Agenda
Board of Supervisors
Isle of Wight County
May 16, 2024

1. Call to Order (5:00 P.M.)
2. Closed Meeting
3. Invocation - Supervisor Rudolph Jefferson
4. Approval of Agenda
5. Citizens' Comments
6. Consent Agenda
   A. Budget Amendment - Marketing Reimbursement Grant

      Resolution to Amend the Budget and Appropriate Marketing Reimbursement Grant Funding ($13,870)

   B. Emergency Operations Plan Update

      Presentation of the Update of the County's Emergency Operations Plan

   C. Minutes

      - March 21, 2024 Regular Meeting Minutes
      - April 4, 2024 Budget Work Session Minutes
      - April 11, 2024 Budget Work Session Minutes
      - April 18, 2024 Regular Meeting Minutes

7. Regional and Inter-Governmental Reports
   A. Regional Reports
8. Appointments
   A. Appointments List

9. Special Presentations / Appearances

    A. Emergency Medical Services Week

        Resolution to Designate May 19-25, 2024 as Emergency Medical Services Week

10. County Attorney's Report

11. Public Hearings

    A. LUP-01-23 Tidewater Logisitics Comprehensive Plan Amendment

        Application (LUP-1-23) of the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, Property Owners, and Meridian Property Purchaser, LLC, Applicant, for a Comprehensive Plan Amendment for 154.3 Acres of Property to Amend the Comprehensive Plan Future Recommended Land Use Map designation from Mixed Use to Planned Industrial

    B. ZA-4-23 Tidewater Logistics Conditional Rezoning

        Application (ZA-4-23) of the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, Property Owners, and Meridian Property Purchaser, LLC, Applicant, for a Change in the Zoning District from Rural Agricultural Conservation to Conditional Limited Industrial for Approximately 154.3 Acres to Allow Custom Manufacturing, Industry Type 1, Warehousing and Distribution, Industry Type II with a Conditional Use Permit, and Reconstructed Wetland

    C. ZA-6-19 Sweetgrass Conditional Planned Development - Mixed Use Rezoning Request

        Application of NVR, Inc., Applicant, and, Henry Layden, Special Trustee for the William Grover Yeoman, III Trust, Property Owner, for a Conditional Rezoning (ZA-06-19) of

Approximately 250 Acres of Property Located on Benns Grant Boulevard (Rte. 10) from the Rural Agricultural Conservation (RAC) Zoning District to the Conditional - Planned Development - Mixed Use (C-PD-MX) Zoning District

D. Sale of County Property

Consideration of Sale of County Property Located at 107 Obrey Drive, Carrollton

E. VDOT FY 2025-2030 Secondary Six Year Improvement Plan

Resolution to Approve the VDOT FY2025-2030 Secondary Six Year Improvement Plan.

12. County Administrator's Report

A. VACo Achievement Award

VACo Achievement Award Application for the Isle of Wight RISE Program

B. Matters for the Board's Information

13. Unfinished / Old Business

A. Proposed FY2024-25 Operating Budget, Capital Budget, Related Ordinances, and FY2024-33 CIP

Proposed Operating and Capital Budgets for Fiscal Year 2024-25, Related Ordinances, and the FY2025-34 Capital Improvements Program

B. Tax Rate Ordinance

Consideration of the Tax Rate Ordinances for FY2024-25

14. New Business

15. Adjournment

ISSUE:

Resolution to Amend the Budget and Appropriate Marketing Reimbursement Grant Funding ($13,870)

BACKGROUND:

The Virginia DMO Marketing grant's purpose is to assist Virginia DMOs with marketing their destinations by providing funding to supplement the DMO's existing marketing budget. Programs that promote overnight visitation and have high economic impact receive funding in this highly competitive system.

The Department of Tourism has received a $13,870 DMO Marketing Grant from the Virginia Tourism Corporation. This grant will be utilized for the Genuine website Redesign and Development Project.

BUDGETARY IMPACT:

This is a reimbursement grant from the Virginia Tourism Corporation, thus the budgetary impact to the County will be an increase in revenue of $13,870 (toward budgeted expenses).

RECOMMENDATION:

Adopt a resolution to amend the budget and appropriate grant funds.

ATTACHMENTS:

Description	Type	Upload Date
Resolution	Resolution	5/13/2024

RESOLUTION TO AMEND THE FY2023-2024 OPERATING BUDGET AND APPROPRIATE FUNDING FOR VIRGINIA TOURISM CORPORATION

WHEREAS, the Board of Supervisors has received an award totaling $13,870 from the Virginia Tourism Corporation (VTC); and,

WHEREAS, the Board of Supervisors desires to amend the FY 2023-2024 Grant Fund Budget in the amount of $13,870 from the Virginia Tourism Corporation; and,

WHEREAS, the Board of Supervisors needs to appropriate $13,870 in State revenue to the marketing line for the DMO Marketing Reimbursement Grant.

NOW, THEREFORE, BE IT AND IT IS HEREBY RESOLVED by the Board of Supervisors of Isle of Wight County, Virginia that the FY 2023-2024 Grant Fund Budget is hereby amended, and funds appropriated in the amount of $13,870.

BE IT FURTHER RESOLVED that the County Administrator of Isle of Wight County, Virginia is authorized to make the appropriate accounting adjustments and to do all things necessary to give this resolution effect.

Adopted this 16th day of May, 2024.

_____
Joel C. Acree, Chairman

_____
Carey Mills Storm, Clerk

Approved as to form:

_____
Robert W. Jones, Jr., County Attorney

ISSUE:

Presentation of the Update of the County's Emergency Operations Plan

BACKGROUND:

At the Board's regular meeting on April 18, 2024, staff presented information regarding the update of the County's Emergency Operations Plan (EOP). As previously noted, the EOP is not meant for tactical decision making, but rather it is intended to serve as a guide for emergency response.

Per Section 44-146.19 of the Code of Virginia, localities are required to update and adopt its EOP every four years. The County's current EOP was updated and adopted in May 2020.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

Adopt a resolution to adopt the revised EOP.

ATTACHMENTS:

Description	Type	Upload Date
Resolution	Resolution	5/8/2024

RESOLUTION TO ADOPT THE REVISED ISLE OF WIGHT COUNTY EMERGENCY OPERATIONS PLAN

WHEREAS, the Board of Supervisors of the County of Isle of Wight, Virginia recognizes the need to prepare for, respond to, and recover from natural and man-made disasters: and,

WHEREAS, the County of Isle of Wight has a responsibility to provide for the safety and well being of its citizens and visitors; and,

WHEREAS, the Board of Supervisors officially adopted the County's current Emergency Operations Plan in May 2020; and,

WHEREAS, the Code of Virginia, §44-146.19, requires each local jurisdiction to conduct a comprehensive review and revision of its emergency operations plan every four (4) years to ensure that the plan remains current and requires that the revised plan to be formally adopted by the locality's governing body.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Isle of Wight, Virginia officially adopts the Emergency Operations Plan, as revised May 2024.

BE IT FURTHER RESOLVED that the Director of Emergency Management, or his/her designees, are tasked with and authorized to maintain and revise, as necessary, this document over the next four-year period or until such time as it is ordered to come before this Board.

Adopted this 16th day of May, 2024.

_____
Joel C. Acree, Chairman

_____
Carey Mills Storm, Clerk

Approved as to form:

_____
Robert W. Jones, Jr., County Attorney

ISSUE:

- March 21, 2024 Regular Meeting Minutes
- April 4, 2024 Budget Work Session Minutes
- April 11, 2024 Budget Work Session Minutes
- April 18, 2024 Regular Meeting Minutes

BACKGROUND:

The above-noted minutes are offered for review and adoption by the Board.

BUDGETARY IMPACT:

None

RECOMMENDATION:

- March 21, 2024 Regular Meeting Minutes
- April 4, 2024 Budget Work Session Minutes
- April 11, 2024 Budget Work Session Minutes
- April 18, 2024 Regular Meeting Minutes

ATTACHMENTS:

Description	Type	Upload Date
March 21, 2024 Regular Meeting Minutes	Cover Memo	5/2/2024
April 4, 2024 Budget Work Session	Cover Memo	5/2/2024
April 11, 2024 Budget Work Session Minutes	Cover Memo	5/2/2024

REGULAR MEETING OF THE ISLE OF WIGHT COUNTY BOARD OF SUPERVISORS HELD IN THE ISLE OF WIGHT COUNTY GENERAL DISTRICT COURT LOCATED AT 17000 JOSIAH PARKER CIRCLE, ISLE OF WIGHT, VIRGINIA ON THURSDAY, THE TWENTY-FIRST DAY OF MARCH IN THE YEAR TWO THOUSAND AND TWENTY-FOUR

BOARD MEMBERS PRESENT
Joel C. Acree, District 4, Chairman
Don G. Rosie, II, District 5, Vice-Chairman
Rudolph Jefferson, District 3
William M. McCarty, Sr., District 2
Renee Rountree, District 1

STAFF MEMBERS PRESENT
Randy R. Keaton, County Administrator
Donald T. Robertson, Assistant County Administrator
Robert W. Jones, Jr., County Attorney
Carey Mills Storm, Clerk

CALL TO ORDER

Chairman Acree called the regular meeting to order at 5:00 p.m. and noted for the benefit of the public that the Board of Supervisors' meetings have been temporarily moved from the Robert C. Claud, Sr. meeting room located at 17090 Monument Circle, Isle of Wight, Virginia to the Isle of Wight County General District Court located at 17000 Josiah Parker Circle, Isle of Wight, Virginia due to an inoperable elevator that is under repair.

INVOCATION

Assistant County Administrator Robertson delivered the invocation and led the Pledge of Allegiance to the flag.

APPROVAL OF AGENDA

Supervisor McCarty moved that a discussion be added to New Business concerning a discussion held by the School Board at its last meeting regarding the Board of Supervisors. The motion was adopted unanimously (5-0) with Supervisors Acree,

Rosie, McCarty, Jefferson and Rountree voting in favor of the motion and no Supervisors voting against the motion.

CLOSED MEETING

Pursuant to Section 2.2-3711(A) of the *Code of Virginia*, Supervisor McCarty moved to enter a closed meeting for the limited purpose of 1.) Consultation with legal counsel employed by the board regarding specific legal matters requiring the provision of legal advice by such counsel, namely (a) negotiations of siting agreements applicable to solar projects, and (b) the board's authority under the Virginia Code regarding the granting of concealed weapons permits, pursuant to subsection 8 and 2.) a discussion regarding the appointment of specific appointees to County boards, committees, or authorities as outlined in the agenda, pursuant to subsection 1.

The motion passed unanimously with Supervisors Acree, Jefferson, Rosie, McCarty and Rountree voting in favor of the motion and no Supervisors voting against the motion.

Upon motion of Chairman Acree and all voting in favor (5-0), the Board reconvened into open meeting.

County Attorney Jones reminded the Board that in accordance with Section 2-10(G) of the Board's Rules & Procedure, all those who participated in the closed meeting are reminded that all matters discussed in closed meeting are to remain confidential, as provided under the Virginia Freedom of Information Act, and that such matters as were discussed in closed meeting should not be acted upon or discussed in public by any participant unless and until a public, formal action of the Board of Supervisors is taken on that particular subject matter.

Upon motion of Supervisor Jefferson and all voting in favor (5-0), the following Resolution was adopted:

CERTIFICATION OF CLOSED MEETING

WHEREAS, the Board of Supervisors has convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provisions of the

Virginia Freedom of Information Act; and,

WHEREAS, Section 2.2-3712(D) of the Code of Virginia requires a certification by this Board of Supervisors that such closed meeting was conducted in conformity with Virginia law.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors hereby certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed or considered by the Board of Supervisors.

VOTE

AYES: Acree, Rosie, Jefferson, McCarty, Rountree

NAYS: 0

ABSENT DURING VOTE: 0

ABSENT DURING MEETING: 0

CITIZENS' COMMENTS

Bob Hayes, Board of Directors, Western Tidewater Free Clinic, expressed the Clinic's gratitude for the Board's past financial support and provided an update on the 19% of County residents who have received services at the Clinic this fiscal year.

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Wayne Gustison of Ivor spoke about the dangerous driving conditions on White Marsh Road as a result of it being utilized by contractors associated with the AES solar project. He requested a safety check be conducted and notified the Board about a school bus accident on March 15, 2024 that was carrying 15 children which caused the bus driver to have to be transported to the hospital.

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Charles Short of Carrollton spoke in opposition to the fee being charged for a concealed weapons permit.

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Responding to Mr. Short, Supervisor McCarty advised that the fee being charged for concealed weapons permits will be discussed during the budget process.

CONSENT AGENDA

Following an overview of the below items by County Administrator Keaton, the following Consent Agenda was adopted unanimously (5-0) as presented on motion of Supervisor McCarty:

A. Resolution to Amend the FY2023-24 Operating Budget and Appropriate Funding for Repair and Replacement of County Property from Insurance Proceeds ($26,931)

B. Resolution to Amend the Budget and Appropriate Funding from Unassigned Fund Balance to Contingency for Fire Rescue Response to Isle of Wight Industrial Park ($190,000)

C. 2023 Planning Commission Annual Report

D. Resolution to Commit Funds as Surety for Economic Development Access Grant Program ($850,000)

E. Employment Agreement for the County Administrator (Randy R. Keaton)

F. Employment Agreement for the County Attorney (Bobby Jones)

G. Agreement for Mutual Aid Fire and Rescue Services Among Localities in Hampton Roads Virginia (Chesapeake, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg

and the counties of Gloucester, James City; Isle of Wight, Southampton, Surry and York)

H. Resolution to Provide Signatory Authority to the County Administrator for Transportation Projects

I. Memorandum of Understanding by and Between the Isle of Wight County Board of Supervisors and Smithfield Soccer Club

J. Acquisition of an ADA Accessible Bus for Parks & Recreation Department to Transport Program Participants to and From Events and Activities

K. Minutes

. October 25, 2023 Retreat Minutes
. January 16, 2024 Regular Meeting Minutes
. February 15, 2024 Regular Meeting Minutes

REGIONAL AND INTER-GOVERNMENTAL REPORTS

Supervisor McCarty reported on items discussed at the most recent meeting of the Western Tidewater Regional Jail related to the City of Hampton joining participating regions. He advised that there was also discussion concerning the cost to house young adults and potential solutions.

Supervisor McCarty reported on items discussed at the most recent meeting of the Hampton Roads Transportation Planning Organization regarding future solutions for the creation of a primary and secondary road fund.

County Administrator Keaton reported on items discussed at the most recent meeting of the Southeastern Public Service Authority regarding bids not received for the fly-over project.

Supervisor Rountree reported on items discussed at the most recent meeting of the Eastern Virginia Regional Industrial Facility Authority to the Kings Creek project.

Chairman Acree reported on items discussed at the most recent meeting of the Hampton Roads Planning District Commission related to the need for additional housing in the region, the national shortage of housing and the availability of affordable housing. There was also discussion on energy, specifically solar panels, and technology and how emergencies are handled by first responders, he advised.

APPOINTMENTS

Supervisor Jefferson moved that Janet Robertson be reappointed to serve on the Commission on Aging representing District 3. The motion was unanimously adopted (5-0).

Supervisor Jefferson moved that Barbara Wiggins be reappointed to serve on the Commission on Aging representing District 3. The motion was unanimously adopted (5-0).

Supervisor Jefferson moved to adopt the following slate of officers to serve on the Fire Rescue Advisory Board:

	PRIMARY	ALTERNATE
CARROLLTON VFD	Tim Nunez	Scott Brower
CARRSVILE VFD	Judson West	Weston Jamison
RUSHMERE VFD	Brandon Jefferson	Kevin Parker
SMITHFIELD VFD	Chris Edwards	Charlie Kempton
WINDSOR VFD	Lee Marshall	Dale Scott
ISLE OF WIGHT VRS	Brian Carroll	Chad Owens
WINDSOR VRS	Keith Griffin	Beth Hecker
DEPT. OF FIRE RESCUE	Garry T. Windley	Will Drewery

The motion was unanimously adopted (5-0).

Vice-Chairman Rosie moved that Amber Wells be reappointed to represent District 5 on the Economic Development Authority. The motion was unanimously adopted (5-0).

Vice-Chairman Rosie moved that Peggy Lockwood be reappointed to represent District 5 on the Historical Architectural Review Committee. The motion was unanimously adopted (5-0).

Chairman Acree moved that Melinda Shortridge be appointed to serve on the Commission on Adults with Disabilities representing District 4. The motion was unanimously adopted (5-0).

Chairman Acree moved that Renea Acree be appointed to serve on the Commission on Adults with Disabilities representing District 4. The motion was unanimously adopted (5-0).

Supervisor McCarty moved that Randy R. Keaton be appointed to serve on the Western Tidewater Community Services Board. The motion was unanimously adopted (5-0).

PUBLIC HEARINGS

Application of Moonlight Solar, LLC (CUP-10-23), Applicant, and George Benjamin Edwards, Jeanette J. Edwards, George W. Edwards, LeAnne Ricks Edward Wait, and Dana Louise Edwards, Property Owners, for a Conditional Use Permit to Establish a Major Utility Service, Specifically a 44 MW utility-Scale Solar Energy Generation Facility and Substation, on Approximately 523 Acres Located on Moonlight Road (Route 627) and Burwells Bay Road (Route 621) in the Rural Agricultural Conservation Zoning District and a Request to Withdraw Approximately 523 Acres from the Moonlight Agricultural/Forestal District.

Caleb Kitchen, Planner I, Planning & Zoning, presented the Conditional Use Permit application related to site and project descriptions, staff analysis on public facilities, environmental resources, historical resources and economic resources, the

Comprehensive Plan review, the Department and agency review, staff analysis, and the Planning Commission's and staff's recommendation to deny.

Chance Zajicek, representing Palladium Energy and in support of the Moonlight solar project, provided an overview of the project and timeline, followed by improvements and changes to the concept plan. He continued with proposed transportation plan conditions and the economic benefit of this project, if approved.

Chairman Acree opened the public hearing and called for those to speak in favor of or in opposition to the proposed application.

Tom Endrosick of Smithfield spoke in favor noting that climate change requires urban action. He remarked that nothing can compete with solar when it comes to cost and safety and there has been much objection to the appearance of solar facilities and the use of farmland. He spoke about changes being experienced nationwide relative to climate change and the appearance of a well-constructed solar farm. He advised with regard to farmland allocation, if solar farms are combined with agricultural land, the yield of vegetables growing under the solar panels is increased.

Steve Murphy of Burwells Bay Road relayed concerns about unsafe conditions on Jones Drive. He spoke about attempts made to make the roadway wider; that there is a lack of drainage on Burwells Bay Road and Moonlight Drive; that trucks continue to knock down his mailbox; and, that there is a lack of shoulders from collapsed pavement on Burwells Bay and Moonlight Drive due to truck traffic. He recommended that the panels be moved into the wooded area where they are out of view and asked what the recourse is for residents whose mailboxes and personal property is being damaged by truck traffic.

George Edwards, applicant, advised that he had received a proposal which he had discussed with his family and who believes this is the best course for their family. He advised that he is 55 years of age and he will not be able to farm forever. He asked the Board to think about his family who has lived in the County their entire lives and paid their taxes on time when the Board votes on his application. He further asked the Board to think about past proposals of landowners and farmers which had been approved. He shared his concern about the road conditions, which

have not been improved since he began driving at the age of 16 and which this company is offering to fix once construction is complete.

Chloe Hodges on behalf of Energy Right spoke about the right of property owners to have the ability to do what they wish with their property. She cited a recent poll by Energy Right which indicated that 55% of Virginians would prefer solar projects as neighbors over housing, natural gas lines and industrial parks. She advised that funding received from this project can be used to lower tax rates in the County and because solar does not put a burden on public services, those dollars can be put directly into the community to fund schools and first responders. She stated it is important to approve projects based on their merits and what value it can bring to a community.

David Tucker of District 3 remarked that the Planning Commission had zero favorable votes on this application and that while every person should have a right to do with their land as they please, energy is a regulated product, there is a capacity factor, utility bills are increasing by 120%, one individual's W2 can represent multiple jobs performed and third parties are benefitting from US tax credits and breaks.

Chairman Acree closed the public hearing.

Supervisor McCarty remarked that there is conflicting information out there on solar farms and in order for this application to be given proper attention due to changes being made, he moved that the application be returned to the Planning Commission for review of those changes. The motion was unanimously adopted (5-0).

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County Attorney Jones presented the Moonlight Solar Energy Generation Facility Siting Agreement which goes along with the above Conditional Use Permit. He recommended that following the public hearing, he would recommend that the matter be tabled until such time as the Planning Commission sends the Conditional Use Permit back to the Board.

Chairman Acree opened the public hearing on the Moonlight Solar Energy Generation Facility Siting Agreement and called for persons to speak in favor of or in opposition to the proposed Agreement.

Scott Foster of Smithfield remarked that given the fact that the Conditional Use Permit has been returned to the Planning Commission, there is adequate time to work through options for up-front funds should this project not be built due to any regulatory reason.

Chairman Acree closed the public hearing.

Supervisor McCarty inquired if the solar farm ceases its operation, will the balance of the monies promised in the Siting Agreement be due and payable?

County Attorney Jones requested additional time to research Supervisor McCarty's inquiry.

Supervisor McCarty moved that the Siting Agreement be tabled until the Conditional Use Permit is resolved at the Planning Commission level. The motion was unanimously adopted (5-0).

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The Board took a recess and upon returning to open session, Chairman Acree called for items of new business.

NEW BUSINESS

Amy Ring, Director of Community Development, provided an overview of the following proposed South Harbor planned development conditional zoning amendment request which included a summary of the requested action, the purpose, the location, the zoning and the phasing plan. She further reviewed proposed proffer changes and relayed the recommendations of the Planning Commission and staff. She stated that in accordance with Section 1-1016-G of the Zoning Ordinance, where there is an amendment to proffered conditions of use or density, the Board may waive the public hearing requirement.

Application of Branch P. Lawson on Behalf of EH2, LLC, Applicant, to Amend the Approved Conditional Zoning of 114.17 Acres with Tax Map Numbers 34-01-077 and 34-01-077D on Carrollton Boulevard (U.S. Route 17) to Modify Proposed Road Improvements Based on the Updated Traffic Impact Analysis and to Increase the Allowable Front Yard Building Setback for the Fifty-Foot-Wide Single Family Detached Residential Units in the Neighborhood Plan Book.

Supervisor McCarty moved to waive the public hearing requirement. The motion was adopted unanimously (5-0).

Supervisor McCarty moved that the application be approved. The motion was adopted unanimously (5-0).

COUNTY ADMINISTRATOR'S REPORT

Jamie Oliver, Transportation Manager, briefed the Board on short and long-term results of a safety study recently conducted on Sugar Hill Road. She reported on VDOT's efforts towards revamping school zones.

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County Administrator Keaton highlighted the following matters contained in the agenda for the Board's information:

1.) Statement of the Treasurer's Accountability –January 2024
2.) Cash Position – January 2024
3.) Incidents by Zone Map – February 2024
4.) Incidents by Zone Data – February 2024
5.) Station Activity Report – February 2024
6.) Museum Annual Report – February 2024
7.) Museum Annual Report – January 2024
8.) Correspondence from Western Tidewater Free Clinic

Supervisor Rountree requested a year over year comparison from the Treasurer and the reason for the school fund being marked "unavailable."

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Following an overview of the County's health insurance, County Administrator Keaton introduced a Resolution to Approve the Employee Health Insurance Plan Offerings for Fiscal Year 2024-25 for the Board's consideration.

Supervisor Rountree moved that the following Resolution be adopted:

RESOLUTION TO APPROVE THE EMPLOYEE HEALTH INSURANCE PLAN OFFERINGS FOR FISCAL YEAR 2024-2025

WHEREAS, the next Employee Health Insurance Plan Year takes effect July 1, 2024; and,

WHEREAS, the County participates in The Local Choice Health Insurance Program through Anthem and offers three plans; and,

WHEREAS, The Local Choice Anthem Key Advantage 250 Plan, Key Advantage 500 Plan, and High Deductible Health Plan (with Health Savings Account) are recommended to the Board of Supervisors as the three plan offerings available for the plan year beginning July 1, 2024.

NOW, THEREFORE, BE IT RESOLVED that the Health Insurance Plan offerings of The Local Choice Anthem Key Advantage 250 Plan, Key Advantage 500 Plan, and High Deductible Health Plan (with Health Savings Account) are available for employees with employer and employee contribution rates effective July 1, 2024 as referenced in the attached exhibit.

BE IT FURTHER RESOLVED that eligibility for participation in the Health Insurance Plan offerings is as follows: All regular full-time employees of the County, to include Appointees and Registrar, as well as elected officials to include Constitutional Officers and Board of Supervisors members, as well as local state-supported employees of the Isle of Wight Department of Social Services.

The motion was unanimously approved.

Responsive to Supervisor McCarty, County Administrator Keaton offered to investigate if other funding options can still be investigated if the Board adopts the Resolution at this meeting.

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In response to a discussion being added regarding the School Board under the Approval of the Agenda, Supervisor McCarty clarified for the benefit of the public that the financial plan being discussed by the School Board regarding the County assisting the Schools in its financial matters is an accounting function only on the part of the Board. For the record, this board is not doing anything without an invitation from the School Board and this matter is not involved with the recent budgetary oversight by the School Division.

ADJOURNMENT

At 9:05 p.m., the meeting was declared adjourned.

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Joel C. Acree, Chairman

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Carey Mills Storm, Clerk

WORK SESSION OF THE ISLE OF WIGHT COUNTY BOARD OF SUPERVISORS HELD IN THE ISLE OF WIGHT COUNTY GENERAL DISTRICT COURT LOCATED AT 17000 JOSIAH PARKER CIRCLE, ISLE OF WIGHT, VIRGINIA ON THURSDAY, THE FOURTH DAY OF APRIL IN THE YEAR TWO THOUSAND AND TWENTY-FOUR

BOARD MEMBERS PRESENT

Joel C. Acree, District 4, Chairman (Remote Participation)
Don G. Rosie, II, District 5, Vice-Chairman
Rudolph Jefferson, District 3
William M. McCarty, Sr., District 2
Renee Rountree, District 1

STAFF MEMBERS PRESENT

Randy R. Keaton, County Administrator
Donald T. Robertson, Assistant County Administrator
Robert W. Jones, Jr., County Attorney
Carey Mills Storm, Clerk

CALL TO ORDER

In the absence of Chairman Acree, Vice-Chairman Rosie called the work session to order at 6:00 p.m.

INVOCATION

Michael Quatley of Carrsville delivered the invocation and led the Pledge of Allegiance to the flag.

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County Attorney Jones advised that pursuant to State Code and the Board's by-laws, a Board member can participate remotely in a meeting if a physical quorum is assembled and if the member has requested and notified the Board that he wishes to appear remotely/electronically. He further advised that Chairman Acree will be participating remotely due to a personal matter which will require him to

state the nature of his absence and the remote location from which he is participating. He continued that under the Board's by-laws, Chairman Acree is eligible to participate remotely as he has not participated remotely up to six (6) meetings this year.

Chairman Acree advised that he is in Pennsylvania on vacation and will be participating remotely.

Supervisor McCarty moved that Chairman Acree be authorized to participate remotely in the meeting. The motion was adopted (4-0) with Supervisors Acree, Rosie, Jefferson and Grice voting in favor of the motion; no Supervisor voting against the motion; and, Chairman Acree absent for the vote.

Chairman Acree thereafter joined the work session.

APPROVAL OF AGENDA

Supervisor Jefferson moved that the agenda be approved as presented. The motion passed unanimously (5-0) with Supervisors Acree, Rosie, McCarty, Jefferson and Rountree voting in favor of the motion and no Supervisor voting against the motion.

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In recognition of the County's telecommunicators, Supervisor Jefferson moved that the following resolution be adopted:

RESOLUTION TO DESIGNATE THE WEEK OF APRIL 14-20, 2024 AS
NATIONAL PUBLIC SAFETY TELECOMMUNICATORS WEEK

WHEREAS**,** emergencies can occur at any time that require police, fire or emergency medical services; and,

WHEREAS**,** when an emergency occurs the prompt response of police officers, firefighters and paramedics is critical to the protection of life and preservation of property; and,

WHEREAS, the safety of our officers and firefighters is dependent upon the quality and accuracy of information obtained from citizens who telephone the Isle of Wight County Emergency Communications Center; and,

WHEREAS, Public Safety Telecommunicators are the first and most critical contact our citizens have with emergency services; and,

WHEREAS, Public Safety Telecommunicators are the single vital link for our police officers and firefighters by monitoring their activities by radio, providing them information and ensuring their safety; and,

WHEREAS, Public Safety Telecommunicators of the Isle of Wight County Emergency Communications Center have contributed substantially to the apprehension of criminals, suppression of fires and treatment of patients; and,

WHEREAS, each dispatcher has exhibited compassion, understanding and professionalism during the performance of their job in the past year.

NOW, THEREFORE, BE IT AND IT IS HEREBY RESOLVED by the Board of Supervisors of the County of Isle of Wight, Virginia that the week of April 14-20, 2024, be designated as National Public Safety Telecommunicators Week in honor of the men and women whose diligence and professionalism keep our County and citizens safe.

BE IT FURTHER RESOLVED that the Board urges all citizens to take note of this special week and give due honor to our County's Public Safety Telecommunicators.

The motion was unanimously adopted (5-0).

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Assistant County Administrator Robertson requested direction from the Board regarding how it would like to proceed with revising its Strategic Plan which was adopted in 2013. He noted that the highlighted items contained in the agenda have been accomplished and that he would recommend work on the Plan begin after July.

The consensus of the Board was to update its Strategic Plan at a later time.

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Gerald H. Gwaltney, Commissioner of the Revenue, explained the advantages and disadvantages associated with a desktop review of a County reassessment6 instead of a full reassessment.

In his transmittal letter to the Board of the proposed FY2024-25 budget, County Administrator Keaton advised that the proposed budget was prepared to meet the needs of a growing community by providing cost efficient and effective public services. The team of staff responsible for preparing the budget has attempted to create a document that is transparent and understandable to every citizen and addresses the basic responsibilities of local government. It will require an increase in the tax rate from $.71 to $.76. One cent of real estate tax is expected to generate $670,400. The personal property tax rate will remain at $4.50. The key priority for the upcoming fiscal year is to fund the necessary functions of Isle of Wight County while preparing for future needs. The General Fund operating budget totals $104,987,352 of which the largest source of these funds is from General Property taxes ($77.2 million) or 73.5% of the budget. The largest uses of County funds are for Education ($33.5 million, 31.9%), Public Safety ($17.2 million, 16.4%), and Debt Service ($12.9 million, 12.3%). A new item has been added this year to appropriate $4 million from the Fund Balance and transfer those funds to our Capital Projects Fund for one-time capital needs. Another option is for the Board to consider a bank loan not to exceed $10 million for additional capital needs. Our goals include diversifying our revenue sources to become less dependent on residential property taxes and reducing debt service as a percentage of our expenditures. Under revenue highlights, Real Property Taxes – Housing starts declined 22% in 2023. There were 211 housing starts in 2023 compared to 269 in 2022. A significant change in the type of housing is noted for 2023. For the first time, more condo/townhouses (139 units - 52%) were built than regular single-family homes (127 units - 48%). Commercial development and construction were basically non-existent in FY23 and represented just over 1% of the total new construction assessments. The forecast for FY25 includes increased new commercial construction which is estimated to represent over 5% of new construction assessments. A 3.1% increase in assessments is forecast for FY 25 with a total value of $6,685,000,000 and revenue of $49,431,753 based on the proposed tax rate of $.76 and a collection rate of 97.3%. Under Personal Property – Motor Vehicles –

the value of used motor vehicles has levelled off in 2024 compared to the decline in values for 2023 according to J.D. Power. The Car Tax Relief percentage decreased from 37% to 33%. A 5% growth is forecast for FY 25 with revenue of $14,700,000 based on a 93.5% collection rate. Under Machinery & Tools Tax – the Machinery and Tools category has experienced growth during the past three years. An increase of 5% over current revenues for the M&T tax is expected to generate revenue of $6,220,000. Under the Sales & Use Tax – the U.S. Supreme Court Case of *South Dakota v. Wayfair* ruled that states may charge sales tax on purchases made from out-of-state sellers. The 2019 Virginia General Assembly adopted legislation enabling the Commonwealth to collect sales tax on out-of-state sellers. This has resulted in an increase in sales tax for the state and localities. Online sales tax now represents nearly 36% of all retail sales for Isle of Wight County. An increase of 2.3% is forecast for the current fiscal year compared to last year. Based on this forecast next year's revenue will generate $4,400,000 which is an increase of $100,000 over the FY24 budget. Under Public Service Corporation Taxes – Public Service assessments are adjusted annually based on the real estate sales ratio as determined by the Department of Taxation. As a result of the general reassessment of real estate in 2023 the county's sales ratio increased 26%. It is anticipated that the assessments will increase 33% in the next fiscal year which will result in revenue of $1,612,000. Regarding Recordation and Wills Tax – the tax on recordation of real property has followed the real estate market and started to decline after increases over several years. After collecting $852,700 in FY22, we saw a decline to $586,902 in FY23. $600,000 is projected for FY25 which is a decrease of $100,000 over last year's budgeted amount. Under Building Permits – Building permit fee revenue is a direct reflection of housing starts and construction activity throughout the County. $511,000 was received in FY23 and we expect to collect more than $500,000 in FY24. I am estimating $600,000 in FY25 which is an increase of $200,000 over last year due to increased building activity and a proposed increase in inspection fees. Under the Utilities Fund – due to a 5% increase in the price of water from the Western Tidewater Water Authority, an 80-cent increase in the price/1000 gallons of water is proposed. This will result in a monthly increase of $4.00 or 5% for the typical customer who uses 5000 gals/month. Regarding expenditure highlights, Public Schools – An increase of $2,750,000 is proposed in local operating funds for the Isle of Wight County Public Schools. The local capital maintenance appropriation is proposed to increase from $250,000 to $500,000. $715,830 is included in debt service to finance $7.9 million in improvements at Smithfield High School and Windsor High School for enhanced Career & Technical

Program options for students. Under Public Safety – the budget continues the replacement schedule for Sheriff's Office vehicles by lease financing 7 new vehicles. Three new deputies for Court security are proposed in response to a request from the Circuit Court judges because of a 50% increase in the number of jury trials in the County. Under Fire and Rescue Response – a new initiative is proposed in the Fire Rescue Department for Community Risk Reduction. The large warehouse fire in January 2024 exposed a critical deficiency in the County's ability to be proactive concerning life and safety. A new position has been included in the budget to start in January and begin the process of creating a Fire Prevention Bureau. Under Public Works – the bulk of the increase in Public Works is a result of an adjustment in part-time salaries and overtime to catch up with salary increases over the last 2 years. Under Debt Service – bonds totaling $18.5 million were issued in February 2022 to fund the remainder of Hardy Elementary School, the replacement of Fire and Rescue equipment and other County projects. Our total Debt Service budget for the General Fund in FY25 will be $12.9 million. $7.6 million of the payments will be for principal. Under Personnel, Isle of Wight County competes for employees across the Hampton Roads region. We completed a new compensation study in FY23 which brought our salary ranges more in line with our neighboring localities. To maintain our competitiveness, I have included a 3.5% general wage increase for all full-time and part-time employees. I am also proposing that we raise our minimum wage to $13.50/hr. He concluded his presentation concerning the County Health Plan experienced a moderate year with a 6% increase in rates. We are continuing the same County/Employee cost sharing plan for health insurance established in FY20. We are also continuing the High Deductible Health Plan (with Health Savings Account) which was added last year. This plan has the potential to provide savings for employees and the County. Under New Position, seven and 1/2 new full-time positions are proposed in the FY25 budget, Sheriff (3), Fire Rescue (1 ½), Parks and Recreation (1), Commissioner of Revenue (1), and Treasurer (1). In addition, I am also proposing to convert part-time positions into 3 full-time positions in Fire Rescue. This continues a program that we have had for several years to reduce our reliance on part-time employees due to the ongoing issue of them being held over at their regular job and not being available for shifts in our County. Funds have also been placed in the budget to overlap a position in Finance due to an upcoming retirement. Under Fleet Upgrades, in addition to new vehicles for the Sheriff's department, a total of 7 other vehicles are proposed to replace aging or high mileage vehicles in the following departments: Public Works, Parks and Recreation, Economic Development, Community Development, Tourism and

Fire Rescue. Under the Capital Budget, consistent with the Board's adoption of the FY25-34 Capital Improvements Program, a Capital Budget of $14.5 million is included to move various capital projects forward. Significant capital expenditures include Parks & Recreation $450,000, Utilities $1.5 million, and Schools $12.5 million.

The Capital Budget is fully funded with proposed financing, General Fund transfer, and grants.

County Administrator Keaton concluded his presentation with acknowledgement of all Constitutional Officers, Department Heads, and staff for submitting conservative and well-researched budget requests. I have been impressed with the creativity and cost-saving suggestions from all our staff. I would especially like to thank Don Robertson, Stephanie Wells, Teresa Morgan, and Marina Hitchings for organizing the budget requests and preparing multiple budget scenarios. This has truly been a team effort.

Supervisor McCarty requested that he be provided with all of the Department Heads notes and requests that were submitted.

County Administrator Keaton requested the Board to email any questions or comments to him.

The following calendar was presented by County Administrator Keaton for review and consideration of the budgets:

Thursday, April 11th at 6:00 p.m. – Budget Work Session
Thursday, April 18th at 5:00 p.m. – Budget Public Hearing
Thursday, April 25gh at 6:00 p.m. – Budget Work Session
Thursday, May 2nd at 6:00 p.m. – Budget Work Session
Thursday, May 9th at 6:00 p.m. – Adoption of Proposed Operating & Capital Budgets, Related Ordinances and CIP

Supervisor McCarty moved that the calendar be adopted which passed by unanimous vote (5-0).

ADJOURNMENT

At 7:15 p.m., the work session was declared adjourned.

_____
Don G. Rosie, II, Vice-Chairman

_____
Carey Mills Storm, Clerk

BUDGET WORK SESSION OF THE ISLE OF WIGHT COUNTY BOARD OF SUPERVISORS HELD IN THE ISLE OF WIGHT COUNTY GENERAL DISTRICT COURT LOCATED AT 17000 JOSIAH PARKER CIRCLE, ISLE OF WIGHT, VIRGINIA ON THURSDAY, THE ELEVENTH DAY OF APRIL IN THE YEAR TWO THOUSAND AND TWENTY-FOUR

BOARD MEMBERS PRESENT:
Joel C. Acree, District 4, Chairman
Don G. Rosie, II, District 5, Vice-Chairman
Rudolph Jefferson, District 3
William M. McCarty, Sr., District 2
Renee Rountree, District 1

STAFF MEMBERS PRESENT:
Randy R. Keaton, County Administrator
Donald T. Robertson, Assistant County Administrator
Robert W. Jones, Jr., County Attorney
Carey Mills Storm, Clerk

CALL TO ORDER

Chairman Acree called the work session to order at 6:00 p.m.

APPROVAL OF AGENDA

Supervisor McCarty moved that the agenda be approved as amended to hear a brief presentation from Gregory Creswell relative to an electrical thermal incident which occurred at a surge arrester along the overhead feeder lines and resulted in a brush fire. The motion passed unanimously (5-0) with Supervisors Acree, Rosie, McCarty, Jefferson and Rountree voting in favor of the motion and no Supervisor voting against the motion.

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Mr. Gregory Creswell, Senior Development Manager with AES Clean Energy, briefed the Board regarding the April 9, 2024 electrical thermal incident which occurred at a surge arrester along the overhead feeder lines between Burwell's Bay Road and the Cavalier solar project substation along Mill Swamp Road. The event led to an

adjacent brush fire which contained a single parcel of land in the County. AES acted promptly according to the documented Emergency Response Plan and coordinated with emergency response personnel to contain and control the event. Isle of Wight Fire Rescue and the Virginia Department of Forestry are investigating the incident. AES continues to gather information about this incident in order to determine the root cause. Safety is AES' highest priority and they are committed to supporting safe communities where projects are built and operated. AES site personnel have been coordinating with Chief Garry Windley and thank him and the various rescue squads who responded to the incident for their coordination and efforts in containing the brush fire. They will continue to work closely with Isle of Wight Fire Rescue to determine if improvements can be made to the Emergency Response Plan.

Garry Windley, Chief of Fire Rescue, responded to questions from the Board regarding response time, type of response vehicle and number of tankers. Man hours involved was 4.5 hours. An overview of current real estate tax rates for surrounding jurisdictions was provided.

COUNTY ADMINISTRATOR'S REPORT

County Administrator Keaton responded to questions from the Board regarding the proposed FY2024-25 Operating and Capital Budgets.

County Attorney Jones notified the Board that the budget and Capital Improvements Program has been advertised in the newspapers and that the ad had run properly in *The Tidewater News* but did not run properly in *The Smithfield Times.* It is his recommendation that a public hearing still be conducted next week with the knowledge that another public hearing will be needed for the adoption of the Capital Budgets, related ordinances and the Capital Improvements Plan.

ADJOURNMENT

At 8:05 p.m., the work session was declared adjourned.

_____
Joel C. Acree, Chairman

_____
Carey Mills Storm, Clerk

BACKGROUND:

The Board of Supervisors has previously directed that an opportunity be provided for monthly status briefings from Board members who serve as representatives on various regional committees and authorities on behalf of the County.

BUDGETARY IMPACT:

None

RECOMMENDATION:

Receive the report.

ATTACHMENTS:

Description	Type	Upload Date
BOS Regional Committees by Org & Member	Cover Memo	2/1/2024

2024
BOARD OF SUPERVISORS'
REGIONAL ORGANIZATIONS (BY MEMBER)

ACREE

- *Hampton Roads Planning District Commission*
- *Western Tidewater Water Authority*
- *Western Tidewater Community Transportation Collaborative*

ROUNTREE

- *Eastern Virginia Regional Industrial Facility Authority*
- *Hampton Roads Workforce Council*
- *Western Tidewater Water Authority*

JEFFERSON

- *Western Tidewater Regional Jail*

McCARTY

- *Hampton Roads Transportation Advisory Committee*
- *Hampton Roads Transportation Planning Organization*
- *Western Tidewater Regional Jail*

ROSIE

- *Hampton Roads Military Federal Facilities Alliance*

KEATON

- *Hampton Roads Planning District Commission*
- *Hampton Roads Transportation Planning Organization*
- *Southeastern Public Service Authority*
- *Western Tidewater Regional Jail*
- *Western Tidewater Water Authority*

2024
BOARD OF SUPERVISORS'
REGIONAL ORGANIZATIONS (BY ORGANIZATION)

Eastern Virginia Regional Industrial Facility Authority	*Rountree*
Hampton Roads Military & Federal Facilities Alliance:	*Rosie*
Hampton Roads Planning District Commission:	*Acree* *Keaton*
Hampton Roads Transportation Accountability Committee:	*McCarty*
Hampton Roads Transportation Planning Organization:	*McCarty* *Keaton*
Hampton Roads Workforce Council	*Rountree*
Southeastern Public Service Authority	*Keaton* *Etheridge - (Alternate)*
Western Tidewater Community Transportation Collaborative	*Acree*
Western Tidewater Regional Jail:	*Jefferson* *McCarty* *Keaton*
Western Tidewater Water Authority:	*Rountree* *Acree* *Keaton*

BACKGROUND:

Board members will consider and make appointments of individuals to various local and region organizations as noted on the Appointments Page.

BUDGETARY IMPACT:

None

RECOMMENDATION:

Appoint individuals to various local and region organizations as noted on the Appointments Page.

ATTACHMENTS:

Description	Type	Upload Date
Appointments Page	Cover Memo	5/15/2024
Blackwater Library Board	Cover Memo	4/26/2024
Energy Task Force	Cover Memo	4/26/2024
Adults with Disabilities	Cover Memo	4/26/2024

BOARDS/COMMISSIONS/COMMITTEES

Boards/Commissions/Committees	Appointees	Contact	District	Expiration	
Agricultural/Forestal District Advisory Council	Replacement for Emory Austin		District 5		
Blackwater Regional Library Board	Denise Tynes (See Attached)	880-3695	District 1	June	2024
Blackwater Regional Library Board	Replacement for Michelle Manfred (See Attached)		District 2	June	2024
Blackwater Regional Library Board	Replacement for Rita Gibson/Resigned (See Attached)		At-Large	Nov.	2027
Blackwater Regional Library Board	Replacement for Conway Henderson/Resigned (See Attached)		District 4	June	2025
Camp Community College	Roderick Hallum	328-6354		June	2024
Children's Services Act-Policy & Mgmt. Team	Replacement for Nancy Mayo - Resigned				
Commission on Adults with Disabilities	(See Attached)				
Energy Task Force	Representative for District 5 (See Attached)				
Economic Development Authority	Sharon Cory Stallings	757-242-6486	District 4	April	2024
Hampton Roads Workforce Council	L'Tanya Jphnson	757-242-9930		June	2024
Historical Architectural Review Committee	W. Lee Duncan	757-356-1112	District 3	Jan.	2023
Social Services Board	Reginia Joyner	757-478-6381	District 4	June	2023
Social Services Board	Barbara Davis	757-357-2272	District 3	June	2024
Social Services Board	Linda Boone Randolph	(757) 390-6066	District 5	June	2024
Virginia Alcohol Safety Program	Replacement for Kimberly Davenport			Aug	2024
Western Tidewater Com. Services Board	Replacement for Toni Brown			Dec	2023

Carey Mills Storm

Blackwater Library Bd.

From: Ben Neal <bneal@blackwaterlib.org>
Sent: Tuesday, April 16, 2024 12:47 PM
To: Carey Mills Storm
Subject: FW: Board appointments

Caution: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Carey,

One follow-up, a couple of my board members asked me to forward along the name of Ms. Charlene Herrala as a potential board member. "Her cell is 757-377-8654. Home is 757-242-4546 email charlene.herrala@gmail.com ". I believe she's a retired educator and lives on Walters Hwy. I think, if the board is interested, that she might be idea for the seat Ms. Gibson vacated as that is an "at-large" position.

Just passing along as a potential interested person, I did advise they fill out the interest form for County Boards' that's online, but wanted to pass along the name to you as well.

Thanks,

Ben Neal
Library Director
Blackwater Regional Library
22511 Main Street
Courtland, VA 23837
757-653-0298 Ext. 303
www.blackwaterlib.org

From: Ben Neal
Sent: Wednesday, April 10, 2024 11:46 AM
To: Carey Mills Storm <cstorm@isleofwightus.net>
Subject: Board appointments

Hi, Carey,

I hope this message finds you doing well. I received an email from one of my IOW Board Members, Rita Gibson, that she needed to resign as she is moving out of the area for family purposes. I'm including the email below, but we will need a replacement...it would be for a term that ends on June 30, 2027.

" Ben,

I am going to have to resign from the Blackwater Regional Library board. My husband and I have decided to move to Ohio and I will need to get things prepared to sell , etc.

Rita Gibson"

I was also copied on an email that Ms. Henderson sent Mr. McCarty last week resigning. This would be until the term expires on June 30, 2025. "Although we talked on the phone I realized you probably need something in writing to make my resignation official.
Please let me know if I can be of help in any way in the future.
Thanks for your interest in the library.

Conway Henderson
757-238-9890
"

I also have a formal letter to send you requesting a replacement for Michelle Manfred, whose term expires on June 30th. It would be for a four year term from July 1, 2024 to June 30, 2028. Similarly, Ms. Denise Tynes terms ends on June 30th and is eligible for re-appointment.

Let me know if you need anything, or if it'd be helpful to send some potential names.

Warmly,

Ben

Ben Neal
Library Director
Blackwater Regional Library
22511 Main Street
Courtland, VA 23837
757-653-0298 Ext. 303
www.blackwaterlib.org

Carey Mills Storm

From: Conway Henderson <jim.or.connie.henderson@att net>
Sent: Tuesday, April 16, 2024 1:46 PM
To: Carey Mills Storm
Subject: Message response

Caution: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I left a phone message also to respond to your call. I have resigned from the Board of the Blackwater Regional Library. Health problems have meant that I have had to miss several meetings and I do not believe one should serve on the Board if unable to be an active participant.
If there is any way I can still be of help to the library I will be glad to do so.

Conway Henderson

blackwater regional library
Franklin, Isle of Wight, Southampton, Surry, and Sussex
www.blackwaterlib.org



Mr. Randy Keaton
Isle of Wight County Administrator
P.O. Box 80
Isle of Wight, VA 23397

April 22, 2024

Re: Board Appointment

Dear Mr. Keaton,

Isle of Wight County members of the Blackwater Regional Library Board of Trustees, Ms. Michelle Manfred and Ms. Denise Tynes, will reach the end of their term on June 30, 2024. They have both served one full term on the Board and we appreciate their efforts on behalf of the Library.

We respectfully request you appoint a 2 new trustees to serve on our board. These will be new appointees for a term of four years, expiring on June 30, 2028.

Please make sure the "new members" are aware that the Board of Trustees meets nine times a year on the third Wednesday of each month at 3:00 p.m. The meeting usually lasts for approximately two hours. The Board usually meets the Franklin branch. Trustees are also asked to be a member of a committee and these committees usually meet outside of the normal board meeting to discuss business matters in order to expedite regular board meeting time. This could mean a commitment of an additional one to two hours per month.

Enclosed is a general description of duties that can be expected of appointed members for reference.

We appreciate your attention to this matter. Thank you for your continued support of the library and its programs.

Very Best Regards,

Ben Neal
Library Director
757-653-0298 ext. 303
bneal@blackwaterlib.org

Board of Trustees

Board Mission and Vision

A public library board has the primary responsibility for the success of the library, both now and in the future. Trustees have a legal responsibility to successfully maintain a public, nonsectarian library for all residents in the library's service area.

Expectations of a Board of Trustees:

- Attend meetings regularly
- Participate in a Board orientation
- Share skills on committees
- Understand the community and its needs
- Exercise discretion and respect confidentiality outside board meetings
- Avoid conflicts of interest and put personal agendas aside when making decisions
- Actively support the implementation of board decisions
- Have an open mind and respect differing viewpoints
- Respect diversity
- Focus on a secure future for the library

As a governing body, the Board of Trustees:

Advocates for the library within the community by:

- Seeking funding opportunities
- Supporting planned programs of public relations
- Meeting with local officials to communicate library issues
- Representing the library patrons' concerns and their perspectives

Develops a strategic plan that:

- Guides and articulates the goals and objectives to be achieved
- Determines sound decision-making and priorities
- Measures the quality and effectiveness of services and programs
- Reflects contemporary library practices and future trends

Nurtures fiscal responsibility through:

- The preparing of a budget
- Scheduled monitoring of that budget and other financial progress reports
- Pursued opportunities, such as grants, campaign development, and other funds
- Communication of fiscal needs with supporting agencies
- Careful investments

Crafts policies that:

- Comply with all laws
- Form a framework of acceptable expected practices, behaviors, and procedures
- Support the mission, goals, and objectives of the library
- Outline personnel issues
- Describe facilities use and access
- Are adopted, enforced, and updated

Board of Trustees

Ensures qualified leadership by:

- Hiring a library director who manages the day-to-day operations
- Evaluating the director annually

ENERGY TASK FORCE

Created: February 23, 2023

APPOINTEES	DISTRICT	DATE APPOINTED
Thomas Distefano 15151 Batiste Court Carrollton, VA 23314 (757) 708-0880	2	2/23/23
Lewis Edmonds 23427 John Henry Street Windsor, VA 23487 (757) 871-6550	4	3/16/23
Lynn Barlow Briggs 211 North Mason Street Smithfield, Virginia 23430 (757) 365-1611	1	3/16/23
VACANT	3	
VACANT	5	
AT-LARGE APPOINTEE (Town of Smithfield) Michael G. Smith 104 Commerce Street Smithfield, VA 23430 (757) 576-4203		4/27/23
At-LARGE APPOINTEE (Town of Windsor) Edward (Gibby) Dowdy 9 Bank Street Windsor, VA 23487		6/1/23

COMMISSION ON ADULTS WITH DISABILITIES

DISTRICT 1	**APPOINTED**
James Piatak 3 Poplar Court Smithfield, VA 23430 757.871.1797	12/14/2023
DISTRICT 1	
Howard Meissel 10280 Park Street Battery Park, VA 23304 757.630.2872	12/14/2023
DISTRICT 2	Vacant
DISTRICT 2	Vacant
DISTRICT 3	
Julian K. Wilson 112 Cattail Lane, Apartment 6 Smithfield, Virginia 23430 757-870-2502	
DISTRICT 3	Vacant
DISTRICT 4	
Renea Acree 100 Whitehead Farm Lane Smithfield, Virginia 23430 (757) 449-1258	3/21/2024
DISTRICT 4	
Melinda Shortridge 106 Robin Lane Smithfield, Virginia 23430 (757) 328-1012	3/21/2024
DISTRICT 5	Vacant
DISTRICT 5	Vacant

ISSUE:

Resolution to Designate May 19-25, 2024 as Emergency Medical Services Week

BACKGROUND:

In November 1974, President Gerald Ford announced and authorized the first National Emergency Medical Services (EMS) Week to celebrate the important work of individuals who work on the medical front line. This year, it's celebrated from May 19th to May 25th. The week gives Emergency Medical Services (EMS), and those who would like to credit them, a chance to recognize their hard work in potentially fatal situations daily. Whether an accident, a national emergency, or a terrorist act, the EMS work quickly and efficiently to save lives.

The Board may wish to designate May 19-25, 2024 as EMS Week.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

Adopt a resolution to Designate May 19-25, 2024 as Emergency Medical Services Week.

ATTACHMENTS:

Description	Type	Upload Date
Resolution	Resolution	5/8/2024

RESOLUTION TO DESIGNATE
THE WEEK OF MAY 19 - 25, 2024 AS
EMERGENCY MEDICAL SERVICES WEEK

WHEREAS, Emergency medical services (EMS) Week was originally authorized by President Gerald Ford on November 4, 1974; and,

WHEREAS, emergency medical services (EMS) is a vital public service; and,

WHEREAS, the members of EMS teams are ready to provide lifesaving care to those in need 24 hours a day, seven days a week; and,

WHEREAS, access to quality emergency care dramatically improves the survival and recovery rate of those who experience sudden illness or injury; and,

WHEREAS, EMS has grown to fill a gap by providing important, out of hospital care, including preventative medicine, follow-up care, and access to telemedicine; and,

WHEREAS, the EMS system consists of first responders, emergency medical technicians, paramedics, emergency medical dispatchers, firefighters, police officers, educators, administrators, pre-hospital nurses, emergency nurses, emergency physicians, trained members of the public, and other out of hospital medical care providers; and,

WHEREAS, the members of EMS teams, whether career or volunteer, engage in thousands of hours of specialized training and continuing education to enhance their lifesaving skills.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Isle of Wight, Virginia recognize the value and the accomplishments of EMS providers and hereby designate the week of May 19-25, 2024 as Emergency Medical Services Week.

Adopted this 16th day of May 2024.

Joel C. Acree, Chairman

Carey Mills Storm, Clerk

Approved as to Form:

Robert W. Jones Jr., County Attorney

ISSUE:

Application (LUP-1-23) of the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, Property Owners, and Meridian Property Purchaser, LLC, Applicant, for a Comprehensive Plan Amendment for 154.3 Acres of Property to Amend the Comprehensive Plan Future Recommended Land Use Map designation from Mixed Use to Planned Industrial

BACKGROUND:

An application (LUP-1-23) on behalf of the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, property owners, and Meridian Property Purchaser, LLC, applicant, has been submitted for a Comprehensive Plan Amendment for 154.3 acres of property with tax map numbers 54-01-086J and 55-01-013 to amend the Comprehensive Plan Future Recommended Land Use Map designation from Mixed Use to Planned Industrial.

The subject property is located on the north side of Windsor Boulevard (Rte. 460). The proposed project consists of three separate parcels consisting of approximately 154.34 acres. The parcels are in the Rural Agricultural Conservation (RAC) zoning district. The property is also located in the Windsor Development Service Overlay District, the Highway Corridor Overlay District, and the Chesapeake Bay Preservation Area Overlay District. To the South across Windsor Blvd. is the World Market warehousing and distribution center which is part of the Shirley T Holland Industrial Park. A forested area containing Ennis Pond, a part of the City of Norfolk reservoir system, is located to the north of the project site as well as agricultural land. The Town of Windsor boundary line and residential development along Lovers Lane and Keaton Avenue is located to the west of the property. Additional agricultural land is located to the east of the project site.

County GIS images indicates that both parcels 54-01-086J and 55-01-013 have historically been used for agriculture. Parcel 54-01-086J is currently owned by the Economic Development Authority which originally purchased the property in 2008 in order to expand the Shirley T. Holland Industrial Park.

Both parcels 54-01-086J and 55-01-013 were found to have historic cemeteries on them. The cemetery on parcel 54-01086J is located within the project area, the cemetery on 55-01-013 is located along the outer boundary of the parcel to the northeast. Parcel 55-01-013 is the currently location for the historic home known

as the Henry Saunders House. The attached concept plan shows proposed buildings roughly 162 feet from the Henry Saunders House at its closest point.

In order to support the associated application for a change in zoning from RAC to Conditional-Limited Industrial, the applicant has submitted this comprehensive plan amendment application. The applicant is requesting these changes in response to significant and growing demand for warehousing and distribution centers in the Hampton Roads region. The applicant states in their narrative that, the County's quality of life, work force, and stable local economy, as well as its supply of suitable property along the 460 corridor make it a desirable location for warehousing and distribution centers.

In order to justify their comprehensive plan amendment request, the applicant asserts that establishing the future land use designation for the subject property to be consistent with the industrial designation south of 460 creates a much more consistent and compatible land use scenario and allows for a larger, well-planned industrial node.

The 2020 Comprehensive Plan Future Recommended Land Use Map designation for the property is currently a combination of Mixed Use (MU) and Environmental Conservation (EC). The application seeks to change the designation from MU to Planned Industrial (PI) to support the associated application to change the zoning district of the properties to Conditional-Limited Industrial (C-LI) to accommodate warehousing and distribution, custom manufacturing, industry type I and industry type II uses.

The Comprehensive Plan describes MU as areas of housing mixed with office, commercial, and other uses. Types of housing in these areas may consist of one or multiple detached or attached single family homes, multi-plex and apartment style housing options, along with office or commercial uses. The Plan recommends MU areas be located on major transportation routes and at major intersections. MU areas should consist of large tracts of land capable of being master planned for a diversity and integration of multiple uses. MU should also have access to public water and sewer infrastructure with capacity for more intense development. Examples of MU development in the County include Eagle Harbor and Benns Grant. The Plan does indicate, however, that select light industrial uses may also be appropriate when sited correctly.

The PI land use designation is given to areas where manufacturing, warehousing and distribution are envisioned to occur. Typical land uses in PI consist of light industrial as well as heavy industrial and manufacturing uses which may negatively

impact surrounding development. Preservation of environmental features still occurs, and PI development is connected to residential uses with vehicular and pedestrian access. The Plan notes that PI should be buffered from adjacent uses. Examples of PI include the Shirley T. Holland Intermodal Park and International Paper.

Similar to MU areas, PI land use is best located in places with easy access to major highway corridors or rail transportation. PI should also have access to public water and sewer infrastructure with capacity to support industrial development. Large tracts of land which allow for master planning of PI uses is preferable.

The Plan recommends that PI areas be developed in a way to provide good access for materials and workers while buffering residential land uses. Expected development in PI might include light and heavy manufacturing, warehousing, distribution, rail dependent uses, and other uses which may impact surrounding development due to noise, smell, dust or similar features. Supporting office, commercial uses, and other land uses with similar siting considerations such as enhanced buffering may also be appropriate. Residential uses and community facilities should be considered elsewhere first, and separated or buffered adequately if in close proximity. Parks, trails, and open space may be appropriate in areas preserved due to natural features.

The properties are also located within the Windsor Development Service District (DSD). The Plan describes the DSDs as specific areas identified for development to occur. Outside of the DSD boundaries all land is intended to stay in rural and agricultural uses and environmental protection. Within the boundaries of the DSD, the County has installed or has plans for water and sewer infrastructure, road improvements and other public facilities necessary to support growth. Following the DSD approach has allowed the County to protect roughly 85% of the County land area for rural and agricultural uses.

The EC land use designation is identified for the protection of a variety of sensitive environmental features, such as wetlands and streams, and serves to create natural connections for wildlife, protect commercial and recreational fisheries, and to provide buffers for adjacent developments. Specific locations of Environmental Conservation areas are determined with site specific delineations during the plan of development review process. Both MU and PI designations recommend the preservation of environmentally sensitive features within these areas.

Staff reviewed the application for the change in the future recommended land use

designation from MU to PI and found the proposed designation to be generally consistent with the Plan's recommended location criteria but noted a concern with the proximity of existing adjacent residential uses and potential impacts to environmentally sensitive features as shown on the concept plan. Staff's findings are summarized as follows:

Strengths:

- The proposed land use location recommendation is consistent with the location criteria as recommended in the County's Comprehensive Plan.
- The proposed PI designation is located within the Windsor DSD.
- The proposed PI designation would encourage job creation and additional nonresidential tax revenue for the County to support future public service needs.

Weaknesses:

- Expected development in PI might include light and heavy manufacturing, warehousing, distribution, and other uses which may impact surrounding development due to noise, smell, dust or similar features without adequate buffers.
- The concept shows impacts to Resource Protection Area buffers for parking lots that do not meet exception criteria included in the Chesapeake Bay Preservation Area Ordinance.

BUDGETARY IMPACT:

N/A

RECOMMENDATION:

The Planning Commission voted to recommend denial of the application at their March 25, 2024, regular meeting by a vote of six in favor and one voting against the motion and one abstention.

Staff recommends approval of the application dependent on the implementation of adequate mitigation measures to protect adjacent residential uses from noise, smell, dust, intrusive lighting, or other detrimental impacts.

ATTACHMENTS:

Description	Type	Upload Date
Application	Backup Material	2/20/2024
Community Impact Statement	Backup Material	2/20/2024

Narrative	Backup Material	2/20/2024
Location Map	Backup Material	2/20/2024
Location Closeup Map	Backup Material	2/20/2024
Land Use Map	Backup Material	2/20/2024
Zoning Map	Backup Material	2/20/2024
Resolution	Resolution	2/20/2024
Ordinance	Ordinance	5/6/2024

Local Roots, Global Reach

ISLE OF WIGHT
COUNTY, VIRGINIA

AMENDED

REZONING

WHAT IS REZONING?

Isle of Wight first adopted zoning laws in 1970 as part of the County's authority to promote and protect health, safety, and general welfare of the present, as well as future, residents and businesses of the County.

These laws, as outlined in the Zoning Ordinance, designate all land to one of the zoning districts. The permitted uses and rules pertaining to each district designate the use of a parcel of land in a desired fashion. A change, or rezoning, is made at the owner's request or at the direction of the Board of Supervisors and in accordance with the land use designations of the Comprehensive Land Use Plan.

WHAT MUST I FILE TO REZONE MY PROPERTY?

1. Prior to submitting an application, it is recommended to schedule a pre-application meeting with Economic Development to review the application and discuss any questions the applicant may have. Please call 757-365-6249 for meeting information. If the property is in the Land Use Assessment Program, the applicant should also contact the Commissioner of the Revenue's Office at (757) 365-6222.

2. Submit a completed application form, completed application checklist with all required documents (See Submittal Checklist for additional items that may be required), completed disclosure of real estate holdings, owners affidavit and the filing fee of $1,200.

WHEN IS A REZONING APPLICATION CONSIDERED BY THE PLANNING COMMISSION?

Once a completed application has been submitted to the County, the application is distributed for comment and review to all appropriate County and State Agencies/Departments. Once all comments are received and the application is deemed acceptable by all appropriate County and State Agencies/Departments, the application is scheduled for public hearing by the Planning Commission. The Planning Commission meetings are normally held at 6:00 p.m. on the fourth Tuesday of each month in the Robert C. Claude, Sr. Board Room, at the County Courthouse Complex. The advertising deadline for an upcoming Planning Commission public hearing is the first Thursday of the month. An application must be deemed acceptable by all appropriate County and State Agencies/Departments prior to this deadline in order to be placed on the next agenda.

WHAT IS THE PUBLIC HEARING PROCEDURE FOR REZONING?

1. Once the application is scheduled for a public hearing by the Planning Commission, the applicant is required to the required number of copies of the concept plan and all other supplementary documentation deemed necessary by the Planning and Zoning Department for distribution to the Planning Commission. All required items must be submitted to the Planning and Zoning Department no fewer than ten calendar days prior to the scheduled public hearing.

2. The applicant will be given at least one sign to post on the property at least fourteen days prior to the Planning Commission public hearing, indicating an application has been filed. Additional signs may be required based on linear road frontage. These signs are provided by the County and may be picked up at the Planning and Zoning Department front desk.

3. The application is advertised for public hearing in the local newspapers twice – no more than twenty-one (21) days and no less than six (6) days prior to the public hearing.

4. Notices are sent by the Planning and Zoning Department to all adjoining property owners

If you have any questions, please call the Central Permitting office at 757-365-6211 or email at planreview@iwus.net

at least fourteen days prior to the public hearing.

5. Staff will prepare a report on the application and the applicant will be sent a copy of the report and other comments made by County and State Agencies/Departments prior to the meeting date.

6. The applicant and/or a representative are/is required to attend the Planning Commission meeting to present the application and answer any questions from Commission members.

7. Following the Planning Commission's recommendation of approval or denial, the application will be placed on the Board of Supervisors' agenda for a public hearing. Board of Supervisors meetings are typically held on the third Thursday of each month and the meetings begin at 5:00 pm in the Robert C. Claude, Sr. Board Room, at the County Courthouse Complex. The same notification procedure as outlined above will be followed, and additional copies of the concept plan and all other supplementary documentation will be required to be submitted by the applicant for distribution to the Board of Supervisors. All required items must be submitted to the Planning and Zoning Department no fewer than ten calendar days prior to the scheduled public hearing.

8. The Board of Supervisors will hold the public hearing as scheduled, and make a determination to approve or deny the application. The applicant and/or a representative are/is required to attend the Board of Supervisors meeting to present the application and answer any questions from Board of Supervisors members.

9. The applicant will be notified in writing of the Board of Supervisors' discussion. If denied, a period of at least one (1) year must elapse in order to resubmit the application, unless significant changes are made. Also, the applicant may appeal the Board's decision to the Circuit Court

10. If approved, and the request does not include the rezoning of an entire parcel, a zoning boundary plat will need to be prepared by a licensed surveyor and submitted for approval within twelve months of the Boards approval of the rezoning application.

WHAT OTHER PERMITS OR APPROVALS MAY BE REQUIRED PRIOR TO CONSTRUCTION?

- Zoning Permit
- Stormwater
- Building Permit
- Health Department Permit
- Site Plan Approval
- Subdivision Plat Approval
- Landscaping Surety
- Erosion and Sediment Control Surety

Local Roots, Global Reach
ISLE OF WIGHT
COUNTY, VIRGINIA
DEPARTMENT OF PLANNING AND ZONING

AMENDED

APPLICATION FOR REZONING/CONDITIONAL ZONING AMENDMENT

This application should be used to petition for a change to the Official Zoning Map or for an amendment of zoning conditions. The following application requirements are consistent with the procedures set forth in Section 1-1015*, Amendments*, of the Isle of Wight County Zoning Ordinance*,* as amended*.*

A. APPLICATION FOR:

[ ] Rezoning

[X] Conditional Rezoning (Are voluntary proffered conditions attached?): X Yes _____ No

Request to change the subject property(s) from the RAC to the LI zoning district.

Proposed Use or Activity: Industry, Type 1, Custom Manufacturing, and Warehousing and Distribution

[ ] Amendment to Conditional Zoning

Request to change conditional zoning as follows (Attach current and proposed conditions): _____

B. PROJECT DESCRIPTION:

Project Name: Tidewater Logistics Center

Property Address (if any): _____

Election District: District 4

Comprehensive Plan Designation: Planned Industrial (Proposed)

The rezoning will apply to 154.34 acres out of 154.34 total acres

Tax Parcel Identification # 54-01-086J Number of Acres to be Rezoned: 90.885

Requesting Zoning District Change from: RAC to LI

Tax Parcel Identification # 55-01-013 Number of Acres to be Rezoned: 63.457

Requesting Zoning District Change from: RAC to LI

Tax Parcel Identification # 54-01-086B Number of Acres to be Rezoned: .0000

Requesting Zoning District Change from: RAC to LI

Proposed Utilities (check all that apply): Public Water X Private Well _____

Public Sewer X Private Septic _____

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C. APPLICATION INFORMATION:

Applicant(s) Name(s): Meridian Property Purchaser, L.L.C.

Address: 3 Bethesda Metro Center, Suite 1400

City, State, Zip Code: Bethesda, MD 20814

Phone No.: 240.507.1174 Email: tomboylan@tmgdc.com Fax No.:

Property Owner(s) Name(s): Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC

Address: IDA: 17146 Monument Circle, Suite A, Isle of Wight, VA 23397
Hollowell: 409 Patrick Street, Portsmouth, VA 23707

City, State, Zip Code:

Phone No.: Email: Fax No.:

DocuSigned by:
James Huckaby
A800E42E9DA046A...

September 25, 2023

Approved By: Tom Boylan

Applicant Signature **Date**

Owner Signature *if different* **Date**

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Central Permitting, 17140 Monument Circle, Suite 100
P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: Fees Paid:
Tax Query: [ ] Current [ ] Delinquent Distribution Date:
Posted/Date to Post:

AGENCIES REFERRALS:

_____ Department of Conservation & Recreation
_____ Economic Development
_____ Emergency Services
_____ General Services
_____ Environmental Planner
_____ Health Department
_____ Transportation Manager
_____ Commission of Revenue
_____ Other

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Schools
_____ Budget & Finance
_____ County Attorney

Verified By: Date:

C. APPLICATION INFORMATION:

Applicant(s) Name(s): Meridian Property Purchaser, L.L.C.

Address: 3 Bethesda Metro Center, Suite 1400

City, State, Zip Code: Bethesda, MD 20814

Phone No.: 240.507.1174 Email: tomboylan@tmgdc.com Fax No.: _____

Property Owner(s) Name(s): Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC

Address: IDA: 17146 Monument Circle, Suite A, Isle of Wight, VA 23397
Hollowell: 409 Patrick Street, Portsmouth, VA 23707

City, State, Zip Code: _____

Phone No.: _____ Email: _____ Fax No.: _____

Applicant Signature **Date**

C. Morello 9/19/23

Owner Signature *if different* **Date**

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Central Permitting, 17140 Monument Circle, Suite 100
P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: _____ Fees Paid: _____
Tax Query: [ ] Current [ ] Delinquent Distribution Date: _____
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AGENCIES REFERRALS:

_____ Department of Conservation & Recreation
_____ Economic Development
_____ Emergency Services
_____ General Services
_____ Environmental Planner
_____ Health Department
_____ Transportation Manager
_____ Commission of Revenue
_____ Other _____

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Schools
_____ Budget & Finance
_____ County Attorney

Verified By: _____ Date: _____

C. **APPLICATION INFORMATION:**

Applicant(s) Name(s): Meridian Property Purchaser, L.L.C.

Address: 3 Bethesda Metro Center, Suite 1400

City, State, Zip Code: Bethesda, MD 20814

Phone No.: 240.507.1174 Email: tomboylan@tmgdc.com Fax No.: _____

Property Owner(s) Name(s): Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC

Address: IDA: 17146 Monument Circle, Suite A, Isle of Wight, VA 23397
Hollowell: 409 Patrick Street, Portsmouth, VA 23707

City, State, Zip Code: _____

Phone No.: _____ Email: _____ Fax No.: _____

_____

Applicant Signature **Date**

John W. Hollowell Jr. 9/18/2023

Owner Signature *if different* **Date**

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Central Permitting, 17140 Monument Circle, Suite 100
P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: _____ Fees Paid: _____
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_____ Economic Development
_____ Emergency Services
_____ General Services
_____ Environmental Planner
_____ Health Department
_____ Transportation Manager
_____ Commission of Revenue
_____ Other _____

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Schools
_____ Budget & Finance
_____ County Attorney

Verified By: _____ Date: _____

AMENDED

REZONING/CONDITIONAL ZONING AMENDMENT APPLICATION CHECKLIST

****Both checklist and application required upon submission to central permitting or application will not be accepted****

In conjunction with Section 1-1015, *Amendments*, of the Isle of Wight County Zoning Ordinance, as amended, the following information shall be submitted for a Rezoning/Conditional Zoning Amendment Application. Please note that it is the applicant's responsibility to ensure that the application is in compliance with all Federal, State and County regulations.

No application for an exception shall be certified as complete unless the following information is provided. ***The required number of copies may be increased or reduced with permission of the Zoning Administrator, depending on the review needs.*** Applicant(s) must have their signature(s) notarized on the disclosure of real estate holdings.

- ☐ **Ten (10) copies of the following:**
  - ☐ original, executed application
  - ☐ a statement of the reasons for seeking a rezoning, and if applicable, a statement of proffered conditions with owner(s) original, notarized signature.
  - ☐ narrative description of current condition and use of the property, which shall include the tax parcel identification number
  - ☐ full size concept plan of the site to show all existing and proposed physical improvements and such other information as is necessary to clearly indicate to the reviewing body that adequate provisions have been made for compliance with all standards for that particular use, the extent of the property to be so used on a given parcel or parcels, and information defining the requested exceptions. The plan shall be prepared by the appropriate authorized design professional licensed to practice in Virginia. No person shall prepare or certify design elements of site plans which are outside the limits of their professional expertise and license. Such document shall be drawn to scale and shall include the following information:
    - A vicinity map at a scale of no less than one (1) inch equals two thousand (2,000) feet
    - Title of drawing
    - Date of drawing
    - Existing wood line
    - North arrow
    - Scale bar
    - Current zoning of parcel(s), including tax map number(s) and owner(s)
    - Current zoning of adjacent parcel(s), including tax map number(s) and owner(s)
    - Street names including route number and width(s) of the right-of-way(s)
  - ☐ any additional information required for the proposed use in accordance with Section 5-5000, *Supplementary Use Regulations,* of the Zoning Ordinance.
  - ☐ Community Impact Statement. Required for residential subdivisions of five (5) or more lots, planned development, commercial, industrial, or miscellaneous rezoning/conditional zoning amendment applications. Please refer to Section 1-1015.F for detailed requirements of the Community Impact Statement.
  - ☐ Water Quality Impact Assessment. For any rezoning in the Chesapeake Bay

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Preservation Area prepared in accordance with Appendix B-1 of the County Code for applications containing any of the following:

- will disturb any portion of the 100-foot buffer area of a Resource Protection Area
- (RPA), or any component identified in Section 3000.B.1 of the Chesapeake Bay Preservation Area Ordinance;
- contains ten (10) acres or more for any use, other than a development of single family detached residential lots;
- contains twenty-five (25) acres or more for the development of single family detached residential lots; or,
- any other development that may warrant such assessment due to the unique
- characteristics of the site or intensity of the proposed use or development, as may be required by the Zoning Administrator.

☐ Planned Development supplemental information shall be submitted in accordance with Section 4-14005, *Submission Requirements,* of the Zoning Ordinance

☐ **One (1) original executed application**

☐ **One (1) digital copy of ALL application documents**

☐ **One (1) reduced 11"x17" copy of concept plan**

☐ **Voluntary Proffer Statement if applicable**

☐ **Waiver and Release of Claims if cash proffer is proposed**

☐ **Application fee submitted with the application. Checks should be made payable to treasurer, Isle of Wight, County**

☐ **Other information may be necessary to demonstrate compliance with all other applicable federal, state and County standards and regulations.**

☐ **All real estate taxes must be paid and current at the time of submittal; otherwise, the submittal will be refused at the counter. Proof of the most recent tax payment to the County must accompany the application.**

I, the undersigned, certify that this application is complete, accurate and contains all required and requested information, documents and other submittals, and that all statements made herein are, to the best of my knowledge, true and correct. I further certify that I have exercised due diligence to obtain the most recent, complete and correct information available. I understand that any section not completed in its entirety may delay processing of this application and the date of the Planning Commission public hearing and that the submittal of a complete application does not guarantee the application will be placed on the next available Planning Commission agenda.

James Huckaby

Name

DocuSigned by:
James Huckaby
A808E42E89A848A...

Signature

September 25, 2023

Date

DocuSign Envelope ID: 50D434E4-7966-42E3-8280-C4943D17E7C4

COUNTY OF ISLE OF WIGHT
DISCLOSURE OF REAL ESTATE HOLDINGS

Applicant: Meridian Property Purchaser, L.L.C

Address: 3 Bethesda Metro Center, Suite 1400, MD 20814

REAL ESTATE HOLDINGS TO BE AFFECTED

Location or Address	Description
None	

OTHER OWNERS OF AFFECTED REAL ESTATE
(Not Required for Corporation whose stock is traded on a national or local stock exchange or having more than 500 shareholders.)

Name of Individuals Corporation/Partnership Business Association	Address
None	

Does any member of the Isle of Wight County Planning Commission or governing body have any interest in such property, either individually, by ownership of stock in a corporation owning such land, partnership, as the beneficiary of a trust, or the settlor of a revocable trust, or whether a member of the immediate household of any member of the Planning Commission or governing body has any such interest? Yes (No)

If yes, names of members:

I do solemnly swear that the foregoing statement(s) and attachments(s), if any, are complete, correct, and true.

Applicant: James Huckaby (Printed or Typed Name) Applicant: James Huckaby (Signature) Date: September 25, 2023

Commonwealth of Maryland
County of Montgomery

Subscribed and sworn to before me Katt Bogue,
A Notary Public in and for the County of Montgomery Commonwealth of Maryland, this 25th day of September, 2023.

Notary Public

My Commission Expires 6/24/25

KATHERINE GRACE BOGUE NOTARY PUBLIC MONTGOMERY COUNTY, MD MY COMMISSION EXPIRES JUNE 24, 2025

Community Impact Statement

For

Tidewater Logistics Center

Isle of Wight, VA

Prepared For:

The Meridian Group

3 Bethesda Metro Center, Suite 1400

Bethesda, MD 20814

Prepared By:

Kimley-Horn

4525 Main Street, Suite 1000

Virginia Beach, VA 23462

1st Submittal: July 17th, 2023

2nd Submittal: September 22, 2023

3rd Submittal: November 21, 2023

Kimley-Horn Project Number: 117158002

Table of Contents

Section I – Regulatory Requirements 3

Section II – Project Description 3

Section III – Adequacy of Existing Public Facilities and Services 4

A. Public Water facilities 4

B. Public Sewer Facilities 4

C. Environmental Considerations 4

D. Drainage Facilities 5

E. Public Schools 5

F. Emergency Service Facilities 5

G. Transportation Facilities 6

Section IV – Fiscal Impacts 6

Section V – Conclusion 6

Section I – Regulatory Requirements

This analysis is submitted pursuant to the requirements of the *Isle of Wight County Code of Ordinances Section 1-1015.F.* It is submitted in support of the Rezoning Application for the subject property.

Section II – Project Description

The parcels in question are located in Isle of Wight County on the north side of U.S. Route 460 (Windsor Boulevard) in between Lovers Lane and Old Mill Road, identified by its Tax Parcel Numbers (TPN's) 54-01-086J, 54-01-086B and 55-01-013. For the purposes of this report, unless otherwise noted, this land is considered to be assembled and collectively is referred to as the "Site" and the project as the "Tidewater Logistics Center". The gross area of the site is approximately 154.34 acres and consists of an existing residential home and agricultural fields. The site lies to the east of the Town of Windsor but is located within the Windsor Development Service District (DSD), per the Isle of Wight Comprehensive Plan. The areas within the DSD are primarily designated planned industrial, environmental conservation, and suburban estate; however, the surrounding parcels of the project site are identified by the comprehensive plan as planned industrial, business & employment, environmental conservation, and suburban residential.

The project is proposing the rezoning of the indicated parcels from the Rural Agricultural Conversion District (RAC) to the Conditional Limited Industrial District (C-LI). In addition to the rezoning of the site, the project proposes a comprehensive plan amendment to change the land use designation from mixed use to planned industrial.

Five industrial warehouse buildings are proposed on the site. The total proposed warehouse space is approximately 1.23 million square feet. Just outside of the Tidewater Logistics Center site is the site of the 1 million square foot Cost Plus World Market warehouse along Route 460. An industrial park development is located south of the Cost Plus warehouse, referred to as the Shirley T. Holland Industrial Park.

An industrial access road is to be constructed throughout the site, servicing the parcels. Gravity sanitary sewers on each parcel will be installed, supported by two sewer pump stations – one private pump to serve the southeastern parcel and one public pump for the western parcel and the existing residential development on Lovers Lane. Water mains will be constructed within the access roads connecting to an existing water main located on U.S. Route 460.

The portions of the parcel containing the Saunders House, as well as the existing cemeteries onsite will remain undisturbed.

Section III – Adequacy of Existing Public Facilities and Services

A. PUBLIC WATER FACILITIES

The proposed development will be connected to public water facilities via the Route 460 right-of-way 16" water main. The water system around the Tidewater Logistics Center contains a 600,000-gallon elevated storage tank that provides storage to the system and mains that provide water service to the existing warehouses south of the site. An analysis and exhibits showing the proposed water system are contained within the Water and Sanitary Sewer Master Plan submitted in support of the Rezoning Application. The analysis demonstrates that the existing public water infrastructure can supply adequate pressures and flows for the worst-case fire demands at each of the proposed warehouse buildings, based on the capacity curves the County provided in June 2023.

B. PUBLIC SEWER FACILITIES

The existing sanitary sewer infrastructure around the Tidewater Logistics Center project consists of the 20" Hampton Roads Sanitation District (HRSD) force main along the Route 460 right-of-way that ultimately conveys the wastewater to the treatment plant. Two sewersheds have been proposed for the Tidewater Logistics Center, dividing the site into eastern and western portions whose systems will connect to the existing 20" force main.

Sewer Service Area 1 contains 3 industrial buildings on the western parcel of the proposed development as well as the existing residential development on Lovers Lane and part of Shiloh Drive, as requested by the County during the pre-application meeting. This sewershed will be serviced by a gravity system carrying flows from the existing and proposed buildings to the proposed Isle of Wight Regional Pump Station (PS-1). This pump station will connect the existing residential development to the HRSD force main. Sewer Service Area 2 contains 2 industrial buildings on the eastern parcel of the proposed development. This sewershed is serviced by a gravity system carrying flows from the proposed buildings to the proposed private pump station (PS-2).

Combined, both the residential and proposed industrial flows total to an average daily flow of 46,283 gpd or a peak flow of 140.1 gpm. An analysis and exhibits showing the proposed sanitary sewer system are contained within the Water and Sanitary Sewer Master Plan submitted in support of the Rezoning Application.

C. ENVIRONMENTAL CONSIDERATIONS

Multiple critical areas where impacts to CBPA buffers, wetland areas, and watercourses are proposed as part of the industrial development, which will require additional permitting with Virginia Department of Environmental Quality and the Army Corp of Engineers. These include encroachment of the CBPA buffer for parking and loading facilities, the access road and utility installation crossing Ennis Pond, and BMP outfalls for each of the proposed ponds to the existing wetlands. The project is being specifically

designed to limit the impacts to the environmental features to the greatest possible extent and mitigate impacts through standard engineering practices. Refer to the Major Water Quality Impact Assessment for a depiction of environmental constraints, critical areas, and wetland impacts.

D. DRAINAGE FACILITIES

The project site generally drains from south to north, to the wetlands associated with Lake Prince, or towards Ennis Pond at the center of the site. Preliminary engineering calculations propose multiple stormwater ponds which will be designed to provide water quality and quantity mitigation for the proposed buildings and parking/loading areas in accordance with Isle of Wight County stormwater requirements as well as the requirements of the Chesapeake Bay Preservation Area Act. Compliance with channel protection and flood protection requirements will be met through the proposed stormwater Best Management Practices (BMP's).

Localized redirection of storm water from impervious and other developed areas will cause minor disruptions to water supplies to adjacent wetlands and streams. To comply with City and State regulations, BMP's must intercept developed runoff and treat it prior to release. To the extent practical, storm water will be generally directed to release at historic points of discharge, with attention to provide adequate supply of water to wetland areas. Stormwater flow from the public right-of-way, which currently flows through the site via ditches and streams to the wetlands to the north, will maintain its original drainage patterns by the installation of culvert crossings under the proposed driveway entrances.

Refer to the Stormwater Master Plan and Major Water Quality Impact Assessment (MWQIA) for a more detailed analysis of surface water impacts.

E. PUBLIC SCHOOLS

There will be no impacts to public schools in the area, as the proposed use is industrial and does not include any residential units.

F. EMERGENCY SERVICE FACILITIES

Emergency Services in Isle of Wight County are provided through a combination volunteer-career system. The Windsor Volunteer Rescue Squad is responsible for providing EMS service to the area and is located on Windsor Boulevard (Route 460), approximately 1.5 miles from the nearest proposed Tidewater Logistics Center site entrance. The Windsor Volunteer Fire Department is responsible for providing fire protection services for the area and is located approximately 1 mile on Route 460 from the nearest proposed site entrance. The Isle of Wight County Sheriff's Department has the primary responsibility to prove law enforcement in the area surrounding the proposed development and is located approximately 7.5 miles north of the site. Law enforcement protection is also provided by the Virginia State Police.

G. TRANSPORTATION FACILITIES

Access to/from the proposed development will be via Windsor Boulevard and Dominion Way (a full access movement that forms the north leg of the existing signalized intersection) as well as an additional intersection further east on Windsor Boulevard (new proposed right-in/right-out unsignalized intersection).

A Traffic Impact Analysis (TIA) was performed for the proposed development and is included with the Rezoning application. The proposed Tidewater Logistics Center development has the potential to generate a total of 2,349 daily weekday trips. Out of the total weekday daily trips, 223 driveway trips occur during the AM peak hour and 246 driveway trips occur during the PM peak hour. Under all future year development scenarios, it is anticipated that overall intersection operations will be maintained at LOS D or better during the AM and PM peak hours for all study area intersections. Based on the results of the traffic analysis, including the off-site transportation infrastructure improvements listed within the TIA, the impacts associated with the development are anticipated to result in operations similar to No Build conditions.

Refer to the TIA for a full analysis of existing and future traffic conditions within the project study area as well as identification of traffic impacts and transportation recommendations based on the new traffic generated by the development.

Section IV – Fiscal Impacts

A fiscal impact study is underway and will be provided to Isle of Wight staff upon completion. Completion is estimated by the end of August 2023.

Section V – Conclusion

The existing County infrastructure has adequate capacity to support the proposed Tidewater Logistics Center development. As the demand for warehousing and distribution centers in the Hampton Roads region grows, Isle of Wight County is well positioned, generally, to be a beneficiary of this economic activity given its proximity to the Port, US Route 460, and the Norfolk Southern Rail Line. The character of the area for the proposed land use has been established by the existing World Market, Safco, and Green Mountain facilities. Establishing the future land use designation for the subject property to be consistent with the planned industrial designation south of Route 460 acknowledges this and allows for a larger, well-planned industrial node and protects against potentially incompatible land uses.

COMPREHENSIVE PLAN AMENDMENT
STATEMENT OF REASONS & NARRATIVE DESCRIPTION

Tax Parcel ID# 54-01-086J: Windsor Blvd., Windsor
Tax Parcel ID# 55-01-013: 13009 Windsor Blvd., Windsor
Tax Parcel ID# 54-01-086B: 13009 Windsor Blvd., Windsor

November 21, 2023

Applicant/Project Background

https://tmgdc.com/about

The Applicant, Meridian Property Purchaser, L.L.C., is an affiliate of The Meridian Group. The Meridian Group was founded in 1993, and is based in Bethesda, Maryland. Over the past 30 years, TMG has evolved into a full service real estate firm with a present focus on the development and management of light industrial centers. TMG is passionate about place making and envisions a dynamic and modern warehousing and distribution center for the subject property. TMG is excited about the opportunity to work with the County in developing this vision and in expanding an emerging economic center within the County.

Narrative Description

The property upon which the project is envisioned is located at 13009 Windsor Boulevard (Tax Parcels ID # 54-01-086J, # 54-01-086B, and # 55-01-013) in the Windsor Development Service District, just outside the limits of the Town of Windsor. The site contains approximately 154 acres located on US Route 460 and consists of agricultural fields and timberland. The property is currently zoned RAC – Rural Agricultural Conservation and designated Mixed Use on the County's Comprehensive Plan Future Land Use Map.

Parcel ID # 54-01-086J is owned by the Industrial Development Authority of Isle of Wight, and Parcels ID # 55-01-013 and # 54-01-086B are owned by Hollowell Holdings, LLC. The legal descriptions and surveys for the property are attached hereto as Exhibit A. Meridian Property Purchaser, L.L.C. is the contract purchaser of the property.

Statement of Reasons

The applicant seeks to change the Comprehensive Plan Future Land Use Designation for the property from Mixed Use and Environmental Conservation to Planned Industrial.

The Port of Virginia is a major driver of warehousing and distribution activity in the region. The capacity and logistics of the Port's operations and its investment in its future operations, make it a leading center of global commerce and a vital import and export location for many US and foreign businesses. Accordingly, there is significant and growing demand for warehousing and distribution centers in the Hampton Roads region.

The County is well positioned, generally, to be a beneficiary of this economic activity given its proximity to the Port, US Route 460, and the Norfolk Southern Rail Line. The County's quality of

life, work force, and stable local economy, as well as its supply of suitable property along the 460 corridor make it a desirable location for warehousing and distribution centers. The subject property is of particular interest because of the availability of the relatively large area of contiguous, relatively flat land with direct access to US Route 460, as well as its location within the Virginia Enterprise Zone and the Foreign Trade Zone.

The current Mixed Use designation is inconsistent with the character of the area established by the Shirley T. Holland Intermodal Park and the existing World Market, Safco, and Green Mountain facilities. Mixed Use development of the property as envisioned by the current Comprehensive Plan land use designation containing retail and commercial uses would detract from and potentially displace the historic commercial corridor within the Town of Windsor. Additionally, such mixed use development would generate school impacts and much more extensive traffic during peak commuting hours. Mixed use development would be better suited within the Town of Windsor as a growth and/or redevelopment strategy in order to create more compatible land use patterns and minimize impacts.

Establishing the future land use designation for the subject property to be consistent with the industrial designation south of 460 creates a much more consistent and compatible land use scenario, and allows for a larger, well-planned industrial node. According to County officials, the original purpose of purchasing the property was to develop industrial/commercial, which was seen as the highest and best use at that time. Shortly after that, the County began contemplating workforce housing opportunities for the expected influx of workers associated with the intermodal park. For some years, a mixed-use development with some commercial retail was the idea which the comprehensive plan reflected and still reflects currently. We believe that such a Mixed Use concept has merit, but not in the current location. As stated above, such a concept is better suited to the established development patterns within the Town of Windsor. Accordingly, the Applicant seeks to revert the property's land use designation back to the previously-intended industrial use and to maintain land use consistency with the adjacent Shirly T. Holland Intermodal Park.

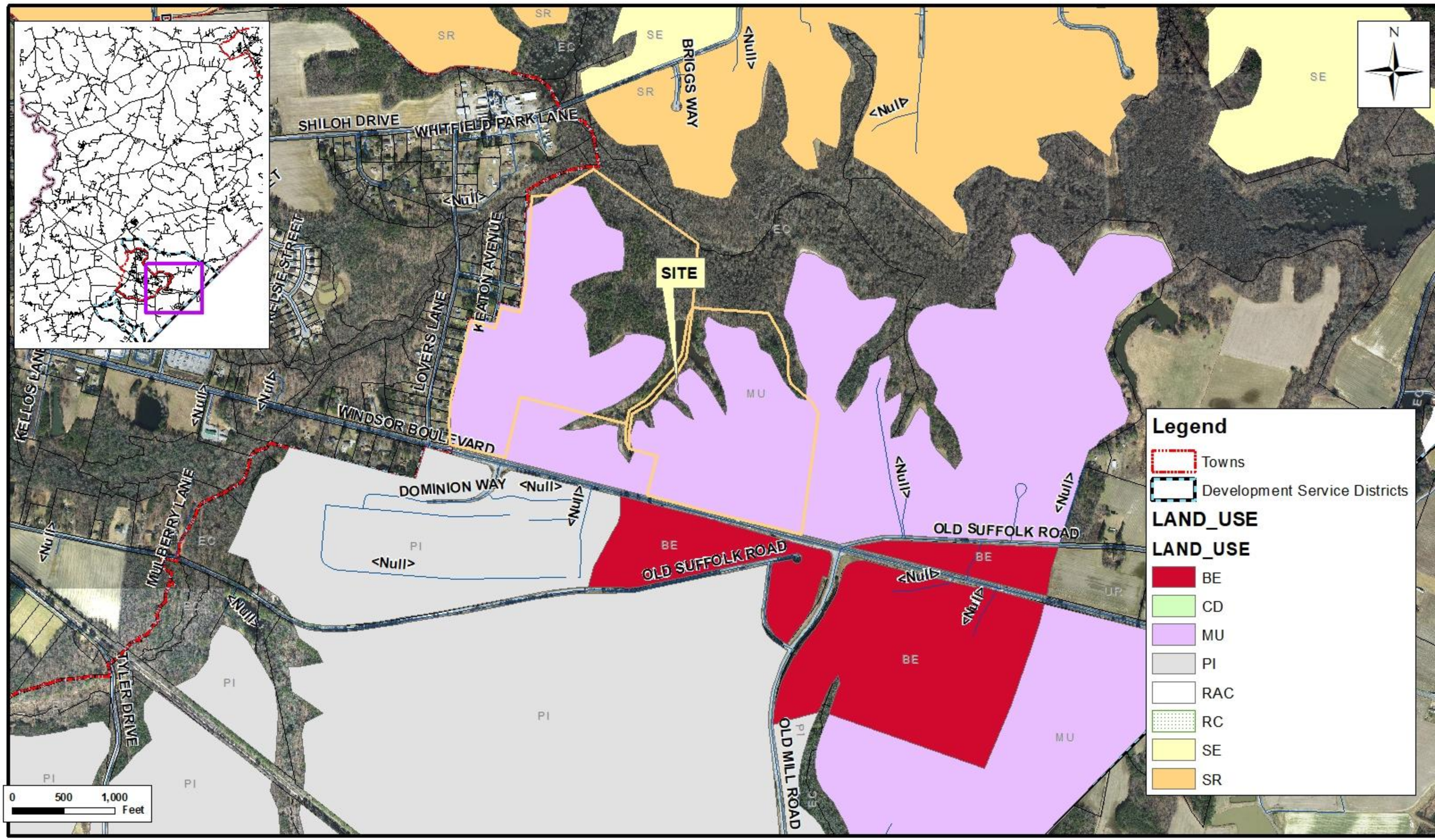
LUP-1-23 - Comp Plan Amendment - Location Map



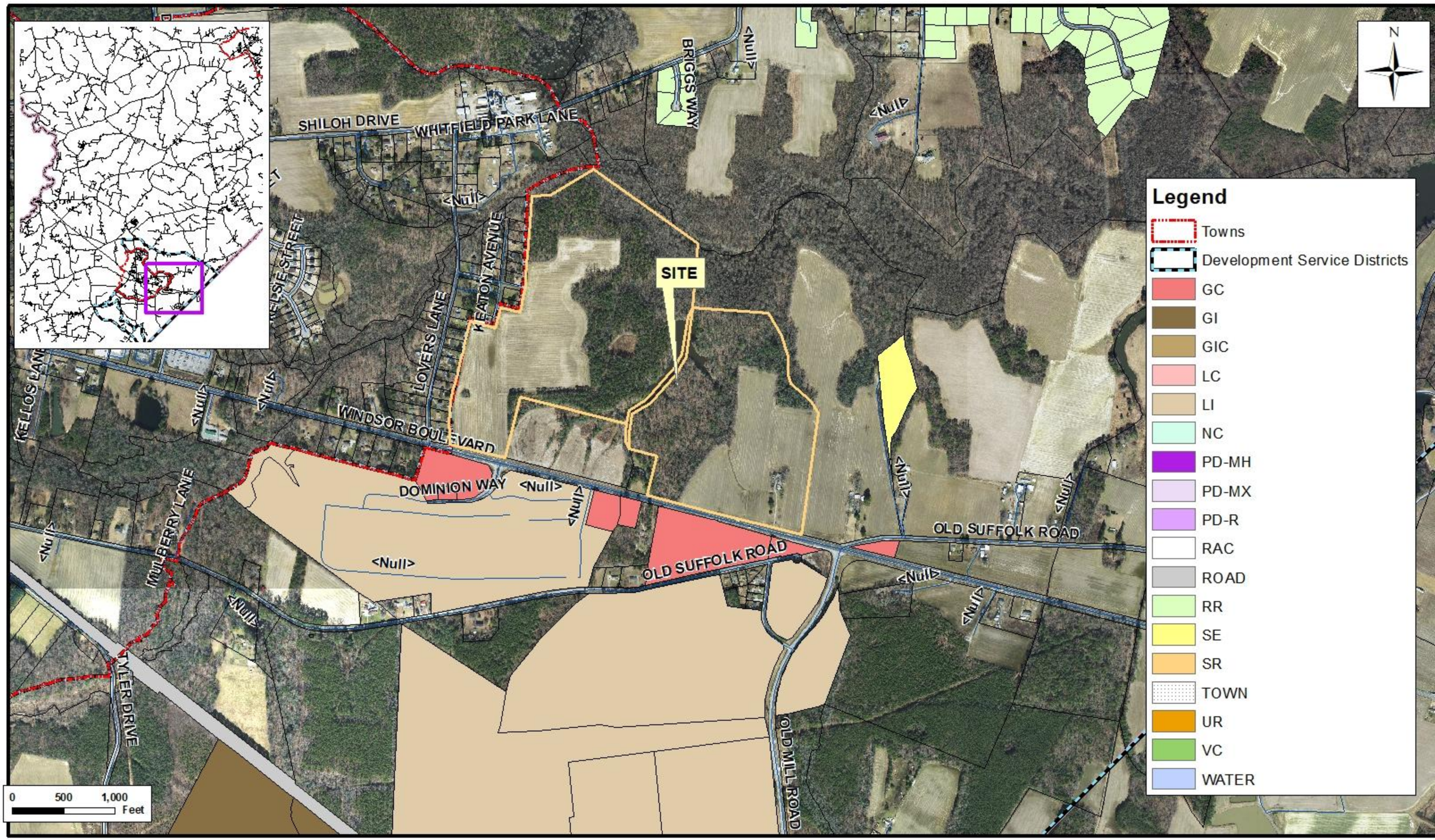
LUP-1-23 - Comp Plan Amendment - Closeup Map



LUP-1-23 - Comp Plan Amendment - Land Use Map



LUP-1-23 - Comp Plan Amendment - Zoning Map



RESOLUTION NO. PC-24-003

ISLE OF WIGHT COUNTY PLANNING COMMISSION
A RESOLUTION TO PRESENT A REPORT AND RECOMMENDATION TO THE BOARD OF SUPERVISORS RELATING TO COMPREHENSIVE PLAN AMENDMENT REQUEST LUP-01-23 TO CHANGE THE LAND USE DESIGNATION FROM MU, MIXED USE, TO PI, PLANNED INDUSTRIAL, OF APPROXIMATELY 154 ACRES OF LAND IDENTIFIED AS TAX MAP PARCELS 54-01-086J, AND 55-01-013

WHEREAS, Meridian Property Purchaser, LLC, applicants and Industrial Development Authority and Hollowell Holdings, LLC, owners, have requested a change in comprehensive plan land use designation from MU, Mixed Use, to PI, Planned Industrial; and

WHEREAS, the procedural requirements for the consideration of this request by the Planning Commission have been met in accordance with Section 15.2-2229 of the Code of Virginia (1950, as amended).

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of Isle of Wight County, that:

Section 1. Findings.

A. The Isle of Wight County Planning Commission finds that the proposed Comprehensive Plan amendment is reasonable, and warranted due to a change in circumstances affecting the property, and has considered the following factors and finds that the proposed Comprehensive Plan amendment does not conflict with:

1. the existing use and character of property within the County;

2. the Comprehensive Plan;

3. the suitability of the property for various uses;

4. the trends of growth or change;

5. the current or future requirements of the community as to land for various purposes as determined by population and economic studies and other studies;

6. the transportation requirements of the community;

7. the requirements for airports, housing, schools, parks, playgrounds, recreation areas and other public services;

8. the conservation of natural resources;

9. the preservation of flood plains;

10. the preservation of agricultural and forestal land;

11. the conservation of properties and their values;

12. the encouragement of the most appropriate use of land throughout the County;

Section 2. Recommendation to Board of Supervisors.

The Planning Commission recommends to the Board of Supervisors that the request, LUP-01-19, be approved as presented.

READ AND PASSED: _____

TESTE: _____

Approved as to Form:

_____
Robert W. Jones, Jr., County Attorney

ORDINANCE NUMBER: _____

AN ORDINANCE TO AMEND THE RECOMMENDED FUTURE LAND USE MAP IN THE 2020 COMPREHENSIVE PLAN TO CHANGE THE FUTURE RECOMMENDED LAND USE DESIGNATION FROM MIXED USE TO PLANNED INDUSTRIAL FOR APPROXIMATELY 154.3 ACRES ON TAX MAP NUMBERS 54-01-086B, 54-01-086J, AND 55-01-013

WHEREAS, the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, property owners, and Meridian Property Purchaser, LLC, applicant, have requested a change in the future recommended land use designation from Mixed Use to Planned Industrial for approximately 154.3 acres on tax map numbers 54-01-086B, 54-01-086J, and 55-01-013 and said property is depicted in Exhibit B; and

WHEREAS, the proposed comprehensive plan amendment application (LUP-1-23) has been advertised and reviewed by the Planning Commission in compliance with the requirements of state law; and,

WHEREAS, the Planning Commission has made a recommendation as stated in Exhibit "A"; and,

WHEREAS, a public hearing before the Isle of Wight County Board of Supervisors was duly advertised as required by law and held on May 16, 2024, at which public hearing the public was presented with the opportunity to comment on the proposed rezoning.

