREA (SEE PAVEMENT DESIGN SHEET 15)

PROPOSED 8' CHAINLINK FENCE SHALL MATCH EXISTING FENCE

EXISTING BUILDING TO REMAIN (8,400 SF)

MATCHLINE SEE SHEET 3A

EXISTING GATE CONTROLS RELOCATED

EXISTING MECHANICAL EQUIPMENT TO REMAIN

100' STREAM BUFFER

PROPOSED "NO PARKING--FIRE LANE" SIGN

EXISTING CRITICAL SLOPES TO REMAIN

PROPOSED DUMPSTER ENCLOSURE (SEE ARCH PLANS & DETAIL SHEET 14)

PROPOSED VENT STACK PAD WITH BOLLARDS (SEE DETAIL SHEET 14)

PROPOSED MOUNTABLE CURB WITH STAMPED CONCRETE (TYP.)

PROPOSED 5' CONCRETE SIDEWALK

PROPOSED CG-12 TYPE B ADA RAMP

PROPOSED 5' STAMPED ASPHALT SIDEWALK PAINTED RED

PROPOSED 3' GRASS STRIP

PROPOSED 10' CONCRETE SIDEWALK/PEDESTRIAN PATHWAY

PROPOSED REPLACEMENT OF EXISTING SECTION OF GUARDRAIL

PROPOSED CG-9D (SEE DETAIL SHEET 15A)

PROPOSED MILL & OVERLAY OF EXISTING 5TH ST STATION PARKWAY TURN LANE (SEE DETAIL SHEET 15)

NOTE: SEE SHEET 5D FOR ROADWAY CROSS SECTIONS AND DETAILS FOR ENTRANCE IMPROVEMENTS

DISTANCE TO NEAREST INTERSECTION = 210' (5TH STREET)

2' WIDE DETECTABLE WARNING STRIPS

PROPOSED 5' STAMPED CONCRETE SIDEWALK PAINTED RED

20' PRIVATE ACCESS & UTILITY EASEMENT

EXISTING MAPPED 100-YR FLOODPLAIN PER FEMA FLOODPLAIN MAP

FEMA 100-YR FLOODPLAIN PER THE BFE ELEVATIONS ON FIRM #51003C0269D

VARIABLE WIDTH ACCESS & CONSTRUCTION EASEMENT DEDICATED TO THE CITY OF CHARLOTTESVILLE

EXISTING RIVANNA TRAIL

EXISTING CRITICAL SLOPES

Tmp:21B-49(City)
TIGER FUEL COMPANY
DB.478 P.48
DB.473 P.579(plat)
Instr#201500003373
Instr#201500002687(plat)
USE: GAS STATION & CONVENIENCE STORE

5TH STREET STATION PARKWAY
(85' PUBLIC R/W)

2' WIDE STRIP
Tmp.21B-51(City)
5TH STREET STATION VENTURES, LLC
DB.473 P.579(plat)
Instr#201800000938

Tmp.21B-51(City)
5th Street Station Ventures LLC
Instr#201800000938

Tmp.76M1-2(Alb. Co.)
5th Street Station Ventures LLC
DB.4814 pp.522-541(Alb. Co.)
DB.4704 pp.546-554(Alb. Co.)

MOORES CREEK

Ex. edge of Stream

trail

100' STREAM BUFFER

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
3/01/22

REVISIONS

DATE	REVISION DESCRIPTION
8/03/21	INITIAL SUBMITTAL FINAL SITE PLAN
3/01/22	SECOND SUBMITTAL FINAL SITE PLAN

COLLINS ENGINEERING
200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

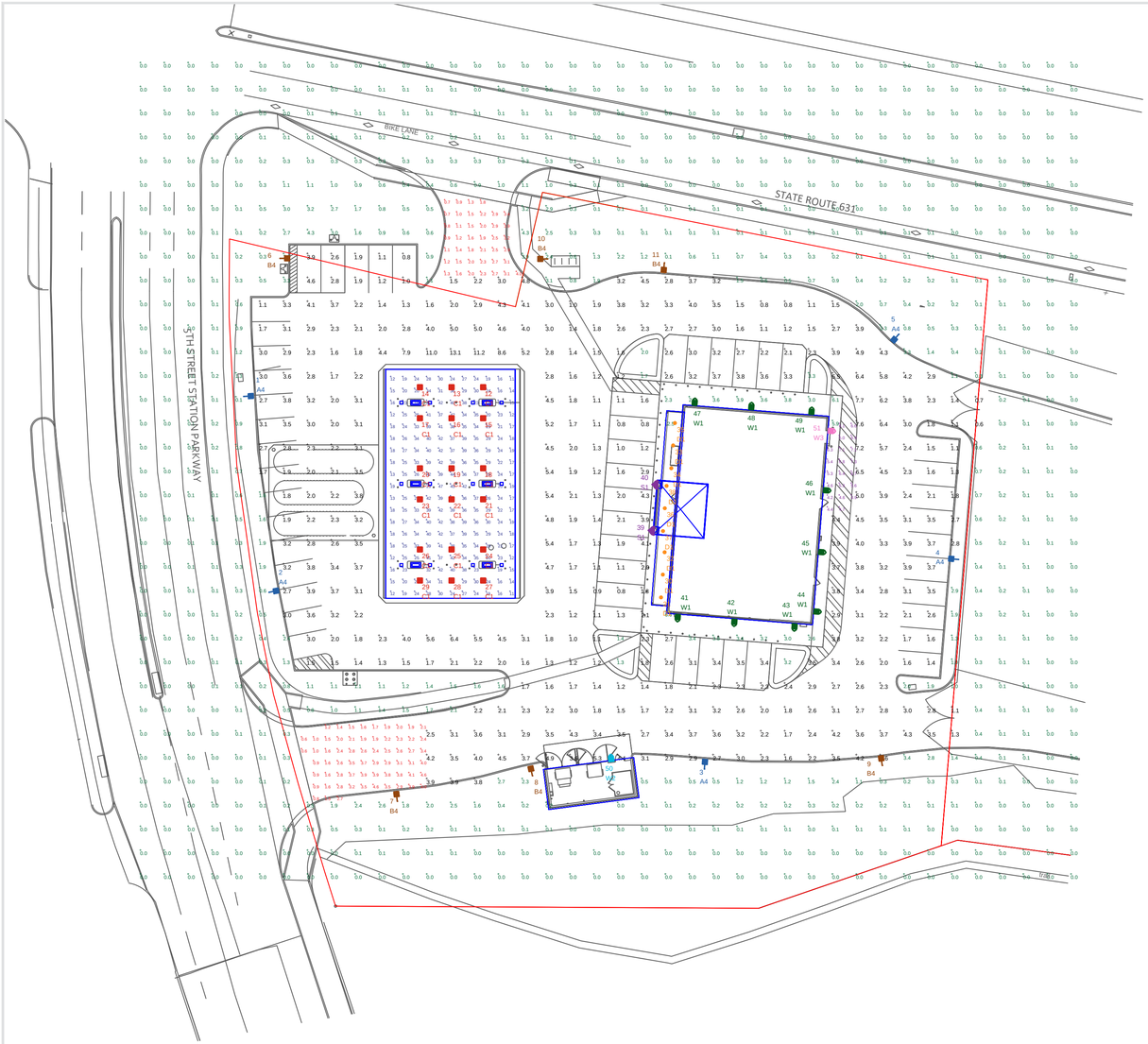
PROJECT: GAS STATION AT 5TH STREET STATION PKWY - FINAL SITE PLAN

SHEET TITLE: SITE PLAN

JOB NO. 202182

SCALE 1"=20'

SHEET NO. 3



LUMINAIRE LOCATION SUMMARY		
LUM NO.	LABEL	MTG. HT.
1	A4	17.5
2	A4	17.5
3	A4	17.5
4	A4	17.5
5	A4	17.5
6	B4	17.5
7	B4	17.5
8	B4	17.5
9	B4	17.5
10	B4	17.5
11	B4	17.5
12	C1	21.53
13	C1	19.32
14	C1	17.11
15	C1	21.53
16	C1	19.32
17	C1	17.11
18	C1	21.53
19	C1	19.32
20	C1	17.11
21	C1	21.53
22	C1	19.32
23	C1	17.11
24	C1	21.53
25	C1	19.32

LUMINAIRE LOCATION SUMMARY		
LUM NO.	LABEL	MTG. HT.
26	C1	17.11
27	C1	21.53
28	C1	19.32
29	C1	17.11
30	D1	9
31	D1	9
32	D1	9
33	D1	9
34	D1	9
35	D1	9
36	D1	9
37	D1	9
38	D1	9
39	S1	9
40	S1	9
41	W1	15
42	W1	15
43	W1	15
44	W1	15
45	W1	15
46	W1	15
47	W1	15
48	W1	15
49	W1	15
50	W2	8
51	W3	15

THIS SITE IS LOCATED IN A REGION WHERE
LIGHTING IS REGULATED BY LOCAL ORDINANCES

FOOTCANDLE LEVELS CALCULATED AT GRADE USING INITIAL LUMEN VALUES					
LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
CANOPY	28.22	47	11	2.57	4.27
DELIVERY	5.82	7.3	4.2	1.39	1.74
ENTRANCES & EXITS	2.27	4.6	0.6	3.78	7.67
PAVED	2.88	13.1	0.6	4.80	21.83
UNDEFINED	0.38	12.5	0.0	N.A.	N.A.

NOTES:
- ALL AREA LIGHTS ON 17 FT. POLES MOUNTED ON 6 IN. CONCRETE BASES
- ALL CONCRETE BASES TO BE LOCATED 5 FT. BEHIND CURB

LUMINAIRE SCHEDULE											
SYMBOL	QTY	LABEL	ARRANGEMENT	LUMENS	3000K FACTOR	LLF	BUG RATING	WATTS/LUMINAIRE	TOTAL WATTS	MANUFACTURER	CATALOG LOGIC
	5	A4	SINGLE	7220	1.000	1.030	B1-U0-G2	134	670	CREE, INC.	ARE-EDG-3MB-DA-06-E-UL-XX-700-30K-DIM
	6	B4	SINGLE	7755	1.000	1.030	B1-U0-G2	134	804	CREE, INC.	ARE-EDG-4MB-DA-06-E-UL-XX-700-30K-DIM
	18	C1	SINGLE	13251	0.820	1.030	B3-U0-G1	134	2412	CREE, INC.	CAN-304-SL-RD-06-E-UL-XX-700-30K-DIM (SPECIAL ORDER)
	9	D1	SINGLE	1652	1.000	1.020	B2-U0-G0	27.2	244.8	Cree Inc	KR6-20L-3OK-120V + KR6T-SSGC-FF
	2	S1	SINGLE	2659	1.000	1.000	B0-U5-G2	20	40	FC/SSL Lighting	FCWS7170-XXX-30K-2500-CRI85-XX-D
	9	W1	SINGLE	4210	0.820	1.030	B1-U0-G1	43	387	CREE, INC.	SEC-EDG-3M-WM-04-E-UL-XX-350-30K-DIM
	1	W2	SINGLE	2105	0.820	1.030	B1-U0-G1	25	25	CREE, INC.	SEC-EDG-3M-WM-02-E-UL-XX-350-30K-DIM
	1	W3	SINGLE	12455	0.820	1.030	B3-U0-G3	127	127	CREE, INC.	SEC-EDG-3M-DM-12-E-UL-XX-350-30K-DIM

REDLEONARD ASSOCIATES
1340 Kemper Meadow Dr, Forest Park, OH 45240
513-574-9500 | redleonard.com

REV.	BY	DATE	DESCRIPTION
R1	LMP	02/22/22	REVISED PER MARK UP
R2	LMP	03/15/22	REVISED FIXTURES TO 3000K CCT
.	.	.	.
.	.	.	.

SCALE: 1" = 30'
LAYOUT BY: LMP
DWG SIZE: D
DATE: 02/04/22

PROJECT NAME:
WAWA
CHARLOTTESVILLE, VA
DRAWING NUMBER:
RL-7876-S1-R2

Wawa

	QTY	LABEL	DESCRIPTION
AREA	5	A4	ARE-EDG-3MB-DA-06-E-UL-XX-700-30K-DIM
	6	B4	ARE-EDG-4MB-DA-06-E-UL-XX-700-30K-DIM

	QTY	LABEL	DESCRIPTION
CANOPY	18	C1	CAN-304-SL-RD-06-E-UL-XX-700-30K-DIM (SPECIAL ORDER)

	QTY	LABEL	DESCRIPTION
DOWNLIGHT	9	D1	KR6-20L-30K-120V + KR6T-SSGC-FF

	QTY	LABEL	DESCRIPTION
WALL MOUNTED	2	S1	FCWS7170-XXX-30K-2500-CRI85-XX-D

	QTY	LABEL	DESCRIPTION
WALL MOUNTED	9	W1	SEC-EDG-3M-WM-04-E-UL-XX-350-30K-DIM
	1	W2	SEC-EDG-3M-WM-02-E-UL-XX-350-30K-DIM
	1	W3	SEC-EDG-3M-DM-12-E-UL-XX-350-30K-DIM

THE EDGE® Series

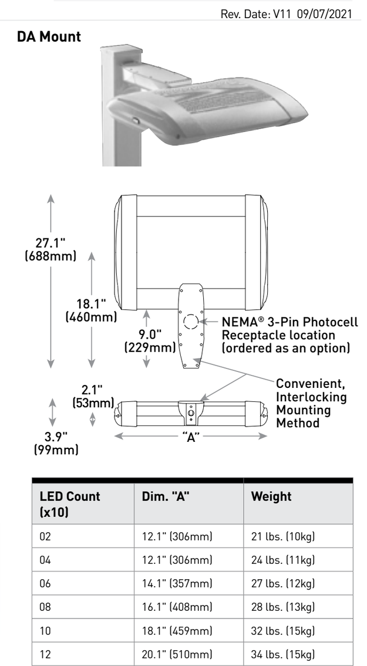
LED Area/Flood Luminaire

Rev. Date: V11 09/07/2021

Product Description

THE EDGE® Series has a slim, low profile design. Its rugged cast aluminum housing minimizes wind load requirements and features an integral, weathertight LED driver compartment and high performance aluminum heat sinks. Various mounting choices: Adjustable Arm, Direct Arm, Direct Arm Long, or Side Arm (details on page 2). Includes a leaf/debris guard.
Applications: Parking lots, walkways, campuses, car dealerships, office complexes, and internal roadways

DA Mount



Performance Summary

- Patented NanoOptic® Product Technology
- Assembled in the U.S.A. of U.S. and imported parts
- **CRI:** Minimum 70 CRI (4000K & 5700K); 80 CRI (3000K); 90 CRI (5000K)
- **CCT:** Turtle Friendly Amber, 3000K (+/- 300K), 4000K (+/- 300K), 5000K (+/- 500K), 5700K (+/- 500K) standard
- **Limited Warranty**†: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish /1 year on accessories

† See http://creelighting.com/warranty for warranty terms

Accessories

Field-Installed

Bird Spikes
XA-BRDSPK
Hand-Held Remote
XA-SENSREM
- For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required

Backlight Control Shields
XA-20BLS-4
- Four-pack
- Unpainted stainless steel
Shorting Cap
XA-XSLSHRT
NEMA® 3-Pin Photocell
C-ACC-A-PCELL-NEMA3-LV
- On/off functionality only
- Available with UL voltage only

LED Count (x10)	Dim. "A"	Weight
02	12.1" (306mm)	21 lbs. (10kg)
04	12.1" (306mm)	24 lbs. (11kg)
06	14.1" (357mm)	27 lbs. (12kg)
08	16.1" (408mm)	28 lbs. (13kg)
10	18.1" (459mm)	32 lbs. (15kg)
12	20.1" (510mm)	34 lbs. (15kg)
14	22.1" (560mm)	37 lbs. (17kg)
16	24.1" (611mm)	41 lbs. (19kg)

AA/DL/SA Mount - see page 22 for weight & dimensions

Ordering Information

Example: ARE-EDG-2M-AA-12-E-UL-SV-350

Product	Optic	Mounting*	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
ARE-EDG	**2M** Type II Medium **2MB** Type II Medium w/BLS **2MP** Type II Medium w/Partial BLS **3M** Type III Medium **3MB** Type III Medium w/BLS **3MP** Type III Medium w/Partial BLS **4M** Type IV Medium **4MB** Type IV Medium w/BLS **4MP** Type IV Medium w/Partial BLS **5M** Type V Medium **5S** Type V Short	**AA** Adjustable Arm **DA** Direct Arm **DL** Direct Long Arm	02 04 06 08 10 12 14 16	E	**UL** Universal 120-277V **UH** Universal 347-480V	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**350** 350mA **525** 525mA **700** 700mA - Available with 20-60 LEDs	**DIM** 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current - Not available with PML options **F** Fuse - Compatible only with 120V, 277V or 347V (phase to neutral) - Consult factory if fusing is required for 208V, 240V or 480V (phase to phase) - Refer to PML spec sheet for availability with PML options - When code dictates fusing, use time delay fuse **HL** Hi/Low (Dual Circuit Input) - Refer to HL spec sheet for details - Sensor not included **P** Photocell - Refer to PML spec sheet for availability with PML options - Available with UL voltage only **PML** Programmable Multi-Level, 20-40' Mounting Height - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt **PML2** Programmable Multi-Level, 10-30' Mounting Height - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt **R** NEMA® 3-Pin Photocell Receptacle - 3-pin receptacle per ANSI C136.10 - Not available with SA mount - Intended for downlight applications with maximum 45° tilt - Requires photocell or shorting cap by others - Refer to PML spec sheet for availability with PML options **30K** 3000K Color Temperature - Minimum 80 CRI - Color temperature per luminaire **40K** 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire **50K** 5000K Color Temperature - Minimum 90 CRI - Color temperature per luminaire **TRL** Amber Turtle Friendly LEDs - Available only with 350mA - 600nm dominant wavelength - Additional shielding (by others) may be required for Florida Fish and Wildlife Conservation Commission compliance
FLD-EDG	**25** 25° Flood **40** 40° Flood **70** 70° Flood **SN** Sign **N6** NEMA® 6	**AA** Adjustable Arm **SA** Side Arm - Available with 20-60 LEDs						

* Reference EPA and pole configuration suitability data beginning on page 19

CREE LIGHTING

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

THE EDGE® LED Area/Flood Luminaire

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile, minimizing wind load requirements
- Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartment and high performance heat sinks
- DA and DL mount utilizes convenient interlocking mounting method. Mounting is rugged die cast aluminum, mounts to 3-6" (76-152mm) square or round pole and secures to pole with 5/16-18 UNC bolts spaced on 2" (51mm) centers
- AA and SA mounts are rugged die cast aluminum and mount to 2" (51mm) IP, 2.375" (60mm) O.D. tenons
- Includes leaf/debris guard
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available
- **Weight:** See Dimensions and Weight Charts on pages 1 and 22

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- DA and DL mounts designed with integral weathertight electrical box with terminal strips (12Ga-20Ga) for easy power hookup
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- **Maximum 10V Source Current:** 20 LED (350mA): 10mA; 20 LED (525 & 700mA) and 40-80 LED: 0.15mA; 100-160 LED: 0.30mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Enclosure rated IP66 per IEC 60529 when ordered without P or R options
- Consult factory for CE Certified products
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards when ordered with AA, DA and DL mounts
- ANSI C136.2 10kV surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- DLC qualified with select SKUs. Refer to https://www.designlights.org/search/ for most current information
- Meets Buy American requirements within ARRA
- CA RESIDENTS WARNING: Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*

LED Count (x10)	CCT	System Watts 120-480V	120V	208V	240V	277V	347V	480V
350mA								
02	30K/40K/50K/57K	25	0.21	0.13	0.11	0.10	0.08	0.07
	TRL	19	0.16	0.09	0.08	0.07	0.05	0.04
04	30K/40K/50K/57K	46	0.36	0.23	0.21	0.20	0.15	0.12
	TRL	35	0.29	0.17	0.15	0.13	0.10	0.07
06	30K/40K/50K/57K	66	0.52	0.31	0.28	0.26	0.20	0.15
	TRL	50	0.41	0.24	0.21	0.18	0.14	0.10
08	30K/40K/50K/57K	90	0.75	0.44	0.38	0.34	0.26	0.20
	TRL	68	0.57	0.33	0.28	0.25	0.20	0.14
10	30K/40K/50K/57K	110	0.92	0.53	0.47	0.41	0.32	0.24
	TRL	83	0.69	0.40	0.35	0.30	0.24	0.17
12	30K/40K/50K/57K	130	1.10	0.63	0.55	0.48	0.38	0.28
	TRL	99	0.82	0.48	0.41	0.36	0.28	0.21
14	30K/40K/50K/57K	158	1.32	0.77	0.68	0.62	0.47	0.35
	TRL	120	1.00	0.58	0.50	0.43	0.34	0.25
16	30K/40K/50K/57K	179	1.49	0.87	0.77	0.68	0.53	0.39
	TRL	136	1.13	0.65	0.57	0.49	0.39	0.28
525mA								
02	30K/40K/50K/57K	37	0.30	0.19	0.17	0.16	0.12	0.10
04	30K/40K/50K/57K	70	0.58	0.34	0.31	0.28	0.21	0.16
06	30K/40K/50K/57K	101	0.84	0.49	0.43	0.38	0.30	0.22
08	30K/40K/50K/57K	133	1.13	0.66	0.58	0.51	0.39	0.28
10	30K/40K/50K/57K	171	1.43	0.83	0.74	0.66	0.50	0.38
12	30K/40K/50K/57K	202	1.69	0.98	0.86	0.77	0.59	0.44
14	30K/40K/50K/57K	232	1.94	1.12	0.98	0.87	0.68	0.50
16	30K/40K/50K/57K	263	2.21	1.27	1.11	0.97	0.77	0.56
700mA								
02	30K/40K/50K/57K	50	0.41	0.25	0.22	0.20	0.15	0.12
04	30K/40K/50K/57K	93	0.78	0.46	0.40	0.36	0.27	0.20
06	30K/40K/50K/57K	134	1.14	0.65	0.57	0.50	0.39	0.29

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%

THE EDGE® Series Ambient Adjusted Lumen Maintenance[1]

Ambient	CCT	Initial LMF	25K hr Reported[2] LMF	50K hr Reported[2] LMF	75K hr Reported[2]/ Estimated[3] LMF	100K hr Estimated[3] LMF
5°C (41°F)	30K/40K/50K/57K	1.04	1.03	1.03	1.03[2]	1.03
	TRL	1.06	1.06	1.06	1.06[3]	1.06
10°C (50°F)	30K/40K/50K/57K	1.03	1.02	1.02	1.02[2]	1.02
	TRL	1.04	1.04	1.04	1.04[3]	1.04
15°C (59°F)	30K/40K/50K/57K	1.02	1.01	1.01	1.01[2]	1.01
	TRL	1.03	1.03	1.03	1.03[3]	1.03
20°C (68°F)	30K/40K/50K/57K	1.01	0.99	0.99	0.99[2]	0.99
	TRL	1.01	1.01	1.01	1.01[3]	1.01
25°C (77°F)	30K/40K/50K/57K	1.00	0.98	0.98	0.98[2]	0.98
	TRL	1.00	1.00	1.00	1.00[3]	1.00

[1] Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for outdoor average nighttime ambient conditions.
[2] In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.
[3] Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING

