FLUVANNA COUNTY PLANNING COMMISSION

REGULAR MEETING AGENDA

Carysbrook Performing Arts Center
8880 James Madison Hwy Fork Union, VA 23055

Tuesday, May 9, 2023

6:00 pm Work Session
7:00 pm Regular Meeting

TAB	AGENDA ITEM
	WORK SESSION
A.	**Call to Order, Pledge of Allegiance and followed by a Moment of Silence**
B.	**Reventon Farms Special Use Permit Applications – An Overview of the proposed Camp development**
C.	**Utility-Scale Solar Generation Facility Land Uses v/s By Right Accessory Rooftop Solar Applications**
D.	**Adjournment**

REGULAR MEETING

1 – CALL TO ORDER, PLEDGE OF ALLEGIANCE AND FOLLOWED BY A MOMENT OF SILENCE

2 – DIRECTOR'S REPORT – Douglas Miles, AICP, CZA, Community Development Director

3 – PUBLIC COMMENTS #1 (5 minutes per speaker)

4 – MINUTES: Review and Approval of Draft Minutes from March 7, 2023

5 – PUBLIC HEARINGS:

ZMP 23:02 Renaud Consulting - A rezoning request to conditionally rezone from A-1, Agricultural, General and I-1, Industrial, Limited to the B-1, Business, General Zoning District with respect to 4.7 +/- acres of Tax Map 5 Section A Parcels 48, 51, part of 53 and part of 53; Tax Map 5A Section 1 Parcel L2 and Tax Map 5A Section 2 Parcels L1 and L1A. The subject properties are located in the southwest quadrant of Richmond Road (Route 250) and James Madison Highway (Route 15) in the Zion Crossroads Community Planning Area and the Columbia Election District.

6 – PRESENTATIONS: None

7 – SITE DEVELOPMENT PLANS: None

8 – SUBDIVISIONS: None

9 – UNFINISHED BUSINESS: None

10 – NEW BUSINESS: None

11 – PUBLIC COMMENTS #2 (5 minutes per speaker)

12 – ADJOURNMENT

Douglas Miles

_____
Community Development Director

Fluvanna County…The heart of Virginia and your gateway to the future!

For the Hearing-Impaired – Listening devices are available upon request. TTY access number is 711 to make arrangements.
For Persons with Disabilities – If you have special needs, please contact the County Administrator's Office at 434.591.1910.

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PLEDGE OF ALLEGIANCE

I pledge allegiance to the flag
of the United States of America
and to the Republic for which it stands,
one nation, under God, indivisible,
with liberty and justice for all.

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ORDER

1. It shall be the duty of the Chairman to maintain order and decorum at meetings. The Chairman shall speak to points of order in preference to all other members.

2. In maintaining decorum and propriety of conduct, the Chairman shall not be challenged and no debate shall be allowed until after the Chairman declares that order has been restored. In the event the Commission wishes to debate the matter of the disorder or the bringing of order; the regular business may be suspended by vote of the Commission to discuss the matter.

3. No member or citizen shall be allowed to use abusive language, excessive noise, or in any way incite persons to use such tactics. The Chairman shall be the judge of such breaches, however, the Commission may vote to overrule both.

4. When a person engages in such breaches, the Chairman shall order the person's removal from the building, or may order the person to stand silent, or may, if necessary, order the person removed from the County property.

PUBLIC HEARING RULES OF PROCEDURE

1. PURPOSE
   - The purpose of a public hearing is to receive testimony from the public on certain resolutions, ordinances or amendments prior to taking action.
   - A hearing is not a dialogue or debate. Its express purpose is to receive additional facts, comments and opinion on subject items.
2. SPEAKERS
   - Speakers should approach the lectern so they may be visible and audible to the Commission.
   - Each speaker should clearly state his/her name and address.
   - All comments should be directed to the Commission.
   - All questions should be directed to the Chairman. Members of the Commission are not expected to respond to questions, and response to questions shall be made at the Chairman's discretion.
   - Speakers are encouraged to contact staff regarding unresolved concerns or to receive additional information.
   - Speakers with questions are encouraged to call County staff prior to the public hearing.
   - Speakers should be brief and avoid repetition of previously presented comments.
3. ACTION
   - At the conclusion of the public hearing on each item, the Chairman will close the public hearing.
   - The Commission will proceed with its deliberation and will act on or formally postpone action on such item prior to proceeding to other agenda items.
   - Further public comment after the public hearing has been closed generally will not be permitted.

FLUVANNA COUNTY PLANNING COMMISSION
REGULAR MEETING MINUTES

Carysbrook Performing Arts Center
8880 James Madison Highway
Fork Union, VA 23055

Tuesday, April 11, 2023
Regular Meeting 7:00 pm

MEMBERS PRESENT:
Barry Bibb, Chair
Howard Lagomarsino, Vice Chair
Mike Goad, Commissioner
Bree Key, Commissioner
Lorretta Johnson-Morgan, Commissioner
Patricia Eager, Board of Supervisors member

ABSENT: None

STAFF PRESENT:
Eric Dahl, County Administrator
Douglas Miles, Community Development Director
Jason Overstreet, Senior Planner
Fred Payne, County Attorney
Valencia Porter-Henderson, Administrative Programs Specialist

1. **CALL TO ORDER, THE PLEDGE OF ALLEGIANCE AND A MOMENT OF SILENCE:**
At 7:00 pm, Chair Bibb, called the April 11, 2023 Regular Meeting to Order, led in the Pledge of Allegiance and then he conducted a Moment of Silence.

Chair Bibb stated that he had received a request from Commissioner Johnson-Morgan to add to the Agenda under New Business a brief discussion on the Adjacent Property Owner notification process that is for the notification of Public Hearings conducted by the Planning Commission.

2. **DIRECTOR'S REPORT – Douglas Miles, AICP, CZA, Community Development Director**

Friday, March 24th Central Virginia Regional Housing Partnership – Charlottesville Omni

Housing and Economic Development Session by Virginia Tech's Virginia Center for Housing Research – Workforce Housing "No housing for the carpenters and electricians to build the affordable housing needed in Virginia" was a comment that summed up the housing crisis.

Preventing Rural Displacement in Housing Nelson County on how to ensure that long-term residents can continue to live and work there. Fluvanna – Louisa Housing Foundation – Kim Hyland is working with Fluvanna County staff on Senior housing opportunities within County.

Thursday, April 13th Technical Review Committee meeting and Pre-Application meeting

ZMP 23:02 Renaud Consulting (Wawa) Conditional Rezoning Request: Rezoning from A-1 and I-1 to B-1 conditional zoning to permit a Wawa convenience store, deli restaurant and nine gasoline pumps and a second outparcel located completely within Fluvanna County at Route 250 and 15.

Reventon Farms Glamping Cabins and Outdoor Recreational Facilities: New Camp and Outdoor Recreational uses proposed on 745 acres, with 300 in Fluvanna and 445 in Albemarle, with 250 cabins, offering up biking, hiking, birding, adventure forest and an equestrian center on property with access in Fluvanna County on Rolling Road S and Briery Creek Road in a rural, remote area.

Fluvanna County Utility-Scale Solar and Solar Energy Storage Planning Commission Update

Siting Agreement may include terms and conditions, including (i) mitigation of any impacts of such solar project or energy storage project; (ii) financial compensation to the host locality to address capital needs set out in the (a) Capital Improvement Plan adopted by the host locality, (b) current fiscal budget of the host locality, or (c) fiscal fund balance policy adopted by the host locality; or (iii) assistance by the applicant in the deployment of broadband, as defined in VA State Code 56-585.1:9, in such locality.

Solar Panels and Inverters Recycling Plan should have a clear Plan on the disposal or a recycling destination and not in Fluvanna County. There are centers available on the east and west coasts.

Solar Energy Industries Association (SEIA) Recycling Information: While most solar panels produced today will have a useful life for decades, there is inevitable waste stream created during production and use, when solar panels are damaged during shipment or installation, determined to be defective or they become obsolete or reach their solar end-of-life use.

Solar panels typically consist of glass, aluminum, copper, silver and semiconductor materials that can be successfully recovered and reused. By weight, more than 80 percent of a typical solar panel is glass and aluminum, which are both common and easy-to-recycle as materials.

Fluvanna County Solar Generation Facility Definitions

Solar generation facility, minor scale: An on-site solar energy conversion system producing not more than 15 KW of electricity. Small scale solar energy systems generally reduce on-site consumption of utility power for civic, commercial and industrial applications. On-site may include adjacent parcels under common use, ownership and control. Rooftop arrays do not require zoning approval. Ground mounted arrays require zoning approval as accessory structures.

Solar generation facility, small scale: An on-site solar energy conversion system producing less than 2 MW of electricity. Minor scale solar energy conversion systems generally reduce on-site consumption of utility power for civic, commercial and industrial applications. On-site may also include adjacent parcels under common use, ownership and control.

Solar generation facility, utility scale: A solar energy conversion system producing 2 MW or more of electricity to a utility provider. Such facilities interconnect with an existing electrical grid serving other off-site facilities which are not adjacent or under common use, ownership or control.

Fluvanna County Solar Generation Facility - Special Use Permit Recommended Conditions:

Site Construction, Expansion and Operation condition: Pile driving and site deliveries limited to sunrise – sunset, Monday – Friday; other activities Monday – Sunday, it meets Noise Ordinance.

Construction Traffic Management Plan condition: submitted to VDOT and Fluvanna County to address pre- and post-construction road evaluation and a plan to repair roads, if any damages.

Site Parking, Phasing and Staging Plan condition: site access plan directing employee and site delivery traffic, to minimize all conflicts with local traffic during the peak construction periods.

Construction Mitigation Plan condition: addresses dust by watering and mud mitigation with use of construction wash racks to keep sediment on-site and avoid burning and smoke issues.

Vegetative Buffer and Setback condition: minimum fifty (50) foot setback from public roads and agricultural and residential properties, occupied or unoccupied, until other non-residential uses.

Supplemental Buffer and Groundcover condition: twenty-five (25) foot buffer planting area when mature vegetation does not exist adjacent to agricultural and residential properties. Site groundcover consisting of native plant materials to benefit bees, birds and beneficial insects and use of synthetic herbicides to control the site vegetation would not be permitted on premises.

Fluvanna County Fire Training condition: applicant, owner or operator to provide training to County personnel responding to facility and provided with site manager contact information during site construction, expansion or operations for all public safety emergency situations.

Decommissioning Plan condition: Approved by County Administrator and reviewed by the County Attorney and Community Development Director for when solar generation facility is inactive and is considered shutdown for delivery of electricity to the grid at this location. The decommissioning it shall commence within six (6) months of receipt of such notice from the applicant, owner or operator at their expense under the approved, bonded site agreement.

3. **PUBLIC COMMENTS #1**

Chair Bibb opened Public Comments #1 at 7:35 pm by giving each Public speaker a limit of five (5) minutes to speak and he asked that they state their name and their address for the record. With no one wishing to speak in person or online, Chair Bibb closed the first round of Public Comments at 7:36 pm.

4. DRAFT MINUTES:

MOTION:	**To approve the minutes of the Planning Commission of March 7, 2023.**				
MEMBER:	Bibb	Goad	Key	Lagomarsino	Morgan
ACTION:		**Motion**			**Second**
VOTE:	Aye	Aye	Aye	Aye	Aye
RESULT:	**5-0 Approved, as presented**				

5. PUBLIC HEARINGS:

ZMP 23:01 J & B LMO, LLC – Douglas Miles, AICP, CZA Community Development Director
A rezoning request to conditionally rezone from A-1**,** Agricultural, General and R-4, Residential, Limited to the B-C, Business, Convenience Zoning District with respect to 2.2 +/- acres as Tax Map 9 Section A Parcel 15B and Tax Map 18A Section 7 Parcel 158A. The subject properties are located north of Lake Monticello Road (SR 618) and known as 2987 Lake Monticello Road in the Rivanna Community Planning Area and the Palmyra Election District.

When reviewing this conditional rezoning application, the Planning Commission should take into consideration any potential adverse impacts that the development may have on this portion of Fluvanna County and traffic generation issues have been analyzed generally by the VDOT Land Use Engineer. The proposed land uses would occupy this former dental and office building and would allow for similar uses to be located in this office building to serve the neighborhood area.

The applicant has worked with both the Building Official and Community Development Director on his existing office building to make sure that the existing building can be remodeled in order to modernize the building for new land uses that would serve this immediate neighborhood area. The underlying zoning is no longer suitable and there would also be a Subdivision Plat prepared to combine the two (2) subject parcels into one commercial parcel to allow for the new land uses.

Chair Bibb opened the Public Hearing at 7:46 pm by giving each speaker a limit of five (5) minutes to speak and he asked that they state their name and their address for the record. With no one wishing to speak in person or online, Chair Bibb closed the Public Hearing at 7:47 pm, returned it to the Planning Commission for discussion on the proposed rezoning request.

Vice-Chair Lagomarsino stated he had some limited concerns with commercial traffic on SR 618. As the subject property is located right near the Lake Monticello Main gate with traffic concerns.

Mr. Miles stated that Aaron LeBeau, PE, VDOT stated during the TRC meeting that he analyzed the proposed land uses and found them to be similar to what already had been in this building. During Site Plan Review for the next permitted use both the County Planning and VDOT Land Use staff would perform transportation planning reviews and make suggested improvements.

Ms. Johnson-Morgan asked about what could be done behind the existing building and how would you access that area for business use and if there were any neighborhood concerns?

Mr. Miles stated that during site plan review County staff would work with the applicant to have the proposed land use to be sited correctly, be screened and situated for any new business uses.

There were a few calls and e-mails inquiring about if a self-storage facility could be built there and the answer is No, not under the B-C, Business Convenience zoning, it is not a use by right.

Dr. John and Betty Lyon, applicants, were present and did not have any case comments as they were satisfied with the proposed conditional rezoning as County Staff assisted them with their case via the Planning and Community Development Department and VDOT – Louisa Residency.

MOTION:	I move that the Planning Commission recommends Approval of ZMP 23:01, a request to amend the Fluvanna County Zoning Map on 2.2 +/- acres of Tax Map 9, Section A, Parcel 15B and Tax Map 18A Section 7 Parcel 158A to conditionally rezone the same from A-1, General Agricultural and R-4, Limited Residential to the B-C, Business Convenience Zoning District and subject to the proffers dated February 27, 2023.				
MEMBER:	Bibb	Goad	Key	Lagomarsino	Morgan
ACTION:		**Motion**	**Second**		
VOTE:	Aye	Aye	Aye	Aye	Aye
RESULT:	**Recommended Approval, 5-0 with proffered conditions**				

SUP 23:02 Andrea and Robert Nickels – Douglas Miles, Community Development Director
A Special Use Permit request in the A-1 Agricultural, General District to permit Agricultural enterprise and Event facility uses on 42.9 +/- acres known as Tax Map 48 Section 1 Parcel 3. The property is located on the north line of West River Road (Route 6) and is known as 5199 West River Road. The subject property is located in the Rural Residential Planning Area and the Cunningham Election District.

Mr. Miles provided a summary of the land use requests, as Agricultural enterprise and Event facility uses, that as part of a winery, but also being more intensive uses, beyond viticulture as currently a commercial tasting room and a proposed commercial event facility ballroom area.

Rob Nickels reviewed with the Planning Commission and general public their specific building plans that included the indoor wine production space as part of the winery and vineyard area. He explained further their building expansion plans for a catering kitchen area, new bathrooms and event facility barn addition where regular weddings and receptions would be held indoors.

Staff recommended Approval of the proposed Agricultural enterprise and Event facility use provided that the impact upon the surrounding property owners is minimal. Staff has proposed recommended conditions to ensure that the uses comply with all Federal, State and County Code requirements:

1. This Special Use Permit is granted for an Agricultural enterprise and Event facility use to Andrea and Robert Nickels and is not transferable and it does not run with the land on Tax Map 48 Section 1 Parcel 3.

2. The applicants will provide staffing for private parking and traffic circulation purposes from Route 6 with event personnel clearly marked as “Event Staff” for safety reasons. The Fluvanna County Sheriff’s Office shall be notified at least thirty (30) days prior to the Event facility events

that are between 100 to 200 persons to be located on the premises.

3. The Event facility events with outdoor live or recorded music shall be from 10:00 am until 11:00 pm, with the exception of 5K runs, that may start at 7:00 am on the premises.

4. The applicants shall ensure compliance with the Noise Ordinance of the Code of the County of Fluvanna, as adopted and as enforced by the Fluvanna County Sheriff's Office.

5. The site shall be maintained in a neat and orderly manner so that the visual appearance from the public right-of-way and adjacent properties is acceptable to County officials.

6. The Board of Supervisors, or its representative, reserves the right to inspect the property for compliance with these conditions at any time.

7. Under Section 22-17-4 F (2) of the Fluvanna County Code, the Board of Supervisors has the authority to revoke a Special Use Permit if the property owners have substantially breached the conditions of the Special Use Permit.

Chair Bibb opened the Public Hearing at 8:11 pm by giving each speaker a limit of five (5) minutes to speak and he asked that they state their name and address for the record, either in person or online:

Thomas Morgan at 4 Cove Circle: spoke in favor of this Special Use Permit request.
Bruce Lamb at 151 Blue Mountain Lane: spoke in favor of this Special Use Permit request.
Bruce Downie at 274 Rosewood Drive: spoke in favor of this Special Use Permit request.

Brian and Kim Hyland at 1015 Poplar Spring Road: spoke online in favor of this request.
Kyle and Jeanne Rosemann at 22 West Lake Court: spoke online in favor of this request.
Don Morgan at 21359 Clearwater Court, Ashburn Virginia: spoke online as an outside tourist who regularly attends events at Hardware Hills Vineyard spoke in favor of the Special Use Permit uses.

Chair Bibb closed the Public Hearing at 8:21 pm and he returned the matter back to the Commission. Several Planning Commissioners spoke briefly in support of this Event Facility request which allows for more events to take place completely in Fluvanna County rather than in Charlottesville or Richmond.

MOTION:	I move that the Planning Commission recommends Approval of SUP 23:02, a request to permit an Agricultural enterprise and Event facility use with respect to 42.9 +/- acres of Tax Map 48, Section 1, Parcel 3, subject to the seven (7) conditions listed in the staff report.				
MEMBER:	Bibb	Goad	Key	Lagomarsino	Morgan
ACTION:		**Second**		**Motion**	
VOTE:	Aye	Aye	Aye	Aye	Aye
RESULT:	**Recommended Approval 5-0 with recommended staff conditions**				

6. **PRESENTATIONS:**
   None

7. SITE DEVELOPMENT PLANS:
None

8. SUBDIVISIONS:
None

9. UNFINISHED BUSINESS:
None

10. NEW BUSINESS:
ADDED: Adjacent Property Owner (APO) Notification Process.

Ms. Johnson-Morgan indicated she was concerned with the existing Adjacent Property Owner (APO) notification process that is to notify the surrounding property owners of a certain case. She stated that Fluvanna County could supplement the case notification process by utilizing the Fluvanna County website and is aware of the FAN Mail notification system that is also available.

Mr. Goad responded to Ms. Johnson-Morgan's concerns with his thoughts and general research on how the adjacent property owner notification process could be done with better technology. They both were in agreement and thought they could work together to come up with solutions.

Mr. Payne stated to be careful about what is required to be provided as general information and public information that are two different items legally and by state statute for public notification purposes. Chair Bibb stated some of these same comments but wanted to hear more from the County staff working with the Commissioners to come up with better ways to notify the public.

Ms. Johnson-Morgan suggested that Planning Commissioners could work together to notify the public through the Fluvanna Review and the Fluvanna County Library for those that do not use a computer or get notifications on their smart phones and they can sign up for FAN Mail updates.

She stated further that citizens are complaining about small Zoning signs and Mr. Miles has now worked towards using larger, metal signs on major corridors; but we can do more, as folks they are frustrated when they do not get notified but do hear later on about a particular zoning case.

11. PUBLIC COMMENTS #2:
Chair Bibb opened Public Comments #2 at 9:06 pm by giving each speaker a limit of five (5) minutes to speak and asked that they state their full name and property address for the record. With no one coming forward wishing to speak in person or online, Chair Bibb closed the Public Comments period at 9:07 pm.

12. ADJOURNMENT:
Chair Bibb adjourned the Planning Commission meeting on April 11, 2023 at 9:06 pm.

Minutes recorded by Valencia Porter-Henderson, Administrative Programs Specialist.

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Barry A. Bibb, Chair
Fluvanna County Planning Commission

COUNTY OF FLUVANNA

"Responsive & Responsible Government"

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PLANNING COMMISSION STAFF REPORT

To: Fluvanna County Planning Commission
From: Douglas Miles, AICP, CZA
Request: B-1, General Business District
District: Columbia Election District

General Information: This conditional rezoning case request is scheduled to be heard by the Planning Commission as a Public Hearing on Tuesday, May 9, 2023 at 7:00 pm at the Carysbrook Performing Arts Center.

Applicant: Mark Fontaine / Renaud Consulting

Representative: Ann Neil Cosby / Wire Gill Law Firm

Requested Action: **ZMP 23:02 Renaud Consulting** – A rezoning request to conditionally rezone from A-1, Agricultural, General and I-1, Industrial, Limited to the B-1, Business, General Zoning District with respect to 4.7 +/- acres of Tax Map 5 Section A Parcels 48, 51, part of 52 and part of 53; Tax Map 5A Section 1 Parcel L2 and Tax Map 5A Section 2 Parcels L1 and L1A. The subject properties are located in the southwest quadrant of Richmond Road (Route 250) and James Madison Highway (Route 15) in the Zion Crossroads Community Planning Area and the Columbia Election District.

Existing Zoning: A-1, General Agricultural and I-1, Limited Industrial Zoning Districts

Proposed Zoning: B-1, General Business Zoning District with proffered conditions

Public Utilities: Fluvanna County water and wastewater

Property Proposal:

The proposed Wawa would contain about 6,000 square feet of store space and include nine (9) fuel pumps under an approximately twenty (20) foot tall canopy. A diagram of the Wawa store and conceptual elevations are included with this Application. The exterior of the building would be a combination of brick and manufactured stone veneer with the finishes being earth-tone colors as identified on the Conceptual Elevations that have been submitted with the Application.

Wawa's business operations would be similar to those at Wawa's existing locations in Virginia. The convenience store and fueling services would be open seven (7) days a week and 24 hours a day. In addition to pre-packaged retail items, Wawa sells fresh sandwiches, salads, wraps, snacks and breakfast items that are made to order. Specialty coffees and drinks are also made to order in a similar fashion to a Starbucks retail store that may offer fresh food and hot beverages.

Transportation Planning:

The Wawa store would be served by two (2) access points, one up on Route 250 which is mostly constructed with an existing right turn lane into the subject property and one on Route 15 to be constructed as generally shown on the Site Plan. The applicant will construct site entrances and any other transportation improvements that are identified as being warranted by the Virginia Department of Transportation VDOT – Louisa Residency Office that covers Fluvanna County.

The Kimley Horn - Richmond office has prepared the Wawa at Zion Crossroads Traffic Study for this proposed commercial use under this conditional rezoning application. Please see the Wawa at Zion Crossroads Traffic Impact Analysis (TIA) document dated December 2022 that has been made a part of this Application to help finalize what VDOT road improvements are needed to support this new retail store and upgrade the existing Route 250 and Route 15 intersection area.

Comprehensive Plan:

In Fluvanna County, commercial growth has occurred outside of the gates of Lake Monticello in the Rivanna Community Planning Area due to both the population density and available water and sewer for such land uses. The 2015 Comprehensive Plan also recognizes the Zion Crossroads Community Planning Area and more specifically in the Urban Development Area for commercial and industrial growth and development as available water and sewer is constructed for retail uses like this Wawa Convenience Store that falls under B-1, General Business zoning.

Regarding the Zion Crossroads Area in particular, the Plan states "Zion Crossroads is poised to become the new center of industry and commerce for the county. Its location in relation to existing and proposed infrastructure, an interstate interchange, and the intersection of Routes 250 and 15 make it a logical choice for business development" and Wawa has selected this location.

The Economic Development chapter of the Plan reiterates that Zion Crossroads is the county's primary commercial area and Route 250 is a primary gateway into the County. In this area, land use, transportation and economic development should be balanced in a holistic approach instead of viewing them as individual issues. This conditional rezoning Application addresses land use, transportation, site design, the entrance corridor vision and economic development as equally important parts that are inherent to the Project. The requested B-1 zoning with the proffers and plans that have been included with the Application satisfy the Plan's vision for development in the Zion Crossroads area that promotes the vision and goals of the County's area plan and the Plan overall. Additional commercial development will be constructed at this same site location.

The construction of a Wawa on this Property and the rezoning of the remainder of the Property to B-1 for future development is consistent with the commercial development goals of the Plan and

the Zion Crossroads Community Planning Area. Wawa's business operations will serve local residents and interstate travelers and provide a transitional commercial use that will enhance the Zion Crossroads gateway through site design and complementary landscaping and signage in the area. Parcel 4 will be available for development for any of the uses permitted in the B-1 zoning district, subject to compliance with the Proffers, the underlying B-1 zoning regulations and all other applicable County ordinances. The applicant has continued to work with Fluvanna County on making this store to be the same, if not better than the recently completed Wawa in Albemarle County, located on Route 29 at Proffitt Road, which was also constructed by Renaud Consulting.

Zoning Ordinance:

B-1 Zoning District:

The applicant has proffered out B-1, General Business by right land uses that include Civic uses: Public recreation assembly and Sheltered care facilities; Commercial uses: Assisted living facilities, Auction houses, Boarding houses, Commercial cemeteries, Flea markets, Parking facilities as a principal use, Recreational vehicle sales and Self-storage facilities and these by Special Use Permit only land uses: Adult entertainment establishments, Adult retail stores, Dormitories, Halfway houses, Lumberyards, Manufactured home sales, Outdoor entertainment, Outdoor gatherings, Outdoor recreational facilities, Railroad facilities and Transportation facilities. These same type uses have been typical uses to be proffered out in other B-1, General Business zoning district conditional rezoning requests that are not appropriate in most areas of Fluvanna County. The applicant intends to specifically retain commercial land uses that relate to retail shopping centers and outparcels and all other B-1 by right land uses that are not specifically excluded in the Proffer Statement for this conditional rezoning case request.

Neighborhood Meeting:

A Community meeting was held on Thursday, April 27th at 6:00 pm within the Fluvanna County Administration Building – Morris Conference Room. The applicant and the property owners discussed along with the applicant's attorney and site engineer, the proposed Wawa project with the County Administrator, Community Development Director, Economic Development Director, Palmyra Board of Supervisors member and the Columbia Planning Commissioner along with interested County residents. The necessary transportation improvements on Route 15 and Route 250, such as new taper and turn lanes was the main topic of discussion at this Fluvanna County entrance and the fact that up on Route 250 there is an existing right turn lane into this Property.

The Fluvanna County Zoning Ordinance contains Landscaping requirements and Tree Protection options that can be selected by the applicant and his site consultant to provide the proper Buffer and Screening requirements while providing for the required VDOT site distance requirements:

Sec. 22-24-4. – MINIMUM STANDARDS

(A) The following shall be the minimum size of plant materials for site landscaping installation:

(1) Large shade trees—1.5" caliper (2) Medium shade trees—1.25" caliper

(3) Ornamental trees—1.25" caliper (4) Evergreen trees—5' in height
(5) Shrubs—18" in height (6) Ground cover—1 year plants

(B) All required landscaping shall be planted according to the following standards:

(1) All trees to be planted shall meet the American Standard for nursery stock published by the American Nursery and Landscape Association.
(2) The planting of trees shall be done in accordance with either the standardized landscape specifications jointly adopted by the Virginia Nursery and Landscape Association and the Virginia Society of Landscape Designers, or the Road and Bridge Specifications of the Virginia Department of Transportation.
(3) All required landscaping shall be planted between September 15 and June 30, provided that the ground is not frozen. (Ord. 8-1-12; Ord. 12-16-15)

Sec. 22-24-7. – SCREENING

(A) Screening shall be required in the following instances:

(1) Commercial and industrial uses shall be screened from view of adjacent properties in residential and agricultural zoning districts, except for commercial and industrial uses allowed by right in said districts.

(2) Parking lots, consisting of five (5) spaces or more, shall be screened from view of public roads, rights-of-way, and adjacent properties.

(3) Objectionable features, including but not limited to the following, shall be screened from the view of public roads, rights-of-way, and adjacent properties: i. Loading areas. ii. Refuse areas. iii. Storage yards. iv. Dry detention ponds. v. Maintenance areas.

(4) If the required screening is consistent with an approved Master Plan and is subject to the requirements of the R-3, Residential Planned Community zoning district.

(5) The Zoning Administrator may require the screening of any use, or portion thereof, upon determination that the use would otherwise have a direct negative visual impact on a property designated as historic by its inclusion within the Historic Preservation chapter of the approved Comprehensive Plan.

(B) When required, screening shall consist of the new plantings, existing vegetation, an opaque masonry wall or wooden fence, or combination thereof, to the reasonable satisfaction of the Zoning Administrator.

(C) Within commercial, industrial, and multi-family residential developments, dumpsters and other refuse areas visible from public roads, rights-of-way, adjacent properties, and parking areas shall be completely screened from view by a wall or fence constructed using architectural block, brick, stone, vinyl, wood or a similar material that is compatible with the architecture of the principal structure. The use of durable, low-maintenance materials is encouraged.

Suggested Motion:

I move that the Planning Commission recommends (Approval/denial/deferral) of ZMP 23:02 a rezoning request to conditionally rezone from A-1, Agricultural, General and I-1, Industrial, Limited to the B-1, Business, General Zoning District with respect to 4.7 +/- acres of Tax Map 5 Section A Parcels 48, 51, part of 52 and part of 53; Tax Map 5A Section 1 Parcel L2 and Tax Map 5A Section 2 Parcels L1 and L1A along with the proffers dated April 3, 2023.

Attachments:

Application and Statement of Proffers
Adjacent Property Owner Letter & Map
Applicant Community Meeting Letter
Kimley-Horn Traffic Study & Exhibits
B-1 Zoning District land use summary

ARTICLE 9. - BUSINESS, GENERAL, DISTRICT B-1 Wawa May 2023

Sec. 22-9-1. - Statement of intent.

Generally, this district covers those areas of the County as defined by the Comprehensive Plan that are intended for the conduct of general business to which the public requires direct and frequent access, but which is not characterized either by constant heavy trucking other than stocking and delivery of light retail goods, or by any nuisance factors other than occasioned by incidental light and noise of congregation of people and passenger vehicles.

Sec. 22-9-2. - Use regulations.

In Business, General, District B-1, structures to be erected or land to be used shall be for one (1) or more of the following uses, together with ordinary and necessary accessory uses, and no others. (Ord. 12-16-15)

Sec. 22-9-2.1. - Uses permitted by right.

The following uses shall be permitted by right:

Civic Uses

Amusements, public

Cultural services

~~Public recreation assembly~~

Public uses

Religious assembly

~~Sheltered care facilities~~

Commercial Uses

~~Assisted living facilities~~

~~Auction houses~~

Automobile repair service establishments

Automobile sales

Bakeries

Bed and breakfasts

~~Boarding houses~~

Brewpub

Butcher shops

Car washes

~~Cemeteries, commercial~~

Communications service

Corporate offices

Daycare centers

Emergency centers

Event facilities

Financial institutions

~~Flea markets~~

Funeral homes

Garden center

Gas stations

Greenhouses, commercial

Grocery stores

Guidance services

Hospitals

Hotels

Indoor entertainment

Indoor recreation facilities

Laundries

Machinery sales and service

Marinas, commercial

Medical clinics

Microbreweries

Nursing homes

Offices

~~Parking facilities~~

Personal improvement services

Personal service establishments

Pharmacies

Professional schools

~~Recreational vehicle sales~~

Restaurants, fast food

Restaurants, general

Restaurants, small

Retail stores, general

Retail stores, large-scale

Retail stores, neighborhood convenience

Retail stores, specialty

~~Self-storage facilities~~

Shooting ranges, indoor

Studios, fine arts

Taxidermists

Vending carts

Veterinary offices

Miscellaneous Uses

Accessory uses

Small scale solar generation facility

Utilities, minor

(Ord. 3-15-06; Ord. 11-20-07; Ord. 9-17-08; Ord. 10-21-09; Ord. 11-3-10; Ord. 11-20-12; Ord 9-15-21; Ord 8-17-22)

Sec. 22-9-2.2. - Uses permitted by special use permit only.

The following uses shall be permitted by special use permit only:

Civic Uses

Educational facilities

Public assembly

Commercial Uses

Amusements, commercial

Dance halls

~~Entertainment establishments, adult~~

~~Halfway houses~~

Kennels, commercial

Landscaping materials supply

Laundromats

Lodges

~~Manufactured home sales~~

~~Outdoor entertainment~~

~~Outdoor recreation facilities~~

~~Retail stores, adult~~

~~Transportation terminals~~

Vehicle impound facilities

Industrial Uses

Contractor's storage yards

~~Lumberyards~~

Machine shops

~~Railroad facilities~~

Research laboratories

Miscellaneous Uses

~~Outdoor gatherings~~

Telecommunication facilities

Utilities, major

Residential Uses

~~Dormitories~~

(Ord. 3-15-06; Ord. 11-20-07; Ord. 9-17-08; Ord. 10-21-09; Ord. 11-3-10; Ord. 11-20-12)

Sec. 22-9-3. - Requirements for permitted uses.