NOW, THEREFORE, BE IT ORDAINED by the Isle of Wight County Board of Supervisors of Isle of Wight County, Virginia, that:

Section 1. Exhibits.

Exhibit “A”, “Planning Commission Recommendation” and Exhibit “B”, “Property Map” are attached hereto and are hereby incorporated as part of this ordinance.

Section 2. Findings.

The Board of Supervisors finds that the comprehensive plan amendment application, LUP-1-23, as submitted is in harmony with the criteria of the Isle of Wight County Comprehensive Plan, and that it will have no more adverse effects on the health, safety or comfort of persons living or working in or driving through the neighborhood, and will be no more injurious to property or improvements in the neighborhood than would any other recommended uses, taking into consideration the location, type and height of buildings or structures, the type and extent of landscaping and screening on site.

These findings are based upon the consideration for the location and character of the property, the Comprehensive Plan, the suitability of the property for various uses, the trends of growth or change, the current and future requirements of the community as to land for various purposes as determined by population and economic studies and other studies, the transportation requirements of the community, the requirements of airports, housing, schools, parks, playgrounds, recreation areas and other public services, the conservation of natural resources, the preservation floodplains, the preservation of agricultural and forestal land, the conservation of properties and their values, and the encouragement of the most appropriate use of land throughout the County.

Section 3. Comprehensive Plan Amendment.

A. The future recommended land use designation for the property shown on the attached Exhibit "B" is hereby changed and the official future recommended land use map be, and is hereby, amended.

B. The foregoing amendment to the official map shall remain in effect until a subsequent amendment changes the future recommended land use designation of the property.

Section 4. Severability.

It is the intention of the Board of Supervisors that the provisions, sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable; and if any phrase, clause, sentence, paragraph, section, and provision of this ordinance hereby adopted shall be declared unconstitutional or otherwise invalid by the valid judgement or decree of a court of competent jurisdiction, such unconstitutionality or invalidity shall not affect any of the remaining phrase, clauses, sentences, paragraphs, sections, and provisions of this ordinance, to the extent that they can be enforced notwithstanding such determination

Section 5. Effective Date

This ordinance shall be effective upon passage and shall not be published or codified.

DATE: _____

READ AND PASSED: _____
Chairman, Board of Supervisors

TESTE: _____
Clerk, Board of Supervisors

Approved as to Form:

_____
Robert W. Jones Jr, County Attorney

ISSUE:

Application (ZA-4-23) of the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, Property Owners, and Meridian Property Purchaser, LLC, Applicant, for a Change in the Zoning District from Rural Agricultural Conservation to Conditional Limited Industrial for Approximately 154.3 Acres to Allow Custom Manufacturing, Industry Type 1, Warehousing and Distribution, Industry Type II with a Conditional Use Permit, and Reconstructed Wetland

BACKGROUND:

An application (ZA-4-23) was submitted on behalf of the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, property owners, by Meridian Property Purchaser, LLC, applicant, for a change in the zoning district from Rural Agricultural Conservation to Conditional Limited Industrial for approximately 154.3 acres on tax map numbers 54-01-086B, 54-01-086J, and 55-01-013 to allow the following uses: Custom manufacturing, Industry Type 1, Warehousing and Distribution, Industry Type II with a Conditional Use Permit, and Reconstructed Wetland

The subject properties contain approximately 154 acres located on the north side of US Route 460 and currently consist of agricultural fields and timberland. The property is currently zoned RAC. County GIS images indicate that both parcels 54-01-086J and 55-01-013 have historically been used for agriculture. Parcel 54-01-086J is currently owned by the Industrial Development Authority of Isle of Wight County which originally purchased the property in 2008 in order to expand the Shirley T. Holland Industrial Park.

The current future recommended land use designation for the properties is Mixed Use as shown on the Future Recommended Land Use Map in the Comprehensive Plan adopted in January 2020.

Both parcels 54-01-086J and 55-01-013 were found to have historic cemeteries on them. The cemetery on parcel 54-01086J is located within the project area, while the cemetery on 55-01-013 is located along the outer boundary of the parcel to the northeast. Parcel 55-01-013 is the currently location for the historic home known as the Henry Saunders House which is listed on the National Register of Historic Places. The attached concept plan shows proposed buildings roughly 162 feet from the Henry Saunders House at its closest point.

The concept plan shows the closest building to existing residences along Lovers Lane, Hazelwood Drive, and Keaton Avenue to be approximately 240 feet while the closest parking area is approximately 194 feet according to page one of the attached Buffer Section Detail document. The stormwater management ponds will be located closer to the residences behind the proposed screening berm with landscaping.

The Planning Commission held a public hearing on the project at their March 26, 2024, regular meeting. The Planning Commission approved a motion to recommend denial of the application. A full analysis of the project's consistency with the County's plans and ordinances is in the attached Planning Commission staff report.

Following the March Planning Commission meeting, the Town of Windsor Town Council adopted a resolution in opposition to the project on April 12, 2024. The resolution is attached to this report. The applicant requested that the application be deferred until the May 2024 Board of Supervisor meeting to give them additional time to address outstanding concerns. A community meeting was held on April 22, 2024, in the town of Windsor by the applicant.

The applicant revised the project documents as a result of the community meeting. Revised documents include the proffer statement, the concept plan, the landscaping elevations which now show changes to the proposed landscaping berm, stormwater swale and sound wall, and an illustration showing the proposed site entrance and turn lane on Route 460. A project update narrative which describes the changes in detail has been attached to this report for your use.

In addition to the revisions made to the application documents dated May 1, 2024, the Commissioner of Revenue also submitted revised comments which include revenue projections for the project using County tax rates. Staff also received comments from the City of Norfolk which owns property adjacent to the project site. Both comments are attached to this staff report.

BUDGETARY IMPACT:

Please attached memo from Commissioner of the Revenue.

RECOMMENDATION:

The Planning Commission recommended denial with a vote of 6-1 with one

abstaining vote.

Staff recommends approval of the application with the revised conditions proffered by the applicant.

ATTACHMENTS:

Description	Type	Upload Date
Revised Application Narrative 5/1/24	Backup Material	5/6/2024
Revised Proffer Statement Redline May 1, 2024	Backup Material	5/6/2024
Revised proffer statement dated 05/01/2024	Backup Material	5/3/2024
Revised Concept Plan dated 5/1/24	Backup Material	5/3/2024
Revised Landscaping Elevation with sound wall and swale	Backup Material	5/3/2024
Intersection Exhibit May 1, 2024	Backup Material	5/3/2024
Commissioner of Revenue Updated Response May 1, 2024	Backup Material	5/3/2024
Town of Windsor Resolution April 12, 2024	Backup Material	5/6/2024
City of Norfolk Comments	Backup Material	5/3/2024
PC Staff Report	Backup Material	5/3/2024
Application	Backup Material	2/21/2024
Statement of Reason	Backup Material	2/21/2024
Community Impact Statement	Backup Material	2/21/2024
Conceptual Building	Backup Material	2/21/2024
Town of Windsor Comments	Backup Material	2/21/2024
Isle of Wight County Musuem	Backup Material	2/21/2024
VDHR Comments	Backup Material	2/21/2024
Location Map	Backup Material	2/21/2024
Location Closeup Map	Backup Material	2/21/2024
Land Use Map	Backup Material	2/21/2024
Zoning Map	Backup Material	2/21/2024
Lovers Lane Supplemental TIA	Backup Material	5/3/2024
Traffic Impact Analysis	Backup Material	2/21/2024
Phase II Archeological Report	Backup Material	2/21/2024
Fiscal Impact Analysis	Backup Material	2/21/2024
Proffer statement dated 2/21/24	Backup Material	2/23/2024
Resolution	Backup Material	2/23/2024
Ordinance	Ordinance	5/6/2024

ZA-4-23 Tidewater Logistics Center Rezoning Application Revisions Narrative

The following is a summary of changes made to the revised application documents submitted to the County on May 1, 2024.

Revised Conceptual Plan dated May 1, 2024

The revised master plan dated 5/1/24 accompanies the revised proffer statement dated May 1, 2024. This plan reflects the following changes from the plan submitted at the March Planning Commission:

- Increased distance of buildings, parking areas, and drive aisles from the residential property line with minimum setback dimensions shown on the plan;
- Extension of the 6 foot tall, 42 foot wide enhanced landscaping berm into the existing forested area previously shown as remaining forested area;
- Addition of a noise wall located on the berm (behind the evergreen tree landscaping buffer) and extension of the noise wall along the entire berm;
- Addition of a stormwater management swale at the base of the resident-facing side of the entire berm between the berm and the property line within the project (see stormwater management note below); and
- Correction of mislabeled employee/visitor parking areas.

Transportation Plan

A detailed plan view of the project's signalized main entrance showing the proposed striping plan with dimensions, including the distance to the Lovers Lane intersection as been included. The plan also shows a WB-67 (80-foot) truck and a 20-foot passenger vehicle in the left turn lane. Although not projected to occur based on the VDOT-approved trip generation methodology used (ITE Trip Generation 11th Edition – 2021), it would take approximately 8 WB-67's queued in a single lane to block Lovers Lane. The WB-67, at 80 feet, is approximately 10 feet larger than the standard truck transporting 40-foot containers commonly seen in the region given the proximity to the Port of Virginia.

Today, the existing traffic signal at Dominion Way only stops US 460 traffic when a vehicle is entering or exiting the Cost Plus facility. When this happens, traffic in the eastbound and westbound directions on US 460 is stopped for approximately 20-40 seconds each cycle. During the AM peak hour, this only occurs 1-2 times for the entire hour based on limited traffic at Cost Plus but occurs about every two minutes during the PM peak hour. US 460 gets approximately 90 seconds of green time and Dominion Way gets 30 seconds of green time. Once the Tidewater Logistics entrance is constructed, the traffic signalization will be modified, causing traffic along US 460 to be stopped for an additional 10-20 seconds more each cycle (30-60 seconds) with the stoppage cycles increasing from 1-2 times per hour to approximately once every two minutes during the AM peak hour. This will create longer and more frequent gaps for vehicles exiting Lovers Lane. We anticipate that the signal modifications will reduce the number of vehicles queued exiting Lovers lane from 7-8 vehicles to 2-3 vehicles.

Stormwater Management

In response to the concern that stormwater from the resident-facing side of the berm will flow off the property, a 5 to10 foot-wide swale is planned (and shown on the master plan) between the residential property line and the berm within the project) to collect the small amount of stormwater that doesn't infiltrate into the berm's soil and has now been labeled on the proffered master plan and also shown on the buffer exhibit. Stormwater will either flow directly to the wetlands located within the project to the north or will be collected with a series of inlets within the swale to pull the drainage into the project's detention and retention systems. Attached is a section of the area adjacent to the residential property line that depicts the stormwater swale, evergreen tree planting area, berm, and noise wall.

Proffer Revisions

The revised proffer statement dated May 1, 2024, reflects the following changes from the proffers submitted at the March 2024 Planning Commission:

- Conceptual master plan referenced revised to 5/1/24 plan (includes the minimum setback dimensions and extended berm/noise wall) in Section 1;
- Specific reference to minimum setback dimensions along western boundary line in Section 4;
- Additional year commitment (3 years total) for tree replacements along buffer in Section 4;
- Addition (for emphasis) of required proffer compliance for implementation of future noise study recommendations (specifically, a noise wall) to achieve the 50 dBA noise level restriction in Section 5;
- Commitment to work with the County and design/permit/construct a new sanitary sewer main system that serves homes along Lovers Lane, Hazelwood Drive, and Keaton Avenue and connects to the proposed pump station.

PROFFERED CONDITIONS

~~April 17~~May 1, 2024

Conditional Zoning Request ZA-04-23 (the "Application") has been filed by the "Owner" (hereinafter defined) for certain real property owned by Hollowell Holdings LLC ("Hollowell") and the Industrial Development Authority of Isle of Wight County ("IDA"), which property is situated within the territorial confines of the County of Isle of Wight, Virginia (the "County") located at 13009 Windsor Boulevard (Tax Parcels ID Numbers 54-01-086J, 55-01-013, and 54-01-086B) in the Windsor Development Service District and more particularly described on **Exhibit A** attached hereto and made part hereof (the "Property"). Meridian Property Purchaser, L.L.C. ("Meridian") is the contract purchaser of the Property. Hollowell, IDA and Meridian (collectively, the "Owner") filed the Application requesting that the zoning of the Property be changed from RAC – Rural Agricultural Conservation to C-LI – Conditional Limited Industrial with proffers in order to permit the development of an industrial park (the "Project").

The Owner and the County have carefully evaluated, among other things, a traffic impact analysis and community impact analysis (copies of which are on file with the County's Community Development Department, hereinafter referred to as the "Department") and the on and off site impacts of the Project and have determined (i) the impacts specifically attributable to the Project (the "Impacts"), (ii) certain Impacts create a need (or identifiable portion of a need) for the expansion of existing capacity of public transportation facilities (the "Expansion of Existing Capacity"), (iii) the Project will receive a direct and material benefit from the Expansion of Existing Capacity, and (iv) the provisions of the County's zoning ordinance ("Zoning Ordinance") are inadequate for addressing various of the Impacts and necessitate supplementation by these Proffers.

In furtherance of the Application, the Owner, for itself and its successors and/or assigns, hereby voluntarily proffers the conditions specifically set forth below, in addition to the regulations provided for by the Zoning Ordinance, which proffered conditions are determined by the Owner and, upon acceptance by the Board of Supervisors in connection with the approval of the Application, the County: (i) to be reasonable, (ii) to address impacts specifically attributable to the Project, (iii) to address the need (or identifiable portion of a need) for the Expansion of Existing Capacity, (iv) to directly and materially benefit the Project, (v) to have a reasonable relation to the proposed change in zoning, (vi) to be in conformity with County's adopted comprehensive plan, and (vii) to be in accordance with the provisions of Section 15.2-2296, et seq. of the Code of Virginia (1950), as amended (the "Virginia Code"), Section 15.2-2303.2 through 15.2-2303.4 of the Virginia Code, and the County Zoning Ordinance. The following proffered conditions apply only to the Property.

1. Plan of Development. A conceptual development plan of the Project entitled "Tidewater Logistics Center Concept Plan dated ~~04/16~~05/01/2024, prepared by ARCO Design/Build (the "Master Plan"), has been submitted to the Department for review by the County in connection with the Application. The Master Plan is on file with the Department. Development of the Property shall be in substantial conformance, as determined by the Community Development Director (the "Director") with the Master Plan. The Master Plan may be modified from time to time provided that such modifications do not alter the basic concept or character of the Master Plan and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

2. Land Use. The Property shall be used as permitted under the Conditional – Limited Industrial zoning designation and more specifically for the following uses:

a. Custom manufacturing

b. Industry, Type 1

c. Warehousing and distribution

d. Industry, Type 2 (with a conditional use permit)

e. Reconstructed Wetland

The following uses shall be expressly prohibited on the Property:

a. Agricultural Uses
    i. Fertilizer Storage
    ii. Assembly and Repair of Storage Equipment
    iii. Forestry, Silvicultural
    iv. Agricultural Farming Operation
    v. Timbering
    vi. Sawmill
b. Civic Uses
    i. Adult Care Center
c. Commercial Uses
    i. Adult Entertainment Establishment
    ii. Laundry
    iii. Lawn and Garden Services
    iv. Mini Warehouse
    v. Motor Vehicle Repair Service/Major
d. Industrial Uses
    i. Construction Yard
    ii. Convenience Center
    iii. Meat Packing
    iv. Recycling Center
    v. Abattoir or Livestock Processing
    vi. Asphalt Plant
    vii. Industry, Type III
    viii. Landfill, Industrial
    ix. Landfill, Rubble
    x. Transfer Station
    xi. Resource Extraction
    xii. Scrap and Salvage Service
    xiii. Petroleum Storage for resale purposes
    xiv. Manufacture of production of aluminum
    xv. Sand, gravel, or brick operations
e. Miscellaneous Uses
    i. Aviation Facility, General

3. Design. The buildings on the Property shall be constructed by the Owner in substantial conformance with the drawings entitled “CONCEPTUAL RENDERING – BUILDING D”, dated 02/05/2024, prepared by ARCO Design/Build and One Four Two Design Group, “CONCEPTUAL RENDERING”, dated 02/05/2024, prepared by ARCO Design/Build and One Four Two Design Group, and “PRELIMINARY ELEVATIONS - BUILDING D”, dated 02/05/2024, prepared by ARCO Design/Build and ADB Design Services (the “Renderings”) and in substantial conformance with the Highway Corridor Overlay zoning ordinance as determined by the Director. A copy of the

Renderings are on file in the Department. The Renderings may be modified from time to time provided that such modifications do not alter the basic concept or character of the Renderings and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

4. Buffer Design. The site plan(s) for the development of Buildings A and B on the Master Plan shall include in the area shown on the Master Plan located along a portion of the western boundary line of the Property labeled "BERM" a landscaped berm with a minimum height of six feet with enhanced landscape buffering as shown generally on that certain drawing entitled "LANDSCAPE BUFFER SECTION DETAIL AND CONCEPT PLAN", dated 02/05/2024, prepared by Kimley Horn (the "Landscape Buffer Concept Drawing") or such comparable design as may be approved by the Director. In addition to the two-year tree replacement period required by the County's site plan landscaping bond, Owner shall replace trees that do not survive within the enhanced landscaping berm for an additional year beyond the County requirements. The site plan(s) for the development of Buildings A and B on the Master Plan shall include the minimum setback dimensions from the western boundary line of the Property as shown on the Master Plan. A copy of the Landscape Buffer Concept Drawing is on file in the Department. The Renderings may be modified from time to time provided that such modifications do not alter the basic concept or character of the Renderings and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

5. Sound Study. A sound study shall be performed by Owner and submitted to the Department with any site plan for development of any site located along the western boundary line as approved by the zoning administrator. Such site plan shall include the implementation of the recommendations of such sound study for code and proffer compliance, which will include but not be limited to a noise wall as shown on the Master Plan. Nothwithstanding the forgoing, in no event shall noise levels along the western boundary line exceed hourly equivalent noise levels of 50 dBA with noise level measurements using a Type I integrating sound level meter.

6. Historic Resources. Owner shall document in the Virginia Cultural Resource Information System (VCRIS) the dense concentration of redeposited historic architectural, agricultural, and domestic materials exposed on and within an eroding ditch on the Property, as referenced in Attachment A of the Virginia Department of Historic Resources letter to Isle of Wight County dated February 12, 2024, DHR File No. 2023-4713 ("VDHR Letter". Owner shall also engage a qualified archaeologist to monitor ground disturbance around the cemetary noted in the VDHR Letter as DHR ID No. 046-5629. Additionally, Owner shall explore additional controlled excavation regarding Site 44IW0395 as referenced in the VDHR Letter. Owner shall include a ten foot landscape buffer in compliance with the industrial buffer zone landscaping requirements found in section 8-1005. of the zoning ordinance around the c. 1796 Henry Saunders House as shown on the Concept Plan to protect the viewshed of the house and shall provide funding for a highway marker for the house through the Virginia Department of Historic Resources. In the event the c. 1796 Henry Saunders House is subdivided from the Property in the future, the landscape buffer shall continue to be located within the Project.

7. Traffic Improvements.

a. Prior to issuance of a final certificate of occupancy for any of the buildings on the Property shown on the Master Plan, the construction, installation, and/or implementation of the following improvements at Windsor Boulevard and Dominion Way shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision:

i. Reconstruct the existing traffic signal to add a north leg of the intersection to accommodate the Project;
ii. Modify existing protected-permissive left-turn phasing to flashing yellow arrow;
iii. Modify coordinated traffic signal timings at this intersection based on new signal phasing and volumes;
iv. Construct an exclusive eastbound left-turn lane with 200-feet of storage and a 200-foot taper on Windsor Boulevard;
v. Construct an exclusive westbound right-turn lane with 200-feet of storage and a 200-foot taper on Windsor Boulevard;
vi. Restripe the existing right-turn lane to a through/right-turn on northbound Dominion Way; and
vii. Construct one exclusive left-turn lane and one shared through /right-tun lane on the southbound Project access road.

b. Prior to issuance of a final certificate of occupancy for Buildings D or E shown on the Master Plan, the construction, installation, and/or implementation of an exclusive right-turn lane with 200-feet of storage and a 200-foot taper on westbound Windsor Boulevard at the western right-in/right-out Project entrance shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision.

c. Prior to issuance of a final certificate of occupancy for Building D shown on the Master Plan, the construction, installation, and/or implementation of an exclusive right-turn lane with 200-feet of storage and a 200-foot taper on westbound Windsor Boulevard at the eastern right-in/right-out Project entrance shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision.

8. ~~Town of Windsor Public Library Contribution~~Off-Site Sanitary Sewer Improvements. Upon request by the County, but not sooner than final site plan approval for the first phase of development of the Property, Owner shall proceed to design and seek all necessary governmental approvals for the construction of a gravity sanitary sewer main (the "Gravity Sanitary Sewer Main") to be located in the Town of Windsor within the portions of the public rights of way of Lovers Lane, Hazelwood Drive, and Keaton Avenue shown on Exhibit B attached hereto and connecting to a sewer pump station located on the Property. Conditioned upon a cost sharing agreement between Owner and County, which parties shall use commercially reasonable efforts to achieve, Owner's reasonable ability to obtain all necessary governmental approvals and there being no private approvals or private property rights of third parties required to be obtained by Owner, Owner shall proceed to construct the Gravity Sanitary Sewer Main. Upon completion of construction of the Gravity Sanitary Sewer Main in accordance with all applicable governmental approvals, the County shall take over ownership, operation, and maintenance of the Gravity Sanitary Sewer Main. County shall reimburse Owner in accordance with the cost sharing agreement for its actual out-of-pocket expenses incurred in connection with the design, approval and construction of the Gravity Sanitary Sewer Main as such expenses are incurred. If the County has not requested of Owner the design, approval, and construction of the Gravity Sanitary Sewer Main within 1 year after final site plan approval for the last phase of the development of the Property, then all of the Owner's obligation under this section shall automatically expire and shall thereafter be of no further force or effect~~Prior to the first site plan approval for Building A or Building B, Owner will contribute $X to the County for use towards a Windsor Public Library capital project~~.

9. Successors and Assigns. These Proffers shall run with the title to the Property and shall be binding on the parties hereto and their respective successors and assigns; provided, however once a party ceases to own any portion of the Property, such party shall have no continuing liability hereunder.

10. Severability. In the event that (i) the County's approval of the Application and/or acceptance of these Proffers is appealed within 30 days after the date of the Board of Supervisors' action on same, and (ii) any clause, sentence, paragraph, subparagraph, section or subsection of these Proffers shall be judged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, then the change in zoning intended to be accomplished by the County's approval of the Application and acceptance of these Proffers shall be deemed void and the zoning of the Property shall automatically revert to that which existed immediately prior to the date of such approval.

11. Headings. All paragraph and subparagraph headings of the Proffers herein are for convenience only and are not part of these Proffers.

12. Conflicts. In the event that there is any conflict between these Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Director subject to the appeal process to the Board of Zoning Appeals and the Courts as otherwise provided by law.

13. Void if Application not Approved. In the event that the Application is not approved by the County or is overturned by subsequent judicial determination, these Proffers and the Master Plan shall be null and void.

[SIGNATURE PAGE TO PROFFERS]

WITNESS the following signatures, thereunto duly authorized:

HOLLOWELL HOLDINGS LLC

By: _____

Print Name: _____

Title: _____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 2024 by _____ as _____ of Hollowell Holdings LLC.

_____
NOTARY PUBLIC

My commission expires: _____
Registration No.: _____

[SIGNATURE PAGE TO PROFFERS]

INDUSTRIAL DEVELOPMENT AUTHORITY OF ISLE OF WIGHT COUNTY

By: _____

Print Name: _____

Title: _____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 2024 by _____ as _____ of the Industrial Development Authority of Isle of Wight County.

_____
NOTARY PUBLIC

My commission expires: _____
Registration No.: _____

[SIGNATURE PAGE TO PROFFERS]

MERIDIAN PROPERTY PURCHASER, L.L.C.

By: _____

Print Name: _____

Title: _____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 2024 by _____ as _____ of Meridian Property Purchaser, L.L.C.

_____
NOTARY PUBLIC

My commission expires: _____
Registration No.: _____

EXHIBIT A

HOLLOWELL

All that certain lot or parcel of land together with all improvements thereon located and being in the County of Isle Of Wight, VA and being more particularly described as follows:

Parcel One:

ALL THAT certain tract, piece or parcel of land lying, situate and being on the North side of U.S. Route 460, Windsor Magisterial District, Isle of Wight County, Virginia, containing a total area of 84.9 acres, more or less, according to a survey made by Roy Brinkley on August 9, 1949, with corrections to both conveyances thereafter made and bounded and described with reference to said survey as follows, to-wit: Beginning at a marked pine tree at the Northwest corner of the property hereby conveyed and on the Eastern edge of a swamp forming a part of the Western boundary line of the tract hereby conveyed and running thence South 77° 30' East a distance of 715.4 feet to a concrete post set in the run of another branch; thence following said branch South 45° East 52 feet to a gum; thence South 19° East 215 feet to a cypress; thence South 11° East 200 feet to a poplar; thence South 3° West 171 feet to a gum; thence South 14° East 84 feet to a gum; thence South 42° 30' East 251 feet to a gum in branch; thence leaving said branch and running South 27° East 147 feet to an iron pin; thence along the fence set on the Western side of a field path South 13° 30' West 1225 feet to a post set on the North side of U.S. Route 460,a corner; thence Northwestwardly along the North side of Route 460 1543 feet to a Hickory Tree and iron pipe which point is the Southeast corner of the land conveyed by William B. Spivey to John A. Wells and Estelle Slade Wells by deed recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, in Deed Book 160, page 10; thence North 21° 30' East 397 feet to an iron pin; thence North 68° 30' East 280 feet along the Northern boundary line of said Wells land to an iron pin; thence along the Eastern edge of the swamp as follows:

North 10° West 73 feet to a beech; thence
North 12° East 108 feet to a beech; thence
North 20° East 164 feet to a hickory; thence
North 76° East 60 feet to a poplar; thence
North 66° East 147 feet to a black gum; thence
North 50° East 115 feet to a red oak; thence
North 46° 30' East 131 feet to a red oak; thence
North 41° 30' East 212 feet to a hickory; thence
North 42° East 112 feet to a pine; thence
North 14° East 293 feet to an oak; thence
North 10° East 218 feet to a pine, the point of beginning.

LESS AND EXCEPT that certain parcel conveyed to the Board of Supervisors of Isle of Wight County, Virginia dated May 29, 20004, and duly recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, as Instrument Number 040003535.

Parcel Two:

ALL THAT certain piece, parcel or tract of land contiguous to the western boundary line of the land of Dr. John W. Hollowell in Windsor Magisterial District, Isle of Wight County, Virginia conveyed to Dr. John W. Hollowell by Fred T. Mathews and Hazel Keaton Mathews by deed dated March 8, 1967, and duly recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, on March 14, 1967, in Deed Book 187, page 43, which said parcel of land conveyed hereby is known, numbered and designated as Parcel A, as shown on a plat thereof entitled, "Plat 'A' The Property of F. T. Matthews Estate Being Conveyed to Dr. John W. Hollowell", made by Roy Brinkley, Surveyor, dated June 7, 1968, a copy of which plat is attached to and made a part of the Deed recorded as Instrument No. 050713, and particular reference is hereby made to said plat for description of said property by metes and bounds.

IDA
All that certain lot or parcel of land together with all improvements thereon located and being in the County of Isle Of Wight, VA and being more particularly described as follows:

All of that certain tract, piece or parcel of land situate, lying and being in Windsor Magisterial District, Isle of Wight County, Virginia, on both sides of Route 460 and containing 279.58 acres according to a survey made by Roy Brinkley, licensed surveyor, and being bounded and described with reference to a plat of said survey styled “Plat Showing Property of K.E. Johnson Estate Windsor District Isle of Wight Co. Scale 1" - 400 Sept 25, 1961”, which plat is recorded in Plat Book 4, page 151 in the Clerk’s Office of the Circuit Court of Isle of Wight County, Virginia, which property is more particularly described by metes and bounds shown on said plat:

LESS, SAVE AND EXCEPT the property conveyed by the following deeds, all of which are incorporated herein by reference:

1. A deed from Allie Johnson Edwards et als, to Earl E. Bussey et ux, dated July 18, 1957, recorded in Deed Book 152,
page 106 conveying 1-3/4 acres.
2. A deed from Allie Johnson Edwards et als, to Harry D. Young et ux, dated May 27, 1958, recorded in Deed Book 154,
page 402 conveying 2.67 acres.
3. A deed from Fred T. Mathews et ux to Otis Thomas Eanes, Jr., dated April 25, 1966 recorded in Deed Book 183 at page
255, containing 17 acres, more or less.
4. A deed from Fred T. Mathews, Jr., et als to the Commonwealth of Virginia, dated February 17, 1970, recorded in Deed
Book 201 at page 589, conveying right of way to widen Route 636 to a width of up to 50 feet, located between Routes 607
and 608.
5. A deed from Fred T. Mathews, Jr., et als to the Commonwealth of Virginia, dated February 18, 1970, recorded in Deed
Book 200 at page 531, conveying right and easement to build a drainage ditch along Route 636 just west of Route 607.
6. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors, to Lloyd Raymond Olson, Jr. et ux, dated
December 1, 1979, recorded in Deed Book 203 at page 726, conveying 2.095 acres
7. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors to Victor L. Walker et ux, dated January 29,
1971, recorded in Deed Book 206 at page 116, conveying 1.377 acres.
8. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors to John T. Mathews, dated January 14, 1972,
recorded in Deed Book 211, page 275, conveying 12.50 acres.
9. A deed from HRFT, Inc. to James R. Hughes, Jr. et ux, dated January 2, 1973, recorded in Deed Book 217, page 72,
conveying 2 lots, each containing 30,000 square feet.
10. A deed from HRFT, Inc. to James L. Griggs et ux, dated December 8, 1976, recorded in Deed Book 242, page 795,
conveying Lot 3, containing 1.148 acres.
11. A deed from HRFT, Inc. to Kenneth L. Murphy et ux, dated May 2, 1977 recorded in Deed Book 245 page 813,
conveying Lot 1, containing 1.148 acres.
12. A deed from HRFT, Inc. to Henry A. Opauski et ux, dated October 12, 1977, recorded in Deed Book 249, page 624,
conveying Lot 2, containing 1.148 acres.
13. A deed from HRFT, Inc. to Leland D. Johansen et ux, dated February 15, 1983, recorded in Deed

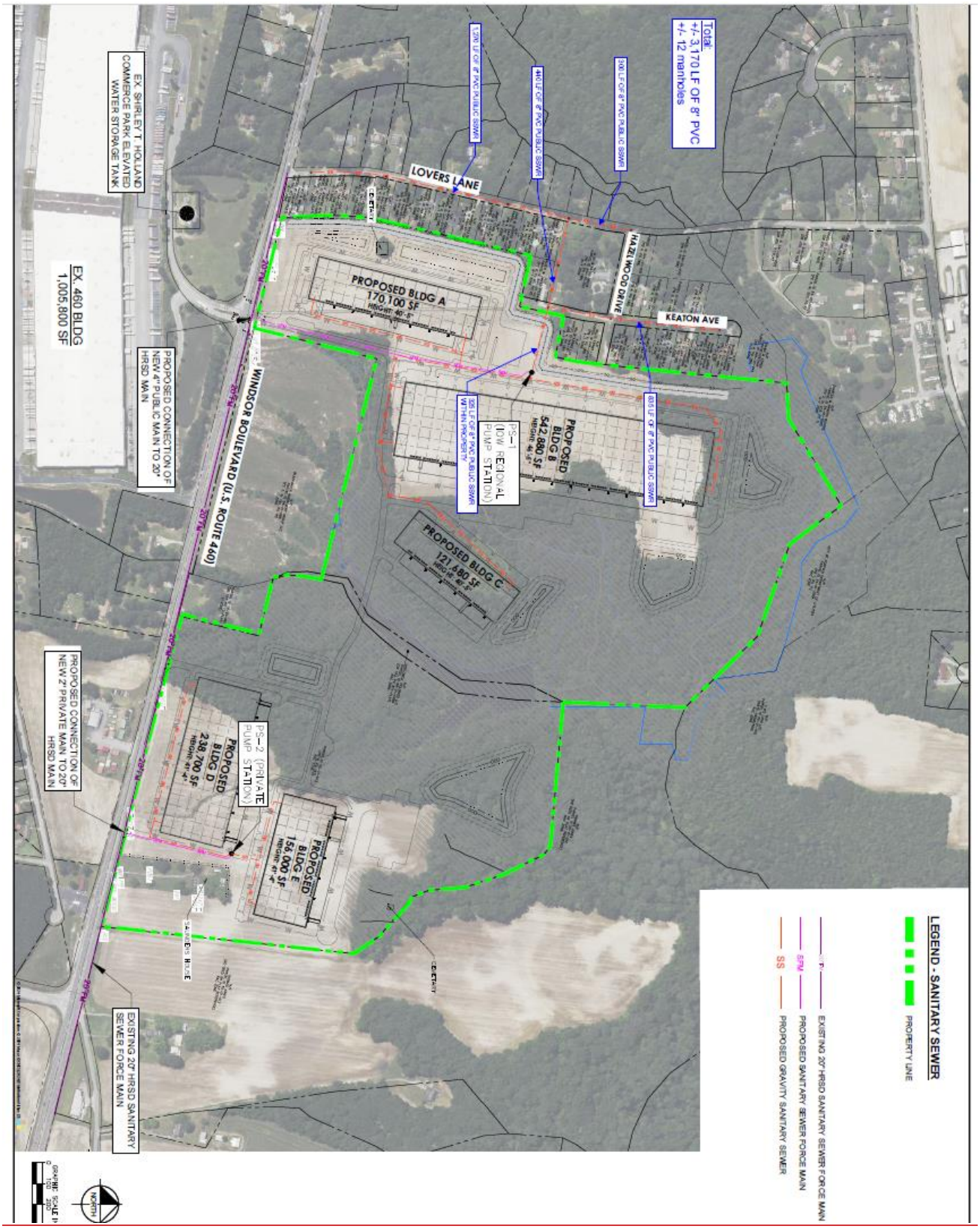
Book 286, page 300
conveying 1.55 acres.
14. A deed from HRFT, Inc. to Walter F. Gilchrist, II et al, dated November 30, 1989, recorded in Deed Book 365, page 97
conveying 1.963 acres.
15. A deed from HRFT, Inc. to Isle of Wight County Industrial Development Authority, dated September 29, 1993, recorded
in Deed Book 422, page 882, conveying tract on south side of Highway 460. Corrected by deed of correction dated April 2,
2004, recorded as Instrument No. 040003193, conveying 93.16 acres.
16. A. deed from HRFT, Inc. to the Board of Supervisors of Isle of Wight County, Virginia, dated February 5, 2001,
recorded as Instrument No. 010001645, conveying 0.605 acre.
17. A deed from HRFT, Inc. to Walter D. Freeman et ux, dated July 26, 2001, recorded as Instrument No. 010003715
conveying Parcel B, in Hazelwood containing 0.092 acre.
18. A quitclaim deed from HRFT, Inc. to the Board of Supervisors of Isle of Wight County, Virginia, dated May 21, 2004,
recorded as Instrument No. 040003534. conveying 0.004 acre.

ALSO SPECIFICALLY EXCEPTED FROM THIS CONVEYANCE is that certain tract, piece or parcel of land containing 16.30± acres, shown and identified as "Residual of Tax Parcel 54-01-86" on that certain plat of survey entitled "PLAT SHOWING RESIDUAL OF TAX PARCEL 54-01-086 TO BE RETAINED BY HRFT, INC. WHEREAS THE REMAINDER OF TAX PARCEL 54-01-086 SHOWN HEREON AS PARCEL A IS TO BE ACQUIRED BY THE ISLE OF WIGHT COUNTY INDUSTRIAL DEVELOPMENT AUTHORITY PROPERTY LOCATED IN WINDSOR MAGISTERIAL DISTRICT, ISLE OF WIGHT COUNTY, VIRGINIA SCALE: 1" = 200' AUGUST 15, 2008" made by Stafford C. Camp, Land Surveyor, a copy of which plat is recorded in Plat Cabinet 2, Slide 190, page 16, in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, reference to which is here made for a complete metes and bounds description of the property reserved.

THE PROPERTY IS DESCRIBED BY METES & BOUNDS DESCRIPTION AS SURVEYED:
BEGINNING AT A PIN FOUND ON THE NORTHERN RIGHT-OF-WAY OF WINDSOR BOULEVARD AND BEING 210.65' FROM THE INTERSECTION OF WINDSOR BOULEVARD AND LOVERS LANE, SAID PIN FOUND BEING THE POINT OF BEGINNING; THENCE, N 02° 30' 16" W, A DISTANCE OF 203.37' TO A PIN FOUND; THENCE, N 00° 21' 50" E, A DISTANCE OF 103.01' TO A POINT; THENCE, N 05° 07' 42" E, A DISTANCE OF 103.18' TO A PIN FOUND; THENCE, N 11° 25' 17" E, A DISTANCE OF 100.15' TO A POINT; THENCE, N 13° 18' 52" E, A DISTANCE OF 710.00' TO A PIN FOUND; THENCE, S 77° 26' 04" E, A DISTANCE OF 250.00' TO A POINT ON THE SOUTHEAST CORNER OF KEATON AVENUE; THENCE, N 12° 31' 34" E, A DISTANCE OF 217.56' TO A PIPE FOUND; THENCE DEPARTING KEATON AVENUE, S 78° 16' 43" E, A DISTANCE OF 200.00' TO A POINT; THENCE, N 12° 28' 17" E, A DISTANCE OF 100.00' TO A POINT; THENCE, N 06° 58' 17" E, A DISTANCE OF 100.00' TO A PIN FOUND ON THE EASTERN TERMINUS OF HAZELWOOD DRIVE; THENCE ALONG SAID EASTERN TERMINUS, N 05° 18' 33" E, A DISTANCE OF 46.36' TO A POINT; THENCE DEPARTING HAZELWOOD DRIVE, N 06° 40' 04" E, A DISTANCE OF 105.00' TO A POINT; THENCE N 05° 40' 04" E, A DISTANCE OF 771.09' TO A POINT NEAR THE CENTER OF A SWAMP; THENCE ALONG A TIE LINE THROUGH SAID SWAMP, N 86° 53' 03" E, A DISTANCE OF 174.16' TO A POINT; THENCE ALONG A TIE LINE, N 58° 39' 13" E, A DISTANCE OF 487.43' TO A POINT; THENCE, S 35° 39' 44" E, A DISTANCE OF 79.86' TO A POINT; THENCE, S 36° 54' 44" E, A DISTANCE OF 230.00' TO A POINT; THENCE, S 70° 43' 44" E, A DISTANCE OF 470.00' TO A POINT; THENCE, S 44° 30' 44" E, A DISTANCE OF 295.00' TO A POINT; THENCE, S 44° 30' 44" E, A ISTANCE OF 172.76' TO A CALCULATED POINT; THENCE, S 02° 32' 41" W, A DISTANCE OF 647.85' TO A CALCULATED POINT; THENCE, S 29° 22' 41" W, A DISTANCE OF 132.00' TO A POINT IN ENNIS POND;
THENCE, S 04° 32' 41" W, A DISTANCE OF 328.00' TO A POINT IN ENNIS POND; THENCE, S 34° 32' 41" W, A DISTANCE OF 550.00' TO A POINT IN ENNIS POND; THENCE, S 61° 32' 41" W, A

DISTANCE OF 200.00' TO A POINT IN ENNIS POND; THENCE, S 09° 32' 41" W, A DISTANCE OF 123.77' TO A POINT; THENCE, N 75° 54' 38" W, A DISTANCE OF 1068.11' TO A PIN FOUND; THENCE, S 14° 05' 22" W, A DISTANCE OF 608.00' TO A PIN FOUND ON THE NORTHERN RIGHT-OF-WAY OF WINDSOR BOULEVARD; THENCE ALONG WINDSOR BOULEVARD, N 75° 54' 38" W, A DISTANCE OF 548.98' TO THE POINT OF BEGINNING; CONTAINING 3,948,817 SQUARE FEET OR 90.652 ACRES, MORE OR LESS.

EXHIBIT B


Total
+/- 3,170 LF OF 8" PVC
+/- 12 manholes
1,290 LF OF 8" PVC PUBLIC SEWER
440 LF OF 8" PVC PUBLIC SEWER
300 LF OF 8" PVC PUBLIC SEWER
LOVERS LANE
HAZELWOOD AVE
KEATON AVE
EX. SHIRLEY T. HOLLAND COMMERCE PARK ELEVATED WATER STORAGE TANK
EX. 460 BLDG
1,005,800 SF
PROPOSED BLDG A
170,100 SF
HEIGHT: 40'-5"
PROPOSED BLDG B
542,880 SF
HEIGHT: 46'-3"
PROPOSED BLDG C
121,680 SF
HEIGHT: 41'-3"
PROPOSED BLDG D
238,700 SF
HEIGHT: 41'-4"
PROPOSED BLDG E
156,000 SF
HEIGHT: 41'-4"
PS-1 REGIONAL PUMP STATION
PS-2 (PRIVATE PUMP STATION)
335 LF OF 8" PVC PUBLIC SEWER WITHIN PROPERTY
685 LF OF 8" PVC PUBLIC SEWER
PROPOSED CONNECTION OF NEW 4" PUBLIC MAIN TO 20" HRSD MAIN
PROPOSED CONNECTION OF NEW 2" PRIVATE MAIN TO 20" HRSD MAIN
WINDSOR BOULEVARD (U.S. ROUTE 460)
EXISTING 20" HRSD SANITARY SEWER FORCE MAIN
LEGEND - SANITARY SEWER
PROPERTY LINE
EXISTING 20" HRSD SANITARY SEWER FORCE MAIN
PROPOSED SANITARY SEWER FORCE MAIN
PROPOSED GRAVITY SANITARY SEWER
NORTH

PROFFERED CONDITIONS

May 1, 2024

Conditional Zoning Request ZA-04-23 (the "Application") has been filed by the "Owner" (hereinafter defined) for certain real property owned by Hollowell Holdings LLC ("Hollowell") and the Industrial Development Authority of Isle of Wight County ("IDA"), which property is situated within the territorial confines of the County of Isle of Wight, Virginia (the "County") located at 13009 Windsor Boulevard (Tax Parcels ID Numbers 54-01-086J, 55-01-013, and 54-01-086B) in the Windsor Development Service District and more particularly described on **Exhibit A** attached hereto and made part hereof (the "Property"). Meridian Property Purchaser, L.L.C. ("Meridian") is the contract purchaser of the Property. Hollowell, IDA and Meridian (collectively, the "Owner") filed the Application requesting that the zoning of the Property be changed from RAC – Rural Agricultural Conservation to C-LI – Conditional Limited Industrial with proffers in order to permit the development of an industrial park (the "Project").

The Owner and the County have carefully evaluated, among other things, a traffic impact analysis and community impact analysis (copies of which are on file with the County's Community Development Department, hereinafter referred to as the "Department") and the on and off site impacts of the Project and have determined (i) the impacts specifically attributable to the Project (the "Impacts"), (ii) certain Impacts create a need (or identifiable portion of a need) for the expansion of existing capacity of public transportation facilities (the "Expansion of Existing Capacity"), (iii) the Project will receive a direct and material benefit from the Expansion of Existing Capacity, and (iv) the provisions of the County's zoning ordinance ("Zoning Ordinance") are inadequate for addressing various of the Impacts and necessitate supplementation by these Proffers.

In furtherance of the Application, the Owner, for itself and its successors and/or assigns, hereby voluntarily proffers the conditions specifically set forth below, in addition to the regulations provided for by the Zoning Ordinance, which proffered conditions are determined by the Owner and, upon acceptance by the Board of Supervisors in connection with the approval of the Application, the County: (i) to be reasonable, (ii) to address impacts specifically attributable to the Project, (iii) to address the need (or identifiable portion of a need) for the Expansion of Existing Capacity, (iv) to directly and materially benefit the Project, (v) to have a reasonable relation to the proposed change in zoning, (vi) to be in conformity with County's adopted comprehensive plan, and (vii) to be in accordance with the provisions of Section 15.2-2296, et seq. of the Code of Virginia (1950), as amended (the "Virginia Code"), Section 15.2-2303.2 through 15.2-2303.4 of the Virginia Code, and the County Zoning Ordinance. The following proffered conditions apply only to the Property.

1. Plan of Development. A conceptual development plan of the Project entitled "Tidewater Logistics Center Concept Plan dated 05/01/2024, prepared by ARCO Design/Build (the "Master Plan"), has been submitted to the Department for review by the County in connection with the Application. The Master Plan is on file with the Department. Development of the Property shall be in substantial conformance, as determined by the Community Development Director (the "Director") with the Master Plan. The Master Plan may be modified from time to time provided that such modifications do not alter the basic concept or character of the Master Plan and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

2. Land Use. The Property shall be used as permitted under the Conditional – Limited Industrial zoning designation and more specifically for the following uses:

a. Custom manufacturing

b. Industry, Type 1

c. Warehousing and distribution

d. Industry, Type 2 (with a conditional use permit)

e. Reconstructed Wetland

The following uses shall be expressly prohibited on the Property:

a. Agricultural Uses
    i. Fertilizer Storage
    ii. Assembly and Repair of Storage Equipment
    iii. Forestry, Silvicultural
    iv. Agricultural Farming Operation
    v. Timbering
    vi. Sawmill
b. Civic Uses
    i. Adult Care Center
c. Commercial Uses
    i. Adult Entertainment Establishment
    ii. Laundry
    iii. Lawn and Garden Services
    iv. Mini Warehouse
    v. Motor Vehicle Repair Service/Major
d. Industrial Uses
    i. Construction Yard
    ii. Convenience Center
    iii. Meat Packing
    iv. Recycling Center
    v. Abattoir or Livestock Processing
    vi. Asphalt Plant
    vii. Industry, Type III
    viii. Landfill, Industrial
    ix. Landfill, Rubble
    x. Transfer Station
    xi. Resource Extraction
    xii. Scrap and Salvage Service
    xiii. Petroleum Storage for resale purposes
    xiv. Manufacture of production of aluminum
    xv. Sand, gravel, or brick operations
e. Miscellaneous Uses
    i. Aviation Facility, General

3. Design. The buildings on the Property shall be constructed by the Owner in substantial conformance with the drawings entitled “CONCEPTUAL RENDERING – BUILDING D”, dated 02/05/2024, prepared by ARCO Design/Build and One Four Two Design Group, “CONCEPTUAL RENDERING”, dated 02/05/2024, prepared by ARCO Design/Build and One Four Two Design Group, and “PRELIMINARY ELEVATIONS - BUILDING D”, dated 02/05/2024, prepared by ARCO Design/Build and ADB Design Services (the “Renderings”) and in substantial conformance with the Highway Corridor Overlay zoning ordinance as determined by the Director. A copy of the

Renderings are on file in the Department. The Renderings may be modified from time to time provided that such modifications do not alter the basic concept or character of the Renderings and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

4. Buffer Design. The site plan(s) for the development of Buildings A and B on the Master Plan shall include in the area shown on the Master Plan located along a portion of the western boundary line of the Property labeled "BERM" a landscaped berm with a minimum height of six feet with enhanced landscape buffering as shown generally on that certain drawing entitled "LANDSCAPE BUFFER SECTION DETAIL AND CONCEPT PLAN", dated 02/05/2024, prepared by Kimley Horn (the "Landscape Buffer Concept Drawing") or such comparable design as may be approved by the Director. In addition to the two-year tree replacement period required by the County's site plan landscaping bond, Owner shall replace trees that do not survive within the enhanced landscaping berm for an additional year beyond the County requirements. The site plan(s) for the development of Buildings A and B on the Master Plan shall include the minimum setback dimensions from the western boundary line of the Property as shown on the Master Plan. A copy of the Landscape Buffer Concept Drawing is on file in the Department. The Renderings may be modified from time to time provided that such modifications do not alter the basic concept or character of the Renderings and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

5. Sound Study. A sound study shall be performed by Owner and submitted to the Department with any site plan for development of any site located along the western boundary line as approved by the zoning administrator. Such site plan shall include the implementation of the recommendations of such sound study for code and proffer compliance, which will include but not be limited to a noise wall as shown on the Master Plan. Nothwithstanding the forgoing, in no event shall noise levels along the western boundary line exceed hourly equivalent noise levels of 50 dBA with noise level measurements using a Type I integrating sound level meter.

6. Historic Resources. Owner shall document in the Virginia Cultural Resource Information System (VCRIS) the dense concentration of redeposited historic architectural, agricultural, and domestic materials exposed on and within an eroding ditch on the Property, as referenced in Attachment A of the Virginia Department of Historic Resources letter to Isle of Wight County dated February 12, 2024, DHR File No. 2023-4713 ("VDHR Letter". Owner shall also engage a qualified archaeologist to monitor ground disturbance around the cemetary noted in the VDHR Letter as DHR ID No. 046-5629. Additionally, Owner shall explore additional controlled excavation regarding Site 44IW0395 as referenced in the VDHR Letter. Owner shall include a ten foot landscape buffer in compliance with the industrial buffer zone landscaping requirements found in section 8-1005. of the zoning ordinance around the c. 1796 Henry Saunders House as shown on the Concept Plan to protect the viewshed of the house and shall provide funding for a highway marker for the house through the Virginia Department of Historic Resources. In the event the c. 1796 Henry Saunders House is subdivided from the Property in the future, the landscape buffer shall continue to be located within the Project.

7. Traffic Improvements.

a. Prior to issuance of a final certificate of occupancy for any of the buildings on the Property shown on the Master Plan, the construction, installation, and/or implementation of the following improvements at Windsor Boulevard and Dominion Way shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision:

i. Reconstruct the existing traffic signal to add a north leg of the intersection to accommodate the Project;
ii. Modify existing protected-permissive left-turn phasing to flashing yellow arrow;
iii. Modify coordinated traffic signal timings at this intersection based on new signal phasing and volumes;
iv. Construct an exclusive eastbound left-turn lane with 200-feet of storage and a 200-foot taper on Windsor Boulevard;
v. Construct an exclusive westbound right-turn lane with 200-feet of storage and a 200-foot taper on Windsor Boulevard;
vi. Restripe the existing right-turn lane to a through/right-turn on northbound Dominion Way; and
vii. Construct one exclusive left-turn lane and one shared through /right-tun lane on the southbound Project access road.

b. Prior to issuance of a final certificate of occupancy for Buildings D or E shown on the Master Plan, the construction, installation, and/or implementation of an exclusive right-turn lane with 200-feet of storage and a 200-foot taper on westbound Windsor Boulevard at the western right-in/right-out Project entrance shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision.

c. Prior to issuance of a final certificate of occupancy for Building D shown on the Master Plan, the construction, installation, and/or implementation of an exclusive right-turn lane with 200-feet of storage and a 200-foot taper on westbound Windsor Boulevard at the eastern right-in/right-out Project entrance shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision.

8. Off-Site Sanitary Sewer Improvements. Upon request by the County, but not sooner than final site plan approval for the first phase of development of the Property, Owner shall proceed to design and seek all necessary governmental approvals for the construction of a gravity sanitary sewer main (the "Gravity Sanitary Sewer Main") to be located in the Town of Windsor within the portions of the public rights of way of Lovers Lane, Hazelwood Drive, and Keaton Avenue shown on Exhibit B attached hereto and connecting to a sewer pump station located on the Property. Conditioned upon a cost sharing agreement between Owner and County, which parties shall use commercially reasonable efforts to achieve, Owner's reasonable ability to obtain all necessary governmental approvals and there being no private approvals or private property rights of third parties required to be obtained by Owner, Owner shall proceed to construct the Gravity Sanitary Sewer Main. Upon completion of construction of the Gravity Sanitary Sewer Main in accordance with all applicable governmental approvals, the County shall take over ownership, operation, and maintenance of the Gravity Sanitary Sewer Main. County shall reimburse Owner in accordance with the cost sharing agreement for its actual out-of-pocket expenses incurred in connection with the design, approval and construction of the Gravity Sanitary Sewer Main as such expenses are incurred. If the County has not requested of Owner the design, approval, and construction of the Gravity Sanitary Sewer Main within 1 year after final site plan approval for the last phase of the development of the Property, then all of the Owner's obligation under this section shall automatically expire and shall thereafter be of no further force or effect.

9. Successors and Assigns. These Proffers shall run with the title to the Property and shall be binding on the parties hereto and their respective successors and assigns; provided, however

once a party ceases to own any portion of the Property, such party shall have no continuing liability hereunder.

10. Severability. In the event that (i) the County's approval of the Application and/or acceptance of these Proffers is appealed within 30 days after the date of the Board of Supervisors' action on same, and (ii) any clause, sentence, paragraph, subparagraph, section or subsection of these Proffers shall be judged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, then the change in zoning intended to be accomplished by the County's approval of the Application and acceptance of these Proffers shall be deemed void and the zoning of the Property shall automatically revert to that which existed immediately prior to the date of such approval.

11. Headings. All paragraph and subparagraph headings of the Proffers herein are for convenience only and are not part of these Proffers.

12. Conflicts. In the event that there is any conflict between these Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Director subject to the appeal process to the Board of Zoning Appeals and the Courts as otherwise provided by law.

13. Void if Application not Approved. In the event that the Application is not approved by the County or is overturned by subsequent judicial determination, these Proffers and the Master Plan shall be null and void.

[SIGNATURE PAGE TO PROFFERS]

WITNESS the following signatures, thereunto duly authorized:

HOLLOWELL HOLDINGS LLC

By: John W. Hollowell Jr

Print Name: John W. Hollowell, Jr

Title: Owner/Property Manager

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Lancaster, to wit:

The foregoing instrument was acknowledged before me this 1st day of May, 2024 by John W Hollowell as owner of Hollowell Holdings LLC.

Ruth J Carter
NOTARY PUBLIC

My commission expires: 2/28/2025
Registration No.: 354100

RUTH J. CARTER
COMMONWEALTH OF VIRGINIA
REGISTRATION NO. 354100
MY COMM. EXPIRES 2/28/2025
NOTARY PUBLIC

[SIGNATURE PAGE TO PROFFERS]

INDUSTRIAL DEVELOPMENT AUTHORITY OF ISLE OF WIGHT COUNTY

By: Kristi R Sutphin

Print Name: Kristi R. Sutphin

Title: Secretary - Treasurer

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Isle of Wight, to wit:

The foregoing instrument was acknowledged before me this 1ST day of MAY, 2024 by Kristi R. Sutphin as Sec./Treas. of the Industrial Development Authority of Isle of Wight County.

Gloria Banks Spratley
NOTARY PUBLIC

My commission expires: June 30, 2025
Registration No.: 7543850

GLORIA BANKS SPRATLEY NOTARY PUBLIC REG # 7543850 MY COMMISSION EXPIRES 6/30/2025 COMMONWEALTH OF VIRGINIA

[SIGNATURE PAGE TO PROFFERS]

MERIDIAN PROPERTY PURCHASER, L.L.C.

By: _____

Print Name: Mark King

Title: President + COO

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Montgomery, to wit:

The foregoing instrument was acknowledged before me this 1st day of May, 2024 by Mark King as President + COO of Meridian Property Purchaser, L.L.C.

Kat Bogue
NOTARY PUBLIC

My commission expires: 6/24/25
Registration No.: N/A

KATHERINE GRACE BOGUE
NOTARY PUBLIC
MONTGOMERY COUNTY, MD
MY COMMISSION EXPIRES JUNE 24, 2025

EXHIBIT A

HOLLOWELL

All that certain lot or parcel of land together with all improvements thereon located and being in the County of Isle Of Wight, VA and being more particularly described as follows:

Parcel One:

ALL THAT certain tract, piece or parcel of land lying, situate and being on the North side of U.S. Route 460, Windsor Magisterial District, Isle of Wight County, Virginia, containing a total area of 84.9 acres, more or less, according to a survey made by Roy Brinkley on August 9, 1949, with corrections to both conveyances thereafter made and bounded and described with reference to said survey as follows, to-wit: Beginning at a marked pine tree at the Northwest corner of the property hereby conveyed and on the Eastern edge of a swamp forming a part of the Western boundary line of the tract hereby conveyed and running thence South 77° 30' East a distance of 715.4 feet to a concrete post set in the run of another branch; thence following said branch South 45° East 52 feet to a gum; thence South 19° East 215 feet to a cypress; thence South 11° East 200 feet to a poplar; thence South 3° West 171 feet to a gum; thence South 14° East 84 feet to a gum; thence South 42° 30' East 251 feet to a gum in branch; thence leaving said branch and running South 27° East 147 feet to an iron pin; thence along the fence set on the Western side of a field path South 13° 30' West 1225 feet to a post set on the North side of U.S. Route 460,a corner; thence Northwestwardly along the North side of Route 460 1543 feet to a Hickory Tree and iron pipe which point is the Southeast corner of the land conveyed by William B. Spivey to John A. Wells and Estelle Slade Wells by deed recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, in Deed Book 160, page 10; thence North 21° 30' East 397 feet to an iron pin; thence North 68° 30' East 280 feet along the Northern boundary line of said Wells land to an iron pin; thence along the Eastern edge of the swamp as follows:

North 10° West 73 feet to a beech; thence
North 12° East 108 feet to a beech; thence
North 20° East 164 feet to a hickory; thence
North 76° East 60 feet to a poplar; thence
North 66° East 147 feet to a black gum; thence
North 50° East 115 feet to a red oak; thence
North 46° 30' East 131 feet to a red oak; thence
North 41° 30' East 212 feet to a hickory; thence
North 42° East 112 feet to a pine; thence
North 14° East 293 feet to an oak; thence
North 10° East 218 feet to a pine, the point of beginning.

LESS AND EXCEPT that certain parcel conveyed to the Board of Supervisors of Isle of Wight County, Virginia dated May 29, 20004, and duly recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, as Instrument Number 040003535.

Parcel Two:

ALL THAT certain piece, parcel or tract of land contiguous to the western boundary line of the land of Dr. John W. Hollowell in Windsor Magisterial District, Isle of Wight County, Virginia conveyed to Dr. John W. Hollowell by Fred T. Mathews and Hazel Keaton Mathews by deed dated March 8, 1967, and duly recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, on March 14, 1967, in Deed Book 187, page 43, which said parcel of land conveyed hereby is known, numbered and designated as Parcel A, as shown on a plat thereof entitled, "Plat 'A' The Property of F. T. Matthews Estate Being Conveyed to Dr. John W. Hollowell", made by Roy Brinkley, Surveyor, dated June 7, 1968, a copy of which plat is attached to and made a part of the Deed recorded as Instrument No. 050713, and particular reference is hereby made to said plat for description of said property by metes and bounds.

IDA
All that certain lot or parcel of land together with all improvements thereon located and being in the County of Isle Of Wight, VA and being more particularly described as follows:

All of that certain tract, piece or parcel of land situate, lying and being in Windsor Magisterial District, Isle of Wight County, Virginia, on both sides of Route 460 and containing 279.58 acres according to a survey made by Roy Brinkley, licensed surveyor, and being bounded and described with reference to a plat of said survey styled “Plat Showing Property of K.E. Johnson Estate Windsor District Isle of Wight Co. Scale 1" - 400 Sept 25, 1961”, which plat is recorded in Plat Book 4, page 151 in the Clerk’s Office of the Circuit Court of Isle of Wight County, Virginia, which property is more particularly described by metes and bounds shown on said plat:

LESS, SAVE AND EXCEPT the property conveyed by the following deeds, all of which are incorporated herein by reference:

1. A deed from Allie Johnson Edwards et als, to Earl E. Bussey et ux, dated July 18, 1957, recorded in Deed Book 152,
page 106 conveying 1-3/4 acres.
2. A deed from Allie Johnson Edwards et als, to Harry D. Young et ux, dated May 27, 1958, recorded in Deed Book 154,
page 402 conveying 2.67 acres.
3. A deed from Fred T. Mathews et ux to Otis Thomas Eanes, Jr., dated April 25, 1966 recorded in Deed Book 183 at page
255, containing 17 acres, more or less.
4. A deed from Fred T. Mathews, Jr., et als to the Commonwealth of Virginia, dated February 17, 1970, recorded in Deed
Book 201 at page 589, conveying right of way to widen Route 636 to a width of up to 50 feet, located between Routes 607
and 608.
5. A deed from Fred T. Mathews, Jr., et als to the Commonwealth of Virginia, dated February 18, 1970, recorded in Deed
Book 200 at page 531, conveying right and easement to build a drainage ditch along Route 636 just west of Route 607.
6. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors, to Lloyd Raymond Olson, Jr. et ux, dated
December 1, 1979, recorded in Deed Book 203 at page 726, conveying 2.095 acres
7. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors to Victor L. Walker et ux, dated January 29,
1971, recorded in Deed Book 206 at page 116, conveying 1.377 acres.
8. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors to John T. Mathews, dated January 14, 1972,
recorded in Deed Book 211, page 275, conveying 12.50 acres.
9. A deed from HRFT, Inc. to James R. Hughes, Jr. et ux, dated January 2, 1973, recorded in Deed Book 217, page 72,
conveying 2 lots, each containing 30,000 square feet.
10. A deed from HRFT, Inc. to James L. Griggs et ux, dated December 8, 1976, recorded in Deed Book 242, page 795,
conveying Lot 3, containing 1.148 acres.
11. A deed from HRFT, Inc. to Kenneth L. Murphy et ux, dated May 2, 1977 recorded in Deed Book 245 page 813,
conveying Lot 1, containing 1.148 acres.
12. A deed from HRFT, Inc. to Henry A. Opauski et ux, dated October 12, 1977, recorded in Deed Book 249, page 624,
conveying Lot 2, containing 1.148 acres.
13. A deed from HRFT, Inc. to Leland D. Johansen et ux, dated February 15, 1983, recorded in Deed

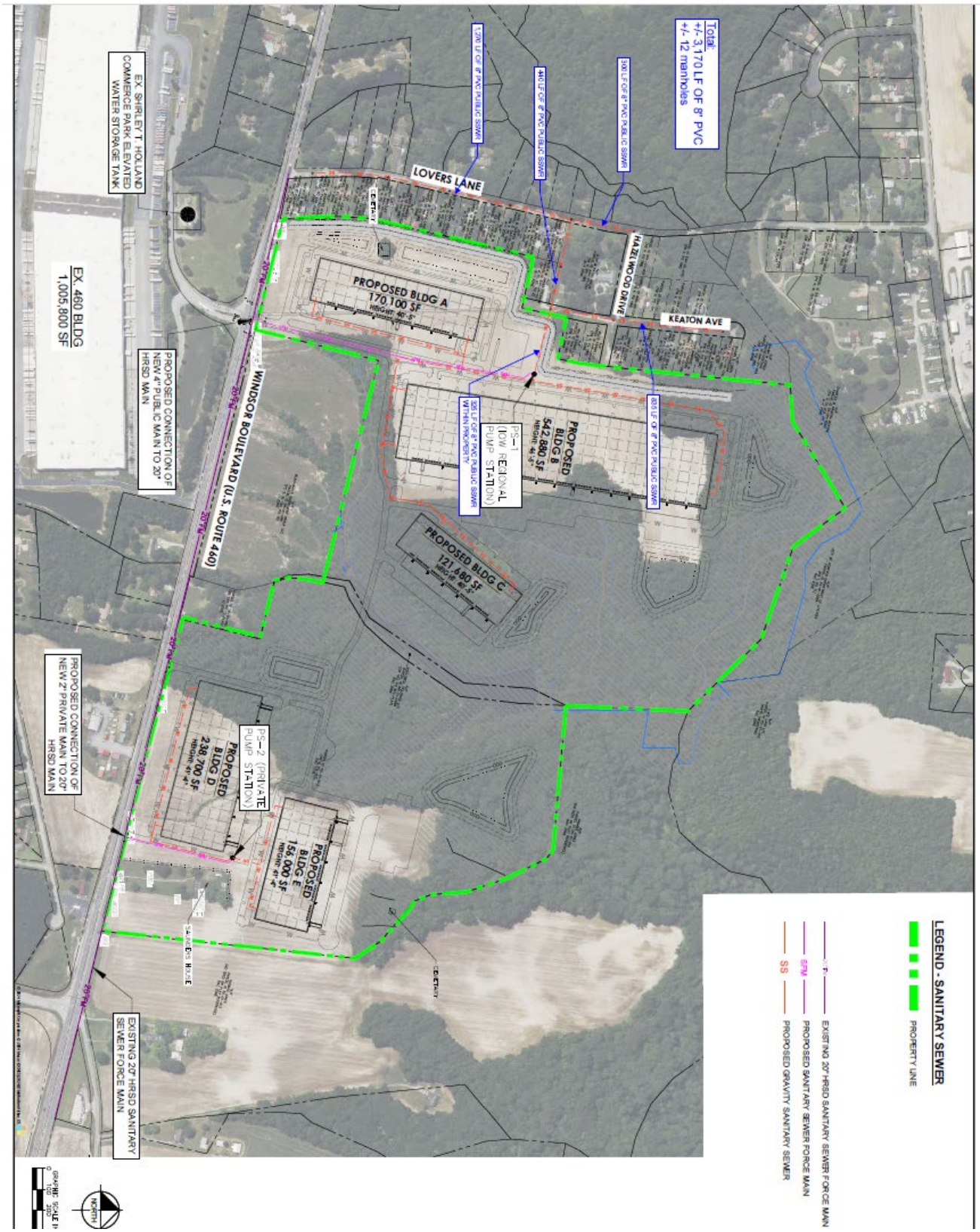
Book 286, page 300
conveying 1.55 acres.
14. A deed from HRFT, Inc. to Walter F. Gilchrist, II et al, dated November 30, 1989, recorded in Deed Book 365, page 97
conveying 1.963 acres.
15. A deed from HRFT, Inc. to Isle of Wight County Industrial Development Authority, dated September 29, 1993, recorded
in Deed Book 422, page 882, conveying tract on south side of Highway 460. Corrected by deed of correction dated April 2,
2004, recorded as Instrument No. 040003193, conveying 93.16 acres.
16. A. deed from HRFT, Inc. to the Board of Supervisors of Isle of Wight County, Virginia, dated February 5, 2001,
recorded as Instrument No. 010001645, conveying 0.605 acre.
17. A deed from HRFT, Inc. to Walter D. Freeman et ux, dated July 26, 2001, recorded as Instrument No. 010003715
conveying Parcel B, in Hazelwood containing 0.092 acre.
18. A quitclaim deed from HRFT, Inc. to the Board of Supervisors of Isle of Wight County, Virginia, dated May 21, 2004,
recorded as Instrument No. 040003534. conveying 0.004 acre.

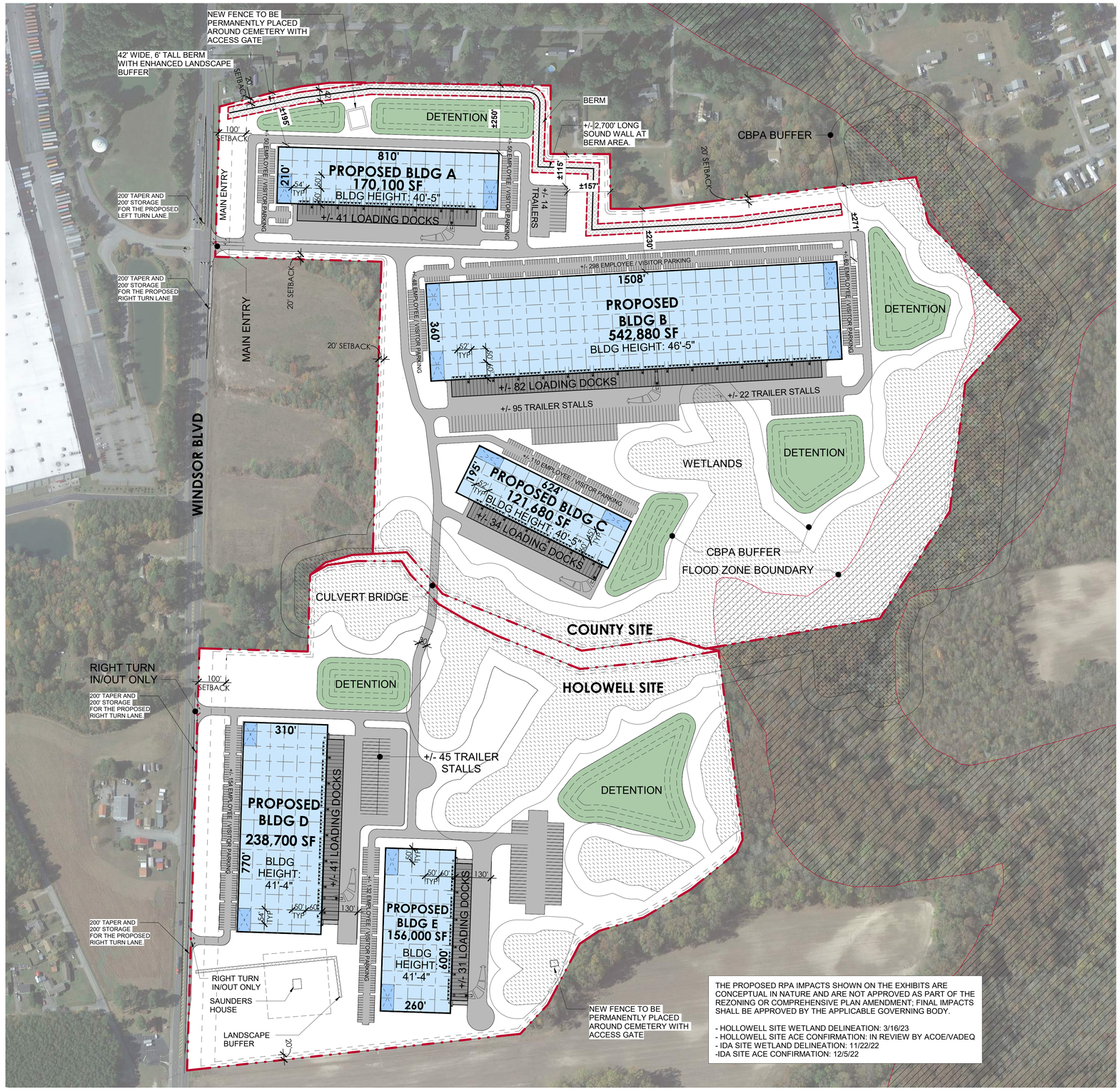
ALSO SPECIFICALLY EXCEPTED FROM THIS CONVEYANCE is that certain tract, piece or parcel of land containing 16.30± acres, shown and identified as "Residual of Tax Parcel 54-01-86" on that certain plat of survey entitled "PLAT SHOWING RESIDUAL OF TAX PARCEL 54-01-086 TO BE RETAINED BY HRFT, INC. WHEREAS THE REMAINDER OF TAX PARCEL 54-01-086 SHOWN HEREON AS PARCEL A IS TO BE ACQUIRED BY THE ISLE OF WIGHT COUNTY INDUSTRIAL DEVELOPMENT AUTHORITY PROPERTY LOCATED IN WINDSOR MAGISTERIAL DISTRICT, ISLE OF WIGHT COUNTY, VIRGINIA SCALE: 1" = 200' AUGUST 15, 2008" made by Stafford C. Camp, Land Surveyor, a copy of which plat is recorded in Plat Cabinet 2, Slide 190, page 16, in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, reference to which is here made for a complete metes and bounds description of the property reserved.

THE PROPERTY IS DESCRIBED BY METES & BOUNDS DESCRIPTION AS SURVEYED:
BEGINNING AT A PIN FOUND ON THE NORTHERN RIGHT-OF-WAY OF WINDSOR BOULEVARD AND BEING 210.65' FROM THE INTERSECTION OF WINDSOR BOULEVARD AND LOVERS LANE, SAID PIN FOUND BEING THE POINT OF BEGINNING; THENCE, N 02° 30' 16" W, A DISTANCE OF 203.37' TO A PIN FOUND; THENCE, N 00° 21' 50" E, A DISTANCE OF 103.01' TO A POINT; THENCE, N 05° 07' 42" E, A DISTANCE OF 103.18' TO A PIN FOUND; THENCE, N 11° 25' 17" E, A DISTANCE OF 100.15' TO A POINT; THENCE, N 13° 18' 52" E, A DISTANCE OF 710.00' TO A PIN FOUND; THENCE, S 77° 26' 04" E, A DISTANCE OF 250.00' TO A POINT ON THE SOUTHEAST CORNER OF KEATON AVENUE; THENCE, N 12° 31' 34" E, A DISTANCE OF 217.56' TO A PIPE FOUND; THENCE DEPARTING KEATON AVENUE, S 78° 16' 43" E, A DISTANCE OF 200.00' TO A POINT; THENCE, N 12° 28' 17" E, A DISTANCE OF 100.00' TO A POINT; THENCE, N 06° 58' 17" E, A DISTANCE OF 100.00' TO A PIN FOUND ON THE EASTERN TERMINUS OF HAZELWOOD DRIVE; THENCE ALONG SAID EASTERN TERMINUS, N 05° 18' 33" E, A DISTANCE OF 46.36' TO A POINT; THENCE DEPARTING HAZELWOOD DRIVE, N 06° 40' 04" E, A DISTANCE OF 105.00' TO A POINT; THENCE N 05° 40' 04" E, A DISTANCE OF 771.09' TO A POINT NEAR THE CENTER OF A SWAMP; THENCE ALONG A TIE LINE THROUGH SAID SWAMP, N 86° 53' 03" E, A DISTANCE OF 174.16' TO A POINT; THENCE ALONG A TIE LINE, N 58° 39' 13" E, A DISTANCE OF 487.43' TO A POINT; THENCE, S 35° 39' 44" E, A DISTANCE OF 79.86' TO A POINT; THENCE, S 36° 54' 44" E, A DISTANCE OF 230.00' TO A POINT; THENCE, S 70° 43' 44" E, A DISTANCE OF 470.00' TO A POINT; THENCE, S 44° 30' 44" E, A DISTANCE OF 295.00' TO A POINT; THENCE, S 44° 30' 44" E, A ISTANCE OF 172.76' TO A CALCULATED POINT; THENCE, S 02° 32' 41" W, A DISTANCE OF 647.85' TO A CALCULATED POINT; THENCE, S 29° 22' 41" W, A DISTANCE OF 132.00' TO A POINT IN ENNIS POND;
THENCE, S 04° 32' 41" W, A DISTANCE OF 328.00' TO A POINT IN ENNIS POND; THENCE, S 34° 32' 41" W, A DISTANCE OF 550.00' TO A POINT IN ENNIS POND; THENCE, S 61° 32' 41" W, A

DISTANCE OF 200.00' TO A POINT IN ENNIS POND; THENCE, S 09° 32' 41" W, A DISTANCE OF 123.77' TO A POINT; THENCE, N 75° 54' 38" W, A DISTANCE OF 1068.11' TO A PIN FOUND; THENCE, S 14° 05' 22" W, A DISTANCE OF 608.00' TO A PIN FOUND ON THE NORTHERN RIGHT-OF-WAY OF WINDSOR BOULEVARD; THENCE ALONG WINDSOR BOULEVARD, N 75° 54' 38" W, A DISTANCE OF 548.98' TO THE POINT OF BEGINNING; CONTAINING 3,948,817 SQUARE FEET OR 90.652 ACRES, MORE OR LESS.

EXHIBIT B


Total:
+/- 3,170 LF OF 8" PVC
+/- 12 manholes
1,290 LF OF 8" PVC PUBLIC SEWER
440 LF OF 8" PVC PUBLIC SEWER
300 LF OF 8" PVC PUBLIC SEWER
LOVERS LANE
HAZELWOOD AVE
KEATON AVE
EX. SHIRLEY T. HOLLAND COMMERCE PARK ELEVATED WATER STORAGE TANK
EX. 460 BLDG
1,005,800 SF
PROPOSED BLDG A
170,100 SF
HEIGHT: 40'-5"
PROPOSED BLDG B
542,880 SF
HEIGHT: 44'-3"
PROPOSED BLDG C
121,680 SF
HEIGHT: 40'-4"
PROPOSED BLDG D
238,700 SF
HEIGHT: 41'-4"
PROPOSED BLDG E
154,000 SF
HEIGHT: 41'-4"
PS-1 REGIONAL (HRSD PUMP STATION)
PS-2 (PRIVATE PUMP STATION)
335 LF OF 8" PVC PUBLIC SEWER WITHIN PROPERTY
885 LF OF 8" PVC PUBLIC SEWER
PROPOSED CONNECTION OF NEW 4" PUBLIC MAIN TO 20" HRSD MAIN
PROPOSED CONNECTION OF NEW 2" PRIVATE MAIN TO 20" HRSD MAIN
WINDSOR BOULEVARD (U.S. ROUTE 460)
SAUNDERS ROUTE
EXISTING 20" HRSD SANITARY SEWER FORCE MAIN
LEGEND - SANITARY SEWER
PROPERTY LINE
EXISTING 20" HRSD SANITARY SEWER FORCE MAIN
PROPOSED SANITARY SEWER FORCE MAIN
PROPOSED GRAVITY SANITARY SEWER
GRAPHIC SCALE
NORTH



THE PROPOSED RPA IMPACTS SHOWN ON THE EXHIBITS ARE CONCEPTUAL IN NATURE AND ARE NOT APPROVED AS PART OF THE REZONING OR COMPREHENSIVE PLAN AMENDMENT; FINAL IMPACTS SHALL BE APPROVED BY THE APPLICABLE GOVERNING BODY.

- HOLLOWELL SITE WETLAND DELINEATION: 3/16/23
- HOLLOWELL SITE ACE CONFIRMATION: IN REVIEW BY ACOE/VADEQ
- IDA SITE WETLAND DELINEATION: 11/22/22
-IDA SITE ACE CONFIRMATION: 12/5/22

SCALE 1" = 160'

0 80 160 320 800

N

ONE FOUR TWO DESIGN GROUP

TMG

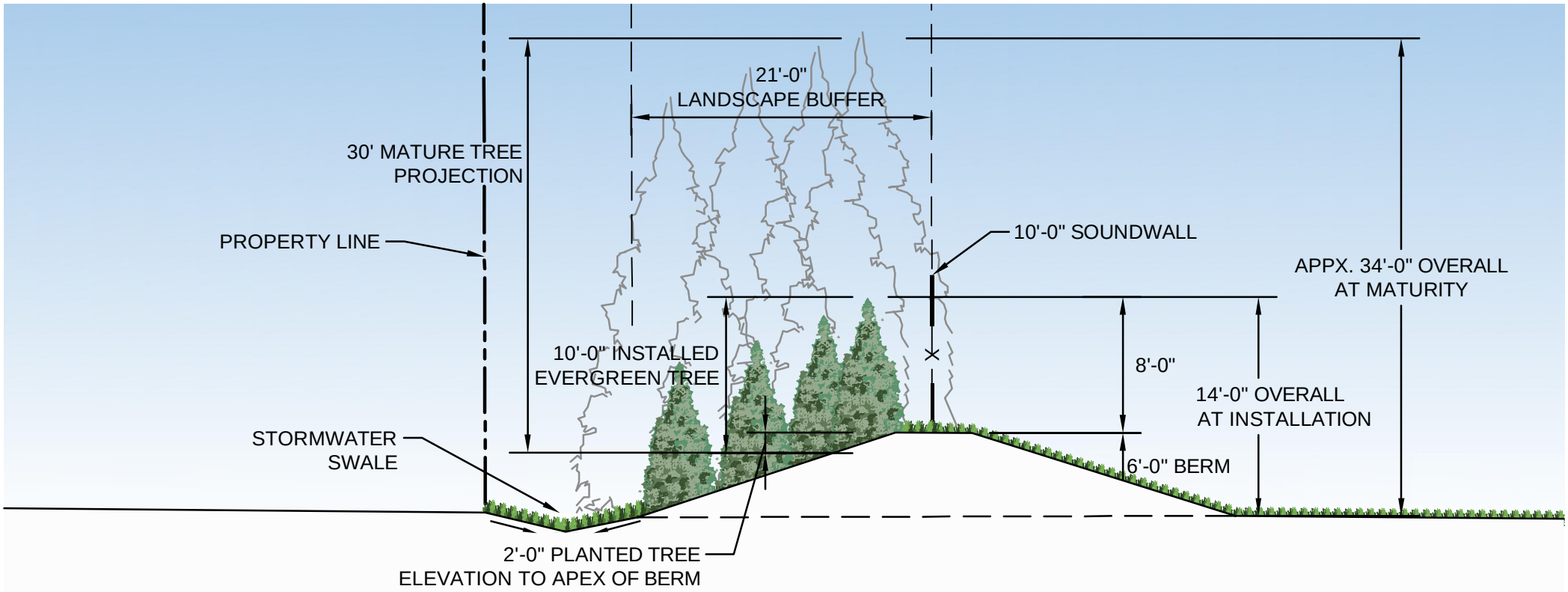
TIDEWATER LOGISTICS CENTER

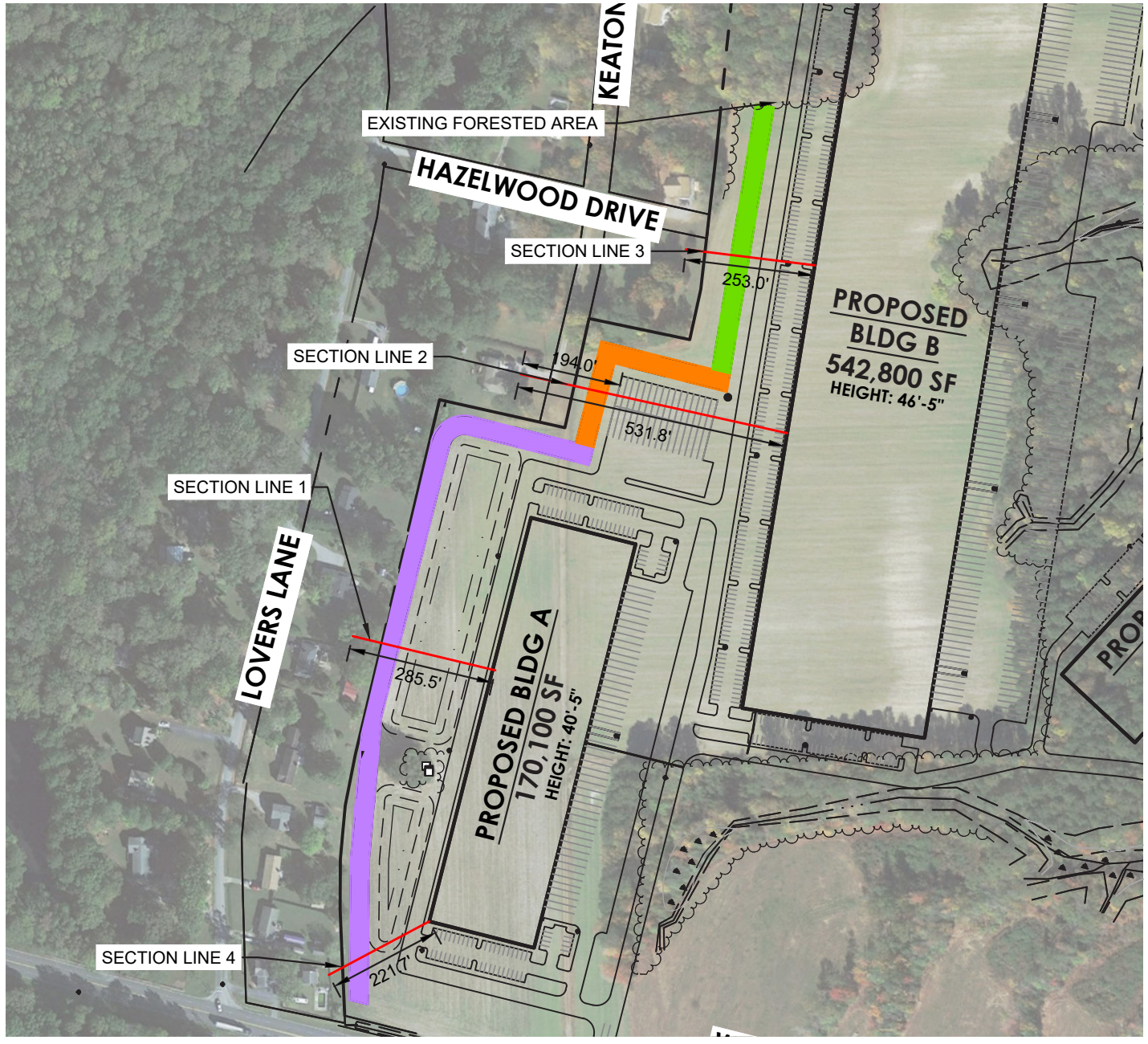
ISLE OF WIGHT COUNTY, VA

Conceptual Plan

05/01/2024

ARCO DESIGN/BUILD


21'-0"
LANDSCAPE BUFFER
30' MATURE TREE
PROJECTION
PROPERTY LINE
10'-0" SOUNDWALL
APPX. 34'-0" OVERALL
AT MATURITY
10'-0" INSTALLED
EVERGREEN TREE
8'-0"
14'-0" OVERALL
AT INSTALLATION
STORMWATER
SWALE
6'-0" BERM
2'-0" PLANTED TREE
ELEVATION TO APEX OF BERM



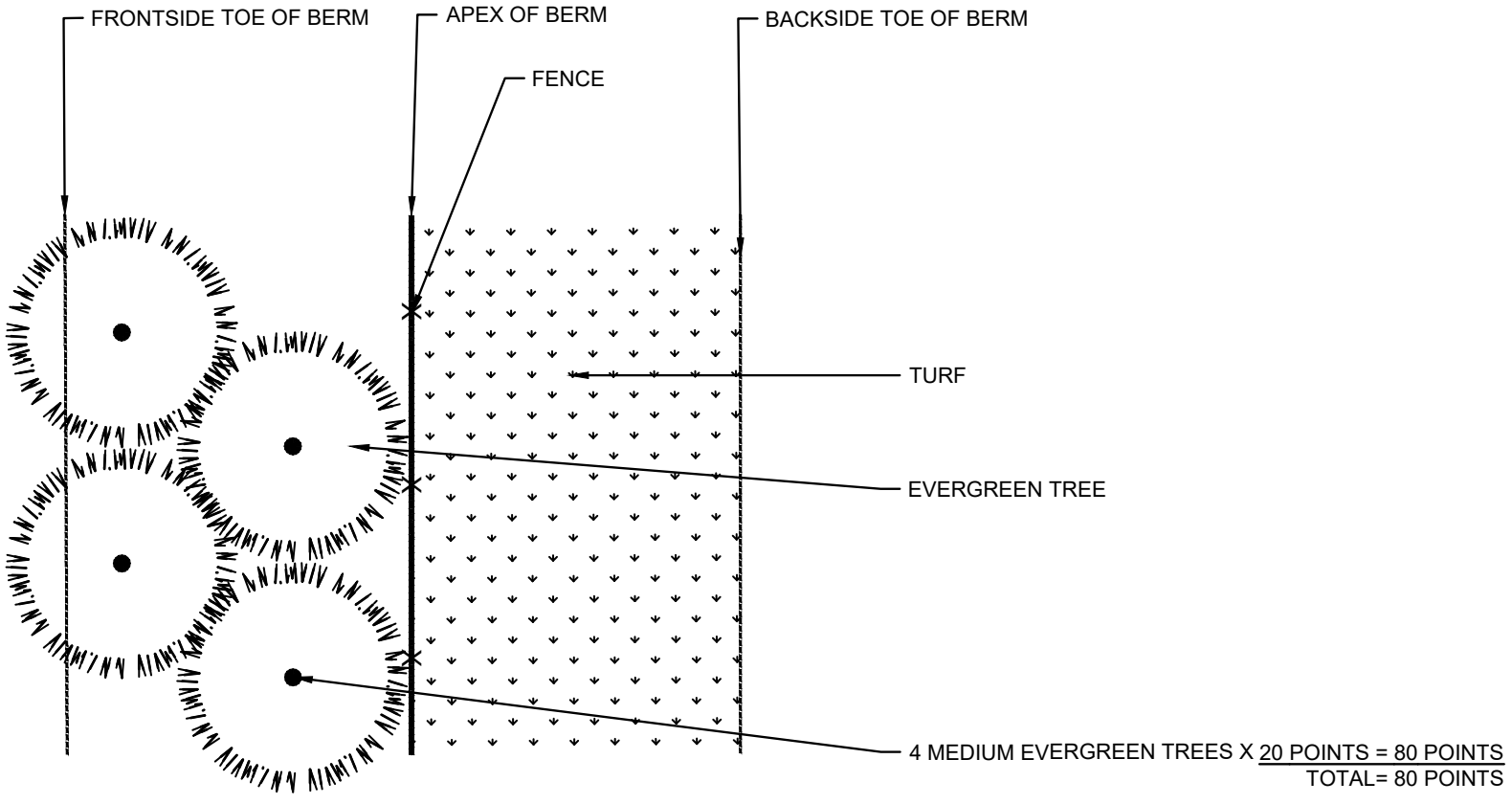
Landscape Industrial Adjacent to Residential Buffer Zone

Tidewater Logistics Center Rezoning | Isle of Wight | Virginia

Plan View

February 2024

Kimley»Horn



EVERGREENS ARE 10' HEIGHT AT INSTALLATION
AND 30-70' HEIGHT AT MATURITY

PROPOSED BUFFER IS NOT IN COMPLIANCE
WITH CODE PROFFER REQUIRED

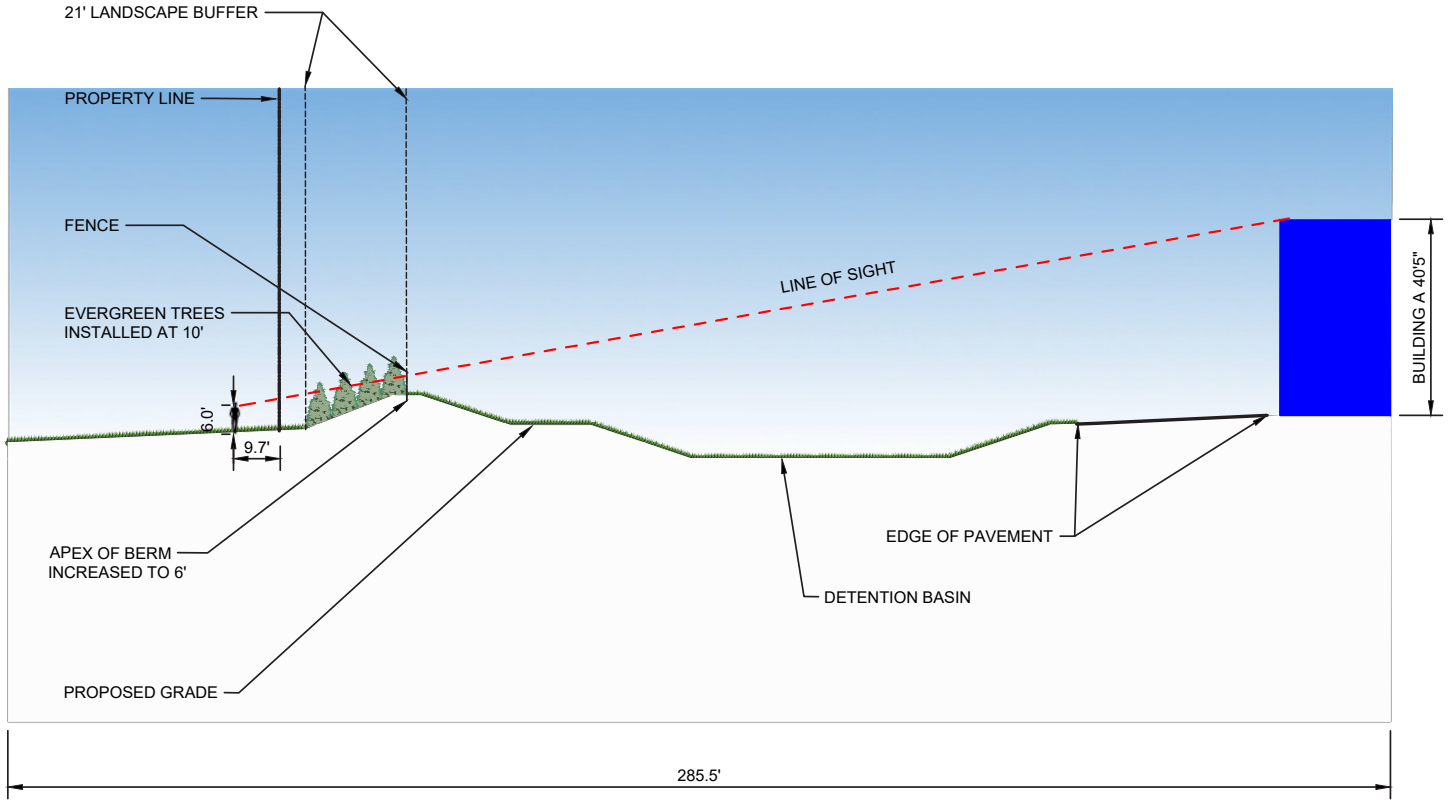
LANDSCAPE INDUSTRIAL ADJACENT TO RESIDENTIAL BUFFER ZONE: EVERGREEN TREE BUFFER

Tidewater Logistics Center Rezoning | Isle of Wight | Virginia

BUFFER EXHIBIT

February 2024

Kimley»Horn



GIS TOPO DATA USED FOR OFF SITE TOPOGRAPHY

APEX OF BERM INCREASED TO 6'

FINAL FENCE TYPE PM LOCATION WILL BE DETERMINED PENDING THE RESULTS OF THE PROJECT'S NOISE STUDY

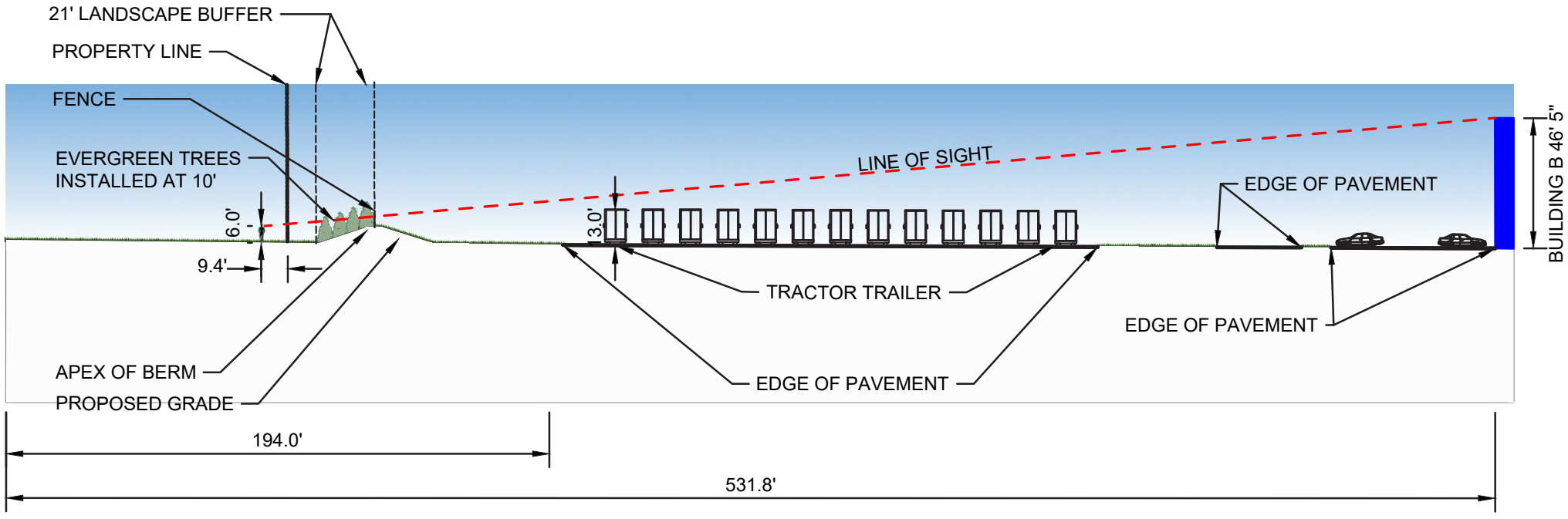
Landscape Industrial Adjacent to Residential Buffer Zone: evergreen tree buffer

Section Elevation 1

February 2024

Tidewater Logistics Center Rezoning | Isle of Wight | Virginia

Kimley»Horn



GIS TOPO DATA USED FOR OFF SITE TOPOGRAPHY

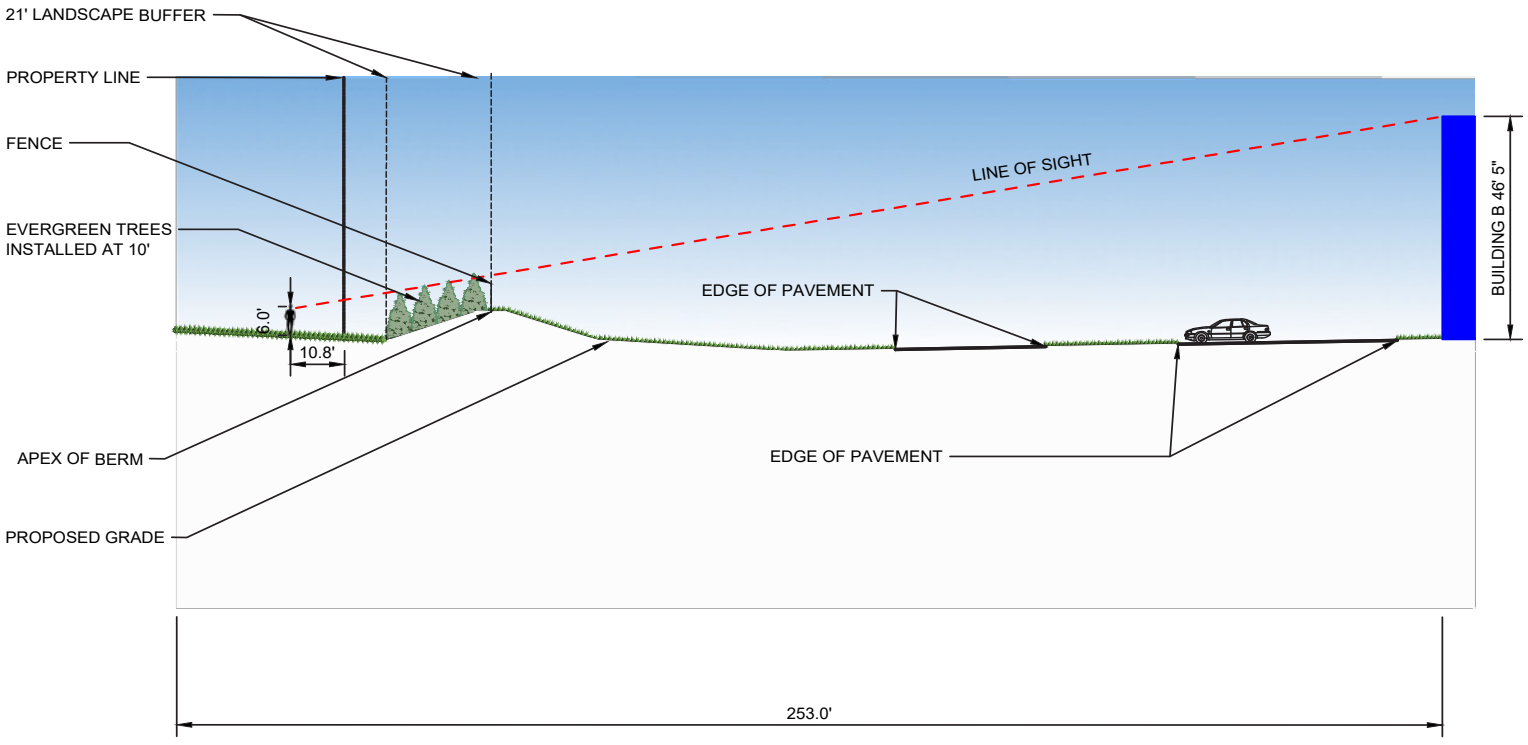
APEX OF BERM INCREASED TO 6'

FINAL FENCE TYPE PM LOCATION WILL BE DETERMINED PENDING THE RESULTS OF THE PROJECT'S NOISE STUDY

Landscape Industrial Adjacent to Residential Buffer Zone: evergreen tree buffer

Section Elevation 2

February 2024



GIS TOPO DATA USED FOR OFF SITE TOPOGRAPHY

APEX OF BERM INCREASED TO 6'

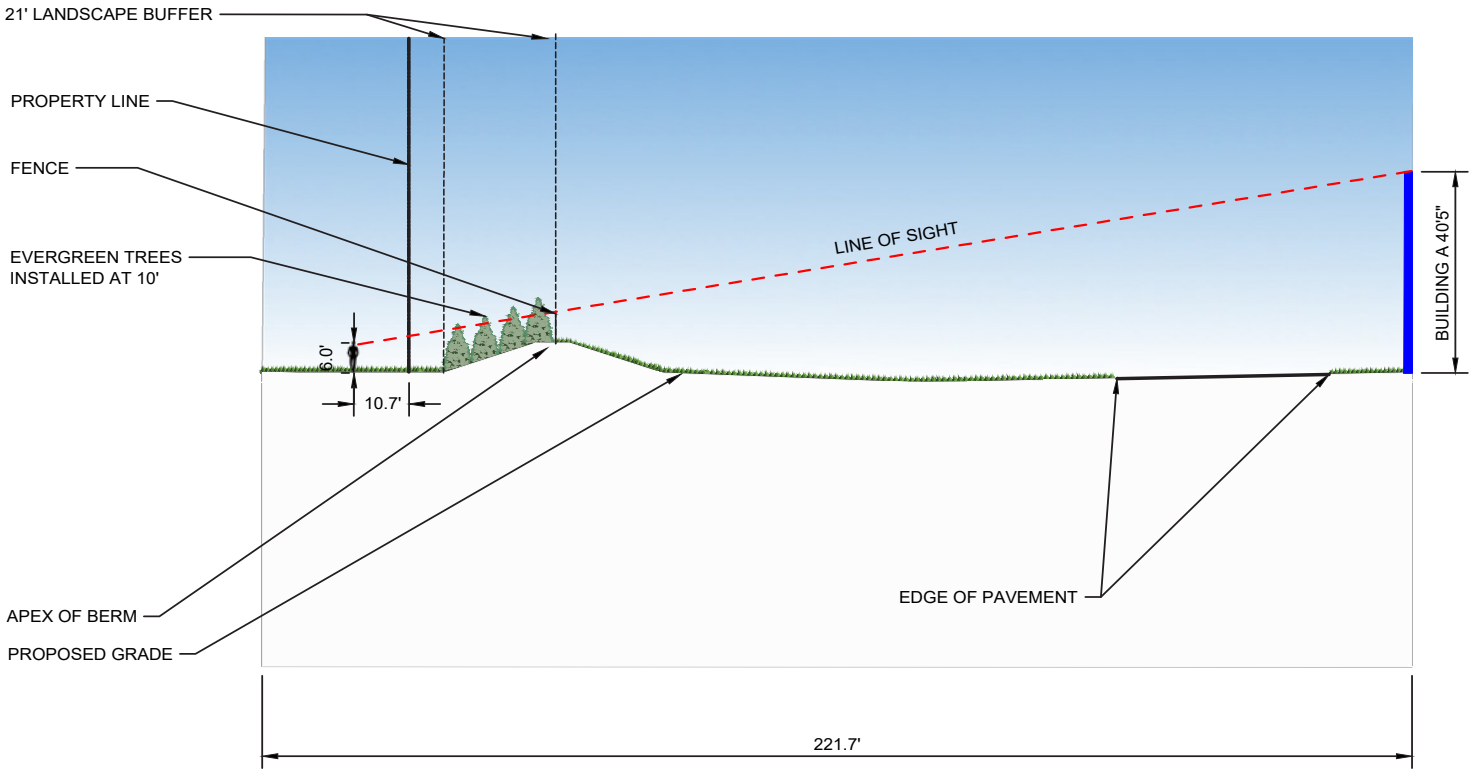
Landscape Industrial Adjacent to Residential Buffer Zone: evergreen tree buffer

Section Elevation 3

February 2024

Tidewater Logistics Center Rezoning | Isle of Wight | Virginia

Kimley»Horn



GIS TOPO DATA USED FOR OFF SITE TOPOGRAPHY

APEX OF BERM INCREASED TO 6'

FINAL FENCE TYPE PM LOCATION WILL BE DETERMINED PENDING THE RESULTS OF THE PROJECT'S NOISE STUDY

Landscape Industrial Adjacent to Residential Buffer Zone: evergreen tree buffer

Section Elevation 4

February 2024

Tidewater Logistics Center Rezoning | Isle of Wight | Virginia

Kimley»Horn



Evergreen Buffer Example



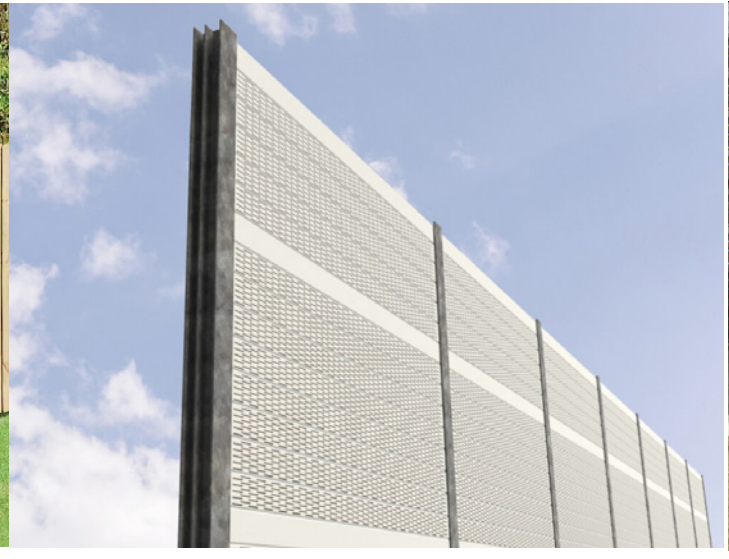
Evergreen Buffer Example



Evergreen Buffer Example



Wood Fence

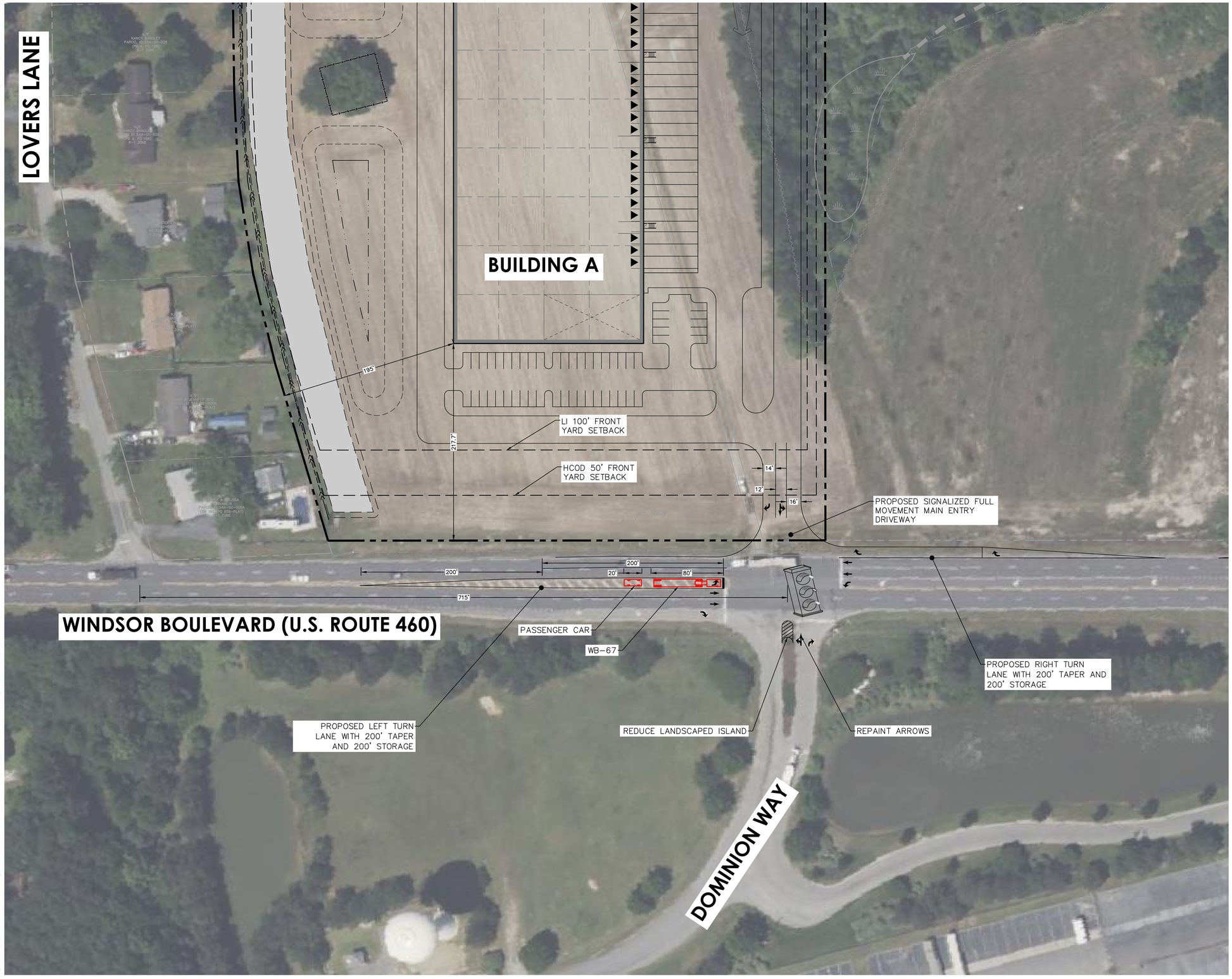


Aluminum sound wall, source: Durisol walls



PVC sound wall, source: Durisol walls

Landscape Industrial Adjacent to Residential Buffer Zone



LEGEND

EXISTING PROPERTY LINE

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2024 KIMLEY-HORN AND ASSOCIATES, INC.