304 Series™

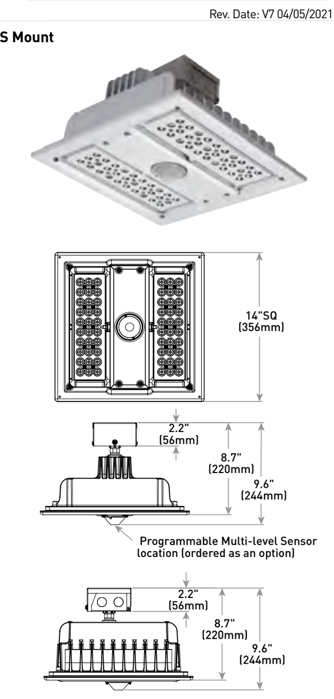
LED Recessed Canopy Luminaire

Rev. Date: V7 04/05/2021

Product Description

Luminaire housing is constructed from rugged die cast aluminum components (RS Mount) or die cast and extruded aluminum components (RD Mount). LED driver is mounted in a sealed weathertight center chamber that allows for access from below the fixture. Luminaire mounts directly to the canopy deck and is secured in place with die cast aluminum trim frame. Luminaire housing is provided with factory applied foam gasket that provides a watertight seal between luminaire housing and canopy deck. Suitable for use in single or double skin canopies with 16" (406 mm) wide panels. Designed for canopies of 19-22 gauge (maximum 0.040" (1 mm) thickness).
Applications: Petroleum stations, convenience stores, drive-thru banks and restaurants, retail and grocery

RS Mount



Performance Summary

- Patented NanoOptic® Product Technology
- Assembled in the U.S.A. of U.S. and imported parts
- **CRI:** Minimum 70 CRI
- **CCT:** 4000K (+/- 300K), 5700K (+/- 500K) standard
- **Limited Warranty**†: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

† See http://creelighting.com/warranty for warranty terms

Accessories

Field-Installed

Hand-Held Remote
XA-SENSREM
- For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required

Weight
22.0 lbs. (9.9kg)

Ordering Information

Example: CAN-304-5M-RS-04-E-UL-SV-350

Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
CAN-304	**5M** Type V Medium **5S** Type V Short **PS** Petroleum Symmetric **SL** Sparkle Petroleum	**RS** Recessed Single Skin **RD** Recessed Double Skin	04 06	E	**UL** Universal 120-277V **UH** Universal 347-480V	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**350** 350mA **525** 525mA **700*** 700mA	**DIM** 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current **F** Fuse - Compatible only with 120V, 277V or 347V (phase to neutral) - Consult factory if fusing is required for 208V, 240V or 480V (phase to phase) - Refer to PML spec sheet for availability with PML options - When code dictates fusing, use time delay fuse **PML** Programmable Multi-Level - Refer to PML spec sheet for details **40K** 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire **TRL** Amber Turtle Friendly LEDs - Available only with 350mA - Lumen multiplier from 5700K: 0.32 (350mA) - Power multiplier: 0.76 - 600nm dominant wavelength - Additional shielding (by others) may be required for Florida Fish and Wildlife Conservation Commission compliance

* 60 LED luminaire requires marked spacing: 48" x 24" x 6" (1,219mm x 610mm x 152mm); 48" (1,219mm) center-to-center of adjacent luminaires, 24" (610mm) luminaire center to side building member, 6" (152mm) top of luminaire to overhead building member

CREE LIGHTING

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

304 Series™ LED Recessed Canopy Luminaire

Product Specifications

CONSTRUCTION & MATERIALS

- RS Mount luminaire housing is constructed from rugged die cast aluminum and incorporates integral, high performance heatsink fins specifically designed for LED canopy applications
- RD Mount luminaire housing is constructed from rugged die cast aluminum and features high performance extruded aluminum heatsinks specifically designed for LED canopy applications
- LED driver is mounted in a sealed weathertight center chamber that allows for access from below the luminaire
- Field adjustable drive current between 350mA, 525mA and 700mA on Non-IC rated luminaires
- Luminaire housing provided with factory applied foam gasket and provides for a watertight seal between luminaire housing and canopy deck
- Mounts directly to the canopy deck and is secured in place with a die cast aluminum trim frame
- RS mount includes integral junction box which allows ease of installation without need to open luminaire
- Suitable for use in single (RS Mount) or double (RD Mount) skin canopies with 16" (406mm) wide panels
- Designed for canopies of 19-22 gauge (maximum 0.040" (1mm) thickness)
- See 228 Series™ canopy luminaires for canopies using 12" (305mm) deck sections
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral weathertight electrical box with terminal strips (12Ga-20Ga) for easy power hookup
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- **10V Source Current:** 0.15mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Enclosure meets IP66 requirements per IEC 60529
- ANSI C136.2 10kV surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- DLC qualified with select SKUs. Please refer to www.designlights.org for most current information
- RoHS Compliant. Consult factory for additional details
- Meets Buy American requirements within ARRA
- CA RESIDENTS WARNING: Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*

LED Count (x10)	System Watts 120-480V	120V	208V	240V	277V	347V	480V
350mA							
04	46	0.39	0.24	0.22	0.21	0.15	0.12
06	69	0.57	0.34	0.30	0.27	0.21	0.16
525mA							
04	71	0.59	0.35	0.31	0.28	0.21	0.16
06	101	0.84	0.49	0.43	0.38	0.30	0.22
700mA							
04	94	0.79	0.46	0.40	0.36	0.28	0.21
06	135	1.14	0.65	0.57	0.50	0.40	0.29

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V

304 Series™ Ambient Adjusted Lumen Maintenance[1]

Ambient	CCT	Initial LMF	25K hr Reported[2] LMF	50K hr Reported[2] LMF	75K hr Estimated[3] LMF	100K hr Estimated[3] LMF
5°C (41°F)	30K/40K/50K/57K	1.04	1.01	0.99	0.98	0.96
	TRL	1.06	1.06	1.06	1.06	1.06
10°C (50°F)	30K/40K/50K/57K	1.03	1.00	0.98	0.97	0.95
	TRL	1.04	1.04	1.04	1.04	1.04
15°C (59°F)	30K/40K/50K/57K	1.02	0.99	0.97	0.96	0.94
	TRL	1.03	1.03	1.03	1.03	1.03
20°C (68°F)	30K/40K/50K/57K	1.01	0.98	0.96	0.95	0.93
	TRL	1.01	1.01	1.01	1.01	1.01
25°C (77°F)	30K/40K/50K/57K	1.00	0.97	0.95	0.94	0.92
	TRL	1.00	1.00	1.00	1.00	1.00

[1] Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for outdoor average nighttime ambient conditions.
[2] In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.
[3] Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

CREE LIGHTING

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

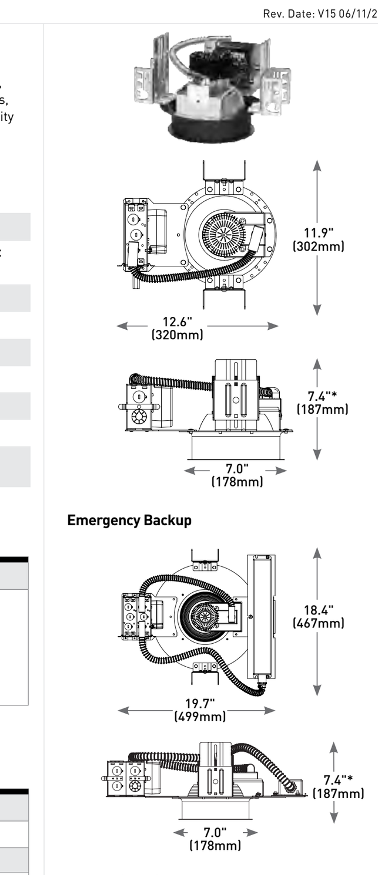
KR Series

KR6™ LED Specification Downlight – Round 6"

Rev. Date: V15 06/11/2020

Product Description

The KR6™ LED specification downlight features Cree TrueWhite® Technology and delivers beautiful, high-quality light with efficacy up to 76 lumens per watt. Designed for new construction applications, the KR Series is available in a variety of color temperatures, round and square trims with high-quality anodized aluminum reflector finishes, a sloped ceiling adaptor accessory, and a variety of dimming options including Cree Lighting's Sunset Dimming Technology which provides rich, warm light that transitions from 2700K to 1800K as naturally as an incandescent source.



Performance Summary

- Utilizes Cree TrueWhite® Technology
- **Initial Delivered Lumens:** 700-5,300 lumens; Delivered lumen output is typical when using a SSGC type reflector
- **Input Power:** 13-87 watts
- **Emergency Performance:** Up to 1,210 Lumens; 10W; Minimum 90 Minutes
- **CRI:** 90
- **CCT:** 2700K, 3000K, 3500K, 4000K, 5000K
- **Controls:** Triac Dimming to 5%, 0/1-10V Dimming to 10%, and Lutron EcoSystem® Dimming to 1%
- **Limited Warranty**†: 10 years on KR6™ luminaire/1 year on accessories
- **Limited Warranty Emergency Back Up (EB) Battery:** 1 Year Battery Back Up. Test regularly in accordance with local codes

† See http://creelighting.com/warranty for warranty terms

Accessories

Field-Installed

Sloped Ceiling Adaptor
KRKS6**WW
** 0-35 (order in 5 degree increments)

C-Channel Hanger Bars
RBH30C
- Pair of 30" (762mm) rigid 3/4" x 1/2" (19mm x 13mm) C-Channel bars
RBH24C-1
- Pair of 24" (610mm) x 1-1/2" (38mm) x 1/2" (13mm) standard C-Channel bars

T-Bar Clips
RARC7
- Set of four
- For use with RBH24C-1 hanger bars
Beauty Ring
KR6TA
- White beauty ring to cover pan head fasteners on KR6T reflector

Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:
Example: **Housing:** KR6-20L-35K-120V-10V + **Reflector:** KR6T-SSGC-FF

Reflector (Housing must be ordered separately)

KR6T			
Series	**Reflector Finish**	**Flange Finish**	**Options**
KR6T Standard Trim - Reflector attaches to housing with pan head fasteners and keyhole slots	**SSGC** Soft Satin Glow, Clear	**FF** Matches Reflector **WF** White Paint	**WW** Wall Wash

Housing (Reflector must be ordered separately)

Series	Size	Reflector	Lumen Package	Optic	CCT	Voltage	Controls	Options
KR6								
KR	**6** 6 inch	**Blank** Round	**9L** 13W, 700 Lumens – 54 LPW **13L** 18W, 1,100 Lumens – 61 LPW **20L** 30W, 1,700 Lumens – 57 LPW **30L** 39W, 2,550 Lumens – 65 LPW **40L** 44W, 3,350 Lumens – 76 LPW **60L** 87W, 5,300 Lumens – 61 LPW - Available on 120V and 277V only	**Blank** 70° Beam Angle	**27K** - 2700K - 9L thru 40L only **30K** 3000K **35K** 3500K **40K** 4000K **50K** 5000K - Available on 40L and 60L only	**120V** 120 Volts **277V** 277 Volts **347V** 347 Volts	**Blank** - For standard control offering refer to control availability chart on page 4 **10V** 0/1-10V Dimming - Refer to control availability chart on page 4 **LES** Lutron EcoSystem® Dimming - Refer to control availability chart on page 4 - Not available with 60L	**WD** Sunset Dim - 9L and 13L @ 27K with Triac Dimming only **EB7** Emergency Backup - Minimum 90 minutes - 120V, 277V only - Minimum operating temperature: 0°C (32°F)

CREE TRUE WHITE TECHNOLOGY · ENERGY STAR · cULus · RoHS · Lutron EcoSystem Enabled

US: creelighting.com T (800) 236-6800
Canada: creelighting-canada.com T (800) 473-1234

CREE LIGHTING

KR6™ LED Specification Downlight – Round 6"

Product Specifications

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics, and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIAL

- Low brightness parabolic spun Alzak aluminum cone, 0.06" (2mm) thick with polished radius and continuous self-flange
- Soft Satin Glow Clear finish, standard
- 2" (51mm) aperture throat to accommodate all standard and up to 3" (76mm) thick ceilings and provide flexibility in mounting within grid
- Provided with quick mounting brackets for optional carrying channels
- Light engine, optics, and driver accessible from below ceiling

ELECTRICAL SYSTEM

- **Power Factor:** > 0.9 for 120V and 277V
- **Total Harmonic Distortion:** < 20% at full load
- **Input Power:** 120, 277V, or 347V, 50/60Hz
- **Operating Temperature Range:** -18°C - +40°C (0°F - +104°F); minimum operating temperature with EB7 option is 0°C (32°F)
- **10V Source Current:** 9L & 13L: 0.15mA; 20L-40L: 2.2mA; 60L: 0.11mA

CONTROLS

- For standard control offering refer to control availability chart on page 4
- Triac dimming to 5%
- Continuous dimming to 10% with 0-10V DC control protocol
- **10V Source Current:** 9L & 13L: 0.15mA; 20L-40L: 2.2mA
- For use with Class 2 dimming systems only
- Use only lighting controls with neutral connection or controls intended for use with LED fixtures
- Lutron EcoSystem® Dimming to 1%
- Reference http://creelighting.com/products/indoor/new-construction-downlights/kr-series for recommended dimming controls and wiring diagrams

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for thru-wiring 8#12AWG-90°C
- Suitable for damp locations
- Designed for indoor use only
- Thermally protected Type NON-IC in accordance with Article 410 of the NEC and UL 1598
- Requires minimum 90°C supply conductors
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- EnergyStar® certified with the exception of 9L, 13L and 50K CCT. Please refer to https:www.energystar.gov/productfinder/product/certified-light-fixtures/results for most current information
- RoHS compliant. Consult factory for additional details
- CA RESIDENTS WARNING: Cancer and Reproductive Harm – www.p65warnings.ca.gov

KR Series Ambient Adjusted Lumen Maintenance[1]

Ambient	Initial Delivered Lumens	Initial LMF	25K hr Reported[2] LMF	50K hr Reported[2] LMF	75K hr Estimated[3] LMF	100K hr Estimated[3] LMF
5°C (41°F)	9L, 13L	1.04	1.04	1.04	1.04	1.04
	20L	1.04	1.04	1.04	1.04	1.04
	30L	1.04	1.03	1.03	1.03	1.03
	40L, 60L	1.04	1.01	1.00	1.00	1.00
10°C (50°F)	9L, 13L	1.03	1.03	1.03	1.03	1.03
	20L	1.03	1.03	1.03	1.03	1.03
	30L	1.03	1.02	1.02	1.02	1.02
	40L, 60L	1.03	1.00	0.99	0.99	0.99
15°C (59°F)	9L, 13L	1.02	1.02	1.02	1.02	1.02
	20L	1.02	1.02	1.02	1.02	1.02
	30L	1.02	1.01	1.01	1.01	1.01
	40L, 60L	1.02	0.99	0.98	0.98	0.98
20°C (68°F)	9L, 13L	1.01	1.01	1.01	1.01	1.01
	20L	1.01	1.01	1.01	1.01	1.01
	30L	1.01	1.00	1.00	1.00	1.00
	40L, 60L	1.01	0.98	0.97	0.97	0.96
25°C (77°F)	9L, 13L	1.00	1.00	1.00	1.00	1.00
	20L	1.00	1.00	1.00	1.00	1.00
	30L	1.00	0.99	0.99	0.99	0.99
	40L, 60L	1.00	0.96	0.96	0.96	0.95
30°C (86°F)	9L, 13L	0.99	0.99	0.99	0.99	0.99
	20L	0.99	0.98	0.98	0.98	0.98
	30L	0.99	0.98	0.98	0.98	0.98
	40L, 60L	0.99	0.96	0.95	0.95	0.94
35°C (95°F)	9L, 13L	0.98	0.98	0.98	0.98	0.98
	20L	0.98	0.97	0.97	0.97	0.97
	30L	0.98	0.97	0.97	0.97	0.97
	40L, 60L	0.98	0.95	0.94	0.94	0.94

[1] Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors.
[2] In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.
[3] Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

Installation

- Recommended ceiling cutout 6.5" (165mm)

Note: 30L and 40L versions require marked spacing: 24" (600mm) x 12" (300mm) x ½" (12mm). 24" (600mm) luminaire to luminaire, 12" (300mm) luminaire to side wall, ½" (12mm) above luminaire
60L versions require marked spacing: 48" (1219mm) x 24" (600mm) x 1" (25mm). 48" (1219mm) luminaire to luminaire, 24" (600mm) luminaire to side wall, 1" (25mm) above luminaire

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Canada: creelighting-canada.com T (800) 473-1234

CREE LIGHTING

FC LIGHTING

FCWS7170

Date:	Approved:
Type:	
Fixture:	
Project:	

FCWS7170 Exterior Decor fixture is an IP65 rated, ADA compliant, easy to maintain fixture that has an impact resistant lens and face options to meet the design requirements of your building.

SPECIFICATIONS

PHYSICAL	
lengths/dimensions [LxDxH]	fixture: 24" H x 7.25" W x 4" D
weight	9.25 lbs
housing	marine grade, corrosion resistant, heavy gauge high pressure die cast aluminum
lens	impact resistant, UV stabilized, opal, polycarbonate diffuser
mounting	mounts directly to standard junction box; masonry applications use four (4) 0.25" x 0.75" screws with lead anchors (fasteners not included, j-box by others)
ingress protection	IP65: dry, damp, or wet locations with PVC closed cell foam gasket to seal out contaminants
finish	six stage chemical iron phosphate substrate pre-treatment process with UV stable, polyester powder coat
PERFORMANCE	
color temperature	2700K / 3000K / 3500K / 4000K
lumen output	1200 lm | 1800 lm | 2500 lm | 3800 lm | 5100 lm | 9555 lm
lifetime	> 70,000 hours / L70 or better
color consistency	3-Step McAdam Ellipse / standard: CRI ≥ 85 | optional: CRI ≥ 90 CRI
temperature	operating: -13°F to 104°F (-25°C to 40°C) | start up: -13°F to 104°F (-25°C to 40°C) | storage: -40°F to 176°F (-40°C to 80°C)
junction temperature	73°C @ Tᴬ 25°C
warranty	5 year limited warranty (refer to website for details)
NON-LED	
CFL	socket: PL: four pin plug-in type compact fluorescent lamp holder (lamp by others)
ballast	ballast: fluorescent electronic, UL listed ballast standard
ELECTRICAL	
input voltage	Universal 120-277VAC | optional: 347VAC (integral)
power supply	Integral Class II, electronic, high power factor > 94% @120V
certifications	ETL/cETL Listed, CEC Title 24 JA8 compliant (only 90CRI complies), ADA Compliant
standards	UL 1598 / CSA C22.2 No. 250.0 - Class II / IES LM-79 / LM-80
power consumption	79W @ 120V - 277V (maximum)
dimming interface	standard: 0-10V (1%) | optional: ELV (120V only)/DMX (remote only)/DALI (integral)

Expanded Disclaimer: Due to continuous development and improvements, specifications are subject to change without notice. FC Lighting and Solid State Luminaires reserves the right to change lab test details or specifications without notice. Product use certifies agreement to Solid State Luminaires terms and conditions. FCW & FCWS Series fixtures are engineered and produced in our Illinois manufacturing facility.

Specification Sheet

FC LIGHTING a US Commercial Lighting Manufacturer Since 1982 — JS Rev. **01/03/2018**

Ordering Information

FCWS7170

ORDERING INFORMATION

SERIES	VOLTAGE		SOURCE/TEMPERATURE/LED LUMENS			CRI	FINISH	OPTIONS & ACCESSORIES
FCWS7170	**UNV** UNV 120V-277V	LED	**27K**	**1200** Lumens (10W)		**CRI85** 85 CRI	**BK** Black	**LD** 0-10V Dimming (1%)
	347V* 347V* *(integral)*		**3K**	**1800** Lumens (15W)		*CR85 Standard*	**BZ** Bronze	**ELV*** ELV Dimming* *(120V only)*
			35K	**2500** Lumens (21W)		**CRI90** 90 CRI	**CC** Custom Color	**DMX*** DMX Dimming* *(integral)*
			4K	**3800** Lumens (31W)			**SL** Silver	**DALI*** DALI Dimming* *(integral)*
				5100 Lumens (40W)			**WH** White	**BBU** Battery Backup *(remote only)*
				9555 Lumens (79W)			**BA** Brushed Aluminum	** consult factory for lead time*
			Contact the Factory for Non-LED source options					

Face Options *(standard face is included - see face options on dimensions page for reference)*

- **A** Face A *(see face on dimensions page)*
- **B** Face B *(see face on dimensions page)*
- **D** Face D *(see face on dimensions page)*

Specification Sheet

FC LIGHTING a US Commercial Lighting Manufacturer Since 1982 — JS Rev. **01/03/2018**

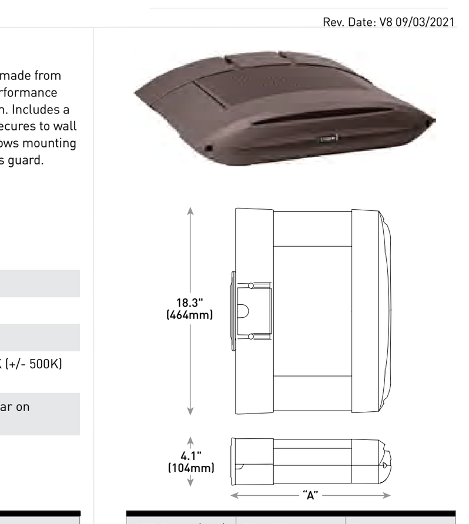
THE EDGE® Series

LED Security Wall Pack Luminaire

Rev. Date: V8 09/03/2021

Product Description

THE EDGE® wall mount luminaire has a slim, low profile design. The luminaire end caps are made from rugged die cast aluminum with integral, weathertight LED driver compartments and high performance aluminum heat sinks specifically designed for LED applications. Housing is rugged aluminum. Includes a lightweight mounting box for installation over standard and mud ring single gang J-Boxes. Secures to wall with four 3/16" (5mm) screws (by others). Conduit entry from top, bottom, sides, and rear. Allows mounting for uplight or downlight. Designed and approved for easy through-wiring. Includes leaf/debris guard.
Applications: General area and security lighting



Performance Summary

- Patented NanoOptic® Product Technology
- Assembled in the U.S.A. of U.S. and imported parts
- **CRI:** Minimum 70 CRI (4000K & 5700K); 80 CRI (3000K); 90 CRI (5000K)
- **CCT:** Turtle Friendly Amber, 3000K (+/- 300K), 4000K (+/- 300K), 5000K (+/- 500K), 5700K (+/- 500K) standard
- **Limited Warranty**†: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish/1 year on accessories

† See http://creelighting.com/warranty for warranty terms

Accessories

Field-Installed

Bird Spikes
XA-BRDSPK

Beauty Plate
WM-PLT12** - 12" (305mm) Square
WM-PLT14** - 14" (356mm) Square
- Covers holes left by incumbent wall packs

Hand-Held Remote
XA-SENSREM
- For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required

** Must specify color

LED Count (x10)	Dim. "A"	Weight
02	9.9" (251mm)	20 lbs. (9.1kg)
04	11.9" (303mm)	22 lbs. (10.0kg)
06	13.9" (353mm)	25 lbs. (11.3kg)
08	15.9" (404mm)	27 lbs. (12.2kg)
10	17.9" (455mm)	31 lbs. (14.1kg)
12	19.9" (505mm)	32 lbs. (14.5kg)