All buildings, structures and uses in the B-1 District shall be subject to the provisions of Article 23: Site Development Plans of this Code. (Ord. 12-16-15)

Sec. 22-9-4. - Area regulations.

None, except for permitted uses utilizing individual sewerage disposal system. The required area for any such use shall be approved by the administrator who may consult with the health official.

Sec. 22-9-5. - Setback regulations.

(A)Buildings shall be located not less than fifty feet (50') from any public right-of-way. This shall be known as the "setback line." All parking lots shall be located not less than twenty-five feet (25') from any public right-of-way.(B)A variation to the setback regulations may be granted by the Planning Commission for projects in a designated growth area that meet new urban/neo-traditional planning principles, and further the objectives and goals set forth in the comprehensive plan. Appeals must be received in writing within thirty (30) days of the variation decision, and will then be forwarded to the Board of Supervisors for a final determination. (Ord. 5-4-11)

Sec. 22-9-6. - Yard regulations.

The minimum yard requirements for permitted uses adjoining or adjacent to a residential or agricultural district shall be fifty feet (50'). All parking lots and accessory uses shall be located not less than twenty-five feet (25') from any residential or agricultural district.

Sec. 22-9-7. - Height regulations.

Buildings may be erected up to forty-five feet (45') in height from grade, except that:

(A)A public or semi-public building such as a school, place of worship, library, hotel and general hospital may be erected to a height of sixty feet (60') from grade provided that required front, side and rear yard each shall be increased one foot (1') for each foot in height over forty-five feet (45').(B)Spires, belfries, cupolas, monuments, water towers, chimneys, flues, flagpoles, television antennae and radio aerials sixty feet (60') limit. Parapet walls may be up to four feet (4') above the height of the building on which the walls rest.

Sec. 22-9-8. - Off-street parking.

Off-street parking shall conform with Article 26: Off-Street Parking and Loading Spaces of this chapter.

Sec. 22-9-9. - Sign regulations.

Sign regulations shall conform to Article 15 of this chapter.

Sec. 22-9-10. - Sidewalks.

Sidewalks that comply with the most recent VDOT specifications shall be required on both sides of all roadways, public and private. (Ord. 5-4-11)

WIRE GILL LLP

M. Ann Neil Cosby
ancosby@wiregill.com
804-447-0171

April 18, 2023

Dear Neighbor:

On behalf of Renaud Consulting (the "Company"), I am writing to invite you and other residents to an informational community meeting to learn about the Company's proposed rezoning of approximately 4.7 acres (the "Property") at the intersection of Route 250 (Richmond Road), and Route 15 (James Madison Highway), for development of a Wawa convenience store and gas station on a portion of the Property. The Property is currently zoned either Agricultural (A-1) or Industrial (I-1), and the Company is requesting rezoning to Business, General (B-1).

The construction of a Wawa on this Property and the rezoning of the remainder of the Property to B-1 for future development is consistent with the commercial development goals of the Plan and the Zion Crossroads Community Planning Area. Wawa's business operation on the Property would be substantially similar to those at other locations in Virginia. The convenience store and fueling services would be open seven (7) days a week, 24 hours per day. The site would be served by two points of access constructed to standards established by the Virginia Department of Transportation. A county-approved landscaping plan suitable for the entrance corridor in which the Property is located would also be required.

We hope you can join us:

Thursday, April 27, 2023
Doors open at 6:00 p.m., presentation to begin at 6:30 p.m.
Fluvanna County Administration Building (Morris Room)
132 Main Street
Palmyra, VA 22963

Should you have any questions or like any additional information regarding this zoning case please contact me at (804) 447-0171, or ancosby@wiregill.com.

Sincerely,

M. Ann Neil Cosby

COUNTY OF FLUVANNA

"Responsive & Responsible Government"

132 Main Street
P.O. Box 540
Palmyra, VA 22963
(434) 591-1910
Fax (434) 591-1911
www.fluvannacounty.org

PUBLIC HEARING NOTICE

April 28, 2023

RE: ZMP 23:02 Renaud Consulting / Tax Map 5 Section A Parcels 48, 51, 52 and 53; Tax Map 5A Section 2 Parcels L1 and L1A; and Tax Map 5A Section 1 Parcel L2

This is to notify you that the Fluvanna County Planning Commission will hold a public hearing on:

Meeting: Planning Commission Regular Meeting

Date: **Tuesday, May 9, 2023 at 7:00 pm**

Location: Carysbrook Performing Arts Center
8880 James Madison Highway Fork Union, VA 23055

ZMP 23:02 Renaud Consulting – A rezoning request to conditionally rezone from A-1, Agricultural, General and I-1, Industrial, Limited to the B-1, Business, General Zoning District with respect to 4.7 +/- acres of Tax Map 5 Section A Parcels 48, 51, part of 52 and part of 53; Tax Map 5A Section 1 Parcel L2 and Tax Map 5A Section 2 Parcels L1 and L1A. The subject properties are located in the southwest quadrant of Richmond Road (Route 250) and James Madison Highway (Route 15) in the Zion Crossroads Community Planning Area and the Columbia Election District.

Please be advised that you can attend the meeting in person, join the meeting via Zoom or by a phone call where you will have an opportunity to provide any Public comments. Instructions for participation in the Public Hearings will be available on the County's website along with the Meeting Agenda and Staff Reports.

You can contact the Fluvanna County Planning & Community Development Department, 8:00 am – 5:00 pm, Monday through Friday. If you have any questions regarding this application or the scheduled public hearing, then please contact me at dmiles@fluvannacounty.org or call me at 434.591.1910 with questions. We have included a site location map of all the subject properties.

Sincerely,

Douglas Miles

Douglas Miles, AICP, CZA
Community Development Director

COUNTY OF FLUVANNA

"Responsive & Responsible Government"

132 Main Street
P.O. Box 540
Palmyra, VA 22963
(434) 591-1910
Fax (434) 591-1911
www.fluvannacounty.org

MEMORANDUM

Date: April 28, 2023

From: Valencia Porter

To: Douglas Miles

Subject: APO Memo Complete

Please be advised the attached letter went out to the attached list of Adjacent Property Owners for the May 9, 2023 Planning Commission meeting.

ADJACENT PROPERTY OWNERS ZMP 23:02

TAX MAP	NAME	ADDRESS	CITY/STATE/ZIP
5-16-4D	9MM INVESTMENTS LLC	151 STARLITE PARK	TROY, VA 22974
5-A-50	APPLE TREE TRUST, OSBORNE TRUSTEES	1443 RICHMOND RD	KEWSICK, VA 22947
5-7-9	B PROPERTIES II LLC	P O BOX 7627	CHARLOTTESVILLE, VA 22906
5-7-9E, 5-A-52A	COUNTY OF FLUVANNA, ERIC DAHL	P O BOX 540	PALMYRA, VA 22963
5-A-53	MARGIE I GLASS TRUST	706 BYBEE RD	LOUISA, VA 23093
5A-1-L2,L1A, L1, 52,51,48,61	R S GLASS	706 BYBEE RD	LOUISA, VA 23093
5-16-4C	JAM GROUP HOLDINGS LLC	257 STARCREST RD	CHARLOTTESVILLE, VA 22902
5-A-57A	DWAYNE ALLE KENDRICK	21452 JAMES MADISON HWY	TROY, VA 22974
5-A-60	LOUIS & NORMA KRAMER	P O BOX 6653	CHARLOTTESVILLE, VA 22906
5-11-5B	LYBG. ROOF-CHAR, LLC	P O BOX 15127	LYNCHBURG, VA 24502
5-A-55A	MACON PROPERTIES LLC	P O BOX 1538	ASHLAND, VA 23005
5-A-58, 57D	KAREN A MELTON	21534 JAMES MADISON HWY	TROY, VA 22974
5-A-54	PRATAP & SUK M RAI	21453 JAMES MADISON HWY	TROY, VA 22974
5-16-4	SGEBABDIAG BLDING SUPPLY INC	30 COVENANT DR	HARRISONBURG, VA 22801
5-A-59	TROY SELF STORAGE LLC	2132 HOLLOW RUN RD	LURAY, VA 22835
	LOUISA COUNTY, CHRISTIAN GOODWIN	1 WOOLFOLK AVENUE	LOUISA, VA 23093
51-18-3	AARNA PROPERTIES LLC	10037 THREE NOTCH RD	TROY, VA 22974
51-22-2	ZION CROSS RADS MOTEL	706 BYBEE RD	LOUISA, VA 23093
51-22-3	CRESCENT INN LC	706 BYBEE RD	LOUISA, VA 23093
51-2-11	R S GLASS COMMERCIAL CENTER LC	706 BYBEE RD	LOUISA,VA 23093
51-19-1	VIRGINIA COMMUNITY BANK	P O BOX 888	LOUISA, VA 23093

RECEIVED

APR 0 3 2023

Fluvanna County Planning Dept

COMMONWEALTH OF VIRGINIA

COUNTY OF FLUVANNA

Application for Rezoning

Owner of Record: Margi Irene Glass, Trust (Margi I. Glass, Trustee) & Rita S. Glass

Address: 706 Bybee Road, Louisa, VA 23090

Phone: _____ Fax: _____

Email: mfontaine

Applicant of Record: Renau dConsul ting dMark Fo taine CCIM

Address: 8605 Westwood Center Drive, Suite 410, Vienna, VA 22182

Phone: 571.765.4436 Fax: _____

Email: ~~mfountain~~@renaudconsulting.net AMC

Representative: M. Ann Neil Cosby, Esq./Wire Gill LLP

Address: 9200 Forest Hill Ave., Ste. C-1, Richmond VA 23235

Phone: 804.447.0171 Fax: _____

Email ancosby@wiregill.com

Note: If applicant is anyone other than the owner of record, written authorization by the owner designating the applicant as the authorized agent for all matters concerning the request shall be filed with this application.

If property is in an Agricultural Forestal District, or Conservation Easement, please list information here:

_____

_____

Tax Map and Parcel(s) 5-A-53, 5-A-52, 5-A-51, ~~5-2-L1,~~ 5A-2-L1A; 5A-2-L1 & 5-A-48

5A-1-L2 AMC

Acreage approximately 4.7 **Current Zoning** A-1 or I-1

Is parcel in Land Use Valuation Program? ☐ No ☐ Yes

Deed Book and Page: ~~(forthcoming)~~ Attached AMC

Location of Parcel: Intersection of Routes 15 and 250

If any Deed Restrictions, please attach a copy

Requested Zoning B-1 **Proposed Use of Property** Gas station/retail store on 3.41 acres/remainder retained for future development

Affidavit to Accompany Petition for Rezoning

By signing this application, the undersigned owner/applicant authorizes entry onto the property by County Employees, the Planning Commission, and the Board of Supervisors during the normal discharge of their duties in regard to this request.

I/We, being duly sworn, depose and say that we are Owner/Contract Owner of the property involved in this application and that we have familiarized ourselves with the rules and regulations of the Zoning Ordinance with respect to preparing and filing this application, and that the foregoing statements and answers herein contained and the information on the attached map to the best of our ability present the argument on behalf of the application herewith requested and that the statements and information above referred to are in all respects true and correct to the best of our knowledge.

Date: 3/31/23 Signature of Owner/Applicant: M. Ann Neil Cosby, Esq. Wire Gill LLP

Subscribed and sworn to before me this 31st day of March ,20 23 Register # _____

My commission expires: _____ Notary Public: Jane Harrington-Crawford

Jane Harrington-Crawford
Commonwealth of Virginia
Notary Public
Commission No. 113158
My Commission Expires 8/31/2024

All plats must be folded prior to submission to the Planning Department for review. Rolled plats will not be accepted.

Office Use Only

Date Received: 04/03/23 Pre-Application Meeting: PH Sign Deposit Received: Application #: ZMP 23 : 02

$1,000 fee paid: check 1103 **Mailing Costs:** $20.00 per Adjacent Property Owner after first 15, Certified. Paid:

Proffer or Master Plan Amendment: $750.00 plus mailing costs. Paid:

Election District: Columbia Planning Area: Zion Crossroads Community

Public Hearings

Planning Commission	Board of Supervisors
Advertisement Dates:	Advertisement Dates:
APO Notification:	APO Notification:
Date of Hearing:	Date of Hearing
Decision:	Decision:

Application for Rezoning (Appendix)

Parcel Deed Book and Page numbers:

Parcel 1: Tax Map No 5-A-53: Deed Book 694, Page 909 & Deed Book 45, Page 463 (Plat)

Parcel 2: Tax Map No 5-A-52: Deed Book 910, Page 700 & Deed Book 45, Page 463 (Plat)

Parcel 3: Tax Map No 5-A-51: Deed Book 910, Page 700

Parcel 4: Tax Map No 5A-2-L1: Deed Book 910, Page 700 & Deed Book 576, Page 821 (Plat)

Parcel 5: Tax Map No 5A-2-L1A: Deed Book 95, Page 344

Parcel 6: Tax Map No 5A-1-L2: Deed Book 45, Page 283 (Plat)

Parcel 7: Tax Map No 5-A-48: Deed Book 910, Page 700 & Deed Book 57, Page 382 (Plat)

COMMONWEALTH OF VIRGINIA

COUNTY OF FLUVANNA

Public Hearing Sign Deposit

RECEIVED

APR 03 2023

Fluvanna County
Planning Dept

Name: M. Ann Neil Cosby, Wire Gill LLP

Address: 9200 Forest Hill Ave., Suite C-1

City: Richmond

State: Virginia Zip Code: 23235

I hereby certify that the sign issued to me is my responsibility while in my possession. Incidents which cause damage, theft, or destruction of these signs will cause a partial or full forfeiture of this deposit.

Applicant Signature

Date 3/31/23

*Number of signs depends on number of roadways property adjoins.

Office Use Only	
Application #: BZA____:____CPA____:____SUP____:____ZMP 23 : 02 ZTA____:____	
$90 deposit paid per sign*:	Approximate date to be returned:

Commonwealth of Virginia

County of Fluvanna

Rezoning Application Checklist

The following information shall be submitted with the application and is to be provided by the applicant for the processing of the application:

Applicant must supply	Staff Checklist
Completed Rezoning Application signed by the current owner(s) or lessee or written confirmation from the current owner or lessee granting the right to submit the application	
• Statement on proposed use of property and reason for rezoning • Ten (10) copies of plats showing existing and proposed improvements (if applicable) • Deed restrictions (if applicable) • Copy of the Tax Map showing the site (preferred) • General Location Map (preferred)	
Supporting photographs are not required, but suggested for evidence	

All maps and plans submitted are to be either 8.5"x 11" or 11"x 17". One original of any size may be for staff use at the public hearing.

Staff Only	Staff Checklist
Preliminary review by planning staff for completeness and content:	
• Technical Review Committee review and comment • Determine all adjacent property owners • Placed as a Public Hearing on the next available agenda of the Planning Commission.	
Notification of the scheduled Public Hearing to the following:	
• Applicant • All adjacent property owners • Local Newspaper advertisement	
Staff Report to include, but not be limited to:	
• General information regarding the application • Any information concerning utilities or transportation • Consistency with good planning practices • Consistency with the comprehensive plan • Consistency with adjacent land use • Any detriments to the health, safety and welfare of the community.	

For Applicant

The Rezoning Application fee is made payable to the **County of Fluvanna.**

Meetings for the processing of the application

Applications must be submitted by the first working day of the month to have the process start that month. Applications received after the first working day will have the process start the following month.

Process:

1. Placed on next available Technical Review Committee Agenda.
2. Placed as a Public Hearing on the next available agenda of the Planning Commission the following month. Staff Report and Planning Commission recommendation forwarded to the Board.
3. Placed as a Public Hearing on the next available agenda of the Board of Supervisors (usually the same month as the Planning Commission).

Applicant or a representative must appear at the scheduled hearings.

The Technical Review Committee provides a professional critique of the application and plans. The Planning Commission may recommend to the Board of Supervisors: approval; approval subject to resubmittal or correction; or denial of the special use permit.

Board Actions

After considering all relevant information from the applicant and the public, the Board will deliberate on points addressed in the Staff Report.

The Board may approve; deny; or defer the request pending further consideration; or remand the case back to the Planning Commission for further consideration.

With **approval,** the development may proceed.

If **denied,** an appeal to the Courts may be prescribed by law

No similar request for a Rezoning for the same use at the same site may be made within one year after the denial.

OWNER'S WRITTEN AUTHORIZATION

I, Rita S. Glass, am the current owner of those certain parcels of land located in whole or in part in Fluvanna County, Virginia (the "County"), identified as Tax Map Numbers 5A-2-L1 & 5A-2-L2 (collectively, the "Property"). I hereby authorize Renaud Consulting (the "Applicant"), its successors, agents, and representatives, to act on my behalf to file for and seek a rezoning of the Property from the County to allow the proposed development of a gas station and associated retail store on a portion of the Property and to retain a portion of the remainder of the Property for future commercial development. The Applicant is authorized to act on all matters concerning the rezoning request, including but not limited to the execution of proffered conditions related to and/or restricting the use of the Property.

Date: 4-29-2023

DocuSigned by: Rita Glass

Name: RITA GLASS

COMMONWEALTH OF VIRGINIA
COUNTY/CITY OF Charlottesville

The foregoing authorization was subscribed, sworn to, and acknowledged before me this 29th day of April, 2023 before me by Rita S. Glass, Rita S. Glass.

Notary Public

My Commission Expires: 06/30/2026
Registration Number: 7805855

MORGAN M BRANNOCK
NOTARY PUBLIC
MY COMMISSION NUMBER 7805855
COMMONWEALTH OF VIRGINIA

OWNER'S WRITTEN AUTHORIZATION

I, Margie Irene Glass, am the Trustee of the "Margie Irene Glass Trust" (the "Trust"), and am authorized to act on the Trust's behalf. The Trust is the current owner of those certain parcels of land located in whole or in part in Fluvanna County, Virginia (the "County"), identified as Tax Map Numbers 5-A-53, 5-A-52, 5-A-51, & 5-2-L1 (collectively, the "Property"). I hereby authorize Renaud Consulting (the "Applicant"), its successors, agents, and representatives, to act on my behalf to file for and seek a rezoning of the Property from the County to allow the proposed development of a gas station and associated retail store on a portion of the Property and to retain a portion of the remainder of the Property for future commercial development. The Applicant is authorized to act on all matters concerning the rezoning request, including but not limited to the execution of proffered conditions related to and/or restricting the use of the Property.

Date: 04.29.2023

DocuSigned by:
margie I Glass
DBDE8E82A6A34C6...

Name: MARGIE IRENE GLASS

Title: Trustee

COMMONWEALTH OF VIRGINIA
COUNTY/CITY OF Charlottesville

The foregoing authorization was subscribed, sworn to, and acknowledged before me this 29th day of April, 2023 before me by Margie I. Glass, Margie I Glass.

Notary Public

My Commission Expires: 7805855
Registration Number: 06/30/2026

MORGAN M BRANNOCK
NOTARY PUBLIC
MY COMMISSION NUMBER 7805855
COMMONWEALTH OF VIRGINIA

Narrative Statement

I. Introduction.

Renaud Consulting (the "Applicant") is requesting that the Board of Supervisors (the "Board") of Fluvanna County (the "County") rezone identified portions of Tax Map 5-A-53, 5-A-52, 5-A-51, 5-A-48, 5A-2-L1, 5A-2-L1A and 5A-1-L2 (the "Property") to Business, General (B-1), to permit the development of a Wawa convenience store and gas station (the "Project") on a portion of the Property, and to retain the remainder of the Property for future development. The Property contains approximately 4.7 acres and is located at the intersection of Route 250 (Richmond Road), and Route 15 (James Madison Highway). The parcels that comprise the Property are zoned either Agricultural (A-1) or Industrial (I-1), and are currently owned by R.G. Glass (the "Owner").[1] A "Vicinity Map" and "Arial", showing the location of the Property, as well as a "Site Plan" showing the development of Parcel 3, are included with the plans entitled "Wawa and Zion Crossroads" (the "Concept Plan") prepared by Kimley Horn, dated March 29, 2023. The Concept Plan is included as part of this Application.

II. Description of Proposed Use & Improvements on Parcel 3

The proposed Wawa would contain approximately 6,000 square feet of store space and include nine (9) fuel pumps under an approximately twenty (20) foot tall canopy. A diagram of the Wawa store and conceptual elevations are included with the Application. The store's exterior would be a combination of brick and manufactured stone veneer. Finishes would be earth-town colors as identified on the Conceptual Elevations.

Wawa's business operations on the Parcel 3 would be substantially similar to those at the company's existing locations in Virginia. The convenience store and fueling services would be open seven (7) days a week 24 hours per day. In addition to packaged retail items, Wawa sells fresh sandwiches, salads, wraps, snacks, etc., that are made to order. Specialty coffees and drinks are also made to order.

The Wawa would be served by two (2) access points, one on Route 250 and one on Route 15 as generally shown on the Site Plan. The Applicant will construct entrances and any other transportation improvements that are identified as being warranted by the Virginia Department of Transportation ("VDOT"). Landscaping will be installed as generally shown on the Landscaping Plan included with the Application. The Applicant will work with the County to include landscaping and signage that is suitable for the entrance corridor in which the Property is located.

The Facility is expected to have approximately fifty (50) employees and will generate additional tax revenue for the County. As there is public water and sewer currently available to

[1] The remainder of the parcels not included in the Property would retain their existing zoning unless they are rezoned by the Owner at a future date.

the Property, no additional extensions of service will be required. The Project's fiscal benefits will exceed any external costs.

III. Conformance with Comprehensive Plan

A. Land Use and Community Design

In Fluvanna County, commercial and industrial growth has centered around Zion Crossroads (as well as Lake Monticello). The County's 2015 Comprehensive Plan (the "Plan") recognizes "these areas are ideally situated to attract more development."[2] Regarding Zion Crossroad in particular, the Plan states "Zion Crossroads is poised to become the new center of industry and commerce for the county. Its location in relation to existing and proposed infrastructure, an interstate interchange, and the intersection of Routes 250 and 15 make it a logical choice for business development."[3]

The Property is centrally located within the Zion Crossroads Community Planning Area which is "envisioned to be the most intensely developed part of the county…" This area "is the county's primary regional economic development area and is targeted as a regional employment center with primarily mixed-use, mixed-income development."[4]

The construction of a Wawa on this Property and the rezoning of the remainder of the Property to B-1 for future development is consistent with the commercial development goals of the Plan and the Zion Crossroads Community Planning Area. Wawa's business operations will serve local residents and interstate travelers and provide a transitional commercial use that will enhance the Zion Crossroads gateway through site design and complementary landscaping and signage in the area. Parcel 4 will be available for development for any of the uses permitted in the B-1 zoning district, subject to compliance with the Proffers, the underlying B-1 zoning regulations and all other applicable County ordinances.

B. Economic Development

The Economic Development chapter of the Plan reiterates that Zion Crossroads is the county's primary commercial node and Route 250 is a primary gateway into the County.[5] In this area, land use, transportation and economic development should be balanced "in a holistic approach instead of viewing them as individual issues…".[6] This rezoning Application addresses land use, transportation, site design, entrance corridor vision and economic development as equally important parts that are inherent to the Project. The requested B-1 zoning with the

[2] Plan at p. 26.
[3] Plan at p. 26. The Plan acknowledges that most new growth occurs at Zion Crossroads, and states the area should develop into a regional mixed-use center characterized by, among other things, a higher intensity and mixture of land uses. Plan at 30-31.
[4] Plan at p. 44 (Zion Crossroads Community Plan).
[5] Plan at p. 91.
[6] Plan at p. 97.

proffers and plans that have been included with the Application satisfy the Plan's vision for development in the Zion Crossroads area that promotes the vision and goals of the County's area plan and the Plan overall.

PROFFER STATEMENT

The Owner proffers the zoning conditions listed herein (the "**Proffers**") which will be applied to the Property if this rezoning application is approved by the Fluvanna County, Virginia, Board of Supervisors ("**Board**"). The Owner acknowledges that these conditions are voluntary and reasonable in accordance with Sections 15.2-2302, 15.2-2298 and 15.2-2303, et al. of the *Code of Virginia* (1950), as amended. The term "Owner" will include all current and future owners, assignees and/or successors in interest of the Property. As used herein, the "Property" means the portions of Tax Map 5-A-53, 5-A-52, 5-A-51, 5-A-48, 5A-2-L1, 5A-2-L1A and 5A-1-L2 identified as Parcel 3 and Parcel 4 on the Parcel Exhibit included with the plan entitled "Wawa and Zion Crossroads" (the "Concept Plan") prepared by Kimley Horn, dated March 29, 2023, and shall apply to any separate parcel created from such parcels. These Proffers shall not apply to any portion of Tax Map 5-A-53, 5-A-52, 5-A-51, 5-A-48, 5A-2-L1, 5A-2-L1A and 5A-1-L2, that are not included in Parcel 3 or Parcel 4 on the Parcel Exhibit and not specifically included in this rezoning application.

I. Proffers Applicable to the entire Property.

A. Excluded Uses

1. The following permitted by right land uses shall be excluded from the Property under B-1 Zoning Section 22-9-2.1:
   a. Civic Uses: Public recreation assembly, Sheltered care facilities
   b. Commercial Uses: Assisted living facilities; Auction houses; Boarding houses; Cemeteries, commercial, Flea Markets, Parking facilities (as a principal use); Recreational vehicle sales; and Self-storage facilities

2. The following permitted by special use permit land uses shall be excluded from the Property under B-1 Zoning Section 22-9-2.2:
   a. Commercial Uses: Entertainment establishments, adult; Halfway houses; Manufactured home sales; Outdoor entertainment; Outdoor recreational facilities; Retail stores, adult; and Transportation terminals.
   b. Industrial Uses: Lumberyards; Railroad facilities
   c. Miscellaneous Uses: Outdoor gatherings.'
   d. Residential Uses: Dormitories

II. Proffers Applicable to Parcel 3.

A. Site Development. Parcel 3 will be developed in general conformance with the Concept Plan, which is attached hereto and incorporated herein by reference, provided that all uses, improvements, infrastructure and other site features shall be identified at the time of final site plan approval to address final design requirements, final engineering and compliance with the requirements of state and federal agency regulations, the County's Zoning Ordinance, Subdivision Ordinance, and other applicable local land use requirements. The building, fueling areas and canopy will be

developed consistent with the elevations prepared by Cuhaci Peterson, dated April 26, 2023, for proposed Store #6605, and the canopy will be developed consistent with the elevations prepared by Cuhaci Peterson, dated and March 2, 2023 (collectively, the "Conceptual Elevations"), which are attached hereto and incorporated herein by reference. Dumpsters shall be screened as shown on the Trash Compound elevation included with the Conceptual Elevations.

B. Landscaping. Landscaping shall be installed consistent with the Landscaping Exhibit prepared by Kimley Horn, dated March 29, 2023, provided that the final location and type of landscaping will be identified at the time of final site plan approval and include any waiver(s) approved by the Director of Planning.

OWNER'S WRITTEN AUTHORIZATION

I, Rita S. Glass, am the current owner of those certain parcels of land located in whole or in part in Fluvanna County, Virginia (the "County"), identified as Tax Map Numbers 5A-2-L1 & 5A-2-L2 (collectively, the "Property"). I hereby authorize Renaud Consulting (the "Applicant"), its successors, agents, and representatives, to act on my behalf to file for and seek a rezoning of the Property from the County to allow the proposed development of a gas station and associated retail store on a portion of the Property and to retain a portion of the remainder of the Property for future commercial development. The Applicant is authorized to act on all matters concerning the rezoning request, including but not limited to the execution of proffered conditions related to and/or restricting the use of the Property.

Date: 4-29-2023

DocuSigned by:
Rita Glass

Name: RITA GLASS

COMMONWEALTH OF VIRGINIA
COUNTY/CITY OF Charlottesville

The foregoing authorization was subscribed, sworn to, and acknowledged before me this 29th day of April, 2023 before me by Rita S. Glass, Rita S. Glass.

[signature]
Notary Public
My Commission Expires: 06/30/2026
Registration Number: 7805855

MORGAN M BRANNOCK
NOTARY PUBLIC
MY COMMISSION NUMBER 7805855
COMMONWEALTH OF VIRGINIA

OWNER'S WRITTEN AUTHORIZATION

I, Margie Irene Glass, am the Trustee of the "Margie Irene Glass Trust" (the "Trust"), and am authorized to act on the Trust's behalf. The Trust is the current owner of those certain parcels of land located in whole or in part in Fluvanna County, Virginia (the "County"), identified as Tax Map Numbers 5-A-53, 5-A-52, 5-A-51, & 5-2-L1 (collectively, the "Property"). I hereby authorize Renaud Consulting (the "Applicant"), its successors, agents, and representatives, to act on my behalf to file for and seek a rezoning of the Property from the County to allow the proposed development of a gas station and associated retail store on a portion of the Property and to retain a portion of the remainder of the Property for future commercial development. The Applicant is authorized to act on all matters concerning the rezoning request, including but not limited to the execution of proffered conditions related to and/or restricting the use of the Property.

Date: 04.29.2023

DocuSigned by:
margie I Glass
DBDE8E82A6A34C6...

Name: MARGIE IRENE GLASS

Title: Trustee

COMMONWEALTH OF VIRGINIA
COUNTY/CITY OF Charlottesville

The foregoing authorization was subscribed, sworn to, and acknowledged before me this 29th day of April, 2023 before me by Margie I. Glass, Margie I Glass.