4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462
PHONE: 757-213-8600 FAX: 757-213-8601
WWW.KIMLEY-HORN.COM

KHA PROJECT 117158002
DATE 04/24/2024
SCALE AS SHOWN
DESIGNED BY VGB
DRAWN BY GSH
CHECKED BY KBB

SITE ENTRANCE AND QUEUEING EXHIBIT

TIDEWATER LOGISTICS CENTER
PREPARED FOR
THE MERIDIAN GROUP
ISLE OF WIGHT VIRGINIA

SHEET NUMBER
1 OF 1

Plotted By:Horvath, Garrett Sheet Set:######## Layout:SITE PLAN April 24, 2024 06:03:32pm K:\VAB_Civil\117158002 — Tidewater Logistics Center\CAD\Exhibits\2024.04.24 — Intersection Queueing Exhibit.dwg
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COUNTY OF ISLE OF WIGHT

OFFICE OF THE COMMISSIONER OF THE REVENUE
Post Office Box 107
Isle of Wight, Virginia 23397
(757) 365-6222

Gerald H. Gwaltney
Commissioner of the Revenue

MEMORANDUM

TO: Trenton S. Blowe
Planner II/Planning & Zoning

FROM: Gerald H. Gwaltney,
Commissioner of the Revenue

DATE: May 1, 2024

RE: **Tidewater Logistics Center**
Conditional Rezoning (ZA-04-23), Comprehensive Plan Amendment (LUP-01-23), Second Submittal Tax Map/Parcel #54-01-086J and #55-01-013

I have completed the review of the Hampton Roads Alliance Analysis Economic Impact Analysis for Tidewater Logistics Center.

The Alliance's Report had several weaknesses. I used the Excel spreadsheet provided by the Alliance as the basis for my review and corrected several weaknesses in their analysis to reflect a more conservative Economic Impact Analysis.

Some of the weaknesses are:

Real Estate

- Buildings A, B, & C are estimated to be completed and occupied in 2026. The estimated tax in the spreadsheet for those buildings is for 12 months. Our review provides 12 months of taxes beginning in 2027 as it is unknown when the building will be actually finalized.
- Buildings D & E are estimated to be completed and occupied in 2027. The estimated tax in the spreadsheet for those buildings is for 12 months. Our review provides 12 months of taxes beginning in 2028 as it is unknown when the building will be actually finalized.

- The report assumes a 3% increase in real estate annual assessment with "formal assessments occurring every four years." Values are locked in place for each tax year until the next reassessment. The analysis does not take into consideration the requirement for the tax rate to be neutralized at the end of a reassessment.

Personal Property & Machinery and Tools

- Personal Property and M&T assessments are made as of January 1 each year. There is no proration for equipment put in place after the assessment date.
- Buildings A, B, & C are estimated to be completed and occupied in 2026. The estimated personal property & M&T tax in the spreadsheet for those buildings are for 12 months in 2026. The personal property in those buildings will not be taxed until 2027. Our review provides 12 months of taxes beginning in 2027.
- Buildings D & E are estimated to be completed and occupied in 2027. The estimated personal property and M&T tax in the spreadsheet for those buildings are for 12 months in 2027. The personal property in those buildings will not be taxed until 2028. Our review provides 12 months of taxes beginning in 2028.

Machinery & Tools

- The report uses Keurig as the sole source for estimating M&T per square footage revenue. Keurig is a major manufacturer with a highly automated manufacturing process. The estimates are for 33% of the square footage of the project to be "light manufacturing." It is not likely that any potential manufacturer operating in smaller square footage would have investment capital equal to Keurig.
- The report uses $2.55 per square foot based on the rate for Keurig to estimate revenue for this category. The Commissioner's analysis uses $1.60 per square foot to estimate the potential revenue for M&T.

My review places the revenue analysis of the project at just over $13.8 million.

Please let me know if you have any questions.

Tidewater Logistics Center - Fiscal Impact Analysis

Revenue	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Real Estate	$ 47,772	$ 47,772	$ 47,772	$ 490,307	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 6,233,723
Personal Property	$ -	$ -	$ -	$ 137,461	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	
Machinery & Tools	$ -	$ -	$ -	$ 455,939	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	
Total	**$ 47,772**	**$ 47,772**	**$ 47,772**	**$ 1,083,706**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	

Year		1	2	3	4	5	6	7	8	9	10	11
NPV	$ 47,772	$ 47,772	$ 47,772	$ 1,083,706	$ 1,574,609	$ 1,574,609	$ 1,574,609	$ 1,574,609	$ 1,574,609	$ 1,574,609	$ 1,574,609	$ 1,574,609

Cumulative NPV	**$ 13,823,892**

Nominal Econ Impact	**$ 13,823,892**
Real Econ Impact	**$ 13,823,892**

Year		1	2	3	4	5	6	7	8	9	10	11	
Real Estate NPV	$ 47,772	$ 47,772	$ 47,772	$ 490,307	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	$ 700,013	**$ 6,233,723**
BPP NPV	$ -	$ -	$ -	$ 137,461	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	$ 202,600	**$ 1,758,261**
M&T NPV	$ -	$ -	$ -	$ 455,939	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	$ 671,996	**$ 5,831,908**
Total NPV	**$ 47,772**	**$ 47,772**	**$ 47,772**	**$ 1,083,706**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 1,574,609**	**$ 13,823,892**

Resolution No. 23-24-12

Resolution

A Resolution Expressing Concern Regarding
The Tidewater Logistics Center Project
in its Current Form

WHEREAS, The Tidewater Logistics Center project is an Isle of Wight County project, and it is not located within the boundaries of the Town of Windsor but is located directly adjacent to the Town of Windsor; and

WHEREAS, The residents of Windsor who are most impacted by the project deserve their representation on Town Council to take their side against the Isle of Wight County's attempt to develop this adjacent property in a way that detrimentally impacts their property values and way of life; and

WHEREAS, The increase in traffic will not only negatively impact the residents of Lovers Lane, Hazelwood Drive, and Keaton Ave., but will also negatively impact the traffic flow on Windsor Blvd. coming into Windsor from the east as well as cause disruption throughout the Town of Windsor, including additional truck traffic on 258; and

WHEREAS, The -from the Executive Summary provided by Kimly Horn entitled Tidewater Logistics Center Rezoning TIA dated July 2023, "The development is estimated to generate approximately 2,349 daily vehicle trips with 223 and 246 occurring during the AM and PM peak hours, respectively." This would make a left turn from 460 onto Lovers Lane almost impossible during those peak hours; and

WHEREAS, The increase in truck traffic through Windsor would also create traffic disruptions, particularly when tractor trailers occupy both lanes at traffic lights. Additional traffic disruptions will require additional police attention from the already strained Windsor Police Department; and

WHEREAS, The light and noise pollution from the warehouses in the plan that is currently being presented, will hinder the residents of the aforementioned localities from enjoying the peace and quiet that a small town bordered by fields and forests provides. People live in small towns to avoid the noise and commotion that exists in cities and larger metropolitan areas. The additional noise and light pollution generated by 24/7 truck traffic and loading/unloading activities will be a major disruption to the peaceful existence that these residents desire to maintain; and

WHEREAS, Even though the developer cannot, or will not, reveal who the end users of the facilities will be, it is estimated that 1,200 additional permanent employees will be required. There is no proposal for additional housing for these employees/ residents; and

WHEREAS, The Isle of Wight County Public Schools are already at the point of being overcrowded. It is doubtful that adequate finances will be made available to build new schools or expand current facilities to serve this number of additional residents; and

WHEREAS, It is apparent that the developer purposefully avoided dealing directly with Windsor Town Council until he was called out publicly for doing so. He also has misrepresented Town Council's position on the project to Isle of Wight County officials; and

WHEREAS, The Town of Windsor receives no benefit from this project in its current form, but bears much of the negative impact, e.g., fire, police, and EMS support.

NOW, THEREFORE BE IT RESOLVED That the Council of the Town of Windsor, Virginia expresses its opposition to The Tidewater Logistics Center Project in its current form.

Adopted: March 12, 2024

Mayor

TESTE:

Town Clerk

City of Norfolk Comments

1. Storage or manufacture of hazardous materials is a concern. Norfolk discourages the manufacturing of any hazardous materials at this location due to the potential to contaminate Lake Prince during an incident, or an extreme weather event, such as flooding.
2. We encourage the strict adherence to all erosion and sediment control regulations during construction, and stormwater regulations related to this location and zoning designation.
3. Norfolk requests the opportunity to review the plans when they are submitted for permitting.
4. Norfolk requests notice upon permit approval before construction begins so that we can monitor for impacts to Lake Prince.

PLANNING REPORT

APPLICATION:

Application (ZA-4-23) of the Industrial Development Authority of Isle of Wight and Hollowell Holdings LLC, property owners, and Meridian Property Purchaser, LLC, applicant, for a change in the zoning district from Rural Agricultural Conservation to Conditional Limited Industrial for approximately 154.3 acres on tax map numbers 54-01-086B, 54-01-086J, and 55-01-013 to allow the following uses: Custom manufacturing, Industry Type 1, Warehousing and Distribution, Industry Type II, and Reconstructed Wetland

ELECTION DISTRICT:

District 4

LOCATION:

The subject property is located on the north side of Windsor Boulevard (Rte. 460). The proposed project consists of three separate parcels consisting of approximately 154.34 acres. The parcels are in the Rural Agricultural Conservation (RAC) zoning district. The property is also located in the Windsor Development Service Overlay District, the Highway Corridor Overlay District, and the Chesapeake Bay Preservation Area Overlay District. To the South across Windsor Blvd. is the World Market warehousing and distribution center which is part of the Shirley T Holland Industrial Park. A forested area containing Ennis Pond, a part of the City of Norfolk reservoir system, is located to the north of the project site as well as agricultural land. The Town of Windsor boundary line and residential development along Lovers Lane and Keaton Avenue is located to the west of the property. Additional agricultural land is located to the east of the project site.

BACKGROUND:

The subject properties contain approximately 154 acres located on the north side of US Route 460 and currently consist of agricultural fields and timberland. The property is currently zoned RAC. County GIS images indicates that both parcels 54-01-086J and 55-01-013 have historically been used for agriculture. Parcel 54-01-086J is currently owned by the Industrial Development Authority of Isle of Wight County which originally purchased the property in 2008 in order to expand the Shirley T. Holland Industrial Park.

The current future recommended land use designation for the properties is Mixed Use as shown on the Future Recommended Land Use Map in the Comprehensive Plan adopted in January 2020.

Both parcels 54-01-086J and 55-01-013 were found to have historic cemeteries on them. The cemetery on parcel 54-01086J is located within the project area, while the cemetery on 55-01-013 is located along the outer boundary of the parcel to the northeast. Parcel 55-01-013 is the currently location for the historic home known as the Henry

Saunders House which is listed on the National Register of Historic Places. The attached concept plan shows proposed buildings roughly 162 feet from the Henry Saunders House at its closest point.

The concept plan shows the closest building to existing residences along Lovers Lane, Hazelwood Drive, and Keaton Avenue to be approximately 240 feet while the closest parking area is approximately 194 feet according to page one of the attached Buffer Section Detail document. The stormwater management ponds will be located closer to the residences behind the proposed screening berm with landscaping.

DESCRIPTION:

The applicant requests a conditional zoning for the subject parcels. The proffered conditions will limit the permitted uses on the properties to the following: Custom manufacturing, Industry Type 1, Warehousing and distribution, Industry Type 2, and Reconstructed wetland. It should be noted that Warehousing and Distribution, Custom Manufacturing, and Industry Type 1 uses are permitted in the current RAC zoning district with a conditional use permit.

In addition, the applicant has proffered to specifically prohibit the following uses: Fertilizer Storage Assembly and Repair of Storage Equipment, Forestry, Silvicultural, Agricultural Farming Operation, Timbering, Sawmill, Adult Care Center, Adult Entertainment Establishment, Laundry, Lawn and Garden Services, Mini Warehouse, Motor Vehicle Repair Service/Major, Construction Yard, Convenience Center, Meat Packing, Recycling Center, Abattoir or Livestock Processing, Asphalt Plant, Industry Type III, Industrial Landfill, Rubble Landfill, Transfer Station, Resource Extraction, Scrap and Salvage Service, Petroleum Storage for resale purposes, Manufacture of production of aluminum, Sand, gravel, or brick operations, and General Aviation Facility.

The applicant has not proposed an end user at this time. Warehousing and distribution is included in the proffered uses and the narrative for the project. Warehousing and distribution is defined as uses including storage, warehousing and dispatching of goods within enclosed structures, or outdoors. Typical uses include storage warehouses, truck terminals and moving/storage firms. The findings of the traffic impact analysis is based on the warehousing and manufacturing use types.

The Zoning Ordinance defines the Custom Manufacturing use type as establishments primarily engaged in the on-site production of goods by hand manufacturing, within enclosed structures, involving the use of hand tools, and the use of mechanical equipment commonly associated with residential or commercial uses or a single kiln. Typical uses would include pottery, cabinet or woodwork shops.

Industry Type I uses could include enterprises engaged in the processing, manufacturing, compounding, assembly, packaging, treatment or fabrication of materials and products, from processed or previously manufactured materials. Included would be assembly of electrical appliances, bottling and printing plants, and the manufacturing of paint, oils, pharmaceuticals, cosmetics, solvents and other chemicals, production of items made of stone, metal or concrete.

Industry Type II uses could include businesses in which goods are generally mass produced from raw materials on a large scale through use of an assembly line or similar process, usually for sale to wholesalers or other industrial or manufacturing uses. Included in this use type are industries involved in processing and/or refining raw material such as chemicals, rubber, wood or wood pulp, forging, casting, melting, refining, extruding, rolling, drawing, and/or alloying ferrous metals, and the production of large durable goods such as automobiles, manufactured homes, or other motor vehicles.

The concept plan includes five industrial warehouse buildings ranging in size from 121,530 to 542,800 square feet across two parcels, for a total of 1,229,130 square feet. There are parking areas dedicated to employee and visitor parking, trailer parking, and loading docks for the buildings. There is a concern from staff and adjacent property owners with the distance from the buildings and parking areas shown on the western part of the site and the homes that exist along Lovers Lane and Keaton Avenue.

To help mitigate the concerns from staff and residents, the applicant has proposed a berm with additional landscaping to help shield the buildings and parking from the adjacent residential development along the western property line. The applicant also included a sound study in their proffered conditions and committed to implementing the study's recommendations in order to achieve code compliance which could, but is not limited to, a sound wall. In no event shall noise levels along the western boundary line exceed hourly equivalent noise levels of 80 dBA during daytime hours and 65 dBA during nighttime hours. The applicant also included a ten foot wide landscaping buffer which meets the industrial buffer zone landscaping requirements in the Zoning Ordinance between the proposed facility and the Saunders House.

An analysis of the project's potential impacts to public services and facilities is included below.

Public Services and Facilities:

The proposed development will be connected to public water facilities via the 16 inch water main in the Route 460 right-of-way. The water system around the Tidewater Logistics Center contains a 600,000-gallon elevated storage tank and mains that currently provide water service to the existing warehouses south of the site. The existing sanitary sewer infrastructure around the project consists of the 20 inch Hampton Roads Sanitation District (HRSD) force main along the Route 460. Two sewer sheds have been proposed for the site, dividing it into eastern

(HRSD) force main along the Route 460. Two sewer sheds have been proposed for the site, dividing it into eastern and western portions whose systems will connect to the existing 20 inch force main.

Traffic Impacts:

Access to and from the proposed development will be via Windsor Boulevard and Dominion Way to include a full access movement that forms the north leg of the existing signalized intersection with World Market as well as an additional access further east on Windsor Boulevard which will be a new proposed right-in/right-out unsignalized intersection with Route 460. The proposed Tidewater Logistics Center development has the potential to generate a total of 2,349 daily weekday trips. Out of the total weekday daily trips, 223 driveway trips occur during the AM peak hour and 246 driveway trips occur during the PM peak hour.

A copy of the traffic impact analysis is attached to this staff report.

Financial Impact:

Site improvements include five industrial warehouses including offices, employee and truck parking, and storm drainage system. The projected total number of jobs is 5,198 direct and indirect jobs. The jobs have been categorized as 1,200 direct jobs and 3,958 indirect and temporary construction jobs.

Environmental Features:

The concept plan shows potential impacts to several environmentally sensitive areas throughout the project site. Parking and loading areas are shown to impact buffers on all parcels included in the application. Parcel 54-01-086B is shown to be completely wetlands. Because of the need for state permits and local exceptions for any proposed environmental impacts, the design of the site could shift in order to achieve final site plan approval. The purpose of the conceptual plan is illustrative only and any final site plan will be required to meet Ordinance and proffered conditions.

Historical Resources:

Both a Phase I and II were performed for the parcels included in the project area. The Henry Saunders House is located within the project area and is included on the National Register for Historic Places (NRHP). In addition to the Henry Saunders House, a family cemetery was identified along the forested area to the east of parcel 55-01-013. A cemetery known as the Butler-Jones cemetery is located along the western edge of parcel 54-01-086J. Permanent fence has been proposed for both cemeteries, so that they remain undisturbed.

The Isle of Wight County Museum commented that additional landscape buffers would further enhance shielding for the historic resource from the proposed development. The Virginia Department of Historic Resources (VDHR) sent review comments that expressed concerns about potential additional archeological resources that were not identified in the report based on a site visit and analysis by VDHR staff. The applicant proffered the following conditions to address these concerns:

- Document in the Virginia Cultural Resource Information System the dense concentration of redeposited historic architectural, agricultural, and domestic materials exposed on and within an eroding ditch on the property as referenced in the VDHR letter dated February 12, 2024;
- Engage a qualified archeologist to monitor ground disturbance around the cemetery along the western property line; and
- Explore additional controlled excavation regarding Site 44IW0395 with VDHR.

The final Phase II report as well as review comments from VDHR and Isle of Wight County Museum are attached to this report.

Visual Impact:

The project site lies mostly in a vacant farm field with frontage along Route 460. There is cluster of residential

development along the west and northwest of the project area. In addition, the Henry Saunders House which is listed on the NRHP is located on the southeastern side of the proposed project area. A six-foot tall, 42 foot wide landscaped berm has been proposed along the western portion of the site with existing landscaping being proposed to remain along the northwest to minimize the impact to the viewshed of the residential development. An illustrative perspective rendering is attached for your reference. The applicant has proffered additional screening adjacent to the Henry Saunders House with a ten foot wide buffer that will meet the industrial buffer zone landscaping requirements found in Section 8-1005 of the Zoning Ordinance.

The property also lies in the Highway Corridor Overlay (HCO) District, and future development will have to meet nonresidential design criteria. The attached concept plan is for illustrative purposes only, and any final site plan will need to meet current ordinance requirements. Conceptual elevations for the proposed buildings are attached to this staff report.

COMPREHENSIVE LAND USE PLAN:

The current recommended future land use designation for all properties is Mixed Use (MU) and Environmental Conservation (EC). This application is associated with an accompanying application for a comprehensive plan amendment from MU to Planned Industrial (PI).

The Comprehensive Plan describes MU as areas of housing mixed with office, commercial, and other uses. Types of housing in these areas may consist of one or multiple detached or attached single family homes, multi-plex and apartment style housing options, along with office or commercial uses. The Plan recommends MU areas be located on major transportation routes and at major intersections. MU areas should consist of large tracts of land capable of being master planned for a diversity and integration of multiple uses. MU should also have access to public water and sewer infrastructure with capacity for more intense development. Examples of MU development in the County include Eagle Harbor and Benns Grant. The Plan does indicate, however, that select light industrial uses may also be appropriate when sited correctly.

The PI land use designation is given to areas where manufacturing, warehousing and distribution are envisioned to occur. Typical land uses in PI consist of light industrial as well as heavy industrial and manufacturing uses which may negatively impact surrounding development. Preservation of environmental features still occurs, and PI development is connected to residential uses with vehicular and pedestrian access. The Plan notes that PI should be buffered from adjacent uses. Examples of PI include the Shirley T. Holland Intermodal Park and International Paper.

While PI land use is present across Rt. 460, the change to PI in this location could be incompatible with the surrounding residential uses and historical resources without substantial buffering for visual, noise and lighting impacts.

The properties are also located within the Windsor Development Service District (DSD). The Plan describes the DSDs as specific areas identified for development to occur. Outside of the DSD boundaries all land is intended to stay in rural and agricultural uses and environmental protection. Within the boundaries of the DSD, the County has installed or has plans for water and sewer infrastructure, road improvements and other public facilities necessary to support growth. Following the DSD approach has allowed the County to protect roughly 85% of the County land area for rural and agricultural uses.

The EC land use designation is identified for the protection of a variety of sensitive environmental features, such as wetlands and streams, and serves to create natural connections for wildlife, protect commercial and recreational fisheries, and to provide buffers for adjacent developments. Specific locations of Environmental Conservation areas are determined with site specific delineations during the plan of development review process. Both MU and PI designations recommend the preservation of environmentally sensitive features within these areas.

ORDINANCE REVIEW:

The proposed zoning district designation is C-LI subject to the attached proffered conditions. The applicant has proffered that only the uses included in the proffer statement will be permitted on this site. The uses proposed are consistent with the Limited Industrial zoning district.

If the Board of Supervisors approves the change in zoning, the project will need to undergo site plan and building permit review. The project will be required to provide any necessary state and federal permits as well.

The parcel is also located in the HCO District. The parcel is located in the HCO District. Article VI, Section 6-3001 of the Zoning Ordinance states that the purpose of the HCO district is to protect the aesthetic and visual character of lands in Isle of Wight County adjacent to major existing and proposed highway corridors, as defined in the Zoning Ordinance, and to provide for and promote their orderly development. To meet the intent of the HCO District, the proposed building design, building materials, and outdoor storage area must comply with the district's design standards during site plan review, at which time all other applicable regulations of the Zoning Ordinance including parking, landscaping, lighting, etc. will be addressed.

This property falls within the Chesapeake Bay Preservation Area (CBPA) Overlay District which includes a mandatory 100 foot wide resource protection area (RPA) buffer surrounding stream features and wetlands. The concept plan shows proposed impacts to the 100 foot buffer for loading spaces which is not permitted under the Ordinance. The applicant would need an exception from the Board of Supervisors to develop the site as shown on the concept plan.

AGENCY REVIEW:

This application was forwarded to the following departments for their review:

Economic Development: The EDA and the Economic Development Department support these applications and view this property as an extension of Shirley T. Holland Intermodal Park. Amending the Comprehensive Plan from Mixed-use to Planned Industrial and Rezoning from RAC to C-LI makes the land use and zoning consistent with the existing park. This project will have a major economic impact on both Isle of Wight County and the Town of Windsor, creating a significant number of jobs and benefitting local businesses.
Environmental Planner: Concerns with potential environmental impacts shown on concept plan. Additional comments to be provided during site plan review.
Virginia Department of Transportation: Comments addressed.
County Attorney: Comments addressed.
Emergency Services: Fire Rescue has no comments, concerns, or questions at this time. Additional comments to be provided during site plan review.
General Services: No concerns were expressed with this application. Additional comments to be provided during site plan review.
Town of Windsor: Please see attached.
Virginia Department of Historic Resources: Please see attached.
Isle of Wight County Museum: Please see attached.

STAFF CONCLUSIONS:

Based on the assessment above, staff finds the following strengths and weaknesses for this request:

Strengths:

1. The proposed uses are consistent with the proposed C-LI zoning district.
2. The proposed project would create additional jobs and generate additional nonresidential revenue to help cover the costs of future public services and facilities.
3. The applicant has proffered conditions to address concerns listed in the February 12, 2024, VDHR letter with potential impacts to historic

resources.

Weaknesses:

1. Buildings on the western portion of the project area are in close vicinity to the residential development along Lovers Lane and Keaton Avenue, however, the applicant has proffered several mitigation measures to include a six foot tall, 42 foot wide landscaped berm and a sound study as well as condition not to exceed 80 dBA during daylight hours and 65 dBA during nighttime hours.
2. The historic resource known as the Saunders House is less than 200 feet from the proposed buildings and parking areas and the applicant has proffered additional screening measures to minimize visual impacts to the resource.

STAFF RECOMMENDATION:

Based on the findings listed above, staff recommends approval of the application with the conditions proffered by the applicant.

ATTACHMENTS:

Description	Type	Upload Date
Application	Backup Material	2/21/2024
Statement of Reason	Backup Material	2/21/2024
Community Impact Statement	Backup Material	2/21/2024
Concept Plan	Backup Material	2/21/2024
Conceptual Building	Backup Material	2/21/2024
Landscaping Elevations	Backup Material	2/21/2024
Town of Windsor Comments	Backup Material	2/21/2024
Isle of Wight County Musuem	Backup Material	2/21/2024
VDHR Comments	Backup Material	2/21/2024
Location Map	Backup Material	2/21/2024
Location Closeup Map	Backup Material	2/21/2024
Land Use Map	Backup Material	2/21/2024
Zoning Map	Backup Material	2/21/2024
Traffic Impact Analysis	Backup Material	2/21/2024
Phase II Archeological Report	Backup Material	2/21/2024
Fiscal Impact Analysis	Backup Material	2/21/2024
Revised proffer statement dated 2/21/24	Backup Material	2/23/2024
Resolution	Backup Material	2/23/2024

Local Roots, Global Reach

ISLE OF WIGHT
COUNTY, VIRGINIA

AMENDED

REZONING

WHAT IS REZONING?

Isle of Wight first adopted zoning laws in 1970 as part of the County's authority to promote and protect health, safety, and general welfare of the present, as well as future, residents and businesses of the County.

These laws, as outlined in the Zoning Ordinance, designate all land to one of the zoning districts. The permitted uses and rules pertaining to each district designate the use of a parcel of land in a desired fashion. A change, or rezoning, is made at the owner's request or at the direction of the Board of Supervisors and in accordance with the land use designations of the Comprehensive Land Use Plan.

WHAT MUST I FILE TO REZONE MY PROPERTY?

1. Prior to submitting an application, it is recommended to schedule a pre-application meeting with Economic Development to review the application and discuss any questions the applicant may have. Please call 757-365-6249 for meeting information. If the property is in the Land Use Assessment Program, the applicant should also contact the Commissioner of the Revenue's Office at (757) 365-6222.

2. Submit a completed application form, completed application checklist with all required documents (See Submittal Checklist for additional items that may be required), completed disclosure of real estate holdings, owners affidavit and the filing fee of $1,200.

WHEN IS A REZONING APPLICATION CONSIDERED BY THE PLANNING COMMISSION?

Once a completed application has been submitted to the County, the application is distributed for comment and review to all appropriate County and State Agencies/Departments. Once all comments are received and the application is deemed acceptable by all appropriate County and State Agencies/Departments, the application is scheduled for public hearing by the Planning Commission. The Planning Commission meetings are normally held at 6:00 p.m. on the fourth Tuesday of each month in the Robert C. Claude, Sr. Board Room, at the County Courthouse Complex. The advertising deadline for an upcoming Planning Commission public hearing is the first Thursday of the month. An application must be deemed acceptable by all appropriate County and State Agencies/Departments prior to this deadline in order to be placed on the next agenda.

WHAT IS THE PUBLIC HEARING PROCEDURE FOR REZONING?

1. Once the application is scheduled for a public hearing by the Planning Commission, the applicant is required to the required number of copies of the concept plan and all other supplementary documentation deemed necessary by the Planning and Zoning Department for distribution to the Planning Commission. All required items must be submitted to the Planning and Zoning Department no fewer than ten calendar days prior to the scheduled public hearing.

2. The applicant will be given at least one sign to post on the property at least fourteen days prior to the Planning Commission public hearing, indicating an application has been filed. Additional signs may be required based on linear road frontage. These signs are provided by the County and may be picked up at the Planning and Zoning Department front desk.

3. The application is advertised for public hearing in the local newspapers twice – no more than twenty-one (21) days and no less than six (6) days prior to the public hearing.

4. Notices are sent by the Planning and Zoning Department to all adjoining property owners

If you have any questions, please call the Central Permitting office at 757-365-6211 or email at planreview@iwus.net

at least fourteen days prior to the public hearing.

5. Staff will prepare a report on the application and the applicant will be sent a copy of the report and other comments made by County and State Agencies/Departments prior to the meeting date.

6. The applicant and/or a representative are/is required to attend the Planning Commission meeting to present the application and answer any questions from Commission members.

7. Following the Planning Commission's recommendation of approval or denial, the application will be placed on the Board of Supervisors' agenda for a public hearing. Board of Supervisors meetings are typically held on the third Thursday of each month and the meetings begin at 5:00 pm in the Robert C. Claude, Sr. Board Room, at the County Courthouse Complex. The same notification procedure as outlined above will be followed, and additional copies of the concept plan and all other supplementary documentation will be required to be submitted by the applicant for distribution to the Board of Supervisors. All required items must be submitted to the Planning and Zoning Department no fewer than ten calendar days prior to the scheduled public hearing.

8. The Board of Supervisors will hold the public hearing as scheduled, and make a determination to approve or deny the application. The applicant and/or a representative are/is required to attend the Board of Supervisors meeting to present the application and answer any questions from Board of Supervisors members.

9. The applicant will be notified in writing of the Board of Supervisors' discussion. If denied, a period of at least one (1) year must elapse in order to resubmit the application, unless significant changes are made. Also, the applicant may appeal the Board's decision to the Circuit Court

10. If approved, and the request does not include the rezoning of an entire parcel, a zoning boundary plat will need to be prepared by a licensed surveyor and submitted for approval within twelve months of the Boards approval of the rezoning application.

WHAT OTHER PERMITS OR APPROVALS MAY BE REQUIRED PRIOR TO CONSTRUCTION?

- Zoning Permit
- Stormwater
- Building Permit
- Health Department Permit
- Site Plan Approval
- Subdivision Plat Approval
- Landscaping Surety
- Erosion and Sediment Control Surety

Local Roots, Global Reach
ISLE OF WIGHT
COUNTY, VIRGINIA
DEPARTMENT OF PLANNING AND ZONING

AMENDED

APPLICATION FOR REZONING/CONDITIONAL ZONING AMENDMENT

This application should be used to petition for a change to the Official Zoning Map or for an amendment of zoning conditions. The following application requirements are consistent with the procedures set forth in Section 1-1015*, Amendments*, of the Isle of Wight County Zoning Ordinance*,* as amended*.*

A. APPLICATION FOR:

[ ] Rezoning

[X] Conditional Rezoning (Are voluntary proffered conditions attached?): X Yes _____ No

Request to change the subject property(s) from the RAC to the LI zoning district.

Proposed Use or Activity: Industry, Type 1, Custom Manufacturing, and Warehousing and Distribution

[ ] Amendment to Conditional Zoning

Request to change conditional zoning as follows (Attach current and proposed conditions): _____

B. PROJECT DESCRIPTION:

Project Name: Tidewater Logistics Center

Property Address (if any): _____

Election District: District 4

Comprehensive Plan Designation: Planned Industrial (Proposed)

The rezoning will apply to 154.34 acres out of 154.34 total acres

Tax Parcel Identification # 54-01-086J Number of Acres to be Rezoned: 90.885

Requesting Zoning District Change from: RAC to LI

Tax Parcel Identification # 55-01-013 Number of Acres to be Rezoned: 63.457

Requesting Zoning District Change from: RAC to LI

Tax Parcel Identification # 54-01-086B Number of Acres to be Rezoned: .0000

Requesting Zoning District Change from: RAC to LI

Proposed Utilities (check all that apply): Public Water X Private Well _____

Public Sewer X Private Septic _____

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C. APPLICATION INFORMATION:

Applicant(s) Name(s): Meridian Property Purchaser, L.L.C.

Address: 3 Bethesda Metro Center, Suite 1400

City, State, Zip Code: Bethesda, MD 20814

Phone No.: 240.507.1174 Email: tomboylan@tmgdc.com Fax No.:

Property Owner(s) Name(s): Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC

Address: IDA: 17146 Monument Circle, Suite A, Isle of Wight, VA 23397
Hollowell: 409 Patrick Street, Portsmouth, VA 23707

City, State, Zip Code:

Phone No.: Email: Fax No.:

DocuSigned by:
James Huckaby
A800E42E9DA046A...

September 25, 2023

Approved By: Tom Boylan

Applicant Signature **Date**

Owner Signature *if different* **Date**

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Central Permitting, 17140 Monument Circle, Suite 100
P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: Fees Paid:
Tax Query: [ ] Current [ ] Delinquent Distribution Date:
Posted/Date to Post:

AGENCIES REFERRALS:

_____ Department of Conservation & Recreation
_____ Economic Development
_____ Emergency Services
_____ General Services
_____ Environmental Planner
_____ Health Department
_____ Transportation Manager
_____ Commission of Revenue
_____ Other

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Schools
_____ Budget & Finance
_____ County Attorney

Verified By: Date:

C. APPLICATION INFORMATION:

Applicant(s) Name(s): Meridian Property Purchaser, L.L.C.

Address: 3 Bethesda Metro Center, Suite 1400

City, State, Zip Code: Bethesda, MD 20814

Phone No.: 240.507.1174 Email: tomboylan@tmgdc.com Fax No.: _____

Property Owner(s) Name(s): Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC

Address: IDA: 17146 Monument Circle, Suite A, Isle of Wight, VA 23397
Hollowell: 409 Patrick Street, Portsmouth, VA 23707

City, State, Zip Code: _____

Phone No.: _____ Email: _____ Fax No.: _____

Applicant Signature **Date**

C. Morello 9/19/23

Owner Signature *if different* **Date**

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Central Permitting, 17140 Monument Circle, Suite 100
P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: _____ Fees Paid: _____
Tax Query: [ ] Current [ ] Delinquent Distribution Date: _____
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AGENCIES REFERRALS:

_____ Department of Conservation & Recreation
_____ Economic Development
_____ Emergency Services
_____ General Services
_____ Environmental Planner
_____ Health Department
_____ Transportation Manager
_____ Commission of Revenue
_____ Other _____

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Schools
_____ Budget & Finance
_____ County Attorney

Verified By: _____ Date: _____

C. **APPLICATION INFORMATION:**

Applicant(s) Name(s): Meridian Property Purchaser, L.L.C.

Address: 3 Bethesda Metro Center, Suite 1400

City, State, Zip Code: Bethesda, MD 20814

Phone No.: 240.507.1174 Email: tomboylan@tmgdc.com Fax No.: _____

Property Owner(s) Name(s): Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC

Address: IDA: 17146 Monument Circle, Suite A, Isle of Wight, VA 23397
Hollowell: 409 Patrick Street, Portsmouth, VA 23707

City, State, Zip Code: _____

Phone No.: _____ Email: _____ Fax No.: _____

_____

Applicant Signature **Date**

John W. Hollowell Jr. 9/18/2023

Owner Signature *if different* **Date**

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Central Permitting, 17140 Monument Circle, Suite 100
P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: _____ Fees Paid: _____
Tax Query: [ ] Current [ ] Delinquent Distribution Date: _____
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AGENCIES REFERRALS:

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_____ Transportation Manager
_____ Commission of Revenue
_____ Other _____

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Schools
_____ Budget & Finance
_____ County Attorney

Verified By: _____ Date: _____

AMENDED

REZONING/CONDITIONAL ZONING AMENDMENT APPLICATION CHECKLIST

****Both checklist and application required upon submission to central permitting or application will not be accepted****

In conjunction with Section 1-1015, *Amendments*, of the Isle of Wight County Zoning Ordinance, as amended, the following information shall be submitted for a Rezoning/Conditional Zoning Amendment Application. Please note that it is the applicant's responsibility to ensure that the application is in compliance with all Federal, State and County regulations.

No application for an exception shall be certified as complete unless the following information is provided. ***The required number of copies may be increased or reduced with permission of the Zoning Administrator, depending on the review needs.*** Applicant(s) must have their signature(s) notarized on the disclosure of real estate holdings.

- ☐ **Ten (10) copies of the following:**
  - ☐ original, executed application
  - ☐ a statement of the reasons for seeking a rezoning, and if applicable, a statement of proffered conditions with owner(s) original, notarized signature.
  - ☐ narrative description of current condition and use of the property, which shall include the tax parcel identification number
  - ☐ full size concept plan of the site to show all existing and proposed physical improvements and such other information as is necessary to clearly indicate to the reviewing body that adequate provisions have been made for compliance with all standards for that particular use, the extent of the property to be so used on a given parcel or parcels, and information defining the requested exceptions. The plan shall be prepared by the appropriate authorized design professional licensed to practice in Virginia. No person shall prepare or certify design elements of site plans which are outside the limits of their professional expertise and license. Such document shall be drawn to scale and shall include the following information:
    - A vicinity map at a scale of no less than one (1) inch equals two thousand (2,000) feet
    - Title of drawing
    - Date of drawing
    - Existing wood line
    - North arrow
    - Scale bar
    - Current zoning of parcel(s), including tax map number(s) and owner(s)
    - Current zoning of adjacent parcel(s), including tax map number(s) and owner(s)
    - Street names including route number and width(s) of the right-of-way(s)
  - ☐ any additional information required for the proposed use in accordance with Section 5-5000, *Supplementary Use Regulations,* of the Zoning Ordinance.
  - ☐ Community Impact Statement. Required for residential subdivisions of five (5) or more lots, planned development, commercial, industrial, or miscellaneous rezoning/conditional zoning amendment applications. Please refer to Section 1-1015.F for detailed requirements of the Community Impact Statement.
  - ☐ Water Quality Impact Assessment. For any rezoning in the Chesapeake Bay

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Preservation Area prepared in accordance with Appendix B-1 of the County Code for applications containing any of the following:

- will disturb any portion of the 100-foot buffer area of a Resource Protection Area
- (RPA), or any component identified in Section 3000.B.1 of the Chesapeake Bay Preservation Area Ordinance;
- contains ten (10) acres or more for any use, other than a development of single family detached residential lots;
- contains twenty-five (25) acres or more for the development of single family detached residential lots; or,
- any other development that may warrant such assessment due to the unique
- characteristics of the site or intensity of the proposed use or development, as may be required by the Zoning Administrator.

☐ Planned Development supplemental information shall be submitted in accordance with Section 4-14005, *Submission Requirements,* of the Zoning Ordinance

☐ **One (1) original executed application**

☐ **One (1) digital copy of ALL application documents**

☐ **One (1) reduced 11"x17" copy of concept plan**

☐ **Voluntary Proffer Statement if applicable**

☐ **Waiver and Release of Claims if cash proffer is proposed**

☐ **Application fee submitted with the application. Checks should be made payable to treasurer, Isle of Wight, County**

☐ **Other information may be necessary to demonstrate compliance with all other applicable federal, state and County standards and regulations.**

☐ **All real estate taxes must be paid and current at the time of submittal; otherwise, the submittal will be refused at the counter. Proof of the most recent tax payment to the County must accompany the application.**

I, the undersigned, certify that this application is complete, accurate and contains all required and requested information, documents and other submittals, and that all statements made herein are, to the best of my knowledge, true and correct. I further certify that I have exercised due diligence to obtain the most recent, complete and correct information available. I understand that any section not completed in its entirety may delay processing of this application and the date of the Planning Commission public hearing and that the submittal of a complete application does not guarantee the application will be placed on the next available Planning Commission agenda.

James Huckaby

Name

DocuSigned by:
James Huckaby
A808E42E89A848A...

Signature

September 25, 2023

Date

DocuSign Envelope ID: 50D434E4-7966-42E3-8280-C4943D17E7C4

COUNTY OF ISLE OF WIGHT
DISCLOSURE OF REAL ESTATE HOLDINGS

Applicant: Meridian Property Purchaser, L.L.C

Address: 3 Bethesda Metro Center, Suite 1400, MD 20814

REAL ESTATE HOLDINGS TO BE AFFECTED

Location or Address	Description
None	

OTHER OWNERS OF AFFECTED REAL ESTATE
(Not Required for Corporation whose stock is traded on a national or local stock exchange or having more than 500 shareholders.)

Name of Individuals Corporation/Partnership Business Association	Address
None	

Does any member of the Isle of Wight County Planning Commission or governing body have any interest in such property, either individually, by ownership of stock in a corporation owning such land, partnership, as the beneficiary of a trust, or the settlor of a revocable trust, or whether a member of the immediate household of any member of the Planning Commission or governing body has any such interest? Yes (No)

If yes, names of members:

I do solemnly swear that the foregoing statement(s) and attachments(s), if any, are complete, correct, and true.

Applicant: James Huckaby (Printed or Typed Name) Applicant: James Huckaby (Signature) Date: September 25, 2023

Commonwealth of Maryland
County of Montgomery

Subscribed and sworn to before me Katt Bogue,
A Notary Public in and for the County of Montgomery Commonwealth of Maryland, this 25th day of September, 2023.

Notary Public

My Commission Expires 6/24/25

KATHERINE GRACE BOGUE NOTARY PUBLIC MONTGOMERY COUNTY, MD MY COMMISSION EXPIRES JUNE 24, 2025

REZONING
STATEMENT OF REASONS & NARRATIVE DESCRIPTION

Tax Parcel ID# 54-01-086J: Windsor Blvd., Windsor
Tax Parcel ID# 55-01-013: 13009 Windsor Blvd., Windsor
Tax Parcel ID# 54-01-086B: 13009 Windsor Blvd., Windsor

November 21, 2023

Applicant/Project Background

https://tmgdc.com/about

The Applicant, Meridian Property Purchaser, L.L.C., is an affiliate of The Meridian Group. The Meridian Group was founded in 1993, and is based in Bethesda, Maryland. Over the past 30 years, TMG has evolved into a full service real estate firm with a present focus on the development and management of light industrial centers. TMG is passionate about place making and envisions a dynamic and modern warehousing and distribution center for the subject property. TMG is excited about the opportunity to work with the County in developing this vision and in expanding an emerging economic center within the County.

Narrative Description

The property upon which the project is envisioned is located at 13009 Windsor Boulevard (Tax Parcels ID # 54-01-086J, # 54-01-086B, and # 55-01-013) in the Windsor Development Service District, just outside the limits of the Town of Windsor. The site contains approximately 154 acres located on US Route 460 and consists of agricultural fields and timberland. The property is currently zoned RAC – Rural Agricultural Conservation and designated Mixed Use on the County's Comprehensive Plan Future Land Use Map.

Parcel ID # 54-01-086J is owned by the Industrial Development Authority of Isle of Wight, and Parcels ID # 55-01-013 and # 54-01-086B are owned by Hollowell Holdings, LLC. The legal descriptions and surveys for the property are attached hereto as Exhibit A. Meridian Property Purchaser, L.L.C. is the contract purchaser of the property.

Statement of Reasons

The applicant seeks to change the zoning of the property from Rural Agricultural Conservation to Conditional Limited Industrial for the development of a warehousing and fulfillment center to be known as the Tidewater Logistics Center.

The Port of Virginia is a major driver of warehousing and distribution activity in the region. The capacity and logistics of the Port's operations and its investment in its future operations, make it a leading center of global commerce and a vital import and export location for many US and foreign businesses. Accordingly, there is significant and growing demand for warehousing and distribution centers in the Hampton Roads region.

The County is well positioned, generally, to be a beneficiary of this economic activity given its proximity to the Port, US Route 460, and the Norfolk Southern Rail Line. The County's quality of life, work force, and stable local economy, as well as its supply of suitable property along the 460 corridor make it a desirable location for warehousing and distribution centers. The subject property is of particular interest because of the availability of the relatively large area of contiguous, relatively flat land with direct access to US Route 460, as well as its location within the Virginia Enterprise Zone and the Foreign Trade Zone.

The character of the area for the proposed zoniong has been established by the existing World Market, Safco, and Green Mountain facilities. A rezoning to Conditional Limited Industrial is consistent with the planned industrial designation south of 460 and allows for a larger, well-planned industrial node and protects against potentially incompatible land uses that could be associated with the RAC designation. The project will generate substantial revenue for the County and many new jobs. The proffers, master plan, and elevations which are a part of the proposal mitigate the impacts of the project and ensure a high-quality project that contributes to the character and prosperity of the area.

It is understood that there is certain overlap in permitted and conditional uses between RAC and Conditional Limited Industrial zoning designations; however, the Applicant's goal for the Tidewater Logistics Center project, as described in the pre-application meeting and application materials, is rezone the project from the RAC to C-LI district. The application seeks to maintain land use consistency with the adjacent Shirly T. Holland Intermodal Park (Limited Industrial zoning designation). Additionally, it is important that there be a clear alignment of the project's land use with the purpose and intent of property's underlying zoning designation in order to ensure the project's success over the long term. A Conditional Limited Industrial zoning designation will allow the Virginia Enterprise Zone Program objectives to be accomplished without limitations or marketing ambiguity. Furthermore, the project's consideration as part of the Virginia Business Ready Sites Program (VBRSP) would be hindered without a tier ranking as part of the site characterization report that supports a road map to zoning alignment.

Community Impact Statement

For

Tidewater Logistics Center

Isle of Wight, VA

Prepared For:

The Meridian Group

3 Bethesda Metro Center, Suite 1400

Bethesda, MD 20814

Prepared By:

Kimley-Horn

4525 Main Street, Suite 1000

Virginia Beach, VA 23462

1st Submittal: July 17th, 2023

2nd Submittal: September 22, 2023

3rd Submittal: November 21, 2023

Kimley-Horn Project Number: 117158002

Table of Contents

Section I – Regulatory Requirements 3

Section II – Project Description 3

Section III – Adequacy of Existing Public Facilities and Services 4

A. Public Water facilities 4

B. Public Sewer Facilities 4

C. Environmental Considerations 4

D. Drainage Facilities 5

E. Public Schools 5

F. Emergency Service Facilities 5

G. Transportation Facilities 6

Section IV – Fiscal Impacts 6

Section V – Conclusion 6

Section I – Regulatory Requirements

This analysis is submitted pursuant to the requirements of the *Isle of Wight County Code of Ordinances Section 1-1015.F.* It is submitted in support of the Rezoning Application for the subject property.

Section II – Project Description

The parcels in question are located in Isle of Wight County on the north side of U.S. Route 460 (Windsor Boulevard) in between Lovers Lane and Old Mill Road, identified by its Tax Parcel Numbers (TPN's) 54-01-086J, 54-01-086B and 55-01-013. For the purposes of this report, unless otherwise noted, this land is considered to be assembled and collectively is referred to as the "Site" and the project as the "Tidewater Logistics Center". The gross area of the site is approximately 154.34 acres and consists of an existing residential home and agricultural fields. The site lies to the east of the Town of Windsor but is located within the Windsor Development Service District (DSD), per the Isle of Wight Comprehensive Plan. The areas within the DSD are primarily designated planned industrial, environmental conservation, and suburban estate; however, the surrounding parcels of the project site are identified by the comprehensive plan as planned industrial, business & employment, environmental conservation, and suburban residential.

The project is proposing the rezoning of the indicated parcels from the Rural Agricultural Conversion District (RAC) to the Conditional Limited Industrial District (C-LI). In addition to the rezoning of the site, the project proposes a comprehensive plan amendment to change the land use designation from mixed use to planned industrial.

Five industrial warehouse buildings are proposed on the site. The total proposed warehouse space is approximately 1.23 million square feet. Just outside of the Tidewater Logistics Center site is the site of the 1 million square foot Cost Plus World Market warehouse along Route 460. An industrial park development is located south of the Cost Plus warehouse, referred to as the Shirley T. Holland Industrial Park.

An industrial access road is to be constructed throughout the site, servicing the parcels. Gravity sanitary sewers on each parcel will be installed, supported by two sewer pump stations – one private pump to serve the southeastern parcel and one public pump for the western parcel and the existing residential development on Lovers Lane. Water mains will be constructed within the access roads connecting to an existing water main located on U.S. Route 460.

The portions of the parcel containing the Saunders House, as well as the existing cemeteries onsite will remain undisturbed.

Section III – Adequacy of Existing Public Facilities and Services

A. PUBLIC WATER FACILITIES

The proposed development will be connected to public water facilities via the Route 460 right-of-way 16" water main. The water system around the Tidewater Logistics Center contains a 600,000-gallon elevated storage tank that provides storage to the system and mains that provide water service to the existing warehouses south of the site. An analysis and exhibits showing the proposed water system are contained within the Water and Sanitary Sewer Master Plan submitted in support of the Rezoning Application. The analysis demonstrates that the existing public water infrastructure can supply adequate pressures and flows for the worst-case fire demands at each of the proposed warehouse buildings, based on the capacity curves the County provided in June 2023.

B. PUBLIC SEWER FACILITIES

The existing sanitary sewer infrastructure around the Tidewater Logistics Center project consists of the 20" Hampton Roads Sanitation District (HRSD) force main along the Route 460 right-of-way that ultimately conveys the wastewater to the treatment plant. Two sewersheds have been proposed for the Tidewater Logistics Center, dividing the site into eastern and western portions whose systems will connect to the existing 20" force main.

Sewer Service Area 1 contains 3 industrial buildings on the western parcel of the proposed development as well as the existing residential development on Lovers Lane and part of Shiloh Drive, as requested by the County during the pre-application meeting. This sewershed will be serviced by a gravity system carrying flows from the existing and proposed buildings to the proposed Isle of Wight Regional Pump Station (PS-1). This pump station will connect the existing residential development to the HRSD force main. Sewer Service Area 2 contains 2 industrial buildings on the eastern parcel of the proposed development. This sewershed is serviced by a gravity system carrying flows from the proposed buildings to the proposed private pump station (PS-2).

Combined, both the residential and proposed industrial flows total to an average daily flow of 46,283 gpd or a peak flow of 140.1 gpm. An analysis and exhibits showing the proposed sanitary sewer system are contained within the Water and Sanitary Sewer Master Plan submitted in support of the Rezoning Application.

C. ENVIRONMENTAL CONSIDERATIONS

Multiple critical areas where impacts to CBPA buffers, wetland areas, and watercourses are proposed as part of the industrial development, which will require additional permitting with Virginia Department of Environmental Quality and the Army Corp of Engineers. These include encroachment of the CBPA buffer for parking and loading facilities, the access road and utility installation crossing Ennis Pond, and BMP outfalls for each of the proposed ponds to the existing wetlands. The project is being specifically

designed to limit the impacts to the environmental features to the greatest possible extent and mitigate impacts through standard engineering practices. Refer to the Major Water Quality Impact Assessment for a depiction of environmental constraints, critical areas, and wetland impacts.

D. DRAINAGE FACILITIES

The project site generally drains from south to north, to the wetlands associated with Lake Prince, or towards Ennis Pond at the center of the site. Preliminary engineering calculations propose multiple stormwater ponds which will be designed to provide water quality and quantity mitigation for the proposed buildings and parking/loading areas in accordance with Isle of Wight County stormwater requirements as well as the requirements of the Chesapeake Bay Preservation Area Act. Compliance with channel protection and flood protection requirements will be met through the proposed stormwater Best Management Practices (BMP's).

Localized redirection of storm water from impervious and other developed areas will cause minor disruptions to water supplies to adjacent wetlands and streams. To comply with City and State regulations, BMP's must intercept developed runoff and treat it prior to release. To the extent practical, storm water will be generally directed to release at historic points of discharge, with attention to provide adequate supply of water to wetland areas. Stormwater flow from the public right-of-way, which currently flows through the site via ditches and streams to the wetlands to the north, will maintain its original drainage patterns by the installation of culvert crossings under the proposed driveway entrances.

Refer to the Stormwater Master Plan and Major Water Quality Impact Assessment (MWQIA) for a more detailed analysis of surface water impacts.

E. PUBLIC SCHOOLS

There will be no impacts to public schools in the area, as the proposed use is industrial and does not include any residential units.

F. EMERGENCY SERVICE FACILITIES

Emergency Services in Isle of Wight County are provided through a combination volunteer-career system. The Windsor Volunteer Rescue Squad is responsible for providing EMS service to the area and is located on Windsor Boulevard (Route 460), approximately 1.5 miles from the nearest proposed Tidewater Logistics Center site entrance. The Windsor Volunteer Fire Department is responsible for providing fire protection services for the area and is located approximately 1 mile on Route 460 from the nearest proposed site entrance. The Isle of Wight County Sheriff's Department has the primary responsibility to prove law enforcement in the area surrounding the proposed development and is located approximately 7.5 miles north of the site. Law enforcement protection is also provided by the Virginia State Police.

G. TRANSPORTATION FACILITIES

Access to/from the proposed development will be via Windsor Boulevard and Dominion Way (a full access movement that forms the north leg of the existing signalized intersection) as well as an additional intersection further east on Windsor Boulevard (new proposed right-in/right-out unsignalized intersection).

A Traffic Impact Analysis (TIA) was performed for the proposed development and is included with the Rezoning application. The proposed Tidewater Logistics Center development has the potential to generate a total of 2,349 daily weekday trips. Out of the total weekday daily trips, 223 driveway trips occur during the AM peak hour and 246 driveway trips occur during the PM peak hour. Under all future year development scenarios, it is anticipated that overall intersection operations will be maintained at LOS D or better during the AM and PM peak hours for all study area intersections. Based on the results of the traffic analysis, including the off-site transportation infrastructure improvements listed within the TIA, the impacts associated with the development are anticipated to result in operations similar to No Build conditions.

Refer to the TIA for a full analysis of existing and future traffic conditions within the project study area as well as identification of traffic impacts and transportation recommendations based on the new traffic generated by the development.

Section IV – Fiscal Impacts

A fiscal impact study is underway and will be provided to Isle of Wight staff upon completion. Completion is estimated by the end of August 2023.

Section V – Conclusion

The existing County infrastructure has adequate capacity to support the proposed Tidewater Logistics Center development. As the demand for warehousing and distribution centers in the Hampton Roads region grows, Isle of Wight County is well positioned, generally, to be a beneficiary of this economic activity given its proximity to the Port, US Route 460, and the Norfolk Southern Rail Line. The character of the area for the proposed land use has been established by the existing World Market, Safco, and Green Mountain facilities. Establishing the future land use designation for the subject property to be consistent with the planned industrial designation south of Route 460 acknowledges this and allows for a larger, well-planned industrial node and protects against potentially incompatible land uses.



This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.

ONE FOUR TWO DESIGN GROUP

CONCEPTUAL RENDERING - BUILDING D

TIDEWATER LOGISTICS CENTER
ISLE OF WIGHT COUNTY, VA

ARCO DESIGN/BUILD

02/05/2024

This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.

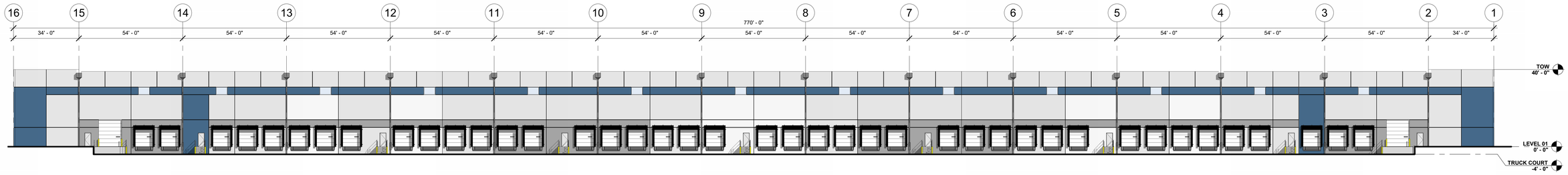
ONE FOUR TWO DESIGN GROUP

CONCEPTUAL RENDERING

TIDEWATER LOGISTICS CENTER
ISLE OF WIGHT COUNTY, VA

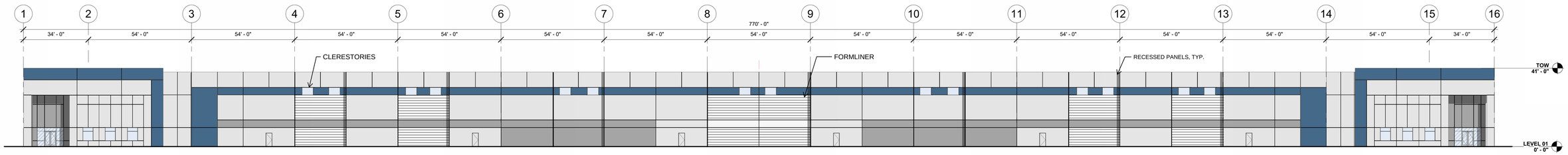
02/05/2024

ARCO DESIGN/BUILD



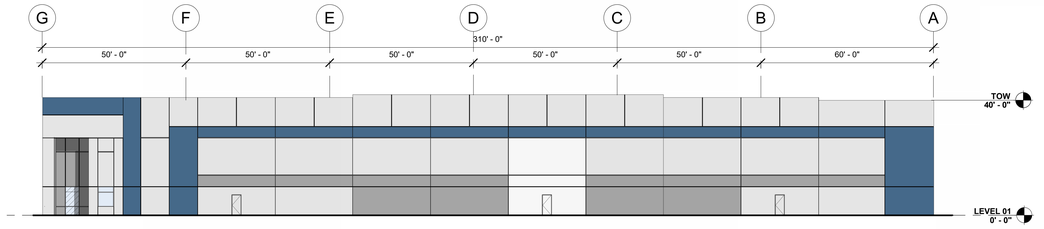
NORTH ELEVATION

SCALE: 3/64" = 1'-0" 1



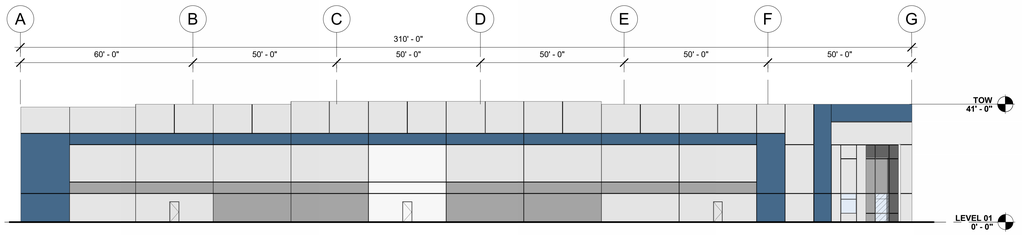
SOUTH ELEVATION

SCALE: 3/64" = 1'-0" 2



EAST ELEVATION

SCALE: 3/64" = 1'-0" 4



WEST ELEVATION

SCALE: 3/64" = 1'-0" 3

This conceptual design is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information, and is intended merely to assist in exploring how the project might be developed.

SCALE 3/64" = 1'-0"

0 16 32 48 96

ADB | DESIGN SERVICES

PRELIMINARY ELEVATIONS - BUILDING D

MERIDIAN TIDEWATER
ISLE OF WIGHT COUNTY, VA

02/05/2024

ARCO DESIGN/BUILD

This conceptual design and dimensional information is based upon a preliminary review of entitlement requirements and on unverified and possibly incomplete site and/or building information. It is intended merely to assist in exploring how the project might be developed.

ADB | DESIGN SERVICES

TMG

PRELIMINARY BUILDING DESIGN

TIDEWATER LOGISTICS CENTER

ISLE OF WIGHT COUNTY, VA

06/16/2023

ARCO DESIGN/BUILD

TOWN OF WINDSOR

P.O. Box 307
8 E. Windsor Blvd.
Windsor, VA 23487

Department of
Planning & Zoning
757-242-4288

Established 1902

August 31, 2023

Isle of Wight County Planning Commission
17140 Monument Circle
Isle of Wight, Virginia 23397

RE: Application for an amendment to the Comprehensive Plan
Application for a change in zoning classification
Meridian Property Purchaser LLC, Tidewater Logistics Center
Parcels 54-01-086J, 54-02-086B, 55-01-013

Dear Isle of Wight County Planning Commission:

The Isle of Wight County Planning Department recently referred the above referenced applications to our attention for review and comment. As these applications border the corporate limits of the Town of Windsor and will have substantial impacts upon the Town, we are appreciative of the opportunity to review these proposals.

The Windsor Planning Commission reviewed these applications at their meeting on August 23rd and asked that I summarize their discussions and forward these comments to your attention. We understand our comments are advisory in nature, however, we ask that the County Planning Commission give due consideration to the highlights that emerged from our review.

Comprehensive Plan Amendment Application

The Isle of Wight County Comprehensive Plan was adopted in January 2020. This plan identifies the above referenced parcels as Mixed Use. According to the plan, Mixed Use designations will provide for housing, mixed with office, commercial and other uses. The Mixed Use (MU) land use consists of one or multiple detached or attached single family homes, multi-plex and apartment style housing options, along with office or commercial uses. As such, this designation is more compatible with the established neighborhoods along Lover's Lane, Hazelwood Drive and Keaton Avenue, all located in the Town of Windsor.

We understand that the Comprehensive Plan is not an ordinance, but rather a guide for future land use decisions. This plan is enacted through changes to zoning classifications and applying specific regulations. However, to request an amendment to the County Comprehensive Plan to Planned Industrial seems to negate the considerable efforts that went into developing the plan.

Records indicate that Parcel 54-01-086J is currently owned by the Industrial Authority of Isle of Wight County (IDA). The question arises as to why the IDA did not advocate for a future land use designation of Planned Industrial during this Comprehensive Plan development, as the IDA has owned the property since 2008. To amend the Comprehensive Plan to a Planned Industrial designation appears to negate sound planning principles especially as they relate to nearby existing residential uses. Planned Industrial areas should be as they state, "planned". In this particular application, it appears that this concept is not being followed. The Mixed Use (MU) designation is more appropriate for this specific location.

Zoning Amendment Applications

This zoning application raises a multitude of effects for the Town of Windsor and Isle of Wight County. Please keep in mind, residents of the Town are also residents of the County. Some of the impacts associated with this application may provide benefits to the Town and County and also produce negative effects. As with any application of this size and scope, careful review and/or modifications should be considered. As this proposal will be located in close proximity to established neighborhoods, specific considerations should be addressed. This application provides many more questions than answers.

Proximity to Residential Uses:

Is there adequate buffering with earthen berms and landscaping?

The site exhibit does not show any proposed lighting. Any lighting near the residences should be limited or prohibited to avoid unnecessary impacts.

The location of stormwater retention basins should away from residential uses and adequate aeration provided to prevent stagnation and mosquitoes.

Increased buffering should be considered to reduce adverse noise impacts given the potential for 24/7 operations of such warehousing facilities, including diesel trucks idling, loading and unloading activities, and backup chimes on vehicles.

Infrastructure Improvements:

This application intends to utilize a sewer pumping station. However, this station is located too close to the existing residential uses. No amount of buffering will prevent the undesirable odors from infiltrating these neighborhoods. The pumping station should be relocated away from the residences. While we appreciate the County studying the nearby areas for the potential future expansion of sewer services, the proposed location of this pump station should be revisited.

Transportation:

After reviewing the Traffic Impact Analysis (TIA) for this application, it was noted there is a glaring omission. Most of the intersections along Windsor Boulevard were studied for possible impacts, however, the intersection of Windsor Boulevard and Lovers Lane was not included. This is the intersection closest to the traffic signal at Dominion Way/Windsor Blvd., the primary entrance and exit for the site. Additionally, the application includes adding a 200' turn lane with a 200' taper eastbound on Windsor Blvd. This turn lane and taper will be very close to the intersection of Windsor Blvd. and Lovers Lane. Undoubtedly, this will be a friction point and lead to increased accidents, injuries and possible fatalities. A study of this intersection should be provided and in coordination with VDOT, possible mitigation strategies suggested and enacted.

The application will provide substantial impacts to Windsor Blvd., especially through the corporate limits of the Town of Windsor. Improvements to the existing intersections throughout the Town should be studied with positive enhancements suggested to improve the flow of traffic, including synchronizing the existing signals.

Public Safety:
The Isle of Wight Sheriff's Office maintains law enforcement responsibility throughout the County and performs a commendable job with the limited resources they have. Through a mutual aid agreement, the Windsor Police Department also responds to multiple 911 dispatches that fall within the County yet are in close proximity, including the Shirley T. Holland Intermodal Park. This site would also fall within the mutual aid area. With the proposed number of employees, truck freight and other uses intended for this site, this will only add to the number of calls that the Windsor Police Department will respond to. Consideration should be given to establishing revenue sharing protocols to reimburse the Town for services provided.

The Windsor Volunteer Fire Department serves the central area of Isle of Wight County. The department relies on volunteers to ensure adequate response to incidents both near and far. The Town of Windsor is very proud of the dedicated service of these volunteers. While we understand that the Windsor Fire Department falls under the purview of Isle of Wight County Emergency Services, we are fortunate to have the station within the Town limits.

With a proposal of this size and scope, their will be additional calls for service from the Windsor Fire Department. In reviewing the Isle of Wight County Capital Improvement Plan (CIP), there appears to be limited capital investment in the fire department for the next 5 years. Phased investments primarily consist of replacing station equipment. With the existing industrial development in the Shirley T. Holland Intermodal Park and with this proposed application, due consideration should be given to begin the process of updating the CIP to include providing the Windsor Fire Department with a ladder truck. Additionally, preliminary design work should be included for the replacement of the Windsor Fire Station. Isle of Wight County owns the corner parcel at Hidden Acres Circle/Windsor Boulevard (next to the existing fire station). This would be an ideal site for a new fire station.

The Windsor Rescue Squad serves the central area of Isle of Wight County and provides excellent service. They also fall under the purview of Emergency Services. Consideration should be given to amending the CIP to provide the resources and space they will need to provide the level of service expected, now and in the future. Long term planning will allow the Rescue squad to relocate to the existing fire station, once a new fire station is constructed.

Proffers:
We have reviewed the proffer statement submitted by the applicant. A brief synopsis provides that the applicant will only proffer the improvements that they will be required to do, including the transportation improvements. If industrial development really pays for the services they require including law enforcement, fire protection, and rescue squad calls, why is there such limited funding in the CIP for investments in these vital agencies? This application and its proffers should involve a more robust effort to address the public safety funding inadequacies.

Environmental:
The application proposes impacts to the 100' wetland Resource Protection Area (RPA) buffers in several locations. In reviewing the proposed site layout associated with this application, it appears that revising the layout would alleviate or remove these encroachments. Additionally, County ordinances and regulations limit maximum site coverage to a specific percentage. Questions arose during our review as to what areas this would be applicable to; will all the undevelopable wetlands be considered in deriving this maximum lot coverage percentage? It appears that the site layout may be in conflict with County ordinances.

In conclusion, the Town of Windsor Planning Commission thanks you for the opportunity to review these applications. Careful consideration should be given to any Comprehensive Plan amendment in order to maintain the integrity and usefulness of the plan. This site adjoins an established neighborhood; therefore the proposed site layout can and should be modified to limit any and all impacts to these residences. An adequate transportation study should be performed to reduce potential friction points and to provide for safe traveling for all who pass through the Town and County. The proffers suggested should be revisited to ensure that all development, including industrial, provides its fair share to the public safety services they require.

As always, we look forward to assisting the Isle of Wight County Planning Commission make sound recommendations that reflect our commitments to serving the public. Should you have any questions or need additional information, please feel free to contact me.

Sincerely,

James A. Randolph
Planning & Zoning Administrator

Cc: Town of Windsor Planning Commission

ISLE of WIGHT COUNTY MUSEUM

MEMORANDUM

TO: Trenton S. Blowe
Planner II, Isle of Wight County Department of Planning & Zoning

FROM: Jennifer England
Director, Isle of Wight County Museum
Historic Resources Manager, Isle of Wight County

RE: Tidewater Logistics Center
Updated Phase II
Tax Map Nos. 54-01-086J and 55-01-013
MUNIS No. 28397

DATE: February 6, 2024

After yesterday's meeting regarding the Tidewater Logistics Center project in Windsor with the Meridian Group of Bethesda, Maryland, the Isle of Wight County Museum/Isle of Wight County Department of Historic Resources would like to document several items as this project moves forward.

While the c. 1796 Henry Saunders House maintains a significant portion of its original fabric, its true significance lies in its representation of an entire class of 18th century Virginians. The Smithsonian Institution acquired several original portions of the interior including a staircase which was studied, interpreted and displayed at the National Museum of American History as an ideal example of the household of an economically stable middle class planter in 18th-century Virginia. Exhibited in this national museum in The Virginia Parlor, the artifacts' interpretation focused on Henry Saunders and his house as representations of this class of Virginians.

Here in Isle of Wight County, his house still stands as a symbol of 18th-century Virginia planters with a significant portion of its original exterior and interior fabric intact with accurate replicas replacing all but one of the portions removed by the Smithsonian. Furthermore, several houses with comparable interior details in Isle of Wight County are now scarce. For example, the two-level built-in buffet that is now owned by the Smithsonian had comparable pieces in the James Johnson House and Carr House, both

103 Main Street
Smithfield, VA 23430
(757) 356-1014
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demolished in 1974. In summary, Henry Saunders and the house he built both represent 18th century Virginia planters for a national - if not worldwide - audience.

Because of the significance of this house and its associated outbuildings, the developer should be encouraged – assuming the homeowner is agreeable – to provide funding for a highway marker through the Virginia Department of Historic Resources. This department would be pleased to handle the logistics of such a project with the said funding.

The viewshed of the Saunders House will not be impacted greatly by the project's construction because of the trees already in existence on the property. However, the addition of enhanced landscape – with appropriate vegetative choices to match the trees currently behind the house – to further protect the viewshed is encouraged.

It has been noted that the two cemeteries – the first north of the Saunders House and the second west of Proposed Building A – will be marked off and monitored during site preparation and construction. Additionally, the cemeteries should be permanently protected and delineated with wrought iron fencing appropriate for these cemetery landscapes.

As the applicant moves forward with this project, the potential discovery of archaeological artifacts and resources at these sites is probable. If the landowners are willing, the Isle of Wight County Museum should be considered a repository for discovered artifacts on this land and future finds on this site as they could further the interpretation or discovery of Isle of Wight County history.

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COMMONWEALTH of VIRGINIA

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Travis A. Voyles
Secretary of Natural and Historic Resources

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

February 12, 2024

Mr. Trenton Blowe
Planner II
Isle of Wight, Virginia 23397

Re: Tidewater Logistics Center - Windsor Commerce Tract
Isle of Wight County, Virginia
DHR File No. 2023-4713

Dear Mr. Blowe:

The Department of Historic Resources (DHR) has received for our review and comment revised versions of the report titled *Phase I Cultural Resources Survey of the Windsor Commerce Center Tract, Isle of Wight County, Virginia*, and the report entitled *Phase II Archaeological Evaluation of Site 44IW0395 and GPR Survey of Site 046-5629, The Windsor Commerce Center Tract*. Both reports were prepared and submitted by Circa~ Cultural Resource Management (Circa). Our comments are provided to Isle of Wight County as technical assistance in the assessment of potential impacts on historic resources and consistency of the report with DHR's *Guidelines for Conducting Historical Resources Survey in Virginia* (2017).

The revised Phase I report meets *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44716-42) and DHR's *Guidelines* (2017). We concur with the consultant's recommendation that sites 44IW0160 and 44IW0396 are not likely to yield significant historical information and are likely not eligible for listing in the National Register of Historic Places (NRHP). The isolated finds do not constitute archaeological sites and are therefore not eligible for listing in the NRHP.

I conducted a brief reconnaissance of the project area on November 15, 2023, and identified a historic archaeological site that was not discussed in the previous version of the Phase I report. The site is a dense concentration of redeposited historic architectural, agricultural, and domestic materials exposed on and within an eroding ditch (see Attachment A). According to the revised Phase I report, "a neighboring farmer indicated he had retrieved old, demolished building material from Norfolk to fill in the wet areas on his farm for roads and along wetlands." Norfolk is approximately 40 miles from the project area. I did not observe any similar deposits elsewhere on the property and none were reported by Circa. This archaeological site should be documented in the Virginia Cultural Resource Information System (VCRIS).

The revised Phase II report also meets *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44716-42) and DHR's *Guidelines* (2017). However, DHR does not concur with Circa's recommendations regarding the integrity and potential significance of Site 44IW0395. Their statements are based on contradictory conclusions. Circa states that, "All artifacts were recovered from an undifferentiated/mixed-plowed stratigraphic context." However, distinct, artifact-bearing strata are

described, drawn, and photographed in the report. The report states that, "No subsurface features beyond plowscars were identified." However, Plates 8 and 10 depict buried archaeological features in Test Units 7 and 8, respectively, that contrast sharply in their shapes and dimensions from the distinct plowscars also visible at the base of excavation in Test Unit 7. It is also notable that sterile subsoil had not yet been exposed across the base of Test Unit 8 when the photograph in Plate 10 was captured. This is especially evident by comparing the profile in Plate 10 to the photograph of Test Unit 7 in Plate 8 (see Attachment B). Both units were excavated at the center of the site. Likewise, the plan drawings of Test Units 2 and 3, also excavated at the center of the site, depict features that do not resemble plowscars.

The report describes Site 44IW0395 as lacking "spatial and temporal integrity." However, nearly all the diagnostic artifacts recovered during the Phase I and Phase II investigations were produced during the late eighteenth and early nineteenth centuries. The results of the Phase II evaluation support the location of the site centroid as defined during the Phase I survey. Circa~ wisely focused their test unit excavations in this area based on a subtle difference in topography and the greater density and diversity of materials recovered from this area during the Phase I survey. As discussed above, intact archaeological features were uncovered in these tests. Additional controlled excavation will likely reveal additional buried archaeological features. DHR recommends 44IW0395 *potentially eligible* for listing in the NRHP.

DHR concurs that the Butler/Jones/Lovers Lane Cemetery (DHR ID No. 046-5629) is likely not eligible for listing in the NHRP. It is our understanding that no buffer will be established between where ground disturbing operations are anticipated and the tree line of the copse of trees containing the cemetery's extant headstones. The report states that, "GPR [ground penetrating radar] survey did not record any additional burial features within the buffer." It is unfortunate that the GPR survey was not scheduled for a time after the crops were harvested from the field, when the rest of the archaeological investigation were conducted. The level terrain and sandy soils that characterize this part of the APE would have allowed for comprehensive coverage using the instrument. It is also unfortunate that no visual data, either radargram profiles or horizontal time slices were provided by the technician. The report states that a [Geonics] EM-31 [Ground Conductivity Meter] survey was also conducted, however no data on the results of that investigation are presented. It is unclear why the eastern edge of the copse of trees was excluded from the geophysical survey. Circa~ recommends "installing orange safety fencing around the cemetery edge [presumably at the tree line] to ensure that any unmarked graves [presumably within the tree line] are not impacted during construction." Care should be taken to recognize possible grave shafts that may have been missed during the limited GPR survey. A qualified archaeologist should monitor ground disturbance around the cemetery especially if no buffer is intended between the known limits of the cemetery and ground disturbing operations.
Please contact me at tim.roberts@dhr.virginia.gov if you have any questions.

Sincerely,



Timothy Roberts, Archaeologist
Review and Compliance Division

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
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Fax: (804) 367-2391

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
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Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Attachment A





Previously unrecorded historic archaeological site at approximately 36.804432°, -76.712184°. Before (above) and after (below) raking leaves.





Previously unrecorded historic archaeological site at approximately 36.804432°, -76.712184°. Large fragments of brick foundation (above). Large roots growing around a mortared brick (below).





Previously unrecorded historic archaeological site at approximately 36.804432°, -76.712184°. A refit ceramic vessel (above). Handmade brick with "…ALVERT" stamped in the frog (below). The Calvert brand was established by Cushwa Brickworks in Williamsport, Maryland, in 1872.

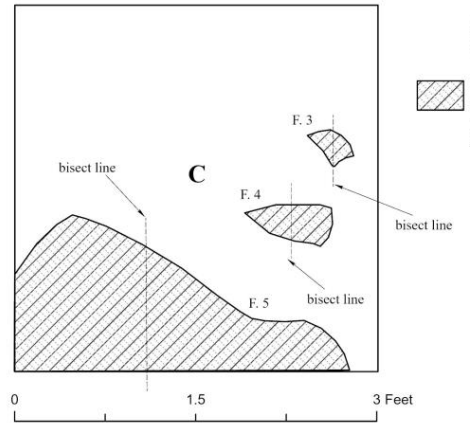


Previously unrecorded historic archaeological site at approximately 36.804432°, -76.712184°. Artifact sample: cut and drawn iron nails, lance-tooth crosscut saw blade fragment, c. 1950s Pepsi-Cola glass bottle fragment, hammered glass vessel base.

Attachment B

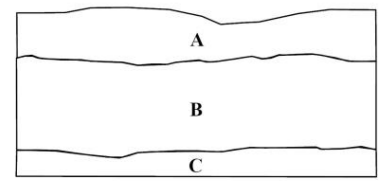


Site 44IW0395
Test Unit 7
Features 3, 4, and 5
Plan View and North
Wall Profile



C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay



A-Plowzone: Brown (10YR 5/3) sandy silt

B-Plowzone: Pale-brown (10YR 6/3) sandy silt

C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay

Feature 3:
West Wall profile



Feature 4:
West Wall profile



Feature 5:
West Wall profile



99% | Reset

Crop | Adjustment | Filter | Markup | Retouch | Background

Save options | Cancel



Light

Brightness 0

Exposure 0

Contrast 0

Highlights 0

Shadows 0

Vignette 0

Color

Saturation 0

Warmth 0

Tint 0

99% | Reset

Crop | Adjustment | Filter | Markup | Retouch | Background

Save options | Cancel



Light

Brightness 39

Exposure 0

Contrast 32

Highlights 0

Shadows -100

Vignette 0

Color

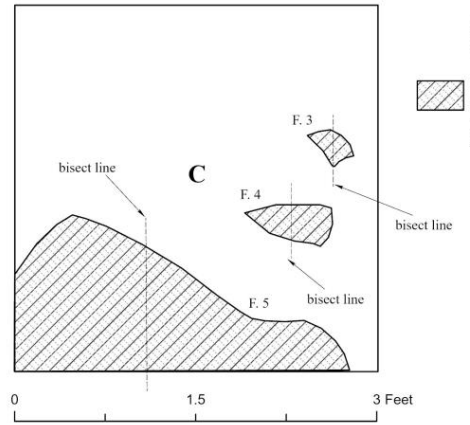
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Warmth 0

Tint 0

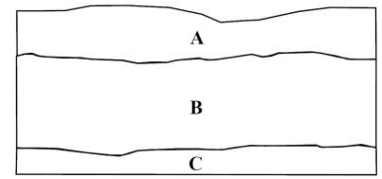


Site 44IW0395
Test Unit 7
Features 3, 4, and 5
Plan View and North
Wall Profile



C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay



A-Plowzone: Brown (10YR 5/3) sandy silt

B-Plowzone: Pale-brown (10YR 6/3) sandy silt

C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay

Feature 3:
West Wall profile



Feature 4:
West Wall profile

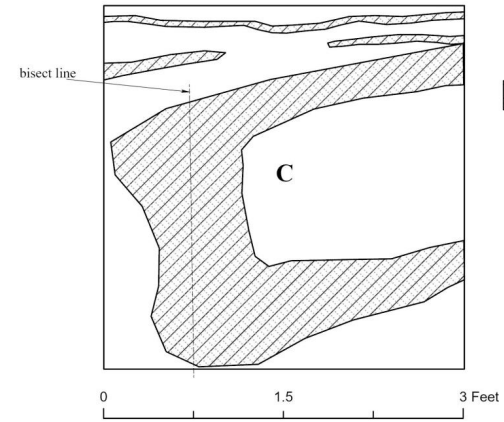


Feature 5:
West Wall profile



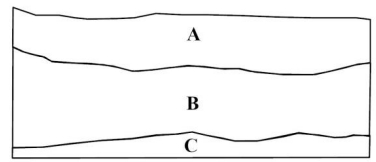


Site 44IW0395
Test Unit 8
Feature 6
Plan View and North Wall Profile



C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay

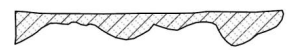


A-Plowzone: Brown (10YR 5/3) sandy silt

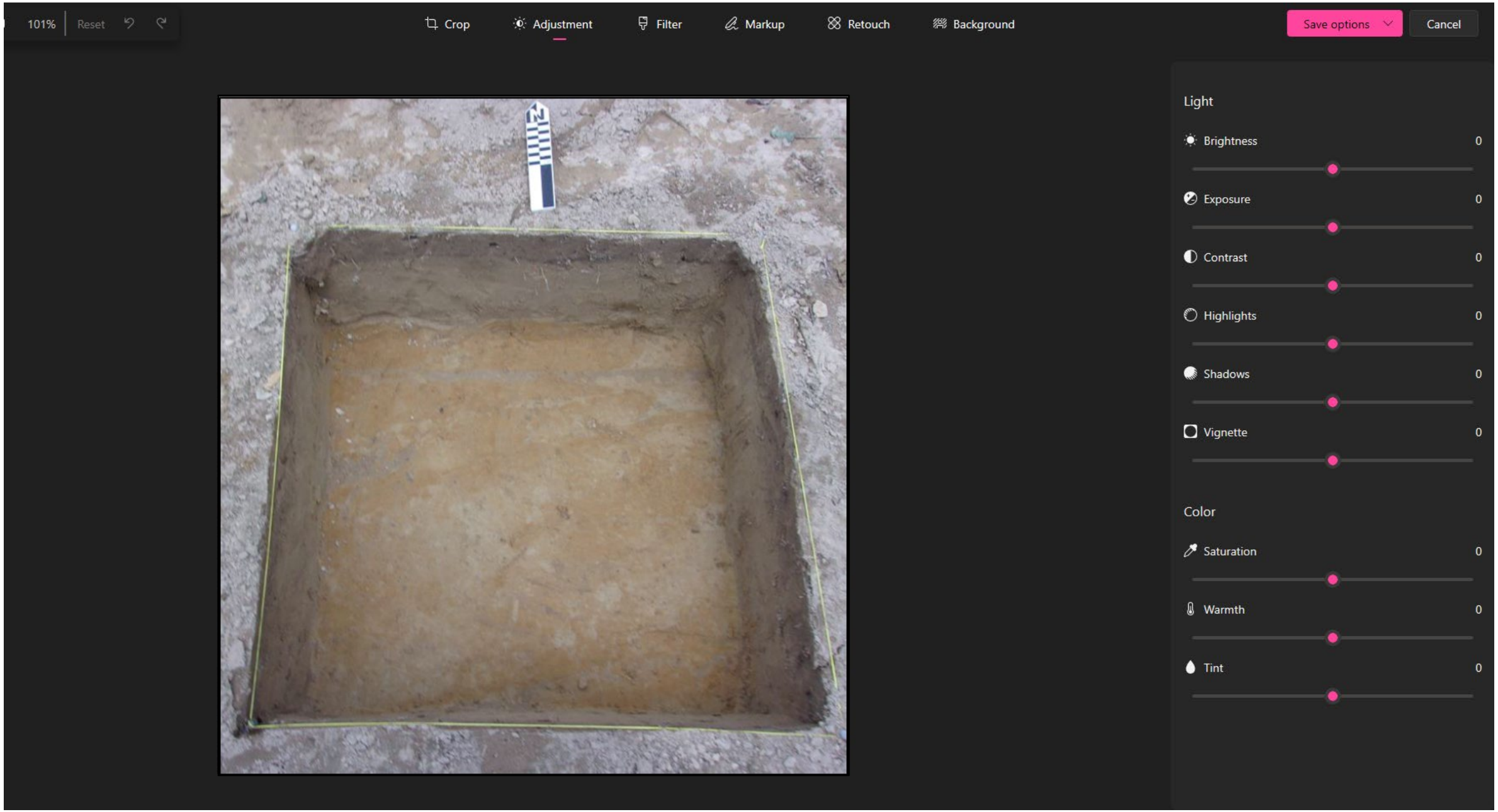
B-Plowzone: Pale-brown (10YR 6/3) sandy silt

C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Feature 6:
West Wall profile



Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay


101%
Reset
Crop
Adjustment
Filter
Markup
Retouch
Background
Save options
Cancel
Light
Brightness 0
Exposure 0
Contrast 0
Highlights 0
Shadows 0
Vignette 0
Color
Saturation 0
Warmth 0
Tint 0

95% | Reset

Crop | Adjustment | Filter | Markup | Retouch | Background

Save options | Cancel



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Exposure 0

Contrast -40

Highlights 7

Shadows -100

Vignette 0

Color

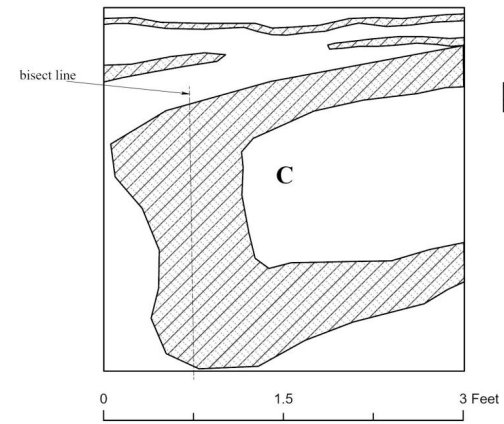
Saturation 53

Warmth -11

Tint 0

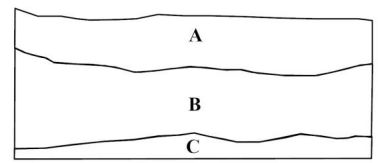


Site 44IW0395
Test Unit 8
Feature 6
Plan View and North Wall Profile



C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay

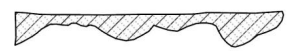


A-Plowzone: Brown (10YR 5/3) sandy silt

B-Plowzone: Pale-brown (10YR 6/3) sandy silt

C-Subsoil: Brownish-yellow (10YR 6/6) sandy clay

Feature 6:
West Wall profile



Plowscar: Mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay

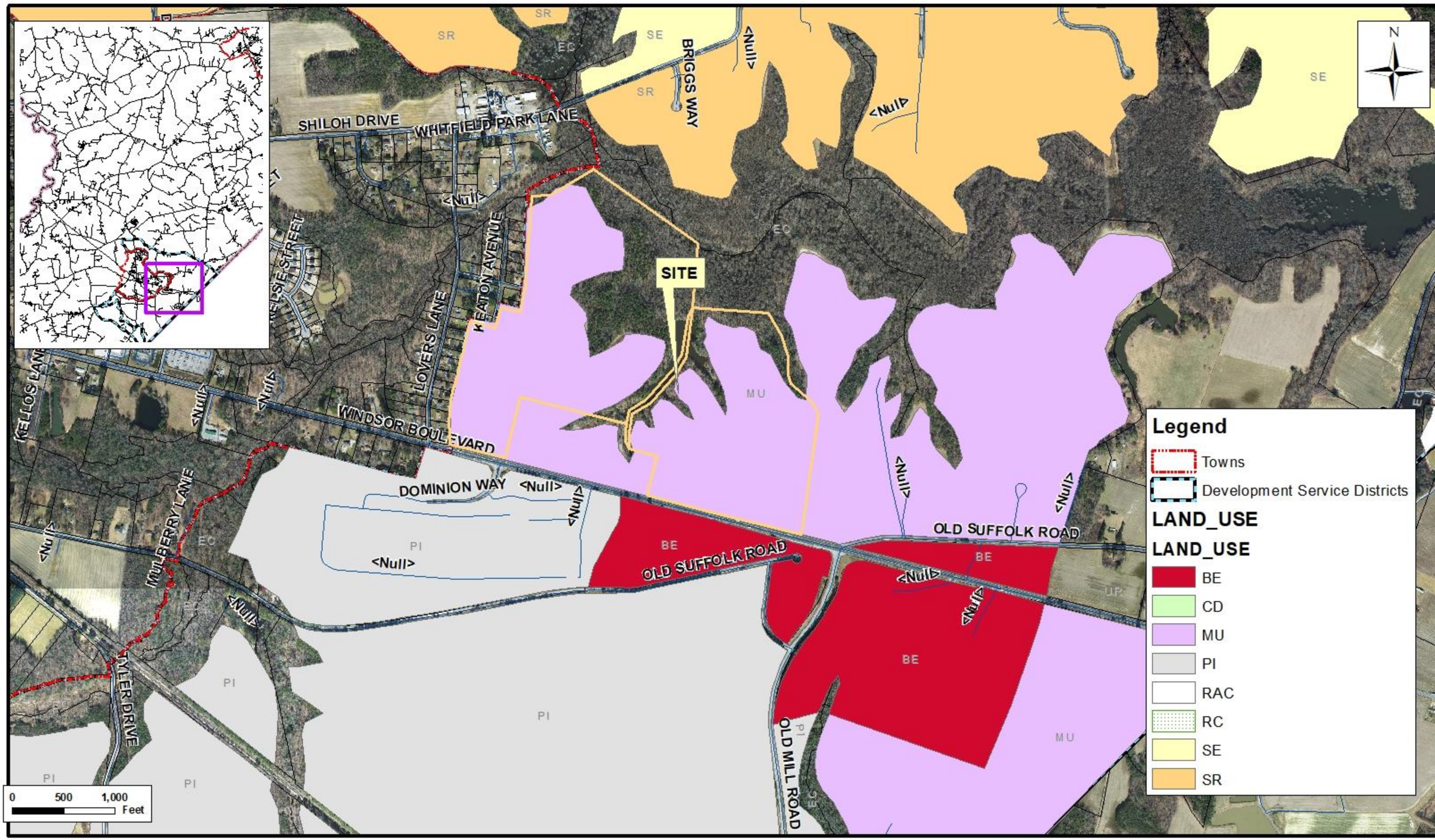
LUP-1-23 - Comp Plan Amendment - Location Map



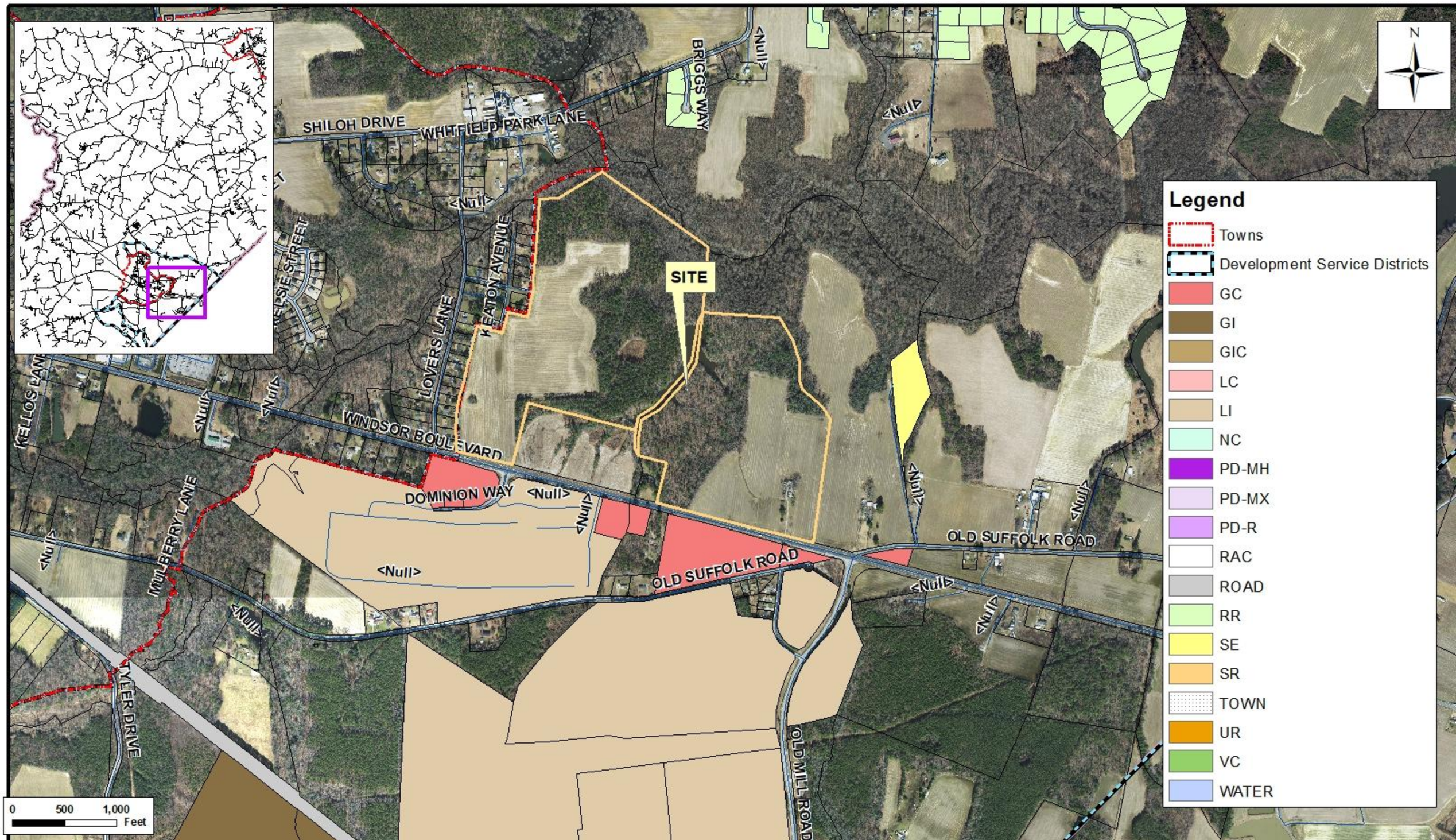
ZA-4-23 - Condtional Rezoning - CloseUp Map



ZA-4-23 - Condtional Rezoning - Land Use Map



ZA-4-23 - Condtional Rezoning - Zoning Map



MEMORANDUM

To:	Mr. Tom Boylan The Meridian Group
From:	Kyle Williams, P.E. Patrick Fitzsimmons, P.E. Sam Wollak, EIT Kimley-Horn and Associates, Inc.
Date:	March 13, 2024
Subject:	Tidewater Logistics Center Industrial Development Rezoning Lovers Lane and Port 460 Supplemental Traffic Analysis

Introduction

Kimley-Horn was retained to perform a traffic impact analysis (TIA) for Tidewater Logistics Center (TLC), a proposed industrial development, in Isle of Wight County, Virginia. The study analyzed five existing intersections and two proposed intersections along Windsor Boulevard (U.S. Route 460) from U.S. Route 258 (Prince Boulevard) within the Town of Windsor to Old Mill Road (State Route 607) in Isle of Wight County. Primary access to the development will be at the intersection of Dominion Way where the development will add a fourth approach and modify the existing traffic signal to include signalization for movements to and from the development. The TIA assumptions and methodologies were discussed and agreed to by Isle of Wight County and the Virginia Department of Transportation (VDOT).