Ordering Information

Example: SEC-EDG-2M-WM-06-E-UL-SV-700

Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
SEC-EDG		WM		E				
SEC-EDG	**2M** Type II Medium **2MB** Type II Medium w/BLS **2S** Type II Short **2SB** Type II Short w/BLS **3M** Type III Medium **3MB** Type III Medium w/BLS **4M** Type IV Medium **4MB** Type IV Medium w/BLS	**WM** Wall Mount	02 04 06 08 10 12	E	**UL** Universal 120-277V **UH** Universal 347-480V **34** 347V	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**350** 350mA **525** 525mA -Available with 20-80 LEDs **700** 700mA -Available with 20-60 LEDs	**DIM** 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current - Not available with PML option **F** Fuse - Compatible only with 120V, 277V or 347V (phase to neutral) - Consult factory if fusing is required for 208V, 240V or 480V (phase to phase) - Refer to PML spec sheet for availability with PML options - When code dictates fusing, use time delay fuse **P** Photocell - Must specify UL or 34 voltage **PML** Programmable Multi-Level - Refer to PML spec sheet for details - Intended for downlight applications with 0° tilt **30K** 3000K Color Temperature - Minimum 80 CRI - Color temperature per luminaire **40K** 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire **50K** 5000K Color Temperature - Minimum 90 CRI - Color temperature per luminaire **TRL** Amber Turtle Friendly LEDs - Available only with 350mA - 600nm dominant wavelength - Additional shielding (by others) may be required for Florida Fish and Wildlife Conservation Commission compliance

CREE LIGHTING

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

THE EDGE® LED Security Wall Pack Luminaire

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartment and high performance aluminum heat sinks specifically designed for LED applications
- Housing is rugged aluminum
- Furnished with low copper, light weight mounting box designed for installation over standard and mud ring single gang J-Boxes
- Luminaire can also be direct mounted to a wall and surface wired
- Secures to wall with four 3/16" (5mm) screws (by others)
- Conduit entry from top, bottom, sides, and rear
- Allows mounting for uplight or downlight
- Designed and approved for easy through-wiring
- Includes leaf/debris guard
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultradurable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver and white are available
- **Weight:** See Dimensions and Weight Chart on page 1

ELECTRICAL SYSTEM

- **Input Voltage:** 120–277V or 347–480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral weathertight J-Box with leads (wire nuts) for easy power hook up
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- **Maximum 10V Source Current:** 20 LED (350mA): 10mA; 20LED (525 & 700 mA) and 40-120 LED: 0.15mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Enclosure rated IP66 per IEC 60529 when ordered without P or PML options
- ANSI C136.2 10kV surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- DLC qualified with select SKUs. Refer to https://www.designlights.org/search/ for most current information
- Meets Buy American requirements within ARRA
- CA RESIDENTS WARNING: Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*

LED Count (x10)	CCT	System Watts 120-480V	120V	208V	240V	277V	347V	480V
350mA								
02	30K/40K/50K/57K	25	0.21	0.13	0.11	0.10	0.08	0.07
	TRL	19	0.16	0.09	0.08	0.07	0.05	0.04
04	30K/40K/50K/57K	46	0.36	0.23	0.21	0.20	0.15	0.12
	TRL	35	0.29	0.17	0.15	0.13	0.10	0.07
06	30K/40K/50K/57K	66	0.52	0.31	0.28	0.26	0.20	0.15
	TRL	50	0.41	0.24	0.21	0.18	0.14	0.10
08	30K/40K/50K/57K	90	0.75	0.44	0.38	0.34	0.26	0.20
	TRL	68	0.57	0.33	0.28	0.25	0.20	0.14
10	30K/40K/50K/57K	110	0.92	0.53	0.47	0.41	0.32	0.24
	TRL	83	0.69	0.40	0.35	0.30	0.24	0.17
12	30K/40K/50K/57K	130	1.10	0.63	0.55	0.48	0.38	0.28
	TRL	99	0.82	0.48	0.41	0.36	0.28	0.21
525mA								
02	30K/40K/50K/57K	37	0.30	0.19	0.17	0.16	0.12	0.10
04	30K/40K/50K/57K	70	0.58	0.34	0.31	0.28	0.21	0.16
06	30K/40K/50K/57K	101	0.84	0.49	0.43	0.38	0.30	0.22
08	30K/40K/50K/57K	133	1.13	0.66	0.58	0.51	0.39	0.28
700mA								
02	30K/40K/50K/57K	50	0.41	0.25	0.22	0.20	0.15	0.12
04	30K/40K/50K/57K	93	0.78	0.46	0.40	0.36	0.27	0.20
06	30K/40K/50K/57K	134	1.14	0.65	0.57	0.50	0.39	0.29

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%

THE EDGE® Series Ambient Adjusted Lumen Maintenance[1]

Ambient	CCT	Initial LMF	25K hr Reported[2] LMF	50K hr Reported[2] LMF	75K hr Reported[2]/ Estimated[3] LMF	100K hr Estimated[3] LMF
5°C (41°F)	30K/40K/50K/57K	1.04	1.03	1.03	1.03[2]	1.03
	TRL	1.06	1.06	1.06	1.06[3]	1.06
10°C (50°F)	30K/40K/50K/57K	1.03	1.02	1.02	1.02[2]	1.02
	TRL	1.04	1.04	1.04	1.04[3]	1.04
15°C (59°F)	30K/40K/50K/57K	1.02	1.01	1.01	1.01[2]	1.01
	TRL	1.03	1.03	1.03	1.03[3]	1.03
20°C (68°F)	30K/40K/50K/57K	1.01	0.99	0.99	0.99[2]	0.99
	TRL	1.01	1.01	1.01	1.01[3]	1.01
25°C (77°F)	30K/40K/50K/57K	1.00	0.98	0.98	0.98[2]	0.98
	TRL	1.00	1.00	1.00	1.00[3]	1.00

[1] Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the Temperature Zone Reference Document for outdoor average nighttime ambient conditions.
[2] In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.
[3] Estimated values are calculated and represent time durations that exceed the 6x test duration of the LED.

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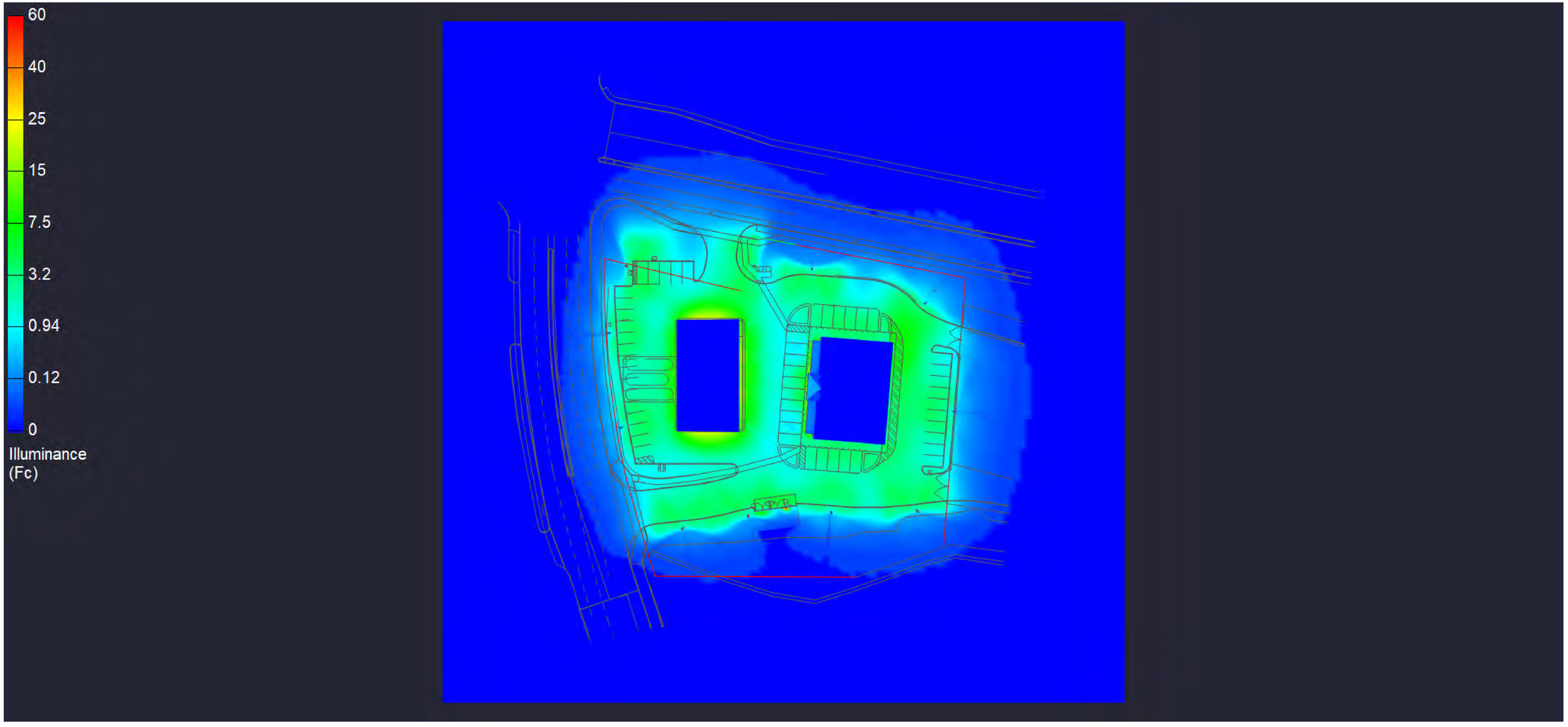
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING

RED LEONARD ASSOCIATES
1340 Kemper Meadow Dr, Forest Park, OH 45240
513-574-9500 | redleonard.com

PROJECT NAME:
WAWA
CHARLOTTESVILLE, VA
DRAWING NUMBER:
RL-7876-S1-R2

Wawa



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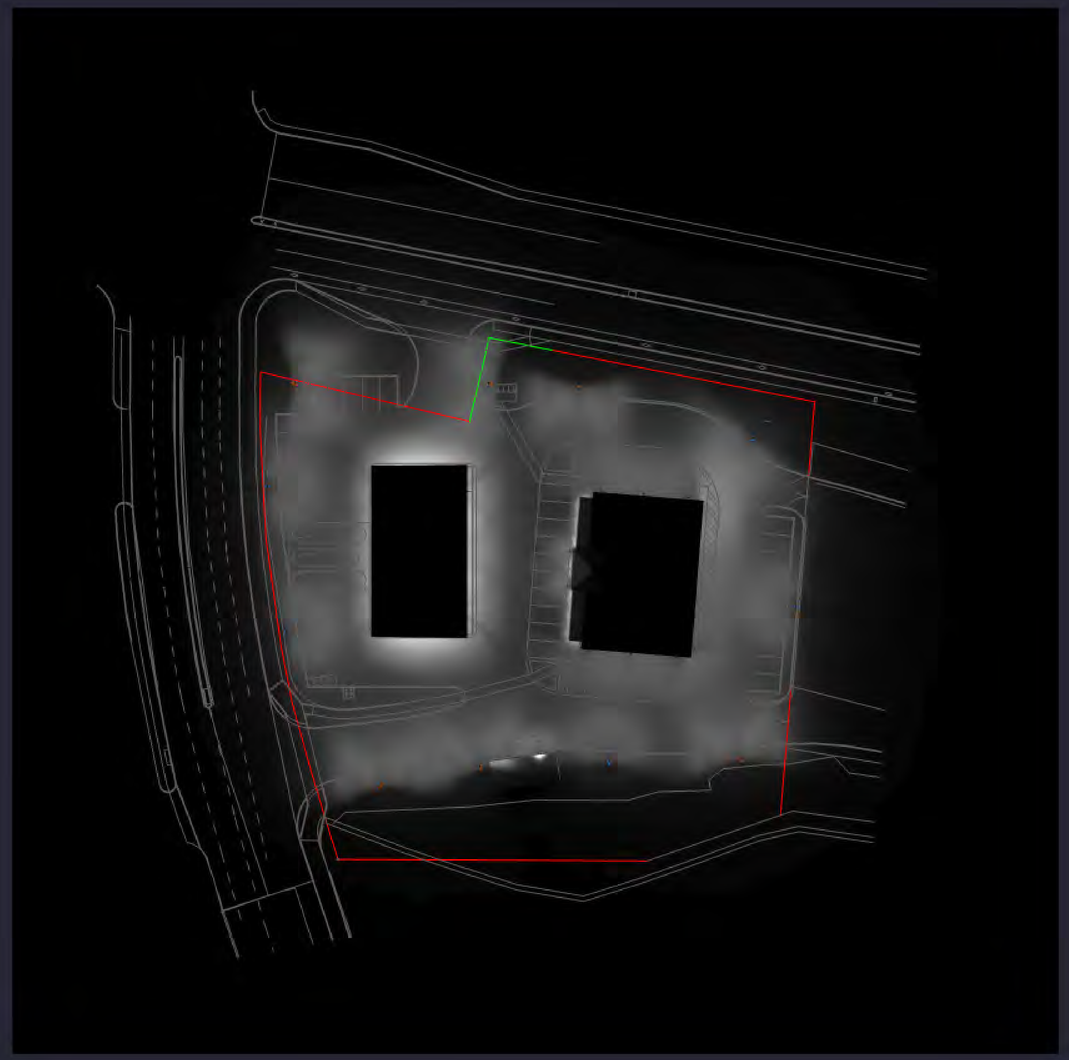

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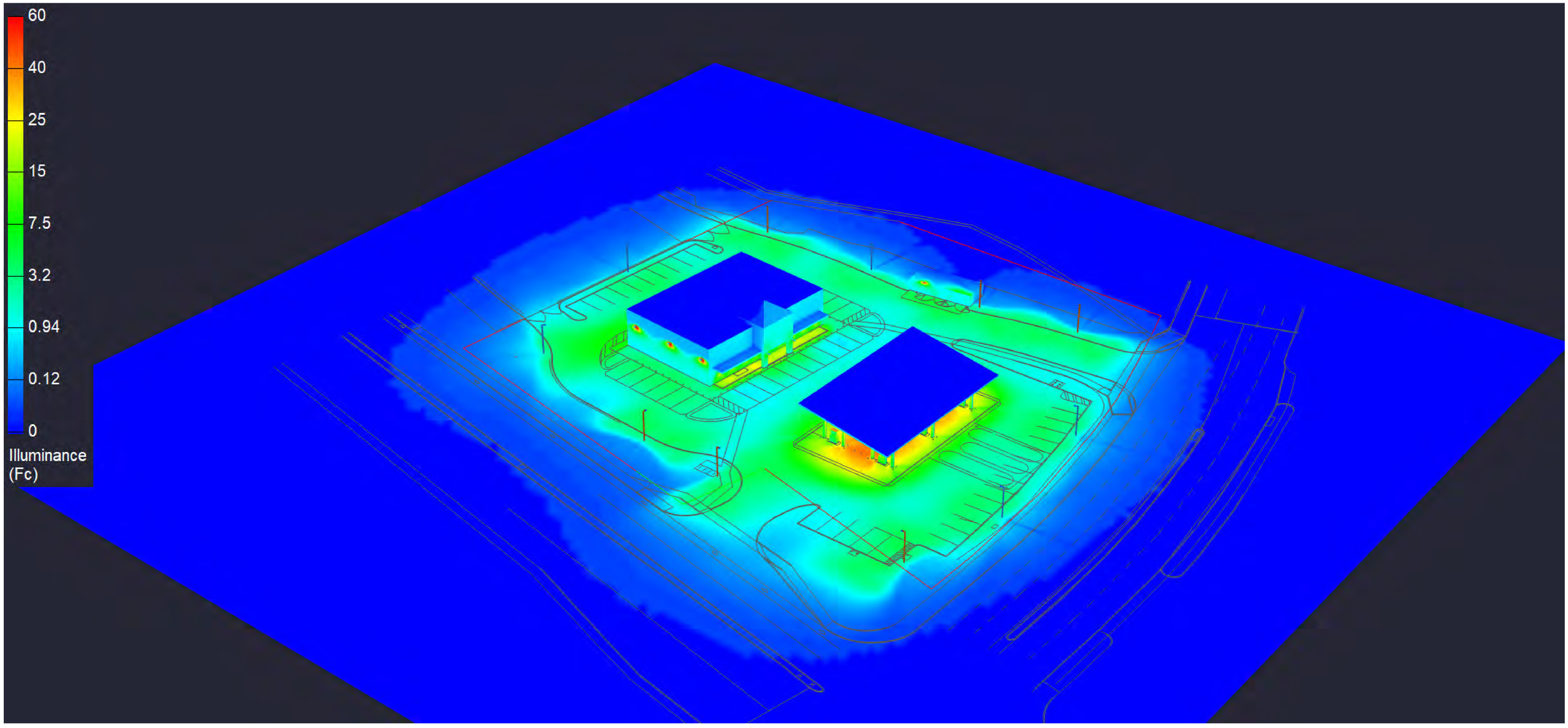

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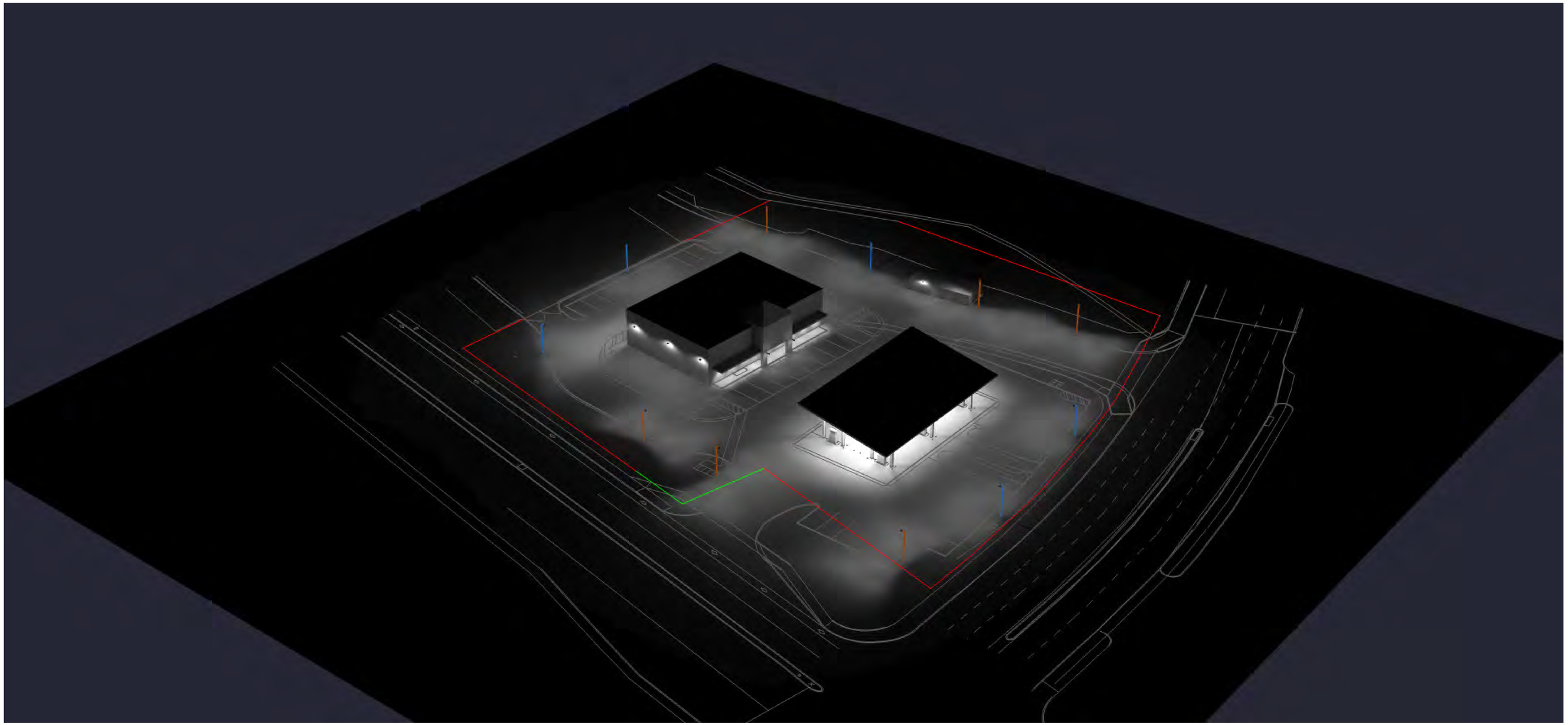

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Wawa

LANDSCAPING CALCULATIONS

SITE TREE COVERAGE

REQUIREMENT: CANOPY COVER AT 10 YEARS EQUALS 10% OF SITE AREA

GROSS SITE AREA	184,913 SF
TREE PRESERVATION AREA	22,740 SF
PROPOSED TREE CANOPY	7,951 SF
TOTAL TREE CANOPY REQUIRED	18,491 SF
TOTAL TREE CANOPY PROVIDED	30,691 SF

STREETSCAPE TREES

REQUIREMENT: 1 TREE PER 40 FEET OF PUBLIC ROAD FRONTAGE

ROAD FRONTAGE ALONG 5TH STREET = 798 LINEAR FT

LANDSCAPING REQUIRED	20 TREES
LANDSCAPING PROVIDED	14 TREES

ROAD FRONTAGE ALONG 5TH ST STATION PARKWAY = 284 LINEAR FT

LANDSCAPING REQUIRED	7 TREES
LANDSCAPING PROVIDED	7 TREES

PARKING LOTS - PERIMETER LANDSCAPING

REQUIREMENT: A CONTINUOUS LANDSCAPE BUFFER 10' IN WIDTH & 3 STREET PLANTINGS FOR EVERY 15' OF ROAD FRONTAGE

PARKING LOT FRONTAGE ALONG 5TH STREET = 114 LINEAR FT

LANDSCAPING REQUIRED	24 PLANTINGS
LANDSCAPING PROVIDED	2 TREES & 14 SHRUBS

PARKING LOT FRONTAGE ALONG 5TH ST STATION PARKWAY = 158 LINEAR FT

LANDSCAPING REQUIRED	32 PLANTINGS
LANDSCAPING PROVIDED	6 TREES & 12 SHRUBS

PARKING LOTS - INTERIOR LANDSCAPING

REQUIREMENT: 5% OF THE GROSS AREA OF A PARKING LOT SHALL BE LANDSCAPED

PARKING LOT AREA = 32,658 SF

LANDSCAPING REQUIRED	1,633 SF
LANDSCAPING PROVIDED	1,666 SF

REQUIREMENT: 1 TREE & 3 SHRUBS PER 8 PARKING SPACES

PARKING LOT SPACES = 50 SPACES

LANDSCAPING REQUIRED	7 TREES & 19 SHRUBS
LANDSCAPING PROVIDED	7 TREES & 38 SHRUBS

PLANT SCHEDULE:

SYMBOL	BOTANICAL NAME	COMMON NAME	NOTES	SIZE	QUANTITY	CANOPY	TOTAL
LARGE SHADE TREES							
GS	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER' TM	SHADEMASTER LOCUST	STRONG CENTRAL LEADER	2-1/2" cal.	7	481	3367
UA	ULMUS AMERICANA 'PRINCETON'	AMERICAN ELM	12' HT MIN, STRONG CENTRAL LEADER	3-1/2" cal.	4	535	2140
EVERGREEN TREES							
ID	ILEX OPACA	AMERICAN HOLLY		6' ht.	6	56	336
ORNAMENTAL TREES							
CC	CERCIS CANADENSIS	EASTERN REDBUD	SINGLE-TRUNK, STRONG CENTRAL LEADER	6' ht.	8	124	992
CP	CORNUS FLORIDA 'CHEROKEE PRINCESS'	CHEROKEE PRINCESS DOGWOOD	STRONG CENTRAL LEADER	6' ht.	9	124	1116
EVERGREEN SHRUBS							
IGS	ILEX GLABRA 'SHAMROCK'	INKBERRY	UNIFORM, DENSE, FULL TO THE GROUND	24" min.	13	23	299
MCE	MYRICA CERIFERA	WAX MYRTLE	UNIFORM, DENSE, FULL TO THE GROUND	24" min.	4	44	176
PFA	PIERIS FLORIBUNDA	MOUNTAIN PIERIS	UNIFORM, DENSE, FULL TO THE GROUND	24" min.	9	14	126
RCE	RHODODENDRON CATAWBIENSE	CATAWBA RHODODENDRON	UNIFORM, DENSE, FULL TO THE GROUND	18" min.	32	13	416
					TOTAL TREE CANOPY PROPOSED		7951

5TH STREET SW

5TH STREET STATION PARKWAY

BIKE LANE

PROPOSED FUEL CANOPY

PROPOSED GAS STATION BUILDING (5,300 SF)

EXISTING BUILDING TO REMAIN (8,400 SF)

PROPOSED MAINTENANCE BUILDING (1,780 SF)

TREE PRESERVATION AREA

TREE PROTECTION FENCING

Ex. edge of Stream

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)

1 inch = 30 ft.