Notary Public

My Commission Expires: 7805855
Registration Number: 06/30/2026

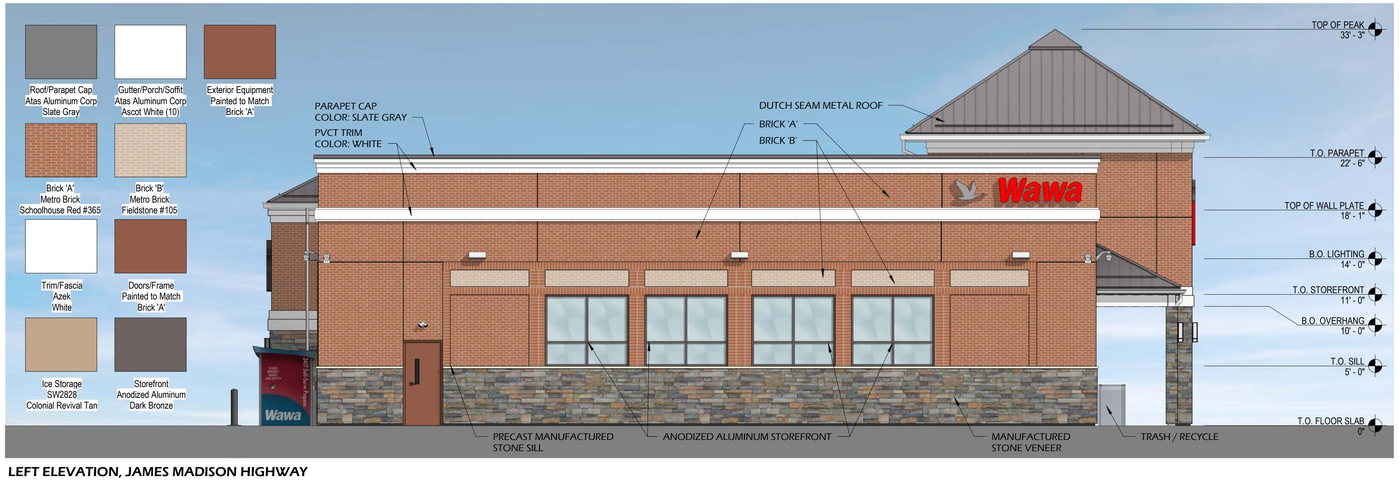
MORGAN M BRANNOCK
NOTARY PUBLIC
MY COMMISSION NUMBER 7805855
COMMONWEALTH OF VIRGINIA

RIGHT ELEVATION

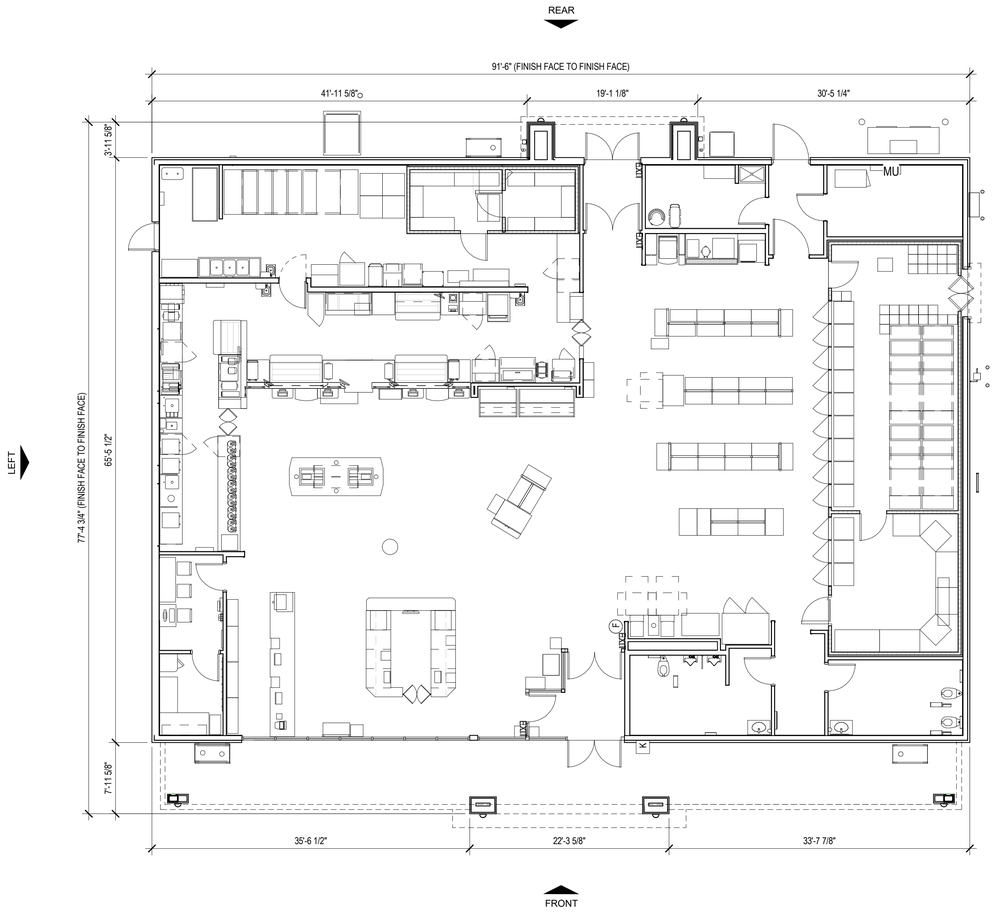
FRONT ELEVATION, RICHMOND ROAD

0' 3' 6' 15'

REAR ELEVATION



LEFT ELEVATION, JAMES MADISON HIGHWAY



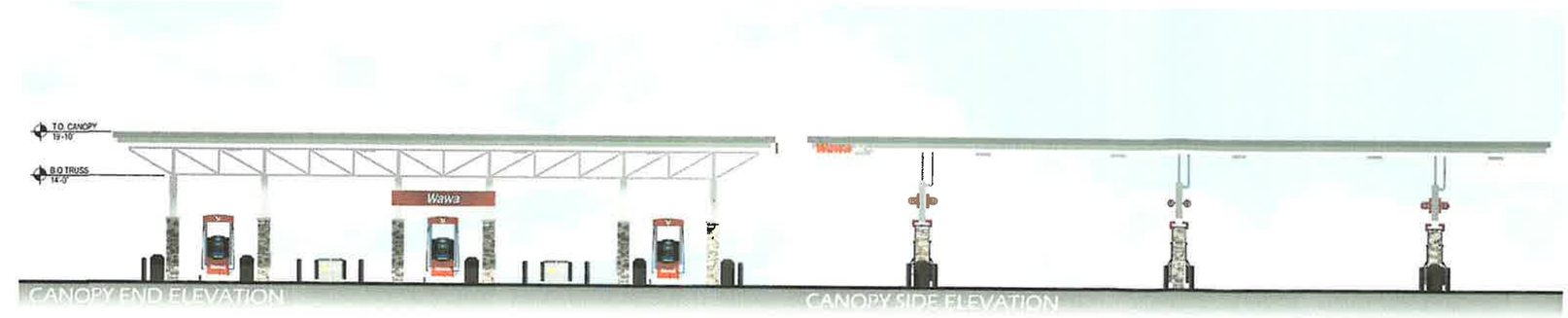
MERCHANDISE PLAN
1/8" = 1'-0"

NOTE:
SIGNAGE SHOWN FOR REFERENCE ONLY
SEPARATE PERMIT REQUIRED

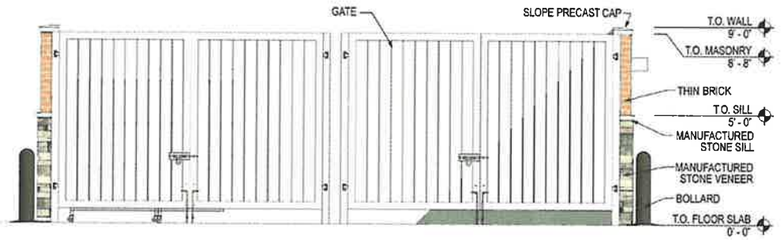
CUHACI PETERSON

W50FB VA v2022.1 - STORE #6605

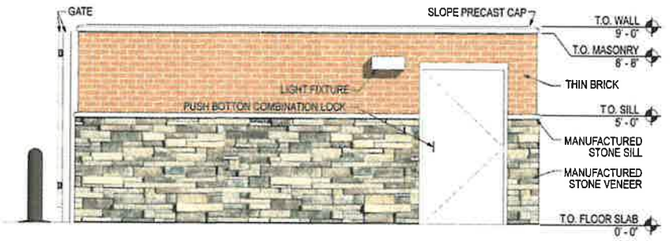
Richmond Rd & James Madison Hwy, Troy, VA • CP Project #2230142 • 04/26/2023



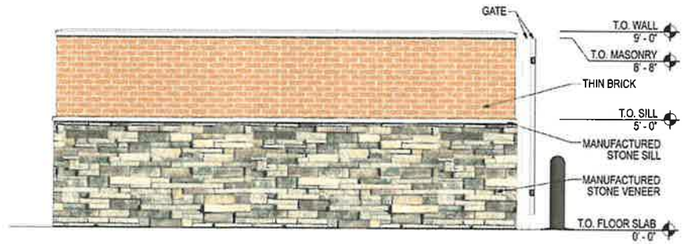
CANOPY PERSPECTIVE VIEW



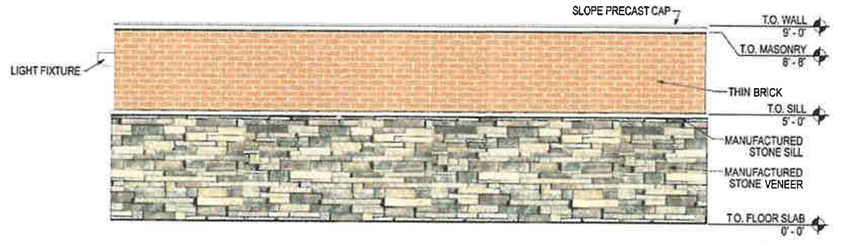
FRONT ELEVATION



RIGHT ELEVATION



LEFT ELEVATION



REAR ELEVATION

CUHACI PETERSON

WAWA GAS CANOPY® CUBE-9 & TRASH COMPOUND MASQ17-R - STORE #6605

3 Notch Rd & James Madison Hwy, Troy, VA • C&P Project #2230142 • 03-02-2023

NOTES

1. OWNERSHIP:

PARCEL 1
MARGIE I. GLASS, TRUSTEE
D.B. 694 PG. 909
D.B. 45 PG. 463 (PLAT)
TAX MAP NO.: 5–A–53

PARCEL 2
MARGIE I. GLASS, TRUSTEE
RITA S. GLASS, TRUSTEE
D.B. 910 PG. 700
D.B. 45 PG. 463 (PLAT)
TAX MAP NO.: 5–A–52

PARCEL 3
MARGIE I. GLASS, TRUSTEE
RITA S. GLASS, TRUSTEE
D.B. 910 PG. 700
TAX MAP NO.: 5–A–51

PARCEL 4
MARGIE I. GLASS, TRUSTEE
RITA S. GLASS, TRUSTEE
D.B. 910 PG. 700
D.B. 576 PG. 821 (PLAT)
TAX MAP NO.: 5A–2–L1 FLUVANNA CO.
D.B. 1347 PG. 433
D.B. 576 PG. 821 (PLAT)
TAX MAP NO.: 51–36A LOUISA CO.

PARCEL 5
RITA S. GLASS
D.B. 95 PG. 344
TAX MAP NO.: 5A–2–L1A FLUVANNA CO.
D.B. 1347 PG. 433
D.B. 576 PG. 821 (PLAT)
TAX MAP NO.: 51–18–A1 LOUISA CO.

PARCEL 6
RITA S. GLASS
D.B. 45 PG. 283 (PLAT)
TAX MAP NO.: 5A–1–L2 FLUVANNA CO.
D.B. 1347 PG. 433
TAX MAP NO.: 51–18–1 LOUISA CO.

PARCEL 7
MARGIE I. GLASS, TRUSTEE
RITA S. GLASS, TRUSTEE
D.B. 910 PG. 700
D.B. 57 PG. 382 (PLAT)
TAX MAP NO.: 5–A–48

2. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF A TITLE COMMITMENT BY FIDELITY NATIONAL TITLE INSURANCE COMPANY COMMITMENT NO. DC22000084 COMMITMENT DATE DECEMBER 13, 2022 AT 12:00 A.M.

EXCEPTIONS OF SCHEDULE B–SECTION II OF THE ABOVE REFERENCED TITLE COMMITMENT:

1.) NOT ADDRESSED
2.) NOT ADDRESSED
3.) NOT ADDRESSED
4.) NOT ADDRESSED
5.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 50 PG. 17 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
6.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 71 PG. 553 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
7.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 71 PG. 562 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
8.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 71 PG. 567 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
9.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 71 PG. 572 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
10.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 71 PG. 577 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
11.) R/W DEDICATION AND VARIABLE WIDTH DRAINAGE EASEMENTS IN D.B. 446 PG. 215 & S.H.P.B. 2 PG. 83 THRU 97 – SHOWN HEREON
12.) MATTERS ON PLAT IN D.B. 45 PG. 464 – PROPERTY LINES SHOWN HEREON
13.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 54 PG. 81 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
14.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 71 PG. 560 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
15.) SAME AS EXCEPTION NO. 11
16.) 25' UTILITY EASEMENT AND 10' TEMPORARY CONSTRUCTION EASEMENT IN INSTRUMENT NO. 190000541 & P.B. 3 PG. 292 – SHOWN HEREON
17.) MATTERS ON PLAT IN D.B. 45 PG. 465 – PROPERTY LINES SHOWN HEREON
18.) VA ELECTRIC COOP POLE LINE EASEMENT IN D.B. 394 PG. 418 – SHOWN HEREON
19.) SAME AS EXCEPTION NO. 11
20.) MATTERS ON PLAT IN P.B. 3 PG. 302 – PROPERTY LINES & EASEMENTS SHOWN HEREON
21.) VARIOUS EASEMENTS IN INSTRUMENT NO. 190000542 – SHOWN HEREON
22.) MATTERS ON PLAT IN P.B. 3 PG. 323 – EASEMENTS SHOWN HEREON
23.) 25' UTILITY EASEMENT AND TEMPORARY CONSTRUCTION EASEMENT IN INSTRUMENT NO. 190002648 – SHOWN HEREON
24.) VA ELECTRIC COOP POLE LINE EASEMENT IN INSTR. NO. 200000388 – SHOWN HEREON
25.) SAME AS EXCEPTION NO. 5
26.) SAME AS EXCEPTION NO. 6
27.) SAME AS EXCEPTION NO. 7
28.) SAME AS EXCEPTION NO. 8
29.) SAME AS EXCEPTION NO. 9
30.) SAME AS EXCEPTION NO. 10
31.) CENTRAL TELEPHONE COMPANY OF VA. POLE LINE EASEMENT IN D.B. 109 PG. 679 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
32.) CENTRAL TELEPHONE COMPANY OF VA. POLE LINE EASEMENT IN D.B. 109 PG. 679 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
33.) R/W DEDICATION IN D.B. 701 PG. 840 & S.H.P.B. 5 PG. 225 THRU 239 – SHOWN HEREON
34.) MATTERS ON PLATS IN D.B. 51 PG. 428 THRU 431 – PROPERTY LINES SHOWN HEREON
35.) MATTERS ON PLAT IN D.B. 21 PG. 411 – PROPERTY LINES SHOWN HEREON
36.) SAME AS EXCEPTION NO. 5
37.) VA TELEPHONE & TELEGRAPH CO. POLE LINE EASEMENT IN D.B. 95 PG. 364 – MAY PERTAIN TO THE SUBJECT PROPERTY BUT CANNOT BE SHOWN GRAPHICALLY
38.) SAME AS EXCEPTION NO. 6
39.) SAME AS EXCEPTION NO. 7
40.) SAME AS EXCEPTION NO. 8
41.) SAME AS EXCEPTION NO. 9
42.) SAME AS EXCEPTION NO. 10
43.) NOT ADDRESSED
44.) R/W DEDICATION AND DRAINAGE EASEMENT IN D.B. 442 PG. 87, S.H.P.B. 2 PG. 70, D.B. 698 PG. 174 & S.H.P.B. 5 PG. 213 – SHOWN HEREON
45.) MATTERS ON PLAT IN D.B. 576 PG. 821 & D.B. 845 PG. 726 – PROPERTY LINES SHOWN HEREON

3. THIS PROPERTY LIES IN ZONE 'X' OF THE FEMA DEFINED FLOOD HAZARD AREA AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 5106500100C (FLUVANNA COUNTY), EFFECTIVE DATE MAY 16, 2008 AND 51109C0275C (LOUISA COUNTY), EFFECTIVE DATE JULY 22, 2020.

4. DURING THE PROCESS OF OUR PHYSICAL IMPROVEMENT SURVEY INDICATIONS OF A CEMETERY ON PARCEL 2 WERE FOUND. NO FURTHER INSPECTION OF THE PROPERTIES HAS BEEN MADE FOR POSSIBLE CEMETERIES.

5. HORIZONTAL: THE MERIDIAN SOURCE OF THIS PLAT IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 1983/1993 (HARN). COORDINATE VALUES SHOWN ARE EXPRESSED IN U.S. SURVEY FEET. VERTICAL: NAVD 88 DATUM

6. THERE WAS NO RECENT EVIDENCE OF EARTH MOVING WORK OR BUILDING CONSTRUCTION AT TIME OF SURVEY.

7. THERE WAS NO EVIDENCE OF ANY WETLAND DELINEATION AT TIME OF SURVEY.

8. UNDERGROUND UTILITIES MARKED BY MISS UTILITY AND FIELD LOCATED; TICKET NO. A230700329–00A

LEGAL DESCRIPTION – PARCEL 1

BEGINNING AT A POINT AT THE INTERSECTION OF THE WEST LINE OF JAMES MADISON HIGHWAY (U.S. ROUTE 15) AND THE SOUTH LINE OF THREE NOTCH ROAD (U.S. ROUTE 250); THENCE ALONG THE WEST LINE OF JAMES MADISON HIGHWAY S34°52'09"W 196.62' TO A POINT; THENCE N48°02'55"W 2.92' TO A POINT; THENCE S37°51'52"W 84.35' TO A POINT; THENCE S35°10'47"W 515.03' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 1; THENCE CONTINUING ALONG THE WEST LINE OF JAMES MADISON HIGHWAY S35°10'47"W 41.58' TO A POINT; THENCE S34°08'00"E 393.91' TO A POINT; THENCE S32°33'40"W 98.63' TO A POINT; THENCE S38°25'39"W 82.83' TO A POINT; THENCE S30°57'49"W 82.24' TO A POINT; THENCE S34°49'00"W 92.08' TO A POINT; THENCE LEAVING THE WEST LINE OF JAMES MADISON HIGHWAY N65°48'26"W 301.13' TO A POINT; THENCE S83°32'41"W 175.12' TO A POINT; THENCE N11°22'13"E 445.93' TO A POINT; THENCE N32°28'46"W 359.98' TO A POINT; THENCE N85°31'14"E 1,137.89' TO A POINT; THENCE S36°02'08"W 254.17' TO A POINT; THENCE S10°28'11"E 74.99' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 1 AND CONTAINING 13.908 ACRES.

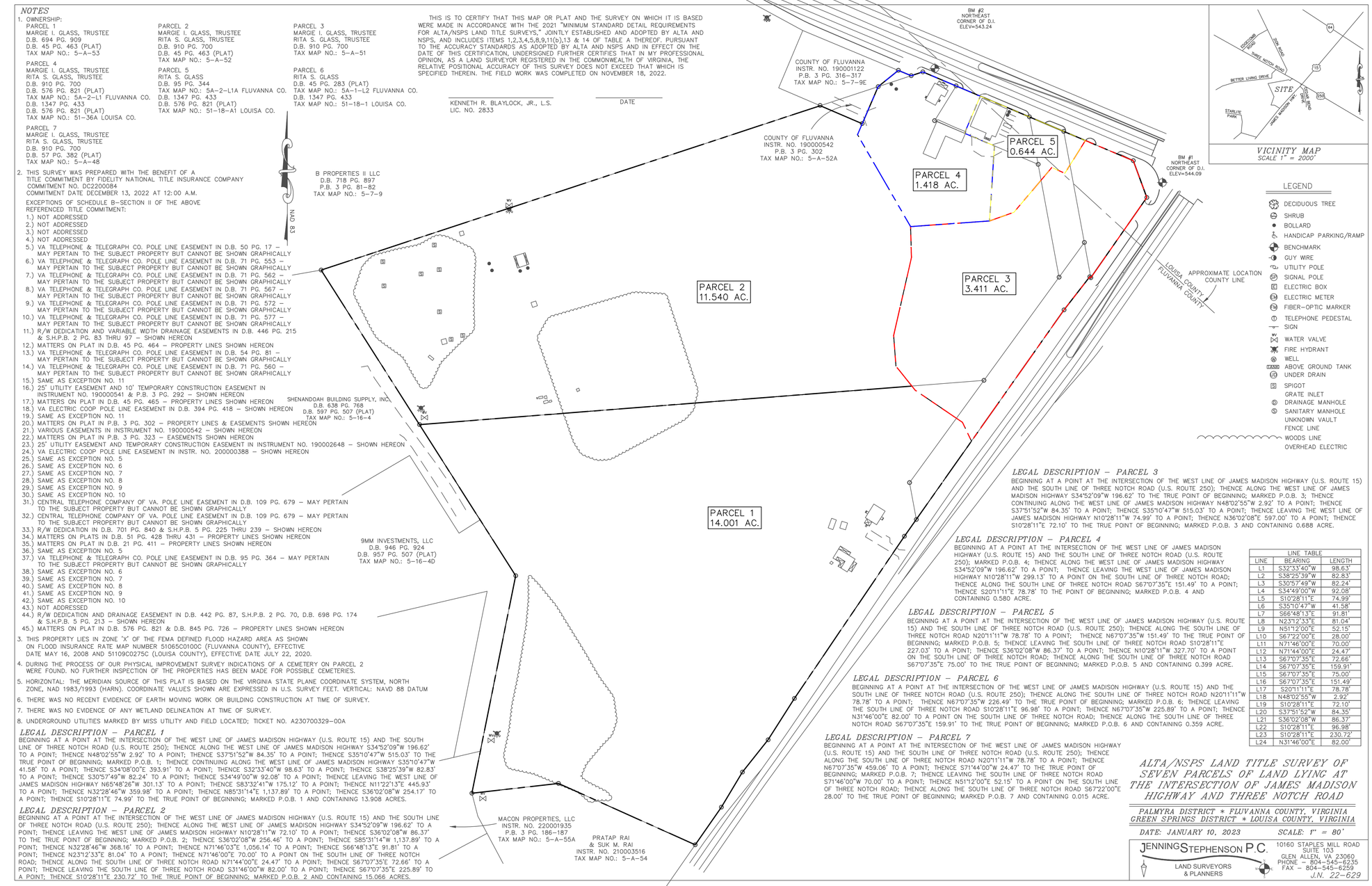
LEGAL DESCRIPTION – PARCEL 2

BEGINNING AT A POINT AT THE INTERSECTION OF THE WEST LINE OF JAMES MADISON HIGHWAY (U.S. ROUTE 15) AND THE SOUTH LINE OF THREE NOTCH ROAD (U.S. ROUTE 250); THENCE ALONG THE WEST LINE OF JAMES MADISON HIGHWAY S34°52'09"W 196.62' TO A POINT; THENCE LEAVING THE WEST LINE OF JAMES MADISON HIGHWAY N10°28'11"W 72.10' TO A POINT; THENCE S36°02'08"W 86.37' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 2; THENCE S36°02'08"W 256.46' TO A POINT; THENCE S85°31'14"W 1,137.89' TO A POINT; THENCE N32°28'46"W 368.16' TO A POINT; THENCE N71°46'03"E 1,056.14' TO A POINT; THENCE S66°48'13"E 91.81' TO A POINT; THENCE N23°12'33"E 81.04' TO A POINT; THENCE N71°46'00"E 70.00' TO A POINT ON THE SOUTH LINE OF THREE NOTCH ROAD; THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD N71°44'00"E 24.47' TO A POINT; THENCE S67°07'35"E 72.66' TO A POINT; THENCE LEAVING THE SOUTH LINE OF THREE NOTCH ROAD S31°46'00"W 82.00' TO A POINT; THENCE S67°07'35"E 225.89' TO A POINT; THENCE S10°28'11"E 230.72' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 2 AND CONTAINING 15.066 ACRES.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1,2,3,4,5,8,9,11(b),13 & 14 OF TABLE A THEREOF. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR REGISTERED IN THE COMMONWEALTH OF VIRGINIA, THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN. THE FIELD WORK WAS COMPLETED ON NOVEMBER 18, 2022.

KENNETH R. BLAYLOCK, JR., L.S.
LIC. NO. 2833

DATE



VICINITY MAP
SCALE 1" = 2000'

LEGEND

- DECIDUOUS TREE
- SHRUB
- BOLLARD
- HANDICAP PARKING/RAMP
- BENCHMARK
- GUY WIRE
- UTILITY POLE
- SIGNAL POLE
- ELECTRIC BOX
- ELECTRIC METER
- FIBER–OPTIC MARKER
- TELEPHONE PEDESTAL
- SIGN
- WATER VALVE
- FIRE HYDRANT
- WELL
- ABOVE GROUND TANK
- UNDER DRAIN
- SPIGOT
- GRATE INLET
- DRAINAGE MANHOLE
- SANITARY MANHOLE
- UNKNOWN VAULT
- FENCE LINE
- WOODS LINE
- OVERHEAD ELECTRIC

LEGAL DESCRIPTION – PARCEL 3

BEGINNING AT A POINT AT THE INTERSECTION OF THE WEST LINE OF JAMES MADISON HIGHWAY (U.S. ROUTE 15) AND THE SOUTH LINE OF THREE NOTCH ROAD (U.S. ROUTE 250); THENCE ALONG THE WEST LINE OF JAMES MADISON HIGHWAY S34°52'09"W 196.62' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 3; THENCE CONTINUING ALONG THE WEST LINE OF JAMES MADISON HIGHWAY N48°02'55"W 2.92' TO A POINT; THENCE S37°51'52"W 84.35' TO A POINT; THENCE S35°10'47"W 515.03' TO A POINT; THENCE LEAVING THE WEST LINE OF JAMES MADISON HIGHWAY N10°28'11"W 74.99' TO A POINT; THENCE N36°02'08"E 597.00' TO A POINT; THENCE S10°28'11"E 72.10' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 3 AND CONTAINING 0.688 ACRE.

LEGAL DESCRIPTION – PARCEL 4

BEGINNING AT A POINT AT THE INTERSECTION OF THE WEST LINE OF JAMES MADISON HIGHWAY (U.S. ROUTE 15) AND THE SOUTH LINE OF THREE NOTCH ROAD (U.S. ROUTE 250); MARKED P.O.B. 4; THENCE ALONG THE WEST LINE OF JAMES MADISON HIGHWAY S34°52'09"W 196.62' TO A POINT; THENCE LEAVING THE WEST LINE OF JAMES MADISON HIGHWAY N10°28'11"W 299.13' TO A POINT ON THE SOUTH LINE OF THREE NOTCH ROAD; THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD S67°07'35"E 151.49' TO A POINT; THENCE S20°11'11"E 78.78' TO THE POINT OF BEGINNING; MARKED P.O.B. 4 AND CONTAINING 0.580 ACRE.

LEGAL DESCRIPTION – PARCEL 5

BEGINNING AT A POINT AT THE INTERSECTION OF THE WEST LINE OF JAMES MADISON HIGHWAY (U.S. ROUTE 15) AND THE SOUTH LINE OF THREE NOTCH ROAD (U.S. ROUTE 250); THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD N20°11'11"W 78.78' TO A POINT; THENCE N67°07'35"W 151.49' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 5; THENCE LEAVING THE SOUTH LINE OF THREE NOTCH ROAD S10°28'11"E 227.03' TO A POINT; THENCE S36°02'08"W 86.37' TO A POINT; THENCE N10°28'11"W 327.70' TO A POINT ON THE SOUTH LINE OF THREE NOTCH ROAD; THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD S67°07'35"E 75.00' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 5 AND CONTAINING 0.399 ACRE.

LEGAL DESCRIPTION – PARCEL 6

BEGINNING AT A POINT AT THE INTERSECTION OF THE WEST LINE OF JAMES MADISON HIGHWAY (U.S. ROUTE 15) AND THE SOUTH LINE OF THREE NOTCH ROAD (U.S. ROUTE 250); THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD N20°11'11"W 78.78' TO A POINT; THENCE N67°07'35"W 226.49' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 6; THENCE LEAVING THE SOUTH LINE OF THREE NOTCH ROAD S10°28'11"E 96.98' TO A POINT; THENCE N67°07'35"W 225.89' TO A POINT; THENCE N31°46'00"E 82.00' TO A POINT ON THE SOUTH LINE OF THREE NOTCH ROAD; THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD S67°07'35"E 159.91' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 6 AND CONTAINING 0.359 ACRE.

LEGAL DESCRIPTION – PARCEL 7

BEGINNING AT A POINT AT THE INTERSECTION OF THE WEST LINE OF JAMES MADISON HIGHWAY (U.S. ROUTE 15) AND THE SOUTH LINE OF THREE NOTCH ROAD (U.S. ROUTE 250); THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD N20°11'11"W 78.78' TO A POINT; THENCE N67°07'35"W 459.06' TO A POINT; THENCE S71°44'00"W 24.47' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 7; THENCE LEAVING THE SOUTH LINE OF THREE NOTCH ROAD S71°46'00"W 70.00' TO A POINT; THENCE N51°12'00"E 52.15' TO A POINT ON THE SOUTH LINE OF THREE NOTCH ROAD; THENCE ALONG THE SOUTH LINE OF THREE NOTCH ROAD S67°22'00"E 28.00' TO THE TRUE POINT OF BEGINNING; MARKED P.O.B. 7 AND CONTAINING 0.015 ACRE.

LINE TABLE		
LINE	BEARING	LENGTH
L1	S32°33'40"W	98.63'
L2	S38°25'39"W	82.83'
L3	S30°57'49"W	82.24'
L4	S34°49'00"W	92.08'
L5	S10°28'11"E	74.99'
L6	S35°10'47"W	41.58'
L7	S66°48'13"E	91.81'
L8	N23°12'33"E	81.04'
L9	N51°12'00"E	52.15'
L10	S67°22'00"E	28.00'
L11	N71°46'00"E	70.00'
L12	N71°44'00"E	24.47'
L13	S67°07'35"E	72.66'
L14	S67°07'35"E	159.91'
L15	S67°07'35"E	75.00'
L16	S67°07'35"E	151.49'
L17	S20°11'11"E	78.78'
L18	N48°02'55"W	2.92'
L19	S10°28'11"E	72.10'
L20	S37°51'52"W	84.35'
L21	S36°02'08"W	86.37'
L22	S10°28'11"E	96.98'
L23	S10°28'11"E	230.72'
L24	N31°46'00"E	82.00'

ALTA/NSPS LAND TITLE SURVEY OF SEVEN PARCELS OF LAND LYING AT THE INTERSECTION OF JAMES MADISON HIGHWAY AND THREE NOTCH ROAD

*PALMYRA DISTRICT * FLUVANNA COUNTY, VIRGINIA*
*GREEN SPRINGS DISTRICT * LOUISA COUNTY, VIRGINIA*

DATE: JANUARY 10, 2023 *SCALE: 1" = 80'*

JENNINGS STEPHENSON P.C.
LAND SURVEYORS & PLANNERS
10160 STAPLES MILL ROAD
SUITE 103
GLEN ALLEN, VA 23060
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GRAPHIC SCALE IN FEET
0 50 100 200

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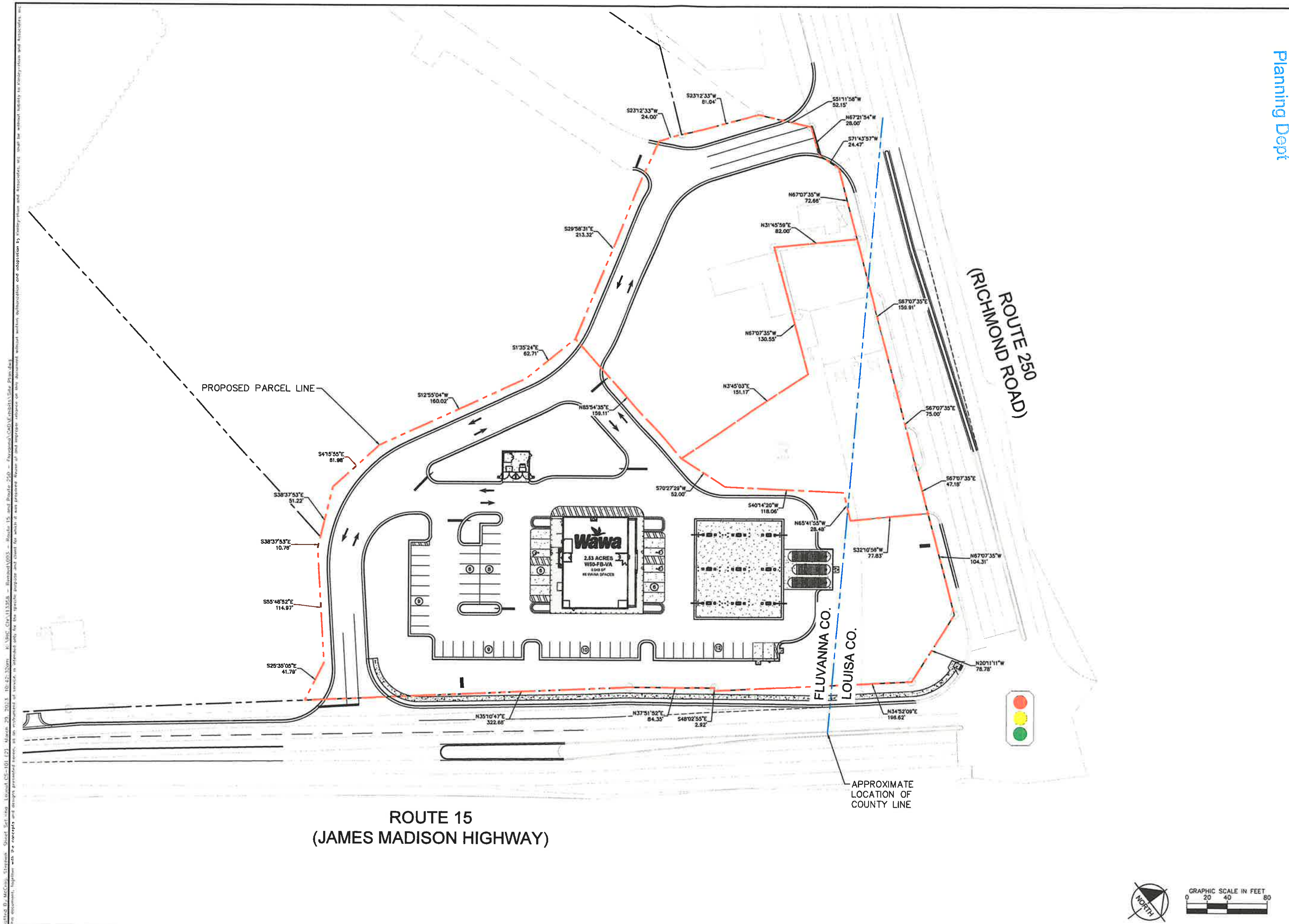
PARCEL EXHIBIT

WAWA AT ZION CROSSROADS

LOUISA AND FLUVANNA COUNTY VIRGINIA

SHEET NUMBER



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KHA PROJECT	113358003
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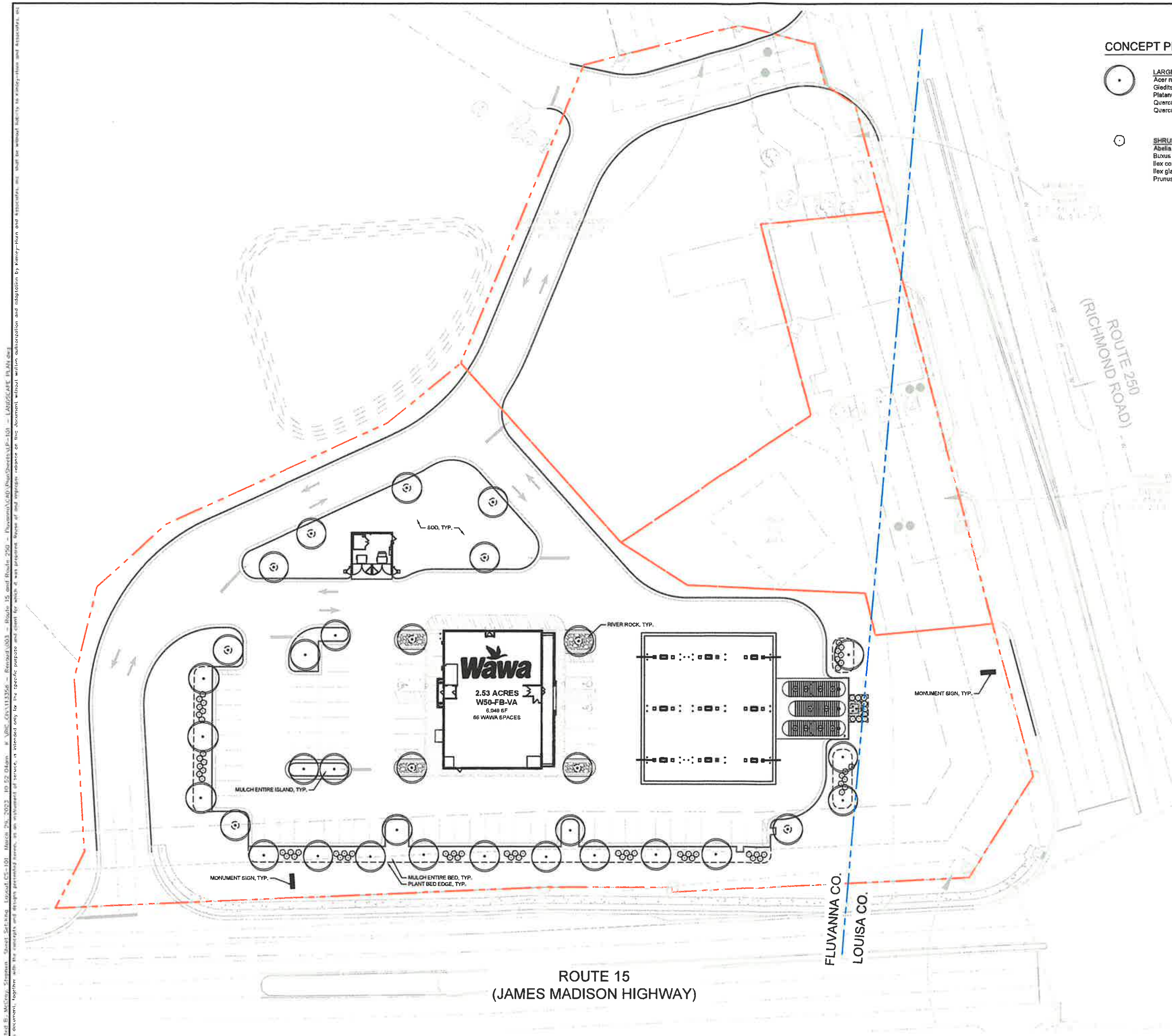
SITE PLAN

WAWA AT ZION CROSSROADS

LOUISA AND FLUVANNA COUNTY VIRGINIA

SHEET NUMBER



CONCEPT PLANT SCHEDULE

	LARGE SHADE TREE	33	
	Acer rubrum 'October Glory' / October Glory Red Maple		B & B, 1.5"Cal
	Gleditsia triacanthos inermis 'Shademaster' / Shademaster Honey Locust		B & B, 1.5"Cal
	Platanus x acerifolia 'Bloodgood' / Bloodgood London Plane Tree		B & B, 1.5"Cal
	Quercus phellos 'QPSTA' / Hightower® Willow Oak		B & B, 1.5"Cal
	Quercus rubra / Red Oak		B & B, 1.5"Cal
	SHRUBS	63	
	Abelia x 'Edward Goucher' / Edward Goucher Abelia		Cont., 18" HT MIN.
	Buxus sempervirens / Common Boxwood		Cont., 18" HT MIN.
	Ilex cornuta 'Burfordii Nana' / Dwarf Burford Holly		Cont., 18" HT MIN.
	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly		Cont., 18" HT MIN.
	Prunus laurocerasus 'Schipkaensis' / Schipka English Laurel		Cont., 18" HT MIN.