After submittal of the TIA, additional analysis has been performed based on community input which includes analysis of the existing unsignalized intersection at Lovers Lane which is located approximately 700-feet west of Dominion Way. Available crash history at Windsor Boulevard/Lovers Lane was reviewed and summarized.

Additionally, proposed traffic generated by the Port 460 Logistics Center development in Suffolk, VA was included in the 2031 build conditions analysis. This memorandum summarizes the traffic operational results at each study area intersection.

Data Collection

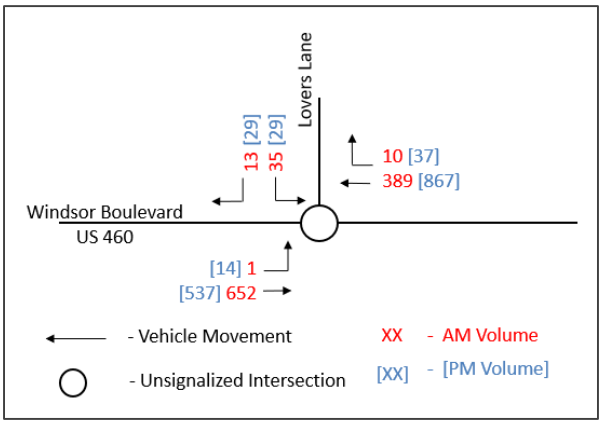
Windsor Boulevard/Lovers Lane

Existing and Future Traffic Volumes

Existing turning movement counts were collected at Windsor Boulevard/Lovers Lane on Tuesday, November 28, 2023, from 6:00AM to 9:00AM and 3:30PM to 6:30PM. To be consistent with the TIA, the uniform AM peak hour from 7:15 AM to 8:15 AM and PM peak hour from 4:00 PM to 5:00 PM was analyzed. The left and right turning movements were used from the new traffic counts, and the volumes along mainline Windsor Boulevard were balanced with Dominion Way based on intersection proximity and the counts being performed on different days.

Existing turning movements at Lovers Lane were then grown using the approved TIA growth rates, and mainline traffic volumes were rebalanced from Dominion Way with and without the proposed development. Existing peak hour traffic volumes for Windsor Boulevard/Lovers Lane are shown in **Figure 1**.

Figure 1 – Windsor Boulevard/Lovers Lane Existing Peak Hour Traffic Volumes



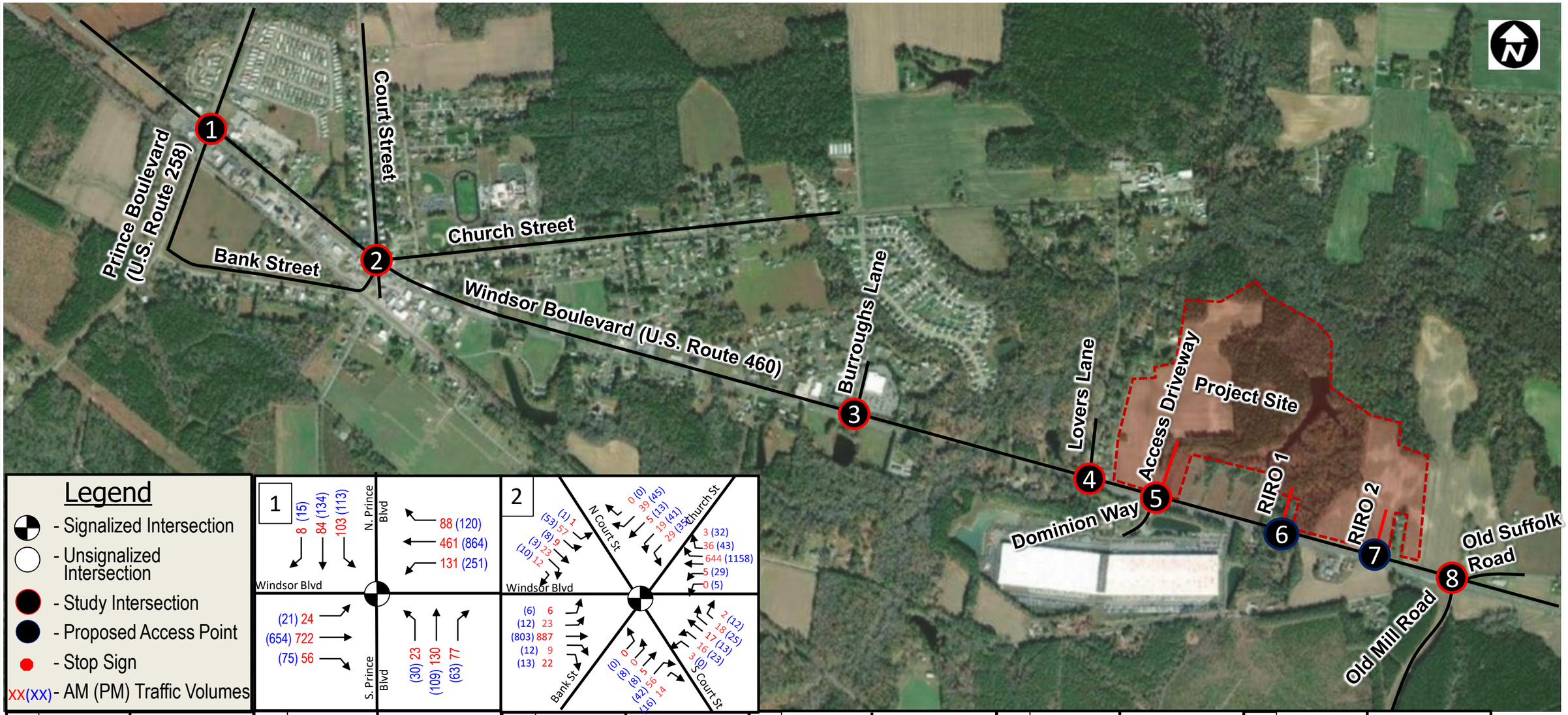
Port 460 Logistics Center Traffic Volumes

The Port 460 Logistics Center is an approved, but unbuilt industrial and commercial development located along Pruden Boulevard (U.S. Route 460) near the U.S. Route 58 By-Pass in Suffolk, VA. It's located approximately 6.5-miles east of the proposed TLC development. Traffic destined to and from the west generated by the Port 460 Logistics Center will travel through the study area intersections included in the TLC TIA. An annual growth was applied to existing traffic counts in the TLC TIA which accounts for non-specific and/or general traffic increases such as growth and development outside of the defined the study area. This practice is consistent with industry standards, and the growth rate used was agreed upon by Isle of Wight County and VDOT. In addition to that background growth, the specific AM and PM peak hours trips obtained from the approved Traffic Impact Analysis for Port 460 Logistics Center Rezoning Pruden Boulevard and Pitchkettle Road (July 2022) were added to the TLC analysis to show the incremental change from the additional through traffic generated by Port 460 Logistics Center. **Table 1** shows eastbound and westbound site trips generated by Port 460 Logistics Center at full development build-out.

Table 1 – Port 460 Logistics Center Site Trips

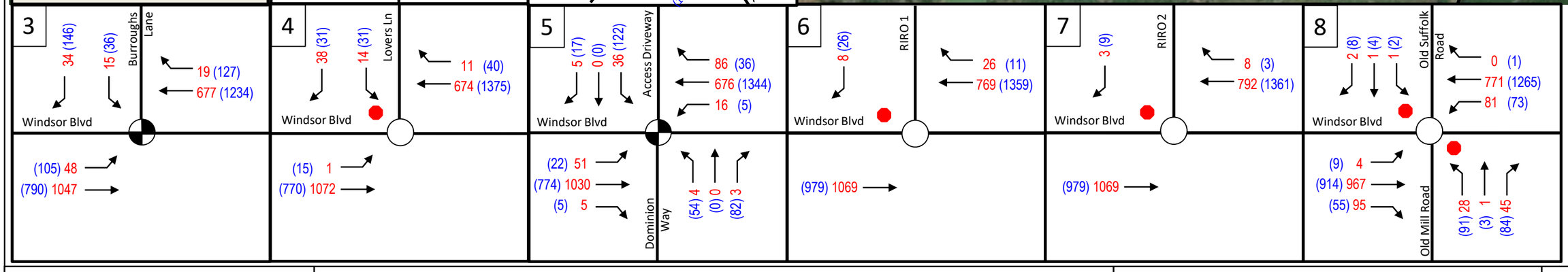
Trip Direction on Windsor Boulevard	AM Peak Hour (veh/hour)	PM Peak Hour (veh/hour)
Eastbound	220	143
Westbound	131	233

Future peak hour traffic volumes including Lovers Lane and Port 460 Logistics Center are shown in **Figure 2**.



Legend

- Signalized Intersection
- Unsignalized Intersection
- Study Intersection
- Proposed Access Point
- Stop Sign
- XX(XX) AM (PM) Traffic Volumes



Kimley»Horn	Tidewater Logistics Center TIA Isle of Wight County, VA	Build 2031 Volumes With Port 460 Logistics Center	Figure 2

Operational Analysis

Operational analysis results showing LOS and delay are shown in **Table 2** through **Table 5**. The tables compare existing conditions, 2031 build conditions, and 2031 build conditions with Port 460 Logistics Center traffic. Minor signal timing adjustments were made at the US 258/US 460 and Bank St/Church St and Court St and US 460 intersections. Delays for the turning and side street movements could be further improved with additional timing adjustments; however, VDOT's priority for signal timing is for through traffic along US 460. Therefore, the maximum green time reallocated from US 460 to the minor movements was limited to no more than five seconds.

The additional background traffic due to Port 460 Logistics Center is anticipated to have limited impacts to LOS, delay, and queueing at the signalized study area intersections. The unsignalized intersections experience the highest increases in delay, but those delays will exist with or without the additional traffic from TLC. Windsor Boulevard/Lovers Lane delays will be reduced by the traffic signal modifications proposed by TLC. Additional discussion is provided after **Table 5**.

Table 2 – US 258 and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Signalized	D (35.6)	C (23.7)	C (28.9)		B (18.6)	C (23.7)		D (52.7)			E (57.8)		
			C (28.6)			C (23.2)								
2031 Build	Signalized	C (26.5)	C (20.6)	C (30.1)		B (12.3)	B (12.3)		C (30.0)	D (47.7)		C (32.3)	D (36.0)	
			C (29.7)			B (12.3)			D (45.9)			C (34.0)		
2031 Build with Port 460	Signalized	C (28.3)	C (22.2)	C (33.5)		B (14.8)	B (13.3)		C (31.3)	D (51.0)		C (33.8)	D (37.4)	
			C (33.1)			B (13.6)			D (49.0)			D (35.5)		
PM Peak Hour														
2023 Existing	Signalized	D (41.7)	C (27.5)	E (56.9)		C (21.1)	C (21.9)		E (60.3)			E (60.6)		
			E (55.7)			C (21.8)								
2031 Build	Signalized	C (34.3)	C (24.9)	E (60.8)		C (24.2)	B (10.6)		D (35.1)	D (52.9)		D (37.4)	D (43.5)	
			E (59.6)			B (14.0)			D (50.3)			D (40.9)		
2031 Build with Port 460	Signalized	C (34.5)	C (30.4)	D (54.6)		D (37.7)	B (13.8)		D (35.4)	D (53.0)		D (37.7)	D (43.7)	
			D (53.9)			B (18.6)			D (50.4)			D (41.1)		

Table 3 – Bank St/Church St and Court St and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)					
			Eastbound	Westbound	Northbound	Southbound	Northeastbound	Southwestbound
AM Peak Hour								
2023 Existing	Signal	C (28.3)	B (17.9)	C (22.2)	D (50.3)	E (57.4)	E (60.9)	E (55.5)
2031 Build	Signal	C (25.4)	C (22.4)	A (9.8)	D (50.2)	E (62.3)	E (60.9)	E (58.5)
2031 Build Port 460	Signal	C (25.5)	C (22.7)	B (10.6)	D (51.8)	E (71.7)	E (67.2)	E (64.4)
PM Peak Hour								
2023 Existing	Signal	C (25.2)	A (9.1)	C (21.5)	E (63.6)	E (71.2)	E (65.8)	E (58.7)
2031 Build	Signal	C (23.4)	B (16.4)	B (13.1)	E (62.7)	E (70.8)	E (71.3)	E (65.5)
2031 Build Port 460	Signal	C (28.2)	C (25.1)	B (17.8)	E (63.6)	E (73.3)	E (72.2)	E (77.9)

Table 4 – Burroughs Lane and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Signalized	A (5.9)	A (4.8)	A (4.2)	-	-	A (3.2)	A (2.7)	-	-	-	E (55.3)	-	D (54.5)
			A (4.3)			A (3.2)			-			D (54.8)		
2031 Build	Signalized	A (3.4)	A (0.9)	A (0.8)	-	-	A (3.0)	A (1.5)	-	-	-	E (55.3)	-	D (54.5)
			A (0.8)			A (3.0)			-			D (54.7)		
2031 Build with Port 460	Signalized	A (3.2)	A (1.9)	A (1.2)	-	-	A (2.7)	A (0.6)	-	-	-	E (55.3)	-	D (54.5)
			A (1.3)			A (2.6)			-			D (54.7)		
PM Peak Hour														
2023 Existing	Signalized	A (8.3)	A (4.5)	A (3.2)	-	-	A (2.3)	A (0.9)	-	-	-	E (59.7)	-	E (58.3)
			A (3.4)			A (2.1)			-			E (58.6)		
2031 Build	Signalized	A (6.6)	A (2.2)	A (0.7)	-	-	A (2.2)	A (0.9)	-	-	-	E (59.7)	-	E (58.1)
			A (0.9)			A (2.1)			-			E (58.4)		
2031 Build with Port 460	Signalized	A (6.1)	A (7.3)	A (0.5)	-	-	A (2.4)	A (0.1)	-	-	-	E (59.7)	-	E (58.1)
			A (1.3)			A (2.2)			-			E (58.4)		

Table 5 – Lovers Ln and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)					
			Eastbound		Westbound		Southbound	
			LT	TH	TH	RT	LT	RT
AM Peak Hour								
2023 Existing	Unsignalized	A (0.7)	A (0.0)	A (0.0)	A (0.0)		C (15.6)	
2031 No Build	Unsignalized	A (0.8)	A 0.0	A (0.0)	A (0.0)		C (19.8)	
2031 Build	Unsignalized	A (0.4)	A 0.0	A (0.0)	A (0.0)		B (12.1)	
2031 No Build with Port 460	Unsignalized	A (0.6)	A 0.0	A (0.0)	A (0.0)		D (27.4)	
2031 Build with Port 460	Unsignalized	A (0.4)	A (0.0)	A (0.0)	A (0.0)		B (14.0)	
PM Peak Hour								
2023 Existing	Unsignalized	A (1.0)	A (1.0)	A (0.0)	A (0.0)		C (22.2)	
2031 No Build	Unsignalized	A (1.3)	A (1.1)	A (0.0)	A (0.0)		D (32.8)	
2031 Build	Unsignalized	A (0.9)	A (0.9)	A (0.0)	A (0.0)		C (24.9)	
2031 No Build with Port 460	Unsignalized	B (12.9)	A (1.9)	A (0.0)	A (0.0)		F (592.8)	
2031 Build with Port 460	Unsignalized	A (1.3)	A (0.9)	A (0.0)	A (0.0)		E (41.7)	

Under existing conditions, the study intersection operates at LOS A during both the AM and PM peak hours. The southbound left-turn movement operates at LOS C with a delay of 15.6 and 22.2 seconds per vehicle during the AM and PM peak hours, respectively. Lovers Lane experiences minimal queuing during both peak periods.

Under 2031 No Build conditions without the development, overall intersection operations are expected to still operate acceptably, but delays will increase due increased traffic volumes along the mainline. The delay increases during the AM peak is approximately four seconds per vehicle. During the PM peak hour, the southbound left-turn movement delay increases by approximately 10 seconds per vehicle which results in a LOS D with a delay of 32.8 seconds per vehicle. Delays will further increase with the addition of Port 460 Logistics Center traffic along the mainline by further reducing the number of gaps to make turning movements from Lovers Lane. The AM peak hour increase by an additional 8 seconds of delay per vehicle while the PM peak hours is calculated to increase by 560 seconds per vehicle.

Under 2031 Build conditions with and without Port 460 Logistics Center traffic, operations improve compared to 2031 No Build conditions. The delay per vehicle during the PM Peak hour with Port 460 Logistics Center Traffic will approximately double when compared to existing conditions but will operate significantly better than without the traffic signal modifications proposed by TLC. This reduction in delay is a result of increased intersection activity at Dominion Way which will stop mainline traffic more frequently. The existing traffic signal primarily stays green for mainline Windsor Boulevard. This causes the increased delays reported for the no build with and without the Port 460 Logistics Center traffic. The additional traffic entering and leaving the proposed TLC site will stop traffic along Windsor more frequently and for longer durations. Westbound traffic will now be stopped approximately every two minutes. This benefits the drivers turning from Lovers Lane because they now only wait for a gap in eastbound traffic compared to finding a gap in both directions of traffic.

Table 6 – Dominion Way and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Signalized	A (9.9)	-	B (14.5)	B (13.0)	A (2.9)	A (1.5)	-	E (69.7)	-	E (58.6)	-	-	-
			B (14.4)			A (1.5)			E (64.9)			-		
2031 Build	Signalized	B (10.9)	C (31.6)	A (3.1)	A (7.1)	E (60.1)	B (14.7)	B (12.0)	E (69.7)		E (58.7)	E (61.1)		D (53.8)
			A (4.8)			B (15.5)			E (65.0)			E (60.3)		
2031 Build with Port 460	Signalized	B (12.5)	C (33.5)	A (6.2)	A (7.1)	E (60.1)	B (16.2)	B (12.4)	E (69.7)		E (58.7)	E (61.1)		D (53.8)
			A (7.5)			B (16.7)			E (65.0)			E (60.3)		
PM Peak Hour														
2023 Existing	Signalized	B (10.6)	-	A (9.8)	B (13.2)	A (4.8)	A (4.2)	-	E (59.6)	-	E (55.5)	-	-	-
			A (9.9)			A (4.2)			E (57.1)			-		
2031 Build	Signalized	C (25.8)	D (47.7)	A (7.1)	B (12.3)	E (68.0)	C (27.8)	B (16.1)	E (61.3)		E (56.7)	E (61.7)		D (50.4)
			A (8.5)			C (27.6)			E (58.5)			E (60.4)		
2031 Build with Port 460	Signalized	C (28.2)	D (44.4)	A (5.4)	B (12.2)	E (68.0)	C (34.9)	B (16.0)	E (61.7)		E (56.9)	E (61.7)		D (50.4)
			A (6.5)			C (34.5)			E (58.8)			E (60.4)		

Table 7 – Old Mill Rd/Old Suffolk Rd and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound			Westbound			Northbound			Southbound		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Unsignalized	A (0.7)	A (8.7)	A (0.0)	A (0.0)	A (9.4)	A (0.0)		C (19.1)			C (16.1)		
			A (0.0)			A (0.4)								
2031 Build	Unsignalized	A (2.2)	A (9.8)	A (0.0)	A (0.0)	B (10.7)	A (0.0)		E (35.2)			D (30.5)		
			A (0.0)			A (1.2)								
2031 Build with Port 460	Unsignalized	A (3.5)	B (10.5)	A (0.0)	A (0.0)	B (12.3)	A (0.0)		F (78.4)			E (48.6)		
			A (0.0)			A (1.2)								
PM Peak Hour														
2023 Existing	Unsignalized	A (2.5)	B (10.7)	A (0.0)	A (0.0)	A (9.5)	A (0.0)		E (48.4)			E (41.2)		
			A (0.1)			A (0.4)								
2031 Build	Unsignalized	F (53.6)	B (11.5)	A (0.0)	A (0.0)	B (10.5)	A (0.0)		F (> 250)			F (67.6)		
			A (0.1)			A (0.7)								
2031 Build with Port 460	Unsignalized	F (709.1)	B (13.3)	A (0.0)	A (0.0)	B (11.4)	A (0.0)		F (> 1000)			F (151.0)		
			A (0.1)			A (0.6)								

Table 8 – RIRO 1 and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Level of Service per Movement by Approach (Delay in sec/veh)
		Southbound
		RT
AM Peak Hour		
2031 Build	Unsignalized	B (11.1)
2031 Build with Port 460	Unsignalized	B (11.9)
PM Peak Hour		
2031 Build	Unsignalized	B (14.0)
2031 Build with Port 460	Unsignalized	C (16.1)

Table 9 – RIRO 2 and US 460 Lane | Intersection Operations Results

Scenario	Traffic Control	Level of Service per Movement by Approach (Delay in sec/veh)
		Southbound
		RT
AM Peak Hour		
2031 Build	Unsignalized	B (11.1)
2031 Build with Port 460	Unsignalized	B (11.9)
PM Peak Hour		
2031 Build	Unsignalized	B (13.7)
2031 Build with Port 460	Unsignalized	C (15.6)

Intersection Queuing Results

Operational analysis 95th percentile queueing results are summarized by intersection and movement in **Table 10** through **Table 14**. Queuing is anticipated operate similar with and without Port 460 Logistics Center traffic and TLC traffic. The highest increase in queuing occurs at the Windsor Boulevard and Church Street/Bank Street intersection with queues increasing along mainline 460 where the traffic is increased. However, the LOS and delay at this intersection still operates acceptably at LOS C or better, so all queuing along the mainline will be cleared each traffic signal cycle.

Table 10 – US 258 and US 460 | Intersection Queuing Results

Scenario	95th Percentile Queue Length by Movement (Feet)											
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	150	-	Cont.	100	-	Cont.		Cont.			Cont.	
Effective Storage Length No Build / [Build]	-			-			100	Cont.		200	Cont.	
AM Peak Hour												
2023 Existing	30	195		m60	220		235			230		
2031 Build	25	270		m90	215		30	230		95	110	
2031 Build With Port 460	25	375		m50	75		35	#265		105	115	
PM Peak Hour												
2023 Existing	30	250		145	345		220			280		
2031 Build	25	290		#175	80		40	200		110	175	
2031 Build With Port 460	25	340		m#205	90		40	205		115	180	

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 11 – Bank St/Church St and Court St and US 460 | Intersection Queuing Results

Scenario	95th Percentile Queue Length by Movement (Feet)																	
	Eastbound			Westbound			Northbound			Southbound			Northeastbound			Southeastbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	Cont.			Cont.			Cont.			Cont.			Cont.			Cont.		
AM Peak Hour																		
2023 Existing	295			220			85			120			100			125		
2031 Build	365			30			90			#190			110			135		
2031 Build With Port 460	490			50			90			#190			115			#150		
PM Peak Hour																		
2023 Existing	300			395			105			110			105			170		
2031 Build	355			215			#120			#140			115			#250		
2031 Build With Port 460	430			700			#120			#140			115			#225		

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 12 – Burroughs Lane and US 460 | Intersection Queuing Results

Scenario	95th Percentile Queue Length by Movement (Feet)								
	Eastbound			Westbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	210	-	Cont.	Cont.	-	170	Cont.	-	Cont.
AM Peak Hour									
2023 Existing	m20	230	-	-	45	5	35	-	35
2031 Build	m5	5	-	-	5	0	35	-	35
2031 Build With Port 460	m5	50	-	-	5	0	35	-	35
PM Peak Hour									
2023 Existing	80	190	-	-	70	5	65	-	65
2031 Build	m5	10	-	-	30	m0	70	-	70
2031 Build With Port 460	m25	20	-	-	35	m0	70	-	70

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 13 – Dominion Way and US 460 | Intersection Queuing Results

Scenario	95th Percentile Queue Length by Movement (Feet)											
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	-	-	160	350	-	-		-		Cont.	-	Cont.
Effective Storage Length No Build / [Build]	300	-	160	350	-	300	Cont.			Cont.		
AM Peak Hour												
2023 Existing	-	280	m10	10	45	-	15	-	15	-		
2031 Build	80	95	m0	40	220	0	15		0	65		
2031 Build with Port 460	85	430	m0	35	300	-	15		0	65		
PM Peak Hour												
2023 Existing	-	210	5	5	140	-	85	-	40	-		
2031 Build	50	140	m0	20	545	0	95		0	170		
2031 Build with Port 460	10	155	m0	10	#795	0	95		0	170		

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 14 – Lovers Ln and US 460 | Intersection Queuing Results

Scenario	Maximum Queue Length by Movement (Feet)	
	Eastbound	Southbound
	LT	LT
Effective Storage Length	Cont.	Cont.
AM Peak Hour		
2023 Existing	0	15
2031 No Build	0	20
2031 Build	0	10
2031 No Build with Port 460	0	25
2031 Build with Port 460	0	10
PM Peak Hour		
2023 Existing	5	25
2031 No Build	0	40
2031 Build	5	30
2031 No Build with Port 460	5	180
2031 Build with Port 460	5	50

Table 15 – RIRO 1 and US 460 | Intersection Queuing Results

Scenario	95th Percentile Queue Length by Movement (Feet)
	Southbound
	RT
Effective Storage Length Build	Cont.
AM Peak Hour	
2023 Existing	5
2031 Build	5
2031 Build with Port 460	5
PM Peak Hour	
2023 Existing	5
2031 Build	5
2031 Build with Port 460	5

Table 16 – RIRO 2 and US 460 | Intersection Queuing Results

Scenario	95th Percentile Queue Length by Movement (Feet)
	Southbound
	RT
Effective Storage Length Build	Cont.
AM Peak Hour	
2023 Existing	0
2031 Build	0
2031 Build with Port 460	0
PM Peak Hour	
2023 Existing	5
2031 Build	5
2031 Build with Port 460	5

Table 17 – Old Mill Rd/Old Suffolk Rd and US 460 | Intersection Queuing Results

Scenario	95th Percentile Queue Length by Movement (Feet)											
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	150	-	440	200	-	Cont.		-		Cont.	-	Cont.
AM Peak Hour												
2023 Existing	0	0	0	5	0	-	10		0	5		
2031 Build	0	0	0	10	0	-	40		0	5		
2031 Build With Port 460	0	0	0	15	0	-	90		0	5		
PM Peak Hour												
2023 Existing	5	0	0	5	0	-	55		0	15		
2031 Build	5	0	0	10	0	-	430		0	20		
2031 Build With Port 460	5	0	0	10	0	-	> 1000		0	35		

Safety Analysis

Crash data for all available time periods (2015-2023) within the functional area of the intersection of Windsor Boulevard/Dominion Way and Windsor Boulevard/Lovers Lane was obtained from VDOT. **Table 18** and provides a summary of the reported crashes by severity and type.

There was a total of 9 reported crashes within the functional area of the intersection of Windsor Boulevard and Lovers Lane from 2015-2023. There was one fatality reported in March 2023. This crash also reported one non-incapacitating, evident/observable injury and one possible injury that was not evident/observable. This crash was also reported as an angle collision with speeding, driver age, and not wearing a seatbelt as factors. Speeding is defined as one of the vehicles travelling 15 MPH above the posted speed limit. Speeding, driver age, and not wearing a seatbelt are categorized as “human factors” and not a function of the vehicles involved or roadway/environmental factors.

All other crashes reported were property damage only. Rear end collisions were the most frequent crash type at 45-percent (or 4 crashes). Objectively, reported crash history is limited with no crash patterns or trends.

Table 18: 5-Year Crash History Summary

Intersection Crash Summary	Crash Data for the Intersection of Windsor Boulevard and Lovers Lane										
	2015	2016	2017	2018	2019	2020*	2021	2022	2023	Total	Relative Frequency
Crash Severity											
Fatal Injury	0	0	0	0	0	0	0	0	1**	1	11%
Severe Injury	0	0	0	0	0	0	0	0	0	0	0%
Visible Injury	0	0	0	0	0	0	0	0	0	0	0%
Non-Visible Injury	0	0	0	0	0	0	0	0	0	0	0%
Property Damage Only	3	1	1	0	0	0	3	0	0	8	89%
Total	**3**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**1**	**9**	**100%**
Crash Type											
Rear End	2	1	1	0	0	0	0	0	0	4	45%
Sideswipe/ Same Direction	1	0	0	0	0	0	1	0	0	2	22%
Angle	0	0	0	0	0	0	1	0	1	2	22%
Other	0	0	0	0	0	0	1	0	0	1	11%
Total	**3**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**9**	**100%**

**Crash data from 2020 is included but could be influenced by the COVID-19 pandemic due to reduced travel.*

***Speeding and unbelted were reported in the crash.*

Conclusion

The additional operational analysis performed that includes the Port 460 Logistics Center traffic indicates minor increases in LOS and delay and each intersection still operating at acceptable levels. Some minor and side street movements will operate at LOS D or worse based on the traffic signal coordination and VDOT's priority for through traffic along mainline Windsor Boulevard. These movements will operate at these levels without and with traffic from the Port 460 Logistics Center and TLC with minor increases in delay.

The anticipated traffic generated by the TLC development is not expected to negatively impact operations at the intersection of Windsor Boulevard at Lovers Lane. It is anticipated that the improvements proposed by TLC could improve delays and queuing along Lovers Lane. Additionally, there are no historic crash patterns or trends at Lovers Lane, and decreases in safety are not anticipated due to the TLC development.

Traffic Impact Analysis
for
Tidewater Logistics Center Industrial Development

Isle of Wight County, Virginia

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Table of Contents

1.0 Executive Summary 3
2.0 Introduction 6
2.1 Project Overview 6
2.2 Study Area 6
3.0 EXISTING CONDITIONS 8
3.1 Study Area Roadways 8
3.2 Existing Traffic Volumes 9
4.0 FUTURE TRAFFIC 12
4.1 Analysis Scenarios 12
4.2 Traffic Growth Rate 12
4.3 Un-Built Approved Development Traffic 13
4.4 Un-Built Transportation Improvements 13
4.5 Trip Generation 14
4.6 Trip Distribution and Assignment 15
4.7 Total Future Traffic 15
5.0 Traffic Analysis 22
5.1 Intersection Operational Analysis 22
5.2 Intersection Operational Analysis Results and Findings 22
5.3 Intersection Queuing Analysis Results and Findings 31
6.0 Conclusions and Recommendations 35

Appendices

Appendix A: Proposed Conceptual Site Plan
Appendix B: Traffic Count Data
Appendix C: Approved But Unbuilt Developments and Infrastructure Improvement Projects
Appendix D: Synchro Tabular Outputs

List of Tables

Table 1: Study Area Roadways Historic AAWDT 12
Table 2: VDOT Statewide Planning System (SPS) Traffic Volume Projections 13
Table 3: Proposed Trip Generation 14
Table 4: LOS Control Delay Thresholds 22
Table 5: Windsor Boulevard and Prince Boulevard AM and PM LOS results 25
Table 6: Windsor Boulevard and Court Street/Bank Street AM and PM LOS Results 26
Table 7: Windsor Boulevard and Burroughs Lane AM and PM LOS results 27
Table 8: Windsor Boulevard and Dominion Way AM and PM LOS results 28
Table 9: Windsor Boulevard and Old Mill Road AM and PM LOS results 29
Table 10: Windsor Boulevard and RIRO 1 AM and PM LOS results 30
Table 11: Windsor Boulevard and RIRO 2 AM and PM LOS results 30
Table 12: Windsor Boulevard and Prince Boulevard AM and PM Queue results 32
Table 13: Windsor Boulevard and Court Street/Bank Street AM and PM Queue Results 32
Table 14: Windsor Boulevard and Burroughs Lane AM and PM Queue results 33
Table 15: Windsor Boulevard and Dominion Way AM and PM Queue results 33
Table 16: Windsor Boulevard and Old Mill Road AM and PM Queue results 34
Table 17: Windsor Boulevard and RIRO 1 AM and PM Queue results 34
Table 18: Windsor Boulevard and RIRO 2 AM and PM Queue results 34

List of Figures

Figure ES-1: Future Roadway Conditions 6
Figure 1: Project Study Area 7
Figure 2: Existing Roadway Geometry 10
Figure 3: Existing AM and PM Peak Hour Traffic Volumes 11
Figure 4: Site Traffic Distributions 16
Figure 5: Site Traffic Assignment 17
Figure 6: 2025 No Build AM and PM Peak Hour Traffic Volumes 18
Figure 7: 2031 No Build AM and PM Peak Hour Traffic Volumes 19
Figure 8: 2025 Build AM and PM Peak Hour Traffic Volumes 20
Figure 9: 2031 Build AM and PM Peak Hour Traffic Volumes 21
Figure 10: Future Roadway Improvements 37

1.0 EXECUTIVE SUMMARY

Kimley-Horn was retained to perform a traffic impact analysis (TIA) for Tidewater Logistics Center, a proposed industrial development consisting of warehouses and a manufacturing facility in Isle of Wight County, Virginia. The proposed development includes up to approximately 1,229,130 square feet (SF) of warehousing, trans-load, and manufacturing facilities. A trans-load facility is a distribution center that specializes in transferring goods from one mode of transportation to another. The development is estimated to generate approximately 2,349 daily vehicle trips with 223 and 246 occurring during the AM and PM peak hours, respectively.

The existing site consists of approximately 168 acres of land zoned as Rural Agricultural Conservation (RAC). This TIA has been prepared to support a Conditional Rezoning Application to an Industrial District that allows for the proposed land uses. This TIA summarizes existing and future traffic conditions within the agreed upon project study area and identifies traffic impacts with transportation recommendations based on the new traffic generated by the development. It is anticipated that overall intersection operations will be maintained at LOS D or better during the AM and PM peak hours for all study area intersections in the 2025 and 2031 development scenarios.

RECOMMENDATIONS

One full movement access and two right-in/right-out driveways are proposed for the development. The full movement access will be at the existing signalized T-intersection of Windsor Boulevard and Dominion Way. The development will construct the north leg of the intersection. Windsor Boulevard at RIRO 1 is a new right-in/right-out stop-controlled access located approximately 1,800-feet east of Dominion Way, and Windsor Boulevard at RIRO 2 is a new right-in/right-out stop controlled access located approximately 750-feet east of RIRO 1.

Figure ES-1 illustrates existing lane configurations and traffic control, improvements within the study area that will be constructed by others, and improvements based on the proposed development as described below.

Windsor Boulevard/Dominion Way

- Reconstruct the existing traffic signal to accommodate the north leg of the intersection and to current VDOT standards
- Modify existing protected-permissive left-turn phasing to flashing yellow arrow
- Modify coordinated traffic signal timings at this intersection based on new signal phasing and volumes

Eastbound Windsor Boulevard

- Construct an exclusive left-turn lane with 200-feet of storage and a 200-foot taper
    - Note: Existing striped median does not meet VDOT minimum turn lane requirements

Westbound Windsor Boulevard

- Construct an exclusive right-turn lane with 200-feet of storage and a 200-foot taper

Northbound Dominion Way

This TIA modeled protected-only left-turn movements for the northbound and southbound approaches. Once design advances and intersection geometry is established, the left-turn movements should be evaluated for protected-permissive operations with a flashing yellow arrow.

- Restripe the existing right-turn lane to a through/right-turn

Southbound Access Driveway

- Construct one exclusive left-turn lane
- Construct one shared through/right turn-lane
    - If outbound lanes are not continuous into the site, the through/right-turn lane should be constructed with 200-feet of storage and a 200-foot taper

Windsor Boulevard/RIRO 1

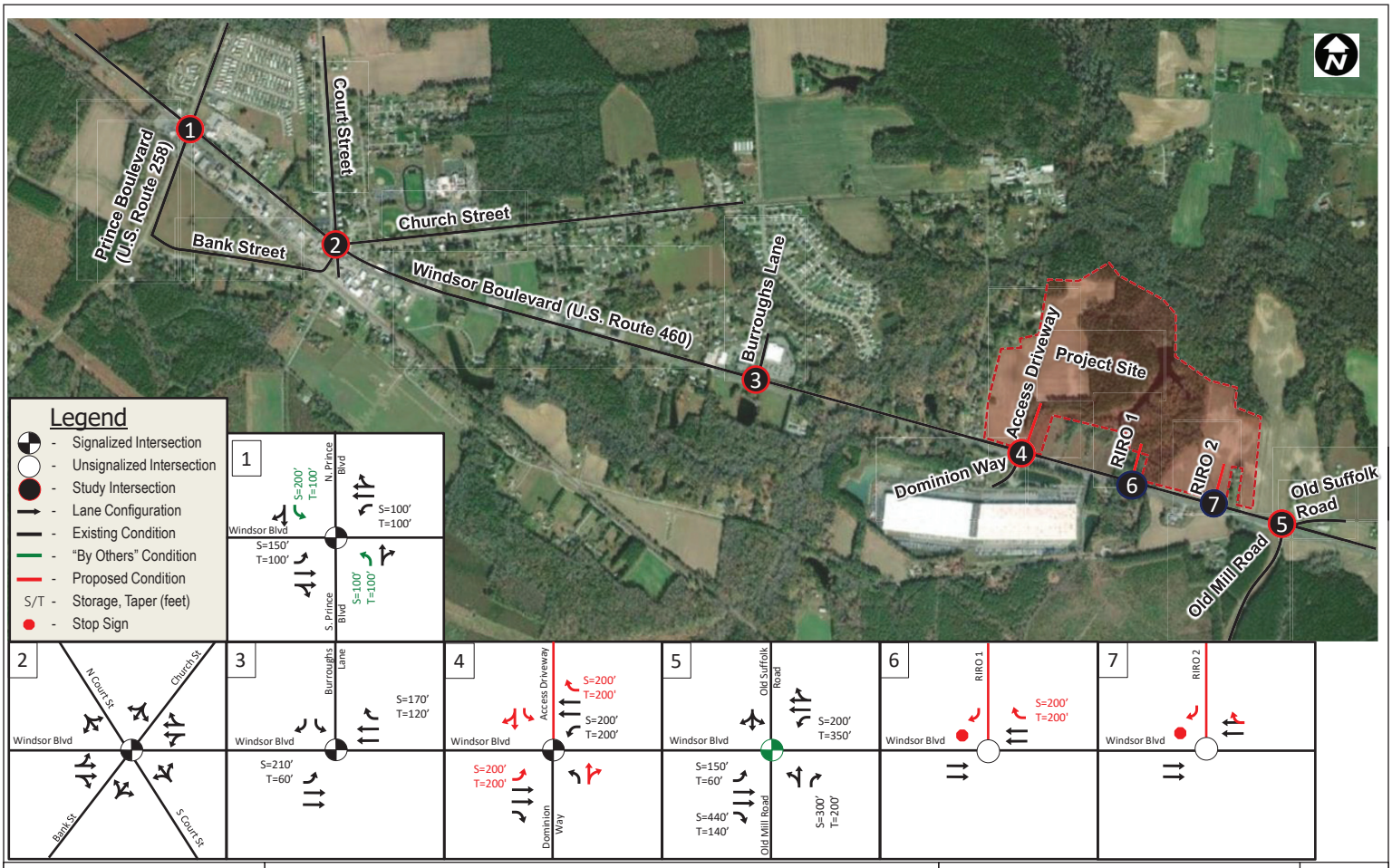
- Unsignalized intersection with stop-control along the southbound approach

Westbound Windsor Boulevard

- Construct an exclusive right-turn lane with 200-feet of storage and a 200-foot taper

Windsor Boulevard/RIRO 2

- Unsignalized intersection with stop-control along the southbound approach



Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Future Roadway Geometry	Figure ES-1

2.0 INTRODUCTION

2.1 Project Overview

Kimley-Horn was retained to perform a traffic impact analysis (TIA) for Tidewater Logistics Center, a proposed industrial development consisting of various warehouses and a manufacturing facility in Isle of Wight County, Virginia. The proposed development) will consist of approximately 1,229,130 square feet (SF) of warehousing, trans-load, and manufacturing facilities. Access to/from the proposed development will be at Windsor Boulevard and Dominion Way (a full access movement that forms the north leg of the existing signalized intersection), Windsor Boulevard at RIRO 1 (new proposed right-in/right-out access unsignalized intersection), and Windsor Boulevard at RIRO 2 (new proposed right-in/right-out access unsignalized intersection). The study area with proposed access points is found in Error! Reference source not found..

The proposed development site consists of approximately 168 acres of land currently zoned as Rural Agricultural Conservation (RAC). To support the proposed development (specifically the warehousing and trans-load facility land uses) the properties zoned RAC will require rezoning to an Industrial District. A conceptual site plan of the proposed development is included in **Appendix A**.

This TIA summarizes existing and future traffic conditions within the agreed upon project study area, identifies traffic impacts resulting from the proposed development on the surrounding local road network, and recommends initial/interim and ultimate transportation infrastructure improvements that will support the full development.

2.2 Study Area

The study area for this analysis includes five existing intersections located along Windsor Boulevard (U.S. Route 460). There are two, new access points proposed along Windsor Boulevard to support traffic operations and accessibility to/from the proposed development site. A third, full movement access will form a new approach at the Dominion Way intersection. Study area intersections are shown in Error! Reference source not found. and consist of the following:

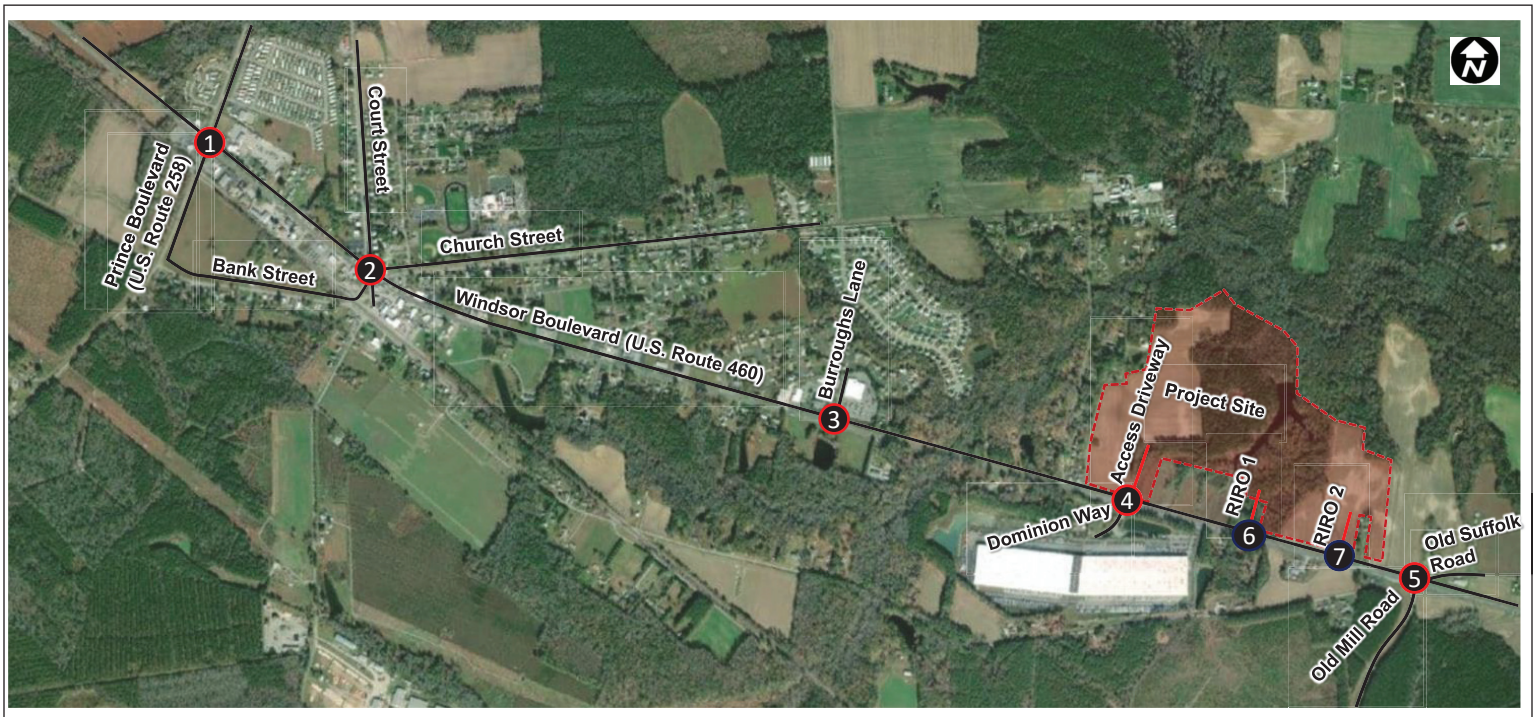
Existing Intersections:

- Windsor Boulevard (U.S. Route 460) at U.S. Route 258 (Prince Boulevard) – Signalized
- Windsor Boulevard (U.S. Route 460) at Church Street/Court Street/Bank Street – Signalized
- Windsor Boulevard (U.S. Route 460) at Burroughs Lane – Signalized
- Windsor Boulevard (U.S. Route 460) at Dominion Way/Proposed Access – Signalized
- Windsor Boulevard (U.S. Route 460) at Old Mill Road (State Route 607) – Unsignalized

Proposed Intersections:

- Windsor Boulevard (U.S. Route 460) at Proposed RI/RO 1 – Unsignalized
- Windsor Boulevard (U.S. Route 460) at Proposed RI/RO 2 – Unsignalized

All study area roadways and intersections were identified and agreed to with Isle of Wight County. It is noted that for the purposes of this study, Windsor Boulevard (U.S. Route 460) is referenced as being oriented in east/west cardinal directions. Side streets along Windsor Boulevard are described as being oriented in north/south cardinal directions.



Legend

- Signalized Study Intersection
- Unsignalized Study Intersection
- Existing Roadway
- Proposed Access

Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Project Study Area	Figure 1

3.0 EXISTING CONDITIONS

3.1 Study Area Roadways

Figure 2 depicts existing lane designations, storage lengths for exclusive turn lanes, and posted speed limits throughout the study area at each study area intersection. The following provides a short description of existing roadway characteristics for roadways adjacent to the proposed site:

- **Windsor Boulevard (U.S. Route 460)** – is an undivided four-lane principal arterial within the limits of the study area. Windsor Boulevard is oriented in an approximate northwest/southeast direction with a posted speed limit ranging from 35 to 55 miles per hour (MPH) within the study area. Windsor Boulevard (U.S. Route 460) is designated as a Corridor of Statewide Significance (CoSS), making up the Heartland Corridor. Based on VDOT traffic data reported for 2021, this section of Windsor Boulevard carried approximately 35,000 vehicles per day (vpd).
- **Prince Boulevard (State Route 258)** – is an undivided two-lane minor arterial within the limits of the study area. Prince Boulevard runs in an approximate north/south direction with a posted speed limit of 45 MPH. Based on VDOT traffic data reported for 2021, this section of Prince Boulevard carried approximately 5,500 vehicles per day (vpd).
- **Court Street (State Route 610)** – is an undivided two-lane minor collector within the limits of the study area. Court Street is oriented in an approximate north/south direction with a posted speed limit of 25 MPH within the study area. Based on VDOT traffic data reported for 2021, this section of Court Street carried approximately 2,960 vehicles per day (vpd).
- **Church Street/Bank Street (State Route 603)** – is an undivided two-lane major collector within the limits of the study area. Church Street/Bank Street is oriented in an approximate east/west direction with a posted speed limit of 25 MPH. Based on VDOT traffic data reported for 2021, this section of Church Street/Bank Street carried approximately 5,400 vehicles per day (vpd).
- **Old Mill Road (State Route 607) –** is an undivided two-lane local road within the limits of the study area. Old Mill Road is oriented in an approximate north/south direction. Based on VDOT traffic data reported for 2021, this section of Church Street/Bank Street carried approximately 1,200 vehicles per day (vpd).

Existing traffic signal timing data for each signalized study area intersection was provided by VDOT and was used in the operational analyses.

3.2 Existing Traffic Volumes

Kimley-Horn collected existing weekday turning movement count (TMC) data on May 11, 2023 (Thursday) and May 23, 2023 (Friday) from 6:00 AM to 9:00 AM and 3:30 PM to 6:30 PM at the following intersections:

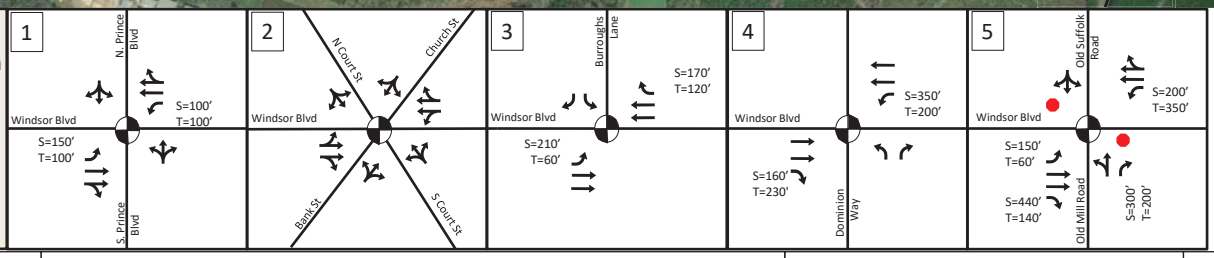
- Windsor Boulevard (U.S. Route 460) at U.S. Route 258 (Prince Boulevard) – Signalized
- Windsor Boulevard (U.S. Route 460) at Church Street/Court Street/Bank Street – Signalized
- Windsor Boulevard (U.S. Route 460) at Burroughs Lane – Signalized
- Windsor Boulevard (U.S. Route 460) at Dominion Way – Signalized
- Windsor Boulevard (U.S. Route 460) at Old Mill Road (State Route 607) – Unsignalized

Based on the TMC data, the uniform AM peak hour occurs from 7:15 AM to 8:15 AM, while the uniform PM peak hour occurs from 4:00 PM to 5:00 PM. Existing AM and PM peak hour traffic volumes are illustrated in **Figure 3**, while raw traffic count data are provided for reference in **Appendix B**. Heavy vehicle percentages were calculated for each intersection movement, while overall intersection peak hour factors (PHF) were calculated and then applied to each intersection movement.



Legend

- Signalized Intersection
- Unsignalized Intersection
- Study Intersection
- Existing Laneage
- S/T - Storage, Taper (feet)
- Stop Sign



Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Existing Roadway Geometry	Figure 2



Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Existing Volumes	Figure 3

4.0 FUTURE TRAFFIC

4.1 Analysis Scenarios

The proposed development is anticipated to be completed in 2025. As such, 2025 will reflect an Opening Year scenario, while 2031 will reflect an Opening Year scenario + 6 Years. This study includes the analysis of 2025 and 2031 No Build and Build conditions in addition to 2023 Existing Conditions. A summary of all scenarios included in this study are provided below:

- **Scenario 1 –** Existing (2023) traffic conditions
- **Scenario 2 –** Opening Year (2025) No-Build conditions – Build-out year traffic conditions with a growth rate applied to existing traffic volumes and approved but unbuilt site trips without traffic volumes generated by the proposed development
- **Scenario 3 –** Opening Year (2025) Build conditions – Build-out year traffic conditions with a growth rate applied to existing traffic volumes and approved but unbuilt site trips with traffic volumes generated by the proposed development
- **Scenario 4 –** Opening Year +6 Years (2031) No-Build conditions – Build-out year +6 with a growth rate applied to existing traffic volumes and approved but unbuilt site trips without traffic volumes generated by the proposed development
- **Scenario 5 –** Opening Year +6 Years (2031) Build conditions – with a growth rate applied to existing traffic volumes and approved but unbuilt site trips with traffic volumes generated by the proposed development

4.2 Traffic Growth Rate

Background traffic growth for this study was assumed to be consistent with previous studies performed for adjacent developments and confirmed based on historical traffic volume trends of adjacent roadways within the study area from 2016 to 2021 as shown in **Table 1**. Note that 2020 traffic volumes were excluded from traffic forecasting consideration due to impacts from COVID.

Table 1: Study Area Roadways Historic AAWDT

Roadway	Location	2016	2017	2018	2019	2021	Overall Average Growth Rate
U.S. 460	WCL Windsor to U.S. 258	12,000	11,000	11,000	11,000	11,000	**-0.4%**
U.S. 460	U.S. 258 to Court Street	18,000	17,000	17,000	17,000	17,000	**-0.3%**
U.S. 460	Court Street to ECL Windsor	18,000	18,000	17,000	17,000	18,000	**1.2%**
U.S. 258	WCL Windsor to U.S. 460	4,900	5,500	5,000	5,200	5,500	**2.1%**
U.S. 258	U.S. 460 to NCL Windsor	5,700	5,900	5,400	5,600	5,900	**1.6%**

**Source: VDOT Daily Traffic Volume Estimates*

In addition to the annualized growth rate, **Table 2** summarizes the future traffic volume projections from VDOT Statewide Planning System (SPS) data.

Table 2: VDOT Statewide Planning System (SPS) Traffic Volume Projections

Roadway	Location	2019	2045	Overall Average Growth Rate
U.S. 460	WCL Windsor to U.S. 258	11,212	15,136	**1.2%**
U.S. 460	U.S. 258 to Court Street	17,424	24,333	**1.3%**
U.S. 460	Court Street to ECL Windsor	17,424	22,093	**0.9%**
U.S. 258	WCL Windsor to U.S. 460	5,585	6,532	**0.6%**
U.S. 258	U.S. 460 to NCL Windsor	5,205	6,035	**0.6%**

**Source: VDOT SPS Data*

An overall growth rate of 1.0% (compounded annually) was applied to existing traffic counts for all turning movements along Windsor Boulevard and Prince Boulevard to develop background traffic for each future analysis scenario. This growth rate accounts for non-specific traffic growth within the study area.

4.3 Un-Built Approved Development Traffic

In addition to the 1.0% annualized growth rate, Isle of Wight County provided approved, but unbuilt, developments adjacent to the proposed development and within the study area as follows:

- Shirley T. Holland Intermodal Park Traffic Analysis Report (2023)
- Walter's Highway Site Traffic Impact Study (2023)

Peak hour trip assignments for these developments were included in the 2025 and 2031 traffic volume forecasts developed for this study and are documented in **Appendix C**. No Build traffic volumes for 2025 and 2031 were developed by adding the unbuilt development site trips to the existing traffic volumes with the applied compounded growth rate.

4.4 Un-Built Transportation Improvements

A funded but unbuilt SmartScale project is planned at the intersection of Windsor Boulevard at Prince Boulevard (U.S. Route 258). The project includes constructing a northbound and southbound left-turn lane along U.S. Route 258 at the existing signalized intersection. A conceptual design from the SmartScale application is included in **Appendix C.** The Walter's Highway Site Traffic Impact Study (2023) included recommendations to construct a traffic signal at the intersection of Old Mill Road/Old Suffolk Road at Windsor Boulevard.

These improvements were included in all future analysis scenarios.

4.5 Trip Generation

Traffic generation potential for the proposed development was calculated using *ITE Trip Generation 11th Edition* (2017) and is summarized in **Table 3**.

Table 3: Proposed Trip Generation

Building Number	ITE Code	ITE Descriptions	Density	Unit	Vehicle Type	Daily	AM Peak Hour			PM Peak Hour		
							Total	Enter	Exit	Total	Enter	Exit
Building A	150	Warehousing	171	KSF	***Total***	***308***	***29***	***22***	***7***	***31***	***9***	***22***
					Passenger	205	26	20	6	26	6	20
					Trucks	103	3	2	1	5	3	2
Building B	154	High-Cube Trans-load and Short-Term Storage Warehouse	543	KSF	***Total***	***760***	***43***	***33***	***10***	***54***	***15***	***39***
					Passenger	641	32	28	4	49	13	36
					Trucks	119	11	5	6	5	2	3
Building C	140	Manufacturing	122	KSF	***Total***	***580***	***83***	***63***	***20***	***90***	***28***	***62***
					Passenger	525	79	61	18	86	26	60
					Trucks	55	4	2	2	4	2	2
Building D	150	Warehousing	239	KSF	***Total***	***416***	***41***	***32***	***9***	***43***	***12***	***31***
					Passenger	273	36	29	7	36	8	28
					Trucks	143	5	3	2	7	4	3
Building E	150	Warehousing	156	KSF	***Total***	***285***	***27***	***21***	***6***	***28***	***8***	***20***
					Passenger	191	24	19	5	23	5	18
					Trucks	94	3	2	1	5	3	2
Total Site Trips						***2,349***	***223***	***171***	***52***	***246***	***72***	***174***

The proposed Tidewater Logistics Center development has the potential to generate approximately 2,349 daily weekday trips. Out of the total weekday daily trips, 223 driveway trips are anticipated to occur during the AM peak hour and 246 driveway trips are expected to occur during the PM peak hour.

4.6 Trip Distribution and Assignment

Site trip distributions were determined from available traffic data, anticipated routes for vehicles entering and exiting the site, and a general familiarity of the study area. At the regional level, it is anticipated that most proposed traffic will be traveling to/from U.S. Route 460 east of the project site. Site traffic distributions are shown in **Figure 4** and summarized as follows:

- To/from the west on U.S. Route 460 (Windsor Boulevard) – **30%**
- To/from the east on U.S. Route 460 (Windsor Boulevard) – **70%**

Three access points are proposed along Windsor Boulevard:

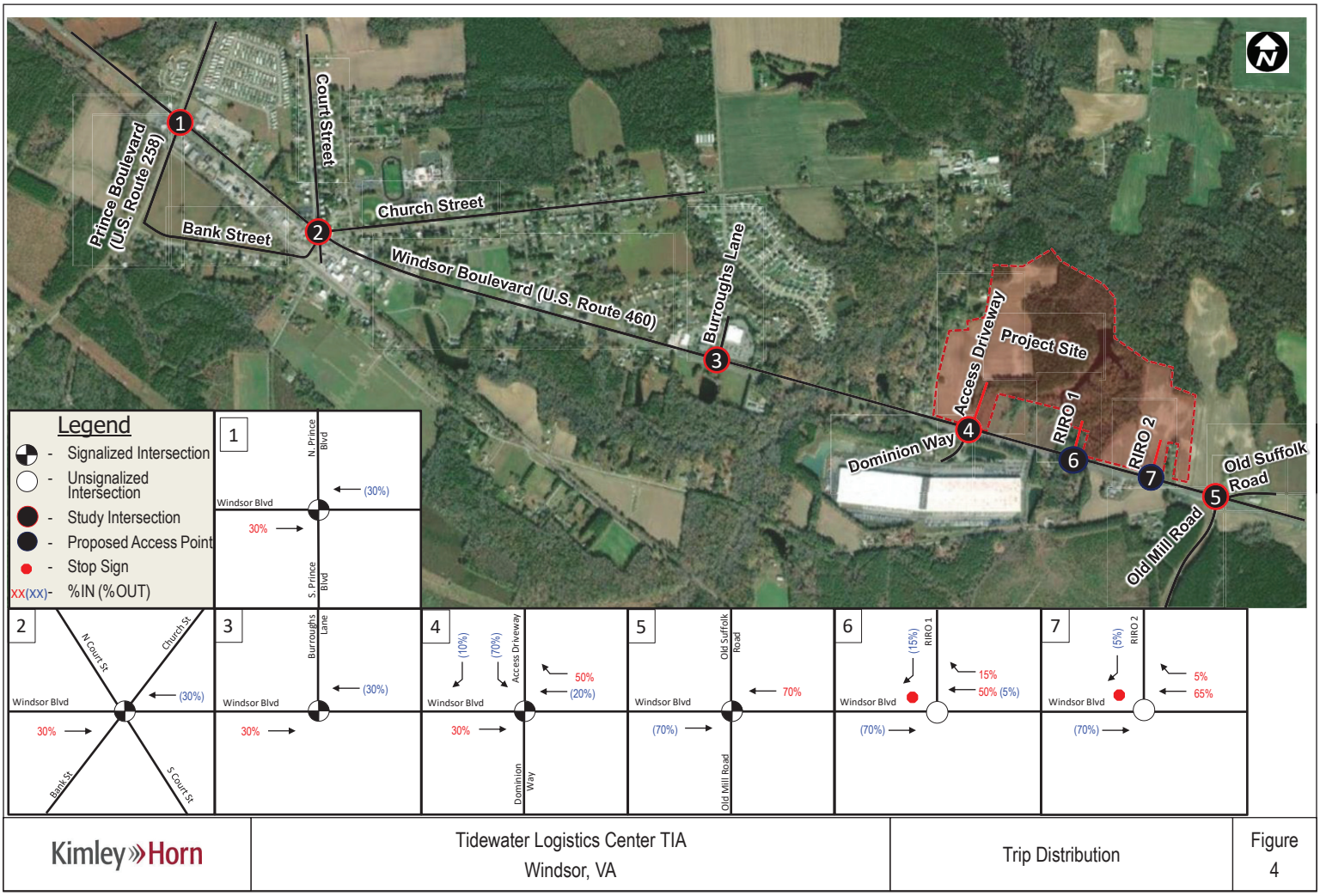
- Windsor Boulevard (U.S. Route 460) at Dominion Way – Signalized
- Windsor Boulevard (U.S. Route 460) at Proposed RI/RO 1 – Unsignalized
- Windsor Boulevard (U.S. Route 460) at Proposed RI/RO 2 – Unsignalized

Individual site driveway traffic assignments were based on locations of each building with respect to the closest driveway. All eastbound traffic was assigned through the existing traffic signal at Dominion Way. Site traffic assignment volumes are shown in **Figure 5**.

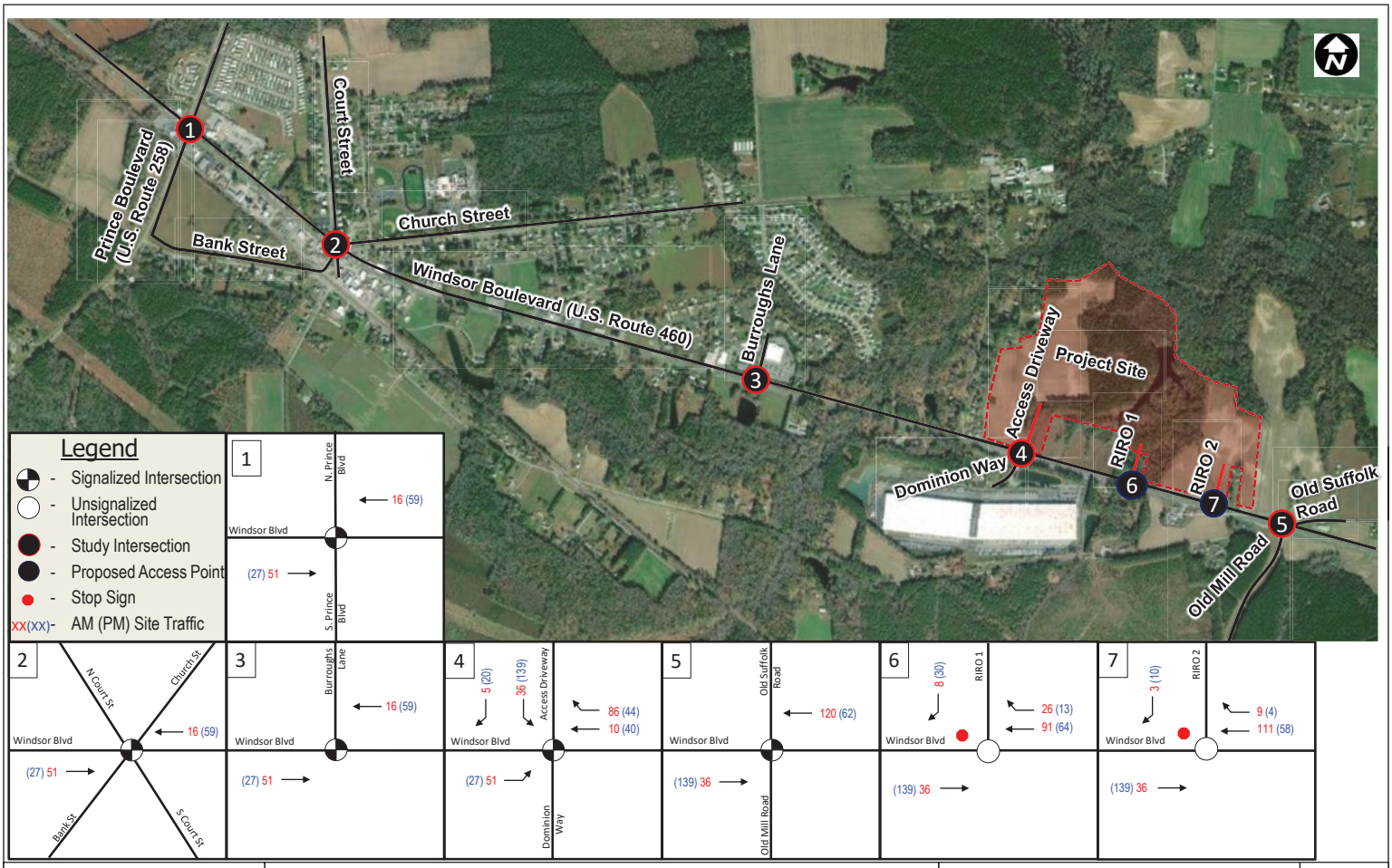
4.7 Total Future Traffic

Total future traffic volumes for the peak hours were calculated by multiplying the trip generation by the trip distributions and added to the No Build traffic volumes to develop both 2025 and 2031 Build peak hour traffic volumes. Future No Build and Build traffic volumes and laneage are provided in the following figures:

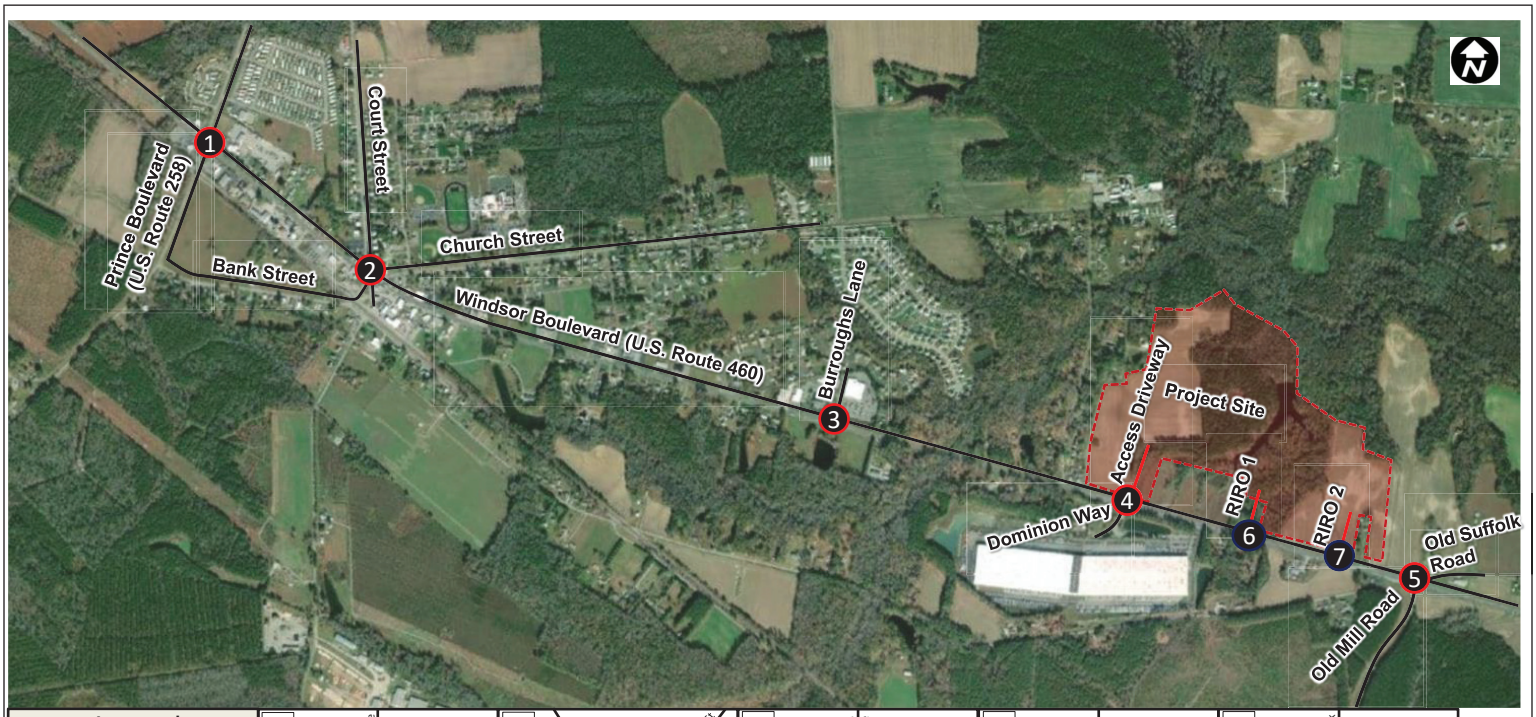
- 2025 No Build AM and PM Peak Hour Traffic Volumes – **Figure 6**
- 2031 No Build AM and PM Peak Hour Traffic Volumes – **Figure 7**
- 2025 Build AM and PM Peak Hour Traffic Volumes – **Figure 8**
- 2031 Build AM and PM Peak Hour Traffic Volumes – **Figure 9**



Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Trip Distribution	Figure 4

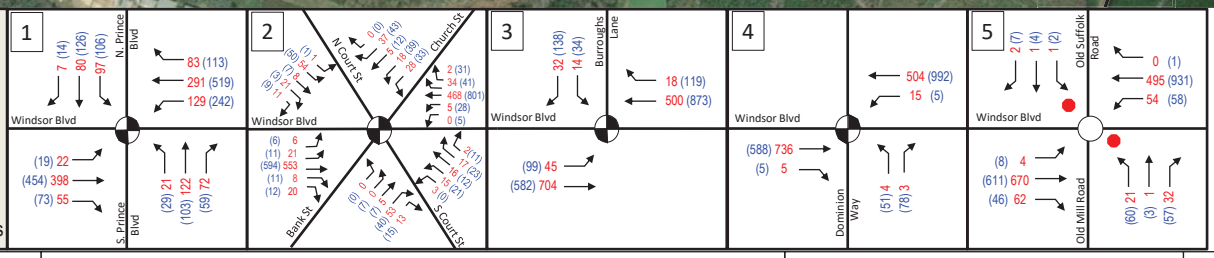


Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Trip Assignment	Figure 5

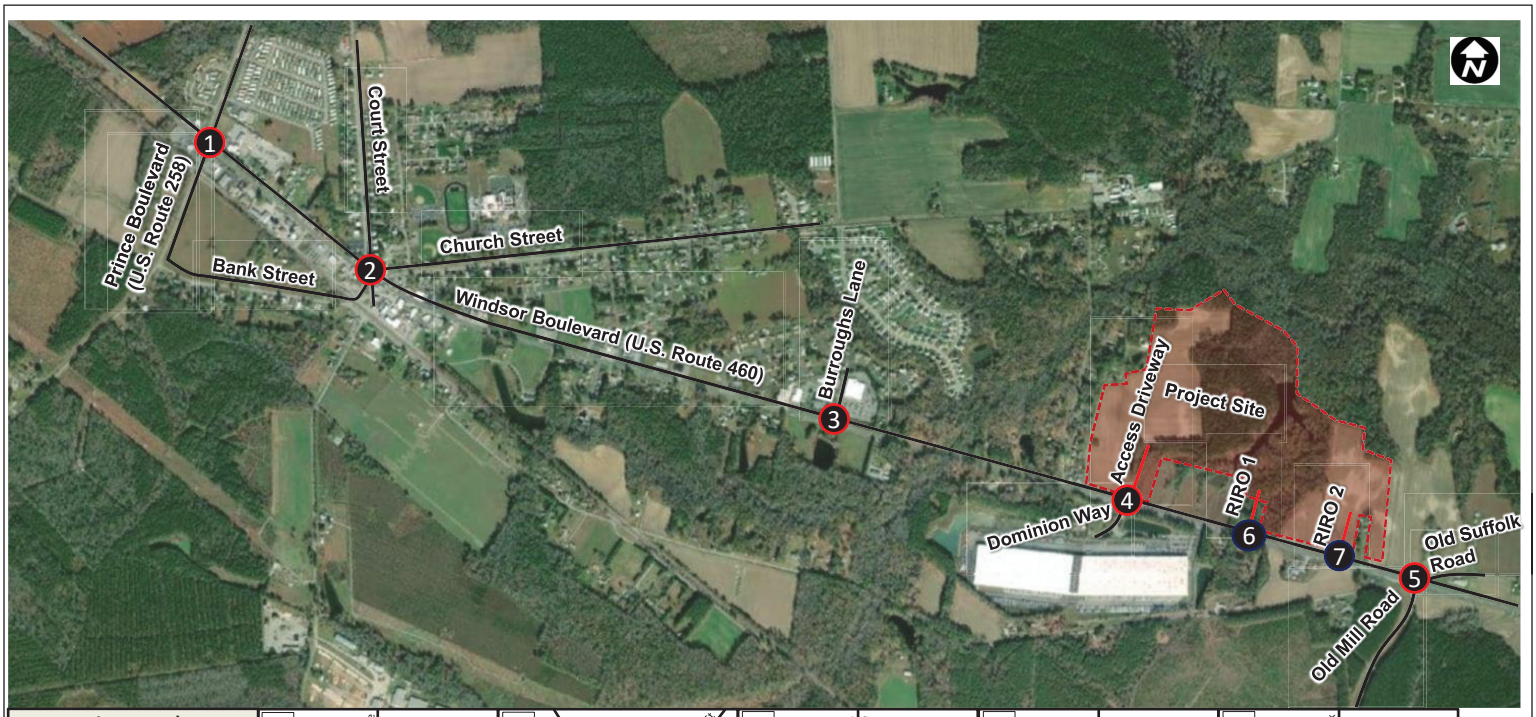


Legend

- Signalized Intersection
- Unsignalized Intersection
- Study Intersection
- Proposed Access Point
- Stop Sign
- XX(XX) - AM (PM) Traffic Volumes



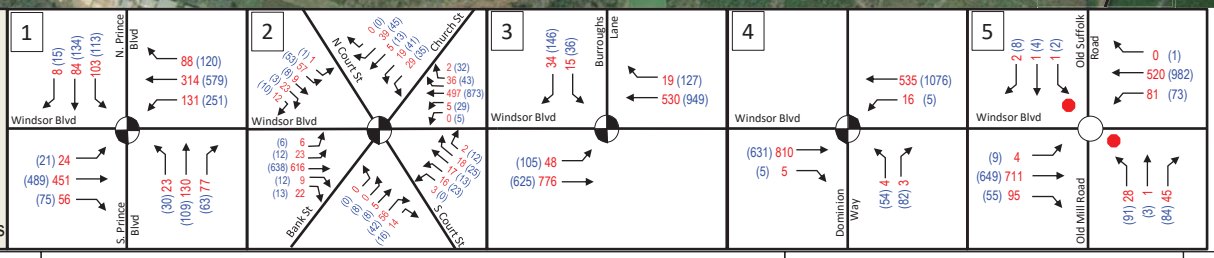
Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	No Build 2025 Volumes	Figure 6



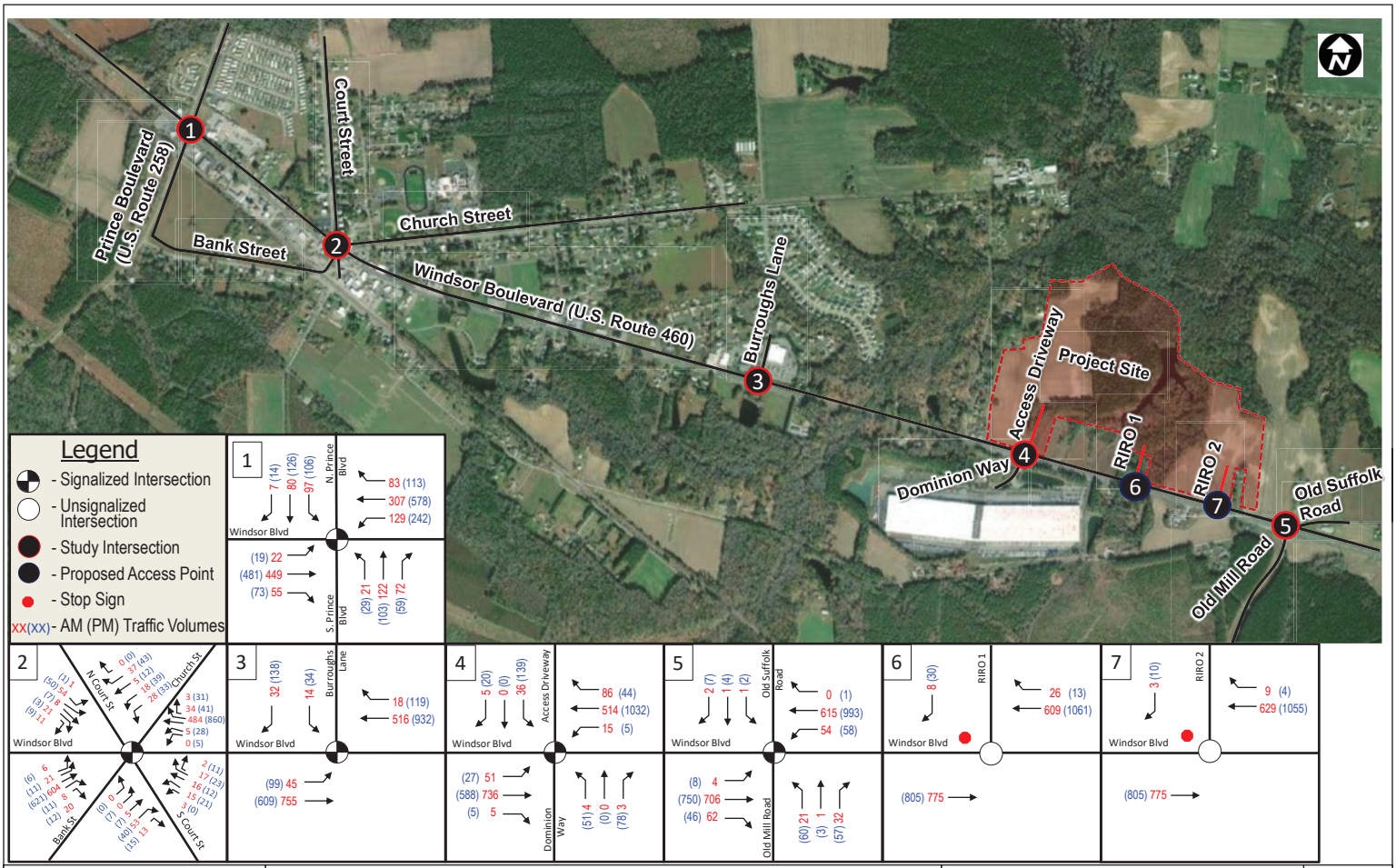
Legend

- Signalized Intersection
- Unsignalized Intersection
- Study Intersection
- Proposed Access Point
- Stop Sign

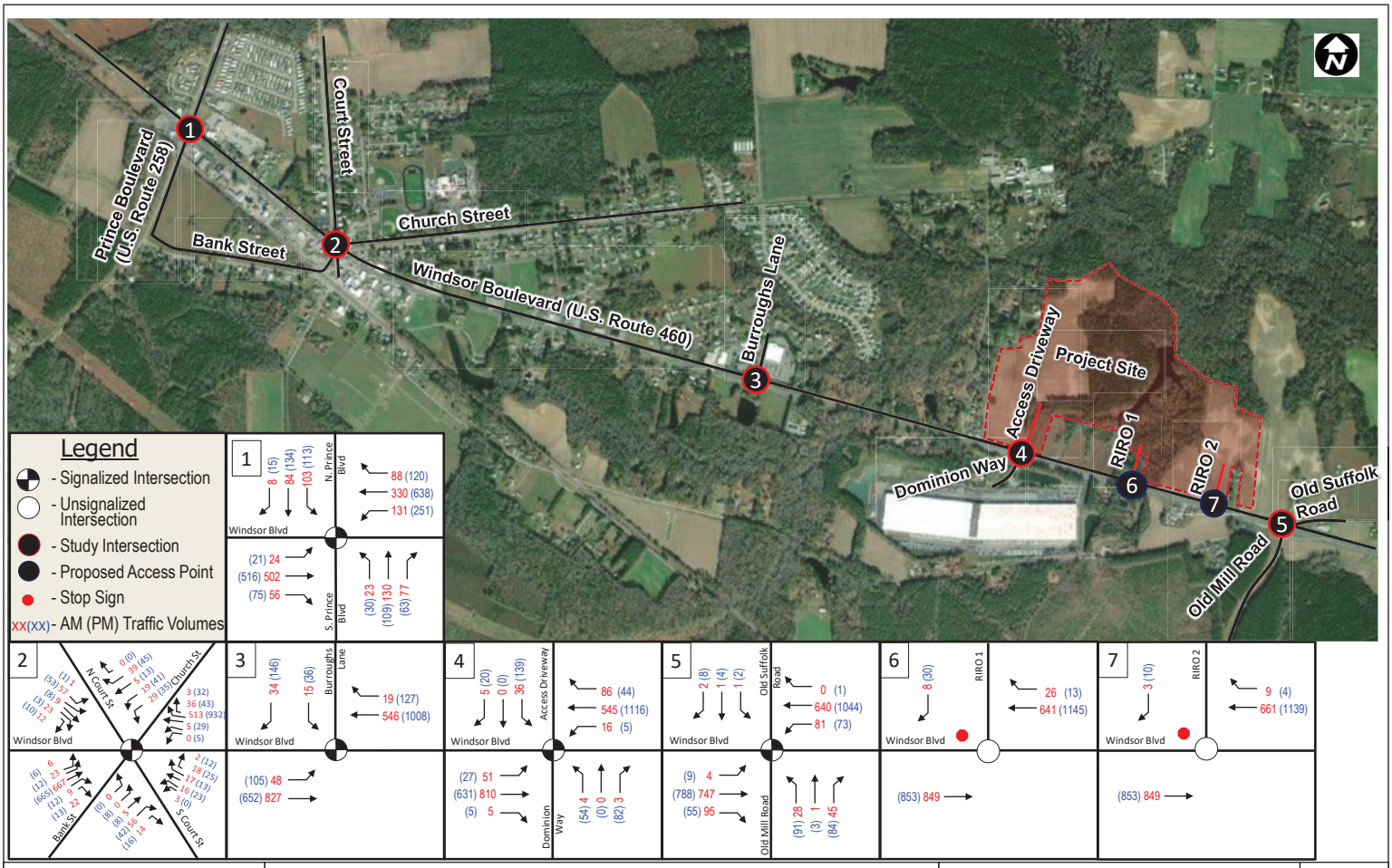
XX(XX) - AM (PM) Traffic Volumes



Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	No Build 2031 Volumes	Figure 7



Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Build 2025 Volumes	Figure 8



Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Build 2031 Volumes	Figure 9

5.0 TRAFFIC ANALYSIS

5.1 Intersection Operational Analysis

Intersection capacity analyses for all study intersections were performed under weekday AM and PM peak hour conditions for the analysis scenarios described in **Section 4.1**. All signalized and unsignalized intersection capacity analyses were completed using *Synchro Professional (Version 11)*. For future condition analyses, traffic signal timings were optimized to account for increases in future traffic volumes due to background traffic growth and/or additional development related traffic.

Two measures of effectiveness (MOE) were analyzed in the intersection capacity analyses – average vehicle delay (in seconds per vehicle) and maximum queue lengths (in feet, rounded up to the nearest 5 feet). Average vehicle delays and 95th percentile queues were obtained using *2000 Highway Capacity Manual (HCM)* methodologies contained within *Synchro*. Accompanying HCM vehicle delays are HCM level of service (LOS) designations. LOS ranges from A to F— "A" indicating a condition of little or no congestion and "F" a condition with severe congestion, unstable traffic flow, and stop-and-go conditions. **Table 4** summarizes LOS thresholds for both signalized and unsignalized intersection operations.

Table 4: LOS Control Delay Thresholds

LOS	Signalized Intersections Control Delay Per Vehicle [sec/veh]	Unsignalized Intersections Average Control Delay [sec/veh]	Relative Delay
A	≤ 10	≤ 10	Short Delays
	Free-flow traffic operations at average travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at signalized intersections.		
B	> 10 – 20	> 10 – 15	
	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.		
C	> 20 – 35	> 15 – 25	
	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer intersection delays.		
D	> 35 – 55	> 25 – 35	Moderate Delays
	Small increases in traffic flow can cause increased delays. Delays likely attributable to increase traffic, reduced signal progression and adverse timing.		
E	> 55 – 80	> 35 – 50	
	Significant delays. Travel speeds reduced to one third of average free flow travel speed.		
F	> 80	> 50	Long Delays
	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.		

Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2022

5.2 Intersection Operational Analysis Results and Findings

Operational analysis LOS results are summarized in the following tables:

- **Table 5** – Intersection of Windsor Boulevard and Prince Boulevard AM and PM LOS results
- **Table 6** – Intersection of Windsor Boulevard and Court Street/Bank Street AM and PM LOS results
- **Table 7**– Intersection of Windsor Boulevard and Burroughs Lane AM and PM LOS results
- **Table 8** – Intersection of Windsor Boulevard and Dominion Way AM and PM LOS results

- **Table 9** – Intersection of Windsor Boulevard and Old Mill Road AM and PM LOS results
- **Table 10** – Intersection of Windsor Boulevard and Proposed RIRO 1 AM and PM LOS results
- **Table 11** – Intersection of Windsor Boulevard and Proposed RIRO 2 AM and PM LOS results

Under existing conditions, all intersections operate at a LOS D or better during both the AM and PM peak hours. It is noted that thirteen (13) individual/exclusive turning movements along the corridor and at the side street approaches experience poor LOS (i.e., LOS E or worse). These are shown in the tables in red text.

At the signalized intersections, the operational conditions are primarily caused by the predominant allocation of green time to support/improve through movement traffic progression along the Windsor Boulevard corridor. Signal coordination with cycle lengths greater than 120 seconds inherently increase delay for movements other than the mainline through and right-turn traffic. The duration of cycle time between consecutive phases for left turn and side street movements is typically longer than 55 seconds, which is the threshold for LOS E and can be more than 80 seconds, which is the threshold for LOS F. These results do not necessarily indicate an operational deficiency.

The unsignalized operational condition at the Old Mill Road intersection is due to the low frequency of appropriate gaps for left-turning vehicles to navigate across Windsor Boulevard.

For each 2025 and 2031 future year analysis, the following approved but unbuilt improvements were implemented:

- Adjusted traffic signal timing splits and phase sequences (all No Build and Build scenarios)
- Changed the traffic control of the Windsor Boulevard and Old Mill Road intersection from unsignalized to signalized and added a flashing yellow arrow (FYA) protected permissive left-turn control for the westbound left-turn.
- Added exclusive left-turn storage lanes at the northbound and southbound approaches of the intersection of Windsor Boulevard and Prince Boulevard. Signal operations were modified from split-phase to eight-phase.

Under 2025 No Build conditions, overall intersection operations are expected to be comparable to existing conditions, with delays increasing by less than 15 seconds per vehicle due to background traffic growth. Synchro is reporting a delay of 126.5 seconds (LOS F) for the eastbound right-turn movement at Old Mill Road during the AM peak hour. This is due to a high reported progression factor and associated platoon arrival. However, the adjacent through movement and left-turn movement both function at LOS B and the right-turn movement is expected to operate comparably despite the reported condition.

Under 2025 Build conditions, all study area intersections are anticipated to operate at overall LOS C or better during the AM and PM peak hours. Individual/exclusive turning movements are expected to experience both minor improvements and minor deteriorations in vehicle delays. The majority of individual turning movements within the study area are anticipated to experience a LOS D or better during both peak hours. However, it is noted that select individual turning movements (primarily those associated with the side street approaches to Windsor Boulevard) could experience LOS E during the peak travel periods.

Under 2031 No Build conditions, overall intersection operations are anticipated to function at LOS C or better during both the AM and PM peak hours respectively. Individual turning movements are expected to experience both minor improvements and minor deteriorations in LOS or vehicle delay. However, operational conditions similar to those experienced currently along the corridor are generally expected to be maintained under 2031 No Build conditions for side street approaches and select Windsor Boulevard turning movements. Synchro is reporting a delay of 84.3 seconds (LOS F) for the eastbound right-turn

movement at Old Mill Road during the PM peak hour. This is a similar condition as described above and is expected to operate comparably despite the reported condition.

Under 2031 Build conditions, overall intersection operations are anticipated to continue functioning at LOS C or better during the AM and PM peak hours. The majority of individual turning movements within the study area are anticipated to experience a LOS D or better during both peak hours; however, it is noted that select individual turning movements could experience poor LOS (i.e., a LOS of E or worse). These conditions are maintained from both 2031 No Build and 2025 Build conditions.

Table 5: Windsor Boulevard and Prince Boulevard Vehicle Delay Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound Prince Blvd			Southbound Prince Blvd		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Signalized	D (35.7)	C (23.7)	C (28.9)		B (18.8)	C (24.0)		D (52.7)			E (57.8)		
			C (28.6)			C (23.5)								
2025 No Build	Signalized	C (25.8)	B (19.3)	C (28.3)		B (12.9)	B (12.0)		C (30.6)	D (47.3)		C (32.7)	D (36.6)	
			C (27.8)			B (12.2)			D (45.7)			C (34.6)		
2025 Build	Signalized	C (26.4)	B (19.4)	C (29.2)		B (13.4)	B (13.1)		C (30.6)	D (47.3)		C (32.7)	D (36.6)	
			C (28.7)			B (13.2)			D (45.7)			C (34.6)		
2031 No Build	Signalized	C (26.5)	C (20.5)	C (29.8)		B (13.3)	B (12.5)		C (29.7)	D (47.1)		C (32.0)	D (35.6)	
			C (29.4)			B (12.7)			D (45.3)			C (33.7)		
2031 Build	Signalized	C (27.0)	C (20.5)	C (30.2)		B (14.2)	B (13.1)		C (30.1)	D (48.0)		C (32.5)	D (36.1)	
			C (29.8)			B (13.4)			D (46.2)			C (34.2)		
PM Peak Hour														
2023 Existing	Signalized	D (42.0)	C (27.5)	E (56.9)		C (21.7)	C (22.6)		E (60.3)			E (60.6)		
			E (55.7)			C (22.4)								
2025 No Build	Signalized	D (35.3)	C (21.6)	E (63.6)		B (15.8)	B (12.6)		D (36.1)	D (53.0)		D (38.2)	D (44.3)	
			E (62.1)			B (13.5)			D (50.5)			D (41.7)		
2025 Build	Signalized	C (34.4)	C (22.7)	E (61.8)		B (18.7)	B (11.2)		C (32.6)	D (53.1)		D (38.3)	D (44.4)	
			E (60.5)			B (13.1)			D (50.6)			D (41.8)		
2031 No Build	Signalized	C (34.6)	C (23.4)	E (61.6)		C (21.1)	B (11.2)		D (35.2)	D (53.0)		D (37.5)	D (43.6)	
			E (60.2)			B (13.8)			D (50.4)			D (41.0)		
2031 Build	Signalized	C (34.6)	C (25.1)	E (60.5)		C (24.6)	B (11.5)		D (35.1)	D (52.9)		D (37.4)	D (43.5)	
			E (59.3)			B (14.8)			D (50.3)			D (40.9)		

Table 6: Windsor Boulevard and Court Street/Bank Street Vehicle Delay Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)					
			Eastbound Windsor Blvd	Westbound Windsor Blvd	Northbound Court St	Southbound Court St	Northeastbound Bank St	Southwestbound Church St
AM Peak Hour								
2023 Existing	Signalized	C (27.9)	B (17.6)	C (21.9)	D (50.1)	E (56.9)	E (59.4)	E (55.5)
2025 No Build	Signalized	C (27.4)	B (19.5)	C (20.4)	D (50.1)	E (56.5)	E (59.1)	E (55.7)
2025 Build	Signalized	C (28.7)	B (19.9)	C (23.0)	D (50.6)	E (60.9)	E (59.1)	E (55.7)
2031 No Build	Signalized	C (29.9)	C (21.6)	C (23.4)	D (50.5)	E (62.4)	E (59.6)	E (56.2)
2031 Build	Signalized	C (30.3)	C (21.8)	C (24.9)	D (50.5)	E (62.4)	E (59.6)	E (58.5)
PM Peak Hour								
2023 Existing	Signalized	C (24.6)	A (8.8)	C (21.1)	E (61.3)	E (67.5)	E (63.7)	E (58.7)
2025 No Build	Signalized	C (26.2)	B (10.7)	C (22.2)	E (65.4)	E (77.6)	E (64.0)	E (62.2)
2025 Build	Signalized	C (23.6)	B (12.3)	B (16.1)	E (65.3)	E (77.0)	E (65.0)	E (65.1)
2031 No Build	Signalized	C (28.9)	B (13.5)	C (27.1)	E (59.5)	E (64.6)	E (66.3)	E (63.4)
2031 Build	Signalized	C (26.6)	B (16.5)	B (19.8)	E (61.1)	E (68.5)	E (69.9)	E (67.2)

Table 7: Windsor Boulevard and Burroughs Lane Vehicle Delay Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound			Southbound Burroughs Ln		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Signalized	A (5.8)	A (4.8)	A (4.1)	-	-	A (3.2)	A (2.7)	-	-	-	E (55.3)	-	D (54.5)
			A (4.2)			A (3.2)			-			D (54.8)		
2025 No Build	Signalized	A (5.5)	A (5.2)	A (4.3)	-	-	A (2.8)	A (2.2)	-	-	-	E (55.3)	-	D (54.5)
			A (4.4)			A (2.8)			-			D (54.8)		
2025 Build	Signalized	A (5.3)	A (5.7)	A (5.4)	-	-	A (0.9)	A (0.1)	-	-	-	E (55.3)	-	D (54.5)
			A (5.4)			A (0.9)			-			D (54.8)		
2031 No Build	Signalized	A (6.4)	A (5.9)	A (5.9)	-	-	A (2.9)	A (2.3)	-	-	-	E (55.3)	-	D (54.5)
			A (5.9)			A (2.9)			-			D (54.7)		
2031 Build	Signalized	A (6.0)	A (5.9)	A (6.5)	-	-	A (1.0)	A (0.1)	-	-	-	E (55.3)	-	D (54.5)
			A (6.4)			A (1.0)			-			D (54.7)		
PM Peak Hour														
2023 Existing	Signalized	A (8.2)	A (4.4)	A (3.1)	-	-	A (2.3)	A (0.9)	-	-	-	E (59.7)	-	E (58.3)
			A (3.3)			A (2.1)			-			E (58.6)		
2025 No Build	Signalized	A (8.9)	A (5.6)	A (3.7)	-	-	A (3.8)	A (2.4)	-	-	-	E (59.7)	-	E (58.2)
			A (4.0)			A (3.6)			-			E (58.5)		
2025 Build	Signalized	B (10.8)	A (5.8)	A (4.0)	-	-	A (6.6)	B (14.0)	-	-	-	E (59.7)	-	E (58.2)
			A (4.2)			A (7.5)			-			E (58.5)		
2031 No Build	Signalized	A (8.9)	A (6.2)	A (3.9)	-	-	A (4.0)	A (1.5)	-	-	-	E (59.7)	-	E (58.1)
			A (4.3)			A (3.7)			-			E (58.4)		
2031 Build	Signalized	B (11.0)	A (6.3)	A (3.9)	-	-	A (7.1)	B (14.0)	-	-	-	E (59.7)	-	E (58.1)
			A (4.2)			A (7.8)			-			E (58.4)		

Table 8: Windsor Boulevard and Dominion Way Vehicle Delay Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound Dominion Way			Southbound Dominion Way		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Signalized	A (9.9)	-	B (14.3)	B (12.6)	A (2.9)	A (1.5)	-	E (69.7)	-	E (58.6)	-	-	-
			B (14.3)			A (1.5)			E (64.9)			-		
2025 No Build	Signalized	A (9.0)	-	B (14.5)	B (12.6)	A (2.4)	A (0.4)	-	E (69.7)	-	E (58.6)	-	-	-
			B (14.5)			A (0.5)			E (64.9)			-		
2025 Build	Signalized	B (11.1)	A (7.8)	B (10.7)	A (6.6)	A (6.3)	A (8.1)	A (8.2)	D (54.9)	E (59.0)		E (62.2)	E (58.9)	
			B (10.5)			A (8.0)			E (56.6)			E (61.8)		
2031 No Build	Signalized	A (9.8)	-	B (15.8)	B (12.0)	A (2.3)	A (0.5)	-	E (69.7)	-	E (58.6)	-	-	-
			B (15.7)			A (0.5)			E (64.9)			-		
2031 Build	Signalized	B (10.8)	A (7.2)	B (10.2)	A (6.6)	A (6.8)	A (8.1)	A (8.2)	D (54.9)	E (59.0)		E (62.2)	E (58.9)	
			A (10.0)			A (8.1)			E (56.6)			E (61.8)		
PM Peak Hour														
2023 Existing	Signalized	B (10.5)	-	A (9.7)	B (13.2)	A (4.8)	A (4.2)	-	E (59.6)	-	E (55.5)	-	-	-
			A (9.7)			A (4.2)			E (57.1)			-		
2025 No Build	Signalized	A (10.0)	-	A (8.1)	A (9.7)	A (6.8)	A (4.9)	-	E (59.7)	-	E (55.9)	-	-	-
			A (8.1)			A (4.9)			E (57.4)			-		
2025 Build	Signalized	B (19.6)	A (3.9)	A (4.2)	B (11.1)	B (10.7)	B (17.5)	B (12.6)	E (57.4)	E (60.1)		E (65.2)	D (55.0)	
			A (4.3)			B (17.2)			E (59.0)			E (63.9)		
2031 No Build	Signalized	B (11.8)	-	A (8.8)	B (10.1)	A (9.6)	A (7.9)	-	E (59.6)	-	E (55.7)	-	-	-
			A (8.8)			A (7.9)			E (57.2)			-		
2031 Build	Signalized	C (21.1)	A (4.0)	A (4.3)	B (11.3)	B (14.4)	C (21.2)	B (12.9)	D (49.7)	E (60.1)		E (63.1)	E (61.6)	
			A (4.3)			C (20.8)			E (55.9)			E (63.0)		

Table 9: Windsor Boulevard and Old Mill Road Vehicle Delay Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound Old Mill Rd			Southbound Old Suffolk Rd		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2023 Existing	Unsignalized	A (0.7)	A (8.7)	A (0.0)	A (0.0)	A (0.0)	A (9.4)		C (19.1)			C (16.1)		
			A (0.0)			A (0.4)								
2025 No Build	Signalized	B (15.0)	B (11.6)	B (11.1)	F (126.5)	A (4.7)	A (3.0)		E (57.3)		D (52.4)	D (52.4)		
			C (20.7)			A (3.1)			D (54.4)					
2025 Build	Signalized	A (7.8)	A (6.4)	A (5.5)	D (39.3)	A (4.7)	A (3.2)		E (57.3)		D (52.4)	D (52.4)		
			A (8.2)			A (3.3)			D (54.4)					
2031 No Build	Signalized	B (13.0)	B (14.1)	B (13.3)	D (37.9)	A (5.0)	A (3.2)		E (57.4)		D (51.8)	D (51.6)		
			B (16.2)			A (3.5)			D (54.0)					
2031 Build	Signalized	A (8.0)	A (7.8)	A (6.6)	B (14.6)	A (5.1)	A (3.5)		E (57.4)		D (51.8)	D (51.6)		
			A (7.5)			A (3.6)			D (54.0)					
PM Peak Hour														
2023 Existing	Unsignalized	A (2.5)	B (10.7)	A (0.0)	A (0.0)	A (0.0)	A (9.5)		E (48.4)			E (41.2)		
			A (0.1)			A (0.4)								
2025 No Build	Signalized	A (9.5)	A (5.4)	A (6.2)	A (7.6)	A (6.1)	A (5.3)		E (61.3)		D (51.9)	D (51.9)		
			A (6.3)			A (5.4)			E (56.8)					
2025 Build	Signalized	B (10.5)	A (8.5)	A (9.0)	A (7.6)	A (6.2)	A (5.9)		E (61.3)		D (51.9)	D (51.9)		
			A (8.9)			A (5.9)			E (56.8)					
2031 No Build	Signalized	B (14.5)	A (8.3)	A (8.7)	F (84.3)	A (7.5)	A (7.0)		E (62.8)		D (48.7)	D (48.4)		
			B (14.6)			A (7.0)			E (56.1)					
2031 Build	Signalized	B (12.8)	A (8.3)	A (9.2)	B (17.8)	A (7.7)	A (7.8)		E (62.8)		D (48.7)	D (48.4)		
			A (9.7)			A (7.8)			E (56.1)					

Table 10: Windsor Boulevard and RIRO 1 Vehicle Delay Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)											
			Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound			Southbound RIRO 1		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour														
2025 Build	Unsignalized	A (0.0)	-	-	-	-	-	-	-	-	-	-	-	B (11.0)
			-			-			-			B (11.0)		
2031 Build	Unsignalized	A (0.1)	-	-	-	-	-	-	-	-	-	-	-	B (11.2)
			-			-			-			B (11.2)		
PM Peak Hour														
2025 Build	Unsignalized	A (0.2)	-	-	-	-	-	-	-	-	-	-	-	B (13.4)
			-			-			-			B (13.4)		
2031 Build	Unsignalized	A (0.2)	-	-	-	-	-	-	-	-	-	-	-	B (14.0)
			-			-			-			B (14.0)		

Table 11: Windsor Boulevard and RIRO 2 Vehicle Delay Results

Scenario	Traffic Control	Overall LOS	Level of Service per Movement by Approach (Delay in sec/veh)										
			Eastbound Windsor Blvd			Westbound Windsor Blvd		Northbound			Southbound RIRO 2		
			LT	TH	RT	LT	TH/RT	LT	TH	RT	LT	TH	RT
AM Peak Hour													
2025 Build	Unsignalized	A (0.0)	-	-	-	-	-	-	-	-	-	B (10.4)	
			-			-		-			B (10.4)		
2031 Build	Unsignalized	A (0.0)	-	-	-	-	-	-	-	-	-	B (10.5)	
			-			-		-			B (10.5)		
PM Peak Hour													
2025 Build	Unsignalized	A (0.1)	-	-	-	-	-	-	-	-	-	B (10.5)	
			-			-		-			B (10.5)		
2031 Build	Unsignalized	A (0.1)	-	-	-	-	-	-	-	-	-	B (10.4)	
			-			-		-			B (10.4)		

5.3 Intersection Queuing Analysis Results and Findings

Operational analysis 95th percentile queueing results are summarized in the following figures:

- **Table 12** – Intersection of Windsor Boulevard and Prince Boulevard AM and PM Queue results
- **Table 13** – Intersection of Windsor Boulevard and Court Street/Bank Street AM and PM Queue results
- **Table 14 –** Intersection of Windsor Boulevard and Burroughs Lane AM and PM Queue results
-
- – Intersection of Windsor Boulevard and Dominion Way AM and PM Queue results
-

- **Table** 16 – Intersection of Windsor Boulevard and Old Mill Road AM and PM Queue results
- **Table 17** – Intersection of Windsor Boulevard and Proposed RIRO 1 AM and PM Queue results
- **Table 18** – Intersection of Windsor Boulevard and Proposed RIRO 2 AM and PM Queue results

Under all modeled 2023 existing peak hour conditions, all eastbound, westbound mainline Windsor Boulevard and side street turn lanes are expected to adequately accommodate peak hour turning movement demands. None of the 95th percentile queue lengths adversely impacted adjacent travel lanes.