COMMONWEALTH OF VIRGINIA
SCOTT R. COLLINS
Lic. No. 035791
PROFESSIONAL ENGINEER
3/01/22

REVISIONS

DATE	REVISION DESCRIPTION
8/03/21	INITIAL SUBMITTAL FINAL SITE PLAN
3/01/22	SECOND SUBMITTAL FINAL SITE PLAN

COLLINS ENGINEERING

200 GARRETT STREET, SUITE K. - CHARLOTTESVILLE, VA 22902 - 434.293.3719

PROJECT: GAS STATION AT 5TH STREET STATION PKWY - FINAL SITE PLAN

SHEET TITLE: LANDSCAPING PLAN

JOB NO. 202182

SCALE 1"=30'

SHEET NO. 12

Minutes

PLANNING COMMISSION REGULAR MEETING
July 13, 2021 – 5:30 P.M.
Virtual Meeting

I. COMMISSION PRE-MEETING (Agenda discussion(s))

Beginning: 5:00 PM
***Location*:** Virtual/Electronic
Members Present: Chairman Mitchell, Commissioner Russell, Commissioner Solla-Yates, Commissioner Stolzenberg, Commissioner Lahendro, Commissioner Habbab
Members Absent: Commissioner Dowell
Staff Present: Patrick Cory, Joe Rice, Missy Creasy, Lisa Robertson, Matt Alfele, Jack Dawson, Tony Edwards

Chair Mitchell called the meeting to order at 5:00pm and provided an overview of the agenda for the evening. Commissioners had no questions on the minutes or the application for 1206 Carlton Avenue. Chair Mitchell confirmed the potential steps for the 13th Street NE application following tonight's item and asked Commissioners for any additional questions. Commissioner Russell asked if the ROW was abandoned, could the business's park in the rear of the site. Mr. Duncan noted that he made comments concerning the possible parking options. He noted that 13th Street is a 40 foot right of way so there is space for parking and travel lanes. Commissioner Stolzenberg asked about the topography in the area of this site, whether it was impossible to construct a road or just expensive and requested confirmation on the zones that allow for zero lot lines. He also asked if the SADM would allow for alternative road designs and the process for that was outlined.

Commissioner Solla-Yates confirmed that staff would be available for comment on the new critical slopes materials provided today for the South First Street site during the meeting and it was confirmed that staff would be available.

Chair Mitchell noted that following the Housing Advisory Committee presentation that he would outline five minutes for each commissioner to ask questions and provide comments. Ms. Creasy noted that there was some confusion in the community that there is a new Future Land Use map for review and clarification needs to be provided. Chair Mitchell reiterated the goal to have the Comp Plan and Future Land Use Map ready for the current Council to vote on. He also asked Commissioner Habbab to provide a brief introduction in the meeting.

II. COMMISSION REGULAR MEETING – Meeting called to order at 5:30 PM by the Chairman

Beginning: 5:30 PM
Location: Virtual/Electronic

A. COMMISSIONER'S REPORT

Commissioner Russell – I have an update on the Fontaine Avenue Streetscape project. Council will be reviewing the project next Monday on July 19th. They will be looking at the design. After that, authorization will be sought from VDOT to begin right of way phase authorization. More information is available on the project website, including previous meetings and the current presentation of the design on Fontainestreetscape.com/design-public-hearing.

Commissioner Stolzenberg – There was one meeting. That was a special session of TJPDC to apply for a housing preservation grant for the rural counties. We received an announcement today of a statewide PDC housing development grant. That will be $40 million but $2 million flowing through the PDC to stimulate affordable housing and regional initiatives to address it. Next Tuesday, we will have a meeting of the MPO Tech committee.

Commissioner Habbab – I am completing the remainder of a previous appointment to the Commission. My term will end August 31, 2022. My predecessor sat on the Neighborhood Leaders meeting and the CATEC Advisory Committee. I don't believe they have had any meetings since I joined. I joined the Commission because I can serve the wonderful community that I live in. I have worked at an architectural firm for the last six years. I previously stood in front of this Commission as an applicant. I know the work it takes to get projects here. I am aware of the impact the Commission has on the city. I am joining at a crucial time. There is a lot of work to be done. I am happy to be part of the process.

Commissioner Solla-Yates – The Housing Advisory Committee met to discuss a new concept for the future land use map. We voted that we consider that same concept tonight.

Commissioner Lahendro – I attended the Board of Architectural Review meeting on June 15th. It was a quick meeting. We had five applications to consider and we issued five Certificates of Appropriateness for those applications. The Tree Commission has deferred its meeting from last week to right now. I am not able to attend that meeting. I will report on it next month.

B. UNIVERSITY REPORT

Commissioner Palmer – The demolition of the Dynamics Building at the Ivy/Emmet corridor is underway. A lot of the utility enabling seems to have started over there. That project to enable the Data Science Institute, the Conference Center, and the Hotel is finally getting underway after lots of planning. The George Rogers Clark statue near The Corner was taken down. The base and the statue are in storage.

C. CHAIR'S REPORT

Chairman Mitchell – The only meeting I attended was the Parks and Rec meeting. That group has been very busy. Just about everything is open with one notable exception: the aquatic center at Meade Park. It is not open and will not be opening. The reason is we can't get enough lifeguards to support all of the parks we have. This is not unique to Charlottesville. This seems to be a nationwide problem. We just can't get the lifeguards. It will not open this year. The day camp is fully staffed. It is open from 7:30 AM to 5:30 PM. Athletics is going very well; especially baseball and softball.

D. DEPARTMENT OF NDS

Ms. Creasy – We don't have a work session scheduled for later this month. We do want to clarify for the public that there is not a new land use map under consideration for the Commission this evening. There's a proposal with some ideas that the Commission will be looking at this evening from the Housing Advisory Committee. If anyone was concerned that they had missed a step in the process, there hasn't been a misstep. The Commission is going to have the opportunity to hear from some members of the Housing Advisory Committee about some thoughts and ideas they have concerning the land use map. There will be many other opportunities to come for moving forward. If you, as a public member, have comments you want to provide tonight concerning any of these things, do make sure to share that information during **Matters from the Public** with the Commission.

E. MATTERS TO BE PRESENTED BY THE PUBLIC NOT ON THE FORMAL AGENDA

Bill Emory – I know you are concerned with canopy equity in the City of Charlottesville. Thank you Jody for your excellent service on the Tree Commission. In the zoning code Section 34-869, R-1 and R-2 zoning districts, there is a requirement for tree canopy. You have a standing invitation to take a walking tour of East Carlton, Woolen Mills, and East Belmont. You can identify rental properties by the lack of tree canopy. Landlords are not very enlightened people, who don't care about tree canopy. Walking around Woolen Mills, you can identify the rentals because it has zero trees. Years ago, we talked about writing zoning tickets. I know the Zoning Department is understaffed. They have more important things to do. It would be easy to come up with a list and ask people to plant trees. I would encourage you to enforce the zoning code before you rewrite the zoning code.

Phillip Harway – Our neighbors in Albemarle just adopted their new housing policy this past Wednesday. The goals are to tackle affordable housing in their community with other objectives that includes overall housing supply and providing for community engagement, particularly on protecting existing communities. One of the core parts of their plan is that all rezonings and special use permits will be required (by definition) to be affordable and to have extended periods of affordability. The plan is being delayed. The Commission found out that some of the developers had concerns that the county will not be able to meet some of their major objectives. This is a big contrast with what Charlottesville is considering. It is a general upzoning without any guarantees and assurances of reaching the worthy goal of more affordable housing. Our neighbors are taking a slower approach and consulting. The citizens in Albemarle also realize that the consensus is to approve the plan now. Things still need to be ironed out. It seems the city is more focused on getting

there quickly. I humbly request that the process be slowed down and plans from our neighbors in Albemarle and other communities be seriously considered; not allowing rezoning and special use permits to be considered without clear definitions on how much will be provided for housing affordability.

Kimber Hawkey – This plan is faulty and inappropriate and doesn't understand the topography and infrastructure of Charlottesville. It needs to be slowed down. There appears to be a lack of economic modeling. Where are the models for the relationship with zoning restrictions, price elasticity, and demand? What is the impact of new developments? What is the estimate for construction costs? What is the impact on neighborhoods? There is a failure to reconsider the redevelopment opportunities of underuse of retail space. There are large landmasses for real affordable housing. With all of the space, we can achieve more than the 4000 units that we need. There is a failure to consider the University, which has a lot of land. There is a failure to consider the regional context. We need to bring in all of the surrounding counties to address affordable housing. This plan is compromised by ideology and an agenda by a few Planning Commission members. The March map was the result of community input. Two members of the Planning Commission directed RHI that they need to be more ambitious. There have been many developments pushed through on false promises of affordable housing that have never happened.

Brandon Collins – I am an employee of PHAR. PHAR is a resident governed and duly recognized resident council and resident advisory board for public housing. We work very closely with the Housing Authority on the redevelopment projects that are currently underway and future projects. PHAR supports the amendment to the critical slopes waiver at South First Street. The pandemic has changed a lot of things. Supply change issues are difficult. In order to move that project forward, we need that amendment to the critical slopes waiver. It is the safest and smartest way to go. It's not going to impact the environment. The water quality and the streams are going to be in better shape than when we found them. I also want to state PHARs support for taking a look at what the HAC is proposing in terms of overlays for affordability with the residential density being by right and medium/high density requiring affordable housing as an overlay. That combined with the many policies that are being brought forward by the consultants are going to address some of the concerns by the public that these changes won't improve affordability. This really addresses those concerns. I ask members of the public to take a look at what the HAC is talking about and see if that changes your mind on how we can ensure, maintain, and hold accountable affordable housing.

Mark Kavit – I ask that you keep an open mind on the things that are going to be presented to you tonight as well as emails that you will be receiving. There is a group of us who have put together a lot of information that can achieve the goals of the Comprehensive Plan. We do have some concrete ideas that could be done without tearing down neighborhoods. Please take a look at what we are presenting and do consider them. I have many issues with the Comprehensive Plan. The first issue is how dense do we want the city to become. Do we want the infrastructure to support high density? The pandemic has shown that work can be done from home. Indications are that we are going to see more work from home. There is a movement nationwide for people to live in more urban areas. Demand for housing is going to remain strong for some time. We're not going to build our way out of demand. Our current rents are in line with other cities. You don't see rent decrease until you get

away from the urban core and look at older housing. You're not going to achieve affordability with new construction. New construction is inherently expensive. It would be better to renovate older housing to achieve affordable housing. I and others will be making recommendations at future meetings. We have an income disparity.

Jake Gold – Ms. Hawkey said the Belmont residents don't like new developments. That could not be further from the truth. I would encourage her to spend more time talking to her neighbors. We believe the housing crisis is real. Some of the biggest strides that we can take reducing our emissions will come from building houses closer to the places where we work.

James Groves – I had a chance to listen to the recording of your work session a couple of weeks ago. I found it odd when Mr. Stolzenberg and Ms. Russell asked the consultants about how upzoning had worked in Minneapolis. The consultants didn't have any studies to share with us. I work at the University and I teach design. In the design process one of the key things we do there is lay out goals of a designing process. I push my students to be quantitative. As you design a solution, what do you hope or expect to deliver and make it numerical. I would encourage you to go further. What do we want occupancy rate in rental units to be? How many middle income affordable housing units do you want? There is a whole set of metrics. You should define quantitatively a whole set of measures or goals. What are we hoping to achieve with this plan? A number of people have talked about getting UVA engaged. They have set their goals to be carbon neutral by 2030 and 2040 to be fossil fuel free. They have excluded faculty/staff transportation commuting from those numbers. They shirking their duties. They're avoiding that along with the students in the community. They are helping to contribute to a lot of commuting, emissions, a portion of our climate problem that you should be trying to solve throughout this planning action.

Laura – I live in a middle income community in Amherst Commons. It's at the end of Amherst Street off of Rose Hill Drive. We learned today that neighbor's lot is set to be zoned as a high intensity zone. Essentially, a 5 story apartment complex could be built in our backyard. We are stressed out on whether we need to sell our house within the year before our property value plummets due to this zoning. If I was a buyer looking for a single family home, I would be "turned off" if I saw high density zoning abutting our backyard. I and my neighbors will likely be adversely impacted by this zoning. Please consider the residential homes of Amherst Commons. We have a 12 home neighborhood and association. Please consider doing the moderate intensity zoning behind our community. We invite you to come to our neighborhood and see how this zoning could adversely impact our neighborhood.

Doug Cleveland – I am calling to ask three questions that are inter-related. Our street (North Downtown) conducted a survey to provide you with the results prior to the last meeting. It is a small street with 30+ households. One thing that is very representative is that for a large part of the community we found out about this process long into the process and the particular issues being raised. We were voicing opposition. We were very concerned about finding out about very dramatic proposals so far into the process. The Chair has expressed a desire to get this across the "finish line" quickly during the current City Council tenure. That would be great. I hope that it doesn't come at the expense of our ability as residents and participants. In the work session, Rory asked a question

of the planners of the scale that was going to be possible. I have tried to get a sense of the scale from the proposed materials.

Jonathan Rice – I have a very specific concern with the future land use map. I live on Merriweather Street, which is between Little High and East High Street. At the dead end of the street, the urban mixed-use corridor has been added to two lots that have always been residential. It seems totally inconsistent with the notion of having a gradual transition between high density and low density areas. The urban mixed-use corridor category allows buildings up to eight stories. Most of the houses on Merriweather are single story ranch houses. This would be an obvious clash. This is a really narrow street. We don't have sidewalks. There is not a cut-through street and there is no big business at the dead end. We have a lot of senior citizens and a lot of families with children. We're really concerned with improving the walkability of our neighborhood. I have sent several emails asking for clarification. I haven't heard back. I would appreciate some clarification on that. We have no problem with the urban mixed-use corridor being along East High. We are concerned with traffic and good boundaries with transitions.

Benjamin Heller – The effect was a rapid capitalization of development value. This is just piece without analytical rigor. There is no model induced demand. When San Francisco looked at this, they found with 100 market rate condos, they needed 20 to 40 affordable units to break even. Charlottesville is one of the MSAs where filtering works in reverse. Where is your model for that? Where is the model for realistic marginal costs? How are you going to create supply? What is the evidence for upzoning? You have a model of restrictive covenants 50 years ago.

Elizabeth Carpenter – I have heard a lot of comments urging caution. This is a public health crisis. I have visited low income families. Every classroom in our public schools has kids who are homeless or on the verge of homelessness. We should not use Albemarle as the marker. I want to express how urgent this is as a public health issue for the members of our community.

F. CONSENT AGENDA

1. Minutes – February 23. 2021 – Work Session

Motion – Commissioner Solla-Yates moved to approve the Consent Agenda (Second by Commissioner Russell) – Motion passes 6-0

(Items removed from the consent agenda will be considered at the end of the regular agenda)

III. JOINT MEETING OF COMMISSION AND COUNCIL

Councilor Hill called the City Council to order for the two public hearings.

Beginning: 6:00 PM
Continuing: Until all public hearings are complete
Format: (i) Staff Report, (ii) Applicant Presentation, (iii) Public Hearing, (iv) Commissioner Discussion and Motion

1. **<u>ZM-21-00001 & SP21-00004 – 1206 Carlton Avenue</u>** – Landowner Hulett Management Services Inc. has submitted applications seeking a Rezoning and a Special Use Permit for approximately 0.25 acres of land, identified by City Real Estate Parcel Identification Number 570127000 ("Subject Property"). The Subject Property has frontage on Carlton Avenue and access to a rear private alley. The applications propose to change the zoning district classification of the Subject Property from R-2 (Residential Two-Family) to R-3 (Residential Multifamily Medium Density) for the specific development described in the application. The applicant is also seeking a Special Use Permit to increase the residential density allowable within the Subject Property from 21 Dwelling Units per Acre (DUA) to 31 DUA, as authorized by City Code Sec. 34-420 (Use Matrix, R-3 District), and a reduction of one side setback from 13 feet to 8 feet per City Code Sec. 34-162. The proposed development consists of one multi-family residential dwelling (apartment building) with eight dwelling units (a mix of one- and two-bedroom units). The 2013 Comprehensive Plan Land Use Map for this area calls for Low Density Residential. Information pertaining to this application may be viewed online at www.charlottesville.gov/agenda. Persons interested in the Rezoning or Special Use Permit applications may contact NDS Planner Matt Alfele by e-mail (alfele@charlottesville.gov) or by telephone (434-970-3636).

   i. Staff Report

Matt Alfele, City Planner – You will be holding a public hearing for a Rezoning and Special Use Permit for a proposed development at 1206 Carlton Avenue. Management Services Inc. represented by Justin Shimp of Shimp Engineering has submitted two applications: ZM-21-00001 and SP-21-00004. These requests are needed for the owner to develop an 8 unit apartment building on the subject property. The first step of the proposal is to rezone the subject property from R-2 low density residential to R-3 medium density residential. As part of the rezoning request, the applicant is not proposing any proffers. A rezoning of the subject property would change the by right density from approximately 4 dwelling units per acre to 21 dwelling units per acre. This is misleading as dwelling units per acre is not used below R-3. It is not used in the R-2 and R-1 districts. As the lot currently sits, the maximum residential units that could be built would be a two family dwelling. At 21 dwelling units per acre on the subject property, it would accommodate 5 units by right. As part of the SUP request, the applicant is requesting the density be increased from 21 DUA to 31 DUA. The applicant is also requesting the side setback be modified from 13 feet to 8 feet. The applicant has indicated the height of the building would be approximately 40 feet but no greater than the R-3 allotment of 45 feet. The subject property has frontage on Carlton Avenue. The proposed development would utilize the rear alley to access Bainbridge Street. Public comment has been limited. Comments that staff has received are related to parking for the proposed development. Residents are concerned that the code required 8 parking spaces will not be enough for this development. The overflow parking will impact the surrounding neighborhoods, especially the homes on Chestnut Street. As you review the application tonight, keep in mind that these are two separate applications. They could be approved or denied by City Council individually. The rezoning offers no proffers. The proposed development plan is only tied to the SUP and not the rezoning request.

ii. Applicant Presentation

Justin Shimp, Applicant – This will be familiar to some members of the Commission. In 2018, a very similar project was brought before you. The location was on Carlton. It was across from Chestnut Street. It is in an area with amixture of residential and commercial properties. The site plan is largely unchanged from the original plan with the exception of the unit count. We have four 1 bedroom units proposed and four 2 bedroom units. The last proposal was six 2 bedroom units. It's the same number of bedrooms. We have added some more kitchens. This building is set to be a simple economical apartment building for people who are working in the area who want to walk or bike. One of the things that was discussed last time was a question about the alley access. We did clear that up. We do have access to that. We have met with the owner across from us who is welcome to our paving and fixing up the alley to correct the potholes. That's been established. We have also had some conversations with neighbors about parking.

Kelsey Schlein, Applicant – We do know that parking is one of the main concerns with residents regarding this development. It was a main concern back in 2018. It remains a concern with this application. We are open and committed to exploring solutions. We did communicate with the owner of 1208 Carlton, who recently constructed a parking lot to see if there was an opportunity for a shared parking agreement at some point in the future. At this point, there's no interest from that owner. There are a few more options that we could explore in the area for existing parking lots. We are interested in finding a solution to this concern. However, we're not interested in resolving that concern by constructing additional parking. We need the parking requirement where it will have the opportunity to continue to work with nearby businesses to see if there can be a shared parking agreement.

Mr. Shimp – One of the things about these developments is that 30% of people don't have access to a car. For people who live in single-family housing, the idea of not having a car seems foreign. For people renting a one bedroom in this location, it means saving hundreds of dollars per month in not having a car. This is really a way to provide accessibility to people. That's important here. That's why we did not propose to build a duplex after 2018. We felt that was not an appropriate use of this land. There has been a lot of discussion these past years about that. We have worked with the traffic engineer. We have a one-way entrance off Carlton. That is a narrow street. The one-way entrance is safe. The exit is out the alley. There are no traffic concerns. Staff outlined other factors.

We want to give you an idea of scale and massing. It will likely be a residential house-type construction. The example you see references a 4 story but is a 3 story with a rooftop terrace space. R-3 requires an enclosed recreation space. That's how we meet that standard with that third floor recreation space. It is not a 4 story building proposed.

This is the current zoning map. It has been down-zoned over time.

This slide offers a little bit of context. The picture in the lower right corner is key to all of the other pictures on this slide. You will see a collection of 6 units and 8 units. This whole side of the street is

generally residential in this form. The zoning and special use permit we are seeking is not too different from what is built but to match it.

In 1949, the property was zoned B-1 Commercial. In 1958, it was a mix of industrial and residential. The remaining was zoned R-3 in 1976 and remained R-3 until 1991. There started to be this use of zoning to limit density in a period of time. In 2003, it changed to R-2. It was basically spot down-zoned. We are trying to get it back to the correct zoning district based on what is right for the neighborhood and right for the people who have lived there.

If you look at the goals that are stated for the city in terms of providing housing to people who use alternative forms of transportation and climate change, these infill projects are an excellent way to achieve those goals. With this particular location, we're not talking about going into a neighborhood of one story houses and building a four story apartment complex. We're talking about building a light structure on a street near commercial and jobs. Most importantly, it is going to give 8 families or households the opportunity to live somewhere to improve their lives. I know people are worried about parking. Somebody will get to walk to work, school, and somebody's life is going to be improved by living in this. When you talk about these housing projects, it is very critical.

Commissioner Russell – What is your anticipated rent for 1 and 2 bedrooms?

Mr. Shimp – The rent for these type of 1 bedroom units are around $1100 to $1200. For the 2 bedroom units, $1500.