GENERAL NOTES

1. SOD ALL AREAS WITHIN WAWA PROPERTY LIMITS THAT ARE NOT COVERED WITH MULCHED PLANT BEDS, STONE MULCH, BUILDINGS, HARDSCAPE, PAVEMENT, OR OTHERWISE NOTED.
2. SEED WITH PERMANENT LAWN GRASS ALL AREAS WITHIN THE RIGHT OF WAY'S WHICH ARE NOT OTHERWISE COVERED WITH PLANTING BEDS, PAVEMENT BUILDINGS, OR HARDSCAPE, PER THE SEEDING SPECIFICATIONS ON SHEET CP-501.
3. EXISTING TREES AND SHRUBS INDICATED TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY INSTALLING TREE PROTECTIVE FENCING PER THE PROJECT PLANS AND SPECIFICATIONS.
4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN IRRIGATION PLAN AND INSTALLATION OF THE IRRIGATION SYSTEM. SEE SHEET CP-501 FOR GENERAL LANDSCAPE NOTES, PARAGRAPH R.
5. SEE SHEET CP-501 FOR PLANTING NOTES AND DETAILS.

GENERAL LANDSCAPING NOTES

1. ALL LANDSCAPING SHALL BE INSTALLED BY THE FIRST PLANTING SEASON FOLLOWING THE ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY WITHIN THE DEVELOPMENT.
2. ALL LANDSCAPING AND SCREENING SHALL BE MAINTAINED IN A HEALTHY CONDITION BY THE CURRENT OWNER OR A PROPERTY OWNERS' ASSOCIATION. REPLACEMENT MATERIAL SHALL COMPLY WITH THE APPROVED LANDSCAPE PLAN.
3. ALL SITE PLANTINGS OF TREES AND SHRUBS SHALL BE ALLOWED TO REACH, AND BE MAINTAINED AT, MATURE HEIGHT. THE TOPPING OF TREES IS PROHIBITED. SHRUBS AND TREES SHALL BE PRUNED MINIMALLY AND ONLY TO SUPPORT THE OVERALL HEALTH OF THE PLANT.

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KHA PROJECT 113358003
DATE 03/29/2023
SCALE AS SHOWN
DESIGNED BY STM
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LANDSCAPE EXHIBIT

WAWA AT ZION CROSSROADS
LOUISA AND FLUVANNA COUNTY VIRGINIA

SHEET NUMBER

SHEET NUMBER

WAWA AT ZION CROSSROADS

LOUISA AND FLUVANNA COUNTY VIRGINIA

AERIAL

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SHEET NUMBER

WAWA AT ZION CROSSROADS

LOUISA AND FLUVANNA COUNTY VIRGINIA

VICINITY MAP

KHA PROJECT	113358003
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TRAFFIC IMPACT ANALYSIS

WAWA – ZION CROSSROADS
FLUVANNA/LOUISA COUNTY, VIRGINIA

DECEMBER 2022

Prepared By:

Kimley»Horn

2035 Maywill Street, Suite 200

Richmond, VA 23230

(804) 673-3882

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APPENDICES

1 EXECUTIVE SUMMARY

The Traffic Impact Analysis (TIA) documented in this report evaluates the traffic impacts of the proposed Wawa fuel station with convenience market to be located in the southwest corner of the intersection of Route 250 (Three Notch Road) at Route 15 (James Madison Highway) in Fluvanna/Louisa County, Virginia. The site proposed for development is currently zoned commercial and agricultural. The proposed fuel station with convenience market will have 18 fuel pumps and an approximately 6,049 square-foot convenience market. A site plan of the proposed development is included in **Appendix A**. Access to the proposed development will be provided via one (1) full access driveway along Three Notch Road just west of James Madison Highway (west project driveway) and one (1) full access driveway located along James Madison Highway just south of Three Notch Road (south project driveway). It is anticipated that the construction for the proposed development will be completed by 2024.

Traffic operations were analyzed at the intersections identified below during the AM and PM peak hours using *Synchro 11*™ and SIDRA Intersection 8 software for the Existing 2022, Projected No-Build 2030, and Projected Build 2030 conditions. To project future traffic volumes for the no-build and build conditions, a linear growth rate of 1.00% was established based on historic growth trends from VDOT Annual Average Daily Traffic (AADT) publications and based on other area studies. The following intersections were analyzed in this traffic impact analysis:

1. Route 250 (Three Notch Road) and Route 15 (James Madison Highway)
2. Route 250 (Three Notch Road) and Route 615 (Zion Road)

The results of the traffic analysis indicate that all intersection approaches and movements operate at LOS D or better during the AM and PM peak hours under existing, 2030 no-build, and 2030 build conditions. Note that the intersection of Route 250 (Three Notch Road) at Route 15 (James Madison Highway) is proposed to be converted to a roundabout in the future as part of the submitted SMART SCALE application ID: 7193 which is awaiting funding. All movements and approaches at the proposed single-lane hybrid roundabout are expected to operate at LOS C or better during the AM and PM peak hours under 2030 build conditions.

The 95th percentile vehicle queue lengths were calculated for all vehicle movements at all study intersections. Based on the queue analysis results, all queues are expected to be accommodated within the existing turn lanes at all intersections under existing 2022, 2030 no-build, and 2030 build conditions. Additionally, queues for all through movements are projected to have adequate space between adjacent intersections. Overall, the intersection capacity and queue analysis results indicate that the study intersections will not be adversely impacted by project traffic.

Access to the proposed development will be provided via one (1) full access driveway along Three Notch Road just west of James Madison Highway (west project driveway) and one (1) full access driveway located along James Madison Highway just south of Three Notch Road (south project driveway). The proposed full access driveways are within spacing requirements from the *VDOT Road Design Manual Appendix F* and will not require an access waiver. Right and left-turn lane warrant analyses were conducted at both of the proposed full access driveway entrances. Based on the results of these analyses, a right and left-turn lane are warranted at the proposed full access west project driveway and the south project driveway.

2 INTRODUCTION

2.1 PURPOSE

Kimley-Horn has performed a Traffic Impact Analysis (TIA) to evaluate the traffic impacts of the proposed Wawa fuel station with convenience market to be located in the southwest corner of the intersection of Route 250 (Three Notch Road) at Route 15 (James Madison Highway) in Fluvanna/Louisa County, Virginia. Proposed fuel station with convenience market will have 18 fuel pumps and an approximately 6,049 square-foot convenience market. The purpose of this study is to evaluate the future impacts of the proposed development traffic on the surrounding roadway network and to identify mitigation measures to accommodate the proposed development, if needed.

2.2 METHODOLOGY

In preparation of the TIA, Kimley-Horn coordinated with Fluvanna and Louisa County and VDOT staff to receive concurrence on the scope of the study, the limits of the study area, and the proposed analysis methodology which is provided for reference in the pre-scoping form contained in **Appendix B**. As determined through coordination, study area intersections included the following:

1. Route 250 (Three Notch Road) and Route 15 (James Madison Highway)
2. Route 250 (Three Notch Road) and Route 615 (Zion Road)

Intersection analyses performed using *Synchro 11*™ and Sidra Intersection 8 software included an evaluation of the Existing 2022, Projected No-Build 2030, and Projected Build 2030 conditions. Existing conditions represent the roadway network geometry and traffic volumes at the time of this study. No-build conditions represent the future roadway network prior to the completion of the proposed project. Build conditions represent the future roadway network with the proposed project.

2.3 PROJECT AREA

The proposed project is located in the southwest corner of the intersection of Route 250 (Three Notch Road) at Route 15 (James Madison Highway) in Fluvanna/Louisa County, Virginia as shown in **Figure 1**.

Figure 1: Study Area

2.4 DEVELOPMENT INFORMATION

The site proposed for development is currently zoned commercial and agricultural. The project is proposing to development a Wawa fuel station with convenience market. Consistent with the proposed land use and VDOT guidance, Institute of Transportation Engineers' (ITE) 10th Edition Land use code (LUC) 960 (Super Convenience Market/Gas Station) was used for the purposes of this study. Detailed trip generation calculations can be found in **Appendix C**.

3 TRAFFIC OPERATIONAL ANALYSIS

3.1 METHODOLOGY

The traffic operational analysis performed for this study using *Synchro 11*™ and Sidra Intersection 8 was conducted in accordance with VDOT's *Traffic Operations Safety Analysis Manual* (TOSAM) for deterministic, intersection capacity analyses. Consistent with prior coordination with Fluvanna and Louisa County and VDOT staff, queueing analyses applying *Synchro 11*™ 95th percentile queues were also performed. Existing signal timings provided by VDOT were used in the development of the Synchro models.

The evaluation of traffic operations within the study area was comprised of an intersection capacity level of service (LOS) analysis during the AM and PM peak hours as well as a queueing analysis. As part of the traffic operational analysis, the projected no-build conditions served as the baseline for evaluating intersection delays and identifying mitigation measures under the build conditions.

Intersection capacity defines the volume of traffic that can be accommodated by an intersection at a specified LOS. Capacity is affected by various geometric factors including roadway type (e.g., divided or undivided), number of lanes, lane widths, and grades. LOS, which is a measure of the degree of congestion, ranges from LOS A (free flowing) to LOS F (a congested, forced flow condition). Delay, measured in seconds per vehicle, and the associated LOS thresholds for signalized and unsignalized intersections based on HCM methodologies are presented in **Table 1**.

Table 1: Intersection Level of Service (LOS) Analysis Criteria

Level of Service (LOS)	Average Control Delay per Vehicle (sec/veh)		Description of Traffic Conditions
	Signalized	Unsignalized	
A	≤ 10	≤ 10	No delays at intersections with continuous flow traffic. Uncongested operations; high frequency of long gaps available for all left and right-turning traffic; no observable queues.
B	> 10 and ≤ 20	> 10 and ≤ 15	
C	> 20 and ≤ 35	> 15 and ≤ 25	Moderate delays at intersections with satisfactory to good traffic flow. Light congestion; infrequent backups on critical approaches.
D	> 35 and ≤ 55	> 25 and ≤ 35	Increased probability of delays along every approach. Significant congestion on critical approaches, but intersection functional. No long-standing lines formed.
E	> 55 and ≤ 80	> 35 and ≤ 50	Heavy traffic flow condition. Heavy delays probable. No available gaps for cross-street traffic or main street turning traffic. Limit of stable flow.
F	> 80	> 50	Unstable traffic flow. Heavy congestion. Traffic moves in forced flow condition. Average delays greater than one minute highly probable. Total breakdown.

3.2 KEY ASSUMPTIONS

The following assumptions were made as part of the traffic operational analysis:

- All intersections used the collected peak hour factor (PHF) data for the existing condition. For the no-build and build condition, all intersections in accordance with TOSAM, used a PHF of 0.88 if it was higher than the collected peak hour factor data.
- All intersections were analyzed with the collected heavy vehicle percentages at each individual movement for the existing, no-build, and build condition.
- All signalized intersections were evaluated using HCM 2000, unsignalized intersections were evaluated using HCM 6th Edition, and roundabouts were analyzed using SIDRA software.

4 EXISTING CONDITIONS

4.1 EXISTING ROADWAY CHARACTERISTICS

Roadway characteristics including geometry and posted speed limits for roadway facilities adjacent to the proposed development are summarized in **Table 2**.

Table 2: Existing Roadway Characteristics

Road	Lanes	Posted Speed (mph)	Functional Classification
Route 250 (Three Notch Road)	2 Lanes Undivided	45	Major Collector
Route 15 (James Madison Highway)	2 Lanes Undivided	45	Minor Arterial

Note: Route 250 and Route 15 are 4-lane divided roadways at the signalized intersection, however, are 2-lane undivided roadways outside of the signalized intersection.

4.2 EXISTING TRAFFIC VOLUMES

Existing AM and PM peak hour traffic volumes were collected on November 3, 2022 (Thursday) at the following identified study area intersections:

1. Route 250 (Three Notch Road) and Route 15 (James Madison Highway)
2. Route 250 (Three Notch Road) and Route 615 (Zion Road)

Peak hour periods were established for the study intersections; based on the turning movement count data, the following peak hours were determined:

- AM Peak Hour 7:30 AM to 8:30 AM
- PM Peak Hour 4:00 PM to 5:00 PM

Existing turning movement counts are shown in **Figure 2**. Traffic count data is provided in **Appendix D**.

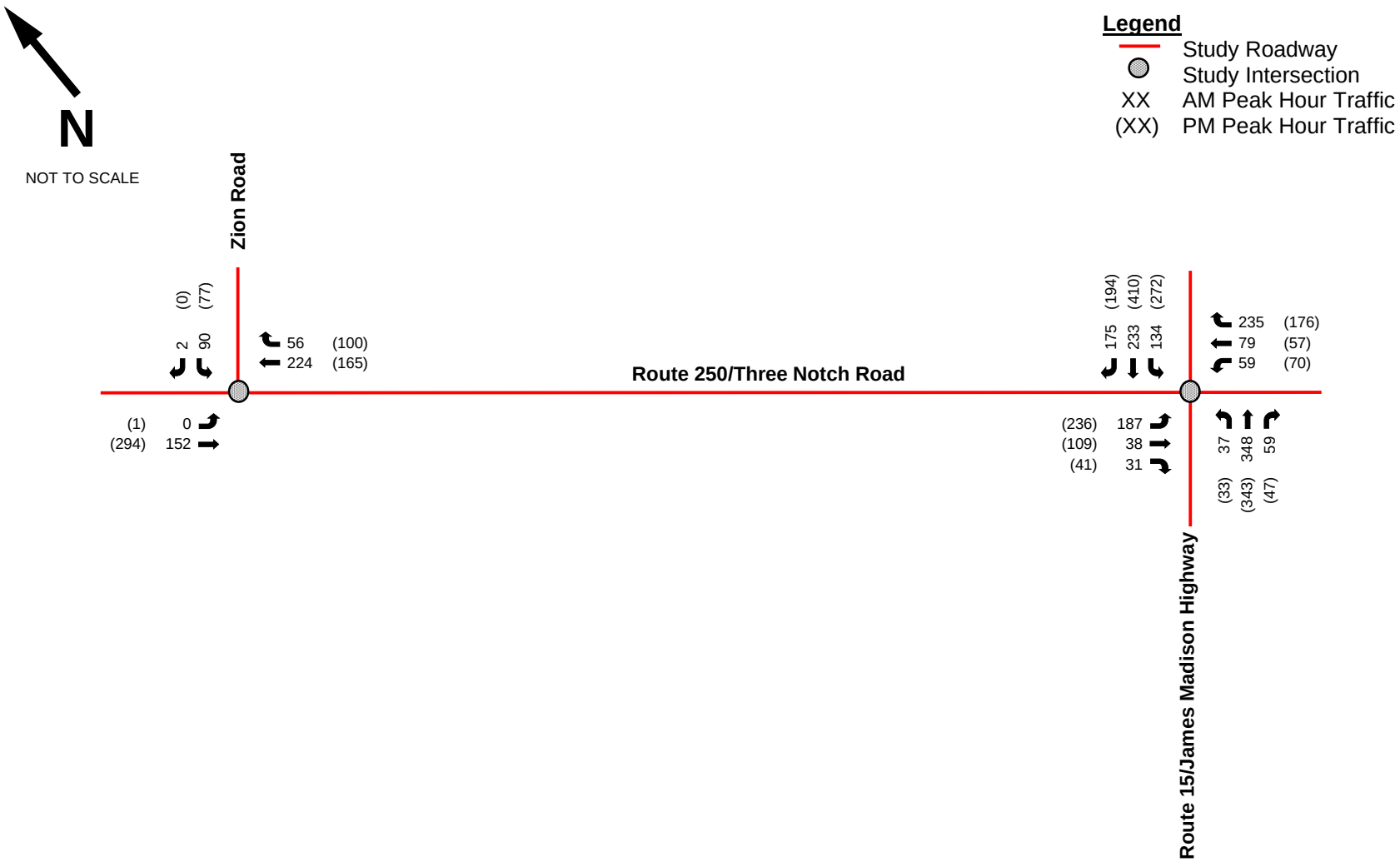

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Figure 2
Existing Peak Hour Traffic

4.3 EXISTING CONDITIONS INTERSECTION CAPACITY ANALYSIS

During the AM and PM peak hours, all intersection approaches and movements operate at LOS D or better. The control delay and LOS results are summarized in **Table 4** following the analysis sections. The intersection capacity analysis results are included in **Appendix E**.

4.4 EXISTING CONDITIONS 95TH QUEUING ANALYSIS

Existing 95th percentile vehicle queue lengths were calculated for all vehicle movements at all study intersections using *Synchro 11*™ software. Based on the queue analysis results, all queues are expected to be accommodated within the existing turn lanes at all intersections. Additionally, queues for all through movements are projected to have adequate space between adjacent intersections.

The queue results are summarized in **Table 6** following the analysis sections. The queueing analysis results are included in **Appendix E**.

5 PROJECTED NO-BUILD CONDITIONS

The projected no-build conditions represent the future roadway network and background traffic growth without the addition of the proposed development traffic. No other planned developments were identified to be included in the projected no-build conditions for this study.

5.1 TRAFFIC GROWTH RATE

During the scoping meeting with Fluvanna and Louisa County and VDOT staff, a linear growth rate of 1.0% was agreed upon to be applied to all study intersections. The scoping form is provided in **Appendix B**. Existing traffic volumes were growth to the year 2030 (build-out year 2024 + 6 years). No-build 2030 AM and PM peak hour traffic volumes are summarized in **Figure 3**.

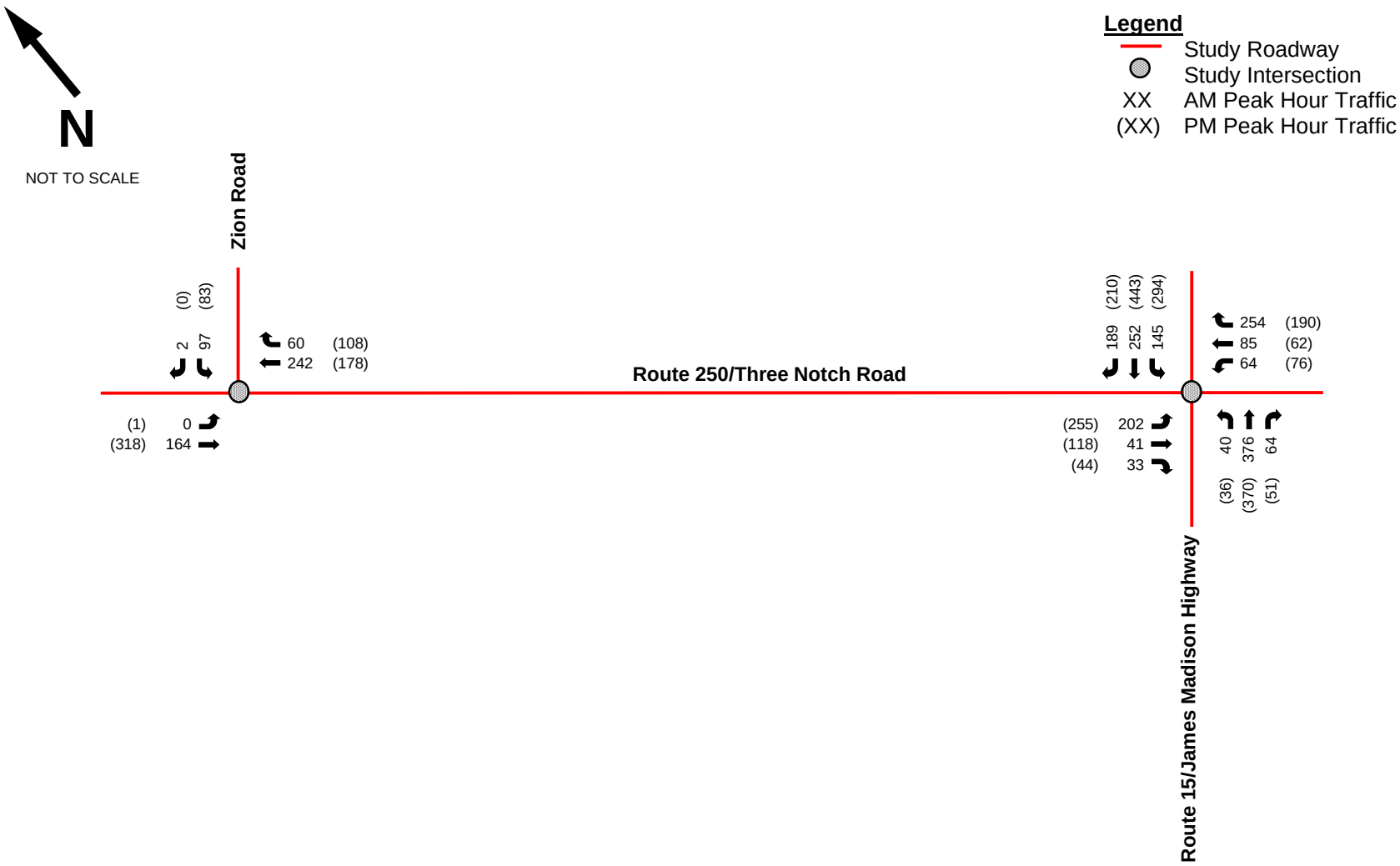

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Figure 3
No-Build Peak Hour Traffic

5.2 2030 NO-BUILD CONDITIONS INTERSECTION CAPACITY ANALYSIS

During the AM and PM peak hours, all intersection approaches and movements operate at LOS D or better. The control delay and LOS results are summarized in **Table 4** following the analysis sections. The intersection capacity analysis results are included in **Appendix E**.

5.3 2030 NO-BUILD CONDITIONS 95TH QUEUEING ANALYSIS

No-build 2030 95th percentile vehicle queue lengths were calculated for all vehicle movements at all study intersections using *Synchro 11*™ software. Based on the queue analysis results, all queues are expected to be accommodated within the existing turn lanes at all intersections. Additionally, queues for all through movements are projected to have adequate space between adjacent intersections.

The queue results are summarized in **Table 6** following the analysis sections. The queueing analysis results are included in **Appendix E**.

6 PROJECTED BUILD CONDITIONS

The build conditions represent the future roadway network with the addition of background traffic growth and traffic generated by the proposed project. Note that the signalized intersection of James Madison Highway and Three Notch Road is proposed to be converted to a roundabout in the future as part of the submitted SMART SCALE application ID: 7193 which is awaiting funding. Therefore, build conditions at the intersection of James Madison Highway and Three Notch Road were analyzed as both a conventional signalized intersection and as a roundabout using SIDRA Intersection 8 software. A roundabout intersection sketch is included in **Appendix G**. Access to the proposed development will be provided via one (1) full access driveway (west project driveway) along Three Notch Road just west of James Madison Highway and one (1) full access driveway located along James Madison Highway just south of Three Notch Road (south project driveway).

6.1 SITE TRIP GENERATION

Traffic projections were estimated for the proposed development based on the ITE *Trip Generation Manual, 10th Edition*. **Table 3** summarizes the expected project trip generation during the AM and PM peak hours. The total trips represent the estimated number of vehicles entering and exiting the proposed development to and from the adjacent roadway network. Note that per guidance provided by Fluvanna and Louisa County and VDOT, the total building square-footage was used to determine the trip generation for the proposed development as the square-foot independent variable estimates a higher trip generation than vehicle fueling positions.

Additionally, pass-by is anticipated during the AM and PM peak hours for the proposed Wawa fuel station with convenience market. Based on ITE *Trip Generation Manual, 11th Edition* supplemental pass-by appendices, Wawa is anticipated to have a pass-by rate of 76% during the AM peak hour and 75% during the PM peak hour. Pass-by rates were previously reviewed and agreed upon by Fluvanna and Louisa County and VDOT in the pre-scope form in **Appendix B**. The expected net new project trips presented in **Table 3** represent the gross project trips minus the pass-by trips attributable to the proposed land use. Detailed trip generation calculations have been included in **Appendix C**.

Table 3: Trip Generation Summary

Description	ITE Code	Intensity	Weekday AM Peak Hour			Weekday PM Peak Hour		
			Total	In	Out	Total	In	Out
Super Convenience Market/Gas Station	960	6,049 sf	503	252	251	419	210	209
Pass-By Reduction			382	191	191	314	157	157
Net New Trips			**121**	**61**	**60**	**105**	**53**	**52**

6.2 SITE TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of traffic at study area intersections, including proposed access locations, was established based on existing traffic patterns and input from Fluvanna and Louisa County and VDOT. The trip distribution is shown in **Figure 4**. Trip assignment based on the trip distribution is shown in **Figure 5.** The pass-by distribution and assignment are shown in **Figure 6** and **Figure 7**.

The assignment of traffic generated by the site was calculated by applying the distribution percentage for a specific turning movement to the total number of inbound or outbound trips generated to establish the turning movement volume at that location. The resulting build volumes for the AM and PM peak hours are shown in **Figure 8**. The build 2030 condition traffic volumes were calculated by adding the site generated trips and pass-by trips to the projected no-build 2030 traffic volumes.