All future 2025 No Build, 2025 Build, 2031 No Build, and 2031 Build peak hour conditions are expected to experience similar conditions within the study area where all 95th percentile queue lengths are anticipated to be contained within available storage lengths with the same exception of the westbound left-turn at the U.S. Route 258 intersection with Windsor Boulevard.

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Table 12: Windsor Boulevard and Prince Boulevard Queue Results

Scenario	Maximum Queue Length by Movement (Feet)											
	Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound Prince Blvd			Southbound Prince Blvd		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	150	-	Cont.	100	-	Cont.		Cont.			Cont.	
Effective Storage Length No Build / [Build]	-			-			100	Cont.		200	Cont.	
AM Peak Hour												
2023 Existing	30	195		m60	220		235			230		
2025 No Build	25	225		60	95		30	210		90	105	
2025 Build	25	255		m95	170		30	210		90	105	
2031 No Build	30	255		m110	205		30	225		95	105	
2031 Build	30	270		m110	235		30	230		100	110	
PM Peak Hour												
2023 Existing	30	250		145	345		220			280		
2025 No Build	25	270		95	80		40	190		105	170	
2025 Build	25	280		115	75		40	190		105	170	
2031 No Build	25	285		150	90		40	200		110	175	
2031 Build	30	295		#185	135		40	200		110	175	

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 13: Windsor Boulevard and Court Street/Bank Street Queue Results

Scenario	Maximum Queue Length by Movement (Feet)																	
	Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound Court St			Southbound Court St			Northeastbound Bank St			Southeastbound Church St		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	Cont.			Cont.			Cont.			Cont.			Cont.			Cont.		
AM Peak Hour																		
2023 Existing	295			220			85			120			100			125		
2025 No Build	310			275			80			125			100			125		
2025 Build	335			295			85			#165			100			125		
2031 No Build	340			290			90			#190			105			130		
2031 Build	365			295			90			#190			105			135		
PM Peak Hour																		
2023 Existing	300			400			100			105			100			170		
2025 No Build	325			400			105			#120			100			#200		
2025 Build	335			345			105			#120			105			#235		
2031 No Build	345			490			115			#135			110			#250		
2031 Build	360			200			115			#135			110			#250		

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 14: Windsor Boulevard and Burroughs Lane Queue Results

Scenario	Maximum Queue Length by Movement (Feet)											
	Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound			Southbound Burroughs Ln		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	210	-	Cont.	Cont.	-	170		-		Cont.	-	Cont.
AM Peak Hour												
2023 Existing	m20	230	-	-	45	5		-		35	-	35
2025 No Build	m25	300	-	-	50	5		-		35	-	35
2025 Build	m25	330	-	-	5	0		-		35	-	35
2031 No Build	m25	335	-	-	55	5		-		40	-	35
2031 Build	m25	360	-	-	5	0		-		40	-	35
PM Peak Hour												
2023 Existing	80	195	-	-	70	5		-		65	-	65
2025 No Build	m60	145	-	-	220	5		-		70	-	70
2025 Build	m50	130	-	-	225	45		-		70	-	70
2031 No Build	m55	130	-	-	245	5		-		70	-	70
2031 Build	m50	120	-	-	170	25		-		70	-	70

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 15: Windsor Boulevard and Dominion Way Queue Results

Scenario	Maximum Queue Length by Movement (Feet)											
	Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound Dominion Way			Southbound Dominion Way		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length (Existing)	-	-	160	350	-	-		-		Cont.	-	Cont.
Effective Storage Length No Build / [Build]	XXX	-		-		XXX	XXX	Cont.		200	Cont.	
AM Peak Hour												
2023 Existing	-	280	m10	10	45	-	15	-	15	-		
2025 No Build	-	320	m10	5	15	-	15	-	15	-		
2025 Build	35	375	m0	10	170	0	15	0		65	0	
2031 No Build	-	330	m10	5	15	-	15	-	15	-		
2031 Build	40	410	m0	10	185	0	15	0		65	0	
PM Peak Hour												
2023 Existing	-	215	10	5	140	-	85	-	40	-		
2025 No Build	-	180	10	m5	210	-	90	-	55	-		
2025 Build	10	65	m0	m5	320	0	90	0		195	0	
2031 No Build	-	170	m10	m0	365	-	95	-	55	-		
2031 Build	10	65	m0	m5	470	m0	85	0		190	0	

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 16: Windsor Boulevard and Old Mill Road Queue Results

Scenario	Maximum Queue Length by Movement (Feet)											
	Eastbound Windsor Blvd			Westbound Windsor Blvd			Northbound Old Mill Rd			Southbound Old Suffolk Rd		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length	150	-	440	200	-	Cont.		-		Cont.	-	Cont.
AM Peak Hour												
2023 Existing	0	0	0	5	0	-	10		0	5		
2025 No Build	m10	340	60	20	70	-	45		0	15		
2025 Build	m5	145	15	20	90	-	45		0	15		
2031 No Build	m10	355	90	30	80	-	55		0	15		
2031 Build	m5	175	35	30	100	-	55		0	15		
PM Peak Hour												
2023 Existing	5	0	0	5	0	-	55		0	15		
2025 No Build	m15	205	25	30	195	-	105		0	25		
2025 Build	m10	190	m5	30	225	-	105		0	25		
2031 No Build	m15	205	25	40	250	-	140		20	25		
2031 Build	m10	160	5	40	290	-	140		20	25		

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 17: Windsor Boulevard and RIRO 1 Queue Results

Scenario	Maximum Queue Length by Movement (Feet)											
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Effective Storage Length Build		-			-	Cont.	XXX				-	-	Cont.
AM Peak Hour												
2025 Build	0	0	-	-	0	0		-		-		5
2031 Build	0	0	-	-	0	0		-		-		5
PM Peak Hour												
2025 Build	0	0	-	-	0	0		-		-		10
2031 Build	0	0	-	-	0	0		-		-		10

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

Table 18: Windsor Boulevard and RIRO 2 AM and PM Queue results

Scenario	Maximum Queue Length by Movement (Feet)									
	Eastbound			Westbound		Northbound			Southbound		
	LT	TH	RT	LT	TH/RT	LT	TH	RT	LT	TH	RT
Effective Storage Length Build		-		-	Cont.				-	-	Cont.
AM Peak Hour											
2025 Build	0	0	-	-	0		-		-		0
2031 Build	0	0	-	-	0		-		-		0
PM Peak Hour											
2025 Build	0	0	-	-	0		-		-		5
2031 Build	0	0	-	-	0		-		-		5

m - Volume for 95th percentile queue is metered by upstream signal
 # - 95th percentile volume exceeds capacity, queue may be longer

6.0 CONCLUSIONS AND RECOMMENDATIONS

The proposed Tidewater Logistics Center development is anticipated to be constructed by 2025 and will consist of approximately 1,230,000 square feet (SF) of warehousing, trans-load, and manufacturing facilities. The development has the potential to generate a total of 2,349 daily weekday trips. Out of the total weekday daily trips, 223 driveway trips occur during the AM peak hour and 246 driveway trips occur during the PM peak hour. Access to/from the proposed development will be via Windsor Boulevard and Dominion Way (a full access movement that forms the north leg of the existing signalized intersection), Windsor Boulevard at RIRO 1 (new proposed right-in/right-out unsignalized intersection), and Windsor Boulevard at RIRO 2 (new proposed right-in/right-out unsignalized intersection).

Under all future year development scenarios, it is anticipated that overall intersection operations will be maintained at LOS D or better during the AM and PM peak hours for all study area intersections. Based on the results of the traffic analysis including the off-site transportation infrastructure improvements listed below, the impacts associated with the development are anticipated to result in operations similar to No Build conditions. **Figure 10** illustrates the improvements.

RECOMMENDATIONS

One full movement access and two right-in/right-out driveways are proposed for the development. The full movement access will be at the existing signalized T-intersection of Windsor Boulevard and Dominion Way. The development will construct the north leg of the intersection. Windsor Boulevard at RIRO 1 is a new right-in/right-out stop-controlled access located approximately 1,800-feet east of Dominion Way, and Windsor Boulevard at RIRO 2 is a new right-in/right-out stop-controlled access located approximately 750-feet east of RIRO 1.

Windsor Boulevard/Dominion Way

- Reconstruct the existing traffic signal to accommodate the north leg of the intersection and to current VDOT standards
- Modify existing protected-permissive left-turn phasing to flashing yellow arrow
- Modify coordinated traffic signal timings at this intersection based on new signal phasing and volumes

<u>Eastbound Windsor Boulevard</u>

- Construct an exclusive left-turn lane with 200-feet of storage and a 200-foot taper
    - Note: Existing striped median does not meet VDOT minimum turn lane requirements

<u>Westbound Windsor Boulevard</u>

- Construct an exclusive right-turn lane with 200-feet of storage and a 200-foot taper

<u>Northbound Dominion Way</u>

This TIA modeled protected-only left-turn movements for the northbound and southbound approaches. Once design advances and intersection geometry is established, the left-turn movements should be evaluated for protected-permissive operations with a flashing yellow arrow.

- Restripe the existing right-turn lane to a through/right-turn

<u>Southbound Access Driveway</u>

- Construct one exclusive left-turn lane
- Construct one shared through/right turn-lane

- If outbound lanes are not continuous into the site, the through/right-turn lane should be constructed with 200-feet of storage and a 200-foot taper

Windsor Boulevard/RIRO 1

- Unsignalized intersection with stop-control along the southbound approach

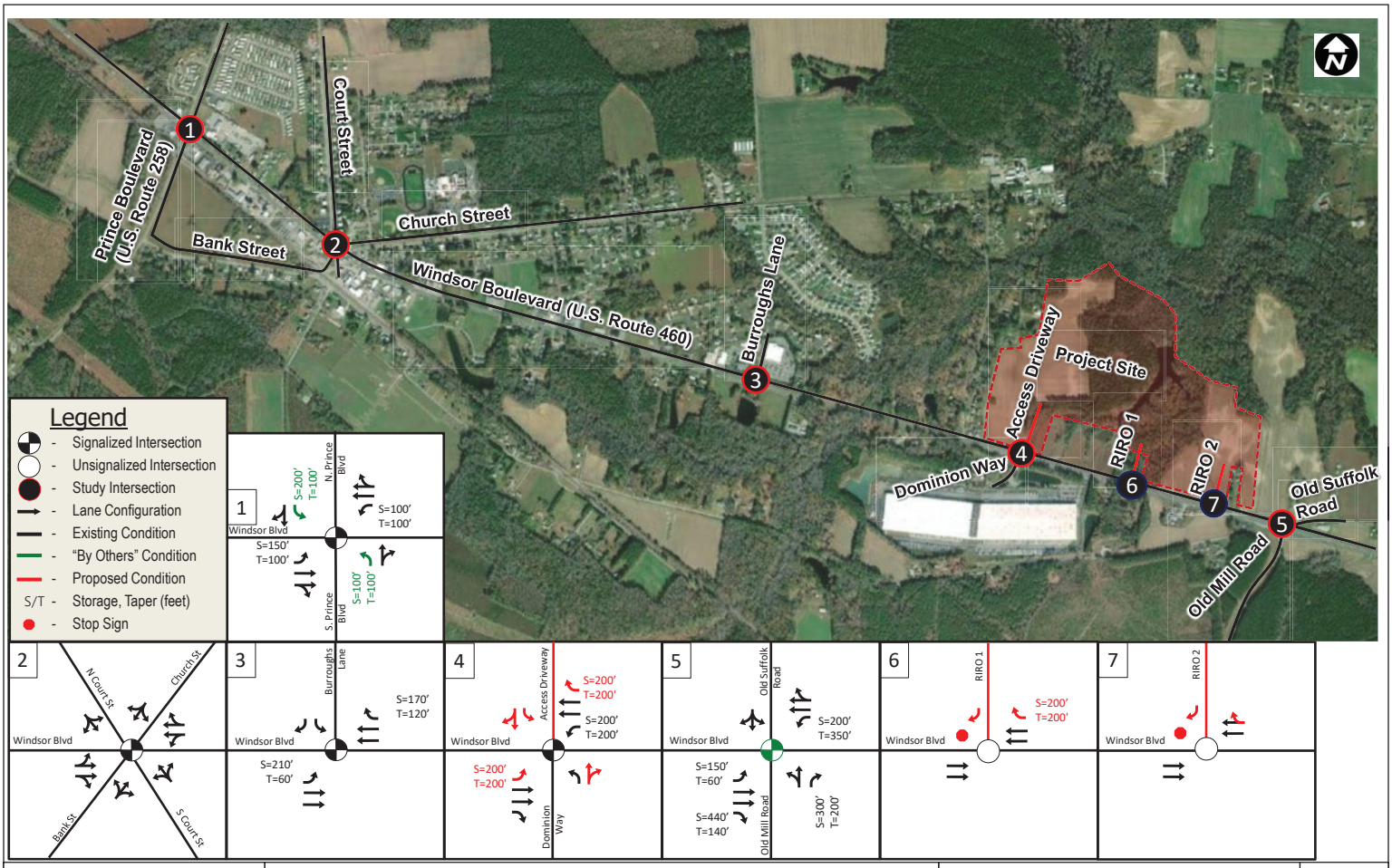
Westbound Windsor Boulevard

- Construct an exclusive right-turn lane with 200-feet of storage and a 200-foot taper

Windsor Boulevard/RIRO 2

- Unsignalized intersection with stop-control along the southbound approach

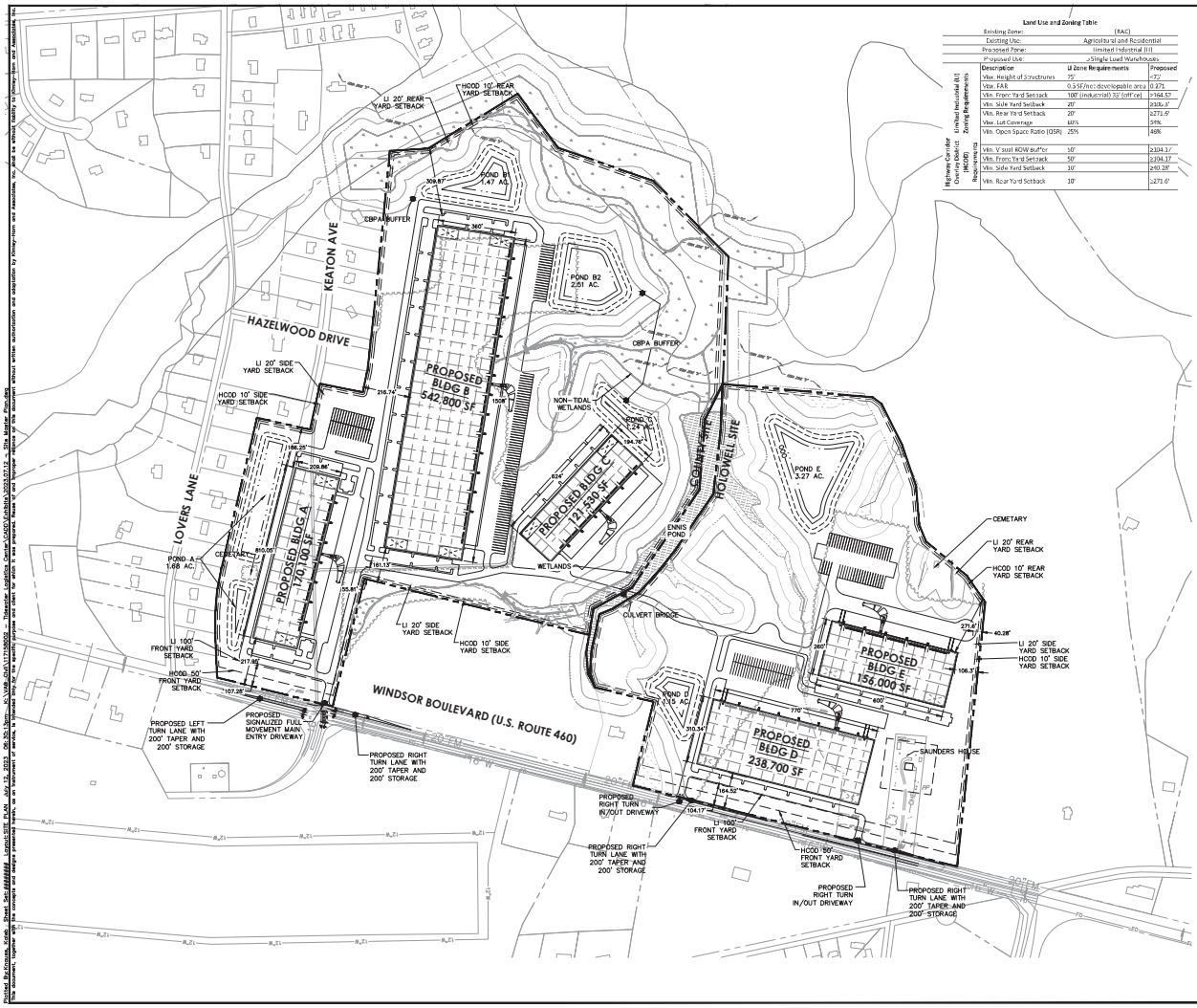
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Kimley»Horn	Tidewater Logistics Center TIA Windsor, VA	Future Roadway Improvements	Figure 10

Appendix A

Proposed Conceptual Site Plan



No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
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KHA PROJECT 117158002
DATE 07/07/2023
SCALE AS SHOWN
DESIGNED BY VGB
DRAWN BY VGB
CHECKED BY KBB

SITE MAP

TIDEWATER LOGISTICS CENTER
PREPARED FOR:
THE MERIDIAN GROUP
ISLE OF WIGHT VIRGINIA

SHEET NUMBER
1 OF 1

Plotted By:Vincent, Kirsti Sheet Set:######## Layout:SITE PLAN July 12, 2023 08:30:13pm K:\VAB_ISOA\117158002 - Tidewater Logistics Center\VCAD\Exhibits\V2023.07.12 - Site Master Plan.dwg
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Appendix B

Traffic Count Data

National Data & Surveying Services Intersection Turning Movement Count

Location: N/S Prince Blvd & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-001
Date: 5/11/2023

Data - Total

NS/EW Streets:	N/S Prince Blvd				N/S Prince Blvd				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	1	14	15	0	13	5	0	0	1	66	2	0	4	49	8	0	178
6:15 AM	2	15	21	0	19	11	2	0	0	89	2	0	7	50	13	0	231
6:30 AM	5	25	24	0	17	5	1	0	1	73	3	0	5	58	5	0	222
6:45 AM	6	21	15	0	17	14	2	0	3	74	12	0	6	56	9	0	235
7:00 AM	8	27	17	0	27	23	3	0	5	78	4	0	5	45	9	0	251
7:15 AM	7	32	19	0	27	17	2	0	7	83	4	0	5	53	23	0	279
7:30 AM	3	37	12	0	33	30	3	0	5	100	2	0	12	77	12	0	326
7:45 AM	6	19	18	0	18	13	0	0	5	87	2	0	10	75	16	0	269
8:00 AM	5	32	22	0	17	18	2	0	5	81	8	0	10	70	30	0	300
8:15 AM	6	30	15	0	20	20	1	0	0	84	5	0	8	68	28	0	285
8:30 AM	4	12	18	0	33	24	2	0	3	90	5	0	13	71	11	0	286
8:45 AM	8	18	16	0	35	19	2	0	3	90	5	0	11	81	9	0	297
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	61	282	212	0	276	199	20	0	38	995	54	0	96	753	173	0	3159
APPROACH %'s :	10.99%	50.81%	38.20%	0.00%	55.76%	40.20%	4.04%	0.00%	3.50%	91.54%	4.97%	0.00%	9.39%	73.68%	16.93%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	20	118	67	0	88	81	6	0	15	352	17	0	40	290	86	0	1180
PEAK HR FACTOR :	0.833	0.797	0.761	0.000	0.667	0.675	0.500	0.000	0.750	0.880	0.531	0.000	0.833	0.942	0.717	0.000	0.905
	0.869				0.663				0.897				0.945				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	5	19	18	0	30	29	2	0	2	92	6	0	35	101	21	0	360
3:45 PM	13	23	13	0	30	25	2	0	9	107	5	0	19	107	23	0	376
4:00 PM	6	20	11	0	19	17	6	0	3	122	10	0	36	115	26	0	391
4:15 PM	7	29	16	0	33	38	1	0	9	89	16	0	31	128	29	0	426
4:30 PM	10	18	13	0	22	37	5	0	1	103	3	0	44	123	24	0	403
4:45 PM	5	34	18	0	30	32	2	0	6	115	4	0	37	113	32	0	428
5:00 PM	9	23	15	0	24	33	3	0	5	108	9	0	30	117	36	0	412
5:15 PM	2	24	11	0	27	21	6	0	5	106	8	0	29	98	36	0	373
5:30 PM	9	23	15	0	29	34	4	0	6	95	6	0	31	95	35	0	382
5:45 PM	11	27	14	0	33	21	5	0	7	81	4	0	29	107	27	0	366
6:00 PM	9	20	21	0	18	26	2	0	2	108	4	0	42	136	32	0	420
6:15 PM	5	12	13	0	15	14	4	0	0	90	4	0	26	90	28	0	301
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	91	272	178	0	310	327	42	0	55	1216	79	0	389	1330	349	0	4638
APPROACH %'s :	16.82%	50.28%	32.90%	0.00%	45.66%	48.16%	6.19%	0.00%	4.07%	90.07%	5.85%	0.00%	18.81%	64.31%	16.88%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	31	104	62	0	109	140	11	0	21	415	32	0	142	481	121	0	1669
PEAK HR FACTOR :	0.775	0.765	0.861	0.000	0.826	0.921	0.550	0.000	0.583	0.902	0.500	0.000	0.807	0.939	0.840	0.000	0.975
	0.864				0.903				0.936				0.974				

National Data & Surveying Services Intersection Turning Movement Count

Location: N/S Prince Blvd & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-001
Date: 5/11/2023

Data - Cars

NS/EW Streets: N/S Prince Blvd | N/S Prince Blvd | Windsor Blvd | Windsor Blvd

AM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	1	14	15	0	12	5	0	0	1	53	1	0	4	34	7	0	147
6:15 AM	1	14	20	0	19	11	2	0	0	73	2	0	7	39	12	0	200
6:30 AM	5	20	24	0	17	4	1	0	0	57	0	0	3	51	5	0	187
6:45 AM	5	18	13	0	15	13	2	0	2	61	9	0	4	41	8	0	191
7:00 AM	6	26	15	0	25	20	3	0	5	59	3	0	5	35	6	0	208
7:15 AM	5	31	18	0	27	13	2	0	6	65	3	0	5	34	22	0	231
7:30 AM	2	35	11	0	30	27	2	0	5	72	2	0	10	56	11	0	263
7:45 AM	3	16	18	0	16	11	0	0	5	71	1	0	9	50	14	0	214
8:00 AM	5	31	21	0	15	15	2	0	5	64	4	0	9	57	28	0	256
8:15 AM	5	25	14	0	19	17	1	0	0	62	4	0	7	50	27	0	231
8:30 AM	2	10	17	0	30	24	2	0	3	69	4	0	12	48	11	0	232
8:45 AM	7	16	15	0	35	19	2	0	2	65	3	0	10	64	9	0	247
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	47	256	201	0	260	179	19	0	34	771	36	0	85	559	160	0	2607
APPROACH %'s :	9.33%	50.79%	39.88%	0.00%	56.77%	39.08%	4.15%	0.00%	4.04%	91.68%	4.28%	0.00%	10.57%	69.53%	19.90%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	15	107	64	0	80	70	5	0	15	269	11	0	35	213	80	0	964
PEAK HR FACTOR :	0.750	0.764	0.762	0.000	0.667	0.648	0.625	0.000	0.750	0.934	0.688	0.000	0.875	0.934	0.714	0.000	0.916
		0.816				0.657				0.934				0.872			

PM

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	5	19	16	0	28	26	2	0	2	72	5	0	32	91	20	0	318
3:45 PM	9	21	10	0	30	24	2	0	9	95	3	0	18	89	21	0	331
4:00 PM	6	18	10	0	19	17	4	0	3	106	9	0	31	99	26	0	348
4:15 PM	6	27	14	0	32	36	1	0	9	81	8	0	28	112	29	0	383
4:30 PM	9	18	13	0	22	34	3	0	1	93	2	0	44	112	24	0	375
4:45 PM	4	34	17	0	30	29	2	0	6	98	4	0	37	105	32	0	398
5:00 PM	9	22	15	0	23	33	2	0	5	98	9	0	28	102	33	0	379
5:15 PM	1	20	11	0	27	21	6	0	4	97	8	0	29	90	36	0	350
5:30 PM	8	23	14	0	29	33	4	0	6	85	6	0	30	90	34	0	362
5:45 PM	9	27	14	0	33	21	5	0	5	71	4	0	28	91	25	0	333
6:00 PM	9	19	21	0	18	25	2	0	2	96	4	0	40	124	32	0	392
6:15 PM	3	12	13	0	15	13	4	0	0	83	3	0	25	82	28	0	281
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	78	260	168	0	306	312	37	0	52	1075	65	0	370	1187	340	0	4250
APPROACH %'s :	15.42%	51.38%	33.20%	0.00%	46.72%	47.63%	5.65%	0.00%	4.36%	90.18%	5.45%	0.00%	19.50%	62.57%	17.92%	0.00%	
PEAK HR :	**04:15 PM - 05:15 PM**																TOTAL
PEAK HR VOL :	28	101	59	0	107	132	8	0	21	370	23	0	137	431	118	0	1535
PEAK HR FACTOR :	0.778	0.743	0.868	0.000	0.836	0.917	0.667	0.000	0.583	0.944	0.639	0.000	0.778	0.962	0.894	0.000	0.964
		0.855				0.895				0.924				0.953			

National Data & Surveying Services Intersection Turning Movement Count

Location: N/S Prince Blvd & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-001
Date: 5/11/2023

Data - HT

NS/EW Streets:	N/S Prince Blvd				N/S Prince Blvd				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	1	0	0	0	0	13	1	0	0	15	1	0	31
6:15 AM	1	1	1	0	0	0	0	0	0	16	0	0	0	11	1	0	31
6:30 AM	0	5	0	0	0	1	0	0	1	16	3	0	2	7	0	0	35
6:45 AM	1	3	2	0	2	1	0	0	1	13	3	0	2	15	1	0	44
7:00 AM	2	1	2	0	2	3	0	0	0	19	1	0	0	10	3	0	43
7:15 AM	2	1	1	0	0	4	0	0	1	18	1	0	0	19	1	0	48
7:30 AM	1	2	1	0	3	3	1	0	0	28	0	0	2	21	1	0	63
7:45 AM	3	3	0	0	2	2	0	0	0	16	1	0	1	25	2	0	55
8:00 AM	0	1	1	0	2	3	0	0	0	17	4	0	1	13	2	0	44
8:15 AM	1	5	1	0	1	3	0	0	0	22	1	0	1	18	1	0	54
8:30 AM	2	2	1	0	3	0	0	0	0	21	1	0	1	23	0	0	54
8:45 AM	1	2	1	0	0	0	0	0	1	25	2	0	1	17	0	0	50
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	14	26	11	0	16	20	1	0	4	224	18	0	11	194	13	0	552
APPROACH %'s :	27.45%	50.98%	21.57%	0.00%	43.24%	54.05%	2.70%	0.00%	1.63%	91.06%	7.32%	0.00%	5.05%	88.99%	5.96%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	5	11	3	0	8	11	1	0	0	83	6	0	5	77	6	0	216
PEAK HR FACTOR :	0.417	0.550	0.750	0.000	0.667	0.917	0.250	0.000	0.000	0.741	0.375	0.000	0.625	0.770	0.750	0.000	0.857
	0.679				0.714				0.795				0.786				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	2	0	2	3	0	0	0	20	1	0	3	10	1	0	42
3:45 PM	4	2	3	0	0	1	0	0	0	12	2	0	1	18	2	0	45
4:00 PM	0	2	1	0	0	0	2	0	0	16	1	0	5	16	0	0	43
4:15 PM	1	2	2	0	1	2	0	0	0	8	8	0	3	16	0	0	43
4:30 PM	1	0	0	0	0	3	2	0	0	10	1	0	0	11	0	0	28
4:45 PM	1	0	1	0	0	3	0	0	0	17	0	0	0	8	0	0	30
5:00 PM	0	1	0	0	1	0	1	0	0	10	0	0	2	15	3	0	33
5:15 PM	1	4	0	0	0	0	0	0	1	9	0	0	0	8	0	0	23
5:30 PM	1	0	1	0	0	1	0	0	0	10	0	0	1	5	1	0	20
5:45 PM	2	0	0	0	0	0	0	0	2	10	0	0	1	16	2	0	33
6:00 PM	0	1	0	0	0	1	0	0	0	12	0	0	2	12	0	0	28
6:15 PM	2	0	0	0	0	1	0	0	0	7	1	0	1	8	0	0	20
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	13	12	10	0	4	15	5	0	3	141	14	0	19	143	9	0	388
APPROACH %'s :	37.14%	34.29%	28.57%	0.00%	16.67%	62.50%	20.83%	0.00%	1.90%	89.24%	8.86%	0.00%	11.11%	83.63%	5.26%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	3	3	3	0	2	8	3	0	0	45	9	0	5	50	3	0	134
PEAK HR FACTOR :	0.750	0.375	0.375	0.000	0.500	0.667	0.375	0.000	0.000	0.662	0.281	0.000	0.417	0.781	0.250	0.000	0.779
	0.450				0.650				0.794				0.725				

National Data & Surveying Services Intersection Turning Movement Count

Location: N/S Prince Blvd & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-001
Date: 5/11/2023

Data - Bikes

NS/EW Streets:	N/S Prince Blvd				N/S Prince Blvd				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%					
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: N/S Prince Blvd & Windsor Blvd
City: Windsor
Project ID: 23-250015-001
Date: 5/11/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	N/S Prince Blvd		N/S Prince Blvd		Windsor Blvd		Windsor Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	1	0	2
APPROACH %'s :			100.00%	0.00%			100.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :							0.250		0.250
							0.250		

Prepared by National Data & Surveying Services

N/S Prince Blvd & Windsor Blvd

Peak Hour Turning Movement Count

ID: 23-250015-001
City: Windsor

Day: Thursday
Date: 5/11/2023

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 6:00 AM - 09:00 AM
NOON: NONE
PM: 3:30 PM - 06:30 PM

SOUTHBOUND (N/S Prince Blvd)

AM	6	81	88	0	219	AM
NOON	0	0	0	0	0	NOON
PM	11	140	109	0	246	PM
	0	1	0	0		

EASTBOUND (Windsor Blvd)

AM	NOON	PM		
316	0	523		
0	0	0	0	
15	0	21	1	
352	0	415	2	
17	0	32	0	
AM	NOON	PM		

WESTBOUND (Windsor Blvd)

	PM	NOON	AM
0	121	0	86
2	481	0	290
1	142	0	40
0	0	0	0
	586	0	507
	PM	NOON	AM

NORTHBOUND (N/S Prince Blvd)

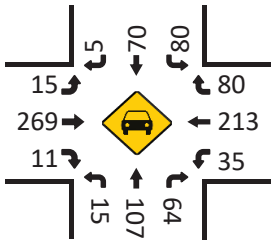
PM	314	0	31	104	62	PM
NOON	0	0	0	0	0	NOON
AM	138	0	20	118	67	AM
		0	0	1	0	

CONTROL

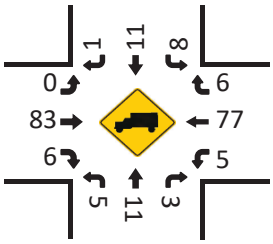
Signalized

TEV	1180 AM	0 NOON	1669 PM
PHF	0.90		0.97

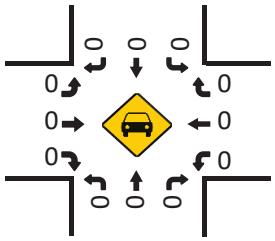
Cars (AM)



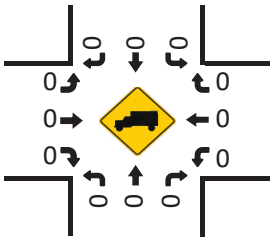
HT (AM)



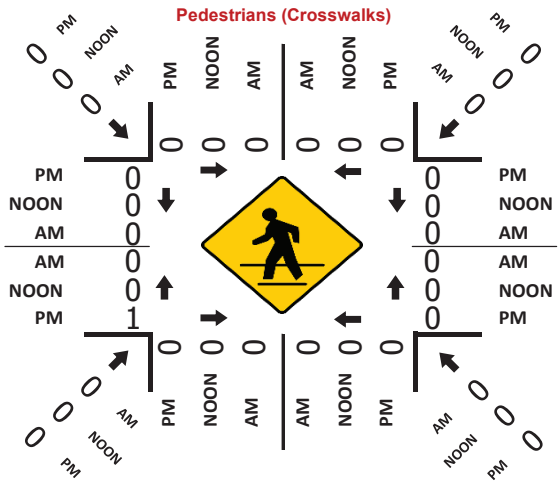
Cars (NOON)



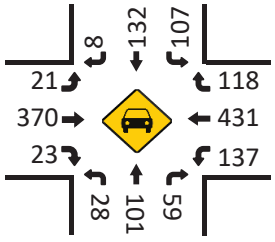
HT (NOON)



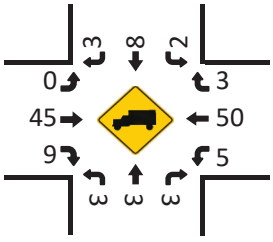
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Project ID: 23-250015-001
Location: N/S Prince Blvd & Windsor Blvd
City: Windsor

Day: Thursday
Date: 5/11/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

	N/S Prince Blvd Northbound						N/S Prince Blvd Southbound						Windsor Blvd Eastbound						Windsor Blvd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
6:00 AM	1	14	15	0	0	30	13	5	0	0	0	18	1	66	2	0	0	69	4	49	8	0	0	61	178
6:15 AM	2	15	21	0	0	38	19	11	2	0	0	32	0	89	2	0	0	91	7	50	13	0	0	70	231
6:30 AM	5	25	24	0	0	54	17	5	1	0	0	23	1	73	3	0	0	77	5	58	5	0	0	68	222
6:45 AM	6	21	15	0	0	42	17	14	2	0	0	33	3	74	12	0	0	89	6	56	9	0	0	71	235
Total	14	75	75	0	0	164	66	35	5	0	0	106	5	302	19	0	0	326	22	213	35	0	0	270	866
7:00 AM	8	27	17	0	0	52	27	23	3	0	0	53	5	78	4	0	0	87	5	45	9	0	0	59	251
7:15 AM	7	32	19	0	0	58	27	17	2	0	0	46	7	83	4	0	0	94	5	53	23	0	0	81	279
7:30 AM	3	37	12	0	0	52	33	30	3	0	0	66	5	100	2	0	0	107	12	77	12	0	0	101	326
7:45 AM	6	19	18	0	0	43	18	13	0	0	0	31	5	87	2	0	0	94	10	75	16	0	0	101	269
Total	24	115	66	0	0	205	105	83	8	0	0	196	22	348	12	0	0	382	32	250	60	0	0	342	1125
8:00 AM	5	32	22	0	0	59	17	18	2	0	0	37	5	81	8	0	0	94	10	70	30	0	0	110	300
8:15 AM	6	30	15	0	0	51	20	20	1	0	0	41	0	84	5	0	0	89	8	68	28	0	0	104	285
8:30 AM	4	12	18	0	0	34	33	24	2	0	0	59	3	90	5	0	0	98	13	71	11	0	0	95	286
8:45 AM	8	18	16	0	0	42	35	19	2	0	0	56	3	90	5	0	0	98	11	81	9	0	0	101	297
Total	23	92	71	0	0	186	105	81	7	0	0	193	11	345	23	0	0	379	42	290	78	0	0	410	1168
BREAK																									
3:30 PM	5	19	18	0	0	42	30	29	2	0	0	61	2	92	6	0	0	100	35	101	21	0	0	157	360
3:45 PM	13	23	13	0	0	49	30	25	2	0	0	57	9	107	5	0	0	121	19	107	23	0	0	149	376
Total	18	42	31	0	0	91	60	54	4	0	0	118	11	199	11	0	0	221	54	208	44	0	0	306	736
4:00 PM	6	20	11	0	0	37	19	17	6	0	0	42	3	122	10	0	0	135	36	115	26	0	0	177	391
4:15 PM	7	29	16	0	0	52	33	38	1	0	0	72	9	89	16	0	0	114	31	128	29	0	0	188	426
4:30 PM	10	18	13	0	0	41	22	37	5	0	0	64	1	103	3	0	0	107	44	123	24	0	0	191	403
4:45 PM	5	34	18	0	0	57	30	32	2	0	0	64	6	115	4	0	0	125	37	113	32	0	0	182	428
Total	28	101	58	0	0	187	104	124	14	0	0	242	19	429	33	0	0	481	148	479	111	0	0	738	1648
5:00 PM	9	23	15	0	0	47	24	33	3	0	0	60	5	108	9	0	1	122	30	117	36	0	0	183	412
5:15 PM	2	24	11	0	0	37	27	21	6	0	0	54	5	106	8	0	0	119	29	98	36	0	0	163	373
5:30 PM	9	23	15	0	0	47	29	34	4	0	0	67	6	95	6	0	0	107	31	95	35	0	0	161	382
5:45 PM	11	27	14	0	1	52	33	21	5	0	0	59	7	81	4	0	0	92	29	107	27	0	0	163	366
Total	31	97	55	0	1	183	113	109	18	0	0	240	23	390	27	0	1	440	119	417	134	0	0	670	1533
6:00 PM	9	20	21	0	0	50	18	26	2	0	0	46	2	108	4	0	0	114	42	136	32	0	0	210	420
6:15 PM	5	12	13	0	0	30	15	14	4	0	0	33	0	90	4	0	0	94	26	90	28	0	0	144	301
Total	14	32	34	0	0	80	33	40	6	0	0	79	2	198	8	0	0	208	68	226	60	0	0	354	721
Grand Total	152	554	390	0	1	1096	586	526	62	0	0	1174	93	2211	133	0	1	2437	485	2083	522	0	0	3090	7797
Apprch %	13.9	50.5	35.6	0.0	0.1		49.9	44.8	5.3	0.0	0.0		3.8	90.7	5.5	0.0	0.0		15.7	67.4	16.9	0.0	0.0		
Total %	1.9	7.1	5.0	0.0	0.0	14.1	7.5	6.7	0.8	0.0	0.0	15.1	1.2	28.4	1.7	0.0	0.0	31.3	6.2	26.7	6.7	0.0	0.0	39.6	
Cars, PU, Vans	125	516	369	0		1010	566	491	56	0		1113	86	1846	101	0		2033	455	1746	500	0		2701	6857
% Cars, PU, Vans	82.2	93.1	94.6	0.0		92.2	96.6	93.3	90.3	0.0		94.8	92.5	83.5	75.9	0.0		83.4	93.8	83.8	95.8	0.0		87.4	87.9
Heavy trucks	27	38	21	0		86	20	35	6	0		61	7	365	32	0		404	30	337	22	0		389	940
%Heavy trucks	17.8	6.9	5.4	0.0		7.8	3.4	6.7	9.7	0.0		5.2	7.5	16.5	24.1	0.0		16.6	6.2	16.2	4.2	0.0		12.6	12.1

Project ID: 23-250015-001
Location: N/S Prince Blvd & Windsor Blvd
City: Windsor

PEAK HOURS

Day: Thursday
Date: 5/11/2023

AM

	N/S Prince Blvd Northbound					N/S Prince Blvd Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 06:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	3	37	12	0	52	33	30	3	0	66	5	100	2	0	107	12	77	12	0	101	326
7:45 AM	6	19	18	0	43	18	13	0	0	31	5	87	2	0	94	10	75	16	0	101	269
8:00 AM	5	32	22	0	59	17	18	2	0	37	5	81	8	0	94	10	70	30	0	110	300
8:15 AM	6	30	15	0	51	20	20	1	0	41	0	84	5	0	89	8	68	28	0	104	285
Total Volume	20	118	67	0	205	88	81	6	0	175	15	352	17	0	384	40	290	86	0	416	1180
% App. Total	9.8	57.6	32.7	0.0	100	50.3	46.3	3.4	0.0	100	3.9	91.7	4.4	0.0	100	9.6	69.7	20.7	0.0	100	
PHF					0.869					0.663					0.897					0.945	0.905
Cars, PU, Vans	15	107	64	0	186	80	70	5	0	155	15	269	11	0	295	35	213	80	0	328	964
% Cars, PU, Vans	75.0	90.7	95.5	0.0	90.7	90.9	86.4	83.3	0.0	88.6	100.0	76.4	64.7	0.0	76.8	87.5	73.4	93.0	0.0	78.8	81.7
Heavy trucks	5	11	3	0	19	8	11	1	0	20	0	83	6	0	89	5	77	6	0	88	216
%Heavy trucks	25.0	9.3	4.5	0.0	9.3	9.1	13.6	16.7	0.0	11.4	0.0	23.6	35.3	0.0	23.2	12.5	26.6	7.0	0.0	21.2	18.3

PM

	N/S Prince Blvd Northbound					N/S Prince Blvd Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:30 PM - 06:30 PM																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
4:15 PM	7	29	16	0	52	33	38	1	0	72	9	89	16	0	114	31	128	29	0	188	426
4:30 PM	10	18	13	0	41	22	37	5	0	64	1	103	3	0	107	44	123	24	0	191	403
4:45 PM	5	34	18	0	57	30	32	2	0	64	6	115	4	0	125	37	113	32	0	182	428
5:00 PM	9	23	15	0	47	24	33	3	0	60	5	108	9	0	122	30	117	36	0	183	412
Total Volume	31	104	62	0	197	109	140	11	0	260	21	415	32	0	468	142	481	121	0	744	1669
% App. Total	15.7	52.8	31.5	0.0	100	41.9	53.8	4.2	0.0	100	4.5	88.7	6.8	0.0	100	19.1	64.7	16.3	0.0	100	
PHF					0.864					0.903					0.936					0.974	0.975
Cars, PU, Vans	28	101	59	0	188	107	132	8	0	247	21	370	23	0	414	137	431	118	0	686	1535
% Cars, PU, Vans	90.3	97.1	95.2	0.0	95.4	98.2	94.3	72.7	0.0	95.0	100.0	89.2	71.9	0.0	88.5	96.5	89.6	97.5	0.0	92.2	92.0
Heavy trucks	3	3	3	0	9	2	8	3	0	13	0	45	9	0	54	5	50	3	0	58	134
%Heavy trucks	9.7	2.9	4.8	0.0	4.6	1.8	5.7	27.3	0.0	5.0	0.0	10.8	28.1	0.0	11.5	3.5	10.4	2.5	0.0	7.8	8.0

Location: Bank St/N Coast Rd/Church St & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 21-00015-002
Date: 5/11/2023

Data - Total

| HELENA Streets | Bank St/N Coast Rd/Church St | | | | | | Bank St/N Coast Rd/Church St | | | | | | Windsor Blvd | | | | | | Windsor Blvd | | | | | |

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bank St/N Court St/Church St & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-002
Date: 5/11/2023

Data - Cars

NS/EW Streets: Bank St/N Court St/Church St | Bank St/N Court St/Church St | Windsor Blvd | Windsor Blvd | | | |

AM

	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND						NORTHBOUND2						SOUTHBOUND2						WESTBOUND2						
	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	NZT	NZR	NZL2	NZT2	NZR2	SZL	SZT	SZL2	SZT2	SZR2	SZU2	WZR	WZT2	WZU2	TOTAL
6:00 AM	2	0	0	0	0	0	9	0	0	0	0	1	0	0	100	2	0	1	0	1	0	59	2	0	0	0	0	3	0	0	0	0	4	0	4	1	0	2	0	0	0	12	216
6:15 AM	1	0	1	0	2	0	7	0	0	0	0	1	0	0	89	2	0	1	0	1	0	62	1	0	0	0	0	0	0	0	0	0	4	0	4	1	1	5	0	0	0	11	215
6:30 AM	1	1	0	0	2	0	8	0	0	0	1	1	0	0	83	1	0	3	0	0	0	51	5	0	0	1	2	3	0	0	0	1	5	1	2	1	2	2	0	0	1	1	188
6:45 AM	2	1	0	0	2	0	8	0	0	0	1	1	0	0	85	1	0	3	0	0	0	51	5	0	0	1	2	3	0	0	0	1	5	1	2	1	2	2	0	0	1	1	188
7:00 AM	1	2	0	0	0	0	12	0	0	0	2	0	0	1	89	3	0	12	6	0	0	41	2	0	0	4	2	18	0	0	1	4	0	4	3	2	3	0	1	1	8	210
7:15 AM	3	3	1	0	12	0	15	2	0	0	2	0	0	1	112	0	0	17	6	0	0	58	13	0	0	1	1	39	0	0	1	4	2	9	11	1	15	0	0	12	9	338
7:30 AM	4	3	0	0	0	1	26	2	7	0	6	6	0	1	108	2	0	2	6	0	0	49	5	0	1	0	0	5	0	0	3	1	0	5	3	2	13	0	0	1	15	277
7:45 AM	3	8	0	0	3	1	6	0	2	0	1	1	0	3	99	2	0	3	3	0	0	65	5	0	0	0	2	4	0	0	0	1	1	2	4	0	3	0	0	0	7	274
8:00 AM	4	2	1	0	0	0	9	1	2	0	0	1	1	0	96	3	0	4	2	0	0	99	7	0	0	1	1	4	0	0	1	5	2	2	2	1	2	0	0	0	3	252
8:15 AM	1	3	1	0	1	0	8	0	0	0	2	0	0	1	97	1	0	3	2	1	0	84	5	0	0	0	1	2	0	0	1	2	2	2	1	1	2	0	0	0	7	252
8:30 AM	2	3	1	0	1	0	17	0	2	0	0	0	0	0	96	2	0	3	3	0	0	58	3	0	2	0	1	1	0	0	0	7	0	2	4	2	7	0	0	0	2	219
8:45 AM	1	1	0	0	3	0	8	3	0	0	2	0	0	0	116	2	0	6	2	1	0	76	3	0	1	3	2	6	0	0	0	1	0	5	4	3	2	0	0	0	7	258
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	NZT	NZR	NZL2	NZT2	NZR2	SZL	SZT	SZL2	SZT2	SZR2	SZU2	WZR	WZT2	WZU2	TOTAL
TOTAL VOLUMES :	25	27	6	0	33	2	130	12	14	0	18	12	1	7	1154	21	0	60	53	4	0	725	51	0	4	16	13	88	0	0	8	39	12	41	38	16	59	0	1	3	94	1752
APPROACH %'s :	26.88%	29.03%	6.45%	0.00%	35.48%	2.15%	69.52%	6.42%	7.49%	0.00%	9.63%	6.42%	0.53%	0.54%	88.84%	1.62%	0.00%	4.62%	4.08%	0.31%	0.00%	90.41%	6.27%	0.00%	0.49%	1.23%	1.60%	65.19%	0.00%	0.00%	5.93%	28.89%	7.19%	24.55%	23.35%	9.58%	35.33%	0.00%	1.02%	3.06%	95.92%	
PEAK HR :	07:15 AM - 08:15 AM																																									TOTAL
PEAK HR VOL :	14	10	2	0	15	2	52	5	11	0	7	10	1	5	415	7	0	26	20	0	0	271	30	0	1	2	4	52	0	0	5	11	5	18	20	4	33	0	0	1	34	1099
PEAK HR FACTOR :	0.875	0.500	0.500	0.000	0.313	0.500	0.500	0.625	0.393	0.000	0.292	0.417	0.250	0.417	0.936	0.583	0.000	0.382	0.833	0.000	0.000	0.684	0.577	0.000	0.250	0.500	0.500	0.333	0.000	0.000	0.417	0.550	0.625	0.500	0.495	0.500	0.550	0.000	0.000	0.250	0.567	
			0.645							0.457							0.869							0.713										0.526							0.813

PM

	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND						NORTHBOUND2						SOUTHBOUND2						WESTBOUND2						
	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	NZT	NZR	NZL2	NZT2	NZR2	SZL	SZT	SZL2	SZT2	SZR2	SZU2	WZR	WZT2	WZU2	TOTAL
3:30 PM	6	4	2	0	2	0	7	0	2	0	0	3	0	0	138	5	0	10	2	3	1	121	10	0	4	4	2	7	2	0	0	0	0	15	5	1	7	1	0	0	6	350
3:45 PM	4	3	1	0	7	0	8	2	0	0	0	1	0	0	127	1	0	11	4	0	0	137	12	0	2	1	5	16	1	2	2	3	1	13	6	2	8	0	0	0	4	382
4:00 PM	6	4	4	0	8	0	11	2	2	0	0	0	0	1	118	2	0	9	2	1	2	142	13	0	2	1	5	10	0	2	3	6	4	9	3	2	12	1	0	0	2	388
4:15 PM	7	2	2	0	5	0	16	1	4	0	1	1	0	0	134	4	0	9	2	0	0	153	12	0	2	1	4	14	0	0	1	4	4	13	6	2	10	0	0	0	9	431
4:30 PM	6	2	1	0	4	0	14	0	0	0	0	0	0	4	135	1	0	5	5	0	0	159	7	0	7	4	3	5	0	1	2	3	1	9	7	1	10	0	0	0	0	396
4:45 PM	7	6	1	0	3	1	9	0	2	0	2	0	0	3	122	3	0	3	0	1	0	142	14	0	4	3	0	6	0	1	1	4	2	12	6	1	11	0	0	0	0	389
5:00 PM	3	5	1	0	3	0	11	0	0	0	2	2	0	1	137	2	0	3	2	0	0	139	9	0	7	0	0	4	0	2	2	9	4	10	9	1	5	1	0	0	2	382
5:30 PM	6	2	2	0	0	0	5	1	0	0	0	0	1	2	135	3	0	6	2	0	2	143	11	0	2	6	2	5	0	1	0	5	3	5	6	0	4	0	0	0	1	361
5:45 PM	6	1	1	0	1	0	7	0	1	0	0	1	0	1	101	4	0	3	5	0	1	138	6	0	10	3	1	2	0	0	0	7	0	5	2	0	10	0	0	0	1	318
6:00 PM	2	2	0	0	1	0	6	1	1	0	0	1	0	1	116	1	0	4	4	3	0	162	6	0	5	5	3	5	0	0	0	3	0	4	5	3	11	0	0	0	0	375
6:15 PM	1	3	0	0	1	0	1	0	1	0	0	0	0	4	105	0	0	4	1	1	0	139	10	0	2	4	5	2	0	0	0	5	2	3	11	2	10	0	0	0	1	326
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	NZT	NZR	NZL2	NZT2	NZR2	SZL	SZT	SZL2	SZT2	SZR2	SZU2	WZR	WZT2	WZU2	TOTAL
TOTAL VOLUMES :	56	38	18	0	41	1	101	9	16	0	5	10	1	18	1472	25	0	86	34	7	6	1750	110	0	51	38	30	83	3	13	12	51	18	105	75	20	106	2	0	0	31	4476
APPROACH %'s :	36.36%	24.68%	11.69%	0.00%	26.62%	0.65%	70.63%	6.29%	11.19%	0.00%	3.50%	6.99%	1.40%	1.09%	89.54%	2.27%	0.00%	5.23%	4.62%	1.95%	0.45%	86.85%	5.61%	0.00%	2.53%	2.68%	1.49%	51.23%	1.85%	8.02%	7.41%	31.48%	5.59%	32.11%	22.94%	6.12%	32.42%	0.61%	0.00%	0.00%	88.00%	
PEAK HR :	04:00 PM - 05:00 PM																																									TOTAL
PEAK HR VOL :	21	12	6	0	23	0	49	5	9	0	1	2	1	6	511	10	0	28	11	1	5	609	39	0	15	30	12	36	0	7	7	15	6	38	25	10	42	1	0	0	16	1613
PEAK HR FACTOR :	0.750	0.750	0.625	0.000	0.719	0.000	0.766	0.625	0.563	0.000	0.250	0.500	0.250	0.375	0.939	0.625	0.000	0.939	0.779	0.550	0.250	0.958	0.750	0.000	0.536	0.682	0.600	0.643	0.000	0.583	0.583	0.625	0.375	0.731	0.694	0.625	0.875	0.250	0.000	0.000	0.444	
			0.752							0.728							0.939							0.975										0.824							0.936

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bank St/N Court St/Church St & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-002
Date: 5/11/2023

Data - HT

NS/EW Streets: Bank St/N Court St/Church St | Bank St/N Court St/Church St | Windsor Blvd | Windsor Blvd | | | |

AM

	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND						NORTHBOUND2						SOUTHBOUND2						WESTBOUND2			
	0 NL	1 NT	0 NR	0 NU	0 NT2	0 NU2	0 SL	1 ST	0 SR	0 SU	0 SL2	0 ST2	0 SU2	0 EL	2 ET	0 ER	0 EU	0 EL2	0 ET2	0 ER2	0 WL	2 WT	0 WR	0 WU	0 WL2	0 WR2	0 WU2	0 N2T	0 N2R	0 N3L2	0 N2T2	0 N2R2	0 S2L	0 S2T	0 S3L2	0 S2T2	0 S2R2	0 S2U2	0 W2R	0 WZT2	0 WZU2	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
6:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	2	0	0	0	17	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	41
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	19	0	0	0	0	1	0	14	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	39
7:15 AM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	21	1	0	0	0	0	0	21	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	48
7:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	30	0	0	0	1	0	0	23	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	58
7:45 AM	1	0	0	0	2	0	1	0	0	0	0	2	0	0	18	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	49
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	19	0	0	0	0	0	0	22	2	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	48
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	19	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	48
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	25	1	0	0	0	0	0	20	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	47
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	N2T	N2R	N3L2	N2T2	N2R2	S2L	S2T	S3L2	S2T2	S2R2	S2U2	W2R	WZT2	WZU2	TOTAL
TOTAL VOLUMES :	2	0	0	0	4	1	1	3	0	0	0	4	0	2	248	2	0	3	0	1	0	214	4	0	1	0	1	5	0	0	1	2	0	3	4	2	8	1	0	0	0	516
APPROACH %'s :	28.57%	0.00%	0.00%	0.00%	57.14%	14.29%	12.50%	37.50%	0.00%	0.00%	0.00%	50.00%	0.00%	0.78%	96.88%	0.78%	0.00%	1.17%	0.00%	0.39%	0.00%	97.27%	1.82%	0.00%	0.45%	0.00%	0.45%	62.50%	0.00%	0.00%	12.50%	25.00%	0.00%	17.65%	23.53%	5.88%	47.06%	5.88%				
PEAK HR :	07:15 AM - 08:15 AM																																								TOTAL
PEAK HR VOL :	1	0	0	0	2	1	1	3	0	0	0	4	0	1	88	1	0	0	0	0	0	89	3	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	203
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.250	0.250	0.250	0.375	0.000	0.000	0.000	0.500	0.000	0.250	0.733	0.250	0.000	0.000	0.000	0.000	0.000	0.667	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.250	0.250	0.750	0.000	0.000	0.000	0.000	0.875
	0.333						0.667							0.734							0.958							0.500						0.500								

PM

	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND						NORTHBOUND2						SOUTHBOUND2						WESTBOUND2			
	0 NL	1 NT	0 NR	0 NU	0 NT2	0 NU2	0 SL	1 ST	0 SR	0 SU	0 SL2	0 ST2	0 SU2	0 EL	2 ET	0 ER	0 EU	0 EL2	0 ET2	0 ER2	0 WL	2 WT	0 WR	0 WU	0 WL2	0 WR2	0 WU2	0 N2T	0 N2R	0 N3L2	0 N2T2	0 N2R2	0 S2L	0 S2T	0 S3L2	0 S2T2	0 S2R2	0 S2U2	0 W2R	0 WZT2	0 WZU2	TOTAL
3:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	39
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	2	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	40
4:00 PM	0	0	1	0	0	0	2	0	1	0	0	0	0	0	19	1	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	43
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	10	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	34
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	12	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	29
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	15	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	39
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	18
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	14	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	27
6:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	N2T	N2R	N3L2	N2T2	N2R2	S2L	S2T	S3L2	S2T2	S2R2	S2U2	W2R	WZT2	WZU2	TOTAL
TOTAL VOLUMES :	1	0	1	0	1	0	2	0	1	0	0	0	0	0	167	2	0	2	0	0	2	161	2	0	1	1	0	3	0	0	0	1	0	0	2	1	6	2	0	0	0	341
APPROACH %'s :	33.33%	0.00%	33.33%	0.00%	33.33%	0.00%	66.67%	0.00%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%	98.00%	0.67%	0.00%	1.33%	0.00%	0.00%	1.18%	96.47%	1.18%	0.00%	0.59%	0.59%	0.00%	75.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	18.18%	9.09%	54.55%	27.27%	0.00%			
PEAK HR :	04:00 PM - 05:00 PM																																								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2	0	1	0	0	0	0	0	56	1	0	0	0	0	0	58	1	0	0	0	0	3	0	0	0	0	0	0	1	2	0	0	0	0	0	126
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.737	0.250	0.000	0.000	0.000	0.000	0.000	0.806	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.733
	0.250						0.250							0.750							0.819							0.375						0.375								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bank St/N Court St/Church St & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-002
Date: 5/11/2023

Data - Bikes

NS/EW Streets: Bank St/N Court St/Church St | Bank St/N Court St/Church St | Windsor Blvd | Windsor Blvd | | | |

AM

	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND						NORTHBOUND2					SOUTHBOUND2					WESTBOUND2			
	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	N2T	N2R	N2L2	N2T2	N2R2	S2L	S2T	S2L2	S2T2	S2R2	S2U2	W2R	W2T2	W2U2	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
APPROACH %'s :							0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%																				
PEAK HR :	07:15 AM - 08:15 AM																																							TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500

PM

	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND						NORTHBOUND2					SOUTHBOUND2					WESTBOUND2			
	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	NT2	NU2	SL	ST	SR	SU	SL2	ST2	SU2	EL	ET	ER	EU	EL2	ET2	ER2	WL	WT	WR	WU	WL2	WR2	WU2	N2T	N2R	N2L2	N2T2	N2R2	S2L	S2T	S2L2	S2T2	S2R2	S2U2	W2R	W2T2	W2U2	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
APPROACH %'s :														0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%													100.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
PEAK HR :	04:00 PM - 05:00 PM																																							TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

National Data & Surveying Services Intersection Turning Movement Count

Location: Bank St/N Court St/Church St & Windsor Blvd
City: Windsor

Project ID: 23-250015-002
Date: 5/11/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Bank St/N Court St/Church St		Bank St/N Court St/Church St		Windsor Blvd		Windsor Blvd								
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2		SOUTH LEG 2		EAST LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	EB	WB	NB	SB	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	EB	WB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
APPROACH %'s :									0.00%	100.00%					
PEAK HR :	07:15 AM - 08:15 AM														TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :															

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2		SOUTH LEG 2		EAST LEG 2		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	EB	WB	NB	SB	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	2	0	0	0	0	0	1	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	EB	WB	NB	SB	TOTAL
TOTAL VOLUMES :	0	3	0	0	0	0	0	1	0	0	0	0	0	0	4
APPROACH %'s :	0.00%	100.00%					0.00%	100.00%							
PEAK HR :	04:00 PM - 05:00 PM														TOTAL
PEAK HR VOL :	0	3	0	0	0	0	0	1	0	0	0	0	0	0	4
PEAK HR FACTOR :	0.375	0.375					0.250	0.250							0.333

Prepared by National Data & Surveying Services

Bank St/N Court St/Church St & Windsor Blvd

Peak Hour Turning Movement Count

ID: 23-250015-002
City: Windsor

Day: Thursday
Date: 5/11/2023

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 6:00 AM - 09:00 AM
NOON: NONE
PM: 3:30 PM - 06:30 PM

SOUTHBOUND — Bank St/N Court St/Church St

AM	11	8	53	0	55	AM
NOON	0	0	0	0	0	NOON
PM	10	5	51	0	58	PM

EASTBOUND — Windsor Blvd

AM	NOON	PM		
386	0	698		
0	0	0	0	
6	0	6	0	
503	0	567	2	
8	0	11	0	
AM	NOON	PM		

WESTBOUND — Windsor Blvd

PM	NOON	AM		
			0	
40	0	33	0	
667	0	360	2	
5	0	0	0	
0	0	0	0	
PM	NOON	AM		
629	0	558		

NORTHBOUND — Bank St/N Court St/Church St

PM	21	0	21	12	11	PM
NOON	0	0	0	0	0	NOON
AM	16	0	15	16	2	AM

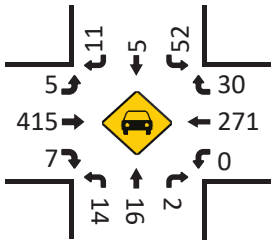
	0	0	1	0

CONTROL

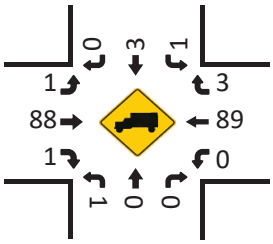
Signalized

TEV	1015 AM	0 NOON	1406 PM
PHF	0.84		0.95

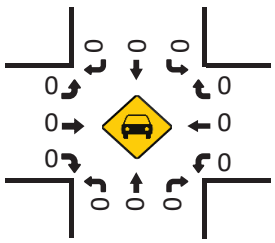
Cars (AM)



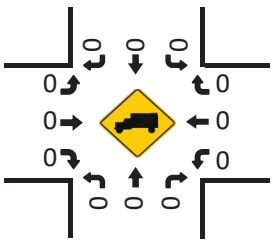
HT (AM)



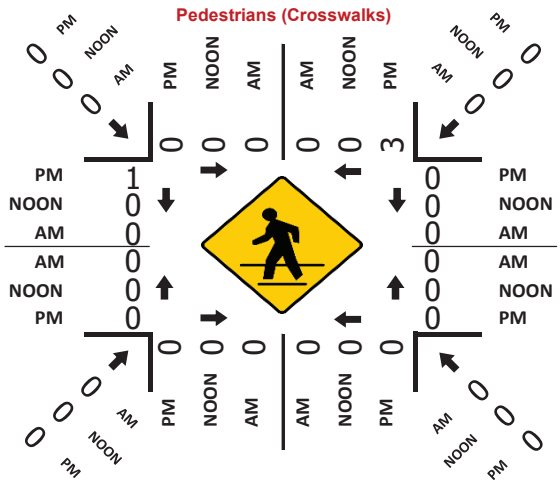
Cars (NOON)



HT (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
1
0
0
0
0
0
0
3
0
0
0
0
0
0
0
0
0
0
0

Project ID: 23-250015-002
Location: Bank St/N Court St/Church St & Windsor Blvd
City: Windsor

Day: Thursday
Date: 5/11/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Bank St/N Court St/Church St Northbound						Bank St/N Court St/Church St Southbound						Windsor Blvd Eastbound						Windsor Blvd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
6:00 AM	2	0	0	0	0	2	9	2	1	0	0	12	0	89	1	0	0	90	0	52	0	0	0	52	156
6:15 AM	1	0	1	0	0	2	9	0	0	0	0	9	0	121	2	0	0	123	0	63	2	0	0	65	199
6:30 AM	1	1	1	0	0	3	7	2	0	0	0	9	0	116	2	0	0	118	0	72	1	0	0	73	203
6:45 AM	3	1	0	0	0	4	8	0	0	0	0	8	0	102	1	0	0	103	0	68	5	0	0	73	188
Total	7	2	2	0	0	11	33	4	1	0	0	38	0	428	6	0	0	434	0	255	8	0	0	263	746
7:00 AM	1	2	0	0	0	3	12	0	0	0	0	12	1	88	3	0	0	92	0	55	2	0	0	57	164
7:15 AM	3	3	1	0	0	7	15	4	0	0	0	19	1	133	1	0	0	135	0	79	14	0	0	93	254
7:30 AM	4	3	0	0	0	7	26	3	7	0	0	36	1	138	2	0	0	141	0	72	5	0	0	77	261
7:45 AM	4	8	0	0	0	12	7	0	2	0	0	9	3	117	2	0	0	122	0	88	5	0	0	93	236
Total	12	16	1	0	0	29	60	7	9	0	0	76	6	476	8	0	0	490	0	294	26	0	0	320	915
8:00 AM	4	2	1	0	0	7	5	1	2	0	0	8	1	115	3	0	0	119	0	121	9	0	0	130	264
8:15 AM	1	3	1	0	0	5	8	0	0	0	0	8	1	123	1	0	0	125	0	103	6	0	0	109	247
8:30 AM	2	3	1	0	0	6	17	0	2	0	0	19	1	121	3	0	0	125	0	78	3	0	0	81	231
8:45 AM	1	1	0	0	0	2	8	3	0	0	0	11	0	139	2	0	0	141	0	98	3	0	0	101	255
Total	8	9	3	0	0	20	38	4	4	0	0	46	3	498	9	0	0	510	0	400	21	0	0	421	997
BREAK																									
3:30 PM	6	4	2	0	0	12	7	0	2	0	0	9	0	139	5	0	0	144	1	136	10	0	0	147	312
3:45 PM	4	3	1	0	0	8	6	2	0	0	0	8	0	140	1	0	0	141	0	160	12	0	0	172	329
Total	10	7	3	0	0	20	13	2	2	0	0	17	0	279	6	0	0	285	1	296	22	0	0	319	641
4:00 PM	6	4	5	0	0	15	13	2	3	0	1	18	1	137	2	0	0	140	2	160	13	0	0	175	348
4:15 PM	2	4	2	0	0	8	16	1	4	0	0	21	0	144	4	0	0	148	3	171	12	0	0	186	363
4:30 PM	7	2	3	0	0	12	8	2	3	0	0	13	1	135	4	0	0	140	0	165	8	0	0	173	338
4:45 PM	6	2	1	0	0	9	14	0	0	0	2	14	4	151	1	0	1	156	0	171	7	0	0	178	357
Total	21	12	11	0	0	44	51	5	10	0	3	66	6	567	11	0	1	584	5	667	40	0	0	712	1406
5:00 PM	7	6	1	0	0	14	9	0	2	0	0	11	3	132	3	0	0	138	0	157	14	0	0	171	334
5:15 PM	3	5	1	0	0	9	11	0	0	0	0	11	1	146	2	0	0	149	0	147	9	0	0	156	325
5:30 PM	6	2	2	0	0	10	5	1	0	0	0	6	2	144	3	0	0	149	3	152	11	0	0	166	331
5:45 PM	6	1	1	0	0	8	7	0	1	0	0	8	1	112	4	0	0	117	1	154	6	0	0	161	294
Total	22	14	5	0	0	41	32	1	3	0	0	36	7	534	12	0	0	553	4	610	40	0	0	654	1284
6:00 PM	2	2	0	0	0	4	6	1	1	0	0	8	1	127	1	0	0	129	0	196	7	0	0	203	344
6:15 PM	2	3	0	0	0	5	1	0	1	0	0	2	4	112	8	0	0	124	1	145	10	0	0	156	287
Total	4	5	0	0	0	9	7	1	2	0	0	10	5	239	9	0	0	253	1	341	17	0	0	359	631
Grand Total	84	65	25	0	0	174	234	24	31	0	3	289	27	3021	61	0	1	3109	11	2863	174	0	0	3048	6620
Apprch %	48.3	37.4	14.4	0.0	0.0		81.0	8.3	10.7	0.0	1.0		0.9	97.2	2.0	0.0	0.0		0.4	93.9	5.7	0.0	0.0		
Total %	1.3	1.0	0.4	0.0	0.0	2.6	3.5	0.4	0.5	0.0	0.0	4.4	0.4	45.6	0.9	0.0	0.0	47.0	0.2	43.2	2.6	0.0	0.0	46.0	
Cars, PU, Vans	81	65	24	0		170	231	21	30	0		282	25	2626	58	0		2709	9	2485	168	0		2662	5823
% Cars, PU, Vans	96.4	100.0	96.0	0.0		97.7	98.7	87.5	96.8	0.0		97.6	92.6	86.9	95.1	0.0		87.1	81.8	86.8	96.6	0.0		87.3	88.0
Heavy trucks	3	0	1	0		4	3	3	1	0		7	2	395	3	0		400	2	378	6	0		386	797
%Heavy trucks	3.6	0.0	4.0	0.0		2.3	1.3	12.5	3.2	0.0		2.4	7.4	13.1	4.9	0.0		12.9	18.2	13.2	3.4	0.0		12.7	12.0

Project ID: 23-250015-002
Location: Bank St/N Court St/Church St & Windsor Blvd
City: Windsor

PEAK HOURS

Day: Thursday
Date: 5/11/2023

AM

	Bank St/N Court St/Church St Northbound					Bank St/N Court St/Church St Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 06:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	3	3	1	0	7	15	4	0	0	19	1	133	1	0	135	0	79	14	0	93	254
7:30 AM	4	3	0	0	7	26	3	7	0	36	1	138	2	0	141	0	72	5	0	77	261
7:45 AM	4	8	0	0	12	7	0	2	0	9	3	117	2	0	122	0	88	5	0	93	236
8:00 AM	4	2	1	0	7	5	1	2	0	8	1	115	3	0	119	0	121	9	0	130	264
Total Volume	15	16	2	0	33	53	8	11	0	72	6	503	8	0	517	0	360	33	0	393	1015
% App. Total	45.5	48.5	6.1	0.0	100	73.6	11.1	15.3	0.0	100	1.2	97.3	1.5	0.0	100	0.0	91.6	8.4	0.0	100	
PHF					0.697					0.490					0.892					0.758	0.843
Cars, PU, Vans	14	16	2	0	32	52	5	11	0	68	5	415	7	0	427	0	271	30	0	301	828
% Cars, PU, Vans	93.3	100.0	100.0	0.0	97.0	98.1	62.5	100.0	0.0	94.4	83.3	82.5	87.5	0.0	82.6	0.0	75.3	90.9	0.0	76.6	81.6
Heavy trucks	1	0	0	0	1	1	3	0	0	4	1	88	1	0	90	0	89	3	0	92	187
%Heavy trucks	6.7	0.0	0.0	0.0	3.0	1.9	37.5	0.0	0.0	5.6	16.7	17.5	12.5	0.0	17.4	0.0	24.7	9.1	0.0	23.4	18.4

PM

	Bank St/N Court St/Church St Northbound					Bank St/N Court St/Church St Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:30 PM - 06:30 PM																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
4:00 PM	6	4	5	0	15	13	2	3	0	18	1	137	2	0	140	2	160	13	0	175	348
4:15 PM	2	4	2	0	8	16	1	4	0	21	0	144	4	0	148	3	171	12	0	186	363
4:30 PM	7	2	3	0	12	8	2	3	0	13	1	135	4	0	140	0	165	8	0	173	338
4:45 PM	6	2	1	0	9	14	0	0	0	14	4	151	1	0	156	0	171	7	0	178	357
Total Volume	21	12	11	0	44	51	5	10	0	66	6	567	11	0	584	5	667	40	0	712	1406
% App. Total	47.7	27.3	25.0	0.0	100	77.3	7.6	15.2	0.0	100	1.0	97.1	1.9	0.0	100	0.7	93.7	5.6	0.0	100	
PHF					0.728					0.761					0.940					0.971	0.947
Cars, PU, Vans	21	12	10	0	43	49	5	9	0	63	6	511	10	0	527	5	609	39	0	653	1286
% Cars, PU, Vans	100.0	100.0	90.9	0.0	97.7	96.1	100.0	90.0	0.0	95.5	100.0	90.1	90.9	0.0	90.2	100.0	91.3	97.5	0.0	91.7	91.5
Heavy trucks	0	0	1	0	1	2	0	1	0	3	0	56	1	0	57	0	58	1	0	59	120
%Heavy trucks	0.0	0.0	9.1	0.0	2.3	3.9	0.0	10.0	0.0	4.5	0.0	9.9	9.1	0.0	9.8	0.0	8.7	2.5	0.0	8.3	8.5

National Data & Surveying Services Intersection Turning Movement Count

Location: Burroughs Ln & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-005
Date: 5/11/2023

Data - Total

NS/EW Streets:	Burroughs Ln				Burroughs Ln				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	1	135	0	0	0	55	1	0	192
6:15 AM	0	0	0	0	0	0	1	0	4	174	0	0	0	69	2	0	250
6:30 AM	0	0	0	0	1	0	1	0	4	160	0	0	0	69	1	0	236
6:45 AM	0	0	0	0	0	0	1	0	7	123	0	0	0	68	1	0	200
7:00 AM	0	0	0	0	3	0	5	0	8	142	0	0	0	77	3	0	238
7:15 AM	0	0	0	0	3	0	2	0	10	178	0	0	0	107	1	0	301
7:30 AM	0	0	0	0	4	0	6	0	15	200	0	0	0	73	5	0	303
7:45 AM	0	0	0	0	2	0	14	0	7	153	0	0	0	96	4	0	276
8:00 AM	0	0	0	0	5	0	9	0	12	120	0	0	0	115	8	0	269
8:15 AM	0	0	0	0	3	0	7	0	6	152	0	0	0	113	6	0	287
8:30 AM	0	0	0	0	1	0	5	0	12	135	0	0	0	78	2	0	233
8:45 AM	0	0	0	0	1	0	7	0	18	144	0	0	0	109	4	0	283
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	23	0	58	0	104	1816	0	0	0	1029	38	0	3068
APPROACH %'s :					28.40%	0.00%	71.60%	0.00%	5.42%	94.58%	0.00%	0.00%	0.00%	96.44%	3.56%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	14	0	31	0	44	651	0	0	0	391	18	0	1149
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.700	0.000	0.554	0.000	0.733	0.814	0.000	0.000	0.000	0.850	0.563	0.000	0.948
					0.703				0.808				0.831				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	rrr	0	0	0	10	0	27	0	20	126	0	0	0	155	27	0	365
3:45 PM	0	0	0	0	6	0	38	0	18	144	0	0	0	181	30	0	417
4:00 PM	0	0	0	0	8	0	29	0	14	131	0	0	0	174	28	0	384
4:15 PM	0	0	0	0	6	0	33	0	24	131	0	0	0	187	26	0	407
4:30 PM	0	0	0	0	7	0	31	0	25	148	0	0	0	195	29	0	435
4:45 PM	0	0	0	0	12	0	42	0	34	145	0	0	0	181	34	0	448
5:00 PM	0	0	0	0	12	0	34	0	30	135	0	0	0	151	26	0	388
5:15 PM	0	0	0	0	4	0	26	0	32	164	0	1	0	190	34	0	451
5:30 PM	0	0	0	0	11	0	46	0	32	144	0	0	0	123	31	0	387
5:45 PM	0	0	0	0	9	0	31	0	22	109	0	0	0	178	28	0	377
6:00 PM	0	0	0	0	4	0	38	0	20	122	0	0	0	173	26	0	383
6:15 PM	0	0	0	0	7	0	40	0	18	115	0	0	0	133	16	0	329
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	96	0	415	0	289	1614	0	1	0	2021	335	0	4771
APPROACH %'s :					18.79%	0.00%	81.21%	0.00%	15.18%	84.77%	0.00%	0.05%	0.00%	85.78%	14.22%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	35	0	133	0	121	592	0	1	0	717	123	0	1722
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.729	0.000	0.792	0.000	0.890	0.902	0.000	0.250	0.000	0.919	0.904	0.000	0.955
					0.778				0.906				0.938				

National Data & Surveying Services Intersection Turning Movement Count

Location: Burroughs Ln & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-005
Date: 5/11/2023

Data - Cars

NS/EW Streets:	Burroughs Ln				Burroughs Ln				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	118	0	0	0	39	1	0	158
6:15 AM	0	0	0	0	0	0	1	0	3	156	0	0	0	58	2	0	220
6:30 AM	0	0	0	0	1	0	1	0	3	143	0	0	0	61	1	0	210
6:45 AM	0	0	0	0	0	0	0	0	6	113	0	0	0	51	1	0	171
7:00 AM	0	0	0	0	3	0	4	0	7	122	0	0	0	61	3	0	200
7:15 AM	0	0	0	0	3	0	2	0	10	156	0	0	0	80	1	0	252
7:30 AM	0	0	0	0	4	0	5	0	15	168	0	0	0	56	3	0	251
7:45 AM	0	0	0	0	1	0	14	0	7	132	0	0	0	77	4	0	235
8:00 AM	0	0	0	0	5	0	8	0	12	104	0	0	0	92	8	0	229
8:15 AM	0	0	0	0	2	0	6	0	6	120	0	0	0	92	5	0	231
8:30 AM	0	0	0	0	1	0	5	0	12	112	0	0	0	59	2	0	191
8:45 AM	0	0	0	0	1	0	7	0	18	120	0	0	0	87	4	0	237
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	21	0	53	0	99	1564	0	0	0	813	35	0	2585
APPROACH %'s :					28.38%	0.00%	71.62%	0.00%	5.95%	94.05%	0.00%	0.00%	0.00%	95.87%	4.13%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	13	0	29	0	44	560	0	0	0	305	16	0	967
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.650	0.000	0.518	0.000	0.733	0.833	0.000	0.000	0.000	0.829	0.500	0.000	0.959
							0.700				0.825				0.803		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	10	0	27	0	19	102	0	0	0	141	26	0	325
3:45 PM	0	0	0	0	6	0	35	0	18	132	0	0	0	155	30	0	376
4:00 PM	0	0	0	0	8	0	29	0	13	113	0	0	0	156	27	0	346
4:15 PM	0	0	0	0	6	0	33	0	23	120	0	0	0	170	26	0	378
4:30 PM	0	0	0	0	7	0	29	0	25	136	0	0	0	181	27	0	405
4:45 PM	0	0	0	0	12	0	41	0	34	131	0	0	0	167	31	0	416
5:00 PM	0	0	0	0	12	0	33	0	30	123	0	0	0	136	26	0	360
5:15 PM	0	0	0	0	4	0	26	0	32	152	0	1	0	187	34	0	436
5:30 PM	0	0	0	0	11	0	46	0	32	135	0	0	0	112	31	0	367
5:45 PM	0	0	0	0	9	0	31	0	22	100	0	0	0	157	28	0	347
6:00 PM	0	0	0	0	4	0	38	0	20	111	0	0	0	164	26	0	363
6:15 PM	0	0	0	0	7	0	40	0	18	106	0	0	0	128	16	0	315
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	96	0	408	0	286	1461	0	1	0	1854	328	0	4434
APPROACH %'s :					19.05%	0.00%	80.95%	0.00%	16.36%	83.58%	0.00%	0.06%	0.00%	84.97%	15.03%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	35	0	129	0	121	542	0	1	0	671	118	0	1617
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.729	0.000	0.787	0.000	0.890	0.891	0.000	0.250	0.000	0.897	0.868	0.000	0.927
							0.774				0.897				0.893		

National Data & Surveying Services Intersection Turning Movement Count

Location: Burroughs Ln & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-005
Date: 5/11/2023

Data - HT

NS/EW Streets:	Burroughs Ln				Burroughs Ln				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	1	17	0	0	0	16	0	0	34
6:15 AM	0	0	0	0	0	0	0	0	1	18	0	0	0	11	0	0	30
6:30 AM	0	0	0	0	0	0	0	0	1	17	0	0	0	8	0	0	26
6:45 AM	0	0	0	0	0	0	1	0	1	10	0	0	0	17	0	0	29
7:00 AM	0	0	0	0	0	0	1	0	1	20	0	0	0	16	0	0	38
7:15 AM	0	0	0	0	0	0	0	0	0	22	0	0	0	27	0	0	49
7:30 AM	0	0	0	0	0	0	1	0	0	32	0	0	0	17	2	0	52
7:45 AM	0	0	0	0	1	0	0	0	0	21	0	0	0	19	0	0	41
8:00 AM	0	0	0	0	0	0	1	0	0	16	0	0	0	23	0	0	40
8:15 AM	0	0	0	0	1	0	1	0	0	32	0	0	0	21	1	0	56
8:30 AM	0	0	0	0	0	0	0	0	0	23	0	0	0	19	0	0	42
8:45 AM	0	0	0	0	0	0	0	0	0	24	0	0	0	22	0	0	46
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	2	0	5	0	5	252	0	0	0	216	3	0	483
APPROACH %'s :					28.57%	0.00%	71.43%	0.00%	1.95%	98.05%	0.00%	0.00%	0.00%	98.63%	1.37%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	2	0	0	91	0	0	0	86	2	0	182
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.711	0.000	0.000	0.000	0.796	0.250	0.000	0.875
							0.750				0.711				0.815		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	1	24	0	0	0	14	1	0	40
3:45 PM	0	0	0	0	0	0	3	0	0	12	0	0	0	26	0	0	41
4:00 PM	0	0	0	0	0	0	0	0	1	18	0	0	0	18	1	0	38
4:15 PM	0	0	0	0	0	0	0	0	1	11	0	0	0	17	0	0	29
4:30 PM	0	0	0	0	0	0	2	0	0	12	0	0	0	14	2	0	30
4:45 PM	0	0	0	0	0	0	1	0	0	14	0	0	0	14	3	0	32
5:00 PM	0	0	0	0	0	0	1	0	0	12	0	0	0	15	0	0	28
5:15 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	3	0	0	15
5:30 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	11	0	0	20
5:45 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	21	0	0	30
6:00 PM	0	0	0	0	0	0	0	0	0	11	0	0	0	9	0	0	20
6:15 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	5	0	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	7	0	3	153	0	0	0	167	7	0	337
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	1.92%	98.08%	0.00%	0.00%	0.00%	95.98%	4.02%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	4	0	0	50	0	0	0	46	5	0	105
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.893	0.000	0.000	0.000	0.767	0.417	0.000	0.820
							0.500				0.893				0.750		

National Data & Surveying Services Intersection Turning Movement Count

Location: Burroughs Ln & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-005
Date: 5/11/2023

Data - Bikes

NS/EW Streets:	Burroughs Ln				Burroughs Ln				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.500
										0.250				0.250			

National Data & Surveying Services Intersection Turning Movement Count

Location: Burroughs Ln & Windsor Blvd
City: Windsor
Project ID: 23-250015-005
Date: 5/11/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Burroughs Ln		Burroughs Ln		Windsor Blvd		Windsor Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:15 AM - 08:15 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:30 PM - 05:30 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Burroughs Ln & Windsor Blvd

Peak Hour Turning Movement Count

ID: 23-250015-005
City: Windsor

Day: Thursday
Date: 5/11/2023

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	6:00 AM - 09:00 AM
NOON	NONE
PM	3:30 PM - 06:30 PM

SOUTHBOUND (Burroughs Ln)

AM	31	0	14	0	62	AM
NOON	0	0	0	0	0	NOON
PM	133	0	35	0	244	PM
	1	0	1	0		

EASTBOUND (Windsor Blvd)

AM	NOON	PM	
422	0	851	
0	0	1	0
44	0	121	1
651	0	592	2
0	0	0	0

WESTBOUND (Windsor Blvd)

	PM	NOON	AM
1	123	0	18
2	717	0	391
0	0	0	0
0	0	0	0
	627	0	665

NORTHBOUND (Burroughs Ln)

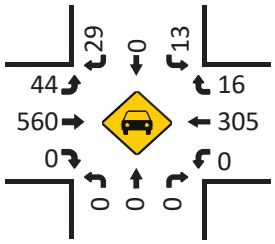
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM
	0	0	0	0		

CONTROL

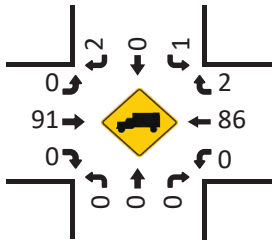
Signalized

TEV	1149 AM	0 NOON	1722 PM
PHF	0.95		0.95

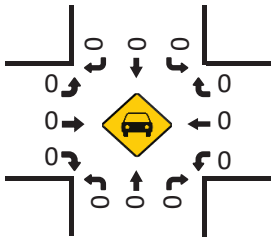
Cars (AM)



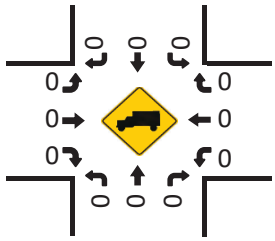
HT (AM)



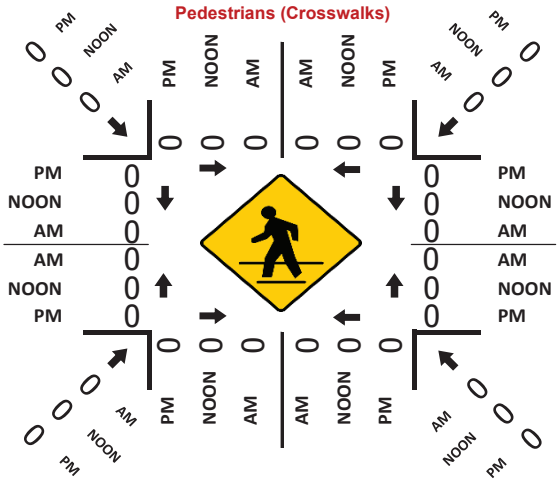
Cars (NOON)



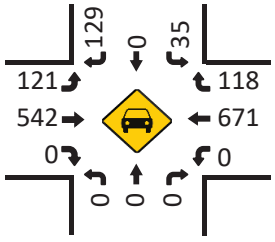
HT (NOON)



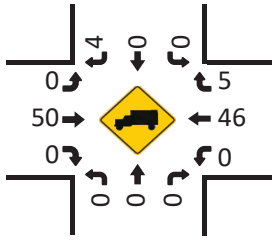
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Project ID: 23-250015-005
Location: Burroughs Ln & Windsor Blvd
City: Windsor

Day: Thursday
Date: 5/11/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Burroughs Ln Northbound						Burroughs Ln Southbound						Windsor Blvd Eastbound						Windsor Blvd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	135	0	0	0	136	0	55	1	0	0	56	192
6:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	4	174	0	0	0	178	0	69	2	0	0	71	250
6:30 AM	0	0	0	0	0	0	1	0	1	0	0	2	4	160	0	0	0	164	0	69	1	0	0	70	236
6:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	7	123	0	0	0	130	0	68	1	0	0	69	200
Total	0	0	0	0	0	0	1	0	3	0	0	4	16	592	0	0	0	608	0	261	5	0	0	266	878
7:00 AM	0	0	0	0	0	0	3	0	5	0	0	8	8	142	0	0	0	150	0	77	3	0	0	80	238
7:15 AM	0	0	0	0	0	0	3	0	2	0	0	5	10	178	0	0	0	188	0	107	1	0	0	108	301
7:30 AM	0	0	0	0	0	0	4	0	6	0	0	10	15	200	0	0	0	215	0	73	5	0	0	78	303
7:45 AM	0	0	0	0	0	0	2	0	14	0	0	16	7	153	0	0	0	160	0	96	4	0	0	100	276
Total	0	0	0	0	0	0	12	0	27	0	0	39	40	673	0	0	0	713	0	353	13	0	0	366	1118
8:00 AM	0	0	0	0	0	0	5	0	9	0	0	14	12	120	0	0	0	132	0	115	8	0	0	123	269
8:15 AM	0	0	0	0	0	0	3	0	7	0	0	10	6	152	0	0	0	158	0	113	6	0	0	119	287
8:30 AM	0	0	0	0	0	0	1	0	5	0	0	6	12	135	0	0	0	147	0	78	2	0	0	80	233
8:45 AM	0	0	0	0	0	0	1	0	7	0	0	8	18	144	0	0	0	162	0	109	4	0	0	113	283
Total	0	0	0	0	0	0	10	0	28	0	0	38	48	551	0	0	0	599	0	415	20	0	0	435	1072
BREAK																									
3:30 PM	0	0	0	0	0	0	10	0	27	0	0	37	20	126	0	0	0	146	0	155	27	0	0	182	365
3:45 PM	0	0	0	0	0	0	6	0	38	0	0	44	18	144	0	0	0	162	0	181	30	0	0	211	417
Total	0	0	0	0	0	0	16	0	65	0	0	81	38	270	0	0	0	308	0	336	57	0	0	393	782
4:00 PM	0	0	0	0	0	0	8	0	29	0	0	37	14	131	0	0	0	145	0	174	28	0	0	202	384
4:15 PM	0	0	0	0	0	0	6	0	33	0	0	39	24	131	0	0	0	155	0	187	26	0	0	213	407
4:30 PM	0	0	0	0	0	0	7	0	31	0	0	38	25	148	0	0	0	173	0	195	29	0	0	224	435
4:45 PM	0	0	0	0	0	0	12	0	42	0	0	54	34	145	0	0	0	179	0	181	34	0	0	215	448
Total	0	0	0	0	0	0	33	0	135	0	0	168	97	555	0	0	0	652	0	737	117	0	0	854	1674
5:00 PM	0	0	0	0	0	0	12	0	34	0	0	46	30	135	0	0	0	165	0	151	26	0	0	177	388
5:15 PM	0	0	0	0	0	0	4	0	26	0	0	30	32	164	0	1	0	197	0	190	34	0	0	224	451
5:30 PM	0	0	0	0	0	0	11	0	46	0	0	57	32	144	0	0	0	176	0	123	31	0	0	154	387
5:45 PM	0	0	0	0	0	0	9	0	31	0	0	40	22	109	0	0	0	131	0	178	28	0	0	206	377
Total	0	0	0	0	0	0	36	0	137	0	0	173	116	552	0	1	0	669	0	642	119	0	0	761	1603
6:00 PM	0	0	0	0	0	0	4	0	38	0	0	42	20	122	0	0	0	142	0	173	26	0	0	199	383
6:15 PM	0	0	0	0	0	0	7	0	40	0	0	47	18	115	0	0	0	133	0	133	16	0	0	149	329
Total	0	0	0	0	0	0	11	0	78	0	0	89	38	237	0	0	0	275	0	306	42	0	0	348	712
Grand Total	0	0	0	0	0	0	119	0	473	0	0	592	393	3430	0	1	0	3824	0	3050	373	0	0	3423	7839
Apprch %	0.0	0.0	0.0	0.0	0.0		20.1	0.0	79.9	0.0	0.0		10.3	89.7	0.0	0.0	0.0		0.0	89.1	10.9	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	6.0	0.0	0.0	7.6	5.0	43.8	0.0	0.0	0.0	48.8	0.0	38.9	4.8	0.0	0.0	43.7	
Cars, PU, Vans	0	0	0	0		0	117	0	461	0		578	385	3025	0	1		3411	0	2667	363	0		3030	7019
% Cars, PU, Vans	0.0	0.0	0.0	0.0		0.0	98.3	0.0	97.5	0.0		97.6	98.0	88.2	0.0	100.0		89.2	0.0	87.4	97.3	0.0		88.5	89.5
Heavy trucks	0	0	0	0		0	2	0	12	0		14	8	405	0	0		413	0	383	10	0		393	820
%Heavy trucks	0.0	0.0	0.0	0.0		0.0	1.7	0.0	2.5	0.0		2.4	2.0	11.8	0.0	0.0		10.8	0.0	12.6	2.7	0.0		11.5	10.5

Project ID: 23-250015-005
Location: Burroughs Ln & Windsor Blvd
City: Windsor

PEAK HOURS

Day: Thursday
Date: 5/11/2023

AM

	Burroughs Ln Northbound					Burroughs Ln Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 06:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	0	0	0	0	0	3	0	2	0	5	10	178	0	0	188	0	107	1	0	108	301
7:30 AM	0	0	0	0	0	4	0	6	0	10	15	200	0	0	215	0	73	5	0	78	303
7:45 AM	0	0	0	0	0	2	0	14	0	16	7	153	0	0	160	0	96	4	0	100	276
8:00 AM	0	0	0	0	0	5	0	9	0	14	12	120	0	0	132	0	115	8	0	123	269
Total Volume	0	0	0	0	0	14	0	31	0	45	44	651	0	0	695	0	391	18	0	409	1149
% App. Total	0.0	0.0	0.0	0.0	0	31.1	0.0	68.9	0.0	100	6.3	93.7	0.0	0.0	100	0.0	95.6	4.4	0.0	100	
PHF										0.703					0.808					0.831	0.948
Cars, PU, Vans	0	0	0	0	0	13	0	29	0	42	44	560	0	0	604	0	305	16	0	321	967
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	92.9	0.0	93.5	0.0	93.3	100.0	86.0	0.0	0.0	86.9	0.0	78.0	88.9	0.0	78.5	84.2
Heavy trucks	0	0	0	0	0	1	0	2	0	3	0	91	0	0	91	0	86	2	0	88	182
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	7.1	0.0	6.5	0.0	6.7	0.0	14.0	0.0	0.0	13.1	0.0	22.0	11.1	0.0	21.5	15.8

PM

	Burroughs Ln Northbound					Burroughs Ln Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:30 PM - 06:30 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	0	0	0	0	0	7	0	31	0	38	25	148	0	0	173	0	195	29	0	224	435
4:45 PM	0	0	0	0	0	12	0	42	0	54	34	145	0	0	179	0	181	34	0	215	448
5:00 PM	0	0	0	0	0	12	0	34	0	46	30	135	0	0	165	0	151	26	0	177	388
5:15 PM	0	0	0	0	0	4	0	26	0	30	32	164	0	1	197	0	190	34	0	224	451
Total Volume	0	0	0	0	0	35	0	133	0	168	121	592	0	1	714	0	717	123	0	840	1722
% App. Total	0.0	0.0	0.0	0.0	0	20.8	0.0	79.2	0.0	100	16.9	82.9	0.0	0.1	100	0.0	85.4	14.6	0.0	100	
PHF										0.778					0.906					0.938	0.955
Cars, PU, Vans	0	0	0	0	0	35	0	129	0	164	121	542	0	1	664	0	671	118	0	789	1617
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	100.0	0.0	97.0	0.0	97.6	100.0	91.6	0.0	100.0	93.0	0.0	93.6	95.9	0.0	93.9	93.9
Heavy trucks	0	0	0	0	0	0	0	4	0	4	0	50	0	0	50	0	46	5	0	51	105
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	2.4	0.0	8.4	0.0	0.0	7.0	0.0	6.4	4.1	0.0	6.1	6.1

National Data & Surveying Services Intersection Turning Movement Count

Location: Dominion Way & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-003
Date: 5/23/2023

Data - Total

NS/EW Streets:	Dominion Way				Dominion Way				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	2	0	2	0	0	0	0	0	0	135	1	0	6	58	0	0	204
6:15 AM	0	0	0	0	0	0	0	0	0	187	0	0	5	72	0	0	264
6:30 AM	0	0	0	0	0	0	0	0	0	166	3	0	5	64	0	0	238
6:45 AM	0	0	0	0	0	0	0	0	0	138	2	0	11	92	0	0	243
7:00 AM	1	0	1	0	0	0	0	0	0	205	0	0	6	105	0	0	318
7:15 AM	1	0	2	0	0	0	0	0	0	176	1	0	1	122	0	0	303
7:30 AM	0	0	0	0	0	0	0	0	0	200	1	0	6	90	0	0	297
7:45 AM	2	0	0	0	0	0	0	0	0	148	2	0	7	94	0	0	253
8:00 AM	1	0	1	0	0	0	0	0	0	158	1	0	1	89	0	0	251
8:15 AM	0	0	2	0	0	0	0	0	0	140	0	0	2	105	0	0	249
8:30 AM	1	0	1	0	0	0	0	0	0	146	1	0	4	87	0	0	240
8:45 AM	1	0	0	0	0	0	0	0	0	148	0	0	5	104	0	0	258
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	0	9	0	0	0	0	0	0	1947	12	0	59	1082	0	0	3118
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%					0.00%	99.39%	0.61%	0.00%	5.17%	94.83%	0.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	4	0	3	0	0	0	0	0	0	729	4	0	20	411	0	0	1171
PEAK HR FACTOR :	0.500	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.889	0.500	0.000	0.714	0.842	0.000	0.000	0.921
	0.583								0.894				0.876				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	3	0	5	0	0	0	0	0	0	145	9	0	9	189	0	0	360
3:45 PM	2	0	0	0	0	0	0	0	0	127	7	0	20	201	0	0	357
4:00 PM	6	0	11	0	0	0	0	0	0	141	1	0	4	192	0	0	355
4:15 PM	38	0	57	0	0	0	0	0	0	140	1	0	1	239	0	0	476
4:30 PM	4	0	5	0	0	0	0	0	0	155	1	0	0	213	0	0	378
4:45 PM	2	0	3	0	0	0	0	0	0	125	2	0	0	210	0	0	342
5:00 PM	2	0	1	0	0	0	0	0	0	152	1	0	0	193	0	0	349
5:15 PM	3	0	3	0	0	0	0	0	0	129	0	0	1	265	0	0	401
5:30 PM	1	0	1	0	0	0	0	0	0	113	1	0	0	219	0	0	335
5:45 PM	1	0	4	0	0	0	0	0	0	122	2	0	0	190	0	0	319
6:00 PM	0	0	1	0	0	0	0	0	0	120	0	0	0	146	0	0	267
6:15 PM	0	0	1	0	0	0	0	0	0	90	0	0	0	148	0	0	239
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	62	0	92	0	0	0	0	0	0	1559	25	0	35	2405	0	0	4178
APPROACH %'s :	40.26%	0.00%	59.74%	0.00%					0.00%	98.42%	1.58%	0.00%	1.43%	98.57%	0.00%	0.00%	
PEAK HR :	**03:45 PM - 04:45 PM**																TOTAL
PEAK HR VOL :	50	0	73	0	0	0	0	0	0	563	10	0	25	845	0	0	1566
PEAK HR FACTOR :	0.329	0.000	0.320	0.000	0.000	0.000	0.000	0.000	0.000	0.908	0.357	0.000	0.313	0.884	0.000	0.000	0.822
	0.324								0.918				0.906				

National Data & Surveying Services Intersection Turning Movement Count

Location: Dominion Way & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-003
Date: 5/23/2023

Data - Cars

NS/EW Streets:	Dominion Way				Dominion Way				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	2	0	2	0	0	0	0	0	0	119	1	0	6	44	0	0	174
6:15 AM	0	0	0	0	0	0	0	0	0	169	0	0	5	58	0	0	232
6:30 AM	0	0	0	0	0	0	0	0	0	143	2	0	4	44	0	0	193
6:45 AM	0	0	0	0	0	0	0	0	0	127	2	0	10	72	0	0	211
7:00 AM	0	0	1	0	0	0	0	0	0	181	0	0	4	81	0	0	267
7:15 AM	0	0	1	0	0	0	0	0	0	157	1	0	1	104	0	0	264
7:30 AM	0	0	0	0	0	0	0	0	0	182	1	0	6	68	0	0	257
7:45 AM	2	0	0	0	0	0	0	0	0	135	1	0	7	77	0	0	222
8:00 AM	0	0	1	0	0	0	0	0	0	122	1	0	1	80	0	0	205
8:15 AM	0	0	1	0	0	0	0	0	0	119	0	0	1	87	0	0	208
8:30 AM	0	0	1	0	0	0	0	0	0	121	0	0	1	67	0	0	190
8:45 AM	0	0	0	0	0	0	0	0	0	127	0	0	2	81	0	0	210
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	0	7	0	0	0	0	0	0	1702	9	0	48	863	0	0	2633
APPROACH %'s :	36.36%	0.00%	63.64%	0.00%					0.00%	99.47%	0.53%	0.00%	5.27%	94.73%	0.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	2	0	2	0	0	0	0	0	0	655	3	0	18	330	0	0	1010
PEAK HR FACTOR :	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.900	0.750	0.000	0.643	0.793	0.000	0.000	0.946
			0.500								0.899				0.829		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	2	0	4	0	0	0	0	0	0	117	9	0	7	159	0	0	298
3:45 PM	1	0	0	0	0	0	0	0	0	112	7	0	20	176	0	0	316
4:00 PM	5	0	10	0	0	0	0	0	0	121	1	0	4	175	0	0	316
4:15 PM	38	0	57	0	0	0	0	0	0	121	1	0	1	210	0	0	428
4:30 PM	4	0	5	0	0	0	0	0	0	137	1	0	0	191	0	0	338
4:45 PM	2	0	3	0	0	0	0	0	0	114	2	0	0	191	0	0	312
5:00 PM	2	0	1	0	0	0	0	0	0	143	1	0	0	179	0	0	326
5:15 PM	3	0	3	0	0	0	0	0	0	113	0	0	0	246	0	0	365
5:30 PM	1	0	1	0	0	0	0	0	0	108	1	0	0	204	0	0	315
5:45 PM	1	0	3	0	0	0	0	0	0	108	2	0	0	180	0	0	294
6:00 PM	0	0	1	0	0	0	0	0	0	108	0	0	0	133	0	0	242
6:15 PM	0	0	1	0	0	0	0	0	0	81	0	0	0	136	0	0	218
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	59	0	89	0	0	0	0	0	0	1383	25	0	32	2180	0	0	3768
APPROACH %'s :	39.86%	0.00%	60.14%	0.00%					0.00%	98.22%	1.78%	0.00%	1.45%	98.55%	0.00%	0.00%	
PEAK HR :	**03:45 PM - 04:45 PM**																TOTAL
PEAK HR VOL :	48	0	72	0	0	0	0	0	0	491	10	0	25	752	0	0	1398
PEAK HR FACTOR :	0.316	0.000	0.316	0.000	0.000	0.000	0.000	0.000	0.000	0.896	0.357	0.000	0.313	0.895	0.000	0.000	0.817
			0.316								0.908				0.921		