Commissioner Stolzenberg – One of our standards of review is compliance with the building code. It came up in our last meeting that once you hit the 4th story, some additional egress requirements apply. My understanding is that a second stair is required for that 4th story. How are you complying with that here? You have one stair. Is that because that 4th story is not residential space?

Mr. Shimp – That's correct. It's not habitable space. It is potentially an amenity. It's not required. Nobody is sleeping up there. It's not applicable to that space.

Commissioner Stolzenberg – What is that space? I know a general amenity space is required in the R-3 requirements. I am presuming it is to comply with that. Is it a rooftop patio?

Mr. Shimp – It is a rooftop patio with a pergola over it. It is still conceptual at this point. We're trying to give people a little bit of space to get out. It's probably over the exact R-3 square footage. It is a place to get out on the roof and to have lawn chairs.

Commissioner Stolzenberg – Often when we see this kind of rezoning with an SUP, we see the general development plan as given by the developer as committing to it. If not, you have the ability to do whatever is allowed under R-3 without the SUP. Can you explain your thinking behind the lack of that commitment here?

Mr. Shimp – If it is zoned R-3, we would have the ability to build 5 units. Assuming the rezoning and the special use permit were approved, we would not have to use a special use permit approval. With the 5 units, the setback becomes 13 feet. That becomes an unworkable building; not saying that it can't be built. With R-3, the taller you get, the setbacks increase. You might get a 2 story building. The economics of that start to not make sense. The reason we didn't do that is that this lot should have always been zoned R-3. There wasn't a whole lot we would do differently in this particular case.

Commissioner Stolzenberg – From what I recall in the last application in 2018, it was a 6 unit building with one unit proffered as affordable. Can you speak to the affordability of this building relative to that and your decisions around there?

Mr. Shimp – The affordability is complicated and convoluted with these things. Back in those times, we would submit a proffer with affordable housing. You can't really proffer it that fast. For these small projects, we're not opposed to trying to get affordable housing. The methodology to achieve it is incredibly complicated. In some ways, we're trying to get a building that is largely affordable for many people. We really prefer the city pass a zoning text amendment. It was said by one of the callers earlier. If you want every project that has a rezoning with 20% affordable, pass a ZTA. If we can make that number work, we will do it. If we can't, we won't apply. It's very difficult to attach affordability. I think it can be done with a separate resolution attached. We did go through that with the other project in Belmont. With this project, it is not meant to be luxury. It's just one bedroom. We're not opposed to the idea. If you change that with 34-12, we would be happy to comply. We have ran into struggles with that over the years.

Commissioner Stolzenberg – Are you saying that you received an opinion from the City Attorney that you cannot proffer affordable housing on a rezoning like this?

Mr. Shimp – That's our understanding of the rules. There is a mechanism by which the attached resolution and performance agreement are more than a proffer. That is what we understand the case to be.

Lisa Robertson, City Attorney – The last time Mr. Shimp and I were trying to work through this, we were discussing a situation where there were some affordable units that were required by the city code. Other affordable units had been proffered. We were trying to sort out what regulation and requirements would document both the legally required commitment and the commitment above and beyond the legally required amount. If Mr. Shimp understood me to say that affordable units could not be proffered, that was not what I intended to communicate. If the city regulations were to require some sort of covenant to ensure that the units required by the zoning ordinance would be provided for throughout the affordability period, the other units, which may have been proffered, didn't necessarily come with a commitment to be administered and to provide the same level of documentation as to what the city regulations might provide. We've always accepted proffers of affordable housing. What often does not happen is the proffers don't address how we are going to make sure we get that. A proffer that says "I am giving units that will be affordable to people who have incomes at 80% or lower AMI" is unenforceable. It doesn't address separately what the rents

will be. It doesn't address affordability. I did not mean to say that affordable housing could be proffered. When a proffer comes in, I don't have a way to enforce for the proffered units and to force someone to provide additional documentation that wasn't proffered. What we're all waiting for is a zoning ordinance that can have regulations that say if we're going to require a certain amount of affordable housing for every development of a specific size, we want to be up front on what that means and what the paperwork that is going to be required over the course of the affordability period will be.

Commissioner Stolzenberg – We have standard operating procedures adopted by Council pursuant to 34-12g that apply to units required under 34-12. When the units are proffered, that's too vague to enforce. Your recommendation was that the proffer include a modified version of those standard operating procedures that also incorporated the exact terms of the proffer they were making?

Ms. Robertson – I am not sure whether the last one Mr. Shimp was involved in was a rezoning or a special use permit where he was agreeing to certain things in the conditions. Proffers are different. We have to take them as they're offered. We can't say "Because you're not giving us certain things we want, we won't approve your rezoning." It is not uncommon. We're running into this more and more. That's the reason why I will be elated when we get new ordinance provisions. We're running into the circumstance where more and more; where you have people come forward and tell you "One unit would be required by 34-12 with the zoning ordinance. I am going to give you five." Whether that's a rezoning or a special use permit, we're not nailing down during the application process how that will actually be administered into the future after it is approved. After City Council votes on something, we're offering some paperwork. For the one unit required by 34-12, we have a set of regulations that says there should be a restrictive covenant recorded, something documented that's enforceable by the city that will give us that commitment. We're trying to encourage people to enter into some sort of recorded commitment that administers all the same. It's really difficult. Going through the process, most of the developers haven't necessarily sorted through what it actually means to make provisions that will make those units affordable over a period of 10, 20, 30 years.

Commissioner Habbab – Would the new city ordinance be able to retroactively enforce promised proffers? Is that something that can be done?

Ms. Robertson – At the time City Council approves proffers, they become zoning requirements that are enforceable. We could not unilaterally amend proffers and impose new requirements on ones that have previously been approved.

Commissioner Habbab – Given the density of the surrounding properties, I don't see big issues with this. I don't have a lot of questions. I am disappointed that no proffer was offered similar to the previous application.

Commissioner Solla-Yates – As you know, the public is concerned about the storage of private vehicles, storm water effects, and the introducing of additional traffic. Can you briefly address that?

Mr. Shimp – One thing to clarify is that storm water is one of the reasons we have to go with these buildings being difficult to build. If I build a duplex, I can store 4 or 6 cars on site. I don't have to have a site plan. I don't have to have any storm water management. Whatever added impervious area we create as a result of this 8 unit and storage of 8 private vehicles is mitigated versus the no rezoning approval by the city's own storm water management requirements. We do add impervious area with this proposal. We also add treatment of all of it, which would not be applicable in our two properties. That's important to consider here.

As far as traffic is concerned, traffic is a negligible amount. We're not concerned about it. The purpose and location of this building is that you don't have to have a vehicle to store somewhere. If you do, you have to take it everywhere. There's a tremendous amount of traffic commuting in and out of the city every day. For every one of these projects you build, there's one less car coming down Fifth Street into UVA or downtown in the morning. That's the congestion around here. I have worked downtown a number of years. There was never any traffic around the office. Getting into the city at certain times of the day, the traffic can function as a pattern of the commercial and residential areas. We should focus on the positive elements of this location as far as alternative ways of transportation rather than the few extra trips on the road.

Commissioner Lahendro – What happened to the application from a couple of years ago? What was the outcome?

Mr. Shimp – It was denied by City Council. There was a variety of opinions. There were two comments that stood out. One was the alley access and whether we could use it. That would have changed the traffic patterns. At the time, there was a future land use map the Planning Commission was working on that showed this as lower density. That's where they went with it. Since then, some of those topics of discussion have changed. The map has changed. The current future land use map has this as a higher density zone. We feel that is part of the reason we are bringing this back. There's definitely a rethink from what was years ago.

iii. Public Hearing

Peter Krebs – I work for the Piedmont Environmental Council. I live about two blocks from the location of this project. I am pretty familiar with this site. In general R-3 zoning is going to be reasonable and consistent with this location. The surrounding parcels are generally multi-family. The spirit of what is happening here is appropriate. It is appropriate to have multi-family housing close to shopping, jobs, and schools. There is a lot that makes sense. It's also consistent with the direction the future land use map has taken as well. Broadly, this is the type of place where we have multi-family housing. The site really depends on walkability. I am one of those people who walks and bikes multiple times per day. That particular sidewalk has utility poles in it. That corridor is walkable because it has a pretty good tree canopy. I saw trees in the rendering and that's good. For this project to work, the street needs to remain walkable. Let's be sure those trees actually get built or planted.

Mark Kavit – It bothers me when applicants/developers who have been turned down by City Council and Planning Commission come back and ask to be considered again. It bothers me that they come back and present the same proposal and hope those on the Council/Commission will be more sympathetic to their application. I also have to question whether the land is worth as much as they paid for or if it is on option to buy. Maybe it needs to be a lower value on that and less units. I don't have a problem with units being built there. I think it is too many to have 8 units there. That's my biggest concern. It needs to be less dense there. If there is parking on Carlton too, traffic can't really fit in there. You also need to consider the future Riverbend project. There is really no space there to turn around a car. It's going to be very difficult for a car to turn around and get out of there. I am hearing a lot of assumptions on this tonight. I am not against development. I just want to see appropriate development. I don't think this with 8 units is appropriate.

Vivian Schmidt – We live on Chestnut Street. There is quite a bit of traffic down Carlton Avenue and Carlton Road. We see big delivery trucks and construction trucks going down Carlton Avenue. That area has narrow streets with no sidewalks. There is not a lot of off-street parking. As residents, we park on the street. We're all concerned about the addition of cars from this particular development. It is very much an assumption that there would be only one car per unit. In other developments like this, there have been two cars per unit. It is a traffic issue and parking issue for us. Our neighborhood has a very wide age span who need to park in front of their houses. I would like for you all to consider all of those things and the impact on our neighborhood.

Charles Neer – I agree with everything that Vivian just shared regarding the proposed development. The parking issues are dramatic. There is going to be more than one car per unit. The building is nice. The overall plan is deficient. There are some answers that could resolve the proposal. The owner/developer should find an additional 12 parking spaces. That would alleviate the parking problem. The owner/developer could put the whole thing on stilts and have parking under the building for the tenants of the development. The third solution is to reduce the size of the development from 8 units to a triplex. They could add one or two more parking spaces. They can also build a quad-plex with either two over two or four in a row. All of that would be an acceptable solution for the development and not be disruptive to the surrounding neighborhoods.

Amy Marshall – I am coming as a resident to ask you to be good stewards of our community. NDS does not review things based on the impact of the infrastructure of the surrounding areas. They only review projects in a bubble. No other land is considered when making decisions. You should review this in the same way. You have a self-sustained project. You need to have parking on site instead of pushing it off onto local streets. This is already an over-used road. This is a bus route and an emergency route for fire and police. You have to plan for the impacts of more cars. This is an area where children cross the street from this neighborhood to go to school. The developer said that he didn't care about traffic. He doesn't live here with kids. There is no crosswalk and no continuous sidewalk on the north side of Carlton. Since this is a rezoning, you can have proffers that mitigate the impact of the transportation issues increased development will create. If you're going rezone this, it's your job as a Planning Commission to require impact mitigation. If you care about equity, think about the people in this neighborhood. We need cars because we live in a "food desert."

Karen Neer – We've lived in this neighborhood for about 40 years. I am most concerned about the traffic on Carlton. There is already terrible congestion on that road. The traffic is so bad and the road is so narrow. Adding 8 units with 15 more cars in that area just troubles me. The applicant said that a third of the residents would probably walk/bike to work. I love that picture. I don't think it is realistic. There's not a whole lot of industry down here. Most people are going to have to walk to the Food Lion and walk back with their groceries. People are going to have to have a car. Eight units with eight cars is totally unrealistic. We're going to have at least 16 cars with visitors and no place to park. I think it is going to be a disaster. I ask that you reject the proposal. I would love it if the Planning Commission could spend five minutes on Carlton Avenue and see how congested it is. I cannot imagine adding 8 units. That area can be developed in a way that is much more reasonable. This was rejected in 2018 for a good reason.

Jamir Smith – I error on the opposite side of everyone else. Since the parking can't be reduced anymore, I think it is a perfect fit for the community. There are multiple multi-family houses in the area and, it is within a 5 minute walk of the shops on Carlton Road. It's also by downtown Belmont. It is that perfect size building to put in such a small area. I think it is a great model for what could be used in other parts of the city. How are we going to be able to increase infrastructure? The assumption that people can't take the bus to get groceries is wild. I work in transit. I take people to get groceries all the time.

Kimber Hawkey – I am not going to restate the safety issues of this. The one affordable unit that was there has been removed. It was rejected before with that unit. The setback has been reduced. In the previous application, there were concerns about the massing of the building. Coren Capshaw has proposed that Riverbend/Belmont Apartments behind Douglas generated 900 car trips per day. That's outrageous. It's a dangerous street. It's a safety issue. I am concerned about the R-3 designation. The average person cannot follow what is going on. There's a lot of confusion. I think you should reject this. This is a perfect place to do a redevelopment. It needs to be redone and it needs to be appropriate.

Jake Gold – I am dismayed by the number of neighbors who want more car storage here. This is a solid location for car free living. There are good restaurants nearby. It's exactly the kind of development we should be encouraging if we want to cut the number of cars driving in Charlottesville. It is necessary if we want Charlottesville to take climate change seriously. Any of the proposals that add more parking to encourage more cars to be brought to this location are ignoring the serious reality that we need to cut our greenhouse gas emissions. That's being a good steward of our community. I hear what others have said about pedestrian safety, food deserts, and equity concerns. There are a lot of ways to plug into that work addressing those issues that don't stop people from living close to where they work.

iv. Discussion and Recommendation

Commissioner Palmer – It's a great place there. I think it is a very walkable place. There are not as many services there that used to be there. It's great to be by the bus line there. It's finding that balance.

Commissioner Russell – We heard from the developer that building a more "missing middle" type is not economically feasible. That is what is pushing this proposed development out of that scale of soft density and into something that is more middle or high depending on a lot of analysis between staff and myself about how we quantify density per dwelling unit. When we're thinking about appropriate scale for the neighborhood and wanting affordability, the developer is saying that they have to have a certain level of density to hit that profit margin. That should make us concerned moving forward. How do we start to achieve that by building denser? This does tip that scale of density. There was something in the staff report alluding to things that aren't being proffered as part of that special use permit. Do we think any of those other uses should be proffered out if we were to approve the SUP?

Chairman Mitchell – We can't negotiate proffers from the dais.

Ms. Robertson – We have to be aware that proffers are things that come with a rezoning. Special use permits have conditions. If you're considering a special use permit, you're allowed to craft or impose a condition if you think that condition is necessary to make the development fit better in the neighborhood or to mitigate some impact it may have. On a rezoning, you're not allowed to impose any conditions. In a rezoning, an applicant sometimes gives a proffer statement. That is the thing you are not allowed to alter or negotiate.

Chairman Mitchell – We have to do the rezoning to get to the special use permit in this case. We can't negotiate a proffer on rezoning, which would take us to the special use permit.

Ms. Robertson – It is very difficult and complicated. Proffers are just a weird, unique thing.

Commissioner Russell – I did hear some conditions that related to tree canopy that are indicated on the site plan. That might be something we consider.

Chairman Mitchell – If that is something you really want, when we get to the motion on the special use permit, you may want to include that in the condition of approval.

Commissioner Stolzenberg – I remember this application coming up last time. I recall a City Councilor (rejecting it) saying that it was out of scale with its surroundings. It was going to be a sixplex. There was a sixplex next door. On the other side, there was a B-1 zoned single family house. It's now a salon. This proposal and that proposal are missing middle housing. It's a very appropriate location for it in a great location to live without a car or 'car light' lifestyle, where you can have a car and not use it. The traffic concerns are generally legitimate. People have reasons to fear cars and traffic. I like the fact that there will be an exit onto Carlton Avenue. The idea of a crosswalk is a good idea. That seems like something for site plan approval. I am not sure crosswalks are allowed to go to a place where there isn't a sidewalk. Overall, I think it is a good proposal. I would have liked to have seen a proffer like the last time. Those rents that are planned are lower than an 80% AMI proffer. It's about 64% AMI for a one bedroom and 75.5% AMI for a two bedroom. It would be nice to have some of those be guaranteed. Those are market rate rents. If the market continues to rise, they

could go up. I don't have any particular reason to believe the current market rent is significantly different from what was stated earlier. It is well within what we need for workforce housing and even below typically workforce housing. This is the type of housing that we need. For a relatively large lot for Belmont, 8 units is entirely appropriate. I am supportive of this proposal.

Commissioner Habbab – I appreciate all of the comments from the public. For the rezoning part of it, I think it fits. It provides workforce housing, which is needed. Looking at it as a rezoning, they can theoretically build anything that fits into R-3 zoning. I do think that R-3 fits that. With regards to the SUP, the plan as submitted would be a good addition with all of the conditions highlighted by staff. I think having the tree in the front might help reduce the scale of the building.

Commissioner Solla-Yates – We have problems in Belmont. If we want to solve problems, we should spend money on it. We're not going to extract all of the solutions to the problems from developers of small lots. We have to spend money. This landowner didn't make traffic bad in Belmont. This landowner did not make parking problems in Belmont. If we have systemic problems, we need to have systemic solutions: comprehensive planning and capital improvement planning.

Commissioner Lahendro – I have no problem with the rezoning considering the existing zoning around this lot. I think that is entirely appropriate going to R-3. I agree in terms of getting more units in a missing middle type of building. If there's parking and traffic issues, we need to have the city step in and provide the appropriate resources and solutions.

Commissioner Russell – Was there a visual that showed a plan for more landscaping?

Mr. Shimp – We will have conceptual landscaping on the site plan. The ordinance might require two large trees. We certainly want to have a shady yard. Part of that could be an outdoor amenity space in that front yard. Having tree canopy is important to that. In the comments, I heard about the walkability in the shade. It is one of those things you experience walking through neighborhoods and you appreciate it. You don't realize it until you walk in a neighborhood without that. There is a desire for additional trees to be planted. If that is in a condition, there would be no objection.

Commissioner Stolzenberg – Can we get clarification? It looks like there's 60 feet of frontage. The ordinance says one large tree per 40 feet of frontage. Does that mean one large tree/40 feet and another large tree? Would it be easier to make it a condition?

Mr. Shimp – It basically requires two trees. If it is over 41 feet, it is basically two trees in how it has been interpreted.

Mr. Alfele – I would have to double-check the code. At a bare minimum, it would be at least one large tree. It would be looked at during the final site plan review.

Commissioner Lahendro – I would propose that we make that part of the special use permit that we require at least two large canopy trees along the street.

Motion to Approve Rezoning – Commissioner Solla-Yates – I move to recommend approval of this application to rezone the subject property from R-2 to R-3 on the basis that the proposal would serve the interests of the general public and good zoning practice. (Second by Commissioner Lahendro) Motion passes 6-0.

Commissioner Solla-Yates – There is a lot of concern about walkability and sidewalk crossing safety in the area. Would it be possible to have a condition that speaks to that?

Mr. Alfele – I am not sure what the safety condition would be.

Ms. Creasy – Are you asking for a requirement for a sidewalk? That is a requirement for the site plan.

Commissioner Solla-Yates – Something above and beyond.

Ms. Creasy – We wouldn't be able to provide any analysis on the details of what that could be at this point in time. For a crosswalk, you have to have receiving areas on both sides. Each of those areas will need to be compliant. It appears that it may be a mid-block area. It may not be the most appropriate. That would be something reviewed at the site plan phase. We don't want to commit to something that is not allowable.

Chairman Mitchell – Some of the stuff has to be done by the city. We can't look to the developers to solve every problem. We have to do some of this work.

Commissioner Lahendro – Can we ask staff to do a study on this road? Or make recommendations the city might do to make things safer?

Ms. Robertson – You can do that. You wouldn't necessarily do it in the conditions for this development. You can make that type of request.

Motion to Approve SUP – Commissioner Solla-Yates – I move to recommend approval of this application for a Special Use Permit in the R-2 (application ZM21-00001 under review to rezone from R-2 to R-3) zone at 1206 Carlton Avenue to permit residential development with additional density and adjustment to the southeast side yard requirement with the following conditions.

- **Conditions recommended by staff**
- **Two large canopy trees along the street**

(Second by Commissioner Lahendro) – Motion passes 6-0.

Discussion following second by Commissioner Lahendro

Commissioner Stolzenberg – At the eastern border of that streetscape, there is an existing large tree. Is it possible or reasonable to make that condition to keep that large tree? We don't want to wait for the new ones to mature. Is that feasible during the construction?

Mr. Shimp – I don't have a map in front of me to show me what tree that is. We have a lot of trouble keeping trees. Even if there is a sewer lateral that serves this property, we have to do a new sewer lateral, new water connection. Inevitably an old tree with roots out into the zone of required utility work: we hit it. It probably dies. If we can keep it, that is preferable. I would be worried about a condition. We might come to a site plan andutilities might say that we can't build those in here. That tree is going to have to go. I see us replacing something and the tree across the frontage being impacted. I would like to avoid that if at all possible. It is safer to plant two new trees and let them grow with the utilities over time. It's a safer bet.

2. **CP21 - 00001 – 13th Street NE Right Of Way** - Pursuant to Virginia Code section 15.2-2232 and City Code sec. 34-28, the Planning Commission will review the proposal for partial vacation of the 13 Street NE public right of way, between Meriwether Street and East High Street, to determine if the general location, character and extent of the proposal are substantially in accord with the City's adopted Comprehensive Plan or part thereof. Information pertaining to this application may be viewed online at www.charlottesville.gov/agenda. Persons interested in the application may contact Tony Edwards by e-mail at edwardst@charlottesville.gov) or by telephone (434-970-3992).

   i. Staff Report

Tony Edwards, City Engineering – The Subject Street was created in 1940 within the subdivision plat that established the Little High neighborhood. The 1940 subdivision plat created a new "Lewis Street" running north from the east end of Little High Street all the way to "Free Bridge Road", which is now East High Street. The subdivision plat shows "Lewis Street" continuing beyond the home now located at 426 13th Street N.E., behind three other lots, and ultimately connecting with East High Street further to the west (i.e., between the La Michoacana restaurant and an office building). Subsequently the City paved a portion of the platted street—now 13th Street N.E.—which aligns with most of "Lewis Street" shown on the 1940 plat. The paved portion of the street runs from Little High Street to the edge of the lot identified as 426 13th Street N.E. The City also paved the other streets that were depicted within the 1940 subdivision plat (including Little High Street, Meriwether Street, and an unnamed alley located above Meriwether Street). By its actions in paving the streets platted within the Little High subdivision plat, the City effectively accepted all of the streets depicted in the plat—including the entire strip of land labeled "Lewis Street" in the 1940 Plat. Therefore, even though the Subject Street remains undeveloped, that undeveloped portion is now a public right-of-way owned by the City. Therefore, for purposes of City Council's 2019 Updated Street Closing Policy, the Subject Streets falls within "Category A" (proposed vacation of a public right-of-way previously dedicated to and accepted by the City). The property owners that border a portion of this undeveloped section of 13th street NE have expressed their desire to avoid a cut-through street for the Little High Neighborhood and any added congestion between properties and at the intersection with East High Street. They have indicated that a vacation of this right of way would allow them to address existing drainage issues, reduce limiting setback requirements on those High Street properties, reduce any potential grading issues in dealing with the existing steep grades and eliminate potential financial burden for new street construction. The property owners

further agree with the City's understanding in that a utility easement will be required to accommodate the existing sanitary, water and gas utilities. However, this will not provide a multimodal approach through the area. Also in 2019 Stephen Bach, a resident of the Little High Neighborhood, contacted City Council to request clarification of the status of a gravel path at the north end of 13th Street N.E. According to Mr. Bach the public has been using the gravel path for a long time to access East High Street. Mr. Bach desired for City Council to improve the path to serve as a long-term pedestrian and bicycle connection from 13th Street N.E. to East High Street. Upon investigation of Mr. Bach's request it was determined that the existing gravel path actually veers outside of the platted ROW for 13th Street N.E., over the yard of a private residence and a busy parking lot. Staff at the time was also of the opinion that establishing a bike/ped connection within the platted ROW would be difficult and expensive. The area of the platted ROW goes through a large, forested lot, into a driveway between the parcels containing La Michoacana and the office building next door (the City would need to clear and develop the ROW area through the forested lot). To establish a bike/ped connection over the gravel path that is/was actually being used, the City would need to acquire land from the owners of 426 13th Street N.E. and 1202 East High Street, and reconstruct the area to manage conflicts between cars and pedestrians in the existing parking lot.