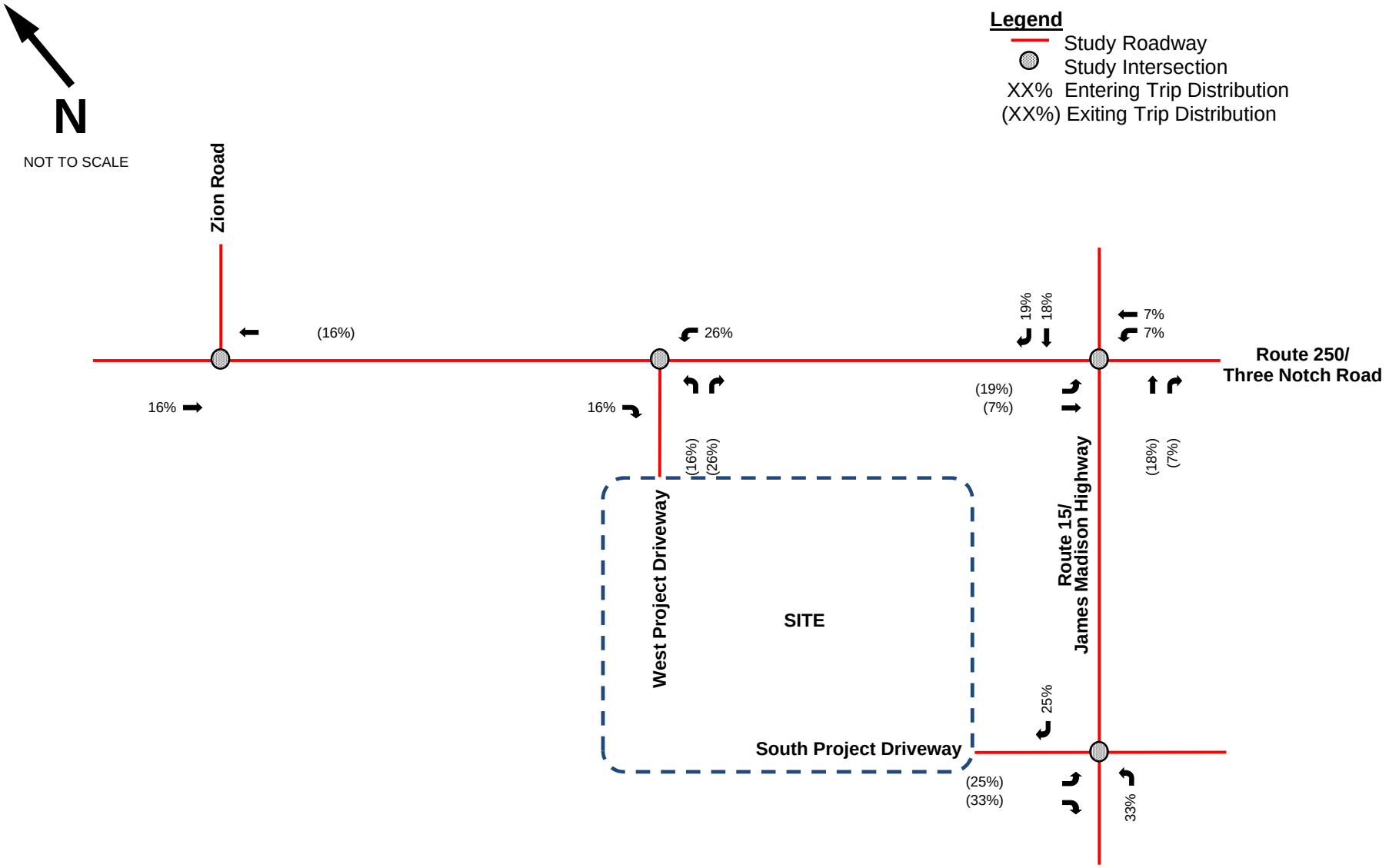

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Figure 4
Trip Distribution

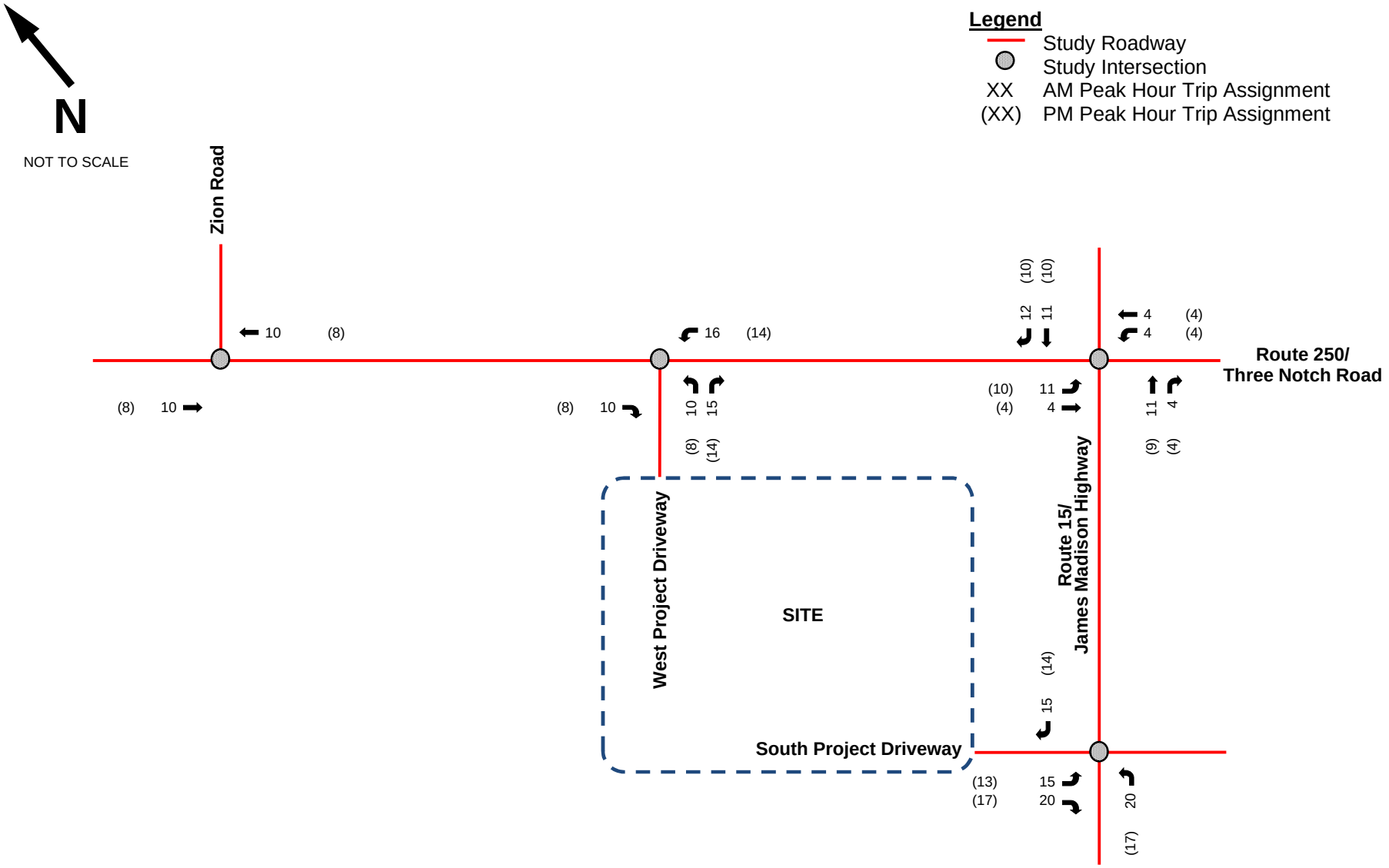

Figure 5
Trip Assignment

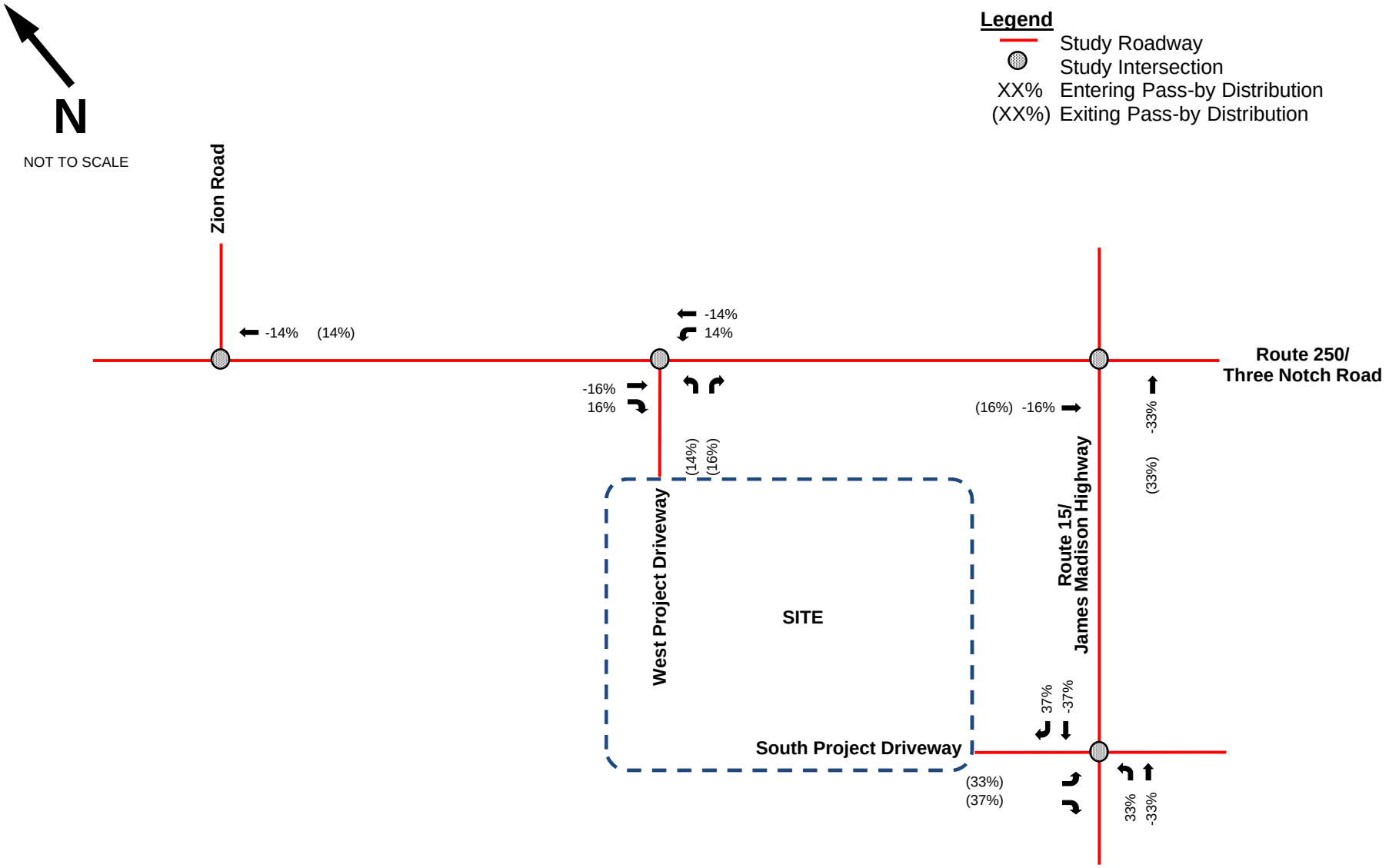

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Figure 6
AM and PM Pass-by Trip Distribution

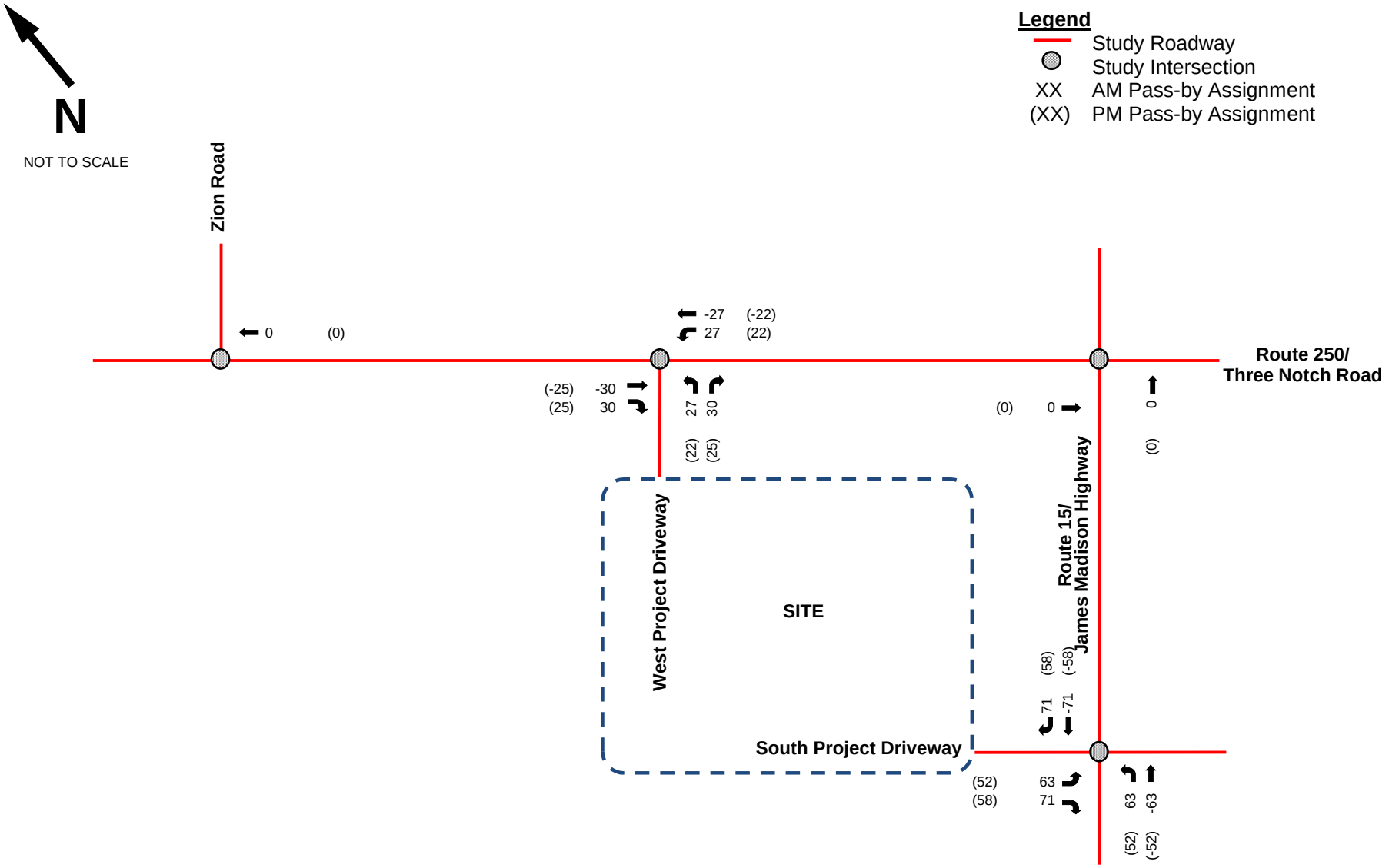

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Figure 7
AM and PM Pass-by Trip Assignment

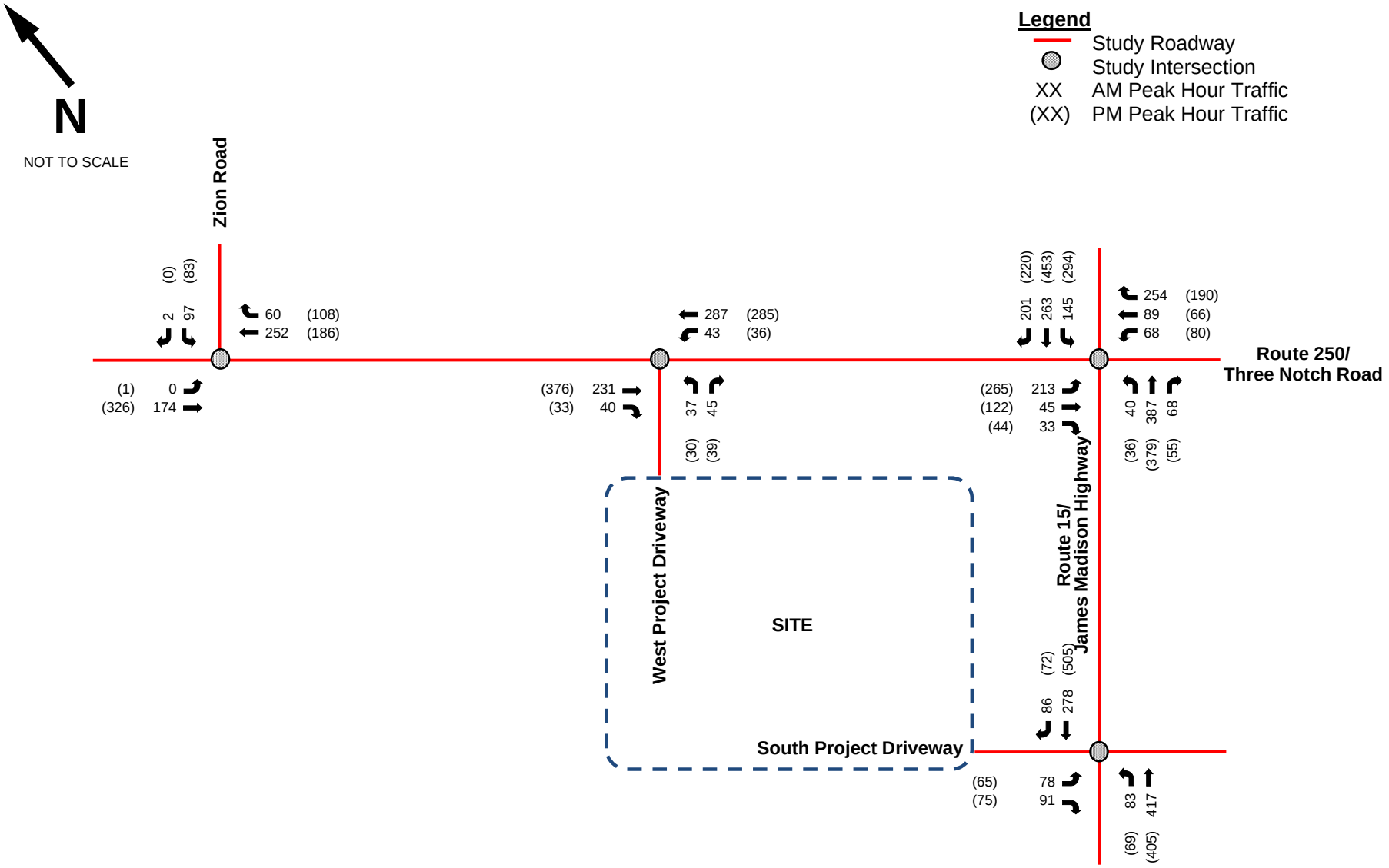

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Figure 8
Build Peak Hour Traffic

6.3 2030 BUILD CONDITIONS INTERSECTION CAPACITY ANALYSIS

The intersection of James Madison Highway and Three Notch Road was analyzed as a signalized intersection and as a roundabout under build conditions as there is currently a submitted SMART Scale project which proposes to convert the signalized intersection to a single-lane hybrid roundabout.

During the AM and PM peak hours, all intersection approaches and movements operate at LOS D or better. The control delay and LOS results are summarized in **Table 4** following the analysis sections. The intersection capacity analysis results are included in **Appendix E**.

All approaches and movements at the intersection of James Madison Highway and Three Notch Road are expected to operate a LOS C or better configured as a single-lane hybrid roundabout. Detailed SIDRA control delay and LOS results are summarized in **Table 5**

6.4 2030 BUILD CONDITIONS 95TH QUEUEING ANALYSIS

Build 2030 95th percentile vehicle queue lengths were calculated for all vehicle movements at all study intersections using *Synchro 11*™ software and SIDRA Intersection 8 software for the proposed roundabout. Based on the queue analysis results, all queues are expected to be accommodated within the existing turn lanes at all intersections. Additionally, queues for all through movements are projected to have adequate space between adjacent intersections.

The queue results are summarized in **Table 6** following the analysis sections. The queueing analysis results are included in **Appendix E**.

Detailed SIDRA queue results at the intersection of James Madison Highway and Three Notch Road are summarized in **Table 7**. Based on the queue results of the proposed single-lane hybrid roundabout, the longest queue is expected to occur at the southbound approach with a 95th percentile queue of approximately 462 feet. However, the southbound vehicle queue is not expected to queue into upstream intersections.

Table 4: Control Delay and LOS Summary

Intersection	Approach	Movement	2022 Existing				2030 No-Build				2030 Build			
			AM		PM		AM		PM		AM		PM	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1. Three Notch Road at Zion Road	EB	L	0	A	7.8	A	0	A	7.8	A	0	A	7.9	A
		T	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
		Approach	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	WB	T	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
		R	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
		Approach	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	SB	LR	11.1	B	11.0	B	11.4	B	11.2	B	11.5	B	11.3	B
		Approach	11.1	B	11.0	B	11.4	B	11.2	B	11.5	B	11.3	B
	Overall Intersection		(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
2. James Madison Highway at Three Notch Road	EB	L	27.9	C	28.3	C	28.2	C	29.0	C	28.7	C	29.3	C
		T	29.4	C	30.9	C	29.3	C	30.9	C	29.4	C	31.0	C
		R	29.2	C	29.9	C	29.1	C	29.8	C	29.1	C	29.8	C
		Approach	28.3	C	29.2	C	28.5	C	29.6	C	28.8	C	29.8	C
	WB	L	24.7	C	25.1	C	24.6	C	25.0	C	24.7	C	25.0	C
		T	35.5	D	35.4	D	35.5	D	35.5	D	35.7	D	35.5	D
		R	36.1	D	35.7	D	36.2	D	35.9	D	36.3	D	35.8	D
		Approach	34.2	C	33.2	C	34.2	C	33.3	C	34.2	C	33.2	C
	NB	L	21.2	C	21.3	C	21.5	C	21.5	C	21.5	C	21.7	C
		T	32.4	C	38.9	D	33.7	C	41.3	D	34.0	C	42.1	D
		R	28.2	C	32.4	C	28.7	C	33.2	C	28.8	C	33.4	C
		Approach	30.9	C	36.8	D	32.0	C	38.9	D	32.3	C	39.5	D
	SB	L	22.3	C	26.8	C	22.9	C	29.3	C	23.1	C	29.8	C
		T	26.7	C	28.6	C	27.2	C	29.4	C	27.4	C	29.8	C
		R	25.6	C	25.6	C	26.0	C	25.9	C	26.2	C	26.2	C
		Approach	25.3	C	27.4	C	25.7	C	28.6	C	26.0	C	29.0	C
	Overall Intersection		29.4	C	30.6	C	29.8	C	31.7	C	30.0	C	32.0	C
3. Three Notch Road at West Project Driveway	WB	L	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	8.0	A	8.4	A
		Approach	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(1)	(1)	(1)	(1)
	NB	L	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	12.1	B	13.1	B
		R	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	9.3	A	9.8	A
		Approach	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	10.6	B	11.2	B
	Overall Intersection		(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
4. James Madison Highway at South Project Driveway	EB	L	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	22.8	C	30.8	D
		R	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	10.2	B	11.2	B
		Approach	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	16.0	C	20.3	C
	NB	L	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	8.4	A	9.2	A
		Approach	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(1)	(1)	(1)	(1)
	Overall Intersection		(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

Notes: (1) Movement operates under free-flow conditions, therefore, no LOS is reported.
(2) Intersection operations under two-way stop-controlled conditions, therefore, no overall LOS is reported.
(3) Intersection does not exist under existing or no-build conditions, therefore, no LOS is reported.

Table 5: Roundabout Control Delay and LOS Summary

Intersection	Approach	Movement	2030 Build – Roundabout			
			AM		PM	
			Delay (sec)	LOS	Delay (sec)	LOS
2. James Madison Highway at Three Notch Road	EB	L	10.6	B	20.5	C
		T	9.6	A	27.7	C
		R	9.4	A	28.1	C
		Approach	10.3	B	23.3	C
	WB	L	9.5	A	10.4	B
		T	8.6	A	10.0	B
		R	0.0	A	0.0	A
		Approach	3.5	A	4.5	A
	NB	L	15.2	B	26.6	C
		T	14.9	B	26.0	C
		R	14.7	B	18.4	B
		Approach	14.9	B	25.1	C
	SB	L	9.7	A	19.6	B
		T	9.6	A	19.5	B
		R	7.9	A	9.8	A
		Approach	9.1	A	17.3	B
	Overall Intersection		9.6	A	18.2	B

Table 6: 95th Percentile Queue Summary

Intersection	Approach	Movement	2022 Existing		2030 No-Build		2030 Build	
			95th Percentile Queue (ft)					
			AM	PM	AM	PM	AM	PM
1. Three Notch Road at Zion Road	EB	L	<25	<25	<25	<25	<25	<25
	SB	LR	<25	<25	<25	<25	<25	<25
2. James Madison Highway at Three Notch Road	EB	L	144	177	155	192	164	200
		T	25	58	26	63	28	64
		R	<25	<25	<25	<25	<25	<25
	WB	L	53	61	56	65	59	68
		T	46	36	49	39	51	41
		R	69	<25	72	<25	72	<25
	NB	L	34	31	36	33	36	33
		T	152	163	164	176	169	180
		R	<25	<25	<25	<25	<25	<25
	SB	L	93	183	101	198	101	198
		T	100	167	108	182	112	187
		R	<25	33	30	43	38	50
3. Three Notch Road at West Project Driveway	WB	L	(1)	(1)	(1)	(1)	<25	<25
	NB	L	(1)	(1)	(1)	(1)	<25	<25
		R	(1)	(1)	(1)	(1)	<25	<25
4. James Madison Highway at South Project Driveway	EB	L	(1)	(1)	(1)	(1)	33	38
		R	(1)	(1)	(1)	(1)	<25	<25
	NB	L	(1)	(1)	(1)	(1)	<25	<25

Note: (1) Intersection does not exist under existing and no-build conditions, therefore, no queue is reported.

Table 7: Roundabout 95th Percentile Queue Summary

Intersection	Approach	Movement	2030 Build – Roundabout 95th Percentile Queue (ft)	
			AM	PM
2. James Madison Highway at Three Notch Road	EB	L	64	155
		T	<25	131
		R	<25	131
		Approach	64	155
	WB	L	47	50
		T	47	50
		R	<25	<25
		Approach	47	50
	NB	L	141	212
		T	141	212
		R	<25	<25
		Approach	141	212
	SB	L	95	462
		T	95	462
		R	45	54
		Approach	95	462

7 ACCESS MANAGEMENT AND TURN LANE WARRANTS

Figure 9 summarizes the required and proposed access spacing. The requirements are based on the spacing standards outlined *Table 2-2* in Appendix F of the *VDOT Road Design Manual*. Access to the proposed development will be provided via one (1) full access driveway along Three Notch Road just west of James Madison Highway (west project driveway) and one (1) full access driveway located along James Madison Highway just south of Three Notch Road (south project driveway).

The VDOT spacing standard for a signal and a full-access driveway entrance found in Table 2-2 is 470 feet for a 45-mph, minor arterial (James Madison Highway) and 335 feet for a 45-mph, major collector (Three Notch Road). The provided distance from the signalized intersection of James Madison Highway at Three Notch Road to the full-access driveways along James Madison Highway and Three Notch Road is approximately 630 feet and 650 feet respectively. Therefore, the proposed driveway entrances meet VDOT's access management requirements.

A right-turn lane warrant analysis was prepared for the eastbound approach at the proposed full access west project driveway along Three Notch Road. The analysis determined that an eastbound right-turn lane with taper only is warranted. Note that there is currently an existing eastbound right-turn lane at the signalized intersection of Three Notch Road and James Madison Highway which extends through the location of the proposed west project driveway. Therefore, the existing eastbound right-turn lane can serve as an eastbound right-turn lane into the west project driveway. The right-turn lane warrant analysis worksheet is included in **Appendix F**.

A left-turn lane warrant analysis was prepared for the westbound approach at the proposed full access west project driveway along Three Notch Road. The analysis determined that a westbound left-turn lane with 200 feet of storage is warranted. Note that there is currently an existing two-way left-turn lane along Three Notch Road at the proposed location of the west project driveway. Therefore, the existing two-way left-turn lane may modified to accommodate a left-turn lane into the west project driveway. The left-turn lane warrant analysis worksheet is included in **Appendix F**.

A right-turn lane warrant analysis was prepared for the southbound approach at the proposed full access south project driveway along James Madison Highway. The analysis determined that a southbound right-turn lane with taper only is warranted. Note that a southbound right-turn lane is already proposed at the south project driveway in the site plan shown in **Appendix A**. The right-turn lane warrant analysis worksheet is included in **Appendix F**.

A left-turn lane warrant analysis was prepared for the northbound approach at the proposed full access south project driveway along James Madison Highway. The analysis determined that a northbound left-turn lane with 200 feet of storage is warranted. The left-turn lane warrant analysis worksheet is included in **Appendix F**.

Figure 9: Access Management Spacing

8 CONCLUSION AND RECOMMENDATIONS

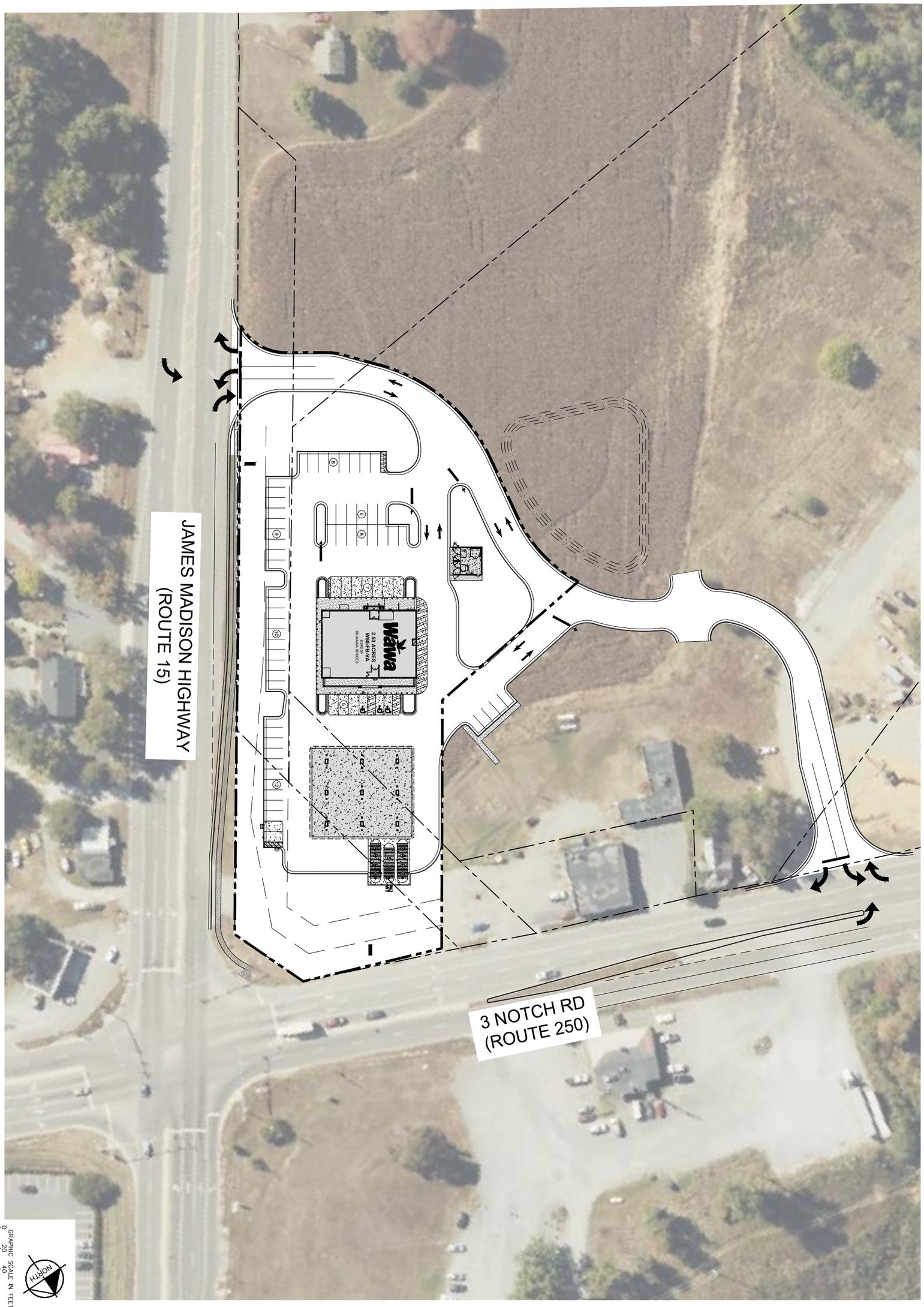
The results of the traffic analysis indicate that all intersection approaches and movements operate at LOS D or better during the AM and PM peak hours under existing, 2030 no-build, and 2030 build conditions. Note that the intersection of Route 250 (Three Notch Road) at Route 15 (James Madison Highway) is proposed to be converted to a roundabout in the future as part of the submitted SMART SCALE application ID: 7193 which is awaiting funding. All movements and approaches at the proposed single-lane hybrid roundabout are expected to operate at LOS C or better during the AM and PM peak hours under 2030 build conditions.

The 95th percentile vehicle queue lengths were calculated for all vehicle movements at all study intersections. Based on the queue analysis results, all queues are expected to be accommodated within the existing turn lanes at all intersections under existing 2022, 2030 no-build, and 2030 build conditions. Additionally, queues for all through movements are projected to have adequate space between adjacent intersections. Overall, the intersection capacity and queue analysis results indicate that the study intersections will not be adversely impacted by project traffic.

Access to the proposed development will be provided via one (1) full access driveway along Three Notch Road just west of James Madison Highway (west project driveway) and one (1) full access driveway located along James Madison Highway just south of Three Notch Road (south project driveway). The proposed full access driveways are within spacing requirements from the *VDOT Road Design Manual Appendix F* and will not require an access waiver. Right and left-turn lane warrant analyses were conducted at both of the proposed full access driveway entrances. Based on the results of these analyses, a right and left-turn lane are warranted at the proposed full access west project driveway and the south project driveway.

APPENDIX A

Conceptual Site Plan



SHEET NUMBER

WAWA

LOUISA AND FLUVANNNA COUNTY VIRGINIA

CONCEPTUAL PLAN

KHA PROJECT	113173119
DATE	11/28/2022
SCALE	AS SHOWN
DESIGNED BY	RPP
DRAWN BY	PMD
CHECKED BY	RPP

Kimley»Horn

1700 WILLOW LAWN DR, SUITE 200, RICHMOND, VA 23230
PHONE: 804-673-3882 FAX: 804-673-3980
WWW.KIMLEY-HORN.COM

No.	REVISIONS	DATE	BY

APPENDIX B

Pre-Scoping Form

PRE-SCOPE OF WORK MEETING FORM

Information on the Project
Traffic Impact Analysis Base Assumptions

The applicant is responsible for entering the relevant information and submitting the form to VDOT and the locality no less than three (3) business days prior to the meeting. If a form is not received by this deadline, the scope of work meeting may be postponed.

Contact Information				
Consultant Name: Tele: E-mail:	David Capparuccini, Kimley-Horn and Associates (804) 672-4715 david.capparuccini@kimley-horn.com			
Developer/Owner Name: Tele: E-mail:	Renaud Consulting (571) 765-4436 mfontaine@renaudconsulting.net			
Project Information				
Project Name:	Wawa - Zion Crossroads		Locality/County:	Fluvanna County & Louisa County
Project Location: (Attach regional and site specific location map)	See Attached Map			
Submission Type	Comp Plan ☐	Rezoning ☐	Site Plan ☒	Subd Plat ☐
Project Description: (Including details on the land use, acreage, phasing, access location, etc. Attach additional sheet if necessary)	This project proposes to consturct an 18-pump (6,059 square-foot) Wawa gas station. Access to the project will be provided via two full-access driveways, one along the south side of Three Norch Road just west of James Madison Highway and one along the west side of James Madison Highway just south of Three Notch Road. See site plan attached.			
Proposed Use(s): (Check all that apply; attach additional pages as necessary)	Residential ☐	Commercial ☒	Mixed Use ☐	Other ☐
	Residential Uses(s) Number of Units: _____ ITE LU Code(s): _____ _____ _____ Commercial Use(s) ITE LU Code(s): 960 _____ _____ Square Ft or Other Variable:		Other Use(s) ITE LU Code(s): _____ _____ _____ Independent Variable(s): _____ _____ _____	
Total Peak Hour Trip Projection:	Less than 100 ☐	100 – 499 ☐	500 – 999 ☒	1,000 or more ☐

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

Traffic Impact Analysis Assumptions			
Study Period	Existing Year: 2022	Build-out Year: 2024	Design Year: 2030
Study Area Boundaries (Attach map)	North: Three Notch Road	South:	
	East: James Madison Highway	West:	
External Factors That Could Affect Project (Planned road improvements, other nearby developments)	NA		
Consistency With Comprehensive Plan (Land use, transportation plan)			
Available Traffic Data (Historical, forecasts)	VDOT traffic count data is available along Route 15 (James Madison Highway) and US 250 (Three Notch Road)		
Trip Distribution (Attach sketch)	Road Name: Three Notch Road EB/WB (TBD)	Road Name:	
	Road Name: James Madison Highway NB/SB (TBD)	Road Name:	
Annual Vehicle Trip Growth Rate:	1%	Peak Period for Study (check all that apply)	☒ AM ☒ PM ☐ SAT
		Peak Hour of the Generator	
Study Intersections and/or Road Segments (Attach additional sheets as necessary)	1.US 250 (Three Notch Road) at Route 15 (James Madison Highway)	6.	
	2.US 250 and site driveway	7.	
	3.Route 15 and site driveway	8.	
	4.	9.	
	5.	10.	
Trip Adjustment Factors	Internal allowance: ☐ Yes ☒ No Reduction: _____% trips	Pass-by allowance: ☒ Yes ☐ No Reduction: 76/75 (AM/PM)% trips	
Software Methodology	☒ Synchro ☐ HCS (v.2000/+) ☐ aaSIDRA ☐ CORSIM ☐ Other _____		
Traffic Signal Proposed or Affected (Analysis software to be used, progression speed, cycle length)	US 250 (Three Notch Road) at Route 15 (James Madison Highway)		

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.