National Data & Surveying Services Intersection Turning Movement Count

Location: Dominion Way & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-003
Date: 5/23/2023

Data - HT

NS/EW Streets:	Dominion Way				Dominion Way				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	14	0	0	30
6:15 AM	0	0	0	0	0	0	0	0	0	18	0	0	0	14	0	0	32
6:30 AM	0	0	0	0	0	0	0	0	0	23	1	0	1	20	0	0	45
6:45 AM	0	0	0	0	0	0	0	0	0	11	0	0	1	20	0	0	32
7:00 AM	1	0	0	0	0	0	0	0	0	24	0	0	2	24	0	0	51
7:15 AM	1	0	1	0	0	0	0	0	0	19	0	0	0	18	0	0	39
7:30 AM	0	0	0	0	0	0	0	0	0	18	0	0	0	22	0	0	40
7:45 AM	0	0	0	0	0	0	0	0	0	13	1	0	0	17	0	0	31
8:00 AM	1	0	0	0	0	0	0	0	0	36	0	0	0	9	0	0	46
8:15 AM	0	0	1	0	0	0	0	0	0	21	0	0	1	18	0	0	41
8:30 AM	1	0	0	0	0	0	0	0	0	25	1	0	3	20	0	0	50
8:45 AM	1	0	0	0	0	0	0	0	0	21	0	0	3	23	0	0	48
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	0	2	0	0	0	0	0	0	245	3	0	11	219	0	0	485
APPROACH %'s :	71.43%	0.00%	28.57%	0.00%					0.00%	98.79%	1.21%	0.00%	4.78%	95.22%	0.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	2	0	1	0	0	0	0	0	0	74	1	0	2	81	0	0	161
PEAK HR FACTOR :	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.771	0.250	0.000	0.250	0.844	0.000	0.000	0.789
	0.375								0.781				0.798				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	1	0	1	0	0	0	0	0	0	28	0	0	2	30	0	0	62
3:45 PM	1	0	0	0	0	0	0	0	0	15	0	0	0	25	0	0	41
4:00 PM	1	0	1	0	0	0	0	0	0	20	0	0	0	17	0	0	39
4:15 PM	0	0	0	0	0	0	0	0	0	19	0	0	0	29	0	0	48
4:30 PM	0	0	0	0	0	0	0	0	0	18	0	0	0	22	0	0	40
4:45 PM	0	0	0	0	0	0	0	0	0	11	0	0	0	19	0	0	30
5:00 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	14	0	0	23
5:15 PM	0	0	0	0	0	0	0	0	0	16	0	0	1	19	0	0	36
5:30 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	15	0	0	20
5:45 PM	0	0	1	0	0	0	0	0	0	14	0	0	0	10	0	0	25
6:00 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	13	0	0	25
6:15 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	12	0	0	21
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	0	3	0	0	0	0	0	0	176	0	0	3	225	0	0	410
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%					0.00%	100.00%	0.00%	0.00%	1.32%	98.68%	0.00%	0.00%	
PEAK HR :	**03:45 PM - 04:45 PM**																TOTAL
PEAK HR VOL :	2	0	1	0	0	0	0	0	0	72	0	0	0	93	0	0	168
PEAK HR FACTOR :	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.900	0.000	0.000	0.000	0.802	0.000	0.000	0.875
	0.375								0.900				0.802				

National Data & Surveying Services Intersection Turning Movement Count

Location: Dominion Way & Windsor Blvd
City: Windsor
Control: Signalized

Project ID: 23-250015-003
Date: 5/23/2023

Data - Bikes

NS/EW Streets:	Dominion Way				Dominion Way				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	1	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Dominion Way & Windsor Blvd
City: Windsor
Project ID: 23-250015-003
Date: 5/23/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Dominion Way		Dominion Way		Windsor Blvd		Windsor Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**03:45 PM - 04:45 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Dominion Way & Windsor Blvd

Peak Hour Turning Movement Count

ID: 23-250015-003
City: Windsor

Day: Tuesday
Date: 5/23/2023

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 03:45 PM - 04:45 PM

COUNT PERIODS

AM: 6:00 AM - 09:00 AM
NOON: NONE
PM: 3:30 PM - 06:30 PM

SOUTHBOUND (Dominion Way)

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

EASTBOUND (Windsor Blvd)

AM	NOON	PM		
415	0	895	⇦	
0	0	0	↩	0
0	0	0	↱	0
729	0	563	→	2
4	0	10	↳	1
AM	NOON	PM		

WESTBOUND (Windsor Blvd)

PM	NOON	AM		
0	0	0	↩	0
845	0	411	←	2
25	0	20	↰	1
0	0	0	↰	0
636	0	732	⇨	
PM	NOON	AM		

NORTHBOUND (Dominion Way)

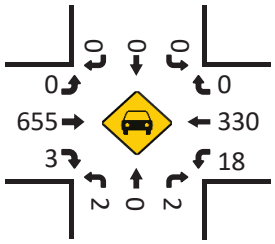
PM	35	0	50	0	73	PM
NOON	0	0	0	0	0	NOON
AM	24	0	4	0	3	AM

CONTROL

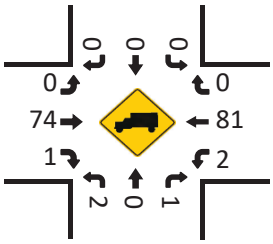
Signalized

TEV	1171 AM	0 NOON	1566 PM
PHF	0.92		0.82

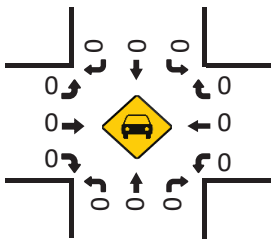
Cars (AM)



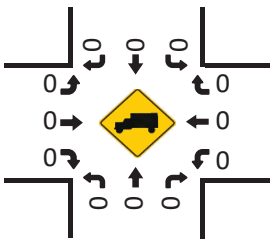
HT (AM)



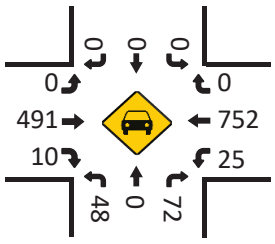
Cars (NOON)



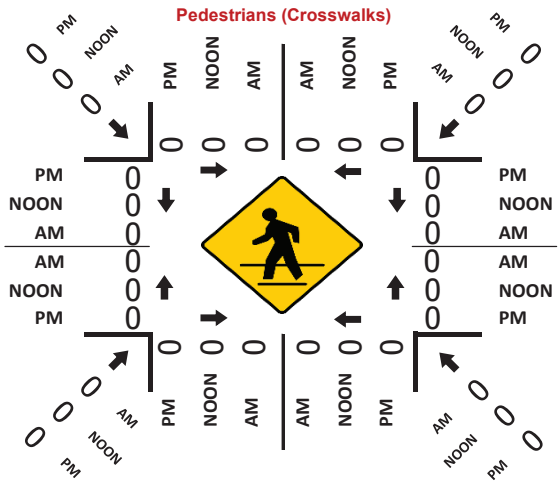
HT (NOON)



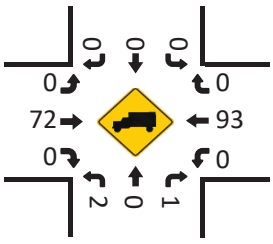
Cars (PM)



Pedestrians (Crosswalks)



HT (PM)



Project ID: 23-250015-003
Location: Dominion Way & Windsor Blvd
City: Windsor

Day: Tuesday
Date: 5/23/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Dominion Way Northbound						Dominion Way Southbound						Windsor Blvd Eastbound						Windsor Blvd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
6:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	135	1	0	0	136	6	58	0	0	0	64	204
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	187	0	0	0	187	5	72	0	0	0	77	264
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	166	3	0	0	169	5	64	0	0	0	69	238
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	138	2	0	0	140	11	92	0	0	0	103	243
Total	2	0	2	0	0	4	0	0	0	0	0	0	0	626	6	0	0	632	27	286	0	0	0	313	949
7:00 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	205	0	0	0	205	6	105	0	0	0	111	318
7:15 AM	1	0	2	0	0	3	0	0	0	0	0	0	0	176	1	0	0	177	1	122	0	0	0	123	303
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	200	1	0	0	201	6	90	0	0	0	96	297
7:45 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	148	2	0	0	150	7	94	0	0	0	101	253
Total	4	0	3	0	0	7	0	0	0	0	0	0	0	729	4	0	0	733	20	411	0	0	0	431	1171
8:00 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	158	1	0	0	159	1	89	0	0	0	90	251
8:15 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	140	0	0	0	140	2	105	0	0	0	107	249
8:30 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	146	1	0	0	147	4	87	0	0	0	91	240
8:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	148	0	0	0	148	5	104	0	0	0	109	258
Total	3	0	4	0	0	7	0	0	0	0	0	0	0	592	2	0	0	594	12	385	0	0	0	397	998
BREAK																									
3:30 PM	3	0	5	0	0	8	0	0	0	0	0	0	0	145	9	0	0	154	9	189	0	0	0	198	360
3:45 PM	2	0	0	0	0	2	0	0	0	0	0	0	0	127	7	0	0	134	20	201	0	0	0	221	357
Total	5	0	5	0	0	10	0	0	0	0	0	0	0	272	16	0	0	288	29	390	0	0	0	419	717
4:00 PM	6	0	11	0	0	17	0	0	0	0	0	0	0	141	1	0	0	142	4	192	0	0	0	196	355
4:15 PM	38	0	57	0	0	95	0	0	0	0	0	0	0	140	1	0	0	141	1	239	0	0	0	240	476
4:30 PM	4	0	5	0	0	9	0	0	0	0	0	0	0	155	1	0	0	156	0	213	0	0	0	213	378
4:45 PM	2	0	3	0	0	5	0	0	0	0	0	0	0	125	2	0	0	127	0	210	0	0	0	210	342
Total	50	0	76	0	0	126	0	0	0	0	0	0	0	561	5	0	0	566	5	854	0	0	0	859	1551
5:00 PM	2	0	1	0	0	3	0	0	0	0	0	0	0	152	1	0	0	153	0	193	0	0	0	193	349
5:15 PM	3	0	3	0	0	6	0	0	0	0	0	0	0	129	0	0	0	129	1	265	0	0	0	266	401
5:30 PM	1	0	1	0	0	2	0	0	0	0	0	0	0	113	1	0	0	114	0	219	0	0	0	219	335
5:45 PM	1	0	4	0	0	5	0	0	0	0	0	0	0	122	2	0	0	124	0	190	0	0	0	190	319
Total	7	0	9	0	0	16	0	0	0	0	0	0	0	516	4	0	0	520	1	867	0	0	0	868	1404
6:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	120	0	0	0	120	0	146	0	0	0	146	267
6:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	90	0	0	0	90	0	148	0	0	0	148	239
Total	0	0	2	0	0	2	0	0	0	0	0	0	0	210	0	0	0	210	0	294	0	0	0	294	506
Grand Total	71	0	101	0	0	172	0	0	0	0	0	0	0	3506	37	0	0	3543	94	3487	0	0	0	3581	7296
Apprch %	41.3	0.0	58.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	99.0	1.0	0.0	0.0		2.6	97.4	0.0	0.0	0.0		
Total %	1.0	0.0	1.4	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	0.5	0.0	0.0	48.6	1.3	47.8	0.0	0.0	0.0	49.1	
Cars, PU, Vans	63	0	96	0		159	0	0	0	0		0	0	3085	34	0		3119	80	3043	0	0		3123	6401
% Cars, PU, Vans	88.7	0.0	95.0	0.0		92.4	0.0	0.0	0.0	0.0		0.0	0.0	88.0	91.9	0.0		88.0	85.1	87.3	0.0	0.0		87.2	87.7
Heavy trucks	8	0	5	0		13	0	0	0	0		0	0	421	3	0		424	14	444	0	0		458	895
%Heavy trucks	11.3	0.0	5.0	0.0		7.6	0.0	0.0	0.0	0.0		0.0	0.0	12.0	8.1	0.0		12.0	14.9	12.7	0.0	0.0		12.8	12.3

Project ID: 23-250015-003
Location: Dominion Way & Windsor Blvd
City: Windsor

PEAK HOURS

Day: Tuesday
Date: 5/23/2023

AM

	Dominion Way Northbound					Dominion Way Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 06:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	1	0	1	0	2	0	0	0	0	0	0	205	0	0	205	6	105	0	0	111	318
7:15 AM	1	0	2	0	3	0	0	0	0	0	0	176	1	0	177	1	122	0	0	123	303
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	200	1	0	201	6	90	0	0	96	297
7:45 AM	2	0	0	0	2	0	0	0	0	0	0	148	2	0	150	7	94	0	0	101	253
Total Volume	4	0	3	0	7	0	0	0	0	0	0	729	4	0	733	20	411	0	0	431	1171
% App. Total	57.1	0.0	42.9	0.0	100	0.0	0.0	0.0	0.0	0	0.0	99.5	0.5	0.0	100	4.6	95.4	0.0	0.0	100	
PHF					0.583										0.894					0.876	0.921
Cars, PU, Vans	2	0	2	0	4	0	0	0	0	0	0	655	3	0	658	18	330	0	0	348	1010
% Cars, PU, Vans	50.0	0.0	66.7	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	89.8	75.0	0.0	89.8	90.0	80.3	0.0	0.0	80.7	86.3
Heavy trucks	2	0	1	0	3	0	0	0	0	0	0	74	1	0	75	2	81	0	0	83	161
%Heavy trucks	50.0	0.0	33.3	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	10.2	25.0	0.0	10.2	10.0	19.7	0.0	0.0	19.3	13.7

PM

	Dominion Way Northbound					Dominion Way Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:30 PM - 06:30 PM																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
3:45 PM	2	0	0	0	2	0	0	0	0	0	0	127	7	0	134	20	201	0	0	221	357
4:00 PM	6	0	11	0	17	0	0	0	0	0	0	141	1	0	142	4	192	0	0	196	355
4:15 PM	38	0	57	0	95	0	0	0	0	0	0	140	1	0	141	1	239	0	0	240	476
4:30 PM	4	0	5	0	9	0	0	0	0	0	0	155	1	0	156	0	213	0	0	213	378
Total Volume	50	0	73	0	123	0	0	0	0	0	0	563	10	0	573	25	845	0	0	870	1566
% App. Total	40.7	0.0	59.3	0.0	100	0.0	0.0	0.0	0.0	0	0.0	98.3	1.7	0.0	100	2.9	97.1	0.0	0.0	100	
PHF					0.324										0.918					0.906	0.822
Cars, PU, Vans	48	0	72	0	120	0	0	0	0	0	0	491	10	0	501	25	752	0	0	777	1398
% Cars, PU, Vans	96.0	0.0	98.6	0.0	97.6	0.0	0.0	0.0	0.0	0.0	0.0	87.2	100.0	0.0	87.4	100.0	89.0	0.0	0.0	89.3	89.3
Heavy trucks	2	0	1	0	3	0	0	0	0	0	0	72	0	0	72	0	93	0	0	93	168
%Heavy trucks	4.0	0.0	1.4	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	12.6	0.0	11.0	0.0	0.0	10.7	10.7

National Data & Surveying Services Intersection Turning Movement Count

Location: Old Mill Rd/Old Suffolk Rd & Windsor Blvd
City: Windsor
Control: 1-Way Stop(NB)

Project ID: 23-250015-004
Date: 5/23/2023

Data - Total

NS/EW Streets:	Old Mill Rd/Old Suffolk Rd				Old Mill Rd/Old Suffolk Rd				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	2	0	4	0	0	0	2	0	2	126	3	0	4	58	0	0	201
6:15 AM	12	1	27	0	0	0	0	0	0	181	9	0	0	64	0	0	294
6:30 AM	2	2	9	0	0	0	0	0	1	159	8	0	4	72	0	0	257
6:45 AM	3	0	6	0	0	0	0	0	1	132	2	0	3	97	0	0	244
7:00 AM	4	0	4	0	0	0	1	0	0	193	9	0	3	100	0	0	314
7:15 AM	4	0	1	0	0	0	2	0	0	167	6	0	10	117	0	0	307
7:30 AM	2	0	6	0	0	0	0	0	2	187	10	0	1	98	0	0	306
7:45 AM	3	1	2	0	0	1	0	0	0	149	4	0	5	98	0	0	263
8:00 AM	2	0	4	0	1	0	0	0	2	154	2	0	2	83	0	0	250
8:15 AM	7	0	3	0	0	0	1	0	0	138	0	0	5	101	0	0	255
8:30 AM	3	0	3	0	1	0	0	0	0	135	2	0	5	86	0	0	235
8:45 AM	4	0	1	0	0	1	0	0	2	150	4	0	6	106	0	0	274
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	48	4	70	0	2	2	6	0	10	1871	59	0	48	1080	0	0	3200
APPROACH %'s :	39.34%	3.28%	57.38%	0.00%	20.00%	20.00%	60.00%	0.00%	0.52%	96.44%	3.04%	0.00%	4.26%	95.74%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	13	1	13	0	0	1	3	0	2	696	29	0	19	413	0	0	1190
PEAK HR FACTOR :	0.813	0.250	0.542	0.000	0.000	0.250	0.375	0.000	0.250	0.902	0.725	0.000	0.475	0.882	0.000	0.000	0.947
	0.844				0.500				0.900				0.850				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	2	0	3	0	0	0	1	0	1	145	2	0	5	200	0	0	359
3:45 PM	9	0	6	0	1	1	2	0	0	120	4	0	7	201	0	0	351
4:00 PM	12	1	8	0	0	1	1	0	1	131	6	0	8	191	0	0	360
4:15 PM	6	2	8	0	0	1	1	0	6	189	10	0	11	231	0	0	465
4:30 PM	5	0	9	0	2	1	2	0	1	153	7	0	6	199	1	0	386
4:45 PM	6	0	3	0	0	1	3	0	0	126	6	0	11	202	0	2	360
5:00 PM	11	3	12	0	0	0	1	0	2	143	7	0	8	185	0	0	372
5:15 PM	7	0	6	0	0	0	2	0	2	130	3	0	9	262	0	0	421
5:30 PM	5	0	8	0	0	0	0	0	2	96	11	0	13	200	0	0	335
5:45 PM	14	1	7	0	0	0	1	0	2	124	6	0	12	170	0	0	337
6:00 PM	4	0	5	0	0	0	2	0	0	115	4	0	1	153	0	0	284
6:15 PM	26	2	25	0	0	0	1	0	0	91	3	0	7	109	0	0	264
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	107	9	100	0	3	5	17	0	17	1563	69	0	98	2303	1	2	4294
APPROACH %'s :	49.54%	4.17%	46.30%	0.00%	12.00%	20.00%	68.00%	0.00%	1.03%	94.78%	4.18%	0.00%	4.08%	95.80%	0.04%	0.08%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	28	5	32	0	2	3	7	0	9	611	30	0	36	817	1	2	1583
PEAK HR FACTOR :	0.636	0.417	0.667	0.000	0.250	0.750	0.583	0.000	0.375	0.808	0.750	0.000	0.818	0.884	0.250	0.250	0.851
	0.625				0.600				0.793				0.884				

National Data & Surveying Services Intersection Turning Movement Count

Location: Old Mill Rd/Old Suffolk Rd & Windsor Blvd
City: Windsor
Control: 1-Way Stop(NB)

Project ID: 23-250015-004
Date: 5/23/2023

Data - Cars

NS/EW Streets:	Old Mill Rd/Old Suffolk Rd				Old Mill Rd/Old Suffolk Rd				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	2	0	4	0	0	0	2	0	2	106	3	0	4	46	0	0	169
6:15 AM	12	1	27	0	0	0	0	0	0	164	9	0	0	49	0	0	262
6:30 AM	2	2	8	0	0	0	0	0	0	137	7	0	2	51	0	0	209
6:45 AM	3	0	6	0	0	0	0	0	1	118	2	0	2	71	0	0	203
7:00 AM	3	0	4	0	0	0	1	0	0	167	8	0	3	77	0	0	263
7:15 AM	2	0	1	0	0	0	2	0	0	146	5	0	9	98	0	0	263
7:30 AM	2	0	5	0	0	0	0	0	2	172	9	0	1	74	0	0	265
7:45 AM	3	0	2	0	0	1	0	0	0	133	4	0	5	79	0	0	227
8:00 AM	2	0	4	0	1	0	0	0	1	113	1	0	2	73	0	0	197
8:15 AM	4	0	3	0	0	0	1	0	0	114	0	0	5	85	0	0	212
8:30 AM	3	0	3	0	1	0	0	0	0	111	1	0	5	62	0	0	186
8:45 AM	3	0	1	0	0	1	0	0	2	123	4	0	6	81	0	0	221
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	41	3	68	0	2	2	6	0	8	1604	53	0	44	846	0	0	2677
APPROACH %'s :	36.61%	2.68%	60.71%	0.00%	20.00%	20.00%	60.00%	0.00%	0.48%	96.34%	3.18%	0.00%	4.94%	95.06%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	10	0	12	0	0	1	3	0	2	618	26	0	18	328	0	0	1018
PEAK HR FACTOR :	0.833	0.000	0.600	0.000	0.000	0.250	0.375	0.000	0.250	0.898	0.722	0.000	0.500	0.837	0.000	0.000	0.960
	0.786				0.500				0.883				0.808				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	2	0	3	0	0	0	1	0	1	117	2	0	5	170	0	0	301
3:45 PM	7	0	5	0	1	1	2	0	0	104	3	0	6	180	0	0	309
4:00 PM	9	1	8	0	0	1	1	0	0	111	6	0	8	174	0	0	319
4:15 PM	6	2	8	0	0	1	1	0	6	170	9	0	10	203	0	0	416
4:30 PM	4	0	7	0	2	1	2	0	1	133	7	0	6	178	1	0	342
4:45 PM	4	0	3	0	0	0	3	0	0	114	6	0	10	184	0	2	326
5:00 PM	8	3	12	0	0	0	1	0	2	133	7	0	7	174	0	0	347
5:15 PM	7	0	5	0	0	0	2	0	2	112	3	0	9	240	0	0	380
5:30 PM	5	0	8	0	0	0	0	0	2	92	11	0	13	186	0	0	317
5:45 PM	14	1	7	0	0	0	1	0	2	108	6	0	12	159	0	0	310
6:00 PM	4	0	5	0	0	0	2	0	0	103	4	0	1	137	0	0	256
6:15 PM	25	2	25	0	0	0	1	0	0	82	3	0	7	100	0	0	245
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	95	9	96	0	3	4	17	0	16	1379	67	0	94	2085	1	2	3868
APPROACH %'s :	47.50%	4.50%	48.00%	0.00%	12.50%	16.67%	70.83%	0.00%	1.09%	94.32%	4.58%	0.00%	4.31%	95.55%	0.05%	0.09%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	22	5	30	0	2	2	7	0	9	550	29	0	33	739	1	2	1431
PEAK HR FACTOR :	0.688	0.417	0.625	0.000	0.250	0.500	0.583	0.000	0.375	0.809	0.806	0.000	0.825	0.910	0.250	0.250	0.860
	0.620				0.550				0.795				0.910				

National Data & Surveying Services Intersection Turning Movement Count

Location: Old Mill Rd/Old Suffolk Rd & Windsor Blvd
City: Windsor
Control: 1-Way Stop(NB)

Project ID: 23-250015-004
Date: 5/23/2023

Data - HT

NS/EW Streets:	Old Mill Rd/Old Suffolk Rd				Old Mill Rd/Old Suffolk Rd				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	20	0	0	0	12	0	0	32
6:15 AM	0	0	0	0	0	0	0	0	0	17	0	0	0	15	0	0	32
6:30 AM	0	0	1	0	0	0	0	0	1	22	1	0	2	21	0	0	48
6:45 AM	0	0	0	0	0	0	0	0	0	14	0	0	1	26	0	0	41
7:00 AM	1	0	0	0	0	0	0	0	0	26	1	0	0	23	0	0	51
7:15 AM	2	0	0	0	0	0	0	0	0	21	1	0	1	19	0	0	44
7:30 AM	0	0	1	0	0	0	0	0	0	15	1	0	0	24	0	0	41
7:45 AM	0	1	0	0	0	0	0	0	0	16	0	0	0	19	0	0	36
8:00 AM	0	0	0	0	0	0	0	0	1	41	1	0	0	10	0	0	53
8:15 AM	3	0	0	0	0	0	0	0	0	24	0	0	0	16	0	0	43
8:30 AM	0	0	0	0	0	0	0	0	0	24	1	0	0	24	0	0	49
8:45 AM	1	0	0	0	0	0	0	0	0	27	0	0	0	25	0	0	53
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	1	2	0	0	0	0	0	2	267	6	0	4	234	0	0	523
APPROACH %'s :	70.00%	10.00%	20.00%	0.00%					0.73%	97.09%	2.18%	0.00%	1.68%	98.32%	0.00%	0.00%	
PEAK HR :	**07:00 AM - 08:00 AM**																TOTAL
PEAK HR VOL :	3	1	1	0	0	0	0	0	0	78	3	0	1	85	0	0	172
PEAK HR FACTOR :	0.375	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.750	0.000	0.250	0.885	0.000	0.000	0.843
		0.625								0.750				0.896			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	28	0	0	0	30	0	0	58
3:45 PM	2	0	1	0	0	0	0	0	0	16	1	0	1	21	0	0	42
4:00 PM	3	0	0	0	0	0	0	0	1	20	0	0	0	17	0	0	41
4:15 PM	0	0	0	0	0	0	0	0	0	19	1	0	1	28	0	0	49
4:30 PM	1	0	2	0	0	0	0	0	0	20	0	0	0	21	0	0	44
4:45 PM	2	0	0	0	0	1	0	0	0	12	0	0	1	18	0	0	34
5:00 PM	3	0	0	0	0	0	0	0	0	10	0	0	1	11	0	0	25
5:15 PM	0	0	1	0	0	0	0	0	0	18	0	0	0	22	0	0	41
5:30 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	14	0	0	18
5:45 PM	0	0	0	0	0	0	0	0	0	16	0	0	0	11	0	0	27
6:00 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	16	0	0	28
6:15 PM	1	0	0	0	0	0	0	0	0	9	0	0	0	9	0	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	12	0	4	0	0	1	0	0	1	184	2	0	4	218	0	0	426
APPROACH %'s :	75.00%	0.00%	25.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.53%	98.40%	1.07%	0.00%	1.80%	98.20%	0.00%	0.00%	
PEAK HR :	**04:15 PM - 05:15 PM**																TOTAL
PEAK HR VOL :	6	0	2	0	0	1	0	0	0	61	1	0	3	78	0	0	152
PEAK HR FACTOR :	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.763	0.250	0.000	0.750	0.696	0.000	0.000	0.776
		0.667				0.250				0.775				0.698			

National Data & Surveying Services Intersection Turning Movement Count

Location: Old Mill Rd/Old Suffolk Rd & Windsor Blvd
City: Windsor
Control: 1-Way Stop(NB)

Project ID: 23-250015-004
Date: 5/23/2023

Data - Bikes

NS/EW Streets:	Old Mill Rd/Old Suffolk Rd				Old Mill Rd/Old Suffolk Rd				Windsor Blvd				Windsor Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	0.5	1	0	0	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services Intersection Turning Movement Count

Location: Old Mill Rd/Old Suffolk Rd & Windsor Blvd
City: Windsor
Project ID: 23-250015-004
Date: 5/23/2023

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Old Mill Rd/Old Suffolk Rd		Old Mill Rd/Old Suffolk Rd		Windsor Blvd		Windsor Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:00 AM	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**07:00 AM - 08:00 AM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	**04:15 PM - 05:15 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Prepared by National Data & Surveying Services

Old Mill Rd/Old Suffolk Rd & Windsor Blvd

Peak Hour Turning Movement Count

ID: 23-250015-004
City: Windsor

Day: Tuesday
Date: 5/23/2023

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	6:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	3:30 PM - 06:30 PM

SOUTHBOUND (Old Mill Rd/Old Suffolk Rd)

AM	3	1	0	0	3	AM
NOON	0	0	0	0	0	NOON
PM	7	3	2	0	15	PM
	0	1	0	0		

EASTBOUND (Windsor Blvd)

AM	NOON	PM	
429	0	852	
0	0	0	0
2	0	9	1
696	0	611	2
29	0	30	0
AM	NOON	PM	

WESTBOUND (Windsor Blvd)

PM	NOON	AM	
1	0	0	0
817	0	413	2
36	0	19	1
2	0	0	0
647	0	709	
PM	NOON	AM	

CONTROL

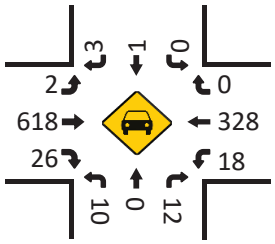
1-Way Stop(NB)

	AM	NOON	PM
TEV	1190	0	1583
PHF	0.95		0.85

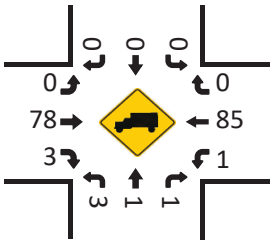
NORTHBOUND (Old Mill Rd/Old Suffolk Rd)

PM	69	0	28	5	32	PM
NOON	0	0	0	0	0	NOON
AM	49	0	13	1	13	AM
		0	0.5	0.5	1	

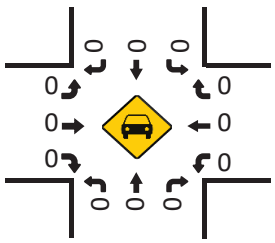
Cars (AM)



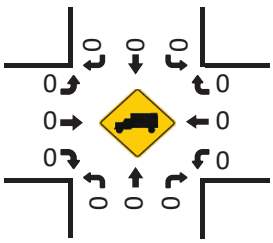
HT (AM)



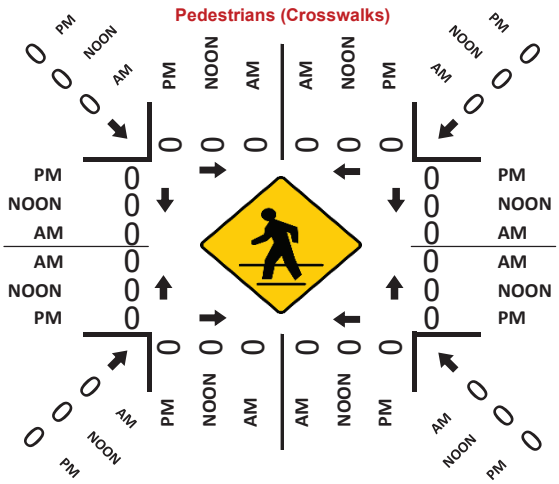
Cars (NOON)



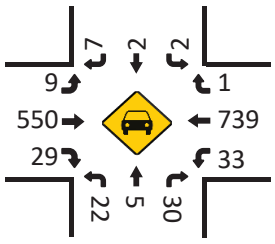
HT (NOON)



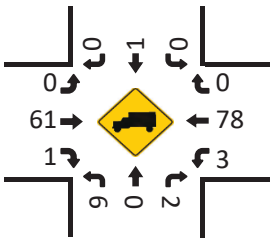
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Project ID: 23-250015-004
Location: Old Mill Rd/Old Suffolk Rd & Windsor Blvd
City: Windsor

Day: Tuesday
Date: 5/23/2023

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Old Mill Rd/Old Suffolk Rd Northbound						Old Mill Rd/Old Suffolk Rd Southbound						Windsor Blvd Eastbound						Windsor Blvd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
6:00 AM	2	0	4	0	0	6	0	0	2	0	0	2	2	126	3	0	0	131	4	58	0	0	0	62	201
6:15 AM	12	1	27	0	0	40	0	0	0	0	0	0	0	181	9	0	0	190	0	64	0	0	0	64	294
6:30 AM	2	2	9	0	0	13	0	0	0	0	0	0	1	159	8	0	0	168	4	72	0	0	0	76	257
6:45 AM	3	0	6	0	0	9	0	0	0	0	0	0	1	132	2	0	0	135	3	97	0	0	0	100	244
Total	19	3	46	0	0	68	0	0	2	0	0	2	4	598	22	0	0	624	11	291	0	0	0	302	996
7:00 AM	4	0	4	0	0	8	0	0	1	0	0	1	0	193	9	0	0	202	3	100	0	0	0	103	314
7:15 AM	4	0	1	0	0	5	0	0	2	0	0	2	0	167	6	0	0	173	10	117	0	0	0	127	307
7:30 AM	2	0	6	0	0	8	0	0	0	0	0	0	2	187	10	0	0	199	1	98	0	0	0	99	306
7:45 AM	3	1	2	0	0	6	0	1	0	0	0	1	0	149	4	0	0	153	5	98	0	0	0	103	263
Total	13	1	13	0	0	27	0	1	3	0	0	4	2	696	29	0	0	727	19	413	0	0	0	432	1190
8:00 AM	2	0	4	0	0	6	1	0	0	0	0	1	2	154	2	0	0	158	2	83	0	0	0	85	250
8:15 AM	7	0	3	0	0	10	0	0	1	0	0	1	0	138	0	0	0	138	5	101	0	0	0	106	255
8:30 AM	3	0	3	0	0	6	1	0	0	0	0	1	0	135	2	0	0	137	5	86	0	0	0	91	235
8:45 AM	4	0	1	0	0	5	0	1	0	0	0	1	2	150	4	0	0	156	6	106	0	0	0	112	274
Total	16	0	11	0	0	27	2	1	1	0	0	4	4	577	8	0	0	589	18	376	0	0	0	394	1014
BREAK																									
3:30 PM	2	0	3	0	0	5	0	0	1	0	0	1	1	145	2	0	0	148	5	200	0	0	0	205	359
3:45 PM	9	0	6	0	0	15	1	1	2	0	0	4	0	120	4	0	0	124	7	201	0	0	0	208	351
Total	11	0	9	0	0	20	1	1	3	0	0	5	1	265	6	0	0	272	12	401	0	0	0	413	710
4:00 PM	12	1	8	0	0	21	0	1	1	0	0	2	1	131	6	0	0	138	8	191	0	0	0	199	360
4:15 PM	6	2	8	0	0	16	0	1	1	0	0	2	6	189	10	0	0	205	11	231	0	0	0	242	465
4:30 PM	5	0	9	0	0	14	2	1	2	0	0	5	1	153	7	0	0	161	6	199	1	0	0	206	386
4:45 PM	6	0	3	0	0	9	0	1	3	0	0	4	0	126	6	0	0	132	11	202	0	2	0	215	360
Total	29	3	28	0	0	60	2	4	7	0	0	13	8	599	29	0	0	636	36	823	1	2	0	862	1571
5:00 PM	11	3	12	0	0	26	0	0	1	0	0	1	2	143	7	0	0	152	8	185	0	0	0	193	372
5:15 PM	7	0	6	0	0	13	0	0	2	0	0	2	2	130	3	0	0	135	9	262	0	0	0	271	421
5:30 PM	5	0	8	0	0	13	0	0	0	0	0	0	2	96	11	0	0	109	13	200	0	0	0	213	335
5:45 PM	14	1	7	0	0	22	0	0	1	0	0	1	2	124	6	0	0	132	12	170	0	0	0	182	337
Total	37	4	33	0	0	74	0	0	4	0	0	4	8	493	27	0	0	528	42	817	0	0	0	859	1465
6:00 PM	4	0	5	0	0	9	0	0	2	0	0	2	0	115	4	0	0	119	1	153	0	0	0	154	284
6:15 PM	26	2	25	0	0	53	0	0	1	0	0	1	0	91	3	0	0	94	7	109	0	0	0	116	264
Total	30	2	30	0	0	62	0	0	3	0	0	3	0	206	7	0	0	213	8	262	0	0	0	270	548
Grand Total	155	13	170	0	0	338	5	7	23	0	0	35	27	3434	128	0	0	3589	146	3383	1	2	0	3532	7494
Apprch %	45.9	3.8	50.3	0.0	0.0		14.3	20.0	65.7	0.0	0.0		0.8	95.7	3.6	0.0	0.0		4.1	95.8	0.0	0.1	0.0		
Total %	2.1	0.2	2.3	0.0	0.0	4.5	0.1	0.1	0.3	0.0	0.0	0.5	0.4	45.8	1.7	0.0	0.0	47.9	1.9	45.1	0.0	0.0	0.0	47.1	
Cars, PU, Vans	136	12	164	0		312	5	6	23	0		34	24	2983	120	0		3127	138	2931	1	2		3072	6545
% Cars, PU, Vans	87.7	92.3	96.5	0.0		92.3	100.0	85.7	100.0	0.0		97.1	88.9	86.9	93.8	0.0		87.1	94.5	86.6	100.0	100.0		87.0	87.3
Heavy trucks	19	1	6	0		26	0	1	0	0		1	3	451	8	0		462	8	452	0	0		460	949
%Heavy trucks	12.3	7.7	3.5	0.0		7.7	0.0	14.3	0.0	0.0		2.9	11.1	13.1	6.3	0.0		12.9	5.5	13.4	0.0	0.0		13.0	12.7

Project ID: 23-250015-004
Location: Old Mill Rd/Old Suffolk Rd & Windsor Blvd
City: Windsor

PEAK HOURS

Day: Tuesday
Date: 5/23/2023

AM

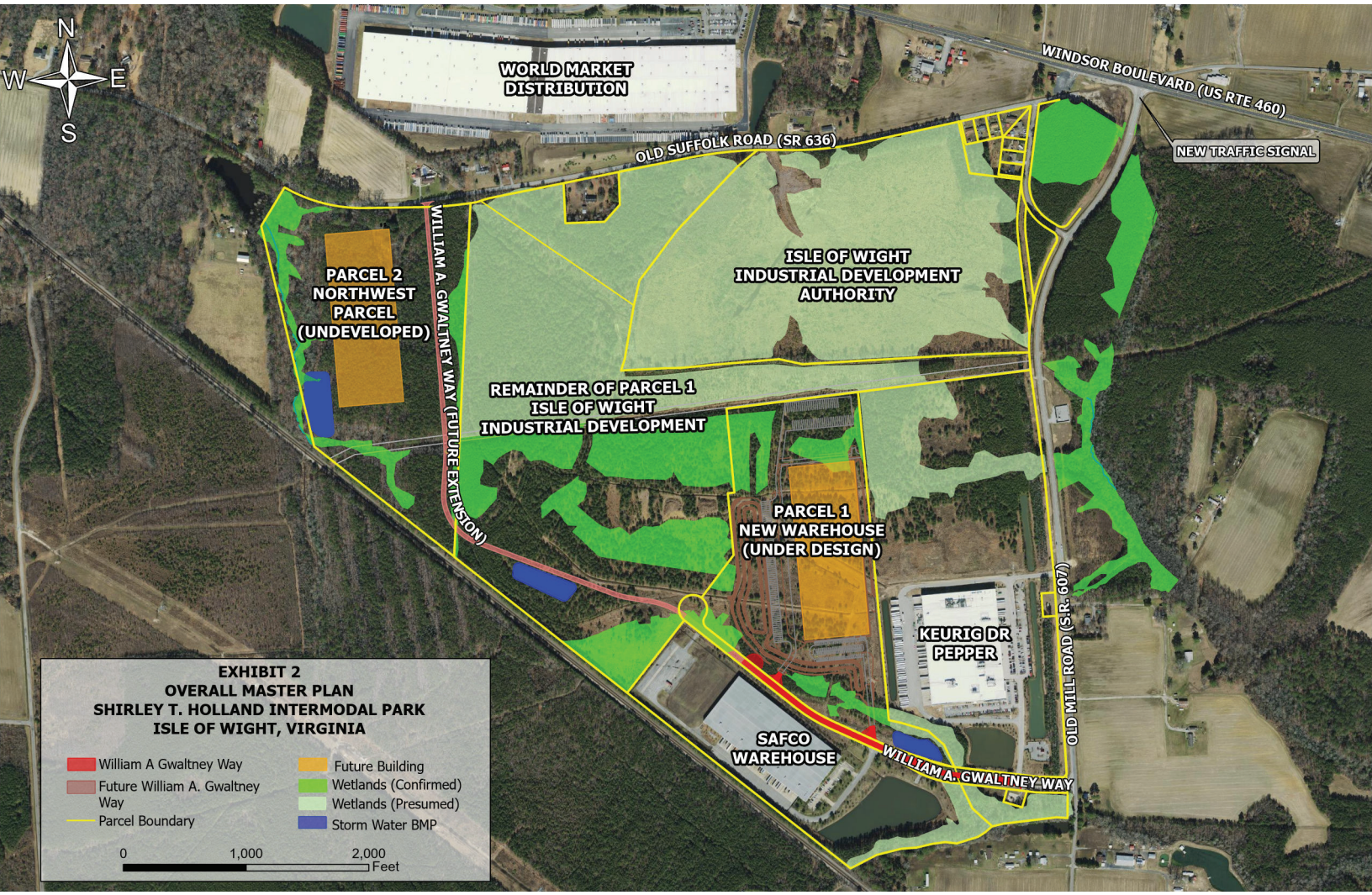
	Old Mill Rd/Old Suffolk Rd Northbound					Old Mill Rd/Old Suffolk Rd Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 06:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	4	0	4	0	8	0	0	1	0	1	0	193	9	0	202	3	100	0	0	103	314
7:15 AM	4	0	1	0	5	0	0	2	0	2	0	167	6	0	173	10	117	0	0	127	307
7:30 AM	2	0	6	0	8	0	0	0	0	0	2	187	10	0	199	1	98	0	0	99	306
7:45 AM	3	1	2	0	6	0	1	0	0	1	0	149	4	0	153	5	98	0	0	103	263
Total Volume	13	1	13	0	27	0	1	3	0	4	2	696	29	0	727	19	413	0	0	432	1190
% App. Total	48.1	3.7	48.1	0.0	100	0.0	25.0	75.0	0.0	100	0.3	95.7	4.0	0.0	100	4.4	95.6	0.0	0.0	100	
PHF					0.844					0.500					0.900					0.850	0.947
Cars, PU, Vans	10	0	12	0	22	0	1	3	0	4	2	618	26	0	646	18	328	0	0	346	1018
% Cars, PU, Vans	76.9	0.0	92.3	0.0	81.5	0.0	100.0	100.0	0.0	100.0	100.0	88.8	89.7	0.0	88.9	94.7	79.4	0.0	0.0	80.1	85.5
Heavy trucks	3	1	1	0	5	0	0	0	0	0	0	78	3	0	81	1	85	0	0	86	172
%Heavy trucks	23.1	100.0	7.7	0.0	18.5	0.0	0.0	0.0	0.0	0.0	0.0	11.2	10.3	0.0	11.1	5.3	20.6	0.0	0.0	19.9	14.5

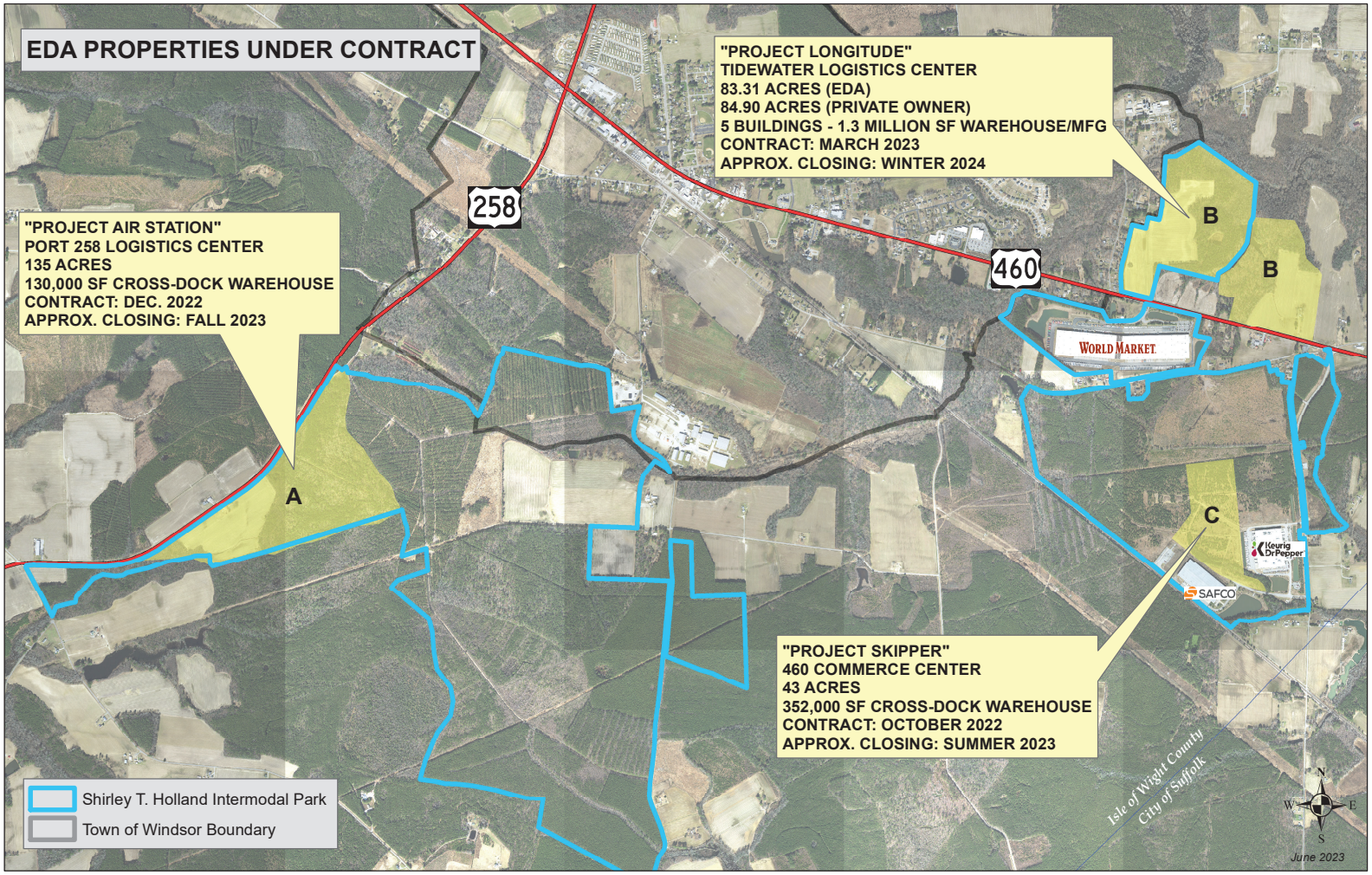
PM

	Old Mill Rd/Old Suffolk Rd Northbound					Old Mill Rd/Old Suffolk Rd Southbound					Windsor Blvd Eastbound					Windsor Blvd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 03:30 PM - 06:30 PM																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
4:15 PM	6	2	8	0	16	0	1	1	0	2	6	189	10	0	205	11	231	0	0	242	465
4:30 PM	5	0	9	0	14	2	1	2	0	5	1	153	7	0	161	6	199	1	0	206	386
4:45 PM	6	0	3	0	9	0	1	3	0	4	0	126	6	0	132	11	202	0	2	215	360
5:00 PM	11	3	12	0	26	0	0	1	0	1	2	143	7	0	152	8	185	0	0	193	372
Total Volume	28	5	32	0	65	2	3	7	0	12	9	611	30	0	650	36	817	1	2	856	1583
% App. Total	43.1	7.7	49.2	0.0	100	16.7	25.0	58.3	0.0	100	1.4	94.0	4.6	0.0	100	4.2	95.4	0.1	0.2	100	
PHF					0.625					0.600					0.793					0.884	0.851
Cars, PU, Vans	22	5	30	0	57	2	2	7	0	11	9	550	29	0	588	33	739	1	2	775	1431
% Cars, PU, Vans	78.6	100.0	93.8	0.0	87.7	100.0	66.7	100.0	0.0	91.7	100.0	90.0	96.7	0.0	90.5	91.7	90.5	100.0	100.0	90.5	90.4
Heavy trucks	6	0	2	0	8	0	1	0	0	1	0	61	1	0	62	3	78	0	0	81	152
%Heavy trucks	21.4	0.0	6.3	0.0	12.3	0.0	33.3	0.0	0.0	8.3	0.0	10.0	3.3	0.0	9.5	8.3	9.5	0.0	0.0	9.5	9.6

Appendix C

Approved But Unbuilt Developments and Infrastructure Improvement Projects


N
W
E
S
WORLD MARKET DISTRIBUTION
WINDSOR BOULEVARD (US RTE 460)
NEW TRAFFIC SIGNAL
OLD SUFFOLK ROAD (SR 636)
PARCEL 2 NORTHWEST PARCEL (UNDEVELOPED)
WILLIAM A. GWALTNEY WAY (FUTURE EXTENSION)
ISLE OF WIGHT INDUSTRIAL DEVELOPMENT AUTHORITY
REMAINDER OF PARCEL 1 ISLE OF WIGHT INDUSTRIAL DEVELOPMENT
PARCEL 1 NEW WAREHOUSE (UNDER DESIGN)
KEURIG DR PEPPER
OLD MILL ROAD (S.R. 607)
SAFCO WAREHOUSE
WILLIAM A. GWALTNEY WAY
EXHIBIT 2
OVERALL MASTER PLAN
SHIRLEY T. HOLLAND INTERMODAL PARK
ISLE OF WIGHT, VIRGINIA
William A Gwaltney Way
Future William A. Gwaltney Way
Parcel Boundary
Future Building
Wetlands (Confirmed)
Wetlands (Presumed)
Storm Water BMP
0
1,000
2,000
Feet


EDA PROPERTIES UNDER CONTRACT
"PROJECT LONGITUDE"
TIDEWATER LOGISTICS CENTER
83.31 ACRES (EDA)
84.90 ACRES (PRIVATE OWNER)
5 BUILDINGS - 1.3 MILLION SF WAREHOUSE/MFG
CONTRACT: MARCH 2023
APPROX. CLOSING: WINTER 2024
"PROJECT AIR STATION"
PORT 258 LOGISTICS CENTER
135 ACRES
130,000 SF CROSS-DOCK WAREHOUSE
CONTRACT: DEC. 2022
APPROX. CLOSING: FALL 2023
258
460
A
B
B
C
WORLD MARKET
Keurig Dr Pepper
SAFCO
"PROJECT SKIPPER"
460 COMMERCE CENTER
43 ACRES
352,000 SF CROSS-DOCK WAREHOUSE
CONTRACT: OCTOBER 2022
APPROX. CLOSING: SUMMER 2023
Shirley T. Holland Intermodal Park
Town of Windsor Boundary
Isle of Wight County
City of Suffolk
N
W
E
S
June 2023

Roadway Infrastructure

Existing Conditions

The existing Shirley T Holland Intermodal Park (Park) consists of undeveloped Parcels 1 and 2 and developed parcels including the Green Mountain Coffee Roasters and LDI Virginia, LLC containing the SafCo warehouse. Parcel 1, also referred to as the Northwest Parcel Site, is approximately 47.5 acres and located in the northwest corner of the Park. Parcel 2 is located in the middle of the Park and is currently being subdivided into two smaller parcels; "Parcel 2A" and the "Remainder of Parcel 2". Parcel 2A is located directly west of the Green Mountain Coffee Roasters parcel, is 42.9 acres, and is currently under development. The Remainder of Parcel 2 consists of 105.6 acres and encompasses the area west of Parcel 2A and east of Parcel 1. The Green Mountain Coffee Roasters and the LDI Virginia parcels are located on the east and southern side of the Park. See Existing Conditions Plan in Appendix A.

The existing William A. Gwaltney Way (Gwaltney Way) is a 2 lane roadway located off of Old Mill Road (SR 607). From the intersection with Old Mill Rd traveling west to the Green Mountain Coffee Roasters' entrance, Gwaltney Way is a divided curb and gutter roadway with a raised grass median. Existing lane widths are approximately 13.5' (edge of pavement to edge of pavement). Gwaltney Way tapers to an uncurbed, two-lane undivided roadway with approximately 13' wide paved lane width. This two-lane undivided roadway continues to just past the SafCo Warehouse entrance. Beyond this entrance, the roadway turns into a series of dirt trails that run throughout the business park.

Existing wetlands have been identified throughout the Park and are shown on the plan exhibits for reference. Wetland locations shown are based on the "Shirley T. Holland Figure 4: Wetlands and Waters Delineation Map," prepared by the Timmons Group and dated 02/04/2021.

Proposed Improvements

The proposed Gwaltney Way extension will connect Old Mill Road on the east to Old Suffolk Road (SR 636) to the northwest and allow for future development of the business park. Connecting to the existing Gwaltney Way roadway, the proposed section is utilizing 13' lanes with a 4' graded shoulder. This graded shoulder will include a 1' pavement edge extension. The intersection with the Green Mountain Coffee Roasters entrance will be brought up to meet Virginia Department of Transportation (VDOT) minimum standards. The required minimum taper lengths for a 25mph design speed are included at the transition from the new roadway section to the existing raised median section.

Following VDOT geometric design standards for Urban Collector Street System (GS-7), the minimum lane width in industrial areas is 12' unless available or attainable right-of-way imposes severe limitations, then 11' lanes can be used. VDOT also recommends an additional foot in lane width be considered in areas if heavy truck traffic (>10%) or bus traffic is anticipated. A 13' lane width is used in this conceptual layout to meet these requirements and to continue the existing lane widths along the current section of Gwaltney Way.

The undivided two-lane roadway will continue to the west, include two new entrances for the Parcel 2A development, continue through the Remainder of Parcel 2 and along the northeast edge of Parcel 1, connecting at a new stop-controlled intersection with Old Suffolk Road. The layout of the roadway extension through Parcel 2 avoids the existing identified wetlands as much as possible. The layout of the roadway through Parcel 1 allows for maximum future development of the parcel.

Since Old Suffolk Road does not connect to 460, and to avoid sending additional truck traffic through downtown Windsor, the County's intention is not for trucks to exit the Park via the new intersection of Gwaltney Way and Old Suffolk Road. In addition to signage identifying the truck route, the Gwaltney Way typical section will be reduced from 13' wide lanes to 11' lanes (24' edge to edge pavement width) after the southern entrance to the potential Northwest Parcel Site (Parcel 1) entrance point. See Roadway Layout Plan in Appendix A.

Entrances shown are designed to meet Hampton Roads Planning District Committee (HRPDC) minimum standards and allow for WB-67 truck turning requirements. A minimum of 50' turning radius was used.

To allow phasing of the roadway extension, a temporary cul-de-sac is shown west of the second entrance to Parcel 2. This will allow the roadway extension to be constructed and allow connection to the Parcel 2 development currently under design/construction to be built. The temporary cul-de-sac can be removed, and the roadway extended the full length to Old Suffolk Road as a second phase.

The entire length of the Gwaltney Way roadway extension can fit in a proposed 50' right of way as shown on the exhibits. The initial phase of Gwaltney Way includes a proposed bus stop with a pullout area and room for a bus shelter and amenities. Sidewalks will be provided from the Parcel 2 entrances back to the Green Mountain Coffee Roasters entrance for pedestrian access to the bus stop. The sidewalks will be located behind the ditch line on the north side of the roadway and the section along the Parcel 2A property will be outside the 50' right of way and may require public access easements on the adjacent parcels.

Traffic Assessment

A Traffic Analysis Report was prepared by ATCS in January 2023. Following is a summary of the analysis:

New developments were proposed for Shirley T Holland Intermodal Park (the "Park") that will attract more vehicles to the surrounding roadways. Due to the size and nature of these developments, the impact on traffic conditions in the area could be large. An analysis was conducted to identify and quantify potential impacts that may occur and identify road or intersection improvements needed to support further development of the Park while ensuring adequate access into and out of the Park will be maintained. Note that the goal of this effort was not to gain approval from the Virginia Department of Transportation for any improvements, but to identify transportation-related needs associated with continued development of the Park.

Existing Conditions

Shirley T Holland Intermodal Park (the "Park") is located in southeastern Virginia approximately two miles east of the City of Windsor in an area that is lightly developed, consisting primarily of farmland with forests and wetland. The Park is located on the southern side of US 460 along the western side of Old Mill Road. The study area road network consists of two primary intersections on Old Mill Road, with two minor roads and two driveways in between which were not analyzed. Characteristics of roads within the study area that form the two primary study intersections are described below:

1. US 460 (Windsor Blvd) is a four-lane undivided principle arterial roadway providing eastbound and westbound travel along the north edge of the Park. This road has posted speeds of 55 MPH, dedicated left turn lanes for Old Mill Road and Old Suffolk Road, a dedicated eastbound right turn lane for Old Mill Road, and no traffic control.
2. Old Mill Road (Route 607) is a two-lane undivided local road providing northbound and southbound travel along the east edge of the Park. This road has no posted speed limit. At US 460, it has stop-control on the approach with one shared left-through lane and one dedicated right turn lane. At William A Gwaltney Way, it has no traffic control with one southbound right turn lane, one southbound through lane, and one northbound left-through lane. Old Mill Road is located on the south side of US 460 across from Old Suffolk Road.
3. Old Suffolk Road (Route 636) is a two-lane undivided local road providing access to farmland, single-family homes, and one business north of US 460. This road has no posted speed limit. It connects to US 460 at a sharp angle with stop-control on the approach and one lane from which all turning movements are made. Old Suffolk Road is located on the north side of US 460 across from Old Mill Road.
4. William A Gwaltney Way is a two-lane undivided local road providing access to the Park and existing Safco and Keurig buildings. It has no posted speed limit. It connects to Old Mill Road forming a T-intersection with stop-control on the eastbound approach and one lane from which left and right turns are made.

Proposed Improvements

As development of Shirley T Holland Intermodal Park (the "Park) continues, traffic traveling on the surrounding road network and into and out of the Park will increase. Analysis has shown that for 2022 existing conditions, the intersections of Old Mill Road at US 460 and Old Mill Road at William A Gwaltney Way perform well overall, primarily operating with Level of Service (LOS) A and LOS B for most lanes in each peak hour. As traffic volumes increase, traffic operations change minimally at the Old Mill Road and William A Gwaltney Way intersection, which maintains LOS A for all lanes and peak hours regardless of the scenario being analyzed. However, traffic operations degrade more significantly at the Old Mill Road and US 460 intersection which has higher traffic demand.

While natural growth in background traffic causes modest increases in delay on northbound and southbound stop-controlled approaches for the Old Mill Road and US 460 intersection, it does not create a significant negative impact, even after ten years of traffic growth.

To mitigate poor future traffic operations, installing a traffic signal is recommended for the intersection of Old Mill Road and US 460. A traffic signal can provide LOS B or better for all intersection lanes while eliminating LOS D, E, and F that occurs after ten years of traffic growth and new vehicle trips from both developments use the intersection. The traffic signal should utilize a four-phase signal head with flashing yellow arrow for the westbound left turn lane, which should operate with permitted-protected phasing, while standard three-phase signal heads and permitted left turns for other approaches are adequate. Lane configuration does not need to be modified at the intersection, reducing construction cost, complexity, and duration. The traffic signal should be semi-actuated with vehicle detectors on the Old Mill Road and Old Suffolk Road approaches. A semi-actuated signal creates less interruption to traffic traveling on US 460, except when needed to allow side-street traffic to enter the highway. However, a pretimed signal produces similarly good traffic operations according to Synchro analysis and may be considered due to its lower installation and ongoing maintenance costs. For high-level planning purposes, budgeting $500,000 to construct a new traffic signal is recommended, however this dollar amount excludes contingency and communications equipment.

No improvements are recommended for the intersection of Old Mill Road and William A Gwaltney Way, because it operates with LOS A for all lanes in every peak hour and analysis scenario. Within the Park, side-street stop control with stop signs installed on existing or future driveways connecting to William A Gwaltney Way is recommended for safety reasons, and should adequately accommodate traffic while allowing for efficient and orderly flow of vehicles.

Following is the estimated ADT for William A. Gwaltney Way for the current condition, as well as the projected development years:

- Year 2022, ADT = 370 (Current condition)
- Year 2025, ADT = 1,238 (Proposed Parcel 2A development open)
- Year 2032, ADT = 1,995 (Proposed Parcel 1 Northwest development open)

The detailed Traffic Analysis Report prepared by ATCS is included in Appendix B.

Stormwater Management

Existing Conditions

The overall site has been divided into three project areas for analysis: Gwaltney Way Extension-Initial, Gwaltney Way Extension-Secondary, and the Northwest Parcel development site. The Gwaltney Way Extension-Initial project area totals 4.24 acres and includes an existing asphalt roadway and site entrances. The Gwaltney Way Extension Secondary project area consists entirely of forested land and totals 12.18 acres. The Northwest Parcel development site also consists entirely of forested land and totals 39.37 acres. Wetlands exist within and adjacent to

Appendix B – Traffic Analysis Report

Contents

1.0 Introduction 1
2.0 Existing Conditions 1
2.1 Study Area 1
2.2 Crash Data 3
2.3 2022 Traffic Volume 5
2.4 2022 Traffic Operations Analysis 7
2.4.1 Analysis Methodology 7
2.4.2 2022 Analysis Results 7
2.5 Traffic Generated by Developments 8
2.5.1 Trip Generation 8
2.5.2 Trip Distribution 9
3.0 Future Background Traffic Conditions 13
3.1 Background Traffic Forecasts 13
3.2 Future Background Traffic Operations Analysis 15
3.2.1 2025 Background Traffic Analysis Results 16
3.2.2 2032 Background Traffic Analysis Results 17
4.0 Future Build Conditions 18
4.1 Build Traffic Forecasts 18
4.2 Unmitigated Future Traffic Operations Analysis 21
4.2.1 2025 Unmitigated Build Analysis Results 21
4.2.2 2032 Unmitigated Build Analysis Results 22
4.3 Mitigated Future Traffic Operations Analysis 23
4.3.1 Recommended Improvements 23
4.3.2 2025 Mitigated Build Analysis Results 24
4.3.3 2032 Mitigated Build Analysis Results 25
5. Summary of Findings 26
6. References 27
Appendix A: Traffic Counts
Appendix B: Synchro and HCS Reports for Existing Conditions
Appendix C: Graphs Showing Historical Trends in AADT
Appendix D: Synchro and HCS Reports for Future Background Traffic Conditions
Appendix E: Synchro and HCS Reports for Future Unmitigated Build Conditions
Appendix F: Synchro Reports for Future Mitigated Build Conditions

Tables

Table 1-1: Crashes in Study Area 3
Table 1-2: Crashes at Old Mill Rd at US 460 4
Table 2-1: 2022 MOE's for Old Mill Rd at US 460 7
Table 2-2: 2022 MOE's for Old Mill Rd at William A Gwaltney Wy 8
Table 3: Trip Generation Volume 9
Table 4: Selected Growth Rates 13
Table 5-1: 2025 Background MOE's for Old Mill Rd at US 460 16
Table 5-2: 2025 Background MOE's for Old Mill Rd at William A Gwaltney Wy 16
Table 6-1: 2032 Background MOE's for Old Mill Rd at US 460 17
Table 6-2: 2032 Background MOE's for Old Mill Rd at William A Gwaltney Wy 18
Table 7-1: 2025 Unmitigated Build MOE's for Old Mill Rd at US 460 21
Table 7-2: 2025 Unmitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy 22
Table 8-1: 2032 Unmitigated Build MOE's for Old Mill Rd at US 460 23
Table 8-2: 2032 Unmitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy 23
Table 9-1: 2025 Mitigated Build MOE's for Old Mill Rd at US 460 24
Table 9-2: 2025 Mitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy 25
Table 10-1: 2032 Mitigated Build MOE's for Old Mill Rd at US 460 26
Table 10-2: 2032 Mitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy 26

Figures

Figure 1: Existing Lane Geometry, Traffic Control, and Posted Speed in Study Area 2
Figure 2: Crash Location Map 4
Figure 3: 2022 Peak Hour Traffic Counts and Estimated Average Daily Traffic 6
Figure 4: Distribution of New Peak Hour and Daily Trips 10
Figure 5: New Peak Hour and Daily Trips for Development 1 11
Figure 6: New Peak Hour and Daily Trips for Development 2 12
Figure 7: 2025 Peak Hour Background Traffic Volume and Average Daily Traffic 14
Figure 8: 2032 Peak Hour Background Traffic Volume and Average Daily Traffic 15
Figure 8: 2025 Peak Hour Build Traffic Volume and Average Daily Traffic 19
Figure 9: 2032 Peak Hour Build Traffic Volume and Average Daily Traffic 20

1.0 Introduction

New developments were proposed for Shirley T Holland Intermodal Park (the "Park") that will attract more vehicles to the surrounding roadways. Due to the size and nature of these developments, the impact on traffic conditions in the area could be large. An analysis was conducted to identify and quantify potential impacts that may occur and identify road or intersection improvements needed to support further development of the Park while ensuring adequate access into and out of the Park will be maintained. Note that the goal of this effort was not to gain approval from the Virginia Department of Transportation for any improvements, but to identify transportation-related needs associated with continued development of the Park.

2.0 Existing Conditions

2.1 Study Area

Shirley T Holland Intermodal Park (the "Park") is located in southeastern Virginia approximately two miles east of the City of Windsor in an area that is lightly developed, consisting primarily of farmland with forests and wetland. The Park is located on the southern side of US 460 along the western side of Old Mill Road. The study area road network consists of two primary intersections on Old Mill Road, with two minor roads and two driveways in between which were not analyzed. Existing intersection lane configuration and traffic control are pictured on **Figure 1**. Characteristics of roads within the study area that form the two primary study intersections are described below:

1. **US 460 (Windsor Blvd)** is a four-lane undivided principle arterial roadway providing eastbound and westbound travel along the north edge of the Park. This road has posted speeds of 55 MPH, dedicated left turn lanes for Old Mill Road and Old Suffolk Road, a dedicated eastbound right turn lane for Old Mill Road, and no traffic control.

2. **Old Mill Road (Route 607)** is a two-lane undivided local road providing northbound and southbound travel along the east edge of the Park. This road has no posted speed limit. At US 460, it has stop-control on the approach with one shared left-through lane and one dedicated right turn lane. At William A Gwaltney Way, it has no traffic control with one southbound right turn lane, one southbound through lane, and one northbound left-through lane. Old Mill Road is located on the south side of US 460 across from Old Suffolk Road.

3. **Old Suffolk Road (Route 636)** is a two-lane undivided local road providing access to farmland, single-family homes, and one business north of US 460. This road has no posted speed limit. It connects to US 460 at a sharp angle with stop-control on the approach and one lane from which all turning movements are made. Old Suffolk Road is located on the north side of US 460 across from Old Mill Road.

4. **William A Gwaltney Way** is a two-lane undivided local road providing access to the Park and existing Safco and Keurig buildings. It has no posted speed limit. It connects to Old Mill Road forming a T-intersection with stop-control on the eastbound approach and one lane from which left and right turns are made.

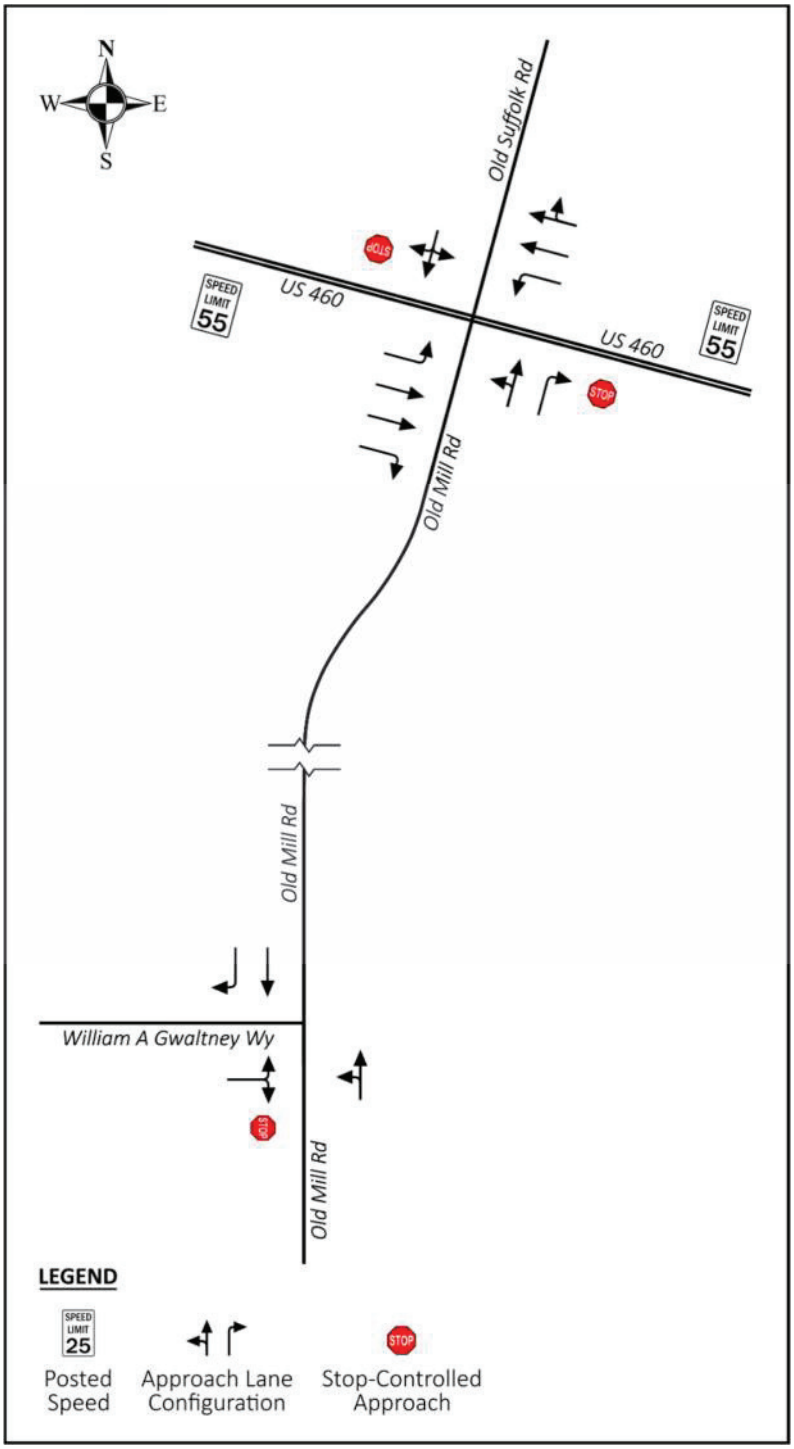


Figure 1: Existing Lane Geometry, Traffic Control, and Posted Speed in Study Area

2.2 Crash Data

Crash data was obtained for years 2015 through 2021 from the Virginia Department of Transportation (VDOT) online crash analysis tool accessed via the *VirginiaRoads.org* website. Data is summarized in **Table 1-1** and **Table 1-2**, and crash locations are pictured on **Figure 2**.

From 2015 through 2021, there were 14 crashes reported in the vicinity of the study area. Most crashes involved property-damage-only, with no fatalities and two non-severe injuries reported. Angle crashes were the most common type of crash followed by deer collisions, same-direction sideswipes, and non-collision events where vehicles ran off the road. The number of crashes occuring each year fluctuated from year to year, averaging two crashes per year. There is no clear upward or downward trend in crash frequency over the seven-year period.

Out of 14 reported crashes, 11 crashes occurred on US 460 and the remainder occurred on Old Mill Road. Five crashes occurred at the Old Mill Road and US 460 intersection, and no crashes occurred at the Old Mill Road and William A Gwaltney Way intersection.

Note that the *Manual on Uniform Traffic Control Devices* does consider crash severity and frequency for signal warrants. However, the crash experience at an intersection cannot be used to justify a traffic signal unless five or more crashes susceptible to correction by a traffic signal are reported in a one-year period. While five crashes occurred at the Old Mill Road and US 460 intersection, no more than two crashes occurred in any given year, and only four crashes occurred that may be remedied with a traffic signal. For these reasons, crash data alone is insufficient to justify installing a traffic signal at either study intersection.

Table 1-1: Crashes in Study Area

Metric	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021	Total
By Year								
Number of Crashes	3	0	2	3	1	0	5	14
By Severity								
Property Damage (O)	3	0	2	2	1	0	4	12
Non-Visible Injury (C)	0	0	0	1	0	0	1	2
Minor Injury (B)	0	0	0	0	0	0	0	0
Severe Injury (A)	0	0	0	0	0	0	0	0
Fatal (K)	0	0	0	0	0	0	0	0
By Type								
Angle	1	0	0	3	0	0	1	5
Deer	0	0	2	0	0	0	0	2
Non-Collision (Ran Off Road)	1	0	0	0	0	0	1	2
Other (Ditch)	0	0	0	0	0	0	1	1
Other (Ran Off Road)	0	0	0	0	0	0	1	1
Rear End	0	0	0	0	1	0	0	1
Sideswipe - Same Direction	1	0	0	0	0	0	1	2

Table 1-2: Crashes at Old Mill Rd at US 460

Metric	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021	Total
By Year								
Number of Crashes	1	0	0	2	0	0	2	5
By Severity								
Property Damage (O)	1	0	0	2	0	0	2	5
By Type								
Angle	1	0	0	2	0	0	1	4
Sideswipe - Same Direction	0	0	0	0	0	0	1	1

Note: metrics with no associated crashes are not included in Table 1-2



Figure 2: Crash Location Map

2.3 2022 Traffic Volume

Intersection turning movement counts were collected for twelve hours from 7:00 AM to 7:00 PM in 15-minute intervals at the intersection of Old Mill Road and US 460 on Tuesday August 2, 2022, and at the intersection of Old Mill Road and William A Gwaltney Way on Thursday June 23, 2022. Traffic count sheets are included in **Appendix A**.

Peak hours were determined by identifying the largest one-hour sum of 15-minute traffic count volumes entering each intersection. For the intersection of Old Mill Road and US 460, the morning peak hour was identified as 7:00 to 8:00 AM and the evening peak hour was identified as 4:00 to 5:00 PM. These peak hours were also used for the intersection Old Mill Road and William A Gwaltney Way.

Existing conditions traffic volume for the 2022 AM and PM peak hours are pictured on **Figure 3** along with estimated average daily traffic (ADT) volume using each intersection approach. Traffic volumes were not balanced on Old Mill Road between the two study intersections because several intermediate vehicular ingress and egress points exist that account for the imbalance, including Old Mill Road West, Melton Lane, and several driveways, one of which belongs the existing Keurig manufacturing facility. Because of this imbalance, two ADT values are shown on volume figures for Old Mill Road. One ADT value represents traffic on Old Mill Road near US 460 and the other ADT value represents traffic on Old Mill Road near William A Gwaltney Way.

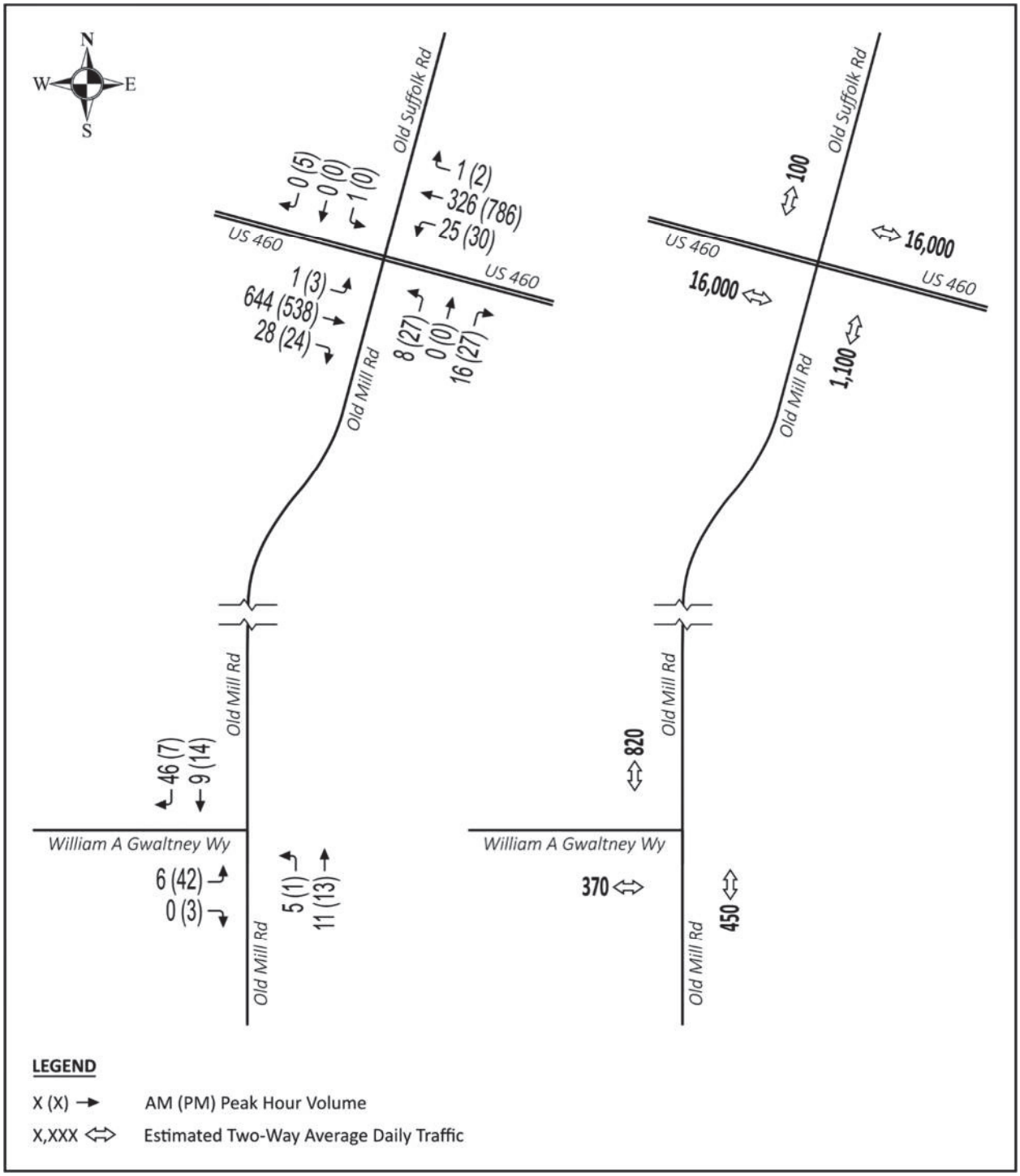


Figure 3: 2022 Peak Hour Traffic Counts and Estimated Average Daily Traffic

2.4 2022 Traffic Operations Analysis

2.4.1 Analysis Methodology

Traffic operations for existing and future conditions were analyzed using Synchro 10 according to methodology presented in *Highway Capacity Manual 6th Edition*. Peak hour factors (PHF) were calculated by approach and heavy vehicle percentages (HV%) were calculated by lane, following guidance in the VDOT *Traffic Impact Analysis Regulations 2VAC30-155-10*. Future traffic volumes and trip generation volumes were estimated by hour and for 15-minute periods within each hour, allowing PHF and HV% to be calculated for traffic forecast volumes and trip generation volumes the same way they were calculated for existing conditions using 15-minute traffic counts. Highway Capacity Software 7.8 was used to check if signal warrants were satisfied for each analysis scenario, based on criteria in the current edition of the *Manual on Uniform Traffic Control Devices* (MUTCD).

2.4.2 2022 Analysis Results

Analysis of 2022 existing conditions involved analyzing 2022 AM and PM peak hour traffic volumes with existing lane geometry and traffic control. Level of service (LOS), vehicle delay, and 95th percentile queue length is shown in **Table 2-1** and **Table 2-2** for this scenario. Synchro analysis reports and Highway Capacity Software signal warrant reports for 2022 existing conditions are included in **Appendix B**.

For 2022 existing conditions, traffic operations for all intersections are generally good with LOS A and LOS B for most lane groups in each peak hour. The stop-controlled northbound and southbound approaches at the Old Mill Road and US 460 intersection are the only locations without excellent traffic operations for existing conditions. During the AM peak hour, LOS D occurs with moderate delay on the southbound approach. This likely happened because the only vehicle using the southbound approach was a heavy vehicle according to traffic counts, and this one heavy vehicle likely struggled to find sufficiently large gaps in free-flowing traffic on US 460 to enter the highway. During the PM peak hour, LOS D also occurs on the northbound left-through lane, likely due to higher northbound left turn volume relative to the AM peak hour. Signal warrants are not satisfied for existing conditions at any intersection.

Table 2-1: 2022 MOE's for Old Mill Rd at US 460

	US 460			US 460		Old Mill Rd		Old Suffolk Rd
	EB L	EB T	EB R	WB L	WB TR	NB LT	NB R	SB LTR
AM Peak Hour								
LOS	A	A	A	A	A	C	B	D
Delay (s/veh)	8.0	0.0	0.0	9.6	0.0	24.7	11.1	31.3
95th % Queue (veh)	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.0
PM Peak Hour								
LOS	A	A	A	A	A	D	B	B
Delay (s/veh)	9.6	0	0	8.8	0	31.9	10.3	11.3
95th % Queue (ft)	0.0	0	0	0.1	0	0.7	0.1	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

Table 2-2: 2022 MOE's for Old Mill Rd at William A Gwaltney Wy

	William A Gwaltney Way	Old Mill Rd	Old Mill Rd	
	EB LR	NB LT	SB T	SB R
AM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	8.7	7.3	0.0	0.0
95th % Queue (veh)	0.0	0.0	0.0	0.0
PM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	8.9	7.2	0.0	0.0
95th % Queue (veh)	0.2	0.0	0.0	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

2.5 Traffic Generated by Developments

2.5.1 Trip Generation

New vehicle trips generated by proposed developments were estimated using the *Trip Generation Manual 10th Edition*, published by the Institute of Transportation Engineers (ITE). For planning purposes, Development 1 is assumed to be a manufacturing facility with distribution capabilities that has 300 employees, occupies 450,000 square feet of gross floor area, and will be built in the very near future. Development 2 is assumed to be a warehouse that also has 300 employees, occupies 450,000 square feet of gross floor area, and will be built father in the future after the completion of Development 1. Dates for opening year or full build-out of each development were unknown at the time of writing. So, it was assumed Development 1 would open and be operating at full capacity in 2025, while Development 2 would be open and operating at full capacity in 2032. These years represent three and ten years beyond the existing conditions year used for analysis.

When estimating new vehicle trips, Development 1 trips were estimated based on the expected number of employees whereas Development 2 trips were estimated based on gross floor area, because "trips versus employees" data for warehouses in the *Trip Generation Manual* was limited to warehouse facilities with less than 200 employees. The number of people employed by Development 2 exceeds the range of available ITE data, so gross floor area was used instead. (ITE data includes warehouse facilities with up to millions of square feet of gross floor area.) The number of new peak hour and daily vehicle trips are shown in **Table 3**.

Table 3: Trip Generation Volume

Development			ITE Land	AM Trips		PM Trips		Daily
Number	Use	Size	Use Code	Entering	Exiting	Entering	Exiting	Trips
1	Manufacturing (near-term build)	300 employees 450,000 Sq Ft	140	82	29	38	60	868
2	Warehouse (long-term build)	300 employees 450,000 Sq Ft	150	61	18	22	60	757
Total	–	–	–	**143**	**47**	**60**	**120**	**1625**

2.5.2 Trip Distribution

New vehicle trips associated with each development were assigned to the study area road network assuming they follow existing travel patterns and experience the same hourly and 15-minute volume fluctuations shown by traffic count data. Trip distribution percentages are pictured on **Figure 4**, and trip volumes assigned to each intersection turning movement are pictured on **Figure 5** and **Figure 6** for each development.

To determine the distribution of new trips, the portion of total new daily trips occuring from 7:00 AM to 7:00 PM was estimated. This 12-hour trip volume was distributed to each hour and 15-minute period by calculating the portion of total 12-hour traffic count volume contained in each hour and each 15-minute period between 7:00 AM and 7:00 PM, allowing new trips to be distributed temporally within study area. Next, hourly and 15-minute trip volumes were distributed spatially within the study area to intersection movements that convey traffic to or from William A Gwaltney Way, where the developments are located. This was done by calculating the portion of total traffic count volume in movements entering or exiting the study area road network, but only for movements conveying traffic to or from William A Gwaltney Way. For example, westbound and eastbound through movements on US 460 at Old Mill Road were not used in these calculations and no trips were assigned to these movements because they do not convey traffic to or from William A Gwaltney Way. Finally, it was assumed all new trips access developments only from the intersection of Old Mill Road and William A Gwaltney Way.

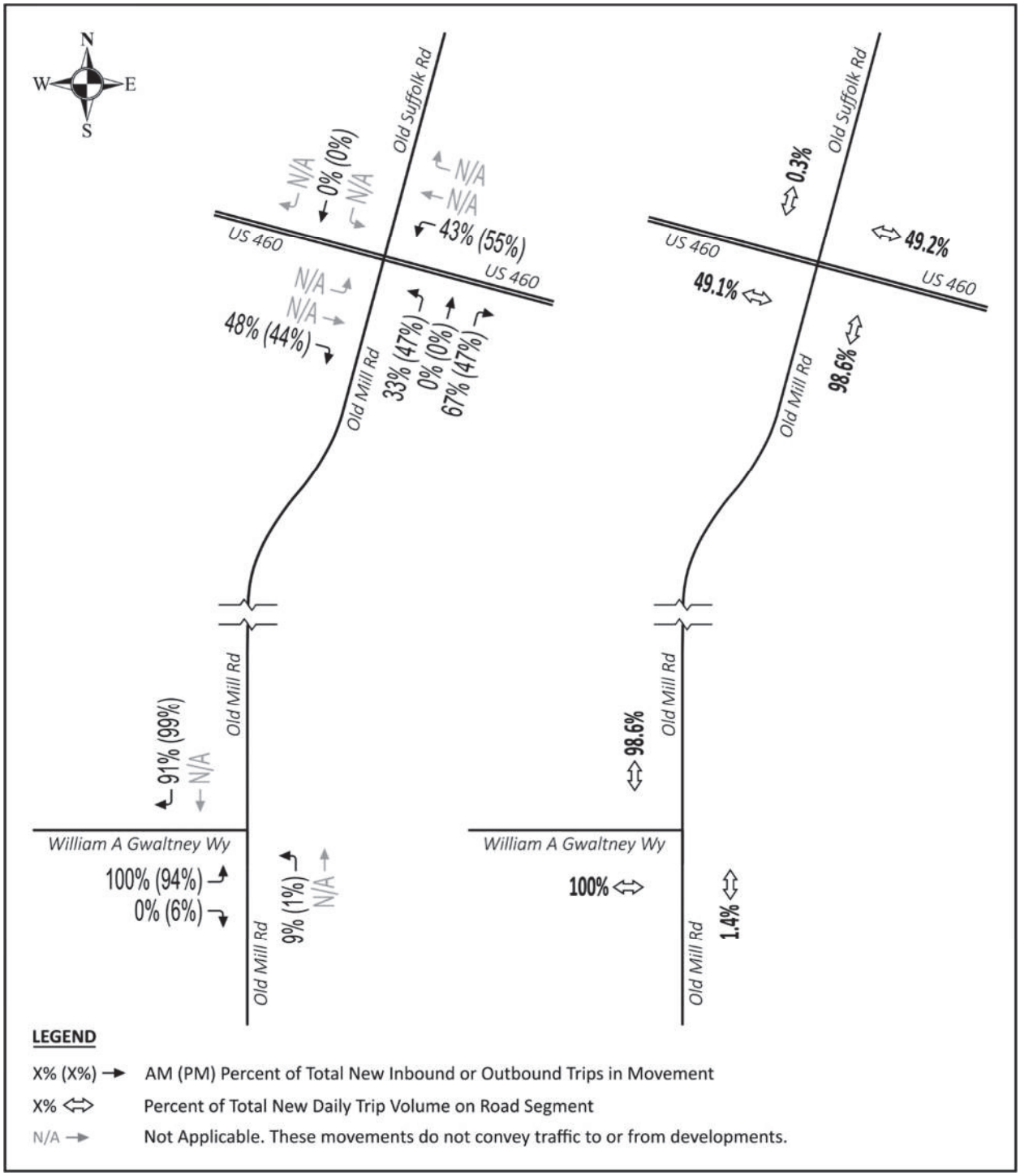


Figure 4: Distribution of New Peak Hour and Daily Trips

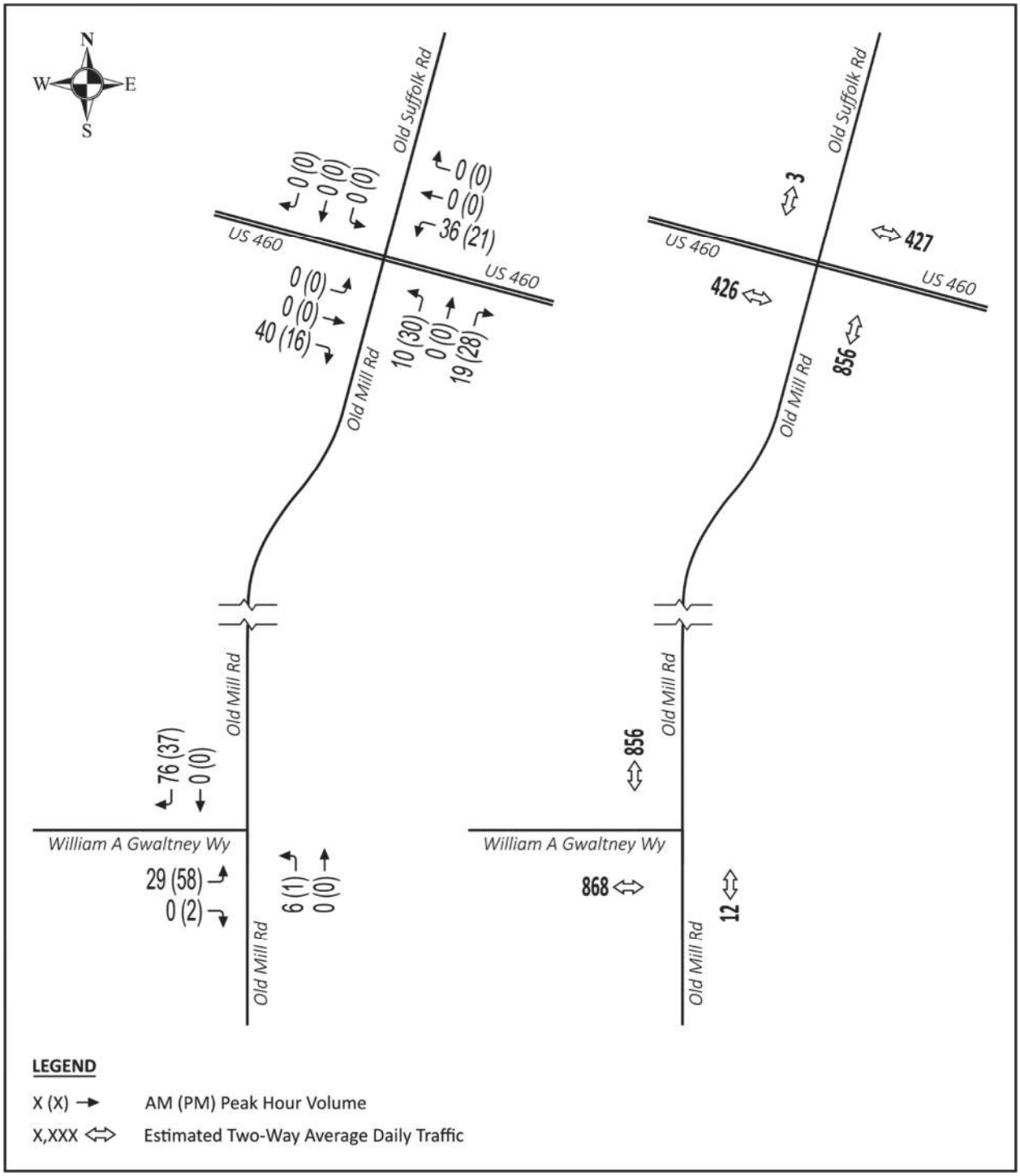


Figure 5: New Peak Hour and Daily Trips for Development 1

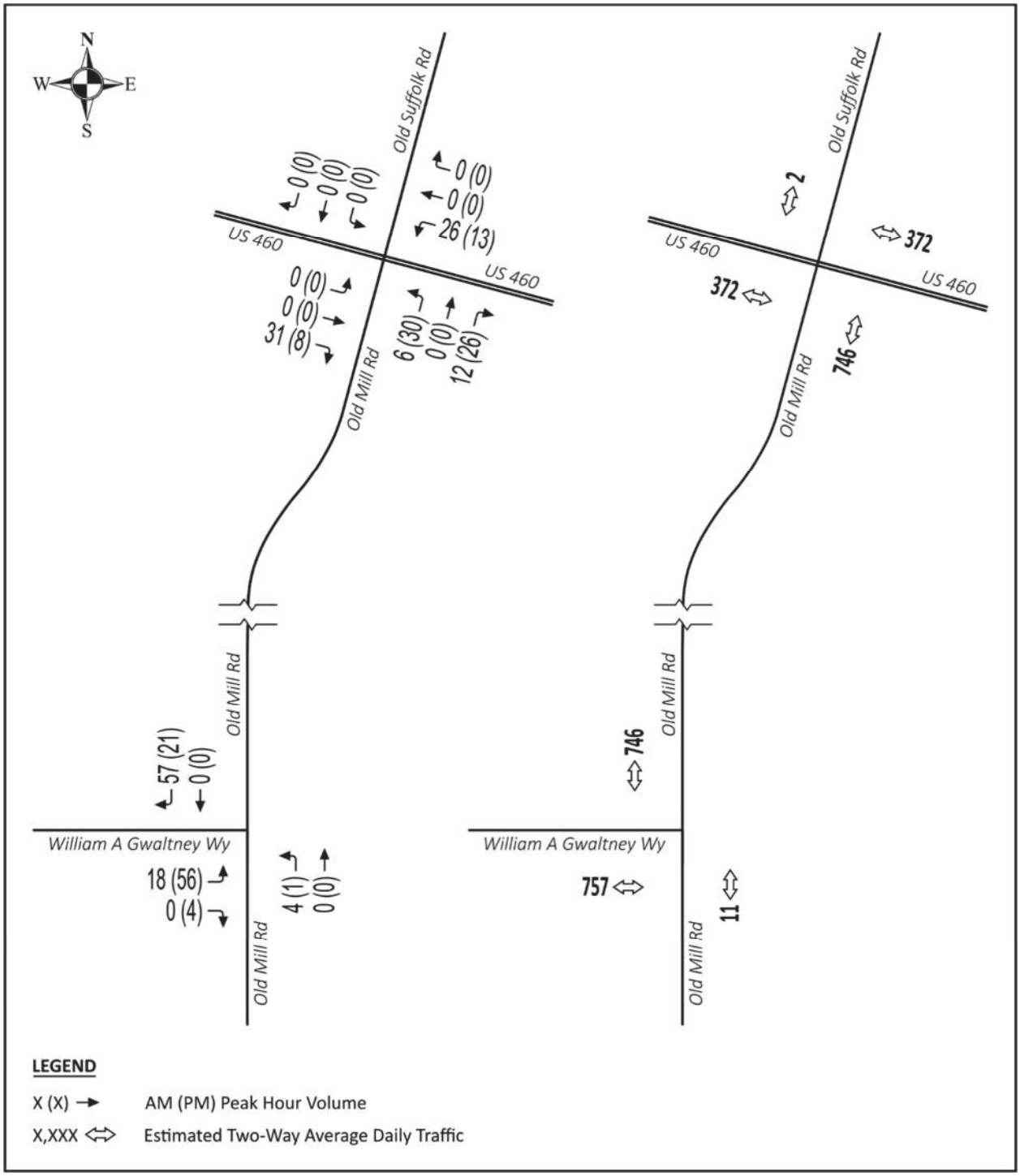


Figure 6: New Peak Hour and Daily Trips for Development 2

3.0 Future Background Traffic Conditions

3.1 Background Traffic Forecasts

Annual linear growth rates were used to estimate the natural growth in background traffic. These rates were selected by analyzing historical trends in annual average daily traffic (AADT) for study area roadways. AADT data was obtained from traffic volume reports published online by VDOT. Graphs showing historical AADT data and growth trends for US 460 and Old Mill Road are included in **Appendix C**. Growth rates chosen for analysis are summarized in **Table 4** with additional discussion about the selection process after the table.

Table 4: Selected Growth Rates

Roadway	Growth Rate	Source
US 460	0.2%	Historical AADT Trends
Old Mill Rd	1.3%	Historical AADT Trends
Old Suffolk Rd	1.3%	Historical AADT Trends
William A Gwaltney Way	0.0%	Historical AADT Trends

On US 460, AADT trends indicate traffic growth started positive and decreased as time progressed. Annual growth started at +1.9% for the longest time period (2001 through 2019) and became -0.6% in the most recent five-year period (2015 through 2019). Given this decreasing trend, it is unreasonable to assume large positive growth would occur in the future. Additionally, five years of data showing negative growth is insufficient to conclusively suggest negative growth should be expected to continue. Therefore, an annual linear growth rate of 0.2% was selected for US 460. This rate was calculated using data from 2011 through 2019, representing the most recent decade excluding 2010 which had unusually low AADT that may have been caused by the economic recession occurring at that time.

On Old Mill Road, AADT trends indicate positive traffic growth over time. However, depending on the time period, that growth is either small or very large. From 2005 through 2017, an annual growth rate of 27% occurred. From 2005 through 2011, an annual growth rate of 1.3% occurred. When viewing the data, there is a dramatic increase in AADT in 2017 versus earlier years. The cause is unknown but including data for 2017 in growth rate calculations produces an unreasonably large growth rate, so the 1.3% annual linear growth rate was selected for Old Mill Road instead. This rate was also applied to Old Suffolk Road because AADT data was not available for Old Mill Road and Old Suffolk Road separately, but rather both roads combined.

No traffic growth was assumed to occur on William A Gwaltney Way. This road is currently a dead-end street and vehicles traveling on William A Gwaltney Way in the future are assumed to use this road to access developments within the Park, not as a cut-through route to access other destinations if new connections are made to William A Gwaltney Way.

The dates for opening year or full build-out for proposed developments were unknown at the time of writing, although it is believed that one development could be built within the next few years while the other development is a longer-term proposal. Due to this uncertainty, future background traffic volume was calculated for 2025 and 2032, three years and ten years into the future from the existing conditions year used for analysis.

The chosen growth rates were applied directly to 2022 AM and PM peak hour turning movement counts to estimate future background traffic volume. Peak hour and estimated ADT for 2025 and 2032 are pictured on **Figure 7** and **Figure 8**.