Comprehensive Plan Alignment
The following excerpts identify some of the related goals established to be in alignment with the City of Charlottesville adopted 2013 Comprehensive Plan. Staff recommends that this request is not in alignment with the comprehensive plan as outlined in the objectives below, but if the Planning Commission and Council determine that the request is in alignment with the Comprehensive Plan, the request for closure could move forward for consideration.

Land Use
This section of right of way is located within a proposed High Street / Martha Jefferson Small Area Plan Development area. The small area planning process is intended to examine these areas anew and holistically, with the full engagement of the public, elected and appointed officials and planning professionals. Each small area plan should be also coordinated within a city-wide map and "multi-modal system framework plan" as called for by Land Use Objective 1.4 and required by the Institute of Transportation Engineers (ITE) guidebook, "Designing Walkable Urban Thoroughfares: A Context Sensitive Approach" (Transportation Objective 2.5,) and the Virginia Department of Rail and Public Transportation (DRPT) "Multimodal System Design Guidelines" as they are developed. The City's Land Use Map identifies this proposed right of way section as being adjacent to low density residential and mixed use areas and should be allow to remain for such a process.
2.3 Enhance pedestrian connections between residences, commercial centers, public facilities, amenities and green spaces.*
3.4 Increase both passive and active recreational opportunities for Charlottesville residents.
8.5 Incorporate best practices in the location and design of a range of parks, school yards, public trails and recreational facilities of various scales and functions, from large natural areas to small urban parks throughout the city.

Housing

8.5 Promote redevelopment and infill development that supports bicycle and pedestrian-oriented infrastructure and robust public transportation to better connect residents to jobs and commercial activity.*

Transportation
1.2 Provide convenient and safe pedestrian connections within 1/4 miles of all commercial and employment centers, transit routes, schools and parks.
2.1 Provide convenient and safe bicycle and pedestrian connections between new and existing residential developments, employment areas and other activity centers to promote the option of walking and biking.*
2.2 Encourage new street connections and alternate traffic patterns where appropriate to distribute traffic volumes across a network and reduce trip lengths for pedestrians, cyclists, and vehicles.
2.6 Promote urban design techniques, such as placing parking behind buildings, reducing setbacks, and increasing network connectivity, to create a more pedestrian friendly streetscape and to reduce speeds on high volume roadway.
3.5 Identify additional roadway connections to improve the connectivity of streets.
5.4 Provide public parking to maintain the vitality of the City while using pricing strategies (including metering) and coordinated locations of parking to encourage use of transit, walking and bicycling.

Urban Design & Historic Preservation
1.4 Develop pedestrian-friendly environments in Charlottesville that connect neighborhoods to community facilities, to commercial areas and employment centers, and that connect neighborhoods to each other, to promote a healthier community.

Staff Discussion and Recommendation
City staff has provided the following comments in their review of the application material:
This section of the 13th Street NE right of way provides rear access to one (1) lot at 1142 E High Street. The lot is zoned High Street Corridor and is not permitted to have accessory dwelling units (ADUs) per Section 34-796. Therefore, the closing of this section of 13th Street NE will not impact rear access to existing or future ADUs under current zoning.

City Traffic Engineering does not believe that this right of way should be closed. Although undeveloped up to this point closing it potentially removes a chance of developing parcel 54-50.002, which is currently owned by the same owner of the adjacent lot at 517 13th St NE, unless the two lots are combined. While there is currently no physical street for parking, parking could be on this street if ever developed. This right of way connects two existing dedicated streets and could allow a through type connection from 2 directions. It could provide an alternative route to existing routes with vehicular traffic of greater than 1000 ADT.

In addition, by closing this 13th St section, we would officially be creating 2 separate dead-end streets that would not meet the city's criteria for a turn around. A possible solution in the short/midterm would be to pave this as a 12 foot wide bike/pedestrian trail with a removable bollard at either end. This would restrict access to cut through traffic that the applicant has

referenced, while still leaving the route available to emergency use if needed and more formally recognize it as a good pedestrian route to High Street.

Parks and Recreation would like to preserve a bike and pedestrian easement, if this does close and retain the right of way.

Public Utilities has existing water, sewer, and gas lines with in this right of way. If closed, Public Utilitiesrequests the entire area be retained as a Public Utility Easement.

Staff notes that the determination of conformance with the Comprehensive Plan and the closure request itself are two separate actions. Only conformance with the Comprehensive Plan is under consideration at this time. **Staff recommends that this request is not in alignment with the comprehensive plan.**

Commissioner Solla-Yates – I understand there has been an email today with some other ideas. I am interested to hear your thoughts on this email.

Mr. Allen – There were some other options that came in late today. It should be considered as a possibility. It just was not in time to be considered for the report. Staff has not had an appropriate time to analyze all of that.

Commissioner Solla-Yates – Are you suggesting more time would be helpful to make an informed decision?

Mr. Allen – For consideration of those options, if Mr. Van Doorn is confirming tonight that those are still on the table that would be appropriate.

Chairman Mitchell – I don't think it would be appropriate for us to consider the new information unless we had input from staff.

Commissioner Habbab – I know there was the old report that said that it would be implausible to build a pathway. Would it be feasible to build a pedestrian/bike path that connects that area? The second question concerns the drainage. I don't know if you had a chance to look at those issues that the residents are concerned about.

Mr. Allen – The Parks and Recreation Department feels that could be achievable. It would require a great deal of work to accomplish that. There is no estimate at this point to what extent that may require. With the drainage, I am not aware of specific complaints of drainage in that area.

ii. Applicant Presentation

Ray Van Doorn, Applicant – I am the applicant. I speak for all of the property owners who touch this right of way section. This is the planned view of the area without vegetation. This section of 13th Street is called a paper street. As a paper street, it acts for us, as property owners, like a real street.

We have an unusual requirement in the High Street Corridor. Those buildings facing High Street have a 15 foot setback. Those properties that face a connector road (13th Street would be a connector road) have a 20 foot setback. If you look at where that #21 is, you will see that spot (if you take 20 feet away from that property line) removes all that property from utility. The 20 foot setback is really a pressure point for us in two ways. I mentioned drainage. If you park in the back of the La Michoacana, there is water that flows downhill from lots 52, 53, and 54 up to Locust Avenue. It comes down during storms. That area where the number 21 is a big hole that receives the water. To effectively address this problem, we need to put an underground conduit from a section behind lot 55 about ten feet into the right of way to a location in the corner of lot 59 and 13th Street. There is a 30 inch storm drain there for stormwater underground. That removes all of this stormwater that we get washing through here. On 13th Street Northeast behind La Michoacana, that is a city paved street that isn't code compliant. It is just paved asphalt that is one continuous asphalt. When it rains, water just flows over the top of 13th Street and down into where that #21 is and into the storm drain. We need to use a portion of this right of way to address this water issue. The other problem we have is that we would like to get more parking off High Street. Across the street is the digestive center. They have been extremely busy. There simply is no on street parking for commercial use. As this area matures and we get more density, having off street parking is exactly what the Small Area Plan calls for. We can manage that with our customers. All of this area is commercial. We want to build more off street parking so we can relieve High Street from parking. We don't do this application that much. The city doesn't get many applications for right of way abandonment. When we got the staff report, we pondered on what the staff report said. We have a couple of thoughts for your consideration. One is pedestrian and bike access. We think it is appropriate and in the best interest of the city that that section of land have a bike path and pedestrian path so people can walk from the Little High Neighborhood down 13th Street, on this path, and up towards La Michoacana. That gives them access to High Street and buses in a different way. The city rejected putting a path in because of cost. It does cost a lot of money. Another issue is that the city has been negligent in maintaining that utility easement. This area is frankly a jungle. If there is a water, gas, or sewer leak, there is no physical way for them to get in there. The trees are 70 years old and have outgrown that area. If there was a water or sewer leak, I don't know how people get in there.

The traffic engineer is correct in saying that this is a connector road. In earlier public testimony, a Mr. Rice was concerned about the Little High Neighborhood, the streets being really narrow, and the concern about cut-through traffic. This road was to be connected, this would be a perfect cut-through for people going to High Street to Meade and cut out the congestion on the corner and that tight pinch-point turn at Meade and High. You would see nothing but traffic going through these narrow streets with no sidewalks. There was a proposal a few years ago to develop that into some high density housing. We had a public hearing about this with the Little High Neighborhood. They all pleaded with us to connect that road. All it would do is create a major cut-through for the neighborhood. They were happy with the situation as it is now. If that site was connected, the big problem for the city and us in the neighborhood is the intersection of 13th Street and High Street. If any of you have been to La Michoacana, you know that it is nothing more than a big parking lot. There is no curb and gutter or sidewalk. It is not an improved city street. It is nothing more than asphalt. When lots 50 and 51 were looking to develop, this was in the realm of possibility. The city

said we needed to develop 13th Street to city standards all the way to the intersection of lots 50 and 49 with city approved streets. Two and a half years ago, it was $700,000 to do that section. If it was connected all the way to lot 47, it is well over $1 million. Whenever a street is built today, you have private people saying "I want to develop lot 49 or 50 and put in that." There are no lots left to develop. There's no interest by anybody in the private sector to improve that road. Who is going to do that work? Is the city interested in putting in $1 million to making a connector to a neighborhood who does not want it? It really doesn't make any sense. The goal of the High Street Corridor is the continuation of scale and existing character with an emphasis on infill development or similar uses. We meet this requirement and embrace it. We want to increase parking and infill in a commercial area and in a location that is not going to interfere in any way aesthetically and anyway with the residential neighborhood. I made a proposal that we as property owners around this section would put in a 12 foot wide gravel connector so that bikes and pedestrians can walk in that area. We would enter into an agreement with the city to maintain that gravel road. It would be exactly over the utilities. That would give the city the ability to access the utilities if there's a failure. We would put in bollards so it wouldn't become a vehicle cut-through. We would ask that the rear setback be reduced from that area down to zero or ten feet away from any utilities. That would give us the ability to develop the land and use it to its best use without interfering with the public.

This is at the end of 13th Street. You can see where the pavement ends right now. This is the path many people use to exit. If you look straight ahead, that's Davis Appliance. People were cutting across this lawn and going over to those trucks and getting access. Since that has been a problem, they have put in a chain linked fence and prevented that access. This is a picture of 13th Street from La Michoacana on the left and office building on the right. This is a public highway. There is plenty of room at the end of this layout to turn around. This is 13th Street and the area we're talking about cleaning up. Seventy years of neglect have had a toll on this. These trees could be saved if we start working on it now. We would propose putting a path through here and cleaning up the kudzu, putting in a gravel road, and maintaining it. We would use that gravel road for our own internal exit out the rear. We would prevent through traffic from going through here. This is the other side of that path. That's what we would connect to at the very end. There might some realignment. That would give the residents of Little High Street the ability to walk or to bicycle down this path and connect to an area that doesn't have a chain linked fence. They can get to High Street, buses, and shopping. We anticipate more restaurants and shopping coming in on High Street and connect Little High Street to the High Street Corridor. We think it makes a lot of sense. We can't do it now because of this artificially created paper street.

Chairman Mitchell – If we elect to move that this is in compliance with the comprehensive plan (but only if he does the things that he suggests that he is going do), how do we do that? I don't think we can condition this.

Ms. Creasy – This isn't an action that can be conditioned. It's an 'up' or 'down' resolution.

Chairman Mitchell – We have to have faith.

Ms. Creasy – In the past, you have provided the recommendation. You have noted a few comments that you have asked to be passed onto Council. That could be a consideration.

Commissioner Russell – What are the obligations of the city to maintain a utility right of way?

Ms. Robertson – That is up to the city. The city maintains the right of way in a manner that will ensure that the utilities in that area are operating properly. There is not a standard that requires it. As long as it suits the operation of the utility facilities, that's all the utility easement is designed to ensure.

Commissioner Russell – Is it possible to allow for pedestrian connectivity but not give up the right of way; keeping the option to exercise it at a later date?

Ms. Robertson – I don't know if that would suit the applicant's purposes. Just because the city owns the area, the city doesn't have any obligation to develop it to any particular standard, to create a pedestrian trail. Depending on the reasons why the applicant wants it closed the city already owns it in full. It's not for one purpose or another. It would be a little difficult to craft a closing only for certain purposes that keeps title for other purposes.

Commissioner Russell – I am just worried about limiting development along East High should it ever be advantageous; not necessarily for cut-through.

Commissioner Stolzenberg – Would the city allow a private entity to improve a right of way to a standard less than that of a street if it wasn't required for a development? Would we allow someone to take a platted right of way and put a pedestrian path there?

Ms. Robertson – It depends on if it is for public use or not. If you want to make a path around your lot, you don't have to make that ADA accessible for yourself. If the applicant is going to incorporate that area as a public sidewalk or as part of a future public dedication of facilities, it is those public facilities that have to be compliant with particular standards if we're going to accept them and turn around and own them again and maintain them.

Brennen Duncan, Traffic Engineer – It would necessarily have to be built to the full roadway standards. It would have to be built to ADA standards or bicycle trail standards if those were the types of facilities that were going to be built in that right of way.

Commissioner Stolzenberg – Would that be the case even if we were to vacate the right of way and they were to create a pedestrian path for public use?

Mr. Duncan – If they were dedicating it for public use, it would have to meet those ADA Guidelines.

Commissioner Habbab – If the applicant wanted to put in a pedestrian right of way, is that allowed?

Mr. Allen – Are you suggesting that it would be a private owned area with a dedicated pathway through it?

Commissioner Habbab – If it remains as a right of way for the City of Charlottesville and they voluntarily wanted to improve it to be a pedestrian pathway, is that something the city will let them come in and cut down the trees that are in the middle of the walkway? You can't walk from one point to another. It's not really a connector.

Ms. Robertson – As long as it is city owned property, we can't let private individuals use it for their private purposes as long as it is owned by the city. If they were providing a pedestrian path for use by the general public and it is on the property that we own, it is going to have to be compliant with standards for public accommodations. If we were to lease the property to them and it became their property by virtue of that lease, they would control it. That might be a private facility. I can't say whether if they allow people to privately cross an area that they have a leasehold interest in, what the requirements would be for them.

Commissioner Solla-Yates – I am not concerned with understanding the character of this paper street. Could we waive the setback requirements if we haven't developed the street?

Ms. Creasy – The code doesn't allow for that. There are options if in a special use situation. You can request relief from setbacks. That's the only situation given the current zoning ordinance.

Commissioner Lahendro – Can staff tell us what existing utilities are in this right of way now? What is their condition and age? What are the master plans for replacing them or adding to them?

Mr. Allen – There is water, sewer, and gas located in that area. The condition of them and future plans is something that we would have to discuss with public utilities.

Commissioner Lahendro – What is the size of the sewer and the water?

Mr. Allen – I don't have that information. I can get it for you.

Commissioner Lahendro – I am just trying to get a 'feel' for how major this utility corridor is. I thought the city normally does condition assessments of their utilities and how soon someone is going to have to get in there.

iii. Public Hearing

Peter Krebs – I am from the Piedmont Environmental Council. PEC is working every day to obtain rights of way and easements to improve public connectivity in every day access to nature. For the city to relinquish rights of way, there needs to be a public good. The owner's convenience is a factor. A decision like this is very difficult to reverse. I find the verbal proposal quite interesting. It would do just about everything I described. There would need to be a public access right of way. An easement for that needs to be in writing. There are too many cases where we try to provide connectivity through private lands. We have seen cases where leadership or an HOA changes and

that right of way is lost. It needs to be much more than a verbal agreement from the landowner. I have an alley behind my house and it does all the things I described. The trail described here would be great and would connect to High Street. City code can give you guidance. It would clearly need to be a highway. This is a complicated decision. I like the creativity the landowner is exhibiting here. I would like to see more details.

Steven Bach – I have been opposed to the city vacating any portion of this right of way. I laid out my thoughts and sent a memo to the Planning Commission and City Council. I appreciate the offer from the applicant about a bicycle/pedestrian path. What is important is having it binding. It has to be done. They could 'weasel' out of it. It would conform to ADA standards. A gravel path is not conforming to ADA standards. You cannot ride a bike on a gravel path. In Mr. Van Doorn's letter, he mentioned 80 years of inaction by the city. Eighty years ago, Meade Park and the aquatic center did not exist. It now is a different story. East High is under redevelopment. There's a real interest in the city allowing citizens to go from Little High Neighborhood north to East High Street to patronize those commercial establishments. There's also an interest with the people north of East High Street to reach Meade Park. To close off this right of way would really not be in conformance with the comprehensive plan. I would urge the Planning Commission to find it is not in conformance unless some other arrangements are ensured.

Jonathan Rice – I am in favor of bike/pedestrian paths through 13th Street. I really liked Mr. Van Doorn's presentation. We do not want to see automobile traffic through here. I understand that you would anticipate vehicle traffic greater than 1000 ADT (Average Daily Trips). That number of cars would be a huge problem for the people that currently live there. There is a lot of talk of reducing the carbon footprint and automobiles. There are a lot of parents with children in this neighborhood. A lot of parents drive their children to school. It is so wasteful and a real shame. I don't care if Mr. Van Doorn owns this or the legal disposition of the land. If we could cut through here, there would be a lot less traffic. I am adamant and opposed to automobile traffic through this. It would be a mess.

Greg Jackson – I don't think the neighborhood has taken a formal position on this. There's been a lot of talk. The general consensus is that bike/pedestrian is desired; automobile cut-through is not desired. The question is the action to get there. I am hesitant to give up the right of way until I see the full consequences. There should be a map that can easily be shown when all the property lines meet in the middle and take over the right of way. We get the back ten feet on either side of utility as to what that path may be like. If there's a zero lot line and zero setback from the properties on High Street, building could be up close to that path. It seems at this point public works needs to take a look. I would like see a way that this can happen. I think zero setbacks might be asking for too much.

Elizabeth Carpenter – The traffic assessment that they really are hoping for holds out the possibility for developing that for cut-through traffic doesn't seem like a great idea for me. I don't see the benefit there. I would love to see the pedestrian/bike pathway. I have been looking at all the maps. I do find it confusing. If that is vacated, where does all that land go? I appreciate the creativity of Mr. Van Doorn. I do think it needs some more diligence for that.

iv. Discussion and Recommendation

Commissioner Lahendro – It does break your heart to look at pictures of this area overwhelmed by kudzu. I don't believe this conforms to the comprehensive plan of vacating this piece of street. I don't like the idea of forfeiting the city from the future possibility of doing something and needing this street. I don't see that it benefits the larger community to do it. In terms of making improvements, there are ways of doing things in this city that doesn't have to be either private or public done. I am aware of organizations, neighborhoods, and community organizations that work with Parks and Rec to clear out evasive plants to create open areas and to make improvements to park areas. There is a will in the community that would benefit from doing that here. It can be done. I am not for vacating this property by the city.

Commissioner Solla-Yates – This is a public right of way. If I can understand a public benefit, I am open to the idea. I don't have that clarity from staff. At this time, I can't support it.

Commissioner Habbab – I would have to agree with the other commissioners. Since there are no conditions that can be set throughout this process, it does not conform to the comprehensive plan. In my opinion, there might be other options the city can possibly take a look at. Maybe Parks and Rec can study this property and estimate a date they could improve it. It can be leased out if neighbors want to clean it up. Setback reductions are only allowable as part of a special use permit. That could be something we could look at with the new ordinances.

Commissioner Stolzenberg – I am sympathetic to the property owner's plight with the rear setback issue. High Street as it is zoned doesn't make a lot of sense. Even if this was vacated, it would still require a ten foot landscape buffer adjacent to a low density residential district. I am not even sure that can coincide with a utility easement. That could add even more. The appropriate way to address that would be with a ZTA (Zoning Text Amendment) or just waiting for the new zoning ordinance, which is anticipated to create some pretty significant increases in intensity in this area. That could make an improvement in the right of way more viable. Given how much this would restrict the utilization of these properties, you could ask the BZA (Board of Zoning Appeals) for a variance. My impression would be that they might grant a variance in a case like this. The comprehensive plan is quite clear as far as the transportation network goes. More connectivity is good. A redundant grid is the way to go. I hear the neighbor's concerns about vehicular traffic. Everyone wants their street to be a cul de sac. The 1000 ADT is for Meade Avenue but not what would be moved if there was a cut-through. It's not likely there would be an improved street here. I would like to see a bicycle/pedestrian connection in lieu of that. The proposal that was made is pretty compelling to me. I wish we could figure out a way to make that work on the public right of way, even if it has to meet standards. It sounds like it would have to if it is open to the public. I would hope that public works would allow adjacent property owners to make stormwater improvements as necessary on the public land and to make bicycle/pedestrian improvements compliant with standards if they so desire voluntarily. It is not a proffer, not binding. I just don't see how I can vote to affirm this as compliant with the comprehensive plan.

Commissioner Russell – I agree with my fellow commissioners. I would appreciate staff's response and thoughts on what might be viable or could be codified in terms of achieving pedestrian connectivity. I am reluctant to limit the potential and give up right of way. I am also not as

convinced that it would be a really great cut-through when Stewart Street is right there providing connectivity to Meade. That is not to say that I don't hear the concerns. There is an existing cut-through that is pretty direct right there to Meade from High. I appreciate the applicant's creativity. I hope we can find ways to work together on this moving forward.

Chairman Mitchell – I have to agree with my colleagues. This is not in compliance with the comprehensive plan. The creativity makes this very appealing. I don't see a way forward.

Mr. Van Doorn – We all want the same thing. Getting there is the challenge. Giving up city land is a challenge. I would like to withdraw my application for today and work with Ms. Robertson and city staff and come back with an idea that is acceptable. Owning the land for us is not that important. What is important is that the Little High Street Neighborhood has a way to utilize connectivity. Nobody in Little High wants a cut-through. It is not designed for it.

Chairman Mitchell – We all like what you are trying to do. We accept your withdrawal.

The meeting was recessed for five minutes.