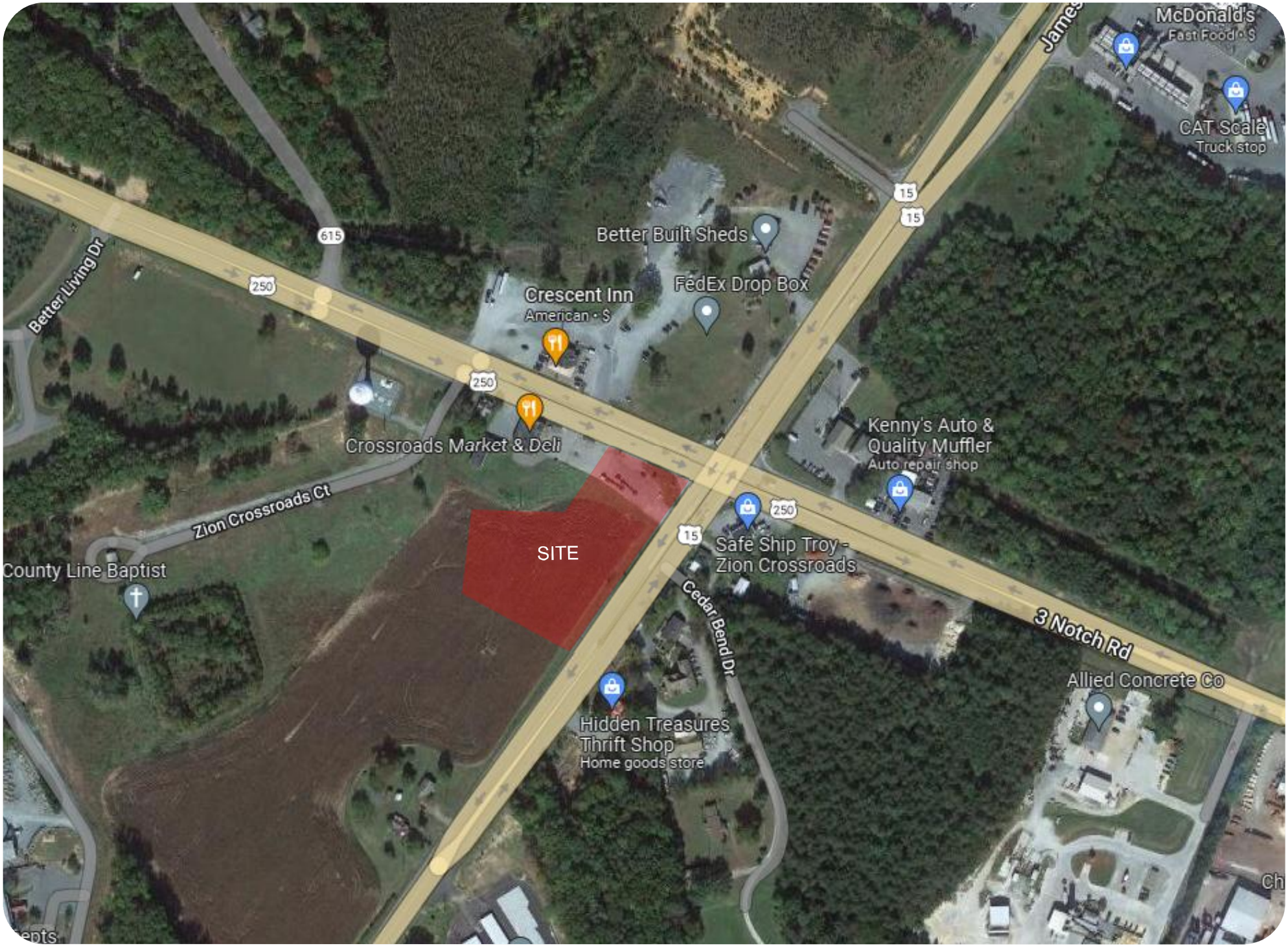
Improvement(s) Assumed or to be Considered	None
Background Traffic Studies Considered	None
Plan Submission	☐ Master Development Plan (MDP) ☐ Generalized Development Plan (GDP) ☒ Preliminary/Sketch Plan ☐ Other Plan type (Final Site, Subd. Plan)
Additional Issues to be Addressed	☒ Queuing analysis ☐ Actuation/Coordination ☐ Weaving analysis ☐ Merge analysis ☐ Bike/Ped Accommodations ☒ Intersection(s) ☐ TDM Measures ☐ Other _____

NOTES on ASSUMPTIONS: _____

SIGNED: _____ DATE: _____
Applicant or Consultant

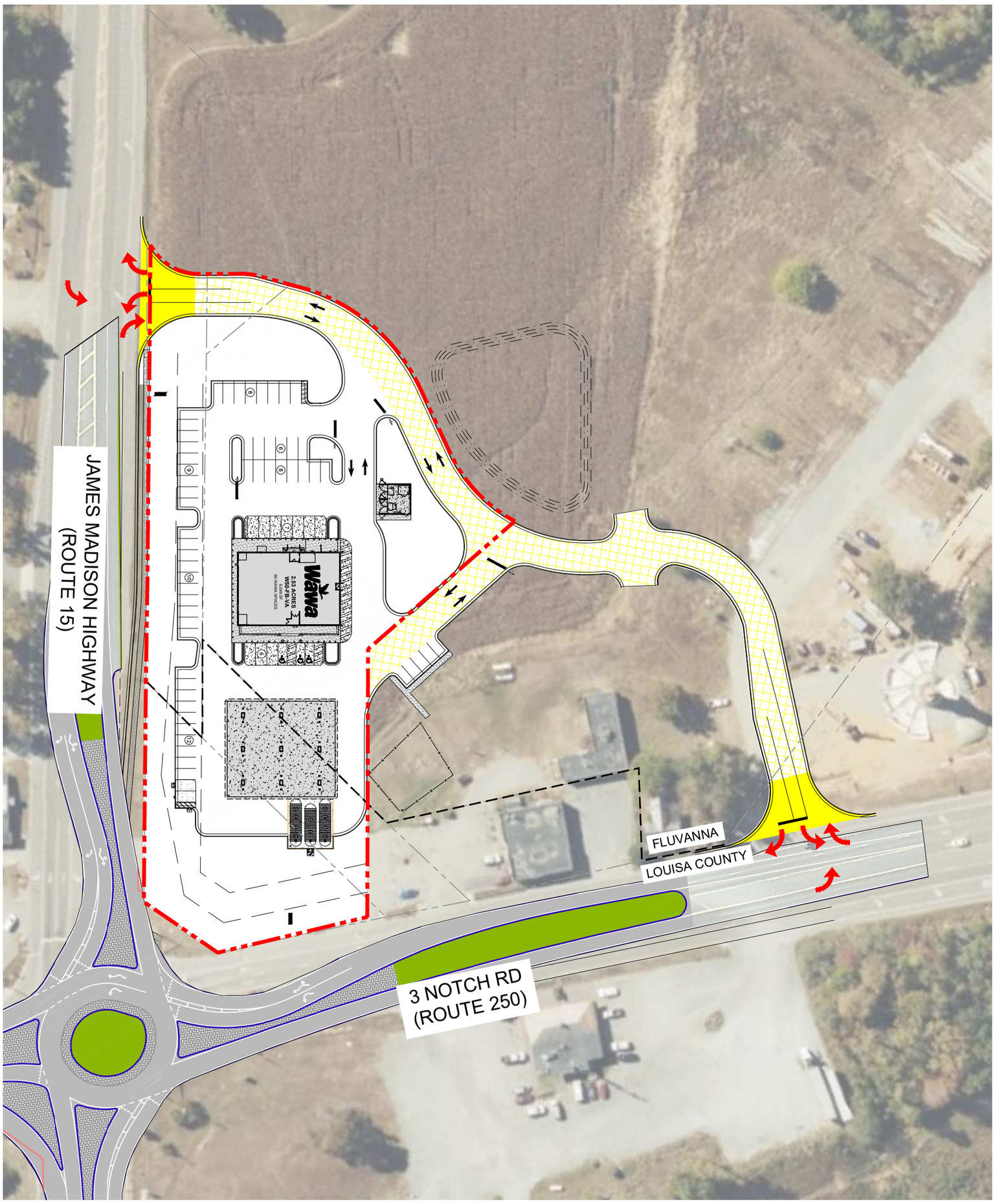
PRINT NAME: _____
Applicant or Consultant

It is important for the applicant to provide sufficient information to county and VDOT staff so that questions regarding geographic scope, alternate methodology, or other issues can be answered at the scoping meeting.


McDonald's
Fast Food · $
CAT Scale
Truck stop
Better Built Sheds
FedEx Drop Box
Crescent Inn
American · $
Better Living Dr
615
250
15
Crossroads Market & Deli
Kenny's Auto &
Quality Muffler
Auto repair shop
Zion Crossroads Ct
SITE
County Line Baptist
Safe Ship Troy -
Zion Crossroads
Cedar Bend Dr
3 Notch Rd
Allied Concrete Co
Hidden Treasures
Thrift Shop
Home goods store

0 20 40 80 GRAPHIC SCALE IN FEET

NORTH



SHEET NUMBER
4 OF 4

WAWA

LOUISA AND FLUVANNNA COUNTY VIRGINIA

SMARTSCALE EXHIBIT
ROUTE 15 AND ROUTE 250

KHA PROJECT	113173119
DATE	09/07/2022
SCALE	AS SHOWN
DESIGNED BY	MFB
DRAWN BY	MFB
CHECKED BY	RRP

Kimley»Horn

1700 WILLOW LAWN DR, SUITE 200, RICHMOND, VA 23230
PHONE: 804-673-3882 FAX: 804-673-3980
WWW.KIMLEY-HORN.COM

No.	REVISIONS	DATE	BY

APPENDIX C

Trip Generation

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent									
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Super Convenience Market/Gas Station	10	960	6.049	ksf	50%	50%	252	251	503	76.0%	382	61	60	121
	2															
	3															
	4															
	5															
	6															
	7															
	8															
	9															
	10															
	11															
	12															
	13															
	14															
	15															
		ITE Land Use Code		Rate or Equation			**Total:**		252	251	503	76.0%	382	61	60	121
		960		Y=83.14(X)												

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent									
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Super Convenience Market/Gas Station	10	960	6.049	ksf	50%	50%	210	209	419	75.0%	314	53	52	105
	2															
	3															
	4															
	5															
	6															
	7															
	8															
	9															
	10															
	11															
	12															
	13															
	14															
	15															
		ITE Land Use Code		Rate or Equation			**Total:**		210	209	419	75.0%	314	53	52	105
		960		Y=69.28(X)												

APPENDIX D

Traffic Count Data

Prepared by National Data & Surveying Services

James Madison Hwy & 3 Notch Rd / Rte 250

Peak Hour Turning Movement Count

ID: 22-250017-001
City: Troy

Day: Thursday
Date: 11/3/2022

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	6:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	3:00 PM - 06:00 PM

SOUTHBOUND (James Madison Hwy)

AM	175	233	134	0	769	AM
NOON	0	0	0	0	0	NOON
PM	194	410	271	1	753	PM
	1	2	1	0		

EASTBOUND (3 Notch Rd/Rte 250)

AM	NOON	PM	
292	0	286	
1	0	3	0
186	0	233	1
38	0	109	2
31	0	41	1
AM	NOON	PM	

WESTBOUND (3 Notch Rd/Rte 250)

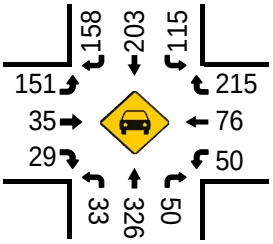
	PM	NOON	AM
1	176	0	235
2	57	0	79
1	68	0	59
0	2	0	0
	429	0	231
	PM	NOON	AM

NORTHBOUND (James Madison Hwy)

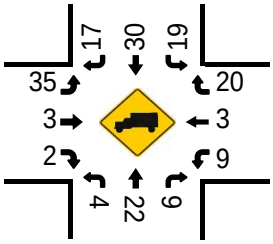
PM	520	1	32	343	47	PM
NOON	0	0	0	0	0	NOON
AM	323	0	37	348	59	AM
	0	1	2	1		

CONTROL			
Signalized			
TEV	1615	0	1988
	AM	NOON	PM
PHF	0.95		0.95

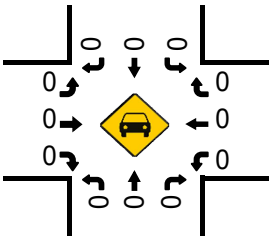
Cars (AM)



HT (AM)



Cars (NOON)



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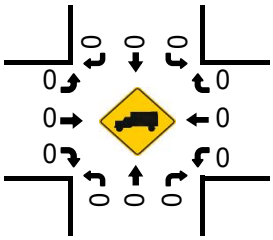
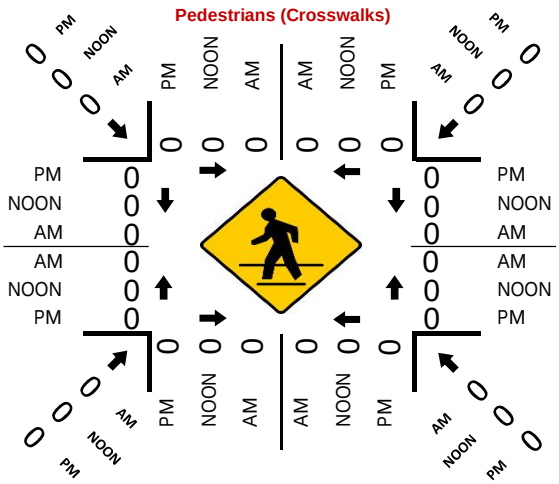
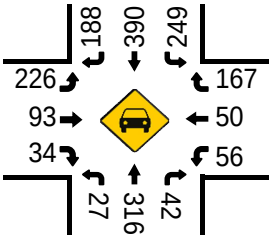


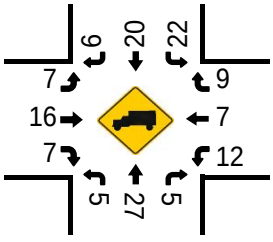
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Zion Rd & 3 Notch Rd / Rte 250

Peak Hour Turning Movement Count

ID: 22-250017-002
City: Troy

Day: Thursday
Date: 11/3/2022

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 6:00 AM - 09:00 AM
NOON: NONE
PM: 3:00 PM - 06:00 PM

Zion Rd

SOUTHBOUND

AM	2	0	89	1	57	AM
NOON	0	0	0	0	0	NOON
PM	0	0	77	0	101	PM

0 1 0 0

EASTBOUND

3 Notch Rd/Rte 250

AM	NOON	PM	
226	0	165	
0	0	0	0
0	0	1	0
152	0	294	2
0	0	0	0
AM	NOON	PM	

CONTROL

1-Way Stop(SB)

TEV	524 AM	0 NOON	637 PM
PHF	0.96		0.95

WESTBOUND

3 Notch Rd/Rte 250

	PM	NOON	AM
1	100	0	56
1	165	0	224
0	0	0	0
0	0	0	0
	371	0	241
	PM	NOON	AM

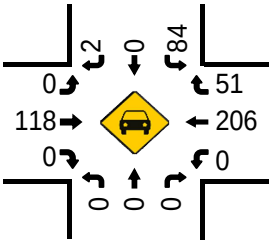
0 0 0 0

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

NORTHBOUND

Zion Rd

Cars (AM)



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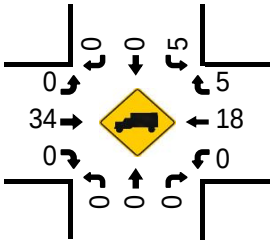

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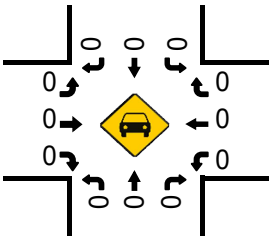

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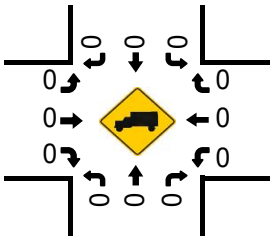
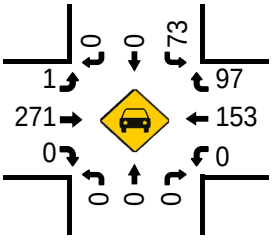
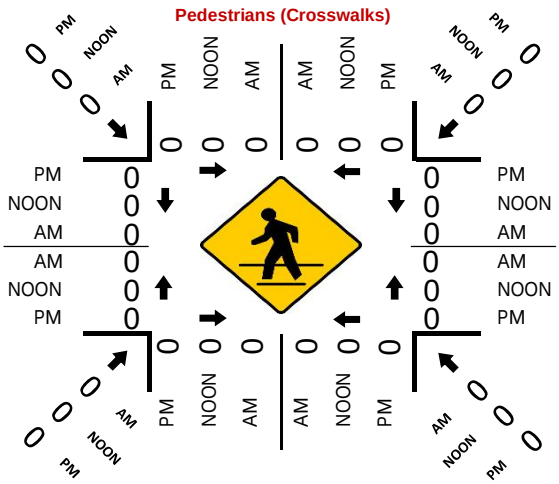


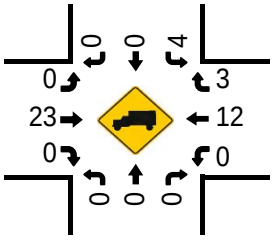
Cars (PM)



Pedestrians (Crosswalks)



HT (PM)



APPENDIX E

Intersection Capacity Analysis

A.M. Existing 2022

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	152	224	56	90	2
Future Vol, veh/h	0	152	224	56	90	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	22	8	9	6	0
Mvmt Flow	0	158	233	58	94	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	291	0	-	0	312	233
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.1	-	-	-	6.69	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.89	-
Follow-up Hdwy	2.2	-	-	-	3.557	3.3
Pot Cap-1 Maneuver	1282	-	-	-	659	811
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	925	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1282	-	-	-	659	811
Mov Cap-2 Maneuver	-	-	-	-	683	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	925	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1282	-	-	-	685
HCM Lane V/C Ratio	-	-	-	-	0.14
HCM Control Delay (s)	0	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)

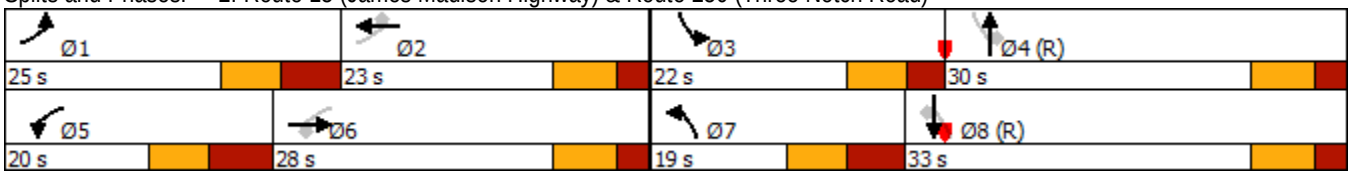
AM Peak Hour

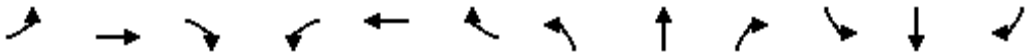
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	38	31	59	79	235	37	348	59	134	233	175
Future Volume (vph)	187	38	31	59	79	235	37	348	59	134	233	175
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	16.9	22.3	22.3	17.3	22.3	22.3	16.8	22.3	22.3	15.4	22.3	22.3
Total Split (s)	25.0	28.0	28.0	20.0	23.0	23.0	19.0	30.0	30.0	22.0	33.0	33.0
Total Split (%)	25.0%	28.0%	28.0%	20.0%	23.0%	23.0%	19.0%	30.0%	30.0%	22.0%	33.0%	33.0%
Yellow Time (s)	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8
All-Red Time (s)	4.4	2.5	2.5	4.8	2.5	2.5	4.3	2.5	2.5	2.9	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 91 (91%), Referenced to phase 4:NBSB and 8:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	197	40	33	62	83	247	39	366	62	141	245	184
v/c Ratio	0.53	0.05	0.06	0.16	0.16	0.57	0.08	0.39	0.11	0.34	0.21	0.27
Control Delay	28.2	31.7	0.2	21.5	37.7	10.7	17.4	32.2	0.4	19.3	25.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	31.7	0.2	21.5	37.7	10.7	17.4	32.2	0.4	19.3	25.8	2.3
Queue Length 50th (ft)	88	10	0	25	24	0	14	101	0	52	63	0
Queue Length 95th (ft)	144	25	0	53	46	69	34	152	0	93	100	20
Internal Link Dist (ft)		916			980			1099			703	
Turn Bay Length (ft)	270		860	365		300	285		350	270		300
Base Capacity (vph)	400	800	550	405	544	440	478	937	563	459	1151	684
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.05	0.06	0.15	0.15	0.56	0.08	0.39	0.11	0.31	0.21	0.27

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	38	31	59	79	235	37	348	59	134	233	175
Future Volume (vph)	187	38	31	59	79	235	37	348	59	134	233	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1517	3343	1524	1570	3471	1482	1626	3406	1404	1583	3195	1468
Flt Permitted	0.70	1.00	1.00	0.73	1.00	1.00	0.60	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1118	3343	1524	1205	3471	1482	1026	3406	1404	834	3195	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	197	40	33	62	83	247	39	366	62	141	245	184
RTOR Reduction (vph)	0	0	25	0	0	205	0	0	46	0	0	128
Lane Group Flow (vph)	197	40	8	62	83	42	39	366	16	141	245	56
Heavy Vehicles (%)	19%	8%	6%	15%	4%	9%	11%	6%	15%	14%	13%	10%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Actuated Green, G (s)	31.8	23.9	23.9	31.4	17.0	17.0	35.9	25.7	25.7	37.3	30.6	30.6
Effective Green, g (s)	31.8	23.9	23.9	31.4	17.0	17.0	35.9	25.7	25.7	37.3	30.6	30.6
Actuated g/C Ratio	0.32	0.24	0.24	0.31	0.17	0.17	0.36	0.26	0.26	0.37	0.31	0.31
Clearance Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	414	798	364	405	590	251	400	875	360	397	977	449
v/s Ratio Prot	c0.07	0.01		0.01	0.02		0.01	c0.11		c0.04	c0.08	
v/s Ratio Perm	c0.08		0.01	c0.04		0.03	0.03		0.01	0.09		0.04
v/c Ratio	0.48	0.05	0.02	0.15	0.14	0.17	0.10	0.42	0.04	0.36	0.25	0.13
Uniform Delay, d1	26.7	29.3	29.1	24.5	35.3	35.5	21.0	30.9	27.9	21.6	26.1	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.1	0.2	0.2	0.7	0.1	1.5	0.2	0.7	0.6	0.6
Delay (s)	27.9	29.4	29.2	24.7	35.5	36.1	21.2	32.4	28.2	22.3	26.7	25.6
Level of Service	C	C	C	C	D	D	C	C	C	C	C	C
Approach Delay (s)		28.3			34.2			30.9			25.3	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.7
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

P.M. Existing 2022

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	294	165	100	77	0
Future Vol, veh/h	1	294	165	100	77	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	8	7	3	5	0
Mvmt Flow	1	309	174	105	81	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	279	0	-	0	331	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.1	-	-	-	6.675	6.2
Critical Hdwy Stg 1	-	-	-	-	5.475	-
Critical Hdwy Stg 2	-	-	-	-	5.875	-
Follow-up Hdwy	2.2	-	-	-	3.5475	3.3
Pot Cap-1 Maneuver	1295	-	-	-	644	875
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1295	-	-	-	643	875
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	848	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1295	-	-	-	680
HCM Lane V/C Ratio	0.001	-	-	-	0.119
HCM Control Delay (s)	7.8	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)

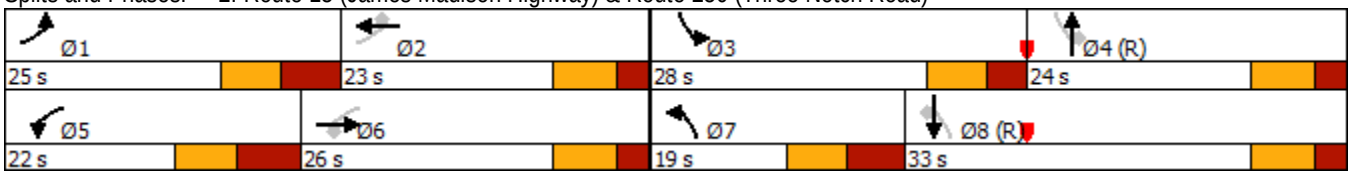
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	109	41	70	57	176	33	343	47	272	410	194
Future Volume (vph)	236	109	41	70	57	176	33	343	47	272	410	194
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	16.9	22.3	22.3	17.3	22.3	22.3	16.8	22.3	22.3	15.4	22.3	22.3
Total Split (s)	25.0	26.0	26.0	22.0	23.0	23.0	19.0	24.0	24.0	28.0	33.0	33.0
Total Split (%)	25.0%	26.0%	26.0%	22.0%	23.0%	23.0%	19.0%	24.0%	24.0%	28.0%	33.0%	33.0%
Yellow Time (s)	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8
All-Red Time (s)	4.4	2.5	2.5	4.8	2.5	2.5	4.3	2.5	2.5	2.9	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 19 (19%), Referenced to phase 4:NBSB and 8:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	248	115	43	74	60	185	35	361	49	286	432	204
v/c Ratio	0.57	0.16	0.08	0.20	0.12	0.37	0.10	0.49	0.09	0.61	0.35	0.28
Control Delay	28.8	33.6	0.3	22.5	37.6	2.0	17.2	38.3	0.3	24.2	26.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	33.6	0.3	22.5	37.6	2.0	17.2	38.3	0.3	24.2	26.7	3.0
Queue Length 50th (ft)	112	32	0	30	17	0	12	108	0	117	117	0
Queue Length 95th (ft)	177	58	0	61	36	0	31	163	0	183	167	33
Internal Link Dist (ft)		916			980			1099			703	
Turn Bay Length (ft)	270		860	365		300	285		350	270		300
Base Capacity (vph)	459	728	569	400	506	515	390	734	573	528	1242	722
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.16	0.08	0.18	0.12	0.36	0.09	0.49	0.09	0.54	0.35	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	109	41	70	57	176	33	343	47	272	410	194
Future Volume (vph)	236	109	41	70	57	176	33	343	47	272	410	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3139	1380	1543	3223	1538	1570	3343	1455	1671	3438	1568
Flt Permitted	0.72	1.00	1.00	0.68	1.00	1.00	0.46	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)	1320	3139	1380	1103	3223	1538	754	3343	1455	843	3438	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	248	115	43	74	60	185	35	361	49	286	432	204
RTOR Reduction (vph)	0	0	33	0	0	154	0	0	39	0	0	141
Lane Group Flow (vph)	248	115	10	74	60	31	35	361	10	286	432	63
Heavy Vehicles (%)	3%	15%	17%	17%	12%	5%	15%	8%	11%	8%	5%	3%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Actuated Green, G (s)	31.8	23.1	23.1	31.4	16.9	16.9	35.9	20.1	20.1	37.3	30.7	30.7
Effective Green, g (s)	31.8	23.1	23.1	31.4	16.9	16.9	35.9	20.1	20.1	37.3	30.7	30.7
Actuated g/C Ratio	0.32	0.23	0.23	0.31	0.17	0.17	0.36	0.20	0.20	0.37	0.31	0.31
Clearance Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	484	725	318	382	544	259	313	671	292	456	1055	481
v/s Ratio Prot	c0.08	0.04		0.02	0.02		0.01	0.11		c0.11	0.13	
v/s Ratio Perm	c0.09		0.01	c0.04		0.02	0.03		0.01	c0.13		0.04
v/c Ratio	0.51	0.16	0.03	0.19	0.11	0.12	0.11	0.54	0.03	0.63	0.41	0.13
Uniform Delay, d1	27.1	30.7	29.8	24.7	35.2	35.2	21.1	35.8	32.1	23.7	27.5	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.2	0.1	0.3	0.2	0.4	0.2	3.1	0.2	3.1	1.2	0.6
Delay (s)	28.3	30.9	29.9	25.1	35.4	35.7	21.3	38.9	32.4	26.8	28.6	25.6
Level of Service	C	C	C	C	D	D	C	D	C	C	C	C
Approach Delay (s)		29.2			33.2			36.8			27.4	
Approach LOS		C			C			D			C	

Intersection Summary

HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.7
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

A.M. No-Build 2030

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	164	242	60	97	2
Future Vol, veh/h	0	164	242	60	97	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	22	8	9	6	0
Mvmt Flow	0	171	252	63	101	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	315	0	-	0	338	252
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	86	-
Critical Hdwy	4.1	-	-	-	6.69	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.89	-
Follow-up Hdwy	2.2	-	-	-	3.557	3.3
Pot Cap-1 Maneuver	1257	-	-	-	635	792
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1257	-	-	-	635	792
Mov Cap-2 Maneuver	-	-	-	-	667	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

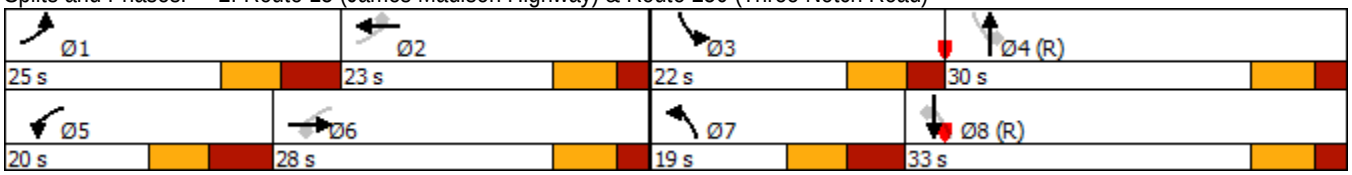
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1257	-	-	-	669
HCM Lane V/C Ratio	-	-	-	-	0.154
HCM Control Delay (s)	0	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	41	33	64	85	254	40	376	64	145	252	189
Future Volume (vph)	202	41	33	64	85	254	40	376	64	145	252	189
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	16.9	22.3	22.3	17.3	22.3	22.3	16.8	22.3	22.3	15.4	22.3	22.3
Total Split (s)	25.0	28.0	28.0	20.0	23.0	23.0	19.0	30.0	30.0	22.0	33.0	33.0
Total Split (%)	25.0%	28.0%	28.0%	20.0%	23.0%	23.0%	19.0%	30.0%	30.0%	22.0%	33.0%	33.0%
Yellow Time (s)	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8
All-Red Time (s)	4.4	2.5	2.5	4.8	2.5	2.5	4.3	2.5	2.5	2.9	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 91 (91%), Referenced to phase 4:NBSB and 8:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	213	43	35	67	89	267	42	396	67	153	265	199
v/c Ratio	0.56	0.05	0.06	0.17	0.17	0.59	0.09	0.43	0.12	0.38	0.23	0.29
Control Delay	29.3	31.9	0.2	21.7	37.8	10.8	17.4	33.1	0.4	20.0	26.1	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	31.9	0.2	21.7	37.8	10.8	17.4	33.1	0.4	20.0	26.1	2.9
Queue Length 50th (ft)	95	11	0	27	26	0	15	112	0	58	69	0
Queue Length 95th (ft)	155	26	0	56	49	72	36	164	0	101	108	30
Internal Link Dist (ft)		916			980			1099			703	
Turn Bay Length (ft)	270		860	365		300	285		350	270		300
Base Capacity (vph)	398	801	550	406	544	457	469	917	556	439	1141	681
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.05	0.06	0.17	0.16	0.58	0.09	0.43	0.12	0.35	0.23	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	41	33	64	85	254	40	376	64	145	252	189
Future Volume (vph)	202	41	33	64	85	254	40	376	64	145	252	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1517	3343	1524	1570	3471	1482	1626	3406	1404	1583	3195	1468
Flt Permitted	0.70	1.00	1.00	0.73	1.00	1.00	0.59	1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)	1112	3343	1524	1202	3471	1482	1007	3406	1404	777	3195	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	213	43	35	67	89	267	42	396	67	153	265	199
RTOR Reduction (vph)	0	0	27	0	0	221	0	0	50	0	0	139
Lane Group Flow (vph)	213	43	8	67	89	46	42	396	17	153	265	60
Heavy Vehicles (%)	19%	8%	6%	15%	4%	9%	11%	6%	15%	14%	13%	10%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Actuated Green, G (s)	32.1	24.0	24.0	31.7	17.1	17.1	35.6	25.0	25.0	37.0	30.3	30.3
Effective Green, g (s)	32.1	24.0	24.0	31.7	17.1	17.1	35.6	25.0	25.0	37.0	30.3	30.3
Actuated g/C Ratio	0.32	0.24	0.24	0.32	0.17	0.17	0.36	0.25	0.25	0.37	0.30	0.30
Clearance Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	417	802	365	409	593	253	391	851	351	384	968	444
v/s Ratio Prot	c0.08	0.01		0.01	0.03		0.01	c0.12		c0.05	c0.08	
v/s Ratio Perm	c0.09		0.01	c0.04		0.03	0.03		0.01	0.10		0.04
v/c Ratio	0.51	0.05	0.02	0.16	0.15	0.18	0.11	0.47	0.05	0.40	0.27	0.14
Uniform Delay, d1	26.8	29.3	29.0	24.4	35.3	35.5	21.3	31.8	28.5	22.0	26.5	25.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.1	0.1	0.3	0.2	0.7	0.2	1.8	0.3	0.9	0.7	0.6
Delay (s)	28.2	29.3	29.1	24.6	35.5	36.2	21.5	33.7	28.7	22.9	27.2	26.0
Level of Service	C	C	C	C	D	D	C	C	C	C	C	C
Approach Delay (s)		28.5			34.2			32.0			25.7	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.7
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