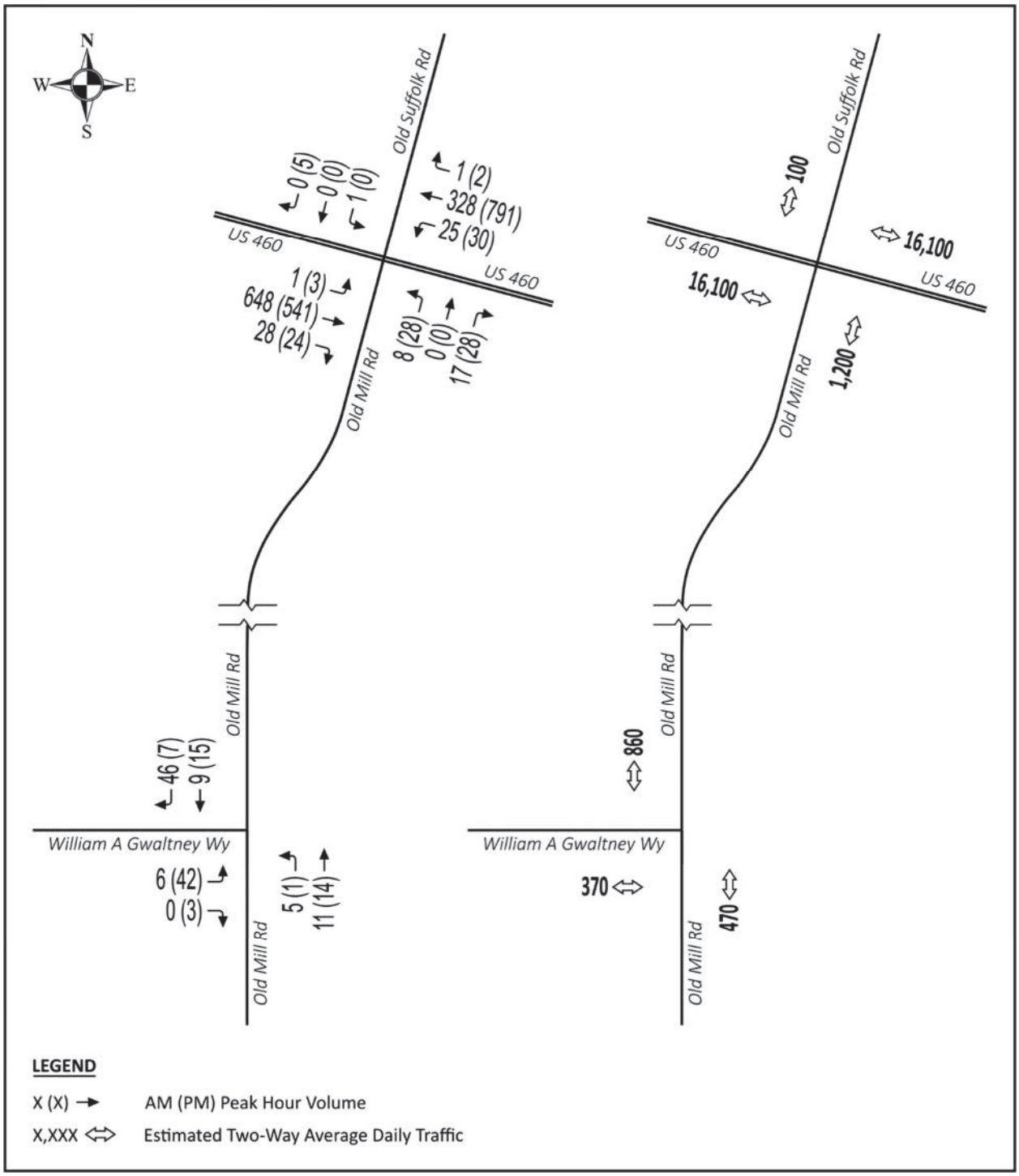


Figure 7: 2025 Peak Hour Background Traffic Volume and Average Daily Traffic

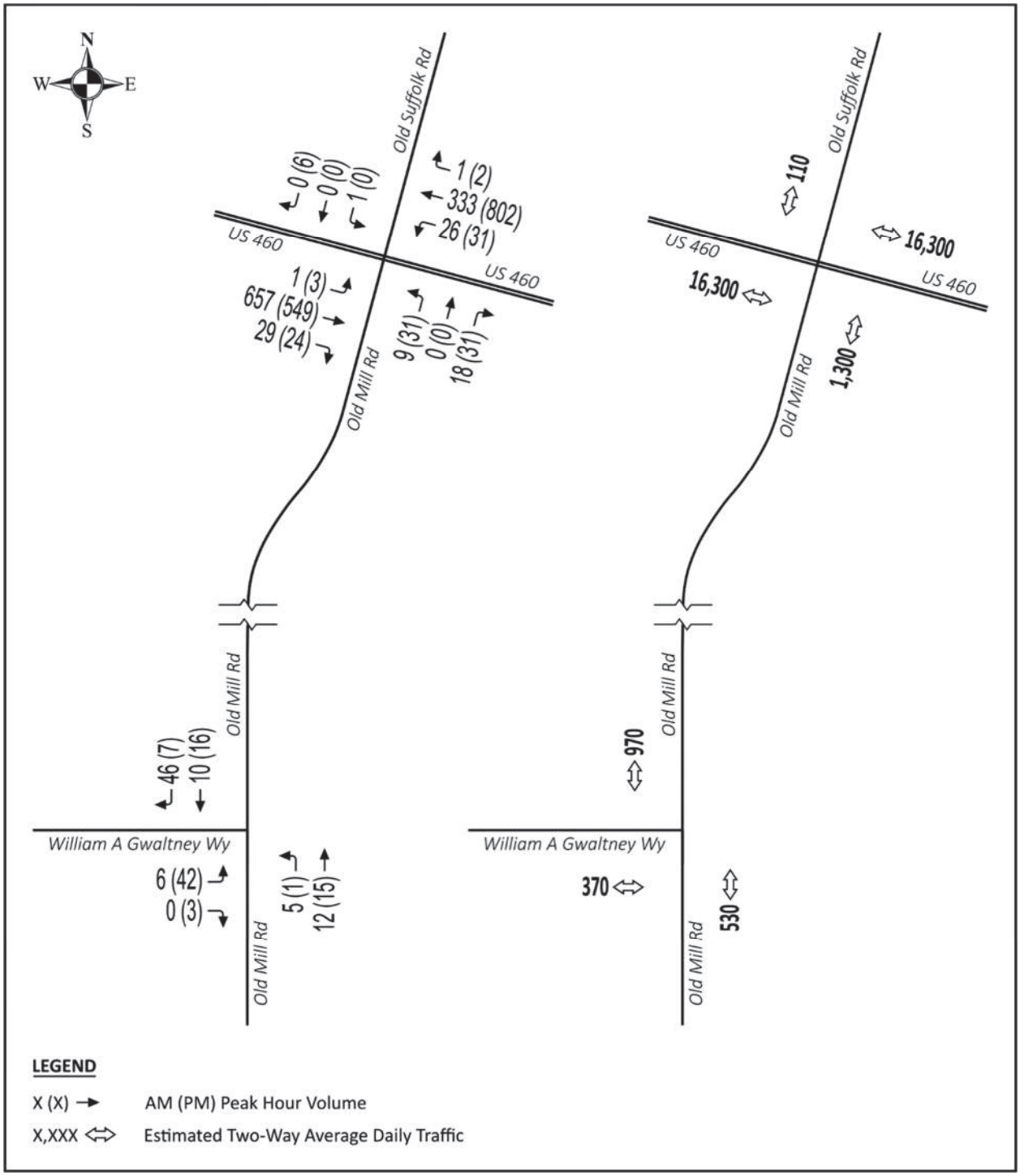


Figure 8: 2032 Peak Hour Background Traffic Volume and Average Daily Traffic

3.2 Future Background Traffic Operations Analysis

Analysis of future background traffic was performed using existing intersection lane geometry and traffic control with 2025 and 2032 background traffic forecasts. This background

traffic scenario represents the impact on traffic operations resulting solely from natural growth in background traffic, without the influence of new development trips or changes to the study area road network.

3.2.1 2025 Background Traffic Analysis Results

For 2025 background traffic conditions, traffic operations for all intersections and peak hours are generally good overall and are nearly identical to existing conditions, with minimal or no degradation of LOS, delay, and queuing caused by three years of traffic growth. Signal warrants are not satisfied for 2025 background traffic conditions. Results for this analysis scenario are shown in **Table 5-1** and **Table 5-2** below. Synchro analysis reports and Highway Capacity Software signal warrant reports for background traffic conditions are included in **Appendix D**.

Table 5-1: 2025 Background MOE's for Old Mill Rd at US 460

	US 460			US 460		Old Mill Rd		Old Suffolk Rd
	EB L	EB T	EB R	WB L	WB TR	NB LT	NB R	SB LTR
AM Peak Hour								
LOS	A	A	A	A	A	C	B	D
Delay (s/veh)	8.0	0.0	0.0	9.6	0.0	24.8	11.1	31.5
95th % Queue (veh)	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0
PM Peak Hour								
LOS	A	A	A	A	A	D	B	B
Delay (s/veh)	9.6	0.0	0.0	8.8	0.0	32.4	10.3	11.3
95th % Queue (ft)	0.0	0.0	0.0	0.1	0.0	0.7	0.1	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

Table 5-2: 2025 Background MOE's for Old Mill Rd at William A Gwaltney Wy

	William A Gwaltney Way	Old Mill Rd	Old Mill Rd	
	EB LR	NB LT	SB T	SB R
AM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	8.7	7.3	0.0	0.0
95th % Queue (veh)	0.0	0.0	0.0	0.0
PM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.0	7.2	0.0	0.0
95th % Queue (veh)	0.2	0.0	0.0	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

3.2.2 2032 Background Traffic Analysis Results

For 2032 background traffic conditions, traffic operations for all intersections and peak hours are generally adequate to good overall and are similar to existing conditions, with slight or no degradation of LOS, delay, and queuing caused by ten years of traffic growth. The most noteworthy change versus 2025 background traffic and 2022 existing conditions is the northbound left-through lane on Old Mill Road at US 460. During the AM peak hour, LOS changed from C to D for this lane with delay increasing roughly one second. During the PM peak hour, LOS changed from D to E for with delay increasing roughly four seconds. These increases in delay are relatively small, indicating this particular lane was already operating near the threshold between LOS C and D in the AM peak hour and threshold between LOS D and E in the PM peak hour before 2032. Signal warrants are not satisfied for 2032 background traffic conditions. Results for this analysis scenario are shown in **Table 6-1** and **Table 6-2** below. Synchro analysis reports and Highway Capacity Software signal warrant reports for background traffic conditions are included in **Appendix D**.

Table 6-1: 2032 Background MOE's for Old Mill Rd at US 460

	US 460			US 460		Old Mill Rd		Old Suffolk Rd
	EB L	EB T	EB R	WB L	WB TR	NB LT	NB R	SB LTR
AM Peak Hour								
LOS	A	A	A	A	A	D	B	D
Delay (s/veh)	8.1	0.0	0.0	9.7	0.0	25.9	11.2	32.7
95th % Queue (veh)	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0
PM Peak Hour								
LOS	A	A	A	A	A	E	B	B
Delay (s/veh)	9.9	0.0	0.0	8.8	0.0	36.8	10.4	11.7
95th % Queue (ft)	0.0	0.0	0.0	0.1	0.0	0.9	0.2	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

Table 6-2: 2032 Background MOE's for Old Mill Rd at William A Gwaltney Wy

	William A Gwaltney Way	Old Mill Rd	Old Mill Rd	
	EB LR	NB LT	SB T	SB R
AM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	8.9	7.3	0.0	0.0
95th % Queue (veh)	0.0	0.0	0.0	0.0
PM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.0	7.3	0.0	0.0
95th % Queue (veh)	0.2	0.0	0.0	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

4.0 Future Build Conditions

4.1 Build Traffic Forecasts

"Build conditions" refer to future years when each development reaches full build-out. Development 1 is assumed to achieve full build-out by 2025 and Development 2 is assumed to achieve full build-out by 2032. For build conditions, the total traffic volume using study area roadways is the sum of background traffic and new vehicle trips generated by the developments. Total peak hour traffic volume and estimated ADT for build conditions in years 2025 and 2032 are pictured on **Figure 9** and **Figure 10**.

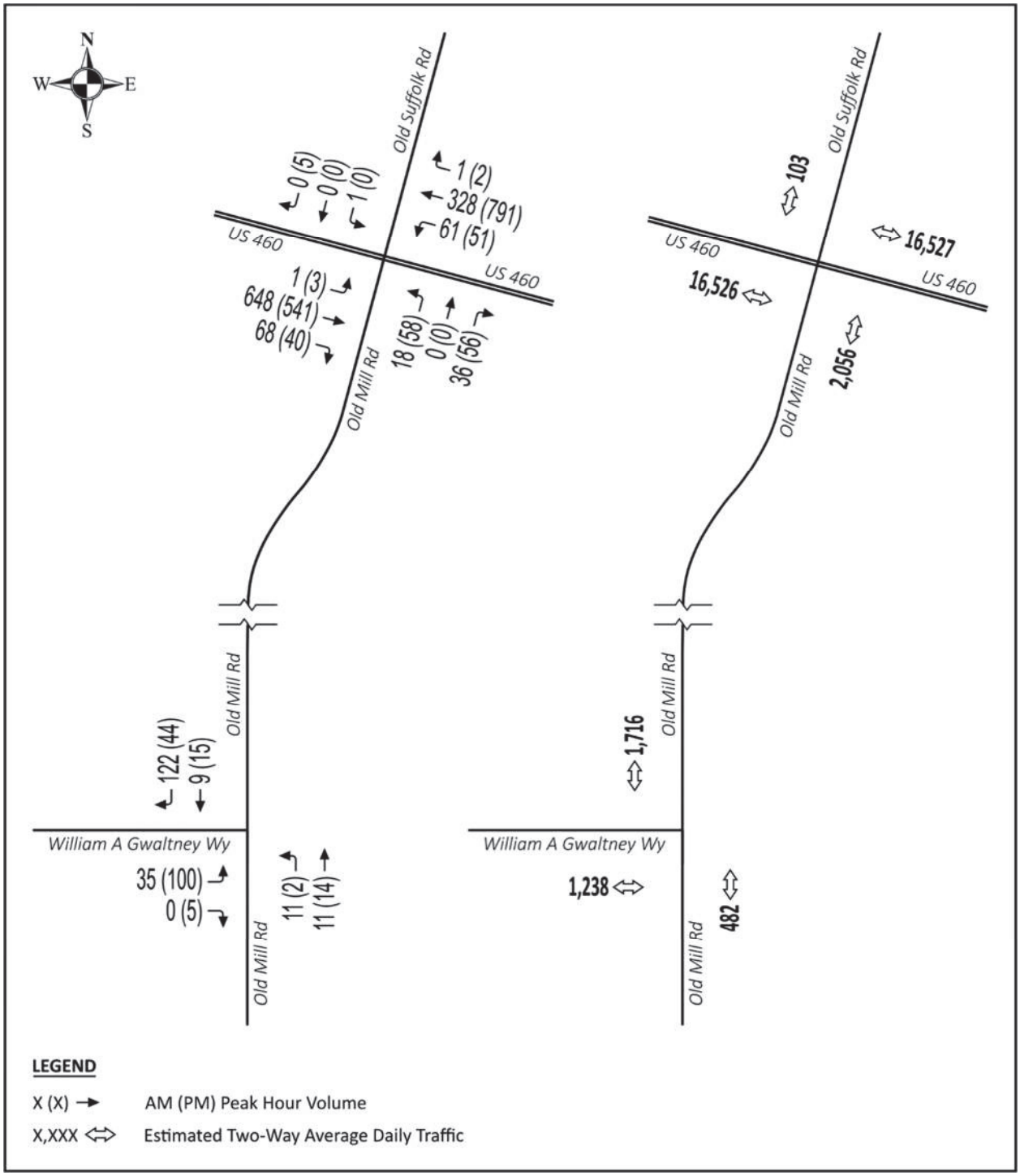


Figure 9: 2025 Peak Hour Build Traffic Volume and Average Daily Traffic

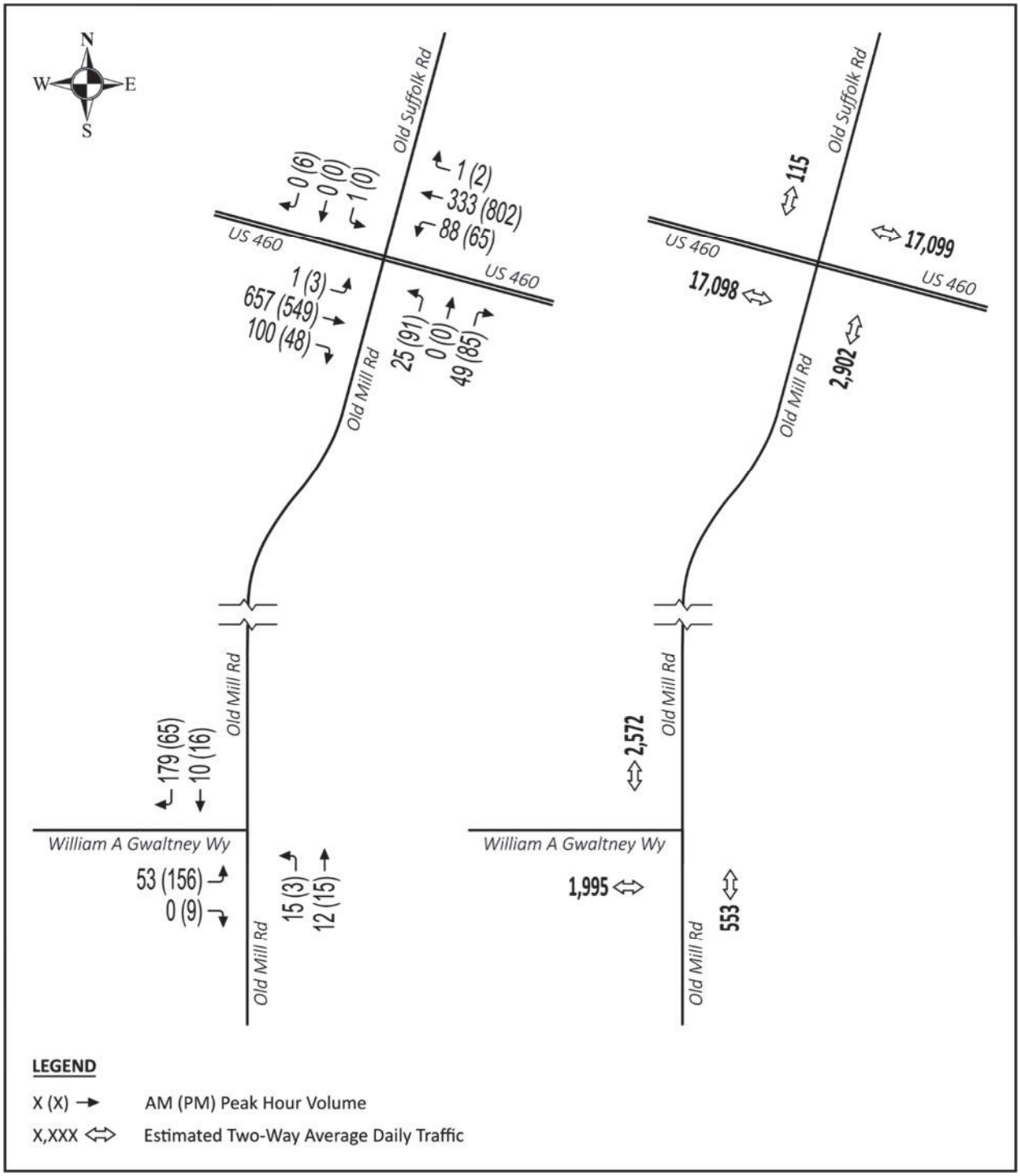


Figure 10: 2032 Peak Hour Build Traffic Volume and Average Daily Traffic

4.2 Unmitigated Future Traffic Operations Analysis

Analyzing the impact on traffic conditions caused by the developments was done in two steps. First by assuming developments are built without any roadway improvements, and second by assuming developments are built in conjunction with roadway improvements that mitigate negative traffic impacts. The first scenario, termed "unmitigated build conditions," represents the combined impact of background traffic growth plus new development trips on the existing road network. This acts as a baseline to compare improvement results against. The second scenario, termed "mitigated build conditions," represents the impact of background traffic growth plus new development trips after improvements are implemented to reduce negative impacts on traffic operations.

4.2.1 2025 Unmitigated Build Analysis Results

For 2025 unmitigated build conditions, trips for Development 1 were added to 2025 background traffic forecasts and analyzed using current intersection lane geometry and traffic control. Development 1 is assumed to be open and operating at full capacity in 2025. Analysis results for this scenario are shown in **Table 7-1** and **Table 7-2** below. Synchro analysis reports and Highway Capacity Software signal warrant reports for unmitigated build conditions are included in **Appendix E**.

Compared to 2025 background traffic conditions, adding trips for Development 1 to three years of traffic growth results in distinct degradation of traffic operations on the northbound approach at the intersection of Old Mill Road and US 460. The northbound left-through lane degrades from LOS D to LOS F during the PM peak hour with about 55% more delay and 210% longer queue lengths. This may be attributed to the northbound left turn volume being roughly two times higher than 2025 background traffic conditions during the PM peak hour. Other lanes at this intersection show less degradation of traffic operations versus 2025 background conditions. The intersection of Old Mill Road and William A Gwaltney Way continues operating at LOS A for all lanes as it did for 2025 background traffic conditions.

Additionally, when adding trips from Development 1 to 2025 background traffic, MUTCD Signal Warrant 3B (the "peak hour" warrant) is satisfied at the intersection of Old Mill Road and US 460. This suggests that a traffic signal should be considered at this location and could be justified. No signal warrants are met for the Old Mill Road and William A Gwaltney Way intersection for 2025 unmitigated build conditions.

Table 7-1: 2025 Unmitigated Build MOE's for Old Mill Rd at US 460

	US 460			US 460		Old Mill Rd		Old Suffolk Rd
	EB L	EB T	EB R	WB L	WB TR	NB LT	NB R	SB LTR
AM Peak Hour								
LOS	A	A	A	B	A	D	B	E
Delay (s/veh)	8.0	0.0	0.0	10.3	0.0	31.9	11.5	37.8
95th % Queue (veh)	0.0	0.0	0.0	0.3	0.0	0.5	0.2	0.0
PM Peak Hour								
LOS	A	A	A	A	A	F	B	B
Delay (s/veh)	9.6	0.0	0.0	9.1	0.0	50.2	10.7	11.3

95th % Queue (ft)	0.0	0.0	0.0	0.2	0.0	2.2	0.3	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

Table 7-2: 2025 Unmitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy

	William A Gwaltney Way EB LR	Old Mill Rd NB LT	Old Mill Rd SB T	Old Mill Rd SB R
AM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.1	7.5	0.0	0.0
95th % Queue (veh)	0.1	0.0	0.0	0.0
PM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.3	7.3	0.0	0.0
95th % Queue (veh)	0.4	0.0	0.0	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

4.2.2 2032 Unmitigated Build Analysis Results

For 2032 unmitigated build conditions, trips for Development 1 and Development 2 were added to 2032 background traffic forecasts and analyzed using current intersection lane geometry and traffic control. Development 2 is assumed to be open and operating at full capacity in 2032, while Development was assumed to be operating at full capacity in 2025. Analysis results for this scenario are shown in **Table 8-1** and **Table 8-2** below. Synchro analysis reports and Highway Capacity Software signal warrant reports for unmitigated build conditions are included in **Appendix E**.

Compared to 2032 background traffic conditions, adding trips for Development 1 and Development 2 to ten years of traffic growth results in significant degradation of traffic operations on the northbound approach at the intersection of Old Mill Road and US 460. The northbound left-through lane degrades from LOS E to LOS F during the PM peak hour, which is accompanied by roughly 160% higher delay and 440% longer queue lengths. This lane also degrades form LOS D to LOS E in the AM peak hour. The significant PM peak hour degradation may be attributed to the northbound left turn volume being roughly three times higher than 2032 background traffic conditions after new trips are added. Other lanes at this intersection show less severe degradation of traffic operations versus 2032 background traffic conditions, while the Old Mill Road and William A Gwaltney Way intersection continues operating with LOS A for all lanes as it did for 2032 background traffic conditions.

When adding trips from both developments to 2032 background traffic, MUTCD Signal Warrant 2 (the "four hour" warrant) and MUTCD Signal Warrant 3 (the "peak hour" warrant) are satisfied at the intersection of Old Mill Road and US 460. This suggests that a traffic signal should be considered at this location and could be justified. No signal warrants are met for the Old Mill Road and William A Gwaltney Way intersection for 2032 unmitigated build conditions.

Table 8-1: 2032 Unmitigated Build MOE's for Old Mill Rd at US 460

	US 460			US 460		Old Mill Rd		Old Suffolk Rd
	EB L	EB T	EB R	WB L	WB TR	NB LT	NB R	SB LTR
AM Peak Hour								
LOS	A	A	A	B	A	E	B	E
Delay (s/veh)	8.0	0.0	0.0	10.9	0.0	41.3	11.7	46.5
95th % Queue (veh)	0.0	0.0	0.0	0.5	0.0	0.8	0.3	0.0
PM Peak Hour								
LOS	A	A	A	A	A	F	B	B
Delay (s/veh)	9.6	0.0	0.0	9.3	0.0	96.5	11.1	11.4
95th % Queue (veh)	0.0	0.0	0.0	0.2	0.0	4.9	0.5	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

Table 8-2: 2032 Unmitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy

	William A Gwaltney Way	Old Mill Rd	Old Mill Rd	
	EB LR	NB LT	SB T	SB R
AM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.3	7.7	0.0	0.0
95th % Queue (veh)	0.2	0.0	0.0	0.0
PM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.9	7.4	0.0	0.0
95th % Queue (veh)	0.8	0.0	0.0	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

4.3 Mitigated Future Traffic Operations Analysis

4.3.1 Recommended Improvements

Analysis of future background traffic conditions discovered that natural growth of background traffic causes relatively limited harm to traffic operations. However, when new development trips are included, traffic operations degrade significantly and poor level of service ranging from LOS D to LOS F is expected for the northbound left-through lane and other lanes at the Old Mill Road and US 460 intersection. Signal warrants are also satisfied when the new development trips are included.

Due to these findings, signalizing the intersection of Old Mill Road and US 460 should be considered as a means of mitigating poor traffic operations. A traffic signal with four-phase flashing yellow arrow signal head allowing permitted-protected westbound left turns, and three-phase signal heads allowing permitted lefts elsewhere, is recommended. Ideally, the traffic signal

should be semi-actuated with detectors on Old Mill Road and Old Suffolk Road. This would create less interruption to vehicles traveling on US 460, except when necessary to allow side-street traffic to access the highway. However, installation and maintenance costs are higher for actuated signals compared to pretimed signals, and a pretimed signal can provide similarly good traffic operations according to Synchro analysis.

For a new traffic signal built to VDOT specifications, budgeting $500,000 is recommended. However, this dollar amount excludes contingency funds, and excludes additional costs related to communications equipment because the availability and location of existing VDOT fiber optics near Old Mill Road and US 460 is not known.

4.3.2 2025 Mitigated Build Analysis Results

For 2025 mitigated build conditions, trips for Development 1 were added to 2025 background traffic and analyzed using a traffic signal with existing lane geometry at the intersection of Old Mill Road and US 460. Synchro was allowed to optimize signal parameters. No changes were made to the Old Mill Road and William A Gwaltney Way intersection which already has excellent traffic operations. Analysis results for this scenario are shown in **Table 9-1** and **Table 9-2** below. Synchro analysis reports and Highway Capacity Software signal warrant reports for mitigated build conditions are included in **Appendix F**.

Compared to 2025 unmitigated build traffic operations, adding a traffic signal to the intersection of Old Mill Road and US 460 eliminates poor LOS and delay that occurred on northbound and southbound approaches without mitigation. The northbound left-through lane which was previously LOS D in the AM peak hour and LOS F in the PM peak hour is now LOS B in both peak hours, with about 70% less delay and 70% shorter queue lengths during the PM peak hour. The southbound approach, which was LOS E during the AM peak hour due to a heavy vehicle struggling to leave the approach, improves to LOS B. Traffic operations degrade slightly from LOS A to LOS B on eastbound and westbound approaches with moderate increases to delay and queuing. However, this is expected because vehicles on these approaches must stop and wait for a Green signal indication. Previously they were free-flowing and could traverse the intersection unimpeded.

Table 9-1: 2025 Mitigated Build MOE's for Old Mill Rd at US 460

	US 460			US 460		Old Mill Rd		Old Suffolk Rd
	EB L	EB T	EB R	WB L	WB TR	NB LT	NB R	SB LTR
AM Peak Hour								
LOS	B	B	B	B	A	B	B	B
Delay (s/veh)	12.7	19.2	14.0	13.0	9.9	15.0	15.5	15.1
95th % Queue (veh)	0.0	6.9	1.2	0.9	2.1	0.4	0.7	0.0
PM Peak Hour								
LOS	B	B	B	B	B	B	B	B
Delay (s/veh)	13.9	17.6	14.0	10.9	12.6	15.6	15.6	14.5
95th % Queue (veh)	0.0	4.8	0.6	0.7	5.6	1.2	1.1	0.1

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

Table 9-2: 2025 Mitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy

	William A Gwaltney Way	Old Mill Rd	Old Mill Rd	
	EB LR	NB LT	SB T	SB R
AM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.1	7.5	0.0	0.0
95th % Queue (veh)	0.1	0.0	0.0	0.0
PM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.4	7.3	0.0	0.0
95th % Queue (veh)	0.4	0.0	0.0	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

4.3.3 2032 Mitigated Build Analysis Results

For 2032 mitigated build conditions, trips for both developments were added to 2032 background traffic and analyzed using a traffic signal with existing lane geometry at the intersection of Old Mill Road and US 460. Synchro was allowed to optimize signal parameters. No changes were made to the Old Mill Road and William A Gwaltney Way intersection which already has excellent traffic operations. Analysis results for this scenario are shown in **Table 10-1** and **Table 10-2** below. Synchro analysis reports and Highway Capacity Software signal warrant reports for mitigated build conditions are included in **Appendix F**.

Compared to 2032 unmitigated build traffic operations, adding a traffic signal to the intersection of Old Mill Road and US 460 eliminates poor LOS and delay that occurred on northbound and southbound approaches without mitigation. The northbound left-through lane which was previously LOS D in the AM peak hour and LOS F in the PM peak hour is now LOS B in both peak hours, with about 85% less delay and 80% shorter queue lengths during the PM peak hour. The southbound approach, which was LOS E during the AM peak hour due to a heavy vehicle struggling to leave the approach, improves to LOS B. Traffic operations degrade slightly from LOS A to LOS B on eastbound and westbound approaches with moderate increases to delay and queuing. However, this is expected because vehicles on these approaches must stop and wait for a Green signal indication. Previously they were free-flowing and could traverse the intersection unimpeded.

Table 10-1: 2032 Mitigated Build MOE's for Old Mill Rd at US 460

	US 460			US 460		Old Mill Rd		Old Suffolk Rd
	EB L	EB T	EB R	WB L	WB TR	NB LT	NB R	SB LTR
AM Peak Hour								
LOS	B	B	B	B	A	B	B	B
Delay (s/veh)	12.4	18.5	13.6	13.0	9.9	15.0	15.5	15.1
95th % Queue (veh)	0.0	6.7	1.2	0.9	2.1	0.4	0.7	0.0
PM Peak Hour								
LOS	B	B	B	B	B	B	B	B
Delay (s/veh)	15.9	18.2	14.6	12.8	14.6	15.6	15.6	13.8
95th % Queue (veh)	0.1	5.0	0.8	1.0	6.5	1.9	1.6	0.1

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

Table 10-2: 2032 Mitigated Build MOE's for Old Mill Rd at William A Gwaltney Wy

	William A Gwaltney Way	Old Mill Rd	Old Mill Rd	
	EB LR	NB LT	SB T	SB R
AM Peak Hour				
LOS	A	7.5	A	A
Delay (s/veh)	9.1	A	0.0	0.0
95th % Queue (veh)	0.1	0.0	0.0	0.0
PM Peak Hour				
LOS	A	A	A	A
Delay (s/veh)	9.9	7.4	0.0	0.0
95th % Queue (veh)	0.8	0.0	0.0	0.0

L = Left | T = Thru | R = Right | LT, TR, LTR, LR = Shared Turn/Thru Lanes

5. Summary of Findings

As development of Shirley T Holland Intermodal Park (the "Park) continues, traffic traveling on the surrounding road network and into and out of the Park will increase. Analysis has shown that for 2022 existing conditions, the intersections of Old Mill Road at US 460 and Old Mill Road at William A Gwaltney Way perform well overall, primarily operating with LOS A and LOS B for most lanes in each peak hour. As traffic volumes increase, traffic operations change minimally at the Old Mill Road and William A Gwaltney Way intersection, which maintains LOS A for all lanes and peak hours regardless of the scenario being analyzed. However, traffic operations degrade more significantly at the Old Mill Road and US 460 intersection which has higher traffic demand.

While natural growth in background traffic causes modest increases in delay on northbound and southbound stop-controlled approaches for the Old Mill Road and US 460 intersection, it does not create a significant negative impact, even after ten years of traffic growth.

Only when new development-related vehicle trips are added to background traffic growth will traffic operations degrade significantly. Adding trips from one proposed development to three years of background traffic growth results in LOS E on the northbound approach in 2025 and one signal warrant is satisfied. Adding trips from both proposed developments to ten years of background traffic growth results in LOS F on the same approach in 2032 and two signal warrants are satisfied. Some form of intersection improvement is therefore necessary at the Old Mill Road and US 460 intersection to mitigate poor traffic operations caused by building new manufacturing and warehouse facilities within the Park.

To mitigate poor future traffic operations, installing a traffic signal is recommended for the intersection of Old Mill Road and US 460. A traffic signal can provide LOS B or better for all intersection lanes while eliminating LOS D, E, and F that occurs after ten years of traffic growth and new vehicle trips from both developments use the intersection. The traffic signal should utilize a four-phase signal head with flashing yellow arrow for the westbound left turn lane, which should operate with permitted-protected phasing, while standard three-phase signal heads and permitted left turns for other approaches are adequate. Lane configuration does not need to be modified at the intersection, reducing construction cost, complexity, and duration. The traffic signal should be semi-actuated with vehicle detectors on the Old Mill Road and Old Suffolk Road approaches. A semi-actuated signal creates less interruption to traffic traveling on US 460, except when needed to allow side-street traffic to enter the highway. However, a pretimed signal produces similarly good traffic operations according to Synchro analysis and may be considered due to its lower installation and ongoing maintenance costs. For high-level planning purposes, budgeting $500,000 to construct a new traffic signal is recommended, however this dollar amount excludes contingency and communications equipment.

No improvements are recommended for the intersection of Old Mill Road and William A Gwaltney Way, because it operates with LOS A for all lanes in every peak hour and analysis scenario. Within the Park, side-street stop control with stop signs installed on existing or future driveways connecting to William A Gwaltney Way is recommended for safety reasons, and should adequately accommodate traffic while allowing for efficient and orderly flow of vehicles.

6. References

Virginia Department of Transportation. *Traffic Forecasting Guidebook*, version 1. May 2020.

Virginia Department of Transportation. *Traffic Operations and Safety Analysis Manual*, Version 2. Feb 2020.

Virginia Department of Transportation. *Updated Administrative Guidelines for the Traffic Impact Analysis Regulations 24VAC30-155*. Dec 2018.

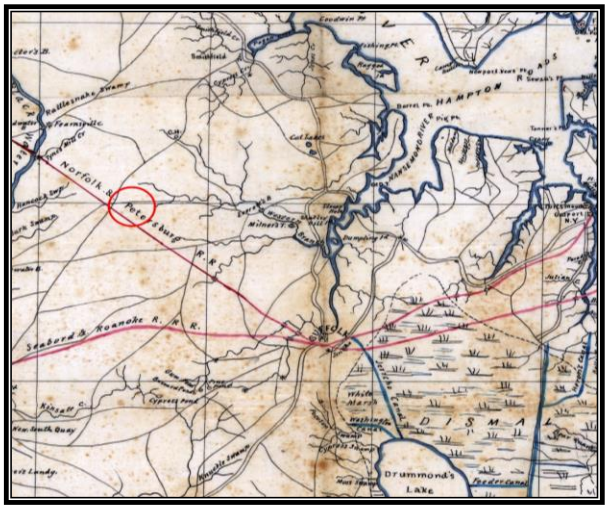
United States Department of Transportation, Federal Highway Administration. *Manual on Uniform Traffic Control Devices,* Revision 3. July 2022.

Appendix A: Traffic Counts

PHASE II ARCHAEOLOGICAL EVALUATION OF SITE 44IW0395 AND GPR SURVEY OF SITE 046-5629 THE WINDSOR COMMERCE CENTER TRACT

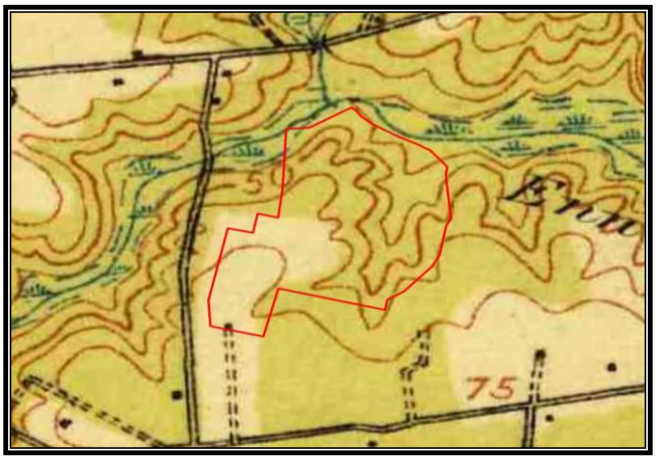
ISLE OF WIGHT COUNTY, VIRGINIA

VDHR #2023-4713









Circa~ Cultural Resource Management

JULY 2023

UPDATED JANUARY 2024

PHASE II ARCHAEOLOGICAL EVALUATION OF SITE 44IW0395 AND GPR SURVEY OF SITE 046-5629 THE WINDSOR COMMERCE CENTER TRACT ISLE OF WIGHT, VIRGINIA VDHR # 2023-4713

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ABSTRACT

In the summer of 2023, The Meridian Group contracted Circa~ Cultural Resource Management, LLC (Circa~) to conduct a Phase II archaeological evaluation of Site 44IW0395 and a ground-penetrating radar (GPR) survey of the buffer of 046-5629, the cemetery at the Windsor Commerce Center Tract, in Isle of Wight County, Virginia.

The artifacts recovered from Site 44IW0395 during the Phase I survey suggested occupation from the late 18th century, with the use of the parcel continuing into the early- to mid-19th century. At the conclusion of the Phase I survey completed in 2023, Circa~ noted the site may have good research potential and recommended it as potentially eligible for the National Register of Historic Places under Criterion D, with Criteria A, B, and C not applicable. If the development cannot avoid the site, then Circa~ recommended a Phase II evaluation be completed on the site before ground-disturbing activities.

At the conclusion of the Phase II survey, it appears that the individuals working and living at the site were probably small landowners or possibly slaves who may have diversified their agricultural efforts to include grain or, perhaps, livestock production. The shovel testing indicates the site was plowed with a more recent plowzone from the shift of no-till practices overlying an older, deeper plowzone from when the field was consistently mechanically plowed. The absence of cultural features and the presence of plowscars in the base of test units, coupled with the minute size of artifacts, suggests the repeated plowing of the site has erased any features associated with the site.

All artifacts were recovered from an undifferentiated/mixed-plowed stratigraphic context. No subsurface features beyond plowscars were identified. The lack of spatial and temporal integrity caused by repeated plowing episodes and the absence of subsurface features limit the research potential of the site to contain significant archaeological resources that could answer important research questions pertaining to this period in the region. Circa~ recommends that the site is not eligible for listing on the National Register of Historic Places under Criterion D. Criteria A, B, and C are also not warranted for the site. No further work is recommended.

Circa~ recommended that Site 046-5629 was not potentially eligible for listing on the National Register of Historic Places under Criteria A, B, C, or D. The cemetery will be avoided by development. Circa ~ recommends installing orange-safety fencing around the cemetery edge to ensure unmarked graves are not impacted during construction. This report includes the GPR survey of an area where development would encroach into the 25-foot buffer.

TABLE OF CONTENTS

ABSTRACT i
TABLE OF CONTENTS ii
LIST OF FIGURES iii
LIST OF PLATES iv
LIST OF TABLES v
INTRODUCTION 1
ENVIRONMENTAL BACKGROUND 5
Soils 5
Soils Identified Within Site 44IW0395 7
RESEARCH STRATEGY AND METHODOLOGY 7
Evaluation Of Significance 7
Methods 8
Archival Research 8
Field Methods 9
Laboratory Methods 9
CULTURAL BACKGROUND 9
Historic Context 10
Summary of Late 18th to mid-19th Century Domestic Sites 42
RESULTS 48
Site 44IW0395 48
Background 48
Phase II Excavations 50
Architectural Resources 75
Site 046-5629 75
CONCLUSIONS AND RECOMMENDATIONS 85
Site 44IW0395 85
Site 046-5629 87
REFERENCES CITED 88

Appendix A – VDHR V-CRIS Forms
Appendix B - Artifact Inventory
Appendix C – Project Map
Appendix D – GPR report
Appendix E – Staff Resumes

LIST OF FIGURES

Figure 1. Approximate location of the project area outlined in red and Site 44IW0395 outlined in blue, USGS Franklin quad. 2
Figure 2. Current (2023) aerial view of the project area outlined in red and Site 44IW0395 outlined in blue from Google Earth. 3
Figure 3. Development plans. 4
Figure 4. Site 44IW0395 soil map from NRCS website. 6
Figure 5. Detail of *Virginia discovered and discribed* by Captayn John Smith, 1624. 11
Figure 6. Detail of *Virginia and Maryland as it is planted and inhabited this present year 1670* surveyed and exactly drawne by the only labour & endeavour of Augustin Herrman bohemiensis. 17
Figure 7. Detail of *A map of the most inhabited part of Virginia containing the whole province of Maryland with part of Pensilvania, New Jersey and North Carolina*. Drawn by Joshua Fry & Peter Jefferson in 1751. 21
Figure 8. Detail of *A map of the country between Albemarle South, and Lake Erie, comprehending the whole of Virginia, Maryland, Delaware, and Pennsylvania, with parts of several other of the United States of America*. 1787. 23
Figure 9. Detail of *A map of the state of Virginia, constructed in conformity to law from the late surveys authorized by the legislature and other original and authentic documents* by Herman Böÿe, 1825. 24
Figure 10. Detail of *S. E. portion of Virginia and N. E. portion of N'th Carolina*. 1861. 28
Figure 11. Detail of *Southeastern part of Virginia, from York River and west to Black Water River,* B. Hove, 1862. 29
Figure 12. Detail of *Military map of Suffolk & vicinity for Majr. Genl. J. A. Dix*, 1863. 30
Figure 13. Detail of *J.H. Colton's topographical map of seat of war in Virginia, Maryland*, J.H. Colton's Geographical Establishment, New York. 1855. 31
Figure 14. Detail of *Map of eastern Virginia,* A. D. Bache, 1863. 32
Figure 15. Detail of 1919 Smithfield quad. 35
Figure 16. Detail of 1938 Smithfield quad. 36
Figure 17. Detail of 1944 Windsor quad. 37
Figure 18. Detail of 1961 Windsor quad. 38
Figure 19. Detail of 1973 Windsor quad. 39
Figure 20. Detail of 1985 Windsor quad. 40
Figure 21. VDHR V-CRIS map showing previously identified late 18th to mid-19th century domestic resources within one mile of the project area (yellow-shaded area). ... 43
Figure 22. Phase II representative shovel test profiles. 50
Figure 23. Test Unit 1 plan view and north wall profile. 53
Figure 24. Test Unit 2 plan view and north wall profile. 56
Figure 25. Test Unit 3 plan view and north wall profile. 58
Figure 26. Test Unit 4 plan view and north wall profile. 60
Figure 27. Test Unit 5 plan view and north wall profile. 62
Figure 28. Test Unit 5, Feature 1, plan view and west wall profile. 63
Figure 29. Test Unit 6 plan view and north wall profile. 65
Figure 30. Test Unit 7 plan view and north wall profile. 67
Figure 31. Test Unit 8 plan view and north wall profile. 70

Figure 32. Test Unit 9 plan view and north wall profile. 72
Figure 33. GPR survey area within the buffer area. 82

LIST OF PLATES

Plate 1. View of the site environs, looking, west. 48
Plate 2. View of artifacts recovered from Test Unit 1. Left to right: Yellowware sherd, hand-painted pearlware sherd, cut nail fragment, aqua window glass fragment, and quartzite secondary flake. 54
Plate 3. Plan view of Test Unit 2 with the plow scars excavated, looking north. 57
Plate 4. View of representative artifacts recovered from Test Unit 2. Left to right: aqua fire-damaged glass and hand-painted blue pearlware. 57
Plate 5. Representative artifacts recovered from Test Unit 3. Top row: clear bottle glass base, quartzite worked flake, hand-painted blue pearlware, hand-painted green and brown pearlware, hand-painted green and molded pearlware, and aqua fire-damaged glass. 59
Plate 6. Representative artifacts recovered from Test Unit 4. Left to right: green shell-edge pearlware, hand-painted blue and brown pearlware, aqua fire-damaged glass fragment, and aqua window glass fragment. 61
Plate 7. Representative artifacts recovered from Test Unit 6. Left to right: Quartzite secondary flake, aqua fire-damaged glass, fire-damaged refined earthenware, aqua window glass. 66
Plate 8. Plan view of Test Unit 7, after plowscar excavations, looking north. 68
Plate 9. Representative artifacts recovered from Test Unit 7. Left to right: Aqua window glass fragment and pearlware sherd. 68
Plate 10. Plan view of Test Unit 8, looking north. 71
Plate 11. Representative artifacts recovered from Test Unit 8. Left to right: Aqua window glass fragment and hand-painted black pearlware. 71
Plate 12. View of representative artifacts recovered from Test Unit 9. Left to right: Pearlware sherd and clear bottle glass fragment 73
Plate 13. View of the cleaned stone, by the GSSTF, June 2, 2005. 76
Plate 14. View of Site 046-5629 in September 2022, looking west. 77
Plate 15. View of Site 046-5629 in September 2022, looking west. 78
Plate 16. View of Site 046-5629 in April 2023, looking southeast. 79
Plate 17. View of headstone in September 2022, looking west. 79
Plate 18. View of broken stone in September 2022, looking north. 80
Plate 19. View of broken stones and daffodils in the cemetery, looking west. 81
Plate 20. View of fencing and daffodils within Site 046-5629, looking northwest. 81
Plate 21. View of the northern side of the buffer around the cemetery, looking east. 82
Plate 22. View of the eastern side of the buffer around the cemetery, looking south. 83
Plate 23. View of the southern side of the buffer around the cemetery, looking west. 83
Plate 24. View of the GPR on northeastern side of the buffer around the cemetery, looking east. 84
Plate 25. View of the GPR survey on the eastern side of the buffer around the cemetery, looking north. 84

LIST OF TABLES

Table 1. Soils Identified Within Site 44IW0395. 5
Table 2. Deed Research for the Project Area. 42
Table 3. Previously-Identified Late 18th to Mid-19th Domestic Sites Within One Mile of The Project Area. 44
Table 4. Native American Artifact Summary of Site 44IW0395 Phase I and Phase II Surface Collection and Shovel Testing 74
Table 5. Historic Artifact Summary of Site 44IW0395 Phase I and Phase II Surface Collection and Shovel Testing 74

INTRODUCTION

In the summer of 2023, Circa~ Cultural Resource Management, LLC (Circa~) conducted a Phase II evaluation of Site 44IW0395 located within the overall 83-acre Windsor Commerce Center Tract in Isle of Wight County, Virginia (Figures 1 and 2). In addition, a Ground Penetrating Radar (GPR) survey of the buffer area surrounding the cemetery at Site 046-5629 was completed. The owner plans to construct a warehouse and associated infrastructure (Figure 3). The overall project area is bordered by Ennis Pond to the north, an unnamed dammed tributary of Ennis Pond to the east, residential properties to the west, and Windsor Boulevard (Route 460) to the south.

Circa~ conducted a Phase I cultural resources survey of the project area earlier in 2023 and identified 66 isolated finds, one previously identified archaeological resource, two new archaeological resources, one previously identified architectural resource, and no new architectural resources. One of the archaeological resources, Site 44IW0395, was recommended as potentially eligible for listing on the National Register of Historic Places.

The artifacts recovered from Site 44IW0395 suggest occupation from the late 18th century, with the use of the parcel continuing into the early- to mid-19th century. The site had good research potential, and Circa~ recommended that this site was potentially eligible for listing on the National Register of Historic Places under Criterion D. Further work was recommended if development cannot avoid the site. The Virginia Department of Historic Resources (VDHR) concurred with the recommendation.

In consultation with project engineers, it was determined that avoiding this archaeological site was impractical and that the site should be evaluated at the Phase II level. This survey was carried out in compliance with an Isle of Wight County rezoning request and conducted following the Secretary of the Interior's *Standards and Guidelines for Architectural Documentation* and the Commonwealth of Virginia guidelines, including the *Guidelines for Conducting Cultural Resources Survey in Virginia* (VDHR 2017). The Phase II testing was designed to more accurately determine the horizontal and vertical limits of the resources, identify potential cultural layers and features, retrieve representative artifact samples, and evaluate the sites' eligibility for inclusion in the National Register of Historic Places. The documentary research, archaeological field testing, and laboratory analysis were conducted in compliance with the *Secretary of the Interior's Standards* (Department of the Interior 1983, 48 FR 44720-44723) and Isle of Wight County and VDHR guidelines for Phase II archaeological studies (VDHR 2017).

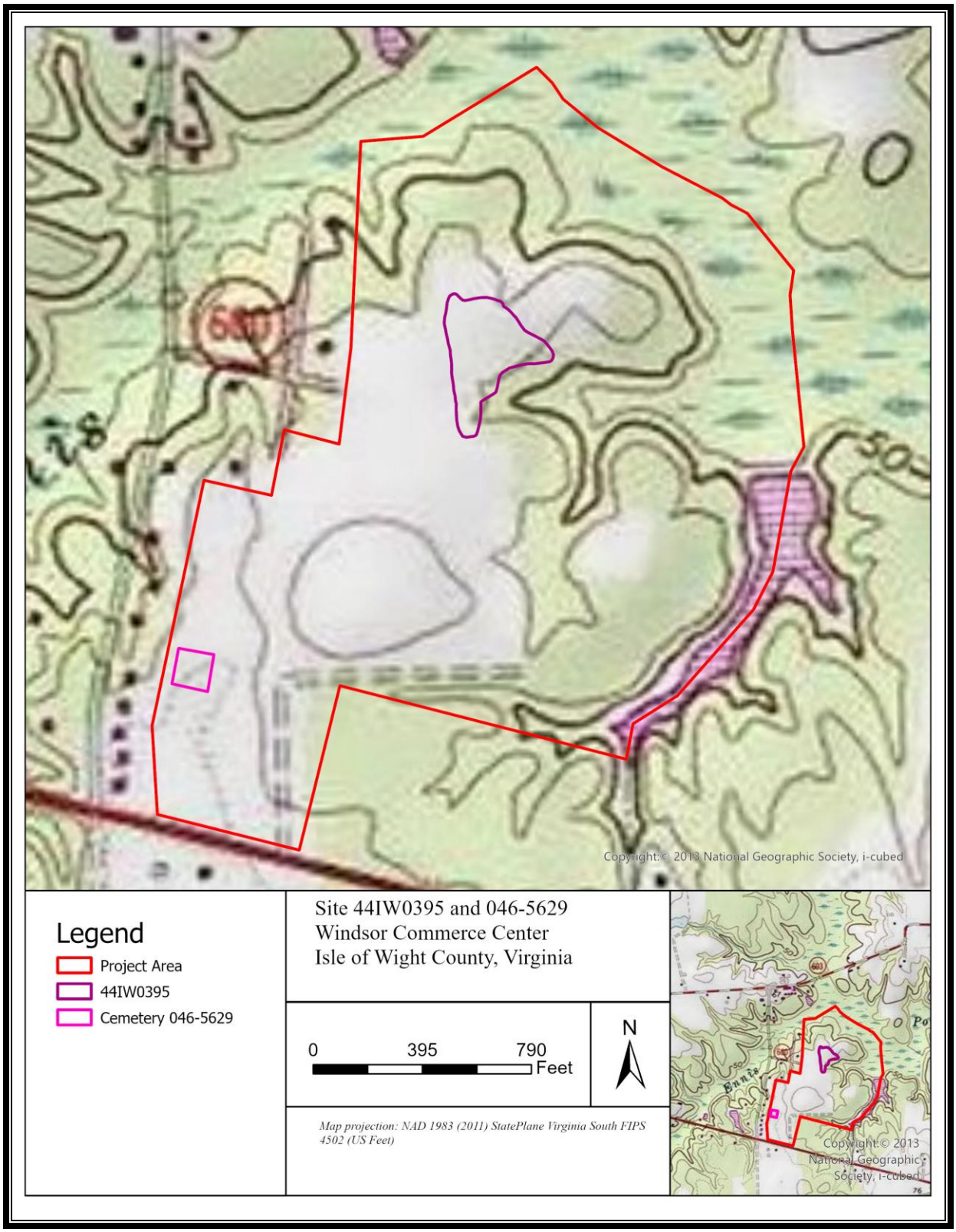


Figure 1. Approximate location of the project area and Sites 44IW0395 and 046-5629, USGS Franklin quad.

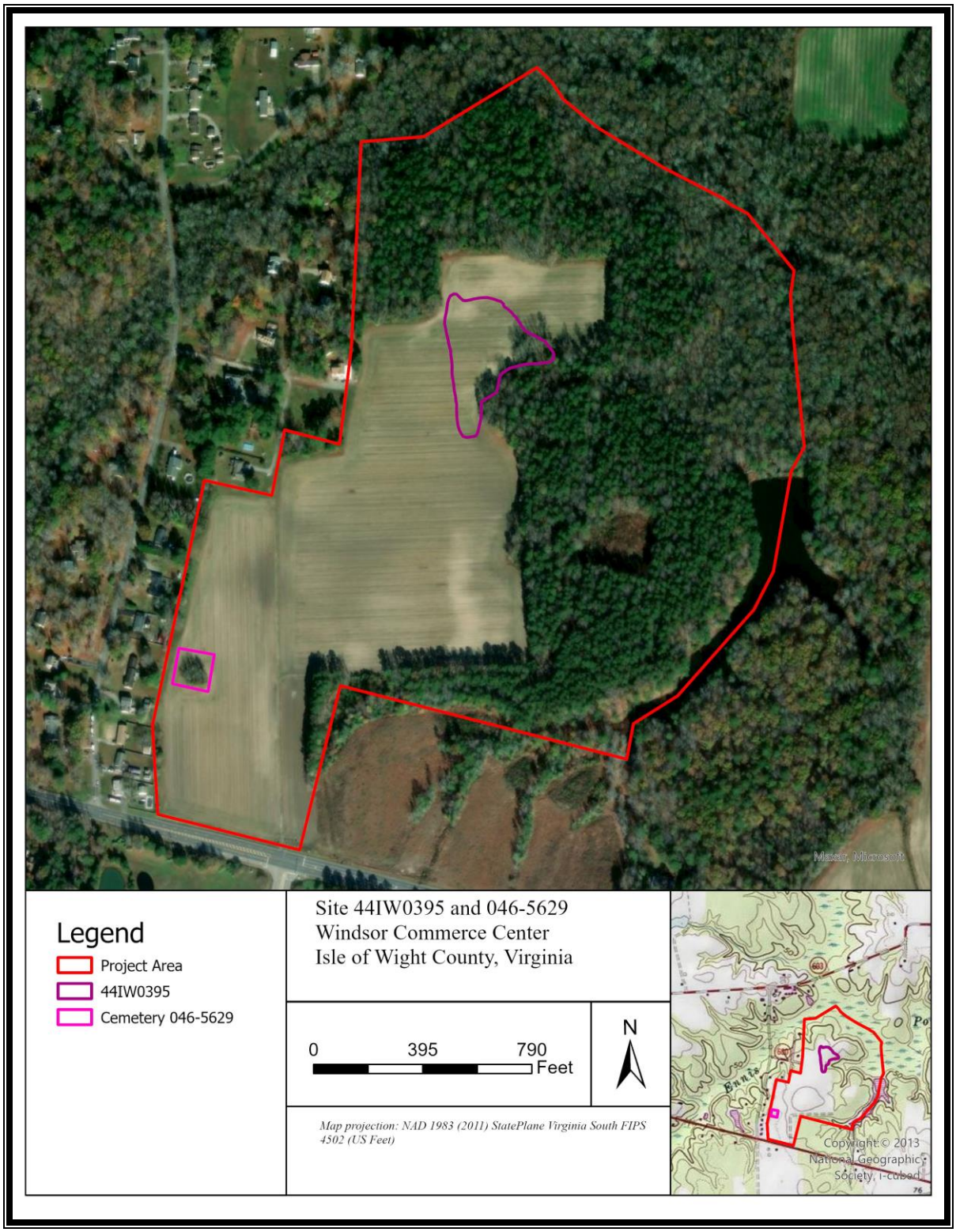


Figure 2. Current (2023) aerial view of the project area and Sites 44IW0395 and 046-5629 from Google Earth.

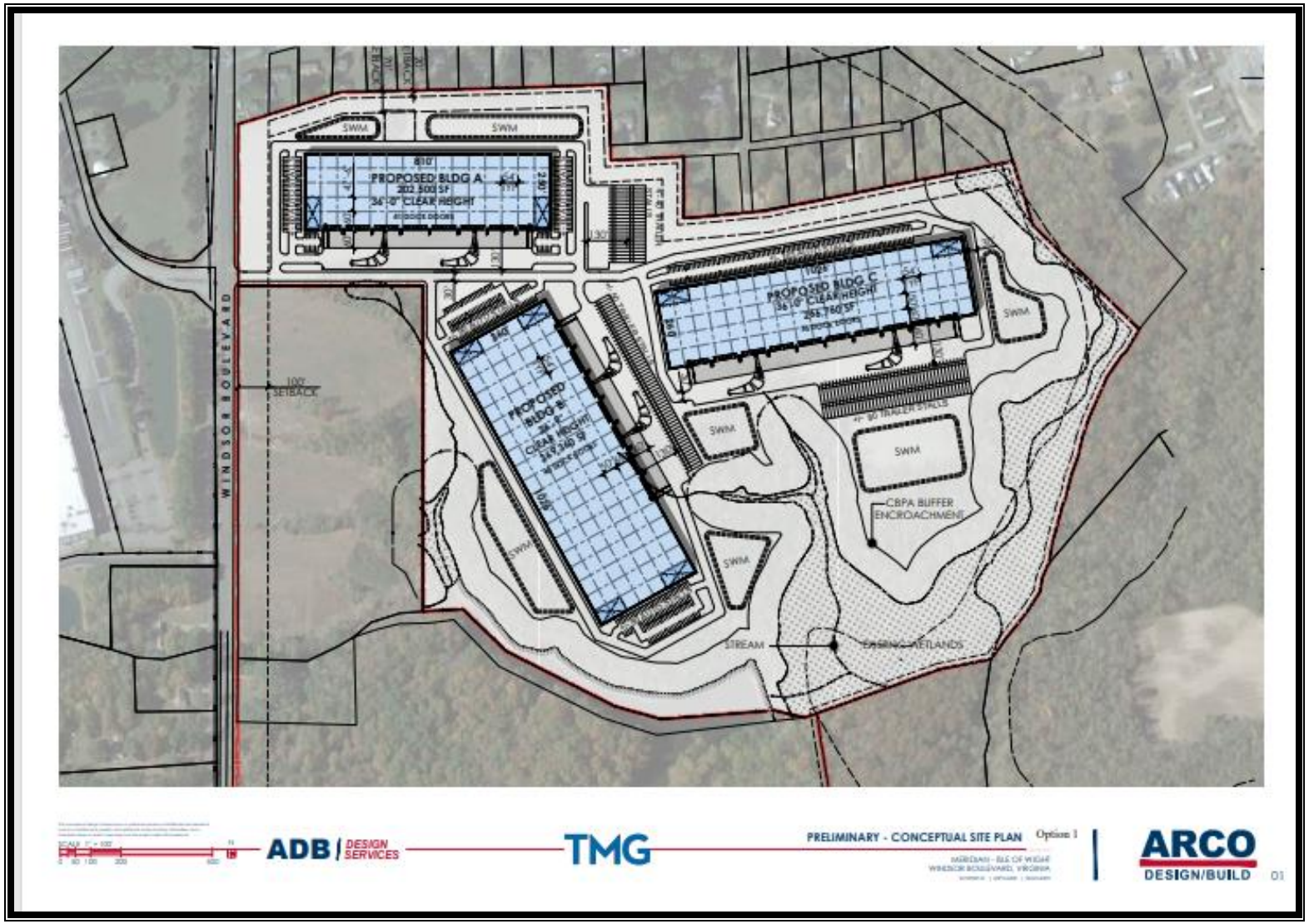


Figure 3. Development plans.

At Circa~, Carol D. Tyrer, Register of Professional Archaeologists (RPA), served as Project Manager and Principal Investigator for the project and oversaw the course of the project. Dawn M. Muir, RPA, served as the Historian for the project and completed the historic research. Skye Hughes, RPA, completed the graphics. Carol D. Tyrer, Skye Hughes, and Dawn M. Muir prepared the report. The successful completion of the Phase II survey for the proposed development was made possible by the contribution of many individuals. In particular, the current developer, Tom Boylan, ensured that project information and maps were always available for the study. The developer contracted with GPRS to complete a GPR survey near the cemetery to ensure no graves extended into the field.

ENVIRONMENTAL BACKGROUND

Site 44IW0395 is on a slightly higher knoll in the agricultural field and within the fringe of trees to the southeast. The elevation is 61 feet above mean sea level (AMSL), and the landform drains to the north and east.

Soils

Two different soil types and soil type variants exist within Site 44IW0395 (Natural Resources Conservation Service [NRCS] 2023). These soil and soil types include Slagle fine sandy loam, 2% to 6% slopes, and Kinston loam (Figure 4 and Table 1). Water makes up the remaining portion of the tract. These types and variants are described below, including references to drainage, and horticultural and agricultural productivity potential.

Table 1. Soils Identified Within Site 44IW0395.

Soil Symbol	Soil Name	Acres Within the Project Area	Location Within Project Area	Percentage Within the Project Area
18B	Slagle fine sandy loam, 2% to 6% slopes	1.90	Northern, central, western, southern	78.40
7	Kinston Loam	0.50	Southern, eastern	21.60%

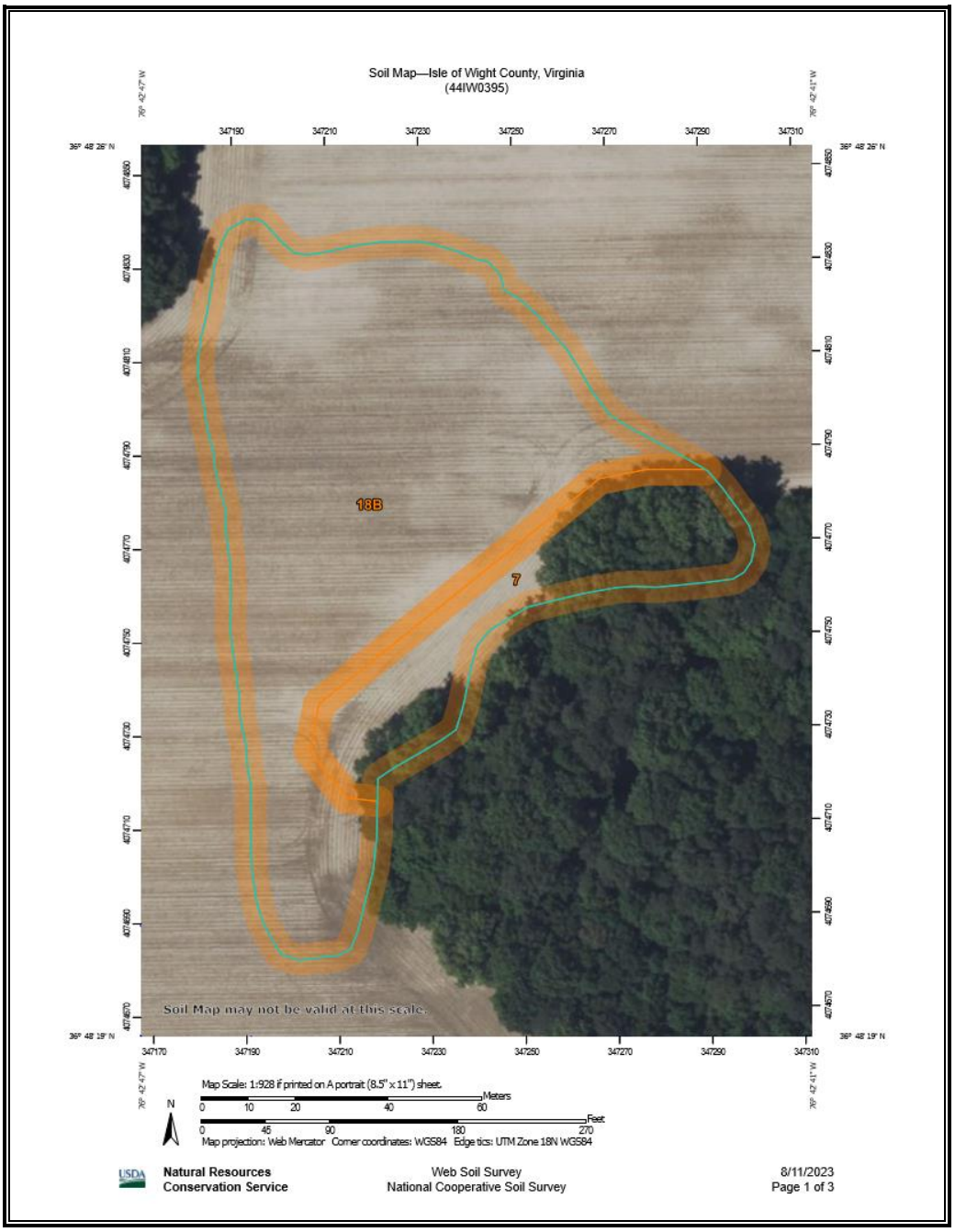


Figure 4. Site 44IW0395 soil map from NRCS website.

Soil maps and associated data analyze soil types within a geographic area. Researchers often miss microenvironments due to their small footprints despite soil surveyors' comprehensive and detailed coverage of most places. Unfortunately, resource-rich microenvironments were often common sites of cultural activity. This analysis of archaeological potential is a "best guess" using the best available data.

Well-drained, agriculturally- and horticulturally productive soils proximal to transportation corridors were the best choices for historic period occupation. Secondary areas, such as those containing wet and acid soils, may have also been suitable for historic occupation after improvements such as drainage and liming. No navigable waterways exist within the project area; thus, water travel is not a factor in the site probability analysis of this tract.

Areas of wet soils may have been attractive to Native American cultures. Edible herbaceous plant species may have been gathered in these areas, and faunal species browsing these areas may have been hunted successfully. Well-drained soils proximal to these resource-rich areas may have made adequate hunting and gathering campsites where the hunted and gathered resources were processed. These sites would have left an observable archaeological footprint. Little archaeological evidence would be located within the wet areas, the immediate locale of resource procurement.

Areas containing gravelly soils may have been especially attractive to stone tool-manufacturing Native American cultures, but the level of attraction may have depended on the type and quality of the gravels available in these locations. Well-drained soils proximal to quarry-able, gravel-rich areas would have made adequate lithic material procurement campsites.

Soils Identified Within Site 44IW0395

Slagle Soil (18B)
Slagle soil is a very deep, moderately well-drained, moderately slowly to slowly permeable soil found on marine terraces and uplands of the Atlantic Coastal Plain (NRCS 2023). Bedrock is located over 75 inches below the ground surface in this extremely to strongly acidic soil. This soil is mainly used for crops and forestry. This soil can support corn, soybeans, peanuts, and tobacco where cultivated. Where wooded, the soil can support loblolly pine, Virginia pine, sweet gum, red maple, southern red oak, water oak, yellow poplar, and hickory.

Kinston Soil (7)
Kinston soil is a very-deep, poorly drained, moderately permeable soil formed in marine sediments found on floodplains of the Atlantic Coastal Plain (NRCS 2023). Solum thickness ranges from 40 to 72 inches, and depth to bedrock is over 72 inches in this strongly acid to very strongly acid soil. The content of rock fragments is 0% to 3% throughout the solum. This soil features negligible surface runoff. Most of this soil is forested with limited pasture and crop growth. This soil can support pasture, corn, soybeans, and general farm crops where cleared. Where wooded, this soil can support water-tolerant hardwoods such as sweet gum, black gum, water oak, poplar, hickory, beech, elm, and ironwood. Loblolly pines are also found in some drained areas.

RESEARCH STRATEGY AND METHODOLOGY

Evaluation Of Significance

The Phase II archaeological investigations were designed to more accurately determine the horizontal and vertical limits of the resources, identify potential cultural layers and features, retrieve representative artifact samples, and evaluate the site's eligibility for inclusion in the

National Register of Historic Places. A cultural resource is gauged to be significant if it meets at least one of four National Register criteria:

A. Associated with significant events in the broad patterns of national history;
B. Associated with the lives of persons significant in our past;
C. Representative of a type, period, or method of construction, or the work of a master; and
D. Capable of yielding important information about the past.

Typically, Criterion D applies to archaeological sites, although all four criteria may apply. To be capable of yielding important information about the past, generally, a site must possess artifacts, soil strata, structural remains, or other cultural features that make it possible to test historical hypotheses, corroborate and amplify currently available information, or reconstruct the sequence of the local archaeological record.

Methods

Archival Research

Phase II level archival research was undertaken to support archaeological tests conducted at the site. Historical maps, plats, surveys, and land ownership records were reviewed. Extensive efforts were made to determine who owned or occupied the site.

The property's history was traced using land patents, deeds, wills, demographic records, and other locally generated court documents such as tax rolls. Real estate tax lists, filed with the State Auditor's Office commencing in 1782, specify the quantity of land and number of parcels owned by each taxpayer and often contain notations about property boundaries and when and how acreage was transferred from one person to another by sale or bequest. Commencing in 1820, tax commissioners began recording the collective value of any buildings present on the parcels they assessed. Also, they usually noted the estimated worth of any new buildings constructed since their last visit. Assessors omitted their estimates of uninhabitable man-made features such as fences, roads, and wells. Conversely, they reduced a landowner's assessment of existing buildings that had been razed or destroyed.

The study of land tax lists evaluated the presence or absence of structural features within the site, and specific gaps in antebellum court records were bridged. The analysis of these documents also provided a considerable amount of insight into the phases of development that occurred within the site and yielded data on local land use patterns. On the other hand, personal property tax rolls provide information on the quantities of enslaved people, livestock, and other taxable personal property that taxpayers own, which are extremely useful in gauging the socio-economic status and individual wealth.

Land and personal property tax rolls usually indicate whether individual property owners were residents of the county where they were being taxed, making it possible to identify absentee landowners. Agricultural census records were used as a land use and productivity data source. In contrast, census records and slave schedules can be expected to yield information on the household, family composition, and ethnicity. A diligent search was done for public records and personal papers pertaining to those who owned and/or occupied the site and the study area. The

research was conducted at the Isle of Wight County Courthouse, the Colonial Williamsburg Foundation's Rockefeller Library, the Swem Library, the Library of Congress, and the Virginia Historical Society. Use was made of online sources whenever it proved practical.

Field Methods

The Phase II archaeological evaluation of Site 44IW0395 included the excavation of screened shovel tests and the hand excavation of three-foot-square test units in areas where positive shovel tests were located.

Shovel Tests

The project area was surveyed by hand excavating shovel tests in transects at 25-foot intervals across the site. All shovel tests were excavated by natural levels to the sterile subsoil, and all soils were screened through a ¼-inch wire mesh. Profiles were recorded for all shovel tests, and soil color was recorded per the Munsell classification system. All shovel tests were recorded on standard field forms, and all cultural material was retained. The location of all excavated shovel tests was marked on a base map of the site.

Test Units

Test units measuring three feet square were excavated by hand in those areas that had demonstrated the densest concentration of artifacts or to sample the landform. The locations of all excavated test units were marked on a base map of the site. All excavated soils were screened through a ¼-inch wire mesh. Test unit base plans and sidewall profiles were recorded and photographed, and soils were described with the Munsell classification system.

Laboratory Methods

Once removed from the field, all archaeological data and specimens were transported to Circa~'s laboratory for processing and analysis. Before washing, artifacts from a given provenience were first emptied into a screened basket and sorted. Items determined to be unstable were either dry brushed or, in some cases, not washed and re-bagged with the appropriate provenience information. These items may include unstable organic objects, such as Wood or other plant material, leather, bone, fabric, metal requiring immediate conservation, overglaze painted delftware, and other soft-bodied ceramics such as some local wares. Stable objects were washed with a soft brush, and the edges of ceramics and glass were thoroughly cleaned to identify body type and mending. Items will then be placed by provenience on a drying rack.

Artifacts were sorted first by material and checked for mends in a given provenience. Stylistic attributes were described with current terminology and recorded by count into a database for analysis. Non-diagnostic artifacts with like attributes will be grouped - i.e., clear, amber, etc., bottle body glass fragments, unrecognizable nail fragments, corroded metal fragments, and aqua window glass. Diagnostic artifacts were sorted and grouped based on type, ware, vessel, or function.

CULTURAL BACKGROUND

The following section provides the historical background information necessary to assess the archaeological potential of the proposed project area. Previous investigations in the general

vicinity of the project area are outlined, while specific documents and resources employed in this survey are discussed.

Historic Context

Settlement to Society (1607-1750)

The first European exploration of the area, now known as Hampton Roads, Virginia, occurred in 1584 when Sir Walter Raleigh received a patent from the British Crown and explored the New World. He would obtain two other patents in 1585 and 1587 for the same area. The first two voyages were largely exploratory, but the third included women and children to populate a permanent English colony on Roanoke Island, now part of North Carolina. A year later, Captain Vincente Gonzales and Juan Menendez-Marques visited the area (McCartney 1997). These men, Spaniards under the direction of the Florida government, set out to find Sir Walter Raleigh's colonists. They sailed up the west shore of the Chesapeake Bay and then traced the west coast of the Eastern Shore of Virginia. Although the men did not find the Roanoke colony, they did open the area for other colonists to follow.

In December 1606, under the direction of Captain Christopher Newport, 105 men, all employees of the proprietary London Company section of the Virginia Company, set sail from the English coast bound for North America. Their three ships, the Susan Constant, the Godspeed, and the Discovery, made their first landfall in the New World on April 23, 1607, where the Atlantic Ocean met the southern mouth of the Chesapeake Bay in the northeastern part of what would become Virginia Beach. The colonists named the area Cape Henry after Henry Frederick Prince of Wales, the eldest son of King James the First of England (Mansfield 1989). Over four days, the settlers investigated the future Princess Anne County, walking and rowing to the Lynnhaven River. On the fourth day, the colonists set up a cross on the sands of the newly named Cape Henry shore to thank God and affirm England's claim to the land. The English colonists of the Virginia Company left the area shortly after that as they were ordered from England to seek an inland site, which would be more sheltered from ships of competing European countries (Turner 1985). They would go on to create their first permanent settlement at Jamestown.

In the summer of 1608, Captain John Smith and his men left Jamestown and explored the Nansemond River, encountering Indians he described as "a proud warlike Nation." Sailing inland toward the head of the river, Smith commented on the beauty and fertility of the countryside and the area's larger native population (Tyler 1907, Smith 1910 [Figure 5]). Although the colonist's initial encounter with the Nansemond Indians was friendly, later in the year, the relationship changed when the natives declined to sell the settlers corn and took it by force (Tyler 1907). During the winter of 1609, when the settlers at Jamestown experienced what is traditionally known as the Starving Time, Captain John Smith sent a group of men back to the Nansemond River, where they could exist on the area's abundant oyster supply. However, after a hostile confrontation with the Indians, the hunger-weakened colonists returned to the relative safety of Jamestown.



Figure 5. Detail of *Virginia discovered and discribed* by Captayn John Smith, 1624.

In 1618, the Virginia Company ratified its so-called Great Charter, paving the way for changes in the Colony, including a system like local English law and the establishment of representative government (McCartney 1997). In particular, the Great Charter created a land policy known as the headright system, under which Virginia colonists could acquire real estate and work for personal gain. Before this system, investors in the Virginia Company and settlers who arrived in Virginia before 1616 were eligible for 100 acres as their first dividend. Under the headright system, however, anyone who came to the Colony at their own expense and lived in Virginia for at least three years was entitled to 50 acres of land. Anyone who paid for someone's passage to the Colony was entitled to 50 acres for every person they paid for (McCartney 1997). The bulk of Virginia land was distributed under the headright system.

The Great Charter also established a representative government in which Virginia Company officials chose Virginia's governor and council. In 1619, the Virginia Company chose Sir George Yeardley as the new Governor of Virginia. Yeardley arrived in Virginia on April 17, 1619, and quickly subdivided the Colony into four corporations or shires: James City, Charles City, Henrico City, and Kecoughton or Elizabeth City. The area now known as Hampton Roads and what would become Isle of Wight County fell within the Kecoughton or Elizabeth City division (Mansfield 1989).

By the late 1620s, European settlement had spread to the lower side of the James River. By this time, tobacco dominated Virginia's economy, and throughout the lower Tidewater landscape, landowners, tenants, and servants worked tobacco plantations. Development was concentrated along navigable waterways, which served as transportation corridors. However, throughout the first quarter of the 17th century, the native presence in the Nansemond River basin remained strong (Tyler 1907).

The first English settlers in what is now Isle of Wight County included Captain Christopher Lawne, Sir Richard Worsley, Nathaniel Basse, and John Hobson, who helped establish a settlement on the south shore of the James River at Lawne's Creek, near the current boundary between Isle of Wight and Surry counties. Lawne's plantation was known as Warrosquoyacke, after the local Native American group. Edward Bennett followed Lawne's settlement when he was granted a patent along the Pagan River in 1621. A London merchant and elder of the ancient church, the London Company, gave Bennett a patent to establish a plantation. Bennett immediately prepared to send 100 people to Virginia. On March 22, 1622, Indians attacked Bennett's plantation, killing 53 men, women, and children, including the settlement's commander, Thomas Brewood. Captain Ralph Hamor evacuated the surviving settlers to Jamestown, a position of safety. By October 1622, Edward Bennett received permission for his people to return to Bennett's Welcome, but several months passed before they returned. In the spring of 1623, construction of a fort began at the site, which provided a commanding view of shipping lanes along the James River. Then, in July, Sir George Yeardley led an expedition against the Warresqueak Indians, burning their villages. The inhabitants of Bennett's Welcome began returning to their homes, but the Indians harassed them constantly, and sickness took a severe toll. In February 1624, only 33 people remained at Bennett's Welcome, with the population dwindling to only 19 by 1625. By May 1625, inhabitants had patented an estimated 1,750 acres in Warresqueak. In 1632, tensions with the Indians began to ease, and within a year, colonists began patenting modest-sized tracts in Warresqueak (McCartney 1997). Soon

afterward, Edward Bennett returned to England; however, his brother Robert remained and helped establish other plantations in the area.

The Indians continued to make isolated forays upon outlying settlements, such as Warresqueak, and in the upper reaches of the James River. In April 1627, the Colony's governing officials reiterated their order that all houses be paled in. However, surviving archival records reveal that many colonists ignored the law. By January 1629, they were said to have "grown secure and utterly neglected eyther to stand upon their guard or to keep their Arms fitt," and officials bemoaned the fact that "the Condition of our people being soe wretchedly negligent in this kinde that neither proclamations or other strict orders have remedied the same." As a result, the Governor and Council of State resolved to nullify a treaty made with the Indians in August 1628, not because of the Natives' treachery but because of the settlers' negligence in maintaining their defense. However, a great drought in the summer of 1632 forced governing officials to initiate a trade with the Indians. Although a peace agreement was made with the Chickahominies and Pamunkeys in October, trade and other interaction with them was restricted to official occasions, for the natives were deemed "irreconcilable enemies" (McIlwaine 1924).

In 1634, Virginia was subdivided into eight shires or counties. Warresqueak, which included the project area, maintained a population of 532 people. The County's original boundaries included Lawne's Creek to the north, the James River to the east, along with an inland line from the point from Richard Hayes plantation to the head of Colonel Pitt's Creek and a line that ran west for an undefined distance (Commonwealth Heritage Group [CHG] 2019). In 1637, the county's original name was changed to Isle of Wight. Despite losing its Indian name, the County had a substantial Native population. During the mid-1630s, patents were issued for land near the mouth of the Nansemond River, along the banks of the James River, and further inland. Early settlers relied heavily upon waterborne transportation, lured by the opportunity to reap substantial profits from tobacco cultivation. As the century wore on, patentees moved inland in increasing numbers. By 1640, the county had been divided into six districts, each with "tobacco viewers" or inspectors (Nugent 1969-1979, King 1993).

The lands near the mouth of Chuckatuck Creek and the Nansemond River were first patented in the 1630s and 1640s. Between 1639 and 1645, Tristram Norsworthy (Nosworthy) patented nearly 1,000 acres of land around and including Ragged Island (Nugent 1992). A native of Devon, England, Norsworthy was a prominent local figure in Isle of Wight's early years, serving as burgess for Nansemond County in 1641. His eldest son, Colonel George Norsworthy, was the local militia captain and sheriff. Among the first English arrivals to this area, the Norsworthys remained a prominent Isle of Wight family into the 20th century (Boddie 1973).

Warrosquoyacke was divided in 1647 between Isle of Wight to the west and Upper and Lower Norfolk counties to the east, with Pagan Creek as the dividing line (CHG 2019, King 1993). Residents of Ragged Island and Terrascoe Neck, which included those lands between Chuckatuck Creek and the James River, won their petition to be included in Isle of Wight County in 1656 and 1674, the House of Burgesses formally established the boundary (King 1993).

On April 18, 1644, when the Indians made a second attempt to drive the colonists from their soil, those who lived on the south side of the James River were especially hard hit. Again, settlers withdrew to positions of greater safety, gradually returning as their fears began to subside. In June 1644, the Grand Assembly resolved to "forever abandon all formes of peace and familiarity with the whole [Indian] nation and to the uttermost of our Power pursue and root out those which have in any way had their hand in the shedding of our blood and massacring of our People." A series of retaliatory marches were undertaken against all Native groups implicated in the attack. The inhabitants of relatively remote areas were ordered to withdraw to positions of greater safety. However, October 1644 brought the enactment of legislation that authorized all but those who lived "in places of danger" to go back to their homes. Those whose return would place them at risk were allowed to reoccupy their patents if there were at least ten able men in the group equipped with arms and ammunition, and they obtained prior approval of the local military commander. Some colonists were reluctant to return to their plantations. In February 1645, the Governor and Grand Assembly declared that those who failed to reoccupy their patents would be presumed to have forsaken them and that all abandoned land would be reassigned to others. Moreover, those deserting their patents were prohibited from burning their buildings to recover the nails used in construction. This policy impelled some colonists to return to their homesteads despite the potential danger of being attacked by Indians (McIlwaine 1924, Hening 1809-1823, King 1993).

During this time, the Colony's officials decided to erect three small forts or fortified buildings at strategic locations on the Colony's frontier: at the falls of the James River, near Manquin Creek in the Pamunkey Indians' heartland, and on the Chickahominy River at Moysenac, amid the Chickahominy Indians' territory. All three forts, built by private citizens who received land in exchange for their services, were to provide surveillance over the Colony's frontier and offer protection to outlying settlers. Retaliatory marches against the Indians were undertaken regularly, and Opechancanough, credited with leading the 1622 and 1644 attacks, was captured and slain. In March 1646, the Burgesses decided to build a fourth fort on the Colony's frontier, situated at the falls of the Appomattox River. Meanwhile, the inhabitants of Upper and Lower Norfolk counties and Isle of Wight's Lower Parish were ordered to wage war against the Nansemond Indians. If they desired, they were authorized to build a fort.

In October 1646, Necotowance, Opechancanough's immediate successor, concluded a formal peace agreement with the Virginia government. The Indians agreed to withdraw from the James-York peninsula, inland to the fall line, and abandon their territory along the lower side of the James River, down to the Blackwater River. The colonists agreed to vacate their plantations on the north side of the York River, west of Poropotank Creek, a considerable distance above the river's mouth. Natives entering the ceded territory on official business could be legally slain unless they were garbed in "a coate of striped stuff," a badge of safe conduct they could procure from the fortified outposts on the Pamunkey River and at the falls of the Appomattox (Hening 1809-1823).

The Indians also agreed to allow Virginia's governor to appoint or confirm their leaders. This critically important concession put in place a mechanism for change that hastened the Powhatan chiefdom's disintegration. Governor Berkeley and his council "thought the safest way [was] setting all the lesser nations at liberty from obedience to the house of Pamunkey." The Secretary

of the Colony added, “they like to warr with each other and destroy themselves more in a year than we can do it.” This ‘divide and conquer’ approach quickly evolved into establishing tribal preserves, further dispersing the natives into small clusters. That led to further Native land loss, for it restricted the natives to certain areas and allowed European settlement to spread almost unchecked (Hening 1809-1823).

Despite the treaty, the Middle Peninsula and Northern Neck were open to settlement on September 1, 1649, and colonists quickly moved into the territory reserved for the natives' use in the 1646 treaty. This policy change occurred per the official abandonment of the military outposts established on the frontier in the mid-1640s. Seating requirements were extremely lax, and a would-be patentee had only to place one acre under cultivation and build a tiny house to substantiate his land claim (Hening 1809-1823, Nugent 1969-1979, Blanton and King 2004).

In 1650, when Governor William Berkeley and a small group of men set out on an expedition into the territory beyond the head of the Appomattox River, two Indian guides led them, an Appomattock and a Nottoway. At one point in the journey, the two warriors performed a ritual at a site they deemed significant, and the Nottoway referred to Opechancanough as his people’s “late Great Emperour.” Thus, the influence of the Powhatan Indians’ paramount chief apparently extended as far south as the Meherrin River, a tributary of the Chowan, and included more Native groups than ethnohistorians generally assume. These tribes may have joined the Nansemond in attacking the settlers who intruded into their territory. By 1648, colonists densely populated the Nansemond Indians’ old homeland and subdivided the land into three parishes. In 1653, the Reverend Roger Green and other “inhabitants of Nansemond River” sought and received permission from the Grand Assembly to seat 10,000 acres of land near the Roanoke or Moratoc River and along the south side of the Chowan if they agreed to settle in sufficient numbers and arm themselves well. The Government authorized Green to patent 1,000 acres of land close to where the others intended to seat. This authorization suggests that the Indians’ departure from the Nansemond River basin whetted the planters’ appetite for territorial expansion and encouraged them to move further inland (Hening 1809-1823).

In 1652, the Grand Assembly enacted legislation stipulating that all native groups were to retain the acreage they occupied. Four years later, they passed a new law requiring all Indians entering the colonized area to bear a pass or ticket of authorization. However, the Burgesses admitted that the natives often failed to cooperate due to “our extreme pressures on them.” By 1658, the General Assembly assigned each Colony’s tributary Indian groups a specific tract of land. However, if the Indians abandoned or sold any of their legally designated homelands, colonists could claim and patent the land (Blanton and King 2004).

In 1662, the boundary lines were reaffirmed, defining the territory the Indians ceded by virtue of the 1646 treaty. Parties of horsemen were ordered to process the bounds annually. The southern boundary established by the 1646 treaty, which surveyors later demarcated, followed the Blackwater River toward its head, extending to the Appomattox and Monacan Indian towns. A trading path, perhaps dating to the 1646 establishment of Fort Henry as a trading center, traversed part of the land east and southeast of the Appomattox River and defined the boundary line in that area.

In March 1662, native leaders were forbidden to sell their land, and colonists were ordered not to purchase it. Special commissioners were supposed to visit each Indian town to "settle the bounds between us" (Blanton and King 2004). A multitude of old property transactions, both legal and illegal, clouded the boundary definition. Although the Colony's officials acknowledged that land was the crux of most disputes with the Indians, they also realized that the native population was dwindling and that their territory would eventually open to settlement. The legality of the patents issued to frontier settlers often hinged upon the Indians' deserting their land. In some instances, the Indians eagerly divested their land. In 1661, the Chickahominy Indians asked for acreage on the south side of the Mattaponi River. As soon as the Government granted their request, they sold nearly 750 acres to a local clergyman. The unscrupulous often drove natives from their homes (Blanton and King 2004).

Pressure to open native lands to settlement intensified as planters resented allocating large, desirable tracts to a population with diminishing ranks. A 1669 census of Virginia's natives identified 18 recognized groups with 725 warriors distributed throughout eight Tidewater counties (Blanton and King 2004). In 1670, when Augustine Herrmann made a relatively detailed map of Virginia and Maryland, he indicated that settlements dotted the shorelines of the major rivers and their tributaries. He identified the Blackwater Swamp and nearby put the word "Plant[ati]ons," thereby suggesting that European settlement was present (Figure 6).

By the early 1670s, natives to the north and west of the colonized area began to prey on Virginia's tributary Indians and frontier settlers, especially those who lived near the fall line. Thus, the tributaries found themselves trapped between the colonists, whose plantations were engulfing their habitat at an alarming rate, and hostile tribes. The population grew, and the pressure to extend settlement into native territory increased considerably. Planters, who frankly coveted the large tracts allocated to the Indians whose population was visibly dwindling, attempted to acquire their acreage through both legal and illegal means. Competition for land and disagreements over boundaries, livestock, trade, and hunting and fishing habitats were a steady source of conflict that all too often culminated in violence (Blanton and King 2004).

Because the Government was obliged to protect the colonists and tributary natives, in 1676, the Government constructed nine forts at strategic locations. These forts were expensive to build and maintain and useless against a highly mobile enemy whose strategy was an ambush. The Government constructed one fort at the head of the Nansemond River, at New Dursley (Dursly) or Currawaugh, close to the northern limits of Dismal Swamp, and pressed men from Isle of Wight, Nansemond, and Lower Norfolk Counties into service at the fort. Young Nathaniel Bacon, whose upper James River plantation was attacked by Indians, agreed to lead an unauthorized march against the native population. Thus began the uprising known as Bacon's Rebellion, which spread throughout Tidewater, Virginia, and deeply affected the native population. When Bacon and his followers marched on Jamestown, they forced the Burgesses to enact a group of laws, including one making it legal to patent Indian land as soon as the natives abandoned it. This provision provided land-hungry planters a new incentive to drive Indians from their tribal preserves.

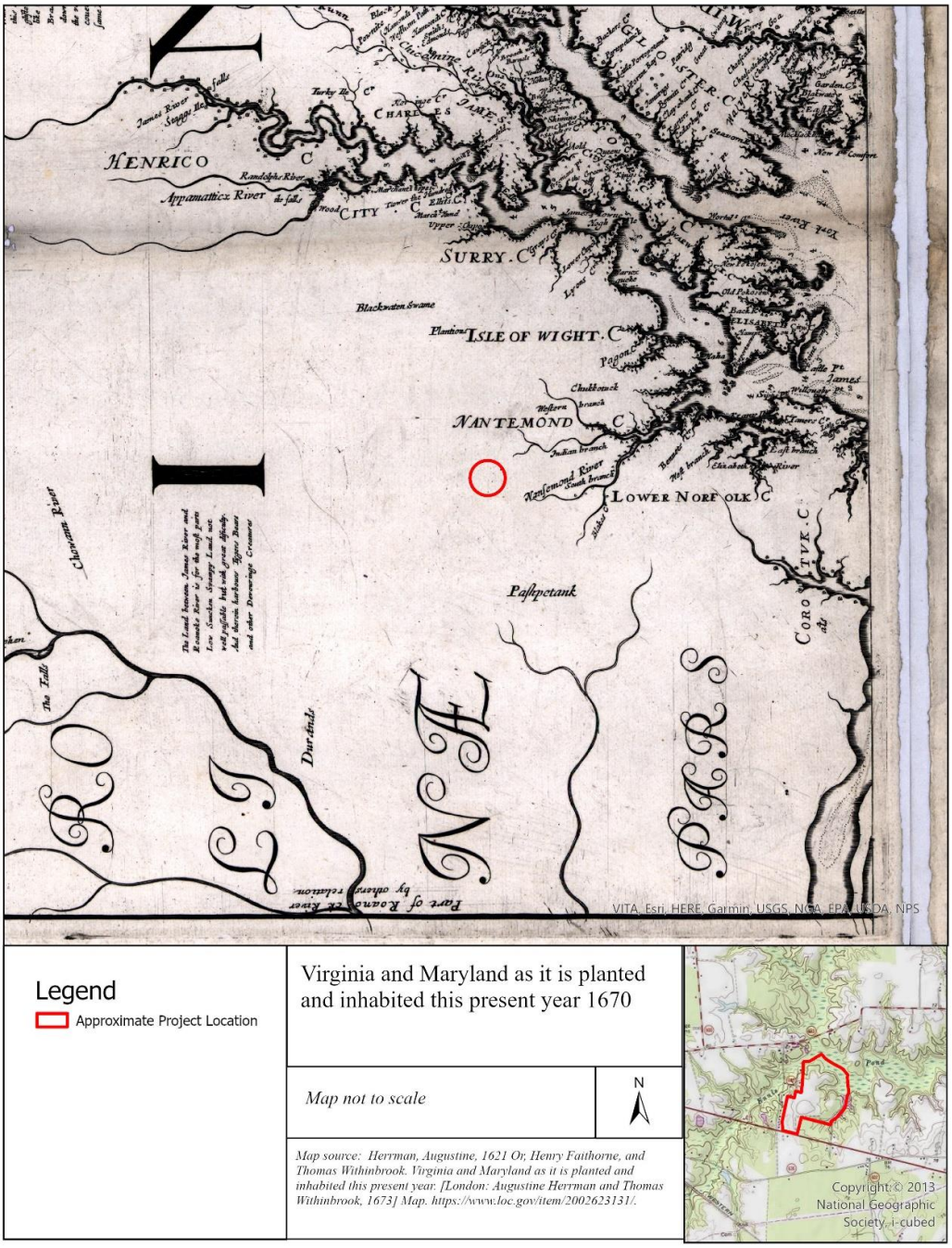


Figure 6. Detail of *Virginia and Maryland as it is planted and inhabited this present year 1670* surveyed and exactly drawne by the only labour & endeavour of Augustin Herrman bohemiensis.

In May 1677, after Bacon's Rebellion ended, the colonial government and the tributary Indians made a formal peace agreement at Middle Plantation. The Queens of the Pamunkey and the Weyanoke and the Kings of the Nottoway and the Nansemond acknowledged their allegiance to the Crown and conceded their entitlement to land derived from the British monarch by endorsing the Treaty of Middle Plantation. A critical provision of the 1677 treaty was that "Noe English shall seate or plant nearer than three Miles of any Indian towne and whomever hath made an encroachment upon their Land shall be removed" (Blanton and King 2004). Further, signatory tribes were entitled to the protection of the colonial government. All tributary Indian leaders were to have equal power except Cockacoeske, the Queen of Pamunkey, under whose rule were placed "severall scattered nations," notably the Chickahominy, Rappahannock, and probably the Mattaponi and Totachus (Blanton and King 2004). In 1680, the Treaty of Middle Plantation expanded to include leaders of the Saponi, the Manakin, the Meherrin, the Nanzattico, the Portobago, and another Nansemond group, along with the original signers. The Rappahannock, Chickahominy, Mattaponi, and Totachus were conspicuously absent, probably because the Pamunkey Queen represented them (Blanton and King 2004).

On December 30, 1682, the General Assembly voted to abolish the latest forts along the frontier, as maintaining them was prohibitive. The Burgesses noted that the need for fortifications was lessened somewhat by a recent peace agreement with the Indians beyond Virginia's borders. In 1691, as settlement became denser on the south side of the James River, formal survey lines were run from the head of the southern branches of the Blackwater River to the upper limits of the old Appomattox Indian town. Thus, the boundaries established through the 1646 treaty remained fixed. Although conflict over trade occasionally erupted, as the 17th century ended, relations between the colonists in the coastal plain and their Indian neighbors were relatively peaceful (Blanton and King 2004, Hening 1809-1823).

Early on, the territory on the lower side of the James River became known for its agricultural productivity. By the third quarter of the 17th century, the plantation system had become established, and Virginia's more successful planters had begun accumulating wealth. As European colonists displaced the Indians, they made an indelible imprint upon the landscape (Hening 1809-1823).

In May 1688, Virginia officials asked the King for permission to issue patents for vacant Indian land in Pamunkey Neck and on the south side of the James River at Blackwater Swamp. The Councilors noted that in former times, large quantities of land had been laid out for the benefit of the "very considerable nations of Indians . . . now wasted and dwindled away, [who] however doe [still] hold and possess [it]" (Blanton and King 2004). They claimed that the tributary Indians had asked them to allow settlers to seat their land to prevent foreign Indians from invading, adding that the Indians had found "such large Tracts of Land are of noe benifitt nor use unto them" (Blanton and King 2004). Throughout the 1690s, the Governor and Council repeatedly asked the King to allow patents on vacant Indian lands. These requests came after native groups had repeatedly asked for patents and requested that their land be clearly defined (Blanton and King 2004).

In 1693, when the College of William and Mary received its royal charter, it became entitled to 10,000 acres in King William County's Pamunkey Neck and a similar amount of land on the

south side of the Blackwater Swamp. This expansion would have placed additional pressure upon any natives living there. In 1697, the Governor's council suspended the Isle of Wight County surveyor, from which Southampton was formed, for "taking entries" along the Blackwater River. Two years later, in 1699, the Nansemond Indians sold off their 300 acres of land between the Meherrin and Blackwater rivers and went to join the Nottoway. The English, interested in moving into the area, claimed that the Indians had deserted it several years earlier. By 1711, the Nansemond lived one-and-a-half miles up the Chowan River, near the Nottoway River's mouth. Although they reportedly had 30 warriors in 1705, by the 1780s, their population was reported to consist of only five people.

Additional legislation enacted in October 1705 cost tributary tribes much of their land. The General Assembly decided that "where an Indian town is seated, on or near a navigable river, and the English have already seated and planted within three miles of the said town, on the opposite side of the river, the said clause [of the 1677 treaty] shall not be construed . . . to give the Indian town any privilege on the said opposite side. The burgesses minimized the new law's significance by calling it an "explanation of a clause in the articles of peace" (Blanton and King 2004). However, its implications were much more severe, for most Indian towns or preserves were on the waterfront. Thus, it quickened the pace of native land loss.

Most of the Nottoway Indians who remained in Virginia after defeating the Tuscarora in a war along the Carolina border moved to the south and west of the Nottoway River. Other Nottoway joined the Tuscarora and moved to New York to become the sixth Iroquois nation. Ultimately, Virginia's Nottoway Indians were given a reservation just west of the Southampton County seat, Jerusalem (now Courtland [Rountree 1989]).

In 1728, Colonel William Byrd went to the Nottoway Indian town. Henry Howe, a historian, transcribed and published Byrd's account of the visit in 1845. Byrd said that shortly before his group arrived at Nottoway Town, they sent a messenger to announce their intention to visit. He noted that the Nottoway occupied a fort covering a square piece of ground. Substantial puncheons or palisades surrounded the fort. The Nottoway's had constructed bark-covered cabins fabricated from saplings arched over at the top within their fort. Byrd described the cabins' interiors and noted how the Indians dressed, fashioned their hair, and adorned themselves with jewelry and body paint. He also spoke of the Natives' hospitality and the entertainment they provided. Byrd estimated that in 1728, approximately 200 men, women, and children were associated with Nottoway Town. In 1845, Howe noted that the Nottoway Indians inhabited a good reservation about 15 miles square, on the Nottoway River, near Jerusalem, the County seat (Howe 1969).

Claiming vacant land and obtaining a legally binding title was relatively easy. Many Virginians constructed simple, inexpensive, earth-fast dwellings that did not require skilled labor. Thus, impermanent architecture was typical throughout the Chesapeake region (Carson *et al.* 1981). In October 1705, when patenting land criteria were refined beyond the nebulous standards that had been set in 1666, "the building of one house of wood, after the usuall manner of building in this colony, being at least in length 12 foot and in breadth 12 foot, and clearing, planting and tending to at least one acre of ground, shall be . . . declared to be a good and sufficient seating" of a 50-acre tract (Hening 1809-1823). In 1713, prospective patentees were given three years in which to

build “one good dwelling house after the manner of Virginia building, to contain at least 20 ft. in length and 16 ft. in breadth” or 320 square feet (Hening 1809-1823). By 1749, the southern part of Isle of Wight County had become so populous that Southampton County was formed (Virginia State Library 1965).

Colony to Nation (1750-1789)

During the 18th century, additional small towns began to develop in Isle of Wight County. Smithfield was incorporated in 1752, just one year after Joshua Fry and Peter Jefferson created their map of Virginia (Figure 7). Fry and Jefferson noted development occurring, but no development was in the project area. Laid out on a portion of Arthur Smith’s farm that bordered Pagan Creek, the area already boasted a tobacco storehouse, a public landing, and access to the ferry landing. This development quickly allowed Smithfield to become the County's principal port (CHG 2019). Crops such as peas, hoop poles, bacon, staves, and peanuts were traded with England and the West Indies (AECOM 2019). When Joshua Fry and Peter Jefferson prepared their map of Virginia, they failed to indicate the extent to which Nansemond County's interior had developed. However, they showed that major roads approached the Town of Suffolk from the northwest and south (Virginia State Library 1965). During the 1760s, a group of investors decided to construct canals and causeways in the Dismal Swamp.

Isle of Wight’s economy in the second half of the 18th century centered around tobacco cultivation, even though the Southside’s sandy soils were never particularly conducive to growing the crop. However, by the latter years of the 18th century, Isle of Wight’s farmers began diversifying their crops and exploring alternative products. Part of the success of diversified crops was the easy access to the James River and the establishment of ferries at Pagan Creek and Cypress Creek (AECOM 2019, Morrison 1907). Touring the Smithfield area in 1783, German visitor Johann David Schoeff commented that:

> *...the coast is nearer here, one has passed the tobacco country proper, the plant not thriving on the poorer sandy soil of the region, but tobacco is brought hither from more distant parts; on the other hand, the extensive pine forests supply a different sort of produce, namely tar, pitch and turpentine, which with salted hog meat are the most important articles for export of this place* (King 1993).