IV. Commission's Action Items

1. Critical Slopes Waiver – CRHA South First Street

i. Staff Report

Carrie Rainey, Staff Report - The Charlottesville Redevelopment and Housing Authority (CRHA) is requesting a waiver from the requirements and conditions of a critical slopes waiver previously granted to it pursuant to Section 34-1120(b) of the City Code (Critical Slope Ordinance). The previously-granted critical slope waiver allows construction and land disturbing activities within critical slopes, for a development that would include 62 multi-family residential units in three (3) buildings and a community resource center (Phase 1). Improvements specific to areas where critical slopes would be impacted should the waiver be approved are shown on the Critical Slope Exhibit (Attachment B) and include portions of the buildings, sidewalks, on-site parking areas, an access aisle, stormwater maintenance facilities, and recreation amenity spaces. Subsequent to commencement of construction, CRHA contacted staff, representing that it cannot construct the development in accordance with the previously-approved critical slope waiver. Specifically, CRHA believes that it cannot comply with Condition 4. The provided staff analysis focuses on the applicant's proposed modification to the previously approved critical slope waiver. Each applicant for a critical slope waiver is required to articulate a justification for the waiver and to address how the land disturbance, as proposed, will satisfy the purpose and the intent of the critical slope regulations. The applicant has provided this information in the critical slopes waiver narrative. The approved general land use plan of the comprehensive plan calls for the site to be high density residential, which is defined as the density of more than 15 dwelling units per acre. The applicant currently proposes density of approximately 21 dwelling units per acre. Per Section 34-1120(b)(6)(d)(ii), the shape and location of the critical slopes may unreasonably restrict the use

and development of the subject properties in a manner in accordance with the Comprehensive Plan. Alternative site layouts may reduce impacts to critical slope areas, but may also impact other development factors such as achievable residential unit counts due to increased construction costs.

Jack Dawson, City Engineer – There was a condition that I formulated based on some submittals that we got last week. I wanted to give a brief background of where we are and describe the situation. There are 4 or 5 conditions previously approved with this project. One was to have buildings 1 and 2 completed before building 3 could start. The purpose of that is building 3 is placed on the tract that serves the treated sediment that flows from where buildings 2 and 3 are being built. There are some other issues with this plan as approved. In June, an amendment was approved to address how the best management practice (BMP) for stormwater, which is a quantity feature and it is the underground retention pipe, to be constructed. It wasn't clear in the plan. We approved an amendment that showed how, not only would buildings 1 and 2 be constructed first, but the curb on the southside of parking lot would not be constructed with the parking lot so the water would not go into the storm drains and not go into the BMP and flow off the curb into the tract where the dike would remain. While I understand the supply logistics and construction is bit 'screwy' these days, I don't think it alleviates the existing concerns. What the applicant wants is to eliminate that requirement essentially. My concern with that is that is a specific requirement based on how this plan was put together with building 3 and the tract being coexistent. What the applicant is proposing now and there was an email today that referenced mulch and silt fence. That is mostly not acceptable for this type of application. There are some further concerns I have with that as well. While I did craft that statement, I don't know how detailed you want me to get with this.

This is what is being proposed now by the applicant. The blue is the approximate mulch area. The light green area is the area that we sodded. The red is silt fence. What the update to the plan said was that there are three filtering practices. Mulch is not a stabilization measure for this use. The intent would be that the people building the buildings would be in the mulch bed. Mulch is in the Virginia Handbook as an acceptable practice. It is for the same thing you use it typically. Straw is actually in the mulch preventing raindrop erosion. If you have bare ground, you cover the ground so raindrops don't stir up the mud. Technically, the use of mulch in this situation requires a variance. The mulch is less of a concern to me compared to the other issues going on here.

There are some issues with the plan clarity. When I was made aware of this two weeks ago, I proposed taking it to the Planning Commission that night when we were discussing the comp plan. I know the applicant has done their best to get something here. Part of this plan is very complex with the schemes. There is a lot of information on the plan that is not in the sequence. There are some considerable issues with this. If you see within the blue line where there is that SO label that is the sod label. Above that is the 402 contour. That implies there is a basin there. Under the cursor is a grey inlet system. That inlet system is not specified when it is to be installed. That inlet system would carry water into the main storm drain system, which would take it to a BMP. That was a detail that I asked when it was intended to be built. It's not clear. If it is not built early on, you're going to have all of these basins at elevation 402 around the foundation as the foundation is poured without anywhere to leave. The building is currently shown at a finished elevation of 402.2, which is 0.2 feet higher than those basins. There are a lot of 402 contours to that whole area and it is

essentially flat back there. Mulch would track vehicles and lifts in there doing their thing is not going to be adequate.

As of a month ago, the plan was changed so that the intent would be that this curb that you see on the plan south, the bottom of this parking lot would not be built. The water would not go into those inlets and not go into the underground retention. They would flow across where that sidewalk is supposed to be into a dike, and into a trap. What is happening now is that it is being directed right into the storm drain system. Per this plan, the only filtering system would be that red silt fence, which is shown. The protection is not supposed to be the primary residential feature. The BMP would be used for erosion control by default.

The plans as currently submitted, there is a note that says "In an emergency situation, the BMP can be used as an erosion sediment control feature." That is still on this very plan, which conflicts with the sequence that says "Now it is the primary feature after all of these are done." There are some more inconsistencies in there. The narrative provided today talks about the silt fence being behind the sidewalk and building the sidewalk later. In looking at this plan and the amount of information that's on the plans, it's going to be difficult to ensure what is done here is actually enforceable and carried out. There's been significant problems on the site with conforming to the erosion control scheme. Last week, they went outside the limits of disturbance (LOD) and possibly disturbed more critical slopes at the bottom because it wasn't feasible to get down there and work within the prescribed LOD. As of today, there was a bust on the survey of about 5 feet where the storm drain outfalls as it is designed. With all the riprap that is required for such a significant outflow, it conflicts with the sewer line. It is not shown like that on the plan. We're going to need more revisions. While I created that condition, I am not really comfortable suggesting that is going to be the silver bullet that makes this workable.

Chairman Mitchell – Is that your recommendation or is this the revised recommendation from what we got from the applicant?

Mr. Dawson – It was not terribly different. I had a recommendation that the buildings be ringed with silt fence entirely and a stone access road so that the vehicles building the building can be on stone in a basin that is a muddy mulch mix. This plan that was provided today adds a silt fence to this scheme, which is a good step. Once the builders get going, they're not too keen on silt fence. You can drive right over a standard silt fence. There are some concerns there. While I suggested a condition (that would be the minimum condition at this point), I would have to see more of these things addressed in further submittals. It would be hard for me to craft a condition that describes all of the things I would need to see addressed in a more considered submittal.

Chairman Mitchell – I am confused. You just walked us through your revised recommendation that's in the application we read earlier today. You're not endorsing it?

Mr. Dawson – It's a good recommendation. It's not going to close the gaps in the scheme here. What was intended to happen is that the two buildings surrounded in blue were to be built first because the building at the bottom of the page has the tract. In saying that they're going to eliminate the

tract and ring the building with silt fence, there are further problems that need to be investigated on this plan. It is not stated in the sequence when this yard inlet system will be built. That's very important. If you don't build it first, you're going to have all these basins with mud and silt fence. There is not adequate conveyance. Without those inlets, that whole rear blue line is going to be a pond. These contours don't flow anywhere but to a yard inlet system that has not been detailed when it is going to be constructed.

Chairman Mitchell – Nothing about this project has been an exact science. We don't have all the answers. We have never seemed to have all the answers. Do we have enough answers for you to feel comfortable with us granting the waiver based on what you have?

Mr. Dawson – I could probably craft some language that would lead to more submittals and reviews.

Ms. Creasy – Maybe hearing from the applicant team will provide some insight that might be helpful to the discussion.

Commissioner Lahendro – I am looking to get some clarity on what the issue is. From the presentation I have heard so far, we have non-compliance going on. There are problems building it like they said they were going to build it. I don't know what that has to do with the critical slopes waiver. I am hearing a lot of problems. I would like to have them teased out to know what it is we're being asked to do and what I the impact? Are there things that still have to be worked out that needs us to not grant the waiver that is being requested? I need some clarity.

Commissioner Solla-Yates – My guess is that if we don't amend the language, we lose this project for a year (LITCH funding goes away). If we do find some language that is better, we have no real guarantees that it will be great. Is that accurate?

Mr. Dawson – The project is under construction. This came to light 8 days ago. The applicant is trying to address one specific thing to address their concern or their issues with getting materials. What they don't want to do is, if they can't get materials, they don't want to prep buildings 1 and 2 and sit around and wait for materials to arrive and they can prep building 3 so they can build all three at the same time. That is an understandable concern. The issue is that I don't think what has been submitted is satisfactory. I have been trying to think of a condition I can tell you so they can take a week to put this all down logically. I think there are five critical slope conditions. One is that they will be marked in the field; the limits of disturbance so that everyone can see it. They wouldn't pass that. There is no repercussion for that. My concern is that it makes my job awfully hard if we put a condition on here with an honest intent of keeping sedimentation out of Pollocks Branch. I have been at this site a lot and have talked with the contractors. They're under notice to comply now for "failure to adhere to the plan." We're going to need plans to address how they have expanded the LOD and see if they have impacted the critical slopes. That's going to effect stormwater management computations and all of those things as well. There are going to be at least four amendments for this project. It is hard for me to keep up with all of these things. What I saw today was a shift away from the correspondence I was working with the engineer last week

regarding using the underground retention as a trap. This is extremely esoteric. The BMP facility they have: You cannot use that. You cannot direct water to that facility without a variance to the Erosion Sediment Control Handbook. You can only use features from the VESCH from what they're intended without a variance. I would entertain a variance. I would prefer not to. We have spent a lot of time putting this thing into place where it would work as shown. That pipe is 4 to 6 feet wide. It is a big pipe for retaining water. It is on a half percent slope with a hole in the bottom. That hole is at the inverted end of the pipe. If you get mud into that system, it goes right through. There is no sediment dropout provided. Minimally, if we can have a condition that the sequence is clarified for how this is actually going to work, stick with my condition about the stone construction entrance instead of mulch, and address how the BMP will be tweaked, when it will be constructed, what orifices will be plugged, when, and how it is going to work. That's what we need to see. Those are the three conditions. More work will need to be done.

Ms. Robertson – For those commissioners who haven't been through critical slopes applications, I would like to offer a much higher up description of how I think we got here. The city has this provision in the zoning ordinance. It was adopted years ago. My understanding was that it was intended to provide additional protection for sensitive environmental areas. The idea is that if you protect critical slopes, you're achieving some sort of environmental benefit. The city wrote a zoning ordinance provision that says that you protect these critical slopes but turned around and said "we will let you obtain a waiver of that protection under certain circumstances." Those provisions were written before the state really beefed up all of its erosion and sediment control regulations. We now have modern erosion and sediment control regulations. You are being asked to vote on a critical slopes waiver before an applicant has actually done the detailed work needed to get approval of an erosion and sediment control plan is in accordance with the regulations. The situation you wind up with is that you vote on these things. You adopt conditions such as "let's sequence the buildings to make sure we provide extra protection for the critical slopes areas and minimize disturbance." When you get closer to construction, through the process of doing the erosion and sediment control plan, certain things can/can't be done with that. You all typically don't ever see an erosion and sediment control plan. That's all handled administratively by a local E&S administrator. That's why this is so confusing. Your role is to try to figure out what steps you would like to implement above and beyond basic erosion and sediment control measures to protect this area that is a critical slope area. If you are now at the point where you want to grant a general waiver to the critical slopes area and modify conditions that really can't be implemented, Mr. Dawson and the city's E&S staff will just to have to work through all of this E&S compliance with the developer in the context of the state regulations. What you need to decide tonight is whether or not you're going to get rid of the construction sequencing condition and whether or not you need to get rid of any other conditions; we're granting a general waiver and work it out through the E&S process. That's about as simplified as I can make it.

Chairman Mitchell – It seems to be an abdication of responsibility if we say to work it out through the E&S process. We leave Pollocks Branch at the mercy of all of these other idiosyncrasies.

Ms. Robertson – The problem is that the only conditions that you all (to date) have been able to conceive of that might achieve that level of protection; the developer is saying that they can't do

them. I don't know how you want to resolve it. Critical slopes waivers deal with measures above and beyond regular erosion and sediment control. That's very difficult to craft as Planning Commissioners. Not all of you have erosion and sediment control, engineering, or other expertise.

Chairman Mitchell – Let's say "work it out through the E&S process." What precedent do we set with other developers?

Ms. Robertson – This is not the only time a situation like this has come about. This particular type of development is one that everybody wants to see moved forward as expeditiously as it can. Everyone is very concerned about it. I am going add to the list of things you need to look at during the zoning ordinance rewrite: this critical slopes waiver provision. I am not sure you all should be looking at it unless you are looking at it in conjunction with an E&S plan that has been engineered and developed through the site plan process. In my opinion, you are getting these way too early. It is creating more problems than it is achieving environmental benefits.

You're back to having to collectively decide whether you would prefer to grant a general waiver or whether there are any conditions that the developer can comply with above and beyond regular E&S measures. Things like mulch and straw are to be handled under the normal E&S regulations.

Mr. Dawson – It is also frustrating when we do these critical slope things early in the process. They are showing you rectangles and here is the building. It makes my job easier. I can make a blanket statement. I don't have to go through the details with you about what mulch applies. It can be more general. With Grove Street, there was enough of a plan there to come up with one condition. To Rory's point, I can describe that plan for the next three hours and my concerns. That is not going to solve this problem. If there was no critical slopes provision and this came in as a VSMP amendment, I couldn't approve what is sitting here right now. I understand your concern about abdicating responsibility. In the interest of keeping this project moving and if you eliminated condition 4 (the trap and sequencing), we would go through the typical review process of this amendment and try to get something that works. There is still a condition in there. We have improved erosion control statewide. People are getting better at it. It is not quite as important as it once was. Had I had this a month ago to prepare for this, it would have still been confusing. It sometimes helps to just get with the applicant and their engineer: this is the concern, work through it, and instead of doing it in this public forum with a lot of moving pieces.

Commissioner Habbab – I do want to disclose that I am working with owner and applicant on a separate project that is next door, which is Phase II of South First Street. I believe I can remain impartial for this critical slopes waiver application.

Commissioner Stolzenberg – It seems to me that the problems with this plan now are that it doesn't meet the state EFC requirements. You're only going to approve it when it meets those requirements. Is there additional authority above and beyond that you need under a critical slopes waiver? Is it better to let you do what you need? Sometimes, we talk that you need that extra authority.

Mr. Dawson – Condition 1 says something along the lines of other measures as deemed necessary by the VSMP authority. If they argue with me too much, I can use that. There is some extra authority there if required.

ii. Applicant Presentation

Ashley Davies, Riverbend Development – I really appreciate the quandary that Jack is in as well as the information Lisa shared with you. She summarized it perfectly. These critical slopes waivers come very early in the process. You are last to add all these technical conditions to a project that is not fully designed at that point. It does create a lot of issues along the way. None of us want to be in this position. We appreciate everyone coming here. We will try to provide as much clarity as we can for your consideration. In general when we look at this, staff was recognizing that it is a tight site and was looking for ways to ensure that we're not doing anything near the slopes until we absolutely had to in keeping that trap in place. If anybody has been by the site recently, what you will find is (in terms of the critical slopes waiver), all of the slopes that needed to be disturbed have been disturbed. All of the perimeter measures and those types of things are in place. We have done all the major grading on the site. The building foundations are in. We're at the point where we're basically preparing for vertical construction. What we found is that (with Covid) all of our suppliers were having a really hard time getting the materials to even build the buildings. We're really having to adapt and pivot as much as we can to keep the project moving forward as closely as we can to the anticipated schedule. We really appreciate the city being a major partner on this project. We have residents next door that are waiting to move into their new homes. Everyone is really excited about this. We have run into some issues with the survey and things not being exactly where they thought they were. We're all just trying to adapt as best as we can. We certainly don't have any ill intent. We are just as committed to protecting Pollocks Branch as anyone else. In terms of the actual waiver and the disturbance, that has already happened. The stabilization methods are on site. We're looking around buildings 1 and 2 at these measures that are above and beyond, which include the permanent stabilization method of sod around those buildings. We know that basically it is going to put all of that in. Instead of temporary stabilization methods on those areas of the site, we will put in a more permanent stabilization in all of the areas that are outlined in green. It is really just around those building foundations where the sod is not going to hold up very well. We will be continuously refreshing the mulch. Downhill of that is where all of the silt fence goes in to touch anything that might come through. You have all of that sod area. The rest of this is already foundation of the building. It is not any back areas of exposed dirt. On the downhill side of the parking areas, you have the additional inlet protection. What this gets into is not much of anything to do with the critical slopes waiver, the slopes have been disturbed. The site is in the process of getting back towards stabilization as we move forward with construction. What we're really talking about is getting an erosion sediment control sequence that everyone can be comfortable with. This is a little bit different. We had this condition that was imposed over two years ago. We are finding that does not work with current conditions. We have also spent a lot of time working with city staff to try to make adaptations on site. What we found was that staff said "we can't make any of these recent adaptations because of this was a Planning Commission and City Council condition." It doesn't really allow the E&S process to adapt or be amended with staff. As Jack and Lisa mentioned, those are very strict measures imposed by the state. Jack, through condition 1, has the ability to

impose additional measures as necessary above and beyond. We're just looking for a solution. We do not see any danger to Pollocks Branch.

Ryan Goodrich, Breeden Construction – The conversation was brought to the team's attention that there was a supply issue, particularly with lumber to be able to construct buildings 1 and 2, which are the ones in this photo that are surrounded by the blue mulch lines. In order to keep the schedule and catch up to the owner's overall delivery schedule, we realized that it was going to take building Building 3 along with buildings 1 and 2 in order to keep the schedule. Initially the schedule was laid out that building 3 would come much later as buildings 1 and 2 would be out of the ground and stabilized. With the parking area, I am not sure what Mr. Dawson is referring to as the lower half of the curb and gutter being left out. As part of the next phase eliminating the sediment basin, it clearly states that the parking area was to be completed and that all inlets be fully operational. That can't happen until the curb and the gutter on the plans south is fully installed. What we're trying to do is get rid of the pond so we can build the third building. We're trying to do it so we can keep the schedule. We have a community that is cheering us on next door. We have a city that has been wonderful to work with. We're just trying to keep the expectations and keep the community from being let down. We were trying to get creative about the way to keep the progress in the midst of today's environment, material shortages, and supply chain shortages. We conferred with our team and pitched a couple of ideas. I am not entirely sure about Mr. Dawson's recollection of eight days ago, this came up. We had a meeting set that he wasn't able to make. We had a phone conversation after that. I pitched the same verbal idea on the phone call. He made it sound like it was going to be something that potentially could be redlined and put into a set of drawings as redline. We thought we had some traction. We put together that narrative. Unfortunately, there was a glitch in some other language that contradicted what we were trying to do. This conversation has been going on almost a month. We're just looking to get a general consensus that our team works with Mr. Dawson's team to make sure we're complying with state and local regulations and get creative in a way to maintain the schedule but to accelerate the removal of the sediment basin and not do anything abundantly different than the way drawings are designed. We will have foundations sticking out of the ground instead of 3 full buildings. That's the only difference in what we're trying to achieve here. Start building the third building before we get buildings 1 and 2 exteriors complete. That's the goal. Mr. Collins has been working with us on how to make sure we comply. We're looking for the city to help us help the community and CRHA get to a point where this project can continue to move forward.

Scott Collins, Collins Engineering – In our sequencing with the removal of the sediment trap, we're not changing that. We are still achieving 100% stabilization on the site from the parking lot up. For everything that would go to that sediment trap, we are stabilizing that per Virginia Stormwater E&S Control Measures Standards. Mulching is a standard. Sod is a standard. These were approved. We are doing the same thing. We are stabilizing the site. In addition, all of that clean water is being routed through our stormwater management facility because it is a stabilized site. It does have inlet protection as another form on the inlets to ensure that the runoff is treated for additional above and beyond controls. All of this site will be stabilized with the sod and the mulch around the upland areas. That is what the approved plans say now. That's what we're asking to continue. The only change is that they will still be working on the buildings. There will be

scaffolding on top of the mulch. Nobody will be in there digging around that foundation creating disturbance. Everything will be stabilized with the sod and with the mulch areas. That's really the only thing we're asking for tonight with the critical slopes waiver. Condition 4 is about when we can achieve stabilization on the upper half of this site so we can remove the sediment trap on the lower part and start construction of building 3. We are committed to stabilizing all of the upland areas as it was originally approved. That's the biggest thing being lost in the discussions tonight. The reason why we're asking for this is because of COVID issues. We're not asking for anything that wasn't already part of the approved plans. We're still in compliance with that. We're not asking for the BMP to be an E&S measure to hold sediment laden water. That's not what we're trying to achieve. If we were doing that, I wouldn't be behind this plan trying to move it forward. I have put the requirement on this site for to be upland area to be stabilized before that trap can be removed. That's what I have been working with the contractors, site contractors, and with the team in order to achieve.

Jay Kessler, Owner Representative – The Breeden team did come to us about a month ago with their issue with the lumber delivery. They were looking at a way to maintain the schedule and the delivery. One of the reasons I am comfortable with our team putting this forward is that the Breeden team has done a good job of following E&S requirements on the project. It got off to a rough start. There were two notices of violations within the first month of the job in February. Breeden worked with Jack and David Frazier. There have been regular inspections. Until last Friday, I wasn't aware of any violation. I did get a phone call that there had been an E&S inspection done. Apparently, there was something noticed and we were going to receive a notice of violation. I called the superintendent of Breeden. He spoke with David Frazier. We have not seen the notice of violation. We don't know what it includes. There were proactive measures taken. In offering to take this approach of effectively doing what the original plan required of stabilizing around buildings 1 and 2. I believe Breeden's team is focused on what that will take to maintain the stabilization and not disturb the ground. We will inspect it. They will do what they are committing to the owner they would do. There is definitely going to be an increased burden on their construction team to do the scaffolding, to build buildings 1 and 2 off of stabilized ground. They have committed to us that they will do that. Based on their track record, they will.

Commissioner Solla-Yates – It sounds like my fears of LITCH funding are not correct. What are the schedule risks?

Mr. Goodrich – We're looking at the supply chains being 60 to 90 days behind. It's a major impact to this rather tight schedule as it was designed. With the community involvement and building right next to their future homes, it is even more of an impact to the community and their expectations. This is why we are trying to get creative. It could be a really quick and easy announcement to this development team. We could say that we're behind. That is not the approach we want to take. We want to exhaust all options to try to get creative to maintain the overall schedule. 60 to 90 days is a rough delay in materials right now.

Ms. Davies – You do start to see a ripple effect. We will not lose the LITCH funding for this current project. If you are unable to deliver projects within a certain timeframe, it knocks you out of the

running for LITCH funding in certain future years. It will also have a negative impact. Once the South First Street residents move into this project, we're supposed to immediately begin construction on South First Phase 2, which is also a LITCH development. Anything that impacts us now will have a ripple effect on future phases.

Commissioner Palmer – What is the sediment trap? Why is it so important to be able to remove that in your sequencing?

Mr. Goodrich – The third of the three buildings gets built on top of where the sediment trap is right now. It has to be infilled. There is a process of removing and infilling the sediment trap and preparing that area for the new building. The logic here was to get rid of the sediment basin, get to that third foundation, and the burden would be on us as the contractor to build all 3 buildings at the same time once the materials became available. It is important to us to maintain the schedule so that burden is something we're willing to accept.

Commissioner Stolzenberg – The original plan for the two buildings was that they were to be completely constructed. You're maintaining that the foundation being constructed is functionally equivalent because the ground will have the stabilization measures in effect. Isn't the reason we said they should be fully constructed that while you're constructing the buildings, there will be heavy equipment moving there to construct the buildings?