P.M. No-Build 2030

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	318	178	108	83	0
Future Vol, veh/h	1	318	178	108	83	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	8	7	3	5	0
Mvmt Flow	1	335	187	114	87	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	301	0	-	0	357	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	170	-
Critical Hdwy	4.1	-	-	-	6.675	6.2
Critical Hdwy Stg 1	-	-	-	-	5.475	-
Critical Hdwy Stg 2	-	-	-	-	5.875	-
Follow-up Hdwy	2.2	-	-	-	3.5475	3.3
Pot Cap-1 Maneuver	1272	-	-	-	621	860
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	835	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1272	-	-	-	620	860
Mov Cap-2 Maneuver	-	-	-	-	664	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	835	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

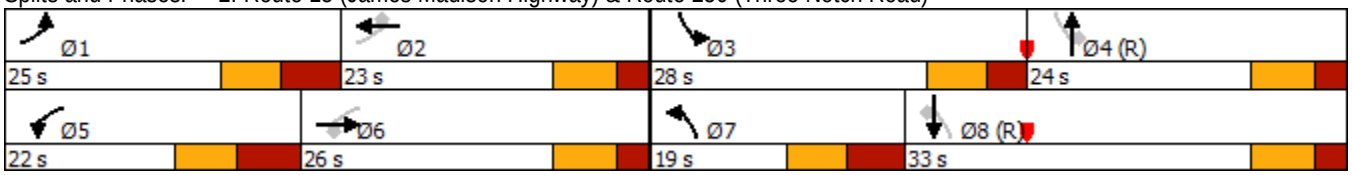
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1272	-	-	-	664
HCM Lane V/C Ratio	0.001	-	-	-	0.132
HCM Control Delay (s)	7.8	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

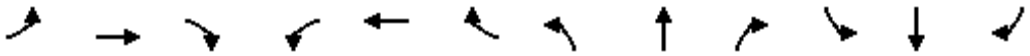
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	118	44	76	62	190	36	370	51	294	443	210
Future Volume (vph)	255	118	44	76	62	190	36	370	51	294	443	210
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	16.9	22.3	22.3	17.3	22.3	22.3	16.8	22.3	22.3	15.4	22.3	22.3
Total Split (s)	25.0	26.0	26.0	22.0	23.0	23.0	19.0	24.0	24.0	28.0	33.0	33.0
Total Split (%)	25.0%	26.0%	26.0%	22.0%	23.0%	23.0%	19.0%	24.0%	24.0%	28.0%	33.0%	33.0%
Yellow Time (s)	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8
All-Red Time (s)	4.4	2.5	2.5	4.8	2.5	2.5	4.3	2.5	2.5	2.9	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 19 (19%), Referenced to phase 4:NBSB and 8:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	268	124	46	80	65	200	38	389	54	309	466	221
v/c Ratio	0.61	0.17	0.08	0.22	0.13	0.40	0.11	0.56	0.10	0.67	0.38	0.31
Control Delay	30.1	33.8	0.3	22.6	37.7	2.3	17.3	40.2	0.3	26.5	27.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	33.8	0.3	22.6	37.7	2.3	17.3	40.2	0.3	26.5	27.3	4.0
Queue Length 50th (ft)	122	34	0	33	18	0	14	120	0	128	128	0
Queue Length 95th (ft)	192	63	0	65	39	0	33	176	0	198	182	43
Internal Link Dist (ft)		916			980			1099			703	
Turn Bay Length (ft)	270		860	365		300	285		350	270		300
Base Capacity (vph)	458	732	570	399	506	515	372	700	561	508	1230	718
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.17	0.08	0.20	0.13	0.39	0.10	0.56	0.10	0.61	0.38	0.31

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	118	44	76	62	190	36	370	51	294	443	210
Future Volume (vph)	255	118	44	76	62	190	36	370	51	294	443	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3139	1380	1543	3223	1538	1570	3343	1455	1671	3438	1568
Flt Permitted	0.71	1.00	1.00	0.67	1.00	1.00	0.43	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	1314	3139	1380	1094	3223	1538	703	3343	1455	770	3438	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	268	124	46	80	65	200	38	389	54	309	466	221
RTOR Reduction (vph)	0	0	35	0	0	166	0	0	44	0	0	154
Lane Group Flow (vph)	268	124	11	80	65	34	38	389	10	309	466	67
Heavy Vehicles (%)	3%	15%	17%	17%	12%	5%	15%	8%	11%	8%	5%	3%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Actuated Green, G (s)	32.0	23.2	23.2	31.6	16.8	16.8	35.7	19.1	19.1	37.1	30.4	30.4
Effective Green, g (s)	32.0	23.2	23.2	31.6	16.8	16.8	35.7	19.1	19.1	37.1	30.4	30.4
Actuated g/C Ratio	0.32	0.23	0.23	0.32	0.17	0.17	0.36	0.19	0.19	0.37	0.30	0.30
Clearance Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	487	728	320	383	541	258	296	638	277	447	1045	476
v/s Ratio Prot	c0.08	0.04		0.02	0.02		0.01	0.12		c0.12	0.14	
v/s Ratio Perm	c0.09		0.01	c0.05		0.02	0.04		0.01	c0.13		0.04
v/c Ratio	0.55	0.17	0.03	0.21	0.12	0.13	0.13	0.61	0.04	0.69	0.45	0.14
Uniform Delay, d1	27.3	30.7	29.7	24.7	35.3	35.4	21.3	37.0	33.0	24.3	28.0	25.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.2	0.1	0.4	0.2	0.5	0.3	4.3	0.3	4.9	1.4	0.6
Delay (s)	29.0	30.9	29.8	25.0	35.5	35.9	21.5	41.3	33.2	29.3	29.4	25.9
Level of Service	C	C	C	C	D	D	C	D	C	C	C	C
Approach Delay (s)		29.6			33.3			38.9			28.6	
Approach LOS		C			C			D			C	

Intersection Summary

HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.7
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

A.M. Build 2030

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	174	252	60	97	2
Future Vol, veh/h	0	174	252	60	97	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	22	8	9	6	0
Mvmt Flow	0	181	263	63	101	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	326	0	-	0	354	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.1	-	-	-	6.69	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.89	-
Follow-up Hdwy	2.2	-	-	-	3.557	3.3
Pot Cap-1 Maneuver	1245	-	-	-	621	781
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1245	-	-	-	621	781
Mov Cap-2 Maneuver	-	-	-	-	657	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	912	-

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

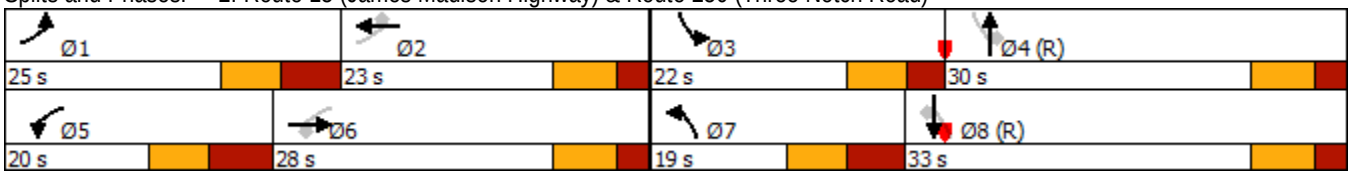
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1245	-	-	-	659
HCM Lane V/C Ratio	-	-	-	-	0.156
HCM Control Delay (s)	0	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

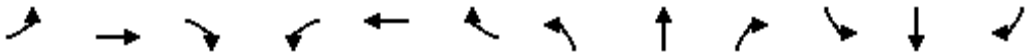
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	45	33	68	89	254	40	387	68	145	263	201
Future Volume (vph)	213	45	33	68	89	254	40	387	68	145	263	201
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	16.9	22.3	22.3	17.3	22.3	22.3	16.8	22.3	22.3	15.4	22.3	22.3
Total Split (s)	25.0	28.0	28.0	20.0	23.0	23.0	19.0	30.0	30.0	22.0	33.0	33.0
Total Split (%)	25.0%	28.0%	28.0%	20.0%	23.0%	23.0%	19.0%	30.0%	30.0%	22.0%	33.0%	33.0%
Yellow Time (s)	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8
All-Red Time (s)	4.4	2.5	2.5	4.8	2.5	2.5	4.3	2.5	2.5	2.9	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 91 (91%), Referenced to phase 4:NBSB and 8:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	224	47	35	72	94	267	42	407	72	153	277	212
v/c Ratio	0.59	0.06	0.06	0.18	0.18	0.59	0.09	0.45	0.13	0.39	0.24	0.31
Control Delay	30.1	32.0	0.2	21.8	37.9	10.8	17.5	33.5	0.5	20.2	26.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	32.0	0.2	21.8	37.9	10.8	17.5	33.5	0.5	20.2	26.3	3.8
Queue Length 50th (ft)	100	12	0	29	27	0	15	117	0	58	73	0
Queue Length 95th (ft)	164	28	0	59	51	72	36	169	0	101	112	38
Internal Link Dist (ft)		546			980			542			703	
Turn Bay Length (ft)	270		860	365		300	285		350	270		300
Base Capacity (vph)	398	803	551	406	544	457	463	909	553	432	1135	678
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.06	0.06	0.18	0.17	0.58	0.09	0.45	0.13	0.35	0.24	0.31

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	45	33	68	89	254	40	387	68	145	263	201
Future Volume (vph)	213	45	33	68	89	254	40	387	68	145	263	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1517	3343	1524	1570	3471	1482	1626	3406	1404	1583	3195	1468
Flt Permitted	0.69	1.00	1.00	0.72	1.00	1.00	0.58	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	1106	3343	1524	1197	3471	1482	995	3406	1404	757	3195	1468
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	224	47	35	72	94	267	42	407	72	153	277	212
RTOR Reduction (vph)	0	0	27	0	0	222	0	0	54	0	0	148
Lane Group Flow (vph)	224	47	8	72	94	45	42	407	18	153	277	64
Heavy Vehicles (%)	19%	8%	6%	15%	4%	9%	11%	6%	15%	14%	13%	10%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Actuated Green, G (s)	32.2	24.0	24.0	31.8	17.0	17.0	35.5	24.9	24.9	36.9	30.2	30.2
Effective Green, g (s)	32.2	24.0	24.0	31.8	17.0	17.0	35.5	24.9	24.9	36.9	30.2	30.2
Actuated g/C Ratio	0.32	0.24	0.24	0.32	0.17	0.17	0.36	0.25	0.25	0.37	0.30	0.30
Clearance Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	418	802	365	409	590	251	386	848	349	378	964	443
v/s Ratio Prot	c0.08	0.01		0.01	0.03		0.01	c0.12		c0.05	c0.09	
v/s Ratio Perm	c0.09		0.01	c0.04		0.03	0.03		0.01	0.10		0.04
v/c Ratio	0.54	0.06	0.02	0.18	0.16	0.18	0.11	0.48	0.05	0.40	0.29	0.14
Uniform Delay, d1	27.0	29.3	29.0	24.4	35.4	35.5	21.4	32.0	28.6	22.1	26.7	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.1	0.1	0.3	0.3	0.7	0.2	1.9	0.3	1.0	0.8	0.7
Delay (s)	28.7	29.4	29.1	24.7	35.7	36.3	21.5	34.0	28.8	23.1	27.4	26.2
Level of Service	C	C	C	C	D	D	C	C	C	C	C	C
Approach Delay (s)		28.8			34.2			32.3			26.0	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.7
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	231	40	43	287	37	45
Future Vol, veh/h	231	40	43	287	37	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	263	45	49	326	42	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	308	0	524	132
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	261	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1249	-	483	893
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1249	-	464	893
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	729	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	551	893	-	-	1249	-
HCM Lane V/C Ratio	0.076	0.057	-	-	0.039	-
HCM Control Delay (s)	12.1	9.3	-	-	8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	78	91	83	417	278	86
Future Vol, veh/h	78	91	83	417	278	86
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	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	103	94	474	316	98

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	790	207	414	0	-	0
Stage 1	365	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	327	799	1141	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	290	799	1141	-	-	-
Mov Cap-2 Maneuver	290	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	627	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	1.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1141	-	290	799	-	-
HCM Lane V/C Ratio	0.083	-	0.306	0.129	-	-
HCM Control Delay (s)	8.4	0.3	22.8	10.2	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.3	0.4	-	-

MOVEMENT SUMMARY

Site: 101 [AM Peak Hour (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Route 15 (James Madison Highway)														
3	L2	40	11.0	42	11.0	0.603	15.2	LOS B	5.4	141.0	0.71	0.83	1.11	32.5
8	T1	387	6.0	407	6.0	0.603	14.9	LOS B	5.4	141.0	0.71	0.83	1.11	32.7
18	R2	68	15.0	72	15.0	0.214	14.7	LOS B	0.8	22.6	0.60	0.60	0.60	31.6
Approach		495	7.6	521	7.6	0.603	14.9	LOS B	5.4	141.0	0.69	0.80	1.04	32.5
East: Route 250 (Three Notch Road)														
1	L2	68	15.0	72	15.0	0.260	9.5	LOS A	1.7	46.7	0.81	0.74	0.81	31.8
6	T1	89	4.0	94	4.0	0.260	8.6	LOS A	1.7	46.7	0.81	0.74	0.81	32.1
16	R2	254	9.0	267	9.0	0.181	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.0
Approach		411	8.9	433	8.9	0.260	3.5	LOS A	1.7	46.7	0.31	0.28	0.31	34.8
North: Route 15 (James Madison Highway)														
7	L2	145	14.0	153	14.0	0.468	9.7	LOS A	3.4	95.1	0.62	0.45	0.62	31.7
4	T1	263	13.0	277	13.0	0.468	9.6	LOS A	3.4	95.1	0.62	0.45	0.62	31.8
14	R2	201	10.0	212	10.0	0.277	7.9	LOS A	1.7	44.8	0.55	0.40	0.55	32.3
Approach		609	12.2	641	12.2	0.468	9.1	LOS A	3.4	95.1	0.59	0.43	0.59	31.9
West: Route 250 (Three Notch Road)														
5	L2	213	19.0	224	19.0	0.354	10.6	LOS B	2.2	64.2	0.77	0.71	0.77	29.7
2	T1	45	8.0	47	8.0	0.164	9.6	LOS A	0.9	23.3	0.72	0.65	0.72	32.8
12	R2	33	6.0	35	6.0	0.164	9.4	LOS A	0.9	23.3	0.72	0.65	0.72	31.8
Approach		291	15.8	306	15.8	0.354	10.3	LOS B	2.2	64.2	0.76	0.70	0.76	30.4
All Vehicles		1806	10.8	1901	10.8	0.603	9.6	LOS A	5.4	141.0	0.58	0.54	0.68	32.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

P.M. Build 2030

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	326	186	108	83	0
Future Vol, veh/h	1	326	186	108	83	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	8	7	3	5	0
Mvmt Flow	1	343	196	114	87	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	310	0	-	0	370	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	174	-
Critical Hdwy	4.1	-	-	-	6.675	6.2
Critical Hdwy Stg 1	-	-	-	-	5.475	-
Critical Hdwy Stg 2	-	-	-	-	5.875	-
Follow-up Hdwy	2.2	-	-	-	3.5475	3.3
Pot Cap-1 Maneuver	1262	-	-	-	610	850
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1262	-	-	-	609	850
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	831	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

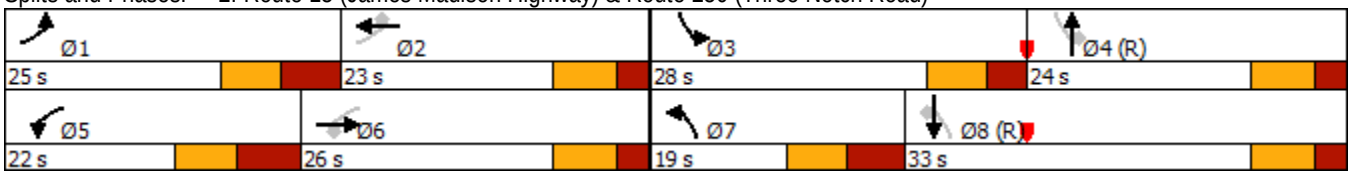
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1262	-	-	-	656
HCM Lane V/C Ratio	0.001	-	-	-	0.133
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

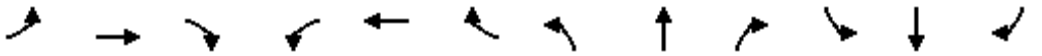
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	122	44	80	66	190	36	379	55	294	453	220
Future Volume (vph)	265	122	44	80	66	190	36	379	55	294	453	220
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	16.9	22.3	22.3	17.3	22.3	22.3	16.8	22.3	22.3	15.4	22.3	22.3
Total Split (s)	25.0	26.0	26.0	22.0	23.0	23.0	19.0	24.0	24.0	28.0	33.0	33.0
Total Split (%)	25.0%	26.0%	26.0%	22.0%	23.0%	23.0%	19.0%	24.0%	24.0%	28.0%	33.0%	33.0%
Yellow Time (s)	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8	4.5	4.8	4.8
All-Red Time (s)	4.4	2.5	2.5	4.8	2.5	2.5	4.3	2.5	2.5	2.9	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 19 (19%), Referenced to phase 4:NBSB and 8:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: Route 15 (James Madison Highway) & Route 250 (Three Notch Road)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	279	128	46	84	69	200	38	399	58	309	477	232
v/c Ratio	0.63	0.18	0.08	0.23	0.14	0.40	0.11	0.57	0.10	0.68	0.39	0.32
Control Delay	30.9	33.9	0.3	22.7	37.8	2.3	17.4	40.7	0.4	27.0	27.5	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	33.9	0.3	22.7	37.8	2.3	17.4	40.7	0.4	27.0	27.5	4.7
Queue Length 50th (ft)	128	35	0	35	20	0	14	124	0	128	132	0
Queue Length 95th (ft)	200	64	0	68	41	0	33	180	0	198	187	50
Internal Link Dist (ft)		546			980			542			703	
Turn Bay Length (ft)	270		860	365		300	285		350	270		300
Base Capacity (vph)	457	732	571	399	506	515	366	694	559	501	1226	716
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.17	0.08	0.21	0.14	0.39	0.10	0.57	0.10	0.62	0.39	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	122	44	80	66	190	36	379	55	294	453	220
Future Volume (vph)	265	122	44	80	66	190	36	379	55	294	453	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3139	1380	1543	3223	1538	1570	3343	1455	1671	3438	1568
Flt Permitted	0.71	1.00	1.00	0.67	1.00	1.00	0.42	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	1309	3139	1380	1089	3223	1538	687	3343	1455	745	3438	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	279	128	46	84	69	200	38	399	58	309	477	232
RTOR Reduction (vph)	0	0	35	0	0	166	0	0	47	0	0	162
Lane Group Flow (vph)	279	128	11	84	69	34	38	399	11	309	477	70
Heavy Vehicles (%)	3%	15%	17%	17%	12%	5%	15%	8%	11%	8%	5%	3%
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2		6	6		2	8		4	4		8
Actuated Green, G (s)	32.2	23.2	23.2	31.8	16.9	16.9	35.5	18.9	18.9	36.9	30.2	30.2
Effective Green, g (s)	32.2	23.2	23.2	31.8	16.9	16.9	35.5	18.9	18.9	36.9	30.2	30.2
Actuated g/C Ratio	0.32	0.23	0.23	0.32	0.17	0.17	0.36	0.19	0.19	0.37	0.30	0.30
Clearance Time (s)	8.9	7.3	7.3	9.3	7.3	7.3	8.8	7.3	7.3	7.4	7.3	7.3
Vehicle Extension (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	489	728	320	385	544	259	290	631	274	441	1038	473
v/s Ratio Prot	c0.09	0.04		0.02	0.02		0.01	0.12		c0.13	0.14	
v/s Ratio Perm	c0.10		0.01	c0.05		0.02	0.04		0.01	c0.13		0.04
v/c Ratio	0.57	0.18	0.03	0.22	0.13	0.13	0.13	0.63	0.04	0.70	0.46	0.15
Uniform Delay, d1	27.3	30.7	29.7	24.6	35.3	35.3	21.4	37.3	33.1	24.5	28.3	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.2	0.1	0.4	0.2	0.5	0.3	4.8	0.3	5.3	1.5	0.7
Delay (s)	29.3	31.0	29.8	25.0	35.5	35.8	21.7	42.1	33.4	29.8	29.8	26.2
Level of Service	C	C	C	C	D	D	C	D	C	C	C	C
Approach Delay (s)		29.8			33.2			39.5			29.0	
Approach LOS		C			C			D			C	

Intersection Summary

HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	32.7
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	376	33	36	285	30	39
Future Vol, veh/h	376	33	36	285	30	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	427	38	41	324	34	44

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	465	0	671	214
Stage 1	-	-	-	-	427	-
Stage 2	-	-	-	-	244	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1093	-	390	791
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1093	-	375	791
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	791	-	-	1093	-
HCM Lane V/C Ratio	0.071	0.056	-	-	0.037	-
HCM Control Delay (s)	13.1	9.8	-	-	8.4	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	75	69	405	505	72
Future Vol, veh/h	65	75	69	405	505	72
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	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	85	78	460	574	82

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1001	328	656	0	-	0
Stage 1	615	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	239	668	927	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	212	668	927	-	-	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	656	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.3	1.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	927	-	212	668	-	-
HCM Lane V/C Ratio	0.085	-	0.348	0.128	-	-
HCM Control Delay (s)	9.2	0.4	30.8	11.2	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.5	0.4	-	-

MOVEMENT SUMMARY

Site: 101 [PM Peak Hour (Site Folder: General)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Route 15 (James Madison Highway)														
3	L2	36	15.0	38	15.0	0.749	26.6	LOS C	7.9	212.4	0.84	1.08	1.71	28.0
8	T1	379	8.0	399	8.0	0.749	26.0	LOS C	7.9	212.4	0.84	1.08	1.71	28.2
18	R2	55	11.0	58	11.0	0.218	18.4	LOS B	0.8	22.2	0.71	0.71	0.71	30.1
Approach		470	8.9	495	8.9	0.749	25.1	LOS C	7.9	212.4	0.83	1.03	1.59	28.4
East: Route 250 (Three Notch Road)														
1	L2	80	17.0	84	17.0	0.275	10.4	LOS B	1.8	50.3	0.83	0.78	0.83	30.9
6	T1	66	12.0	69	12.0	0.275	10.0	LOS B	1.8	50.3	0.83	0.78	0.83	31.1
16	R2	190	5.0	200	5.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	37.1
Approach		336	9.2	354	9.2	0.275	4.5	LOS A	1.8	50.3	0.36	0.34	0.36	34.1
North: Route 15 (James Madison Highway)														
7	L2	294	8.0	309	8.0	0.788	19.6	LOS B	17.6	461.9	0.87	0.91	1.35	28.0
4	T1	453	5.0	477	5.0	0.788	19.5	LOS B	17.6	461.9	0.87	0.91	1.35	28.0
14	R2	220	3.0	232	3.0	0.344	9.8	LOS A	2.1	54.1	0.59	0.45	0.59	31.6
Approach		967	5.5	1018	5.5	0.788	17.3	LOS B	17.6	461.9	0.80	0.80	1.18	28.7
West: Route 250 (Three Notch Road)														
5	L2	265	3.0	279	3.0	0.584	20.5	LOS C	6.1	155.0	1.00	1.15	1.40	26.7
2	T1	122	15.0	128	15.0	0.557	27.7	LOS C	4.7	131.1	0.98	1.13	1.40	25.8
12	R2	44	17.0	46	17.0	0.557	28.1	LOS C	4.7	131.1	0.98	1.13	1.40	25.1
Approach		431	7.8	454	7.8	0.584	23.3	LOS C	6.1	155.0	0.99	1.14	1.40	26.3
All Vehicles		2204	7.2	2320	7.2	0.788	18.2	LOS B	17.6	461.9	0.78	0.85	1.18	28.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX F

Turn Lane Warrant Analysis

Route 250 (Three Notch Road) and West Project Driveway

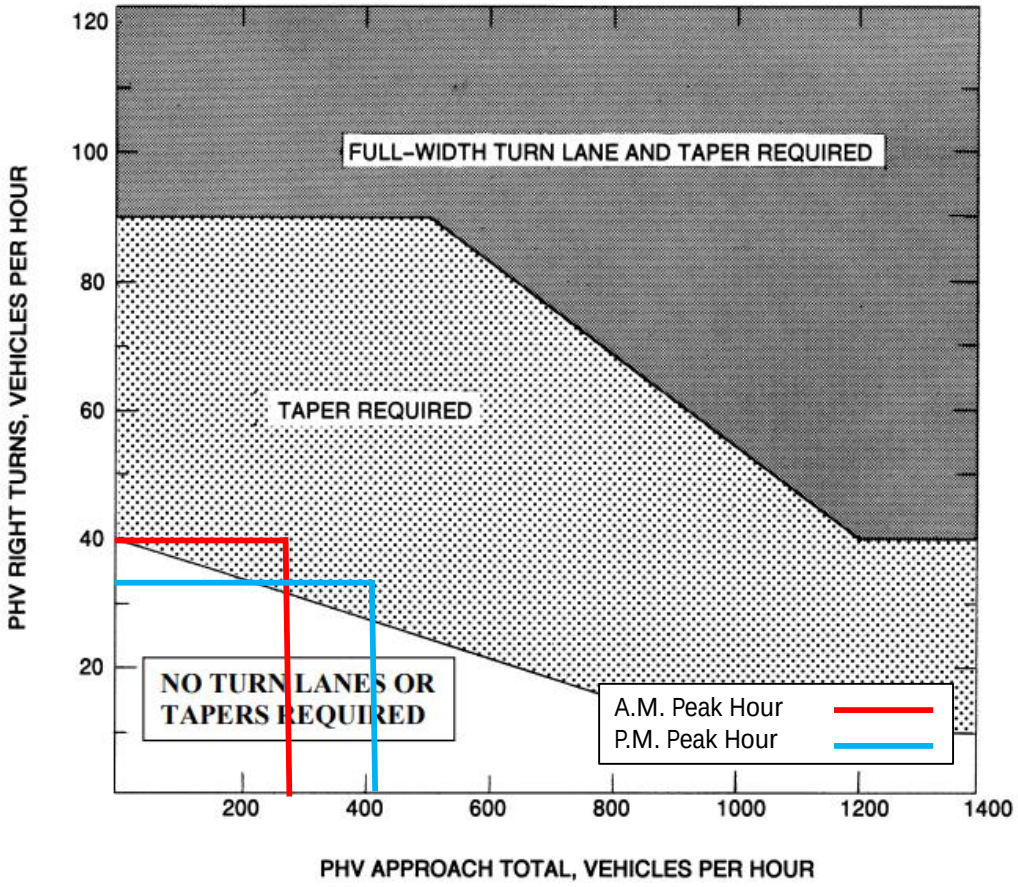


FIGURE 3-27 WARRANTS FOR RIGHT TURN TREATMENT (4-LANE HIGHWAY)