Mr. Goodrich – There will certainly be equipment, personnel, and scaffolding. The commitment we have made to our client is that we will maintain the levels of stabilization that Mr. Dawson and his team are requiring. In the end, we will permanently, if it requires, convert removing all of the temporary sod and temporary mulch from the areas we are using to complete the checklist for the conversion of the pond. If we are having to remove that and reinstall the permanent areas, that is what we will do.

Commissioner Stolzenberg – Didn't Mr. Collins just say that there would be permanent stabilization prior to the removal of the drainage pool?

Mr. Goodrich – There will be. It will be muddy grass. We will put in new green grass prior to opening up the complex.

Ms. Davies – A lot of those buildings are also surrounded by the parking area that will be utilized for materials and the heavier equipment.

Mr. Goodrich – It is a very logistically tight site as it is. Every square inch of parking area is going to be needed to construct the third building, even if we didn't have a materials shortage or a need to talk about this. We are still going to need every square inch that we have out there to finish the project. We're fully prepared to permanently redo any kind of sod areas and parking areas. We're going to freshen the place up before we deliver the project. We are going to need the entire project to get it done.

Commissioner Stolzenberg – It sounds like you are not OK with the initially proposed alternative condition from staff that would require a stone construction entrance. What's the issue with that?

Mr. Goodrich – It's not that we're not OK with it. The stone construction entrance was the code that was kicked back as if we are less than 10 feet from the building perimeter to the back of curb or to the parking area that was the means of stabilization. That was how I read the response. All of the other areas were "super silt fence" (silt fence backed chain link) backing all the way around the perimeter of the building. It makes for the feasibility of construction. It makes it difficult. I understand that there may be concern that a typical silt fence behind the curb of the parking lot is going to be a challenge to keep maintained. We're up to the challenge. We felt that the three levels of filtration protection (one being the filtration of the permanent sod, even though it is a temporary permanency), the sod filtration through the silt fence behind the curb potential filtration. If that made it across and into the parking area, by design, all of that water is intended to sheet across the parking area. We would have inlet protection before it made it into the storm system on the lower side of the parking area as well. We felt we had a trifecta of protection. That was the intent. We're open to suggestions from Mr. Dawson's office. We just want to make sure that we can continue forward and keep the schedule on this project.

Ms. Davies – I think we just need a reasonable way that we're able to actually access those building foundations and do the construction.

Commissioner Stolzenberg – Do you think the city is being unreasonable that another locality would have approved your E&S plan?

Mr. Goodrich – I don't think the city is being unreasonable at all. We're in trying times and everyone needs to think outside of the box a little bit. We're doing this on behalf of our client. This doesn't affect Breeden Construction. It really is about the client, the clientele, and the City of Charlottesville. We are coming in to try to make an impact and a positive one. We want to get creative. We're asking you guys to do the same. It is just an extension of a schedule under unfortunate results of a pandemic that we're all very familiar with.

Ms. Davies – I am in full support of Ms. Robertson's analysis of the situation. We get ourselves in trouble when we try to put too many details into the critical slopes waiver. You all have already granted Mr. Dawson the authority to apply whatever measures he sees necessary on this site. If you have a critical slopes condition, you can't adapt at all because things come up. I think those are best left to the technical staff members to achieve as necessary and keep your conditions more general if possible while granting the necessary authority to staff to handle it.

Commissioner Stolzenberg – Why did you bust through your limits of disturbance of the building?

Mr. Goodrich – This is the first I am hearing about it tonight.

Mr. Dawson –I will just discuss not disturbing steep slopes. There is storm drain outfall construction, which is required and where the survey bust is. There is still disturbance to the

slopes. That's the area where they went outside of the LOD. It looks like the LOD is too tight to the creek. There was a survey bust down there. When you have issues like that and you're trying to put a 10 foot wide machine in 6 feet, you have issues. I paced it off today. They went about 20 feet outside of the LOD. If you walk down the hill towards the creek, we're talking about 5 feet away from the creek. One of the requirements is that the LOD be stable in the field. You can quite clearly see there are two jersey barriers 14 feet away from the LOD. It looks like there was probably not the turning radius to get a machine down there and back up. There was sediment discharge into Pollocks Branch, which is what we're trying to avoid. It was quite clearly done. We could have issued a stop work order immediately. It is not what we did. I can't speak to why they went outside of the LOD.

Commissioner Habbab – I think the applicant mentioned they were to complete the foundations for buildings 1 and 2 prior to building 3. What would the difference be from a sediment control if those buildings' exteriors were completed as well? What is the difference there by having the foundations?

Mr. Goodrich – It wouldn't be working on the permanent stabilization. If the siding, roofing, and window installation were done and the building envelope complete, we wouldn't be working as much around the building. What we're proposing is that there will be considerable construction to complete the envelope and framing around the building on temporary/permanent stabilization.

iii. Commission Discussion and Motion

Chairman Mitchell – What would you like to do with this? Would we like to make a motion to adopt the item 4 that has been recommended by the applicant? Would we like to adopt the item 4 recommended by city staff? Would we like to reject the waiver?

Motion – Commissioner Solla-Yates – I move that we strike Condition Four. Second by Commissioner Stolzenberg.

Discussion Following Motion

Commissioner Stolzenberg – It sounds like the plan they proposed would not be approvable as an E&S by you (Mr. Dawson). Do you feel that Condition 1 gives you the authority you need without a Condition 4? Do you feel there needs to be a Condition 4? If so, the one proposed by the applicant, the one proposed by you, or another one that is more general?

Mr. Dawson – With Condition 4, this is a great example why we shouldn't hash all of this out here. Even if you struck Condition 4, I would require something very close to Condition 4, unless there was further mitigation provided in the plan. Yes, I think there is enough authority there that we can make this happen.

Motion passes 6-0.

2. Presentation – Housing Advisory Committee – Future Land Use Map Proposal

Sunshine Mathon, HAC – What we are going to talk about is a presentation that was made. This is a slightly iterated version.

Over the last few weeks, Dan Rosensweig and I have listened to and attended a variety of community-based and neighborhood meetings focused on the Future Land Use Map. The proposal we're going to discuss reflects our effort to distill the common ground from the spectrum of insights, concerns, and hopes that we heard. Consistently across all of the discussions, we have heard the following.

- We have heard common praise for protecting and preserving historically black and low-income neighborhoods.
- We have heard common support for addressing affordability broadly across the city. Most everyone is OK with future affordable housing in their neighborhoods.
- We have heard common concern that density for density's sake alone doesn't serve anybody well.

The framework proposal I am about to share acknowledges the fundamental truth that growth and change is inevitable in Charlottesville. We cannot control this. What we can do is guide the character and the purpose of the growth. The framework also acknowledges that existing neighborhoods are always experiencing change; if not in built form then change is evident through dramatically increasing home values, which result in a changing arc over time of who can afford to live there. The proposal is only a framework. Our effort has been focused on establishing common ground that can be used as a purposeful vision driven foundation to guide the city's future. This foundation will require our subsequent, detailed analysis and discussions through the zoning update and other topics. The framework that we're proposing will rely on the Future Land Use Map being a living document. We will never be able to detail a vision that fully accounts for all future outcomes. The Future Land Use Map must be able to adapt and refine over time.

Here are the core concepts that build on those three common threads.

- First key concept in our proposal is to create a new low-intensity residential land use category using the language that is currently already in place that the consultants have put forth. This land use would be the base land use for historically black and low-income neighborhoods to reduce development pressures by essentially keeping in place the existing density allowances in these neighborhoods.
- Second key concept in proposal is that all residential portions in the city would have a base land use of the currently proposed general residential land use category. Recognizing the growth has historically been accommodated on the backs of low-income neighborhoods, this would shift growth patterns to higher income areas to some extent.

In effect, all residential areas of the city would have a base land use of either low-intensity residential or general residential. Under the principles of all kinds of housing for all kinds of people

in all kinds of places and density with purpose, higher intensity land uses would be allowable if and only if affordable housing is part of any higher intensity development. Functionally, as a layer on top of the base land uses, this proposal recommends medium-intensity residential be a by right use in all residential parts of the city if and only if affordable housing is part of a proposed development. This recommendation privileges affordable housing and guides intensity with purpose in all neighborhoods. Further, the proposal also recommends high intensity residential be a by right land use in specific scale, context appropriate parts of the city if and only if affordable housing is part of any proposed development (importantly) governed by practical constraints, topography, lot sizes, infrastructure, etc., we full anticipate the need for gradations of middle-intensity and high intensity residential allowances in different parts of the city. Our proposal is intended to establish common principles that set the stage for the next level of detailing. One of the most important details that will need to be worked through is the specifics of affordability. This proposal does not yet tackle these details. Recognizing that each detail has both community impact and financial impact, this detailing process needs to determine:

1. The minimum percentage of affordable units in a particular development.
2. The depth of affordability of those units.
3. The length of time those units must stay affordable.

In closing, I have two key additional comments. This framework does not address every concern of every neighborhood. Fundamentally, no proposal ever will. What our framework does is set forth a practical vision for growth with purpose, privileging affordability as the central tenant of this city's future. This proposal recognizes that a good land use policy and well-crafted zoning structures are necessary but are wholly insufficient ingredients in guiding the city to one that works for everyone. Good land use and effective zoning must be coupled with the full plan of necessary interventions as laid out in the recently adopted Affordable Housing Plan: Adequate funding, rapid redevelopment processes, tenant's protections, etc.

(Visuals and slides shared)
What you are seeing right now is the current proposed version of the Future Land Use Map the consultants have constructed. What you are seeing is a photoshopped rendering of an illustration of the principles. We're not suggesting that this is the final map. What we're trying to do is illustrate those core principles. We have added that low-intensity residential category. It is a peach color. We have done a cursory effort at drawing an area around what could be the identified historically black and low-income neighborhoods. That will require some refinement and detailing. The remainder residential portions of the city are highlighted as general residential. These two illustrate the differences side by side. It is a pretty simple concept that sets forth a pretty potent vision. We have been sharing this with a variety of neighborhoods who have requested it, at the HAC. We have had individual conversations with some city councilors, some planning commissioners, and other people to highlight what we're trying to talk about. Hopefully, it feels like it has some resonance.

Commissioner Palmer – It is a very interesting proposal. It will be interesting to see what place this has. This is an overlay versus not losing sight of some of those neighborhood nodes that were

being contemplated to be a little denser. You don't want to lose sight of some of that. Visually, maybe there is a way of accommodating those two concepts.

Commissioner Russell – Are we also reviewing the additional layers? That's in our packet: the medium intensity and the higher intensity by right if affordable.

Chairman Mitchell – We can talk about that. Dan, when I asked you a question, you gave me a pretty good clarifying answer about the other maps and the intention of putting them in the packets. It was intended to be illustrative of what might happen.

Dan Rosensweig, HAC – One thing to point out is this is really a concept and a framework. Some of the things that we discussed when the consultants followed up with us is that there might be areas of the city where they don't really want to be general residential. They're really the areas of the city that a lot of people know where they are. You really don't want to put the extra restrictions on them where you want just density, intensity, and volume to happen. I won't name specific areas. Ours is just a framework. Defining the General Land Use Categories is really important. In the memo where it says that it would keep existing densities in the place in the low-income neighborhoods, rather than replicating R-1, it wants to be rewrite of what that is. It could be more restrictive in some ways but probably less restrictive allowing neighborhoods to gain equity while avoiding displacements. I don't think it really serves us that well to go into the details at this point. What we're looking for is to see if there's general traction on the part of the Planning Commission to direct the consultants to utilize this framework for thinking about the next steps in advancing the Future Land Use Map (FLUM).

Commissioner Russell – I am generally supportive of this framework and the direction it is going. I actually had that concern of preserving a neighborhood and community but also not capping wealth accumulation and that balance. How would you employ a possible incentive for the affordability? I think it wants to be an overlay as opposed to a zoning designation. We're not looking at the same materials that were in our packets. I don't know if that question applies.

Mr. Mathon – One thing to consider is that we have had a couple of conversations with the consultants over the last 4 to 5 weeks around this concept. One of the initial comments from the consultants is that they had been planning, on some level, to address the question of affordability requirements or some form of inclusionary zoning in the zoning stage of the process. Because the land use map has gotten a lot of attention and it has gotten intense in lots of different ways, it became appropriate to bring that level of conversation around affordability in at the land use map level. It will absolutely be more detailed at the zoning level once it gets to that point.

Commissioner Russell – I would just add to encourage you add a counterpart or a corollary overlay (designation) that also incentivizes rehab or renovations for affordability.
Mr. Mathon – We have certainly heard that a couple of times. Prioritizing preservation of existing structures as opposed to teardowns is one of the ways to help preserve both character and protect low-income neighborhoods even further.

Commissioner Stolzenberg – What I like best about this proposal is that we're "marrying" the text that we talked about before with the map. In the Affordable Housing Plan, it says explicitly under the multi-family by right zoning "establish inclusionary zoning policies as part of any revision into the multi-family zoning." It does make a lot of sense to add that directly into our descriptions on the map. It makes a lot of sense to allow that possibility of medium-scale apartments everywhere with the requirement for affordability. That saves us a lot of fine grained picking out things on the map versus just letting that go to the site plan requirements and making sure that the infrastructure and physical constraints are in place and it is doable. Is the goal to create the maximum number of affordable units or the maximum percentage of affordable units even if that means a lower amount?

Mr. Rosensweig – For me it is two things. It is qualitative and quantitative. You can't do a mapping exercise without thinking about the history of the map and the intentionality of the zoning map to calcify what had been put in place with restrictive covenants. To me what is really important, as a champion of affordable housing who has tried to develop affordable housing, opportunities for affordable housing should be available throughout the city. A family zip code shouldn't be their destiny. One of the primary purposes of this map is to create the conditions by which affordable housing can happen in every neighborhood. In terms of percentage versus maximum, I am focused on the delta. I am not as concerned about the percentage as I am the fact that our own data is that by 2040, we are going to need 4,000 new units/interventions in the city and 12,000 units in the region. If overall densities go up, that is fine with me provided there is infrastructure in place. I am really focused on equity.

Commissioner Stolzenberg – That's a really good point about making every neighborhood accessible. It gets into a big worry whenever you talk about an IZ (Inclusionary Zoning). It is very easy to make an IZ ordinance that effectively bans any development by making it completely infeasible. What I also like about this proposal is it lets us turn that dial. We want to make sure that projects are able to pencil in every neighborhood. In sensitive neighborhoods that have historically been disenfranchised in the zoning process, we can crank that dial up to protect them. Sensitive neighborhood or sensitive residential is a better description than low-intensity. In the overlay, medium is available and an existing condition. There are plexes throughout every neighborhood in the city. It will be really important. I think the zoning ordinance staff needs to really carefully calibrate that and to make sure we set numbers that make things work. We can have affordable housing produced in every neighborhood; even the highest opportunity neighborhoods. In addition to the three numbers you talked about, the affordable housing plan talks about additional levers that we can pull in order to make inclusionary zoning work. On page 94, "to offset lost rental income, you can have a tax rebate." Real estate tax is going to be about $150 a month on a $200,000 assessed unit. We can use those especially where the math gets hard in order to make things work. I think it is a proposal that makes a lot of sense. I think it is a good base for how we look at this whole thing in the future. I think it simplifies things a lot. It is a good framework.

Mr. Mathon – On the point in making that balance, you're absolutely right. Projects have to pencil, it won't happen. Part of the work the consultants will have to bring to the table is the economists to help drive those equations appropriately. There are other tools to use to counterbalance some of the financial impacts.

Commissioner Habbab – I agree with Rory and Liz. I am very supportive of the concept of the overlay. I think having that language will be very helpful. Taking into consideration the earlier application we approved, we need to be able to enforce affordable housing in R-2/R-3 zoning. I am curious about exploring homeownership. I don't know how that would fit in or be added to anything or where that fits. That is an important part of the affordability of Charlottesville.

Commissioner Solla-Yates – The people of Tenth and Page are suspicious. They're concerned. There is fear. I too feel that fear. Historically, down-zoning the black and low-income areas was a "time-bomb." It is exploding. Does keeping it all R-1 stop it from exploding? Probably not. Does replacing it all with 12 unit apartments solve it? Probably not. Frankly, I don't think we can solve it with Future Land Use Map or zoning. I understand the desire to solve everything with the Future Land Use Map. We have to get the zoning right. I like the overlay concept a lot. It is better than inclusionary zoning. If we had the Cambridge example earlier in the process, we would have explicitly had that in the affordable housing plan. That's the right way to go once we're in zoning. In general, I am reluctant to make major changes to the Future Land Use Map. People are getting used to this plan. Making an explicit connection to affordable housing in the Future Land Use Map is a good idea. We probably should have done it. That makes sense to me. With penciling, I pushed the consultants on this during the housing plan. The HAC had been talking about it. They were concerned it would only pencil for very high density. It would have been like 30 to 50 units. For little things, it was no. Rich people have money. Rich people can build mansions by right. They're doing it now and are going to keep doing it. We're not going to solve that.

Commissioner Lahendro – I am not seeing limits on number of units, number of stories, and heights. Is it presumption that what the consultants are recommending for general and medium intensity carried over to your proposal?

Mr. Mathon – We did not tackle that range of issues, recognizing that getting to that level of detail; there still may be work that needs to be done to refine those categories and potentially nuance them in different parts of the city. That's not what we're talking about. For the moment, we're going to assume that the consultants' definitions hold for this proposal as well.

Commissioner Lahendro – The problems I have with the consultants' recommendations are carried over as well. Who establishes whether a development is compatible within the context? What are the benchmarks? What are the requirements? Is it done on a project by project basis based upon the context directly around that project? Is it done by a zoning district or district of some kind?

I like the general idea. We still have a lot of work to do with the original proposal and what carries over this one.

Chairman Mitchell – Density for the sake of density is 'dumb.' Density with a purpose, density that is smart, density that privileges affordability is good. The overlay, as it has been presented, does just that. It provides density with a purpose. The purpose being affordability. The protection of low-

income communities and African American communities from displacement as a result of not being able to afford to live there anymore, as a result of gentrification is important. I think the map as they have outlined it does that as well. We also need to begin thinking about protecting the historical edifices in our city. Protecting these historical areas needs to be built into whatever we do. We are focusing now on just the Future Land Use Map. We should not be thinking about numbers. We should not be attempting to define what affordability is. That will happen when we get to the zoning ordinance. We should not be thinking about how long affordability should last. That will happen in the ordinance. We should not be thinking about how many affordable units need to be involved in a given overlay development. That needs to happen in the zoning ordinance. If we decide to move forward with this, I think the one thing that needs to be a part of any thing we submit to Council is the overlay concept. That has to be implicit in the map. We will have overlays. These overlays will "privilege" affordability. We get to the numbers when we get to the zoning ordinance rewrite.

Councilor Payne – My thoughts would be similar to what I expressed at the HAC meeting. The overall framework is a good one. It is a good framework for addressing some of the concerns a lot of people had about ensuring density is actually promoting affordability to the maximum possible extent. The only concerns I have: have to do more with the details than with the framework. In particular, making sure we don't end up in a situation where projects don't pencil out when we have a de facto down-zoning for some neighborhoods that have racial covenants and redlining and we're not inadvertly doing a de facto down-zoning in some of those areas because projects don't pencil out. How do we ensure that we're actually monitoring and keeping units affordable as part of the requirements in the overlay? Those are questions beyond the land use map. I am sure those will be addressed at a later date.

Mr. Mathon – That's really savvy and really smart. You can't down-zone from R-1. Most of Charlottesville is R-1. Even General Residential is a step up.

Councilor Payne – De facto down-zoning from the land use map without an overlay versus with the overlay.

Councilor Hill – I shared a lot of the things that have already been raised. The devil is in the details. Specifically with what Commissioner Lahendro said, making sure we have the right structures in place. Whatever we do, there are a lot of appropriate places to add density in the city, it is in context with what is surrounding and what those procedures are going to look like and ensuring there is that kind of accountability. This framework is definitely stepping us in the direction that the community can coalesce around. There is still a lot more work to be done. I really appreciate the efforts from those leading this and bringing it forward for our consideration

Commissioner Stolzenberg – The real details need to be pushed to the zoning ordinance rewrite where we will have the map done. It is also important now, for your small projects that are just getting into this overlay, in determining what your baseline level is, you're going to be setting those levels implicitly. If General Residential allows tri-plexes and you're building 4 plex and saying that it has to be 25% affordable. While the bulk of the details should be pushed out later, there is some amount you need to be thinking about now. We have heard from CLICH that General Residential,

outside of sensitive neighborhoods, should be pushed up to 4 or 5 plexes. That would make the 5th and the 6th unit be the affordable one, which gets you down to a percentage that makes sense. It might make sense to say the 5th unit or the 6th unit if you preserve the existing building. When you're looking at a 12 plex, is the 8th unit, 9th unit, or 10th unit affordable? That is the sort of thing that will change once we're hammering out the details. We do need to think about that now. There is no reason to me not to have this inclusionary requirement when you're building x number of townhomes or single-family homes. If you're building dozens of homes, why shouldn't it apply any development of that kind of number or more? If you are building two townhomes on a lot, that should fall under General Residential. If you're building 5, that's when the overlay kicks in.

Jennifer Koch, Consultant – Our goal tonight was to listen to what you all were thinking on this map. We haven't prepared any comments. We have met with Mr. Mathon and Mr. Rosenweig a couple of times just to make sure we understood what was being proposed. Some of these thoughts about an overlay we have in the chapter in the Comprehensive Plan as part of the next step with zoning at a real high level. What we will do is take into account what you all have brought forward and see if there is a way that makes sense to bring some level of that into this land use map component or make it more clear on the map as we move forward with what the expectation will be.

Chairman Mitchell – If we decide to move forward with the overlay, we embed the overlay into the future land use map. I am hoping that this Council will have the chance to vote on this future land use map. The overlay concept will be memorialized in that when we move forward into the next Council.

Alex Ikefuna, NDS Director – We met with Dan and Sunshine and the consultant team to go through the proposal. The Planning Commission should ask the consultant team to review the proposal and see whether there are elements of the proposal that can be incorporated into the future land use map. One of the products that comes out of the process has to be something that the market can respond to. We don't want to come up with something at the end of the day the developers are not going to respond to. Whatever we come up with, we have to be conscious about that and make sure the market will respond to it.

Chairman Mitchell – Have we chatted with any developers about this?

Mr. Ikefuna – Two of the representatives that presented this are nonprofit developers. We haven't talked to the private developers.

Ms. Creasy – There might be other ways to accomplish the goal. If the premise of the overlay is something that is appropriate for residential and general, perhaps it is not an overlay. Perhaps it is a portion of the ordinance that any residential area could take advantage of. That would simplify understanding. I don't know what that would look like. There is potential for meeting the framework ideals in a different way.

Chairman Mitchell – At the end of the day, we will have a hybrid of all three plans/land use maps that we have worked through.

Councilor Hill – What timelines does the Planning Commission anticipate taking with this broader process of the Comprehensive Plan over the next 6 months?

Mr. Ikefuna – Following the Planning Commission meeting on June 29th, we are looking at this coming to the Planning Commission around November or late October and to the City Council between November and December.

Chairman Mitchell – I really want this Council to move on this.

V. Adjournment

The meeting was adjourned at 10:52 PM.