Route 15 (James Madison Highway) and West Project Driveway

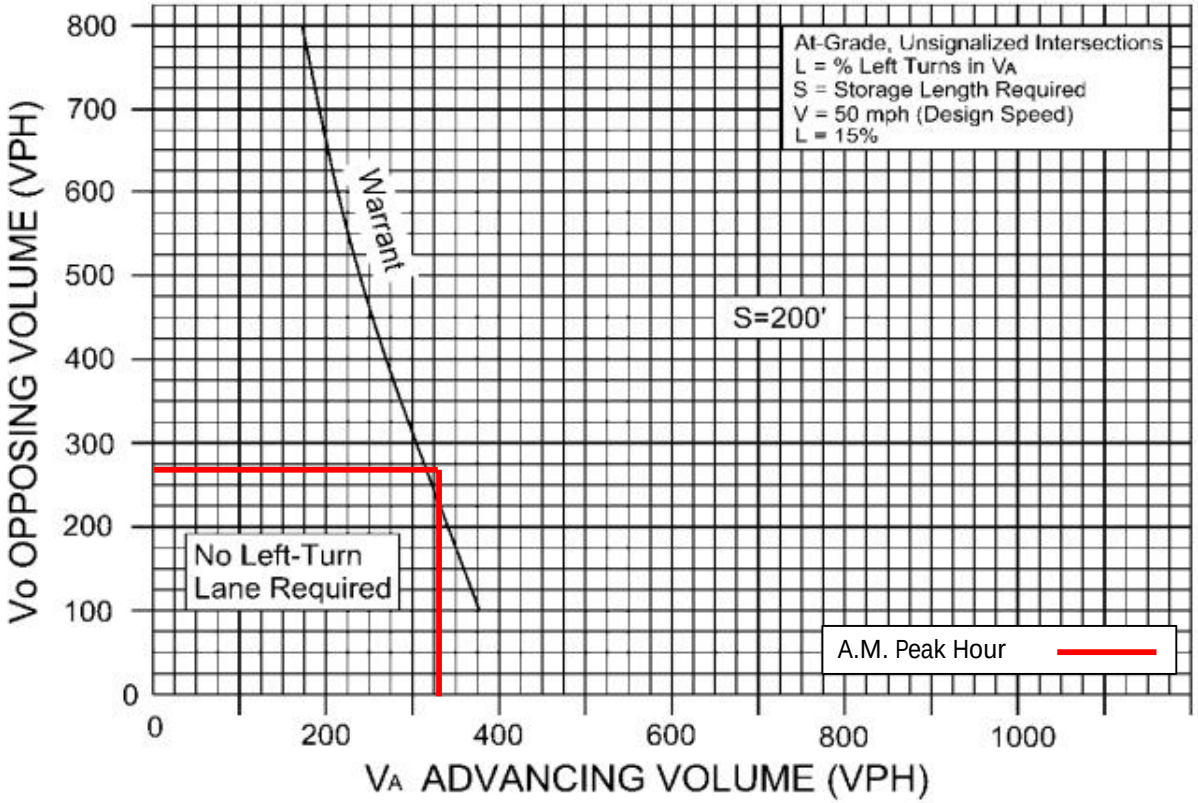


FIGURE 3-12 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

Route 15 (James Madison Highway) and West Project Driveway

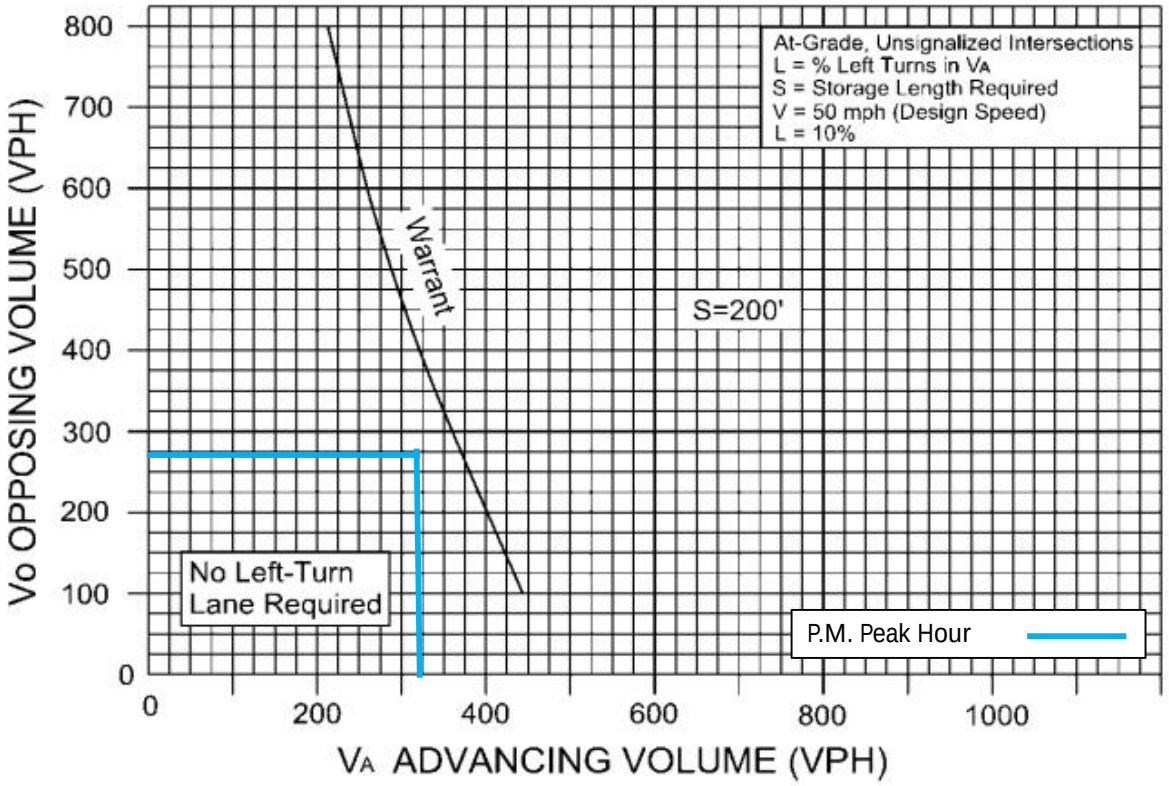


FIGURE 3-11 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

Route 15 (James Madison Highway) and South Project Driveway

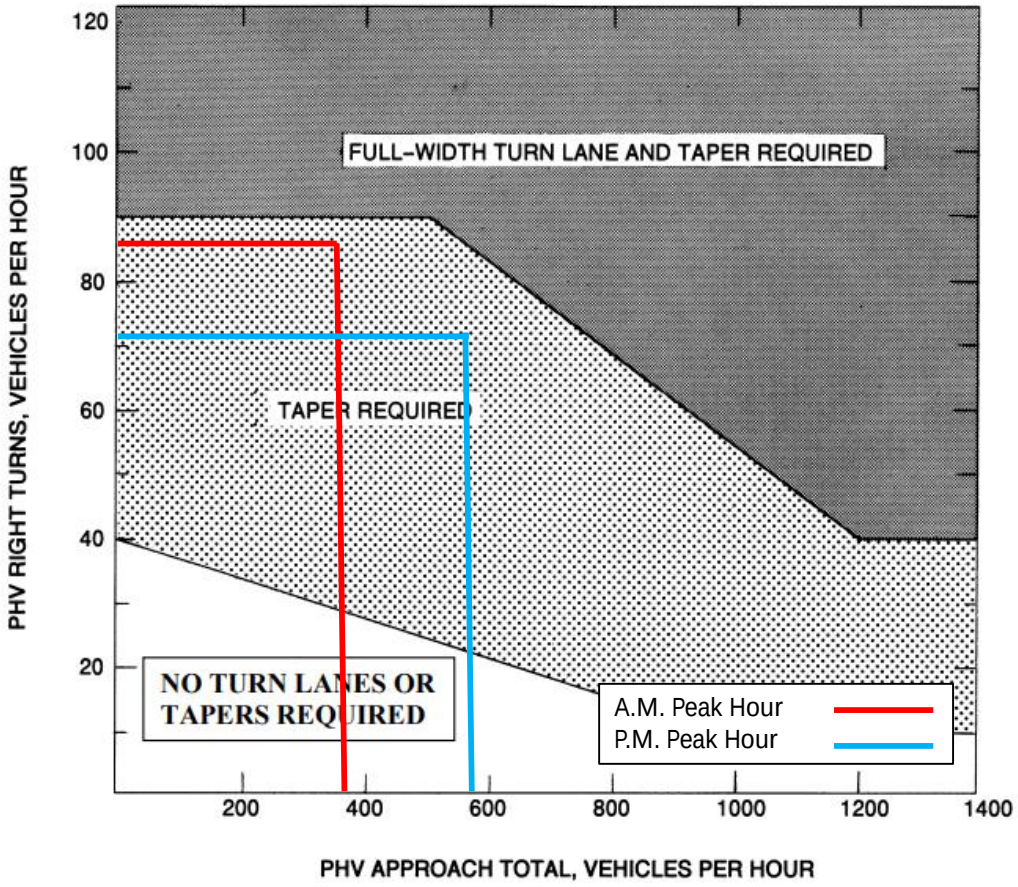


FIGURE 3-27 WARRANTS FOR RIGHT TURN TREATMENT (4-LANE HIGHWAY)

Route 15 (James Madison Highway) and South Project Driveway

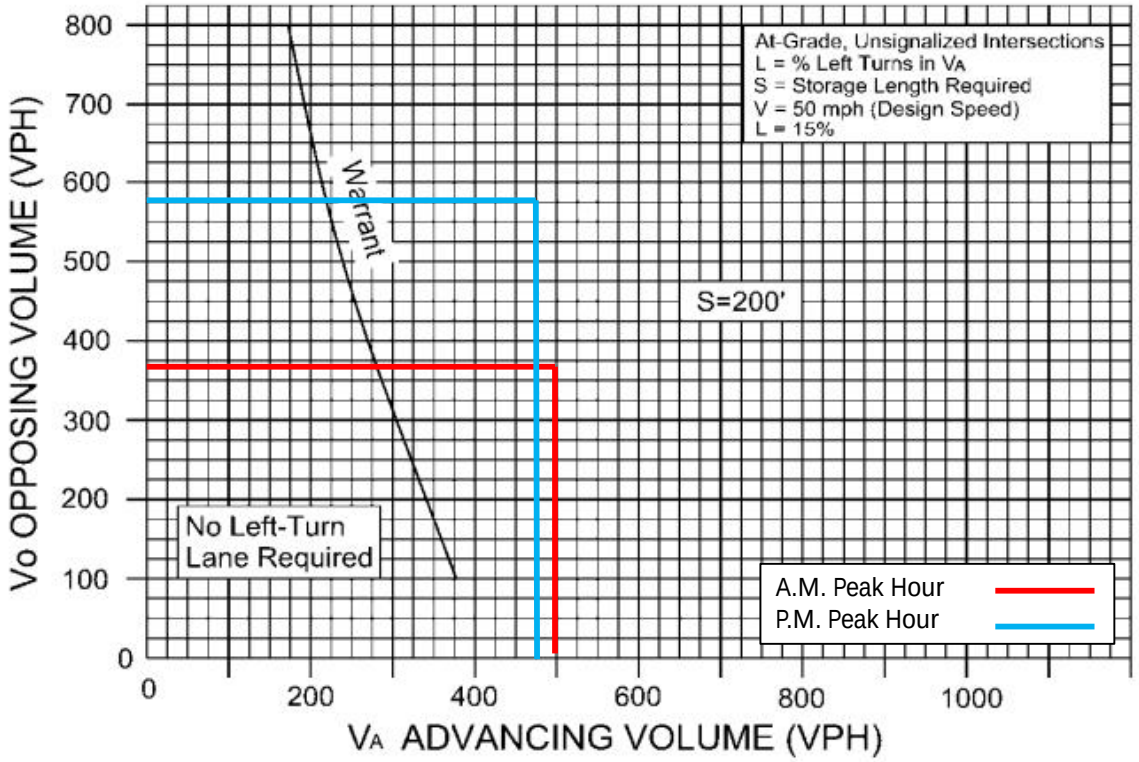
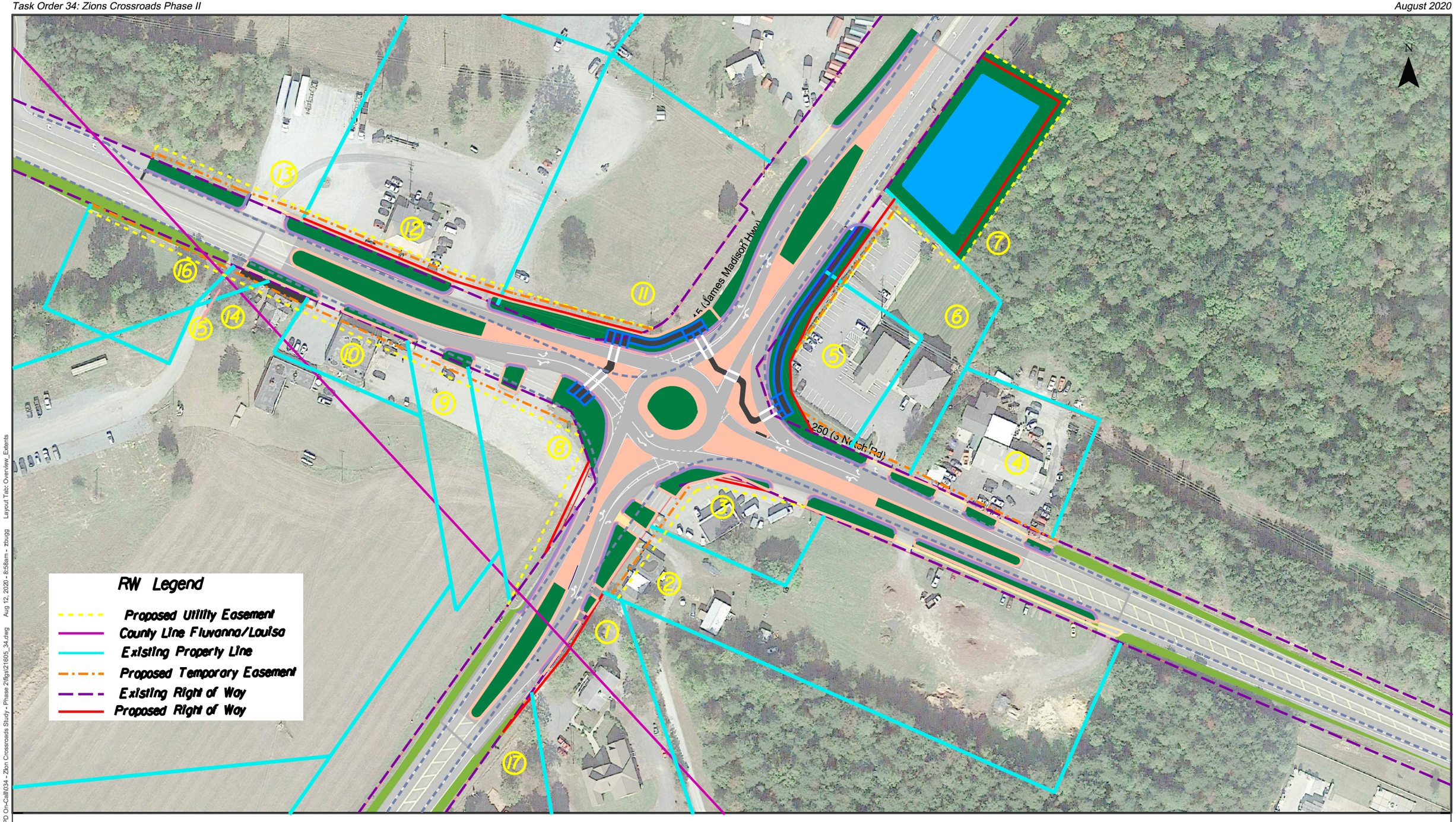


FIGURE 3-12 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

APPENDIX G

Conceptual Roundabout Sketch



H:\21\21605 - VDOT TMPD On-Call\034 - Zion Crossroads Study - Phase 2\fga\21605_34.dwg Aug 12, 2020 - 8:58am - zhugg Layout Tab: Overview_Extents

SCALE
0 120' 240'

EXISTING PARCEL BOUNDARY
ESTIMATED NEW RIGHT-OF-WAY

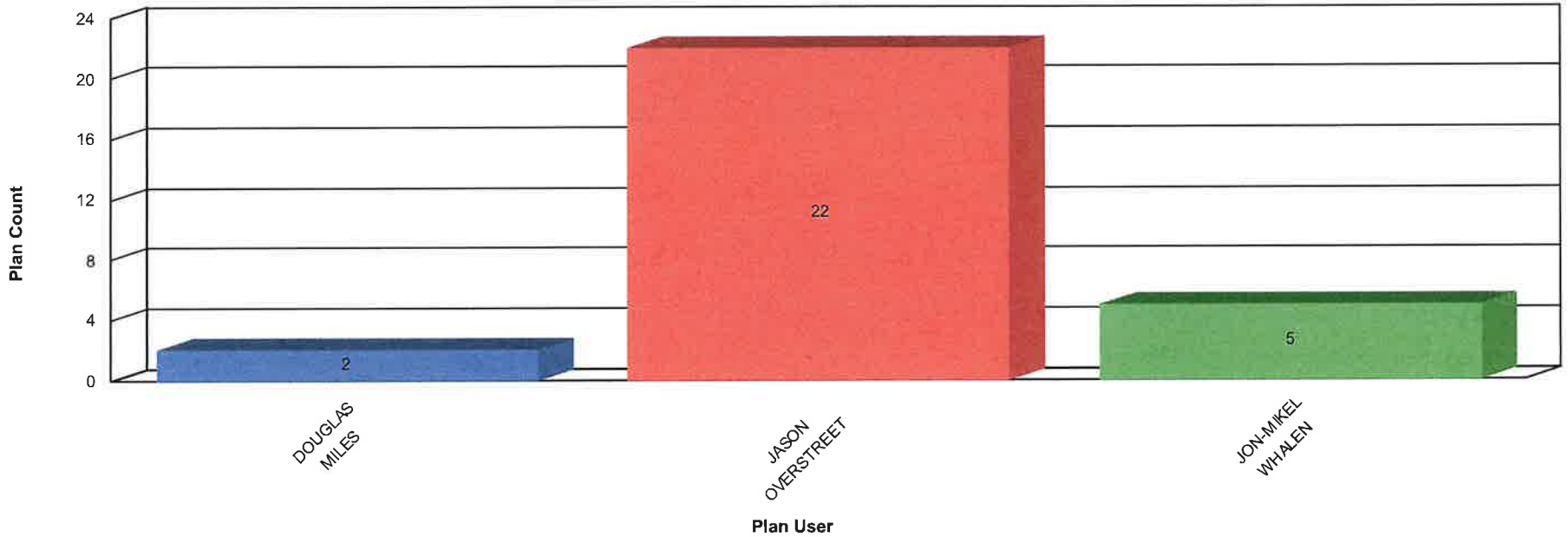
U.S. Route 15 / U.S. Route 250 Roundabout Concept Design
Zions Crossroads, Virginia

Figure
2

KITTELSON & ASSOCIATES

Modified by VDOT
March 2022

PLANS APPLIED BY USER (04/01/2023 TO 04/30/2023)
FOR FLUVANNA COUNTY BUILDING AND PLANNING DEPARTMENT



Plan Case #	Type	Workclass	Status	Main Address		Project	District	Parcel
	Application Date	*Expiration Date*	*Complete Date*	*Approval Expire Date*	*Applicant*			
	Zone	*Sq Ft*	*Valuation*	*Fee Total*	*Assigned To*			
DOUGLAS MILES								
ZMP23:0002	Rezoning	Rezoning	In Review	21611 James Madison Hwy, Troy, VA 22974		Not Assigned	Columbia	5 A 53
	04/04/2023	*06/03/2023*			*Mark Fontaine, CCIM*			
		0	*$0.00*	*$1,000.00*	*Douglas Miles*			
	Description: Gas station/ retail store on 3.41 acres / remainder retained for future development							
MSC23:0100	Miscellaneous	Miscellaneous - Other	Approved	125 Paynes Mill Rd, Troy, VA 22974		Not Assigned	Palmyra	10 12 4
	04/17/2023		*04/19/2023*	*04/19/2023*				
		0	*$0.00*	*$50.00*	*Douglas Miles*			
	Description: 16 X 32 Pool							

PLANS APPLIED FOR DOUGLAS MILES: 2

JASON OVERSTREET

PLANS APPLIED BY USER (04/01/2023 TO 04/30/2023)

Plan Case #	Type	Workclass	Status	Main Address		Project	District	Parcel
	Application Date	*Expiration Date*	*Complete Date*	*Approval Expire Date*	*Applicant*			
	Zone	*Sq Ft*	*Valuation*	*Fee Total*	*Assigned To*			
MSC23:0084	Miscellaneous	Miscellaneous - Other	Approved	3181 Bybees Church Rd, Palmyra, VA 22963		Not Assigned	Columbia	11 A 73A
	04/06/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: SFD-Doublewide 56'X 28'							
MSC23:0085	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Columbia	33 11 1
	04/06/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: SFD							
MSC23:0086	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Columbia	32 8 1A
	04/06/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: New Double wide home							
MSC23:0087	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Cunningham	26 14 4
	04/06/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: 24' X 24' garage and bedroom addition							
MSC23:0088	Miscellaneous	Miscellaneous - Other	Approved	18 Windy Way, Palmyra, VA 22963		Not Assigned	Cunningham	18A 11 87
	04/06/2023							
		0	*$0.00*	*$50.00*	*Jason Overstreet*			
	Description: Covering front porch							
MSC23:0089	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Columbia	31 19 2
	04/10/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: Single Family Dwelling							
MSC23:0090	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Columbia	31 19 5
	04/10/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: Single Family Dwelling							
MSC23:0091	Miscellaneous	Miscellaneous - Other	Approved	6166 Union Mills Rd, Troy, VA 22974		Not Assigned	Columbia	10 15 1
	04/10/2023							
		0	*$0.00*	*$150.00*	*Jason Overstreet*			

PLANS APPLIED BY USER (04/01/2023 TO 04/30/2023)

Plan Case #	Type	Workclass	Status	Main Address		Project	District	Parcel
	Application Date	*Expiration Date*	*Complete Date*	*Approval Expire Date*	*Applicant*			
	Zone	*Sq Ft*	*Valuation*	*Fee Total*	*Assigned To*			
	Description: Mudroom & Detached garage							
MSC23:0092	Miscellaneous	Miscellaneous - Other	Approved	11 Campbell Ct, Palmyra, VA 22963		Not Assigned	Rivanna	18A 2 137
	04/10/2023							
		0	*$0.00*	*$50.00*	*Jason Overstreet*			
	Description: attached garage, addition							
MSC23:0093	Miscellaneous	Miscellaneous - Other	Approved	10 Fleetwood Dr, Palmyra, VA 22963		Not Assigned	Cunningham	18A 11A 40
	04/11/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: 32' X 24' - 2 story garage / storage addition							
MSC23:0094	Miscellaneous	Miscellaneous - Other	Approved	5 Wren Ct, Palmyra, VA 22963		Not Assigned	Rivanna	18A 3 392
	04/11/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: Expansion of existing deck							
SUB23:0016	Subdivision	Boundary Adjustment	In Review	520 Napier Ln, Scottsville, VA 24590		Not Assigned	Cunningham	47 A 63
	04/11/2023	*05/26/2023*			*Walter Apelt*			
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
MSC23:0095	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Fork Union	40 18 5
	04/12/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: Single Family Dwelling							
MSC23:0096	Miscellaneous	Miscellaneous - Other	Approved	32 Star Way, Columbia, VA 23038		Not Assigned	Columbia	44 5 9
	04/12/2023							
		0	*$0.00*	*$50.00*	*Jason Overstreet*			
	Description: Pole Barn							
SUB23:0017	Subdivision	Boundary Adjustment	In Review	186 Dobby Creek Rd, Scottsville, VA 24590		Not Assigned	Cunningham	47 8 20
	04/13/2023	*05/28/2023*			*George Roach*			
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
MSC23:0098	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Columbia	20 21 4
	04/17/2023				*Clayton Homes of Charlottesville*			
		0	*$0.00*	*$100.00*	*Jason Overstreet*			

PLANS APPLIED BY USER (04/01/2023 TO 04/30/2023)

Plan Case #	Type	Workclass	Status	Main Address		Project	District	Parcel
	Application Date	*Expiration Date*	*Complete Date*	*Approval Expire Date*	*Applicant*			
	Zone	*Sq Ft*	*Valuation*	*Fee Total*	*Assigned To*			
	Description: New Multi Section HUD							
SUB23:0018	Subdivision	Boundary Adjustment	In Review	1751 Cedar Lane Rd, Palmyra, VA 22963		Not Assigned	Cunningham	33 A 26A
	04/20/2023	*06/04/2023*			*Lawerance & Gale Bickley*			
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
SUB23:0019	Subdivision	Boundary Adjustment	In Review			Not Assigned	Fork Union	41 A 44D4
	04/20/2023	*06/04/2023*			*Mapledale LLC*			
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
MSC23:0101	Miscellaneous	Miscellaneous - Other	Approved	3248 Kents Store Way, Kents Store, VA 23084		Not Assigned	Columbia	14 A 9A
	04/20/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: Attached garage 24' X 30'							
MSC23:0103	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Rivanna	18A 12 317
	04/21/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: New Single Family Dwelling							
MSC23:0104	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Columbia	31 A 96
	04/25/2023							
		0	*$0.00*	*$50.00*	*Jason Overstreet*			
	Description: Ground Mounted: 4.800 KW PV system - 12 panels							
MSC23:0105	Miscellaneous	Miscellaneous - Other	Approved	76 Sundown Ln, Palmyra, VA 22963		Not Assigned	Columbia	20 A 23D
	04/25/2023							
		0	*$0.00*	*$100.00*	*Jason Overstreet*			
	Description: 14' X 76' Mobile Home							

PLANS APPLIED FOR JASON OVERSTREET: 22

JON-MIKEL WHALEN

MSC23:0097	Miscellaneous	Miscellaneous - Other	Approved	311 South Boston Rd, Palmyra, VA 22963		Not Assigned	Cunningham	18 A 42A
	04/17/2023		*04/18/2023*	*04/18/2023*				
		0	*$0.00*	*$50.00*	*Jon-Mikel Whalen*			
MSC23:0099	Miscellaneous	Miscellaneous - Other	Approved	13 Colonial Rd, Palmyra, VA 22963		Not Assigned	Rivanna	18A 3 153
	04/17/2023		*04/18/2023*	*04/18/2023*				

PLANS APPLIED BY USER (04/01/2023 TO 04/30/2023)

Plan Case #	Type	Workclass	Status	Main Address		Project	District	Parcel
	Application Date	*Expiration Date*	*Complete Date*	*Approval Expire Date*	*Applicant*			
	Zone	*Sq Ft*	*Valuation*	*Fee Total*	*Assigned To*			
		0	*$0.00*	*$50.00*	*Jon-Mikel Whalen*			
	Description: Back Deck							
MSC23:0102	Miscellaneous	Miscellaneous - Other	Approved	1631 Bybees Church Rd, Palmyra, VA 22963		Not Assigned	Columbia	11 13 7
	04/20/2023		*04/20/2023*	*04/20/2023*				
		0	*$0.00*	*$50.00*	*Jon-Mikel Whalen*			
	Description: Detached Garage 24' X 30'							
MSC23:0106	Miscellaneous	Miscellaneous - Other	Approved	2455 West River Rd, Scottsville, VA 24590		Not Assigned	Cunningham	37 A 35
	04/25/2023		*04/25/2023*	*04/25/2023*				
		0	*$0.00*	*$50.00*	*Jon-Mikel Whalen*			
	Description: Prefaricated garden shed, 12' X 20"							
MSC23:0107	Miscellaneous	Miscellaneous - Other	Approved			Not Assigned	Fork Union	56 A 12
	04/27/2023		*05/01/2023*	*05/01/2023*				
		0	*$0.00*	*$50.00*	*Jon-Mikel Whalen*			

PLANS APPLIED FOR JON-MIKEL WHALEN: 5

GRAND TOTAL OF PLANS: 29

BUILDING INSPECTIONS MONTHLY REPORT

County of Fluvanna

Building Official:	Period:
Andrew Wills	April, 2023

Category	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
BUILDING PERMITS ISSUED														
NEW - Single Family Detached (incl. Trades permits & SWMH)	2019	8	10	14	9	12	9	10	14	14	2	11	7	**120**
	2020	12	13	23	14	8	19	19	17	16	20	22	11	**194**
	2021	15	9	19	20	16	22	15	11	8	22	13	8	**178**
	2022	17	11	20	11	18	32	10	9	11	12	9	4	**164**
	2023	5	6	6	12									**29**
NEW - Single Family Attached (Town Homes)	2019	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	2020	0	0	0	0	1	6	0	0	6	0	0	0	**13**
	2021	6	0	0	0	0	0	0	0	6	0	0	0	**6**
	2022	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	2023	0	8	0	0	0	0	0	0	0	0	0	0	**8**
Multi Family (Apartment, Duplex)	2019	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	2020	0	0	0	0	0	0	0	0	1	0	0	0	**0**
	2021	0	0	0	0	0	0	0	0	0	0	0	0	**0**
	2022	0	0	0	0	0	0	0	5	0	0	0	0	**5**
	2023	1	0	0	0	0	0	0	0	0	0	0	0	**1**
Additions and Alterations	2019	35	33	37	27	38	38	44	34	34	36	35	31	**422**
	2020	37	38	23	30	30	22	27	20	30	34	35	23	**349**
	2021	28	14	43	39	31	40	30	29	26	30	35	33	**378**
	2022	33	48	60	45	47	50	51	63	45	63	51	44	**600**
	2023	52	34	51	34	0	0	0	0	0	0	0	0	**171**
		* Trade permits count not in .												
Accessory Buildings	2019	2	4	6	4	4	3	3	8	2	8	4	4	**52**
	2020	2	4	4	4	5	5	1	7	8	3	5	1	**49**
	2021	1	3	3	6	3	6	1	3	2	4	4	2	**38**
	2022	3	4	13	6	5	2	5	4	5	3	0	2	**52**
	2023	7	2	7	5	0	0	0	0	0	0	0	0	**21**
Swimming Pools	2019	0	0	0	3	2	2	0	1	0	1	0	1	**10**
	2020	0	1	3	3	1	2	3	1	1	0	0	0	**15**
	2021	0	0	7	1	5	2	3	4	1	0	1	2	**26**
	2022	0	2	4	4	1	0	3	3	0	0	0	0	**17**
	2023	1	0	6	1	0	0	0	0	0	0	0	0	**8**
Commercial/ Industrial Build/Cell Towers	2019	0	0	1	1	0	2	0	0	0	0	0	0	**4**
	2020	0	0	1	0	1	0	0	3	0	0	2	0	**7**
	2021	1	0	1	0	0	0	1	0	0	0	2	0	**5**
	2022	0	0	0	0	0	2	3	2	0	2	1	0	**10**
	2023	1	1	0	1	0	0	0	0	0	0	0	0	**3**
TOTAL BUILDING PERMITS	2019	45	47	58	44	56	54	57	57	50	48	50	43	**609**
	2020	51	56	54	51	46	54	50	48	63	57	54	40	**624**
	2021	51	26	73	66	55	70	50	47	37	56	55	45	**631**
	2022	54	65	97	66	71	86	72	77	61	80	61	50	**840**
	2023	67	51	64	52	0	0	0	0	0	0	0	0	**234**
		* Trade permits count not included as in previous years												
BUILDING VALUES FOR PERMITS ISSUED														
TOTAL BUILDING VALUES	2019	$1,991,054	$2,502,719	$5,639,238	$4,695,173	$3,057,597	$3,228,152	$3,360,952	$3,926,015	$3,457,214	$2,636,194	$3,148,369	$2,960,579	**$ 40,603,256**
	2020	$2,292,161	$3,206,055	$7,238,708	$2,997,448	$2,245,441	$4,389,903	$3,644,002	$5,555,492	$5,271,906	$4,201,357	$3,513,834	$2,954,193	**$ 47,506,500**
	2021	$5,397,000	$1,687,484	$2,506,869	$4,952,702	$3,473,256	$5,766,891	$2,885,146	$2,506,053	$2,046,134	$3,637,390	$4,633,868	$2,712,396	**$ 41,734,789**
	2022	$5,073,054	$3,017,155	$5,012,175	$2,937,240	$5,654,955	$9,371,750	$11,374,772	$17,974,068	$2,743,309	$4,363,026	$6,842,941	$1,046,000	**$ 75,410,524**
	2023	$3,929,572	$4,916,308	$3,029,674	$3,087,131	$0	$0	$0	$0	$0	$0	$0	$0	**$ 14,962,685**

Category	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
LAND DISTURBING PERMITS ISSUED														
LAND DISTURBING PERMITS	2019	8	12	16	9	14	10	12	14	13	2	11	8	**129**
	2020	11	10	26	13	8	24	13	19	20	19	13	16	**192**
	2021	22	10	18	20	18	22	16	11	4	23	13	8	**185**
	2022	16	13	19	11	18	34	11	10	8	13	8	3	**164**
	2023	5	14	9	15	0	0	0	0	0	0	0	0	**43**
INSPECTIONS COMPLETED														
TOTAL INSPECTIONS	2019	237	207	232	297	305	246	324	332	295	298	204	216	**3,193**
	2020	213	197	302	369	371	304	434	368	439	464	407	412	**4,280**
	2021	430	349	465	431	402	426	333	355	419	453	422	356	**4,841**
	2022	304	414	551	449	439	486	594	589	523	400	300	351	**5,400**
	2023	350	298	321	308	0	0	0	0	0	0	0	0	**1,277**
FEES COLLECTED														
Building Permits	2019	$11,377	$13,617	$14,005	$14,308	$11,228	$16,260	$13,778	$18,772	$14,375	$8,468	$14,747	$11,059	**$ 161,994**
	2020	$12,863	$15,468	$18,152	$16,803	$13,147	$28,068	$23,193	$28,887	$24,237	$19,359	$15,359	$15,871	**$ 231,407**
	2021	$18,733	$15,400	$15,654	$21,333	$16,184	$23,031	$27,000	$11,923	$9,144	$20,620	$15,563	$9,211	**$ 203,796**
	2022	$21,100	$19,347	$23,488	$15,404	$19,739	$23,621	$18,713	$54,782	$11,348	$34,994	$17,567	$6,021	**$ 266,124**
	2023	$11,925	$20,870	$11,256	$15,385	$0	$0	$0	$0	$0	$0	$0	$0	**$ 59,436**
Land Disturbing Permits	2019	$1,000	$1,500	$1,625	$1,125	$3,553	$1,250	$2,975	$6,556	$1,920	$250	$1,375	$1,125	**$ 24,251**
	2020	$1,375	$1,250	$6,365	$1,625	$1,000	$3,000	$2,125	$8,369	$2,500	$2,375	$4,294	$1,875	**$ 36,153**
	2021	$5,678	$1,250	$14,463	$2,500	$2,250	$2,750	$13,581	$2,824	$500	$4,848	$1,625	$1,000	**$ 53,268**
	2022	$2,000	$2,050	$9,963	$1,375	$2,250	$10,014	$1,375	$2,175	$27,725	$3,649	$2,175	$375	**$ 65,126**
	2023	$625	$1,875	$1,125	$2,300	$0	$0	$0	$0	$0	$0	$0	$0	**$ 5,925**
Zoning Fees collected by Planning Dept starting March 2023	2019	$1,200	$1,800	$2,200	$1,550	$2,050	$1,350	$1,950	$2,300	$1,700	$1,150	$1,450	$1,400	**$ 20,100**
	2020	$1,650	$1,600	$3,000	$1,700	$15,550	$3,050	$2,350	$2,300	$2,900	$2,850	$1,600	$1,700	**$ 26,250**
	2021	$2,150	$1,150	$3,650	$2,950	$2,650	$3,400	$2,450	$1,850	$1,300	$2,900	$1,900	$1,150	**$ 27,500**
	2022	$1,900	$1,400	$3,900	$1,650	$2,300	$3,900	$1,800	$1,500	$1,500	$2,000	$1,450	$750	**$ 24,050**
	2023	$1,350	$1,950	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$ 3,300**
TOTAL FEES	2019	$13,577	$16,917	$17,830	$16,983	$16,831	$18,860	$18,703	$27,628	$17,995	$9,868	$15,028	$132,584	**$ 203,804**
	2020	$15,888	$18,318	$27,517	$20,128	$15,697	$34,118	$27,668	$39,556	$29,637	$24,584	$24,584	$19,446	**$ 293,810**
	2021	$25,000	$22,797	$37,351	$18,429	$24,289	$37,535	$21,888	$58,457	$40,573	$40,643	$24,584	$7,146	**$ 290,061**
	2022	$25,001	$22,797	$37,351	$18,429	$24,289	$37,535	$21,888	$58,547	$40,073	$40,643	$21,192	$7,146	**$ 355,300**
	2023	$13,900	$24,695	$12,381	$17,685	$0	$0	$0	$0	$0	$0	$0	$0	**$ 68,661**