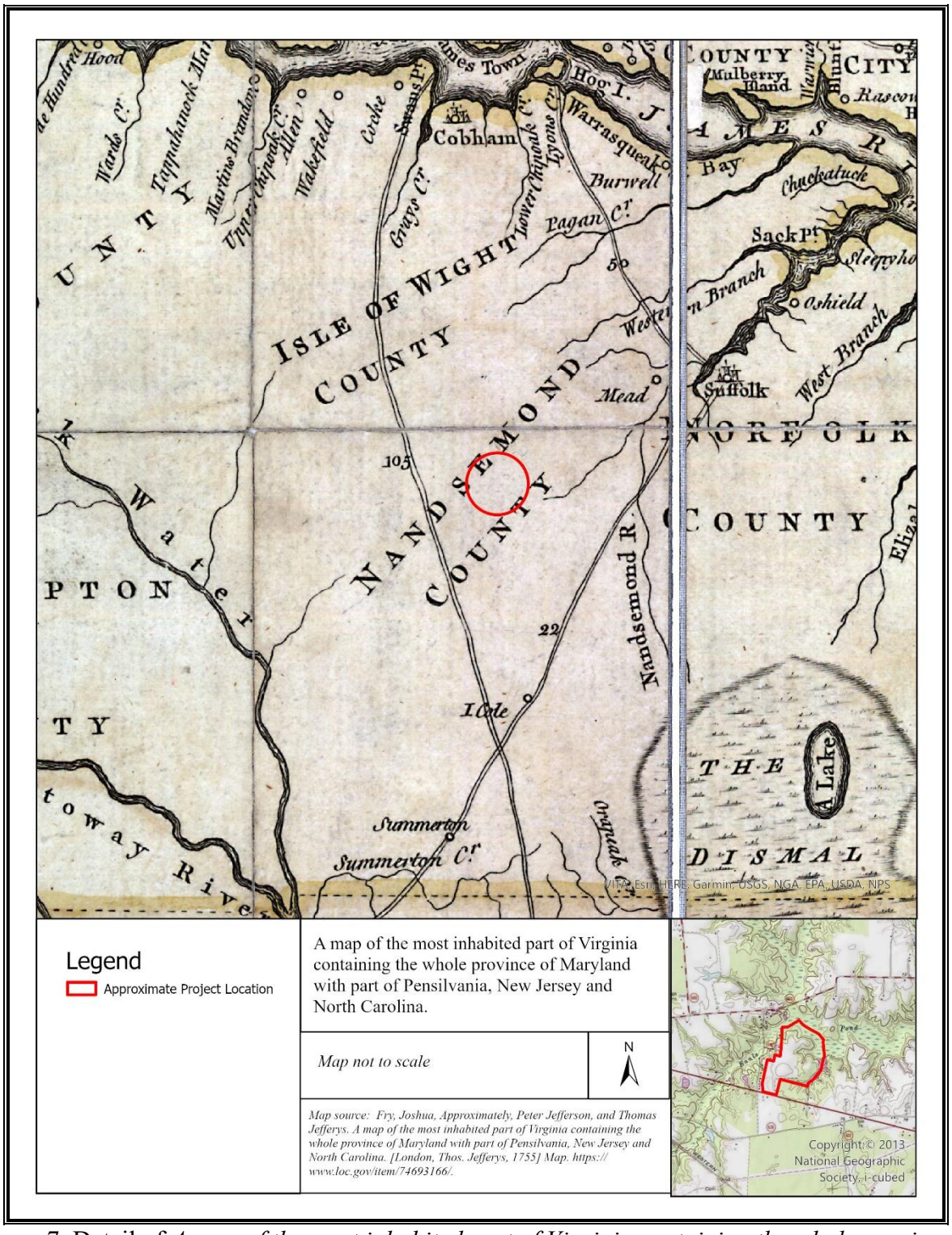


Figure 7. Detail of *A map of the most inhabited part of Virginia containing the whole province of Maryland with part of Pensilvania, New Jersey and North Carolina*. Drawn by Joshua Fry & Peter Jefferson in 1751.

As with most other parts of Virginia, the citizens of Isle of Wight were divided in their loyalties as the revolution grew imminently in the 1770s. Many English and Scottish immigrants resided in Isle of Wight. When they left the County, their property reverted to the Government, which typically sold the land to their more "patriotic" neighbors. Several local men joined the Princess Anne District Battalion in 1775 and fought at Kempsville and Portsmouth.

At the onset of the Revolutionary War, Hampton Roads' strategic importance led to a succession of military cartographers mapping the area. According to one local historian, foreign trade entered the Southside during wartime through a depot at South Quay on the Nottoway River, having come there by the Albemarle Sound. Military supplies and other stores that came by this route were transferred to wagons and hauled to the nearby city of Suffolk. These goods most likely were transported to Suffolk via Route 58's forerunner. South Quay, one of the few ports free of British naval control, provided a shipbuilding facility and access to Albemarle Sound during the war. In 1781, a British cavalry force under Banastre Tarleton rode out from Portsmouth and burned South Quay (Virginia State Library 1965).

Later in the war, Isle of Wight men served in the 7th, 8th, and 9th companies of the 4th Virginia Regiment of Foot. No major battles were fought in Isle of Wight during the Revolutionary War. However, British Lt. Col. Banastre Tarleton led a raid against the Isle of Wight courthouse in Smithfield in 1781. Tarleton damaged the building, though the court records had recently been removed and hidden (King 1993).

During the last quarter of the 18th century, Crublier D'Opterre prepared a map showing some of the Hampton Roads area's public highways, including the old thoroughfare that connected Portsmouth and Suffolk (Route 337/Airline Boulevard) and the road that ran from Suffolk to the Dismal Swamp. He also indicated that a road headed southwest along the Nansemond River's southern branch intersected with the road to Smithfield. Thomas Jefferson labeled the Town of Suffolk on his map of Virginia and identified the site of Sleepy Hole; however, he omitted any development present in Nansemond County's interior (Figure 8 [Jefferson 1787; Norfleet 1974]). Jefferson did not note any development within the project area. Cartographer Samuel Lewis focused on what he considered the Colony's main thoroughfares, emphasizing the roads that connected Suffolk with Portsmouth and Smithfield but omitting any that may have passed close to the project area (Lewis 1794).

Early National Period (1789-1830) and Antebellum Period (1830-1860)

During the end of the 18th century and the beginning of the 19th century, Isle of Wight transitioned from a predominantly tobacco economy to one characterized by diversified farming and the exploitation of the County's timber resources. By the 1830s, Isle of Wight farmers grew enough cotton to support two local factories (King 1993). The most important local products include wheat, corn, oats, Irish potatoes, sweet potatoes, peas, beans, hogs, and forest products. Development in Isle of Wight County is evident on an 1825 map of Virginia created by Herman Boye (Figure 9). His map shows the beginning of a road network, although no development is shown within the project area.

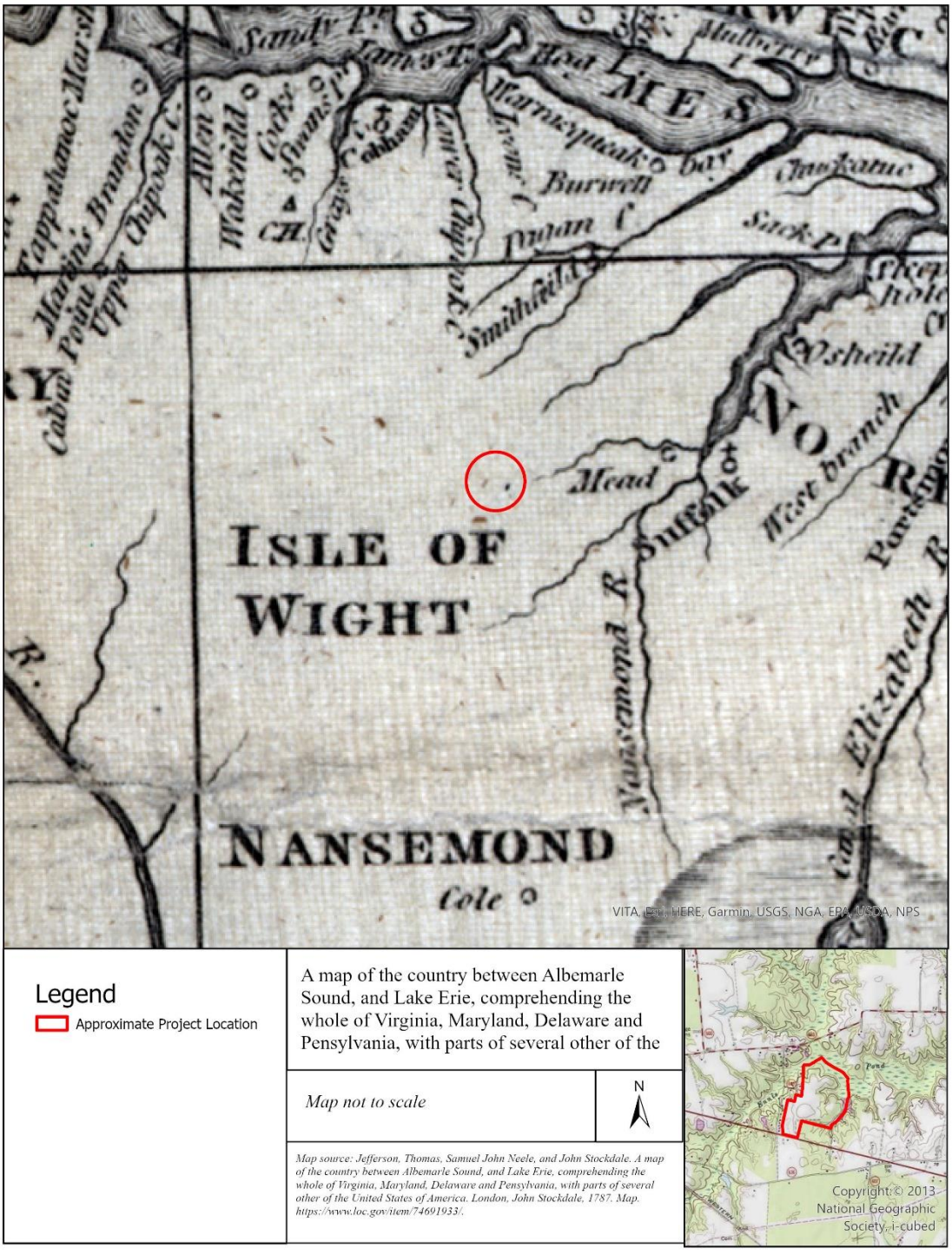


Figure 8. Detail of *A map of the country between Albemarle South, and Lake Erie, comprehending the whole of Virginia, Maryland, Delaware, and Pennsylvania, with parts of several other of the United States of America*. 1787.

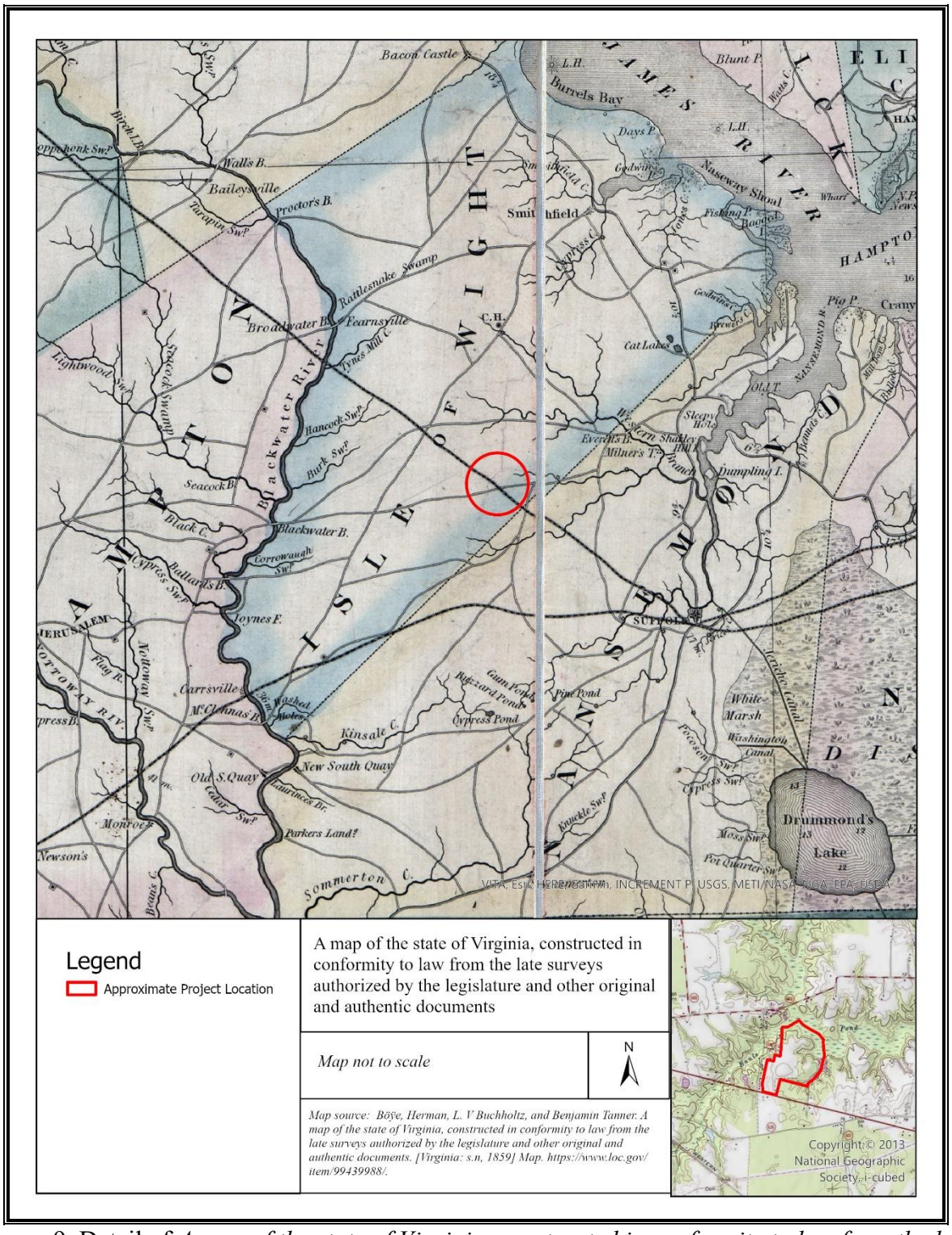


Figure 9. Detail of *A map of the state of Virginia, constructed in conformity to law from the late surveys authorized by the legislature and other original and authentic documents* by Herman Boye, 1825.

Previous research into Nansemond and Norfolk counties' land use patterns revealed that during the 18th and early to mid-19th centuries, middling landowners often possessed two or more outlying parcels where they erected improvements, leasing both land and buildings to tenants or sharecroppers. This pattern may have evolved from both counties' proximity to seaports, where a steady flow of landless new immigrants emerged. Some landowners used a subsidiary tract as a plantation quarter where they placed a farm manager or overseer and a gang of slaves (Nansemond County Land Tax Lists 1820-1850).

From 1830 to 1860, the population of Isle of Wight County remained virtually constant at around 5,000 inhabitants. Slavery was not as crucial to the county's social and economic makeup as it was in other Tidewater counties in the antebellum period. Isle of Wight County was home to numerous free slaves before Emancipation. By 1860, there were 1,370 free blacks residing in the County; together, they held 2,965 acres of land, a modest average of 44.25 acres per adult male (King 1993).

As time went on, the region's transportation network became increasingly sophisticated. In 1832, a group of Portsmouth citizens organized the Portsmouth and Roanoke Railroad Company, one of the nation's earliest railways. The Company's first train steamed into Suffolk in 1834, and by 1837, its tracks extended to the Roanoke River. In 1846, the fledgling rail line was reorganized, and its name was changed to the Seaboard and Roanoke Railroad.

Isle of Wight County's economy had never been heavily oriented toward slave labor, and many of its citizens questioned the wisdom of fighting a sectional conflict to protect what they perceived to be the interests of large slave owners. However, when war was finally declared, many Isle of Wight men willingly took up arms to defend the Confederacy, some joining the Surry Light Artillery Company and others joining the Isle of Wight Grays, which became Company D of the 16th Virginia Infantry Regiment (King 1993).

Civil War (1861-1865)

In 1861, when the Civil War began, Fort Monroe, a strongly fortified and well-staffed Union military complex located across the James River from Norfolk and Portsmouth, threatened the south side of Hampton Roads. When Union forces abandoned the navy yard at Gosport early in the war, Confederate troops poured into the area, erecting defensive batteries at the Navy Yard, Navy Hospital Point, Pinners Point, Craney Island, Pig Point, Fort Norfolk, Boush Bluff, and Seawell's Point. By November 1861, the lower side of Hampton Roads housed more than 20,000 Confederate troops (Butts 1961).

When Federal Major General Benjamin Butler seized Newport News in May 1861, Confederate General Robert E. Lee quickly realized the threat posed to Suffolk, a critical junction of the Southside railroad lines connecting the port of Norfolk with Petersburg and Richmond. Immediately, Lee ordered local commander Brigadier General Benjamin Huger to strengthen the region's defenses and erect or expand the number of fortifications along the Nansemond River and the south side of the James River in Isle of Wight County. On May 14, 1862, several Federal gunboats came up the James and fired on Fort Boykin, an important Southside fortification located on Burwell's Bay, several miles west of Smithfield. Overwhelmed by the longer range of the Union guns, the Confederate defenders of Fort Boykin abandoned the defenses, destroying

their guns and the fort's buildings. After this engagement, Huger withdrew his forces from the Southside forts, and the battery near Ragged Island was likely abandoned by late May 1862 (King 1993).

According to a local historian, the nearby Franklin area felt the effects of the Civil War shortly after the Union Army seized Norfolk in 1862. In a preemptive move, the Confederates burned the railroad bridge across the Blackwater River at Franklin and the Nottoway River Bridge. The Confederates withdrew from Franklin in anticipation of a Union Army advance in October 1862, when the Union Army assaulted Franklin to disrupt Confederate communications. Confederate infantry, positioned upon Crumplers Bluff, less than a mile downstream from Franklin, ambushed a Union gunboat with a barrage of heavy musket fire. Simultaneously, pickets on the east side of the river foiled the Union Army's efforts to seize the rail depot at Franklin and the floating bridge across the Blackwater River. The Confederates also held off a Union infantry force (Parramore 1978).

Between the fall of 1862 and the spring of 1863, Union General John J. Peck was ordered to Suffolk with approximately 9,000 men to repel the advance of a Confederate force that was 15,000 strong. Peck viewed Suffolk as "the key to all the approaches to the mouth of the James River on the north of the Dismal Swamp" for it was "at the head of the Nansemond River, with the railway to Petersburg and Weldon." Convinced that access to the James River via Suffolk was vital to the support of the Confederate Army, on September 25, 1862, Peck and his men set about constructing an elaborate ring of fortifications about the city, sealing it from the outside. Meanwhile, on February 26, 1863, Confederate General James Longstreet was detached from Lee's army and placed in the Department of Virginia and North Carolina command. He had between 12,000 and 15,000 troops on the Blackwater River and a similar number between Petersburg and the James River, making around 35,000 men. In early April, General Peck learned that there was a Confederate troop build-up near the Blackwater River and braced for an attack. On April 11th, the Confederates advanced, found Suffolk strongly defended, and withdrew, taking up a strong position outside the city. A few days later, General Longstreet informed his superiors that although he was convinced that "we could reduce [Suffolk] in two or three days," he doubted that "we can afford to expend the powder and ball." He stated that his men had been collecting supplies from the eastern coasts of Virginia and North Carolina. Longstreet received orders to move his men to Fredericksburg relatively quickly. However, he was obliged to delay his departure until he could withdraw his supply trains to safety across the Blackwater River (Johnson and Buel 1956, Hobbs and Paquette 1987). Thus, the Confederates departed from the area without having pressed their offensive.

Later in the war, the fall of coastal North Carolina's defenses left the Confederate cities of Norfolk and Portsmouth open to attack from the south. This vulnerability, when viewed considering the massive Union presence at Fort Monroe, led Confederate officials to declare martial law in the cities and make plans to evacuate women and children. In the spring of 1862, Union General George B. McClellan marched out of Fort Monroe and began advancing up the James-York peninsula toward Richmond. General John E. Wool, in support of McClellan's offensive, dispatched troops to Norfolk and Portsmouth, which quickly surrendered. Although Suffolk remained for a time in the hands of local citizens, Confederate forces ultimately

withdrew across the Blackwater River, where they were under the command of General Roger A. Pryor (Butts 1961, Hobbs and Paquette 1987, Johnson and Buel 1956).

Isle of Wight County saw few direct military engagements during the war, the most significant being the Battle of Smithfield of January 31 - February 1, 1864, in which Confederate defenders repulsed a minor Union assault against the town. Living in a sort of no-man's-land, Isle of Wight's citizens were harried by Federal cavalry raids, frequently resulting in the appropriation of supplies and the destruction of property. An 1864 resolution of the County's justices succinctly outlined the hardships faced by Isle of Wight citizens during the war years:

> *Whereas on account of the exposed condition of the County, being beyond the lines of the Confederate Army and subject to frequent and destructive raids of the enemy and the difficult and embarrassed communication with other sections of the state, our people, in a great measure, are dependent upon their own resources for an adequate supply of the necessities of life. And whereas, on account of the loss of almost our entire slave population, and the loss of a number of our free labor, and the conscription of white men between the ages of eighteen and forty-five to recruit the ranks of our armies, there is a great scarcity of productive labor, and whereas any further extension of conscription within the limits of this County will but result in the paralyzing of production and great suffering and hardships upon those who will be left at home . . . all other business is suspended in the County and, our people with scarcely an exception, are engaged in the cultivation of the soil* (King 1993).

Maps of the area drawn during this time show development around the project area with no development directly within the project area (Figure 10 – 14). Union Army topographic engineer A. D. Bache, whose "Map of the coast of Virginia and North Carolina" and "Map of Eastern Virginia" cover a broad expanse of territory, showed the region's major roads and canals and a few scattered residences (Bache 1862, 1862-1863). Union and Confederate troops clashed in sporadic raids along the Blackwater River throughout the war.

Reconstruction and Growth (1865-1917)

Four years of civil war had a devastating effect on the land and people of Virginia, and Isle of Wight County was no exception, though it suffered less than other parts of the Commonwealth. The wake of the conflict left the County poorer as the lack of draft animals and the poor condition of long-neglected fields hampered agricultural life. It was difficult for most former slave owners to face Emancipation emotionally and financially.

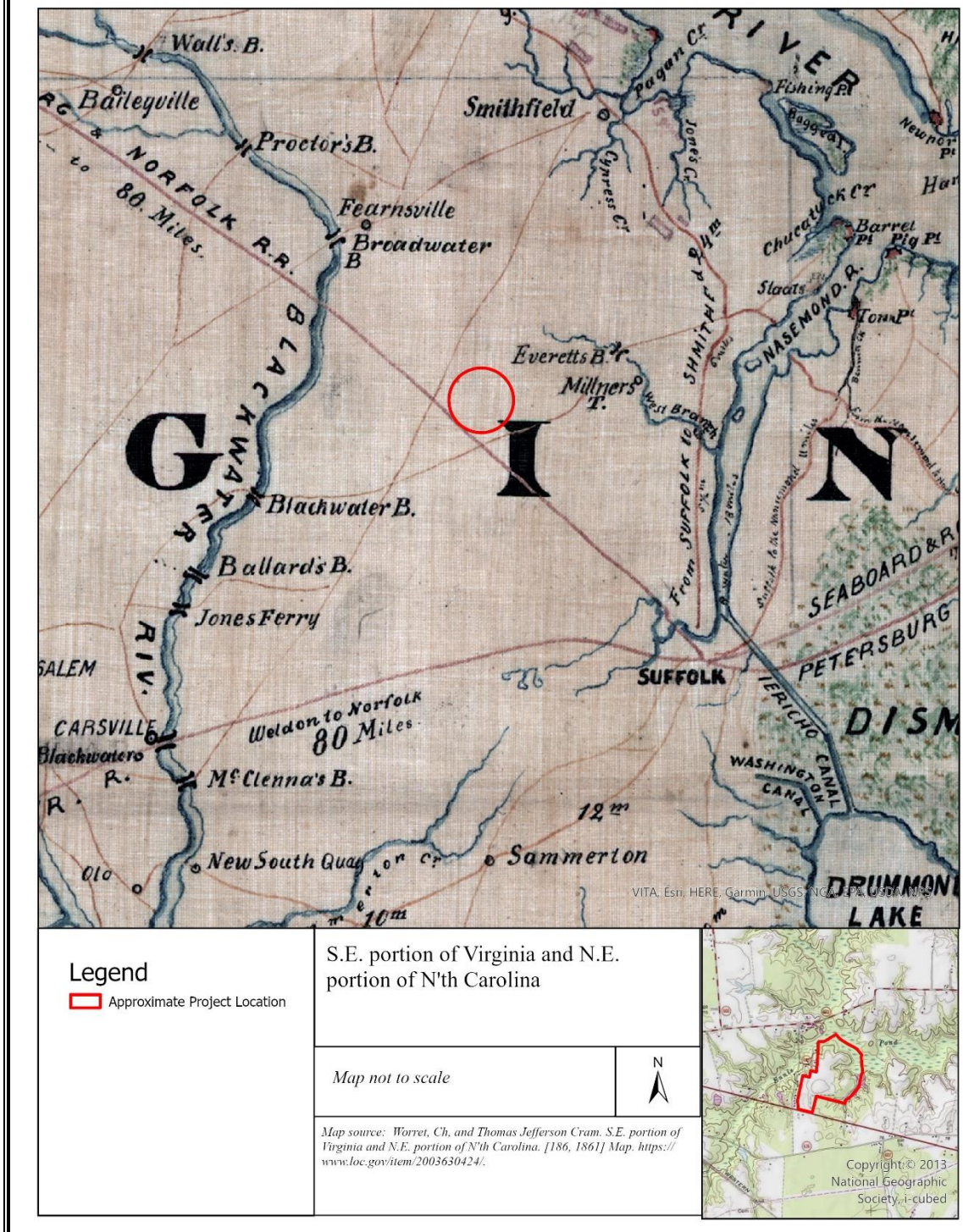


Figure 10. Detail of *S. E. portion of Virginia and N. E. portion of N'th Carolina*. 1861.

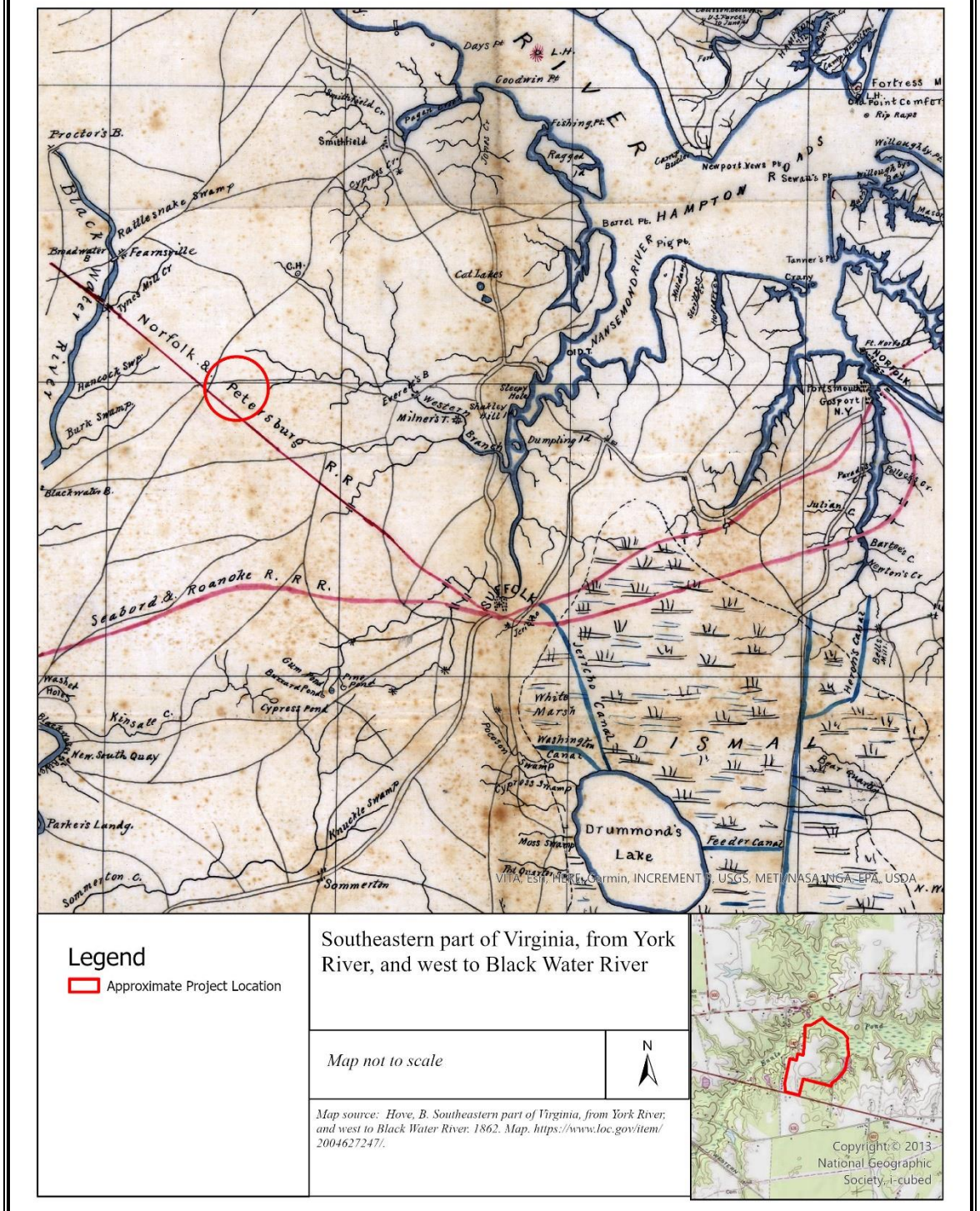


Figure 11. Detail of *Southeastern part of Virginia, from York River and west to Black Water River,* B. Hove, 1862.

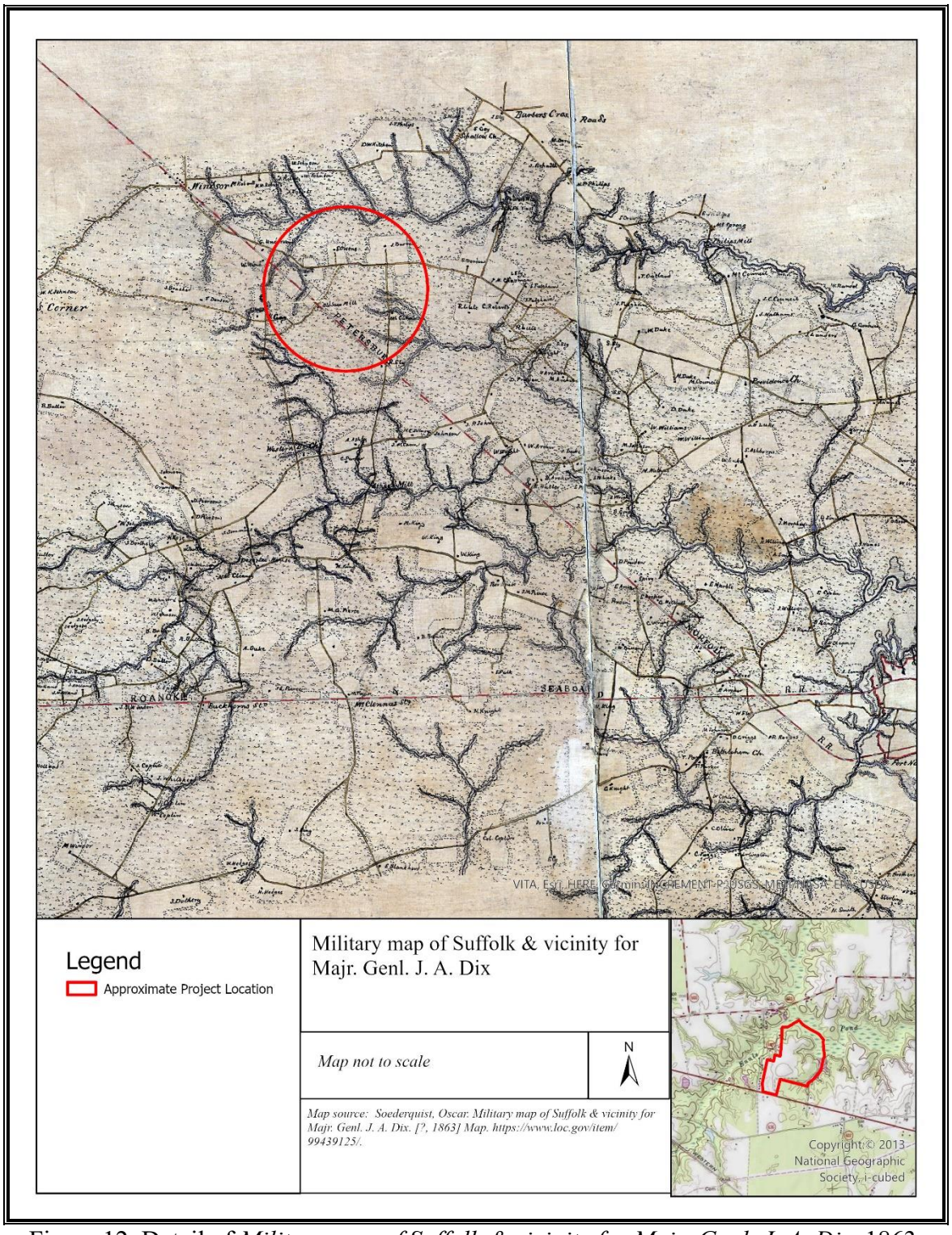


Figure 12. Detail of *Military map of Suffolk & vicinity for Majr. Genl. J. A. Dix*, 1863.

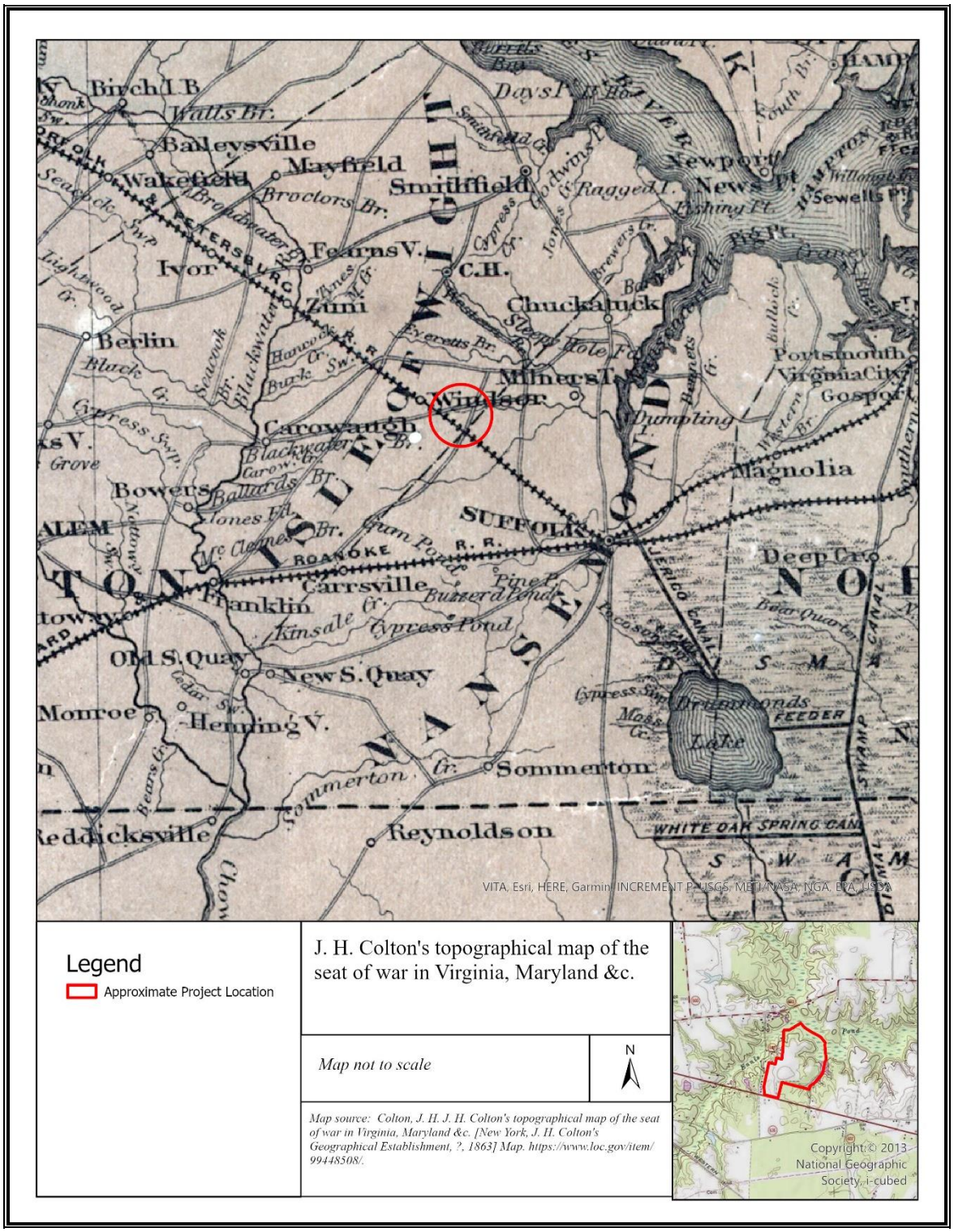


Figure 13. Detail of *J.H. Colton's topographical map of seat of war in Virginia, Maryland*, J.H. Colton's Geographical Establishment, New York. 1855.

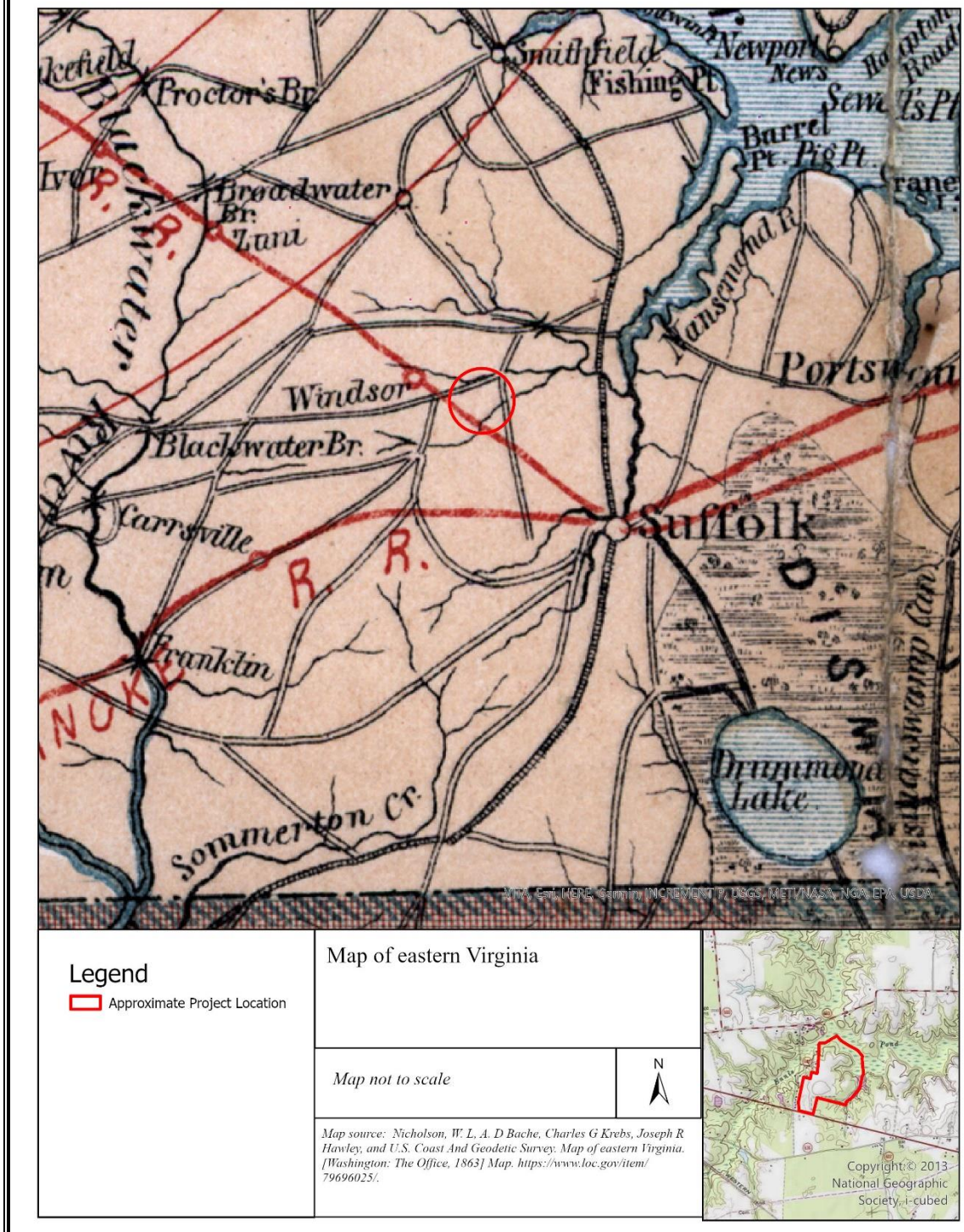


Figure 14. Detail of *Map of eastern Virginia,* A. D. Bache, 1863.

The County's population also dropped considerably in the immediate postwar years. In 1860, Isle of Wight's residents numbered nearly 10,000; by 1870, the population had fallen by almost 20% to 8,320. After the war, many black and white residents left the Isle of Wight in large numbers, seeking work in nearby cities. Physically, economically, socially, and politically, the landscape of the County had been irrevocably altered in a brief period (King 1993).

One major problem that confronted the Union Army leadership during the war years was how to provide food, shelter, and employment to the numerous former slaves who sought refuge behind their lines, many of whom arrived with only the clothing they wore and a few belongings. After the fighting ceased, the Government assigned the dilemma of providing for these men, women, and children to the Bureau of Refugees. Bureau officials supported ex-slaves by resetting them upon private property that white families had abandoned when fleeing from Union-occupied territory. They also made use of rural acreage confiscated for back taxes. The Bureau of Refugees subdivided some of these abandoned or confiscated farms and leased small plots to black refugees who paid their rent in crop shares (Bureau of Refugees 1862 - 1866). Although some of the farms occupied by black refugees were located at the head of the Nansemond River's southern branch, none were near the project area.

Several local black citizens were elected to public office during the Reconstruction Era. In time, this election of black citizens led to a white backlash that resulted in the election of a Conservative (Democratic) legislature and, ultimately, the disenfranchisement of blacks. In 1870, the adoption of a new state constitution established a public school system with mandatory attendance for blacks and whites. In 1872, Suffolk received a new town charter, and seven years later, the town limits were expanded. Gradually, as the scars of war healed, the region began making slow but steady economic progress. Suffolk's commercial power grew because it was the terminus for six railroad lines (the Norfolk and Western, the Southern, the Atlantic Coast Line, the Seaboard Air Line, the Virginian, and the Suffolk and Carolina). Ready access to rail transportation fostered the development of manufacturing facilities.

Agricultural changes in Isle of Wight County, including the remarkable growth of peanut and soybean production, spurred population growth toward the end of the 19th century. By 1890, the County's population exceeded its pre-war levels. Truck farming and manufacturing facilities also brought new income to the area. Peanut factories, lumber mills, foundries, woodworking establishments, knitting mills, a shirt factory, machine shops, and ice factories were built in Suffolk. Outside the Town limits were brickyards, cotton gins, grist and flour mills, and other manufacturing facilities. Farming, lumbering, and peanut processing were the predominant occupations in rural areas. In 1907, Joseph B. Dunn reported that the lower part of the County was primarily devoted to truck farming, whereas the upper part was ideal for peanuts. During the late 19th and early 20th centuries, small communities grew around train stations, crossroads, and industrial facilities (Hobbs and Paquette 1987).

World War I to World War II (1917-1945)

The beginning of the 20th century saw frequent and rapid change in the Isle of Wight County. For example, electricity became available to most rural residents after 1939, when the Community Electric Cooperative began raising power lines. However, perhaps the most significant local development witnessed during this period was the construction of the James River Bridge,

officially opened by President Calvin Coolidge on November 17, 1928. Virtually overnight, the bridge ended Isle of Wight's relative isolation from Hampton Roads' growing urban centers. County businessman and booster Albert Sidney Johnson was instrumental in getting the main north-south U. S. highway, Route 17, routed through Isle of Wight via the James River Bridge and across the new Crittenden and Nansemond River bridges to Portsmouth and Norfolk. Initially, the bridge tolls were high enough to discourage daily commuting to the Peninsula. However, ready access to the region's cities still proved a significant stimulus to the local economy despite the onset of the Depression (King 1993). Maps of the area drawn during this period show this growth, with one house situated within the project area, presumably the Saunders house (Figure 15).

The New Dominion (1945 to present)

Isle of Wight grew at an unprecedented rate after World War II, and today, the County has over 28,500 residents, more than double the population at the turn of the 20th century. In 1975, Virginia took over the James River Bridge and removed the tolls; as a result, Isle of Wight County quickly developed into a bedroom community of Newport News, with residential developments springing up along the Route 17 corridor. Despite this increasing residential growth, the majority of Isle of Wight County remains predominantly rural (King 1993). Maps of the area drawn during this period show this continued rural nature, with the project area now shown as an agricultural field with the Saunders House within the project area (Figures 16 - 20).

The military veterans who returned to Suffolk after World War II found what had become a growing commercial and industrial center. Although peanut farming and other agricultural enterprises continued employing numerous workers, several manufacturers had entered the area. The city also had four lumber companies and some meat-packing plants. The Lipton Tea Company and General Electric also established manufacturing facilities in Suffolk. The city also continued to be a vital railroad terminus served by five rail lines. After World War II, the Government transferred to Suffolk, an airport formerly operated by the Navy (Hobbs and Paquette 1987).

Brief History of the Project Area

The Windsor Commerce Center property can be traced through Isle of Wight County real estate records from the present to 1866 (Table 2). However, anecdotal evidence can trace the property back to the 18th century. Before the 1770s, the Saunders family owned the project area. Mr. Saunders passed away sometime before 1771, and his wife, Martha, decided to remarry. She petitioned the Isle of Wight County courts for one-third of her late husband's estate, and in February 1771, the court granted her the land and two slaves, Tom and Joan. Martha married planter John Carstephan and lived with him on his farm (Smith 1985).

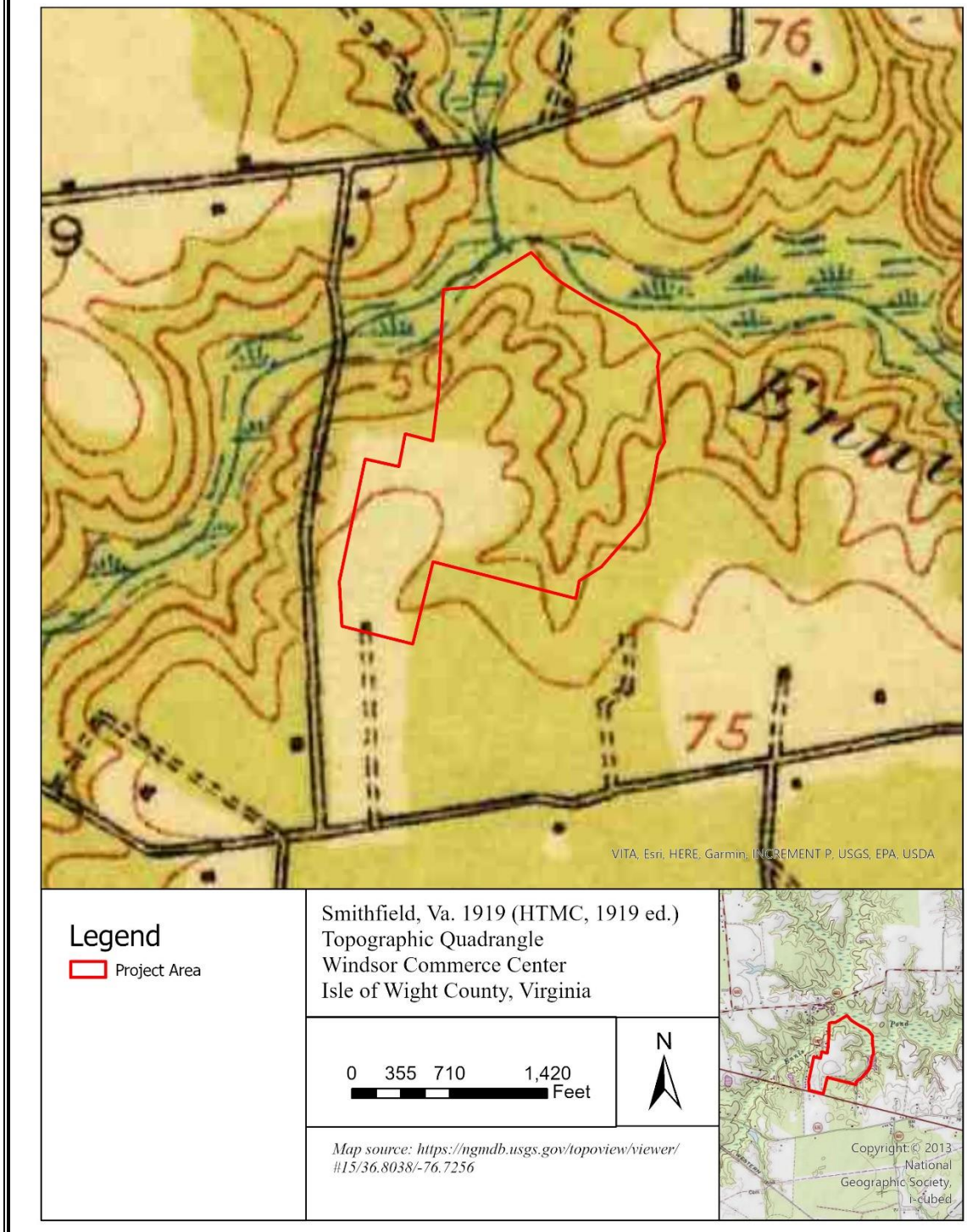


Figure 15. Detail of 1919 Smithfield quad.

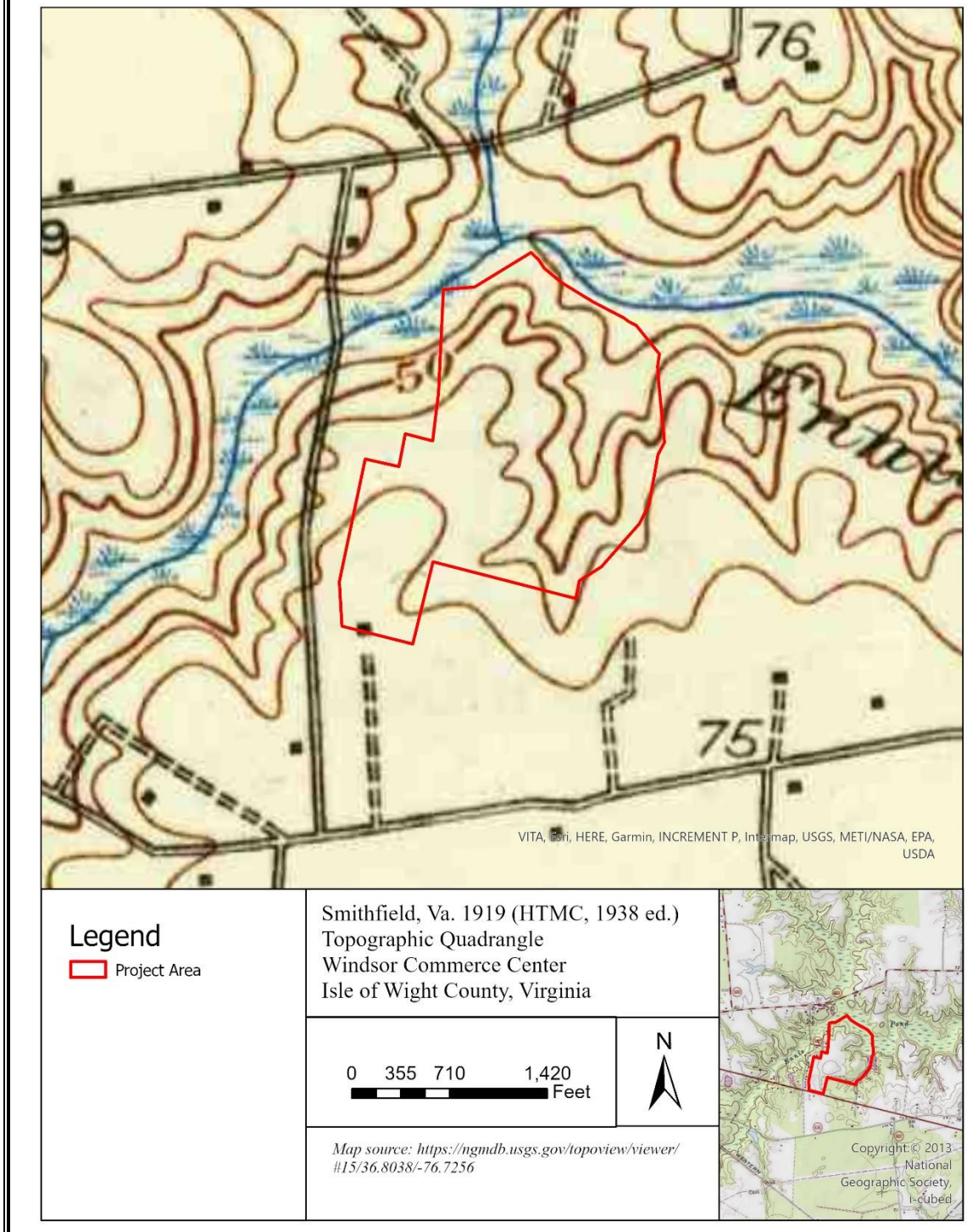


Figure 16. Detail of 1938 Smithfield quad.

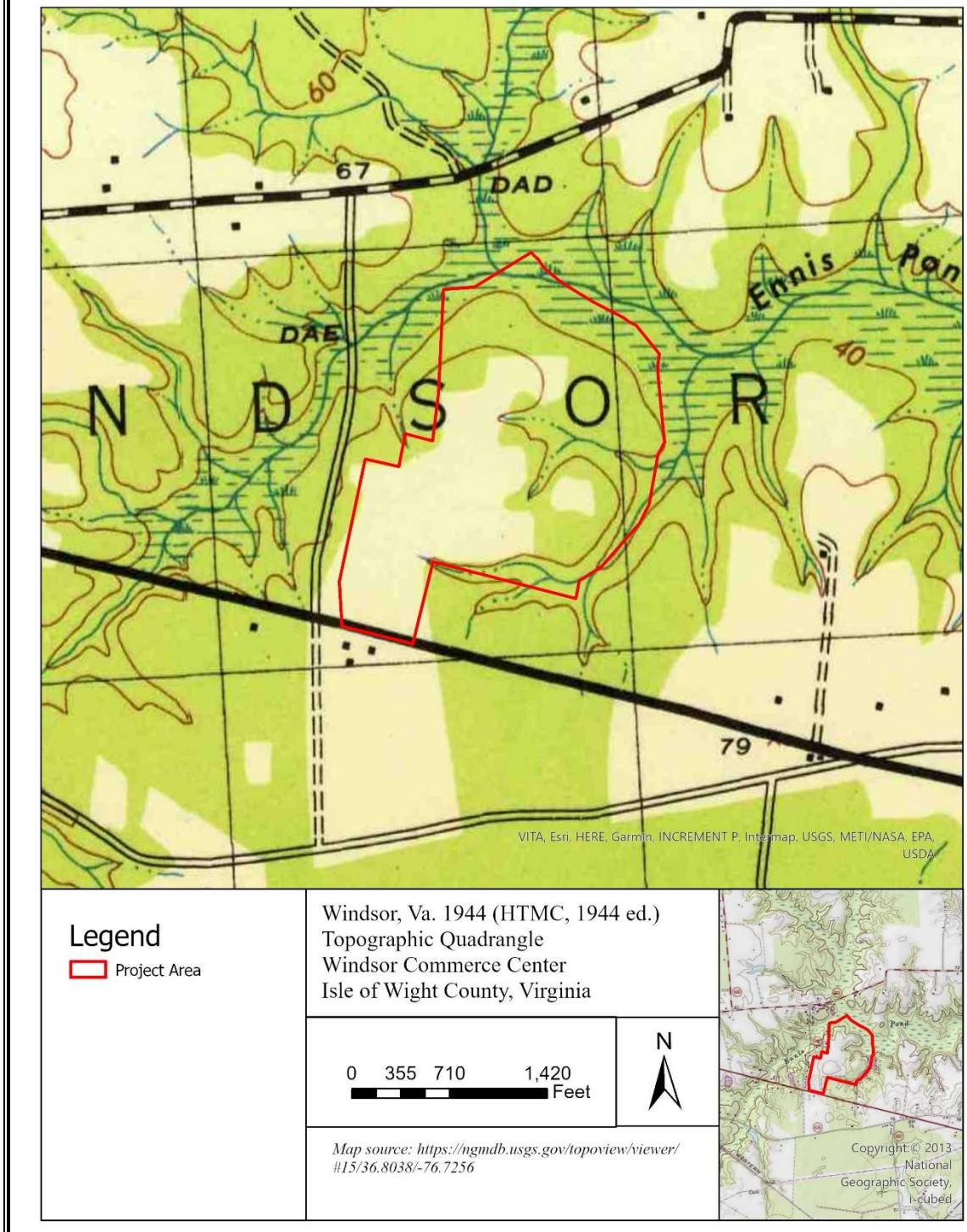


Figure 17. Detail of 1944 Windsor quad.

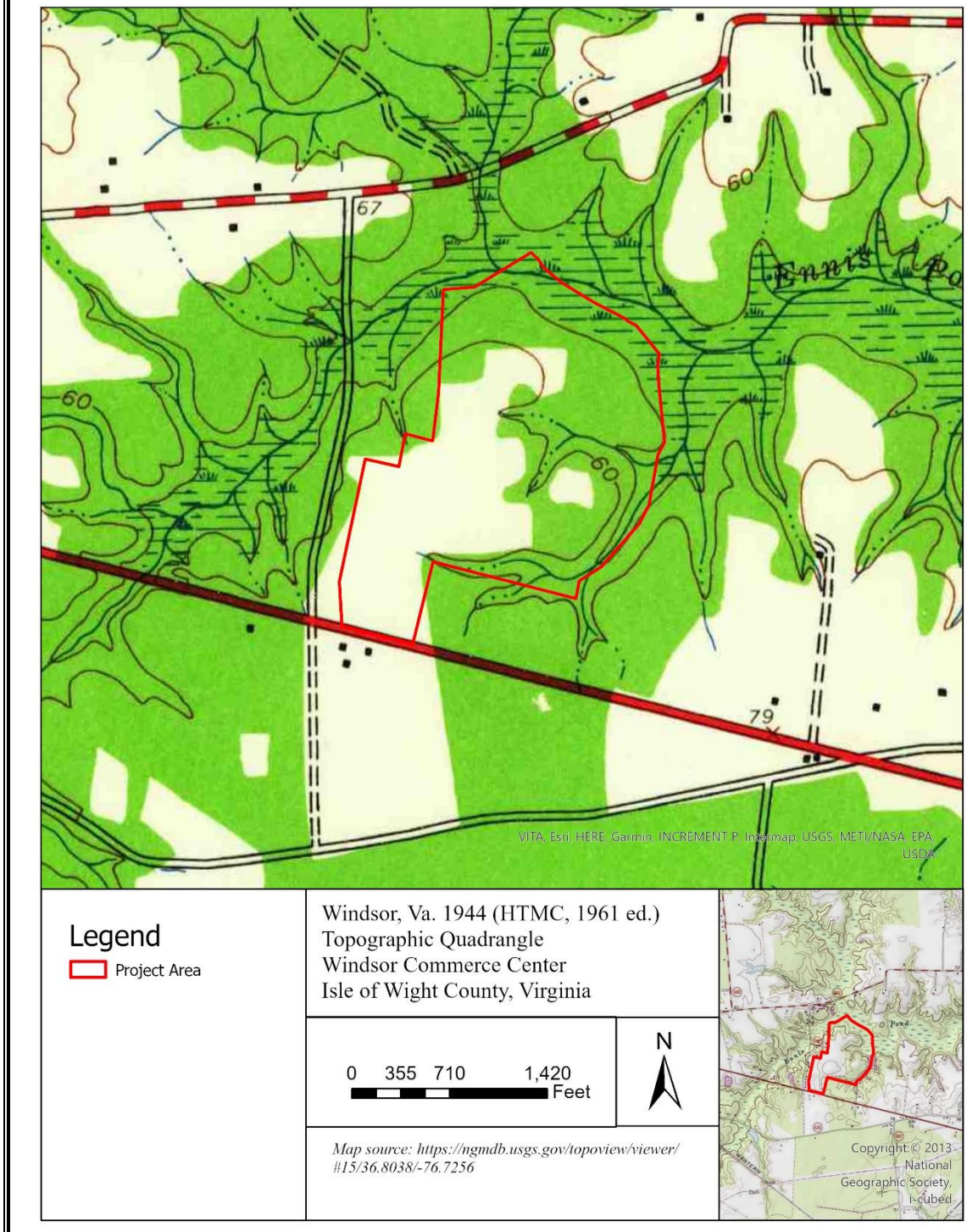


Figure 18. Detail of 1961 Windsor quad.

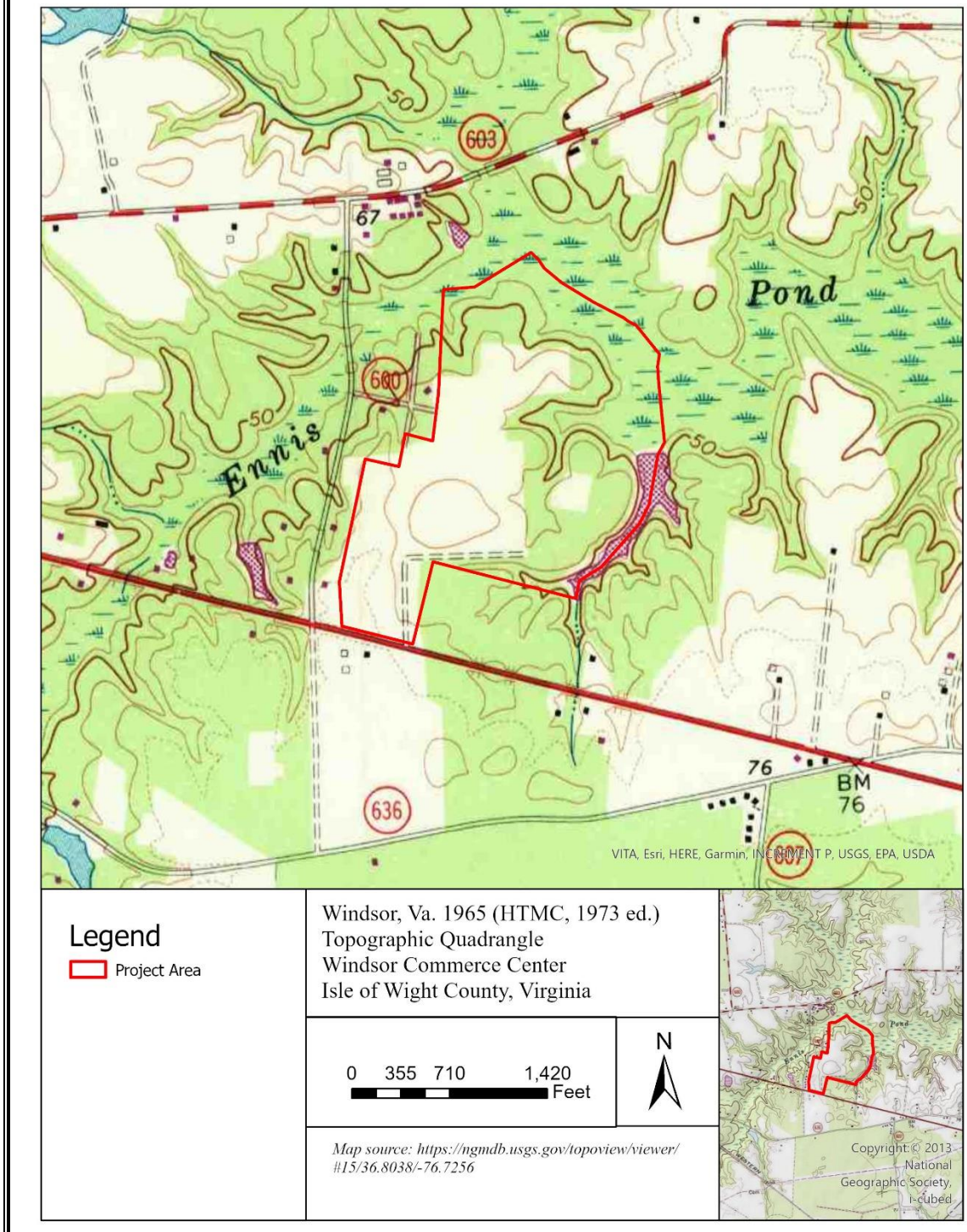


Figure 19. Detail of 1973 Windsor quad.

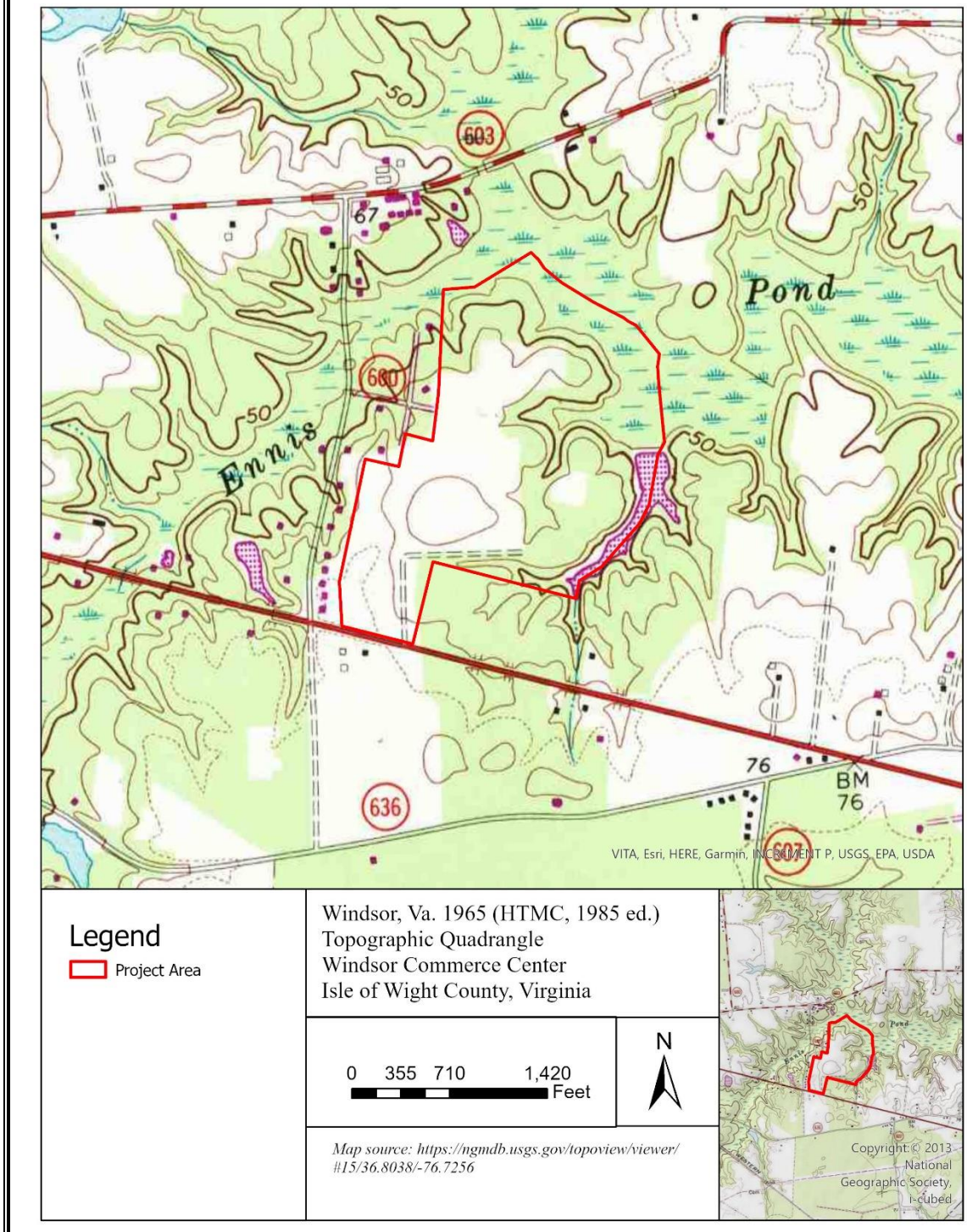


Figure 20. Detail of 1985 Windsor quad.

Martha's son, Henry Saunders, inherited the family property when he came of age in the mid-1770s. When he inherited the land, it contained approximately 250 acres and came with four to five slaves. Shortly after inheriting the property, Saunders enlisted in the military and served as a Lieutenant during the Revolutionary War (Smith 1985). After the war, in 1779, Henry married Anne Tallough, and together they had two children: a daughter named Betsy and records indicated another unnamed child (Smith 1985). Saunders added to his land holdings through the remainder of the 18th century, buying property and then selling property to purchase slaves before acquiring more property. In 1780, he bought 620 acres on the Blackwater River from his wife's family, including the project area. Three years later, he obtained a 57-acre grant. In 1787, he bought 687 acres from another planter, which gave him ownership of approximately 1,041 acres in Isle of Wight County, including the project area acreage (Smith 1985).

Saunders' property was next to William Eley, a wealthy landowner whose large house set a precedent for residences in the area. Keeping up with Eley was costly, and Sanders sold some property to build his home. However, that sale did not provide enough funding for his construction, and in 1797, Saunders mortgaged the remainder of his land and built what came to be known as the Henry Saunders House. In addition to the house, Saunders built several outbuildings, including a kitchen and cellar (Smith 1985). It is reasonable to assume that he built some slave quarters, as he still owned slaves.

In 1808, Henry Saunders's wife Anne was murdered, and the Isle of Wight County courts charged him with the crime. Saunders was found guilty and sentenced to 18 years in prison. It is presumed that he died in a Richmond prison. A year after the trial, the property was foreclosed on and sold at a public auction. A widow named Anne Scott purchased a portion of the property, including the house, which still stands on the adjacent parcel to the east (Smith 1985).

By the 1860s, according to deed records, Stephen S. Barrett owned the property. In November 1866, Barrett sold approximately 306 acres to Robert Eley. Robert Eley remained the owner of the property until his death. The land was seized and sold at a public auction when he died. George R. Atkinson was appointed Special Commissioner of the case and, in January 1887, sold 100 acres to W. J. Nelms. At the time, Nelms owned the adjacent property to the east, and the house on the property to the east was known as the Saunders, aka Nelms house. Nelms retained this portion of the property for less than a month and, in February 1887, sold the 100 acres to Joseph D. Jones.

Joseph D. Jones owned the property until his death. This ownership is consistent with the cemetery on the property, which has a gravestone for Joseph Jones. When Jones passed away, the land was once again seized. B. F. Holland was appointed Special Commissioner for the case, and in September 1897, he sold approximately 374 acres at a public auction to K. E. Johnson. The deed for this transaction noted that Johnson lived in North Carolina, and there is no indication that he ever lived on the property. The property remained in the Johnson family until the mid-20th century.

In 1961, the property became part of a chancery case between Harry T. Johnson and Otis H. Johnson. A. E. S. Stephens and Rodham T. Delk were appointed Special Commissioners and ordered to sell the property at public auction. On November 24, 1961, they sold approximately

279.58 acres to Fred T. Mathews, the highest bidder. Mathews retained ownership of the property until his death. When Fred T. Mathews died, his family, including his widow Hazel K. Mathews and sons Fred T. Mathews, Jr., John Thomas Mathews, and Robert S. Mathews, sold the property HRFT, Inc. The deed for this transaction noted that the property contained 279.58 acres on both sides of Route 460. HRFT, Inc. retained the property until 2008 when they sold it to the Board of Supervisors for Isle of Wight County. They retained the property for two weeks and, in October 2008, sold it to the Industrial Development Authority of Isle of Wight County, listed in the Isle of Wight County real estate records as the current owners.

Table 2. Deed Research for the Project Area.

Grantor	Grantee	Instrument #	Book/Page	Date
Isle of Wight County	Industrial Development Authority of Isle of Wight County	080005646		10/28/2008
HRFT, Inc.	Isle of Wight County	080005325		10/6/2008
Fred T. Mathews, Jr. and John Thomas Mathews, executors of the estate of Fred Tunstall Mathews, Sr., Hazel K. Mathews, widow of Fred Tunstall Mathews, and Robert S. and Barbara S. Mathews	HRFT, Inc.		211/271	1/14/1972
A.E.S. Stephens and Rodham T. Delk, Special Commissioners	Fred T. Mathews		164/537	11/24/1961
B. F. Holland, Special Commissioner	K. E. Johnson		62/32	9/3/1897
W. J. Nelms	Joseph D. Jones		51/133	2/8/1887
George R. Atkinson, Special Commissioner	W. J. Nelms		51/131	1/3/1887
Stephen S. Barrett	Robert Eley		41/15	11/24/1866

Summary of Late 18th to mid-19th Century Domestic Sites

Fourteen previously recorded historic archaeological sites and 30 previously identified architectural sites are located within one mile of Site 44IW0395, which is identified as a late 18th to mid-19th century domestic site. Of these sites, 13 resources date from the late 18th to the mid-19th century and contain a domestic component (Table 3 and Figure 21). Of these sites, one dates to the Archaic period and the 18th, 19th, and 20th century; one dates to the Native American period and the 18th and 19th century; two date to the 18th century; one dates to the 18th and 19th century; one dates to the 19th century; six dates to the 19th and 20th century; and one has no associated date but has a historical component.

Many of these resources provided substantial building details. Most appear to be typically one or one-and-a-half-story, gable roof, often with dormers, Georgian style, hall and parlor or central passage design, wood-frame houses clad in wood weatherboard and resting on raised brick foundations with two interior or exterior end chimneys. The windows are typically sash, double-hung sash, or wood-framed. There is often a front porch and an ell extension. Many of these dwellings were situated on small parcels with a few outbuildings. The outbuildings typically included a combination of barns, smokehouses, corncribs, sheds, granaries, wells, slave or servant quarters, and sometimes a family cemetery.

Two of these sites also included a Native American component. These typically consisted of quartzite flakes, projectile points, and quartz or quartzite debitage. These findings indicate that

the components are small temporary campsites used by probably only one group at a time with no long-term, day-to-day activities.

Given this review of dwellings near Site 44IW0395, most of these domestic sites appeared to have at least one single dwelling, and several had a few scattered outbuildings with family cemeteries.

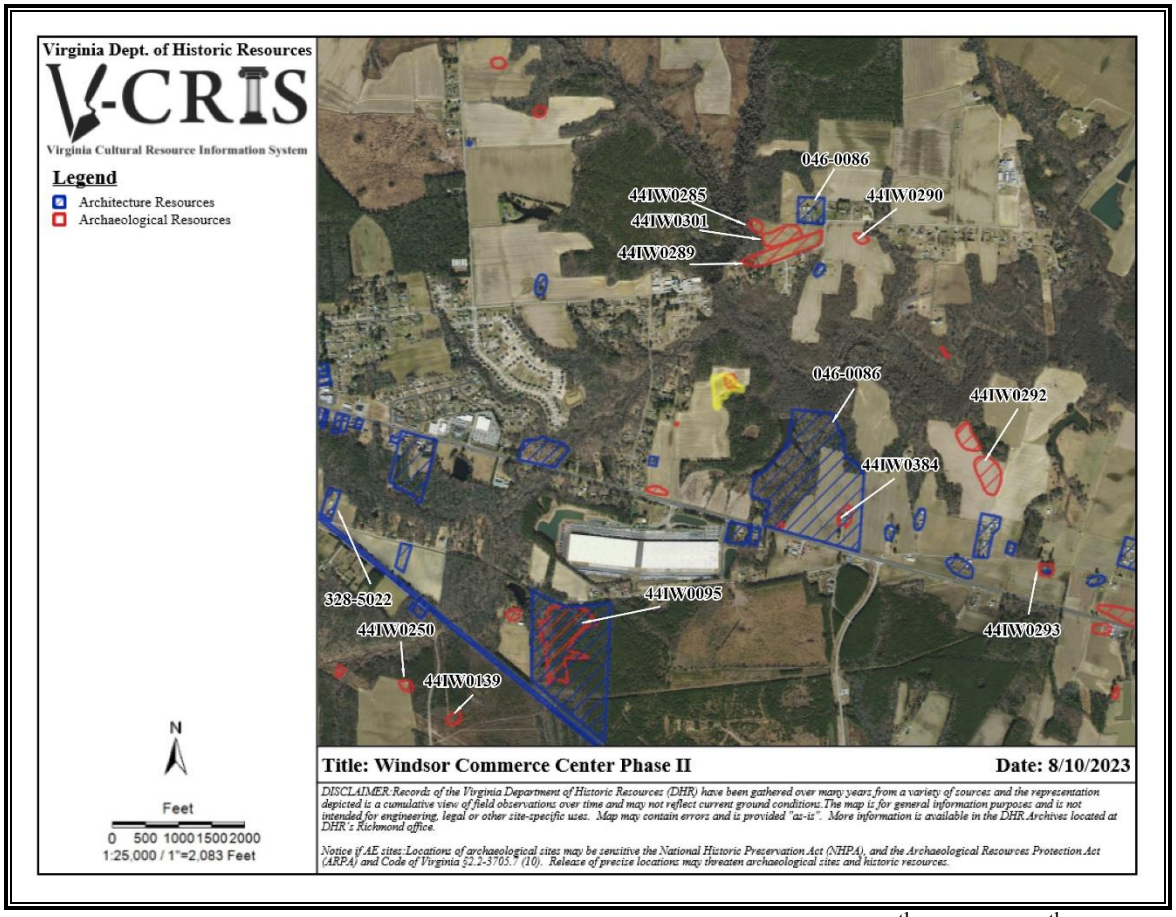


Figure 21. VDHR V-CRIS map showing previously identified late 18th to mid-19th century domestic resources within one mile of the project area (yellow-shaded area).

Table 3. Previously Identified Late 18th to Mid-19th Domestic Sites Within One Mile of The Project Area.

Site Number	Site Chronology	Site Type	Native American Artifacts	Historic Ceramic Artifacts	Other Historic Artifacts	Site Size	Soil Type	Additional Site Information
44IW0095 See also 046-5347	Archaic 18th century 19th century 20th century	Camp, cemetery, and single dwelling	Palmer points, Morrow Mountain points, Savannah River points, one chert secondary flake, three quartz biface fragments, one quartz primary flake retouched, two quartz secondary flakes, two quartz tertiary flakes, eight quartz shatter, one trimmed cobble, one quartzite scraper tool, ten quartzite biface fragments, four quartzite fire-cracked rock, one ground quartzite tool fragment, nine quartzite primary flakes, 15 quartzite secondary flakes, 12 quartzite tertiary flakes, five trimmed quartzite cobbles, one secondary rhyolite flake, one rose quartz primary flake, one rose quartz tertiary flake	None listed	None listed	21.29 acres	None listed	The site is located in the James River drainage
44IW0139	Native American 18th century 19th century	Camp, artifact scatter	Four quartz debitage, two quartzite debitage	Whiteware sherds	Bottle glass fragments, table glass fragments	None listed	None listed	None listed

Site Number	Site Chronology	Site Type	Native American Artifacts	Historic Ceramic Artifacts	Other Historic Artifacts	Site Size	Soil Type	Additional Site Information
44IW0250	19th century 20th century	Farmstead	None listed	Ceramic sherds	Glass fragments	None listed	None listed	The site is located 12 feet AMSL in the Dismal Swamp drainage basin
44IW0285	18th century 19th century	Artifact scatter	None listed	Creamware sherds, pearlware sherds, Rhenish stoneware sherds, white salt-glazed stoneware sherds	Melted solarized manganese glass fragments	0.73 acres	Sandy loam with a clay subsoil	The site is located 12 feet AMSL in the James River drainage basin
44IW0289	19th century 20th century	Artifact scatter	None listed	One stoneware sherd, one pearlware sherd, five whiteware sherds, two earthenware sherds, two slipped stoneware sherds, one porcelain sherd	Cobalt glass fragments, amethyst glass fragments, colorless glass fragments, brick fragments	5.50 acres	None listed	The site is located 54 feet AMSL in the James River drainage basin
44IW0290	19th century 20th century	Artifact scatter	None listed	One creamware sherd, one white salt-glazed stoneware sherd	Two olive green bottle glass fragments, one solarized manganese bottle glass fragment, one opaque white glass fragment	0.59 acres	None listed	The site is located 71 feet AMSL in the James River basin
44IW0292	19th century 20th century	Artifact scatter	None listed	One whiteware sherd, one ironstone sherd, two china sherds, two earthenware sherds	One solarized manganese bottle glass fragment, one milk glass fragment, four bottle glass fragments, one copper alloy Blue Bell brand button	4.11 acres	None listed	The site is located 63 feet AMSL in the James River drainage basin

Site Number	Site Chronology	Site Type	Native American Artifacts	Historic Ceramic Artifacts	Other Historic Artifacts	Site Size	Soil Type	Additional Site Information
44IW0293	19th century 20th century	Single dwelling	None listed	Porcelain sherds, whiteware sherds, one earthenware sherd	Bottle glass fragments, one canning jar lid, manganese bottle glass fragments, milk glass fragments, chimney lamp fragments, four window glass fragments, three nail fragments, two iron fragments, five brick fragments, two charcoal fragments	0.85 acres	None listed	The site is located 75 feet AMSL on a flat area in the James River drainage basin
44IW0301	19th century 20th century	Artifact scatter	None listed	Two Bristol-slipped stoneware sherds, one Albany-slipped stoneware sherd, whiteware sherds, porcelain sherds	One solarized manganese glass fragment; olive green bottle glass fragments, colorless bottle glass fragments, one white glass collar button, one copper alloy faucet valve; brick fragments	3.13 acres	None listed	The site is located 66 feet AMSL in the James River drainage basin
44IW0384	Historic	Farmstead	None listed	Ten whiteware sherds, two porcelain bisque sherds, one earthenware sherd	Four aqua bottle glass fragments, one clear bottle glass fragment, one cobalt blue bottle glass fragment, one green bottle glass fragment, one opaque white glass fragment, 24 reddish-brown handmade brick fragments, five oyster	1.250 acres	None listed	The site is located 75 feet AMSL in the James River Drainage Basin

Site Number	Site Chronology	Site Type	Native American Artifacts	Historic Ceramic Artifacts	Other Historic Artifacts	Site Size	Soil Type	Additional Site Information
					shell fragments, two coal fragments, four terracotta tile fragments, one amber bottle glass fragment, one wire nail fragment, three 5-inch long wire nails, one iron rivet, two iron fragments, one brick bat, one slate fragment, one plastic fragment, one charred wood fragment, one iron chain fragment			
046-0006	ca. 1795	Nelms, aka Henry Saunders House, aka Eley House	None listed	None listed	None listed	67.0 acres	None listed	The site includes one house, one corncrib, one shed, and one granary
046-0086	ca. 1780	Ennis Pond House, aka William Scott Farmstead, aka Roberts House	None listed	None listed	None listed	None listed	None listed	The site includes one house, one barn, one smokehouse, one kitchen, one corncrib, and one slave quarters
328-5022	ca. 1850	House, 11223 Windsor Boulevard	None listed	None listed	None listed	None listed	None listed	The site includes one house and one barn

RESULTS

The field survey provides specific information concerning the location, nature, and distribution of artifacts across the site area. Appendix A contains the VDHR V-CRIS form. Appendix B contains the inventory of artifacts recovered.

Site 44IW0395

Background

Circa~ identified Site 44IW0395 by a moderate surface scatter of artifacts in the field and Phase I shovel testing on a 50-foot grid in the forested area to the southeast (Plate 1). In addition, Circa~ completed judgmental shovel testing in the field to determine the depth of the plowzone. The surface collection and Phase I shovel tests indicated artifacts concentrated within an area measuring approximately 325 feet north-to-south by 400 feet east-to-west. Circa~ excavated 23 shovel tests in this area on the 50-foot grid and 11 shovel tests on 25-foot intervals. Of these, 17 shovel tests were negative, and 17 were positive. The site borders were defined by the surface scatter and shovel testing to the south and east.



Plate 1. View of the site environs, looking, west.

In the forested area, Stratum A, lying under an inch or two of root mat and organic matter, ranging from a very dark-brown (10YR 2/2) to a very dark grayish-brown (10YR 3/2) sand from 0.45 to 0.65 feet thick. Stratum B ranged from brown (10YR 4/3) to yellowish-brown (10YR 5/4) sandy clay 0.35 feet to 0.60 feet thick. Stratum C, subsoil or C-horizon, consisted of light yellowish-brown (10YR 6/4) sandy clay excavated 0.30 feet.

Two soil strata were noted over subsoil in the cultivated field. Stratum A ranged from 0.60 to 0.75 feet thick and consisted of a grayish-brown (10YR 6/4 to 6/6) sandy plowzone. Stratum B ranged from brown (10YR 4/3) to yellowish-brown (10YR 5/4) sandy clay 0.30 feet to 0.45 feet thick. Stratum C, excavated 0.20 feet wide, consists of a sterile yellowish-brown (2.5Y 5/6) sandy clay subsoil or C-horizon.

Two hundred eighty-four artifacts were recovered from the survey, 21 from the surface collection, and 263 from shovel testing. On average, 15.47 artifacts were recovered from the 17 positive tests. Of the 284 artifacts recovered, two, or 1%, date to Native American land use, and 282, or 99%, are historic. Historic material included 21 artifacts recovered from the surface, 55 from Stratum A, and 206 from Stratum B.

Circa~ only collected a representative sampling of artifacts from the field to help date the site. Material recovered from the surface of the plowed field included two creamware, nine pearlware, and one stoneware sherd; six reddish-brown handmade brick fragments; and three oyster shell fragments.

Material recovered from Stratum A consisted of one dark green bottle glass fragment, one aqua window glass fragment, one wrought nail fragment, one burned 1 ½-inch long wrought nail, 51 reddish-brown handmade brick fragments, and one oyster shell fragment.

Material recovered from Stratum B included two quartzite secondary flakes, one coarse earthenware sherd, four pearlware sherds, one aqua bottle glass fragment, eight aqua window glass fragments, one cut nail fragment, and 186 reddish-brown handmade brick fragments.

The creamware sherds were potted in England circa 1775-1820 and were too small to identify the vessel's shape. The pearlware sherds were potted in England and date circa post-1779. The sherds represented two plates and one platter. One pearlware sherd exhibited a light and medium blue transfer print design typical of ware potted in England circa post-1795. This sherd was identified as a holloware vessel. The stoneware sherd exhibited a hand-decorated cobalt blue design typical of ware potted in America circa post-1750. The sherd was too small to identify the vessel shape. The combination of locally produced American and imported European ceramics indicates consumer activity reflective of household necessity. Utilitarian wares such as stoneware and other earthenware would have been purchased for daily food preparatory use and consumption without regard to the item’s aesthetic nature.

Phase II Excavations

Shovel Tests

Circa re-established the Phase I grid at the site and filled it in at 25-foot intervals with an additional 272 shovel tests (see map in Appendix C). Phase I surface survey and shovel tests indicated artifacts concentrated within an area measuring approximately 325 feet north-to-south by 400 feet east-to-west. However, the Phase II borders were expanded north and south to approximately 500 feet north-to-south by 400 feet east-to-west. The site's core is on the top of a knoll in the field, with gentle slopes to the east, north, and south. Of these shovel tests, 190 were negative, and 82 were positive. The site borders were defined by double-negative shovel tests to the west, north, and east and by the wetlands and double-negative shovel tests to the south.

In the agricultural field, Stratum A ranged from 0.40 to 0.65 feet thick and consisted of brown (10YR 5/3) silty sand plowzone (Figure 22). Stratum B ranged from 0.30 to 0.60 feet thick and consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep.

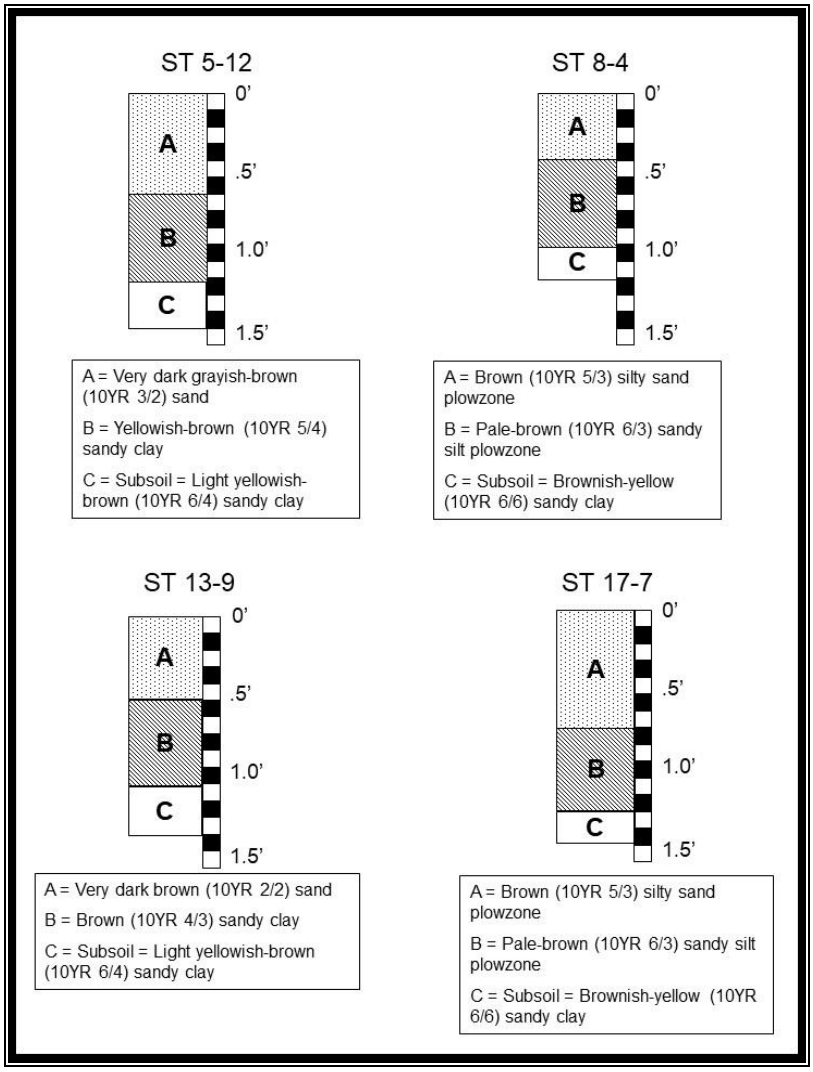


Figure 22. Phase II representative shovel test profiles.

In the forested area, Stratum A, lying under an inch or two of root mat and organic matter, ranging from a very dark-brown (10YR 2/2) to a very dark grayish-brown (10YR 3/2) sand from 0.45 to 0.65 feet thick (see Figure 23). Stratum B ranged from brown (10YR 4/3) to yellowish-brown (10YR 5/4) sandy clay 0.35 feet to 0.60 feet thick. Stratum C, subsoil or C-horizon, consisted of light yellowish-brown (10YR 6/4) sandy clay excavated 0.30 feet.

One thousand nine hundred and forty-one artifacts were recovered from 82 positive Phase II shovel tests. On average, 23.67 artifacts were recovered from the 82 positive tests. Of the 1,941 artifacts recovered, seven, or 1%, date to Native American land use, and 1,934, or 99%, are historic. Artifacts included 1,497 artifacts recovered from Stratum A, 69 from Stratum B, and 16 from Strata A and B. Five Native American artifacts recovered from Stratum A included one quartzite fire-cracked rock, one quartzite primary flake, one rhyolite secondary flake, one siliceous slate tertiary flake, and one quartzite reduced cobble fragment. Historical material recovered from Stratum A included one delftware, two creamware, and 15 pearlware sherds, two aqua, and three clear bottle glass fragments, two fire-damaged aqua bottle glass fragments, six aqua 2/32-inch-thick and one 3/32-inch-thick window glass fragments, two indeterminate nail fragments, 13 cut nail fragments, one 2-inch long cut nail, three iron oval lid fragments, 1,428 reddish-brown handmade brick fragments, 41 sand-tempered mortar, 58 sand-and-shell tempered mortar fragments, two oyster shell fragments, and one aluminum can fragment. The delftware sherd was too small to identify the vessel's shape and country of origin. One creamware sherd was undecorated and typical of ware potted in England circa 1775-1820. The sherd was too small to identify the vessel shape. One of the creamware sherds exhibited a hand-painted green glaze over a molded dot design on the exterior typical of ware potted in England circa 1775 to 1820. Eleven pearlware chips are typical of ware potted in England circa post-1779 and were too small to identify the vessel shape. One pearlware sherd exhibited a blue and black hand-painted design on the interior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. One pearlware sherd exhibited a blue hand-painted shell-edge design on the interior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. One pearlware sherd exhibited a black hand-painted band on the rim interior above a green foliage design typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape.

The two Native American artifacts recovered from Stratum B included one quartzite secondary flake and one siliceous slate tertiary flake. Historical material recovered from Stratum B included one creamware and three pearlware sherds, one amber, three aqua, one clear, one dark green, one olive green bottle glass fragments, one aqua 3/32-inch-thick window glass fragment, two indeterminate iron lid fragments, 273 reddish-brown handmade brick fragments, seven sand-and-shell-tempered mortar fragments, two charred wood fragments, two oyster shell fragments. The creamware sherd was potted in England circa 1775 to 1820 and was too small to identify the vessel shape. The pearlware sherds included two undecorated glaze chips and one undecorated sherd typical of ware potted in England circa post-1779. The sherds were too small to identify vessel shapes.

Historical material recovered from Strata A and B included one aqua 2/32-inch-thick aqua window glass fragment, one fire-damaged refined earthenware, one coarse earthenware, four creamware, one stoneware, 53 reddish-brown handmade brick fragments, and eight sand-and-

shell-tempered mortar fragments. The fire-damaged refined earthenware, coarse earthenware core, and stoneware sherds were too small to identify the country of origin or date. The four creamware sherds were potted in England circa 1775 to 1820 and were too small to locate the vessel shape.

Test Units
Circa~ excavated nine three-foot-by-three-foot test units within the site borders in areas of high artifact concentrations.

Test Unit 1
Test Unit 1, a three-foot-by-three-foot unit, was placed near ST J1-1. Two soil strata were excavated before reaching subsoil 0.90 feet below the ground surface (Figure 23). Stratum A, 0.40 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. The artifacts were recovered throughout the stratum. One hundred and twenty-eight artifacts were recovered from Stratum A fill (Plate 2). Of this number, one, or 1% of the artifacts, are associated with the Native American occupation at the site, and 127, or 99%, of the artifacts are associated with historical land use. The Native American artifact included one quartzite secondary flake.

The historical material included four ceramic sherds, one aqua and one clear bottle glass fragments, two cut nail fragments, and 119 reddish-brown handmade brick fragments. The ceramic sherds included one creamware, two pearlware, and one yellowware sherd. The creamware sherd was potted in Europe circa 1775 to 1820. The sherd was a glaze chip too small to identify the vessel's shape. One pearlware sherd exhibited a blue hand-painted design on the interior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. One pearlware sherd exhibited a blue transfer-printed design on the interior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. The yellowware sherd dates circa post-1830 and was too small to identify the country of origin or the vessel shape. The aqua bottle glass is too small to date accurately. The clear bottle glass dates circa post-1900.

Stratum B, 0.50 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Sixty-seven artifacts were recovered from Stratum B fill. Of this number, one or 1% of the artifacts are associated with the Native American occupation at the site and 66 or 99% of the artifacts are associated with historical land use. The Native American artifact included one quartzite secondary flake. The historical material included one ceramic sherd, three 2/32-inch-thick aqua window glass fragments, and 62 reddish-brown handmade brick fragments. The one pearlware sherd exhibited a light and medium blue transfer print design on the interior, typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. No other cultural features were noted within the unit.

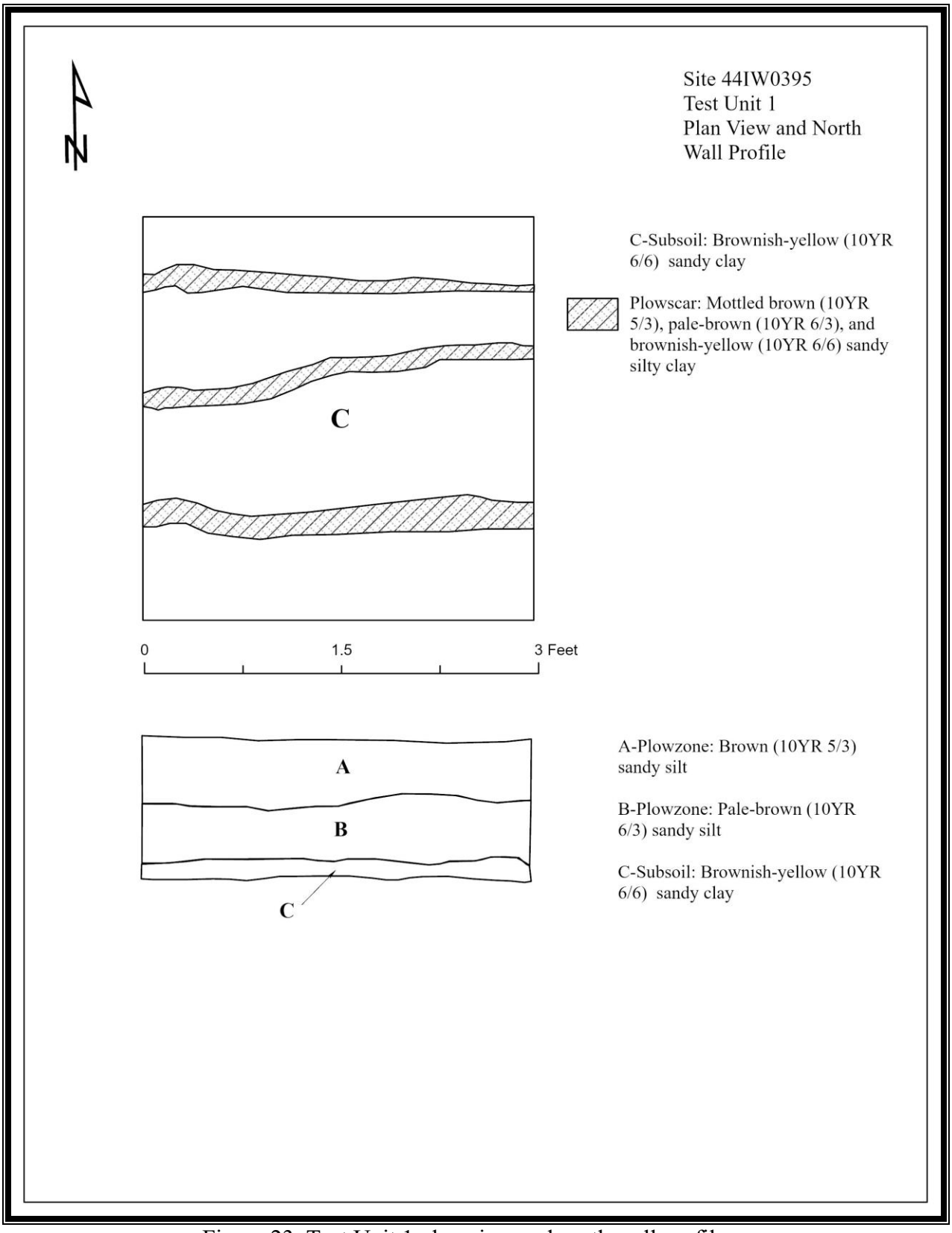


Figure 23. Test Unit 1 plan view and north wall profile.



Plate 2. View of artifacts recovered from Test Unit 1. Left to right: Yellowware sherd, hand-painted pearlware sherd, cut nail fragment, aqua window glass fragment, and quartzite secondary flake.

Test Unit 2

Test Unit 2, a three-foot-by-three-foot unit, was placed near ST J1-4 and a cluster of shovel tests that contained numerous brick fragments. Two soil strata were excavated before reaching subsoil 0.90 feet below the ground surface (Figure 24). Stratum A, 0.40 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. Two hundred and ninety-six artifacts were recovered from Stratum A (Plate 3). Of this number, one, or 1% of the artifacts, are associated with the Native American occupation at the site, and 296, or 99%, of the artifacts are associated with historical land use (Plate 4). The artifacts were recovered throughout the stratum. The Native American artifact included one chert tertiary flake.

The historical material included six ceramic sherds, two aqua bottle glass fragments, four fire-damaged glass fragments, eight 3/32-inch-thick aqua window glass fragments, three cut nail fragments, 270 reddish-brown handmade brick fragments, and two sand- and shell-tempered mortar fragments. The ceramic sherds included five pearlware and one yellowware sherd. The four undecorated pearlware sherds were too small to identify the vessel shapes. One pearlware sherd exhibited a blue hand-painted design on the exterior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. The yellowware sherd dates circa post-1830 and was too small to identify the country of origin or the vessel shape. The aqua bottle glass fragments are too small to date accurately.

Stratum B, 0.50 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Three hundred and sixteen artifacts were recovered from Stratum B. Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site, and 316 or 100% of the artifacts are associated with historical land use. The historical material included one fire-damaged coarse earthenware glaze chip and 315 reddish-brown handmade brick fragments. The sherd was a glaze chip and was too small to identify the country of origin and vessel shape.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. Feature 2 was bisected north to south, and the east half, then the west half was excavated. The profile varied from 0.10 to 0.21 feet in depth. No artifacts were recovered from the feature fill; however, a few brick specks were noted. No other cultural features were noted within the unit, although a root was noted in the northeast corner of the test unit.

Test Unit 3

Test Unit 3, a three-foot-by-three-foot unit, was placed 5 feet east of Test Unit 2 in an area where numerous brick fragments were recovered. Two soil strata were excavated before reaching subsoil 1.40 feet below the ground surface (Figure 25). Stratum A, 0.80 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. The artifacts were recovered throughout the stratum. One thousand five hundred and seventy-five artifacts were recovered from Stratum A fill (Plate 5). Of this number, none, or 0% of the artifacts, are associated with the Native American occupation at the site, and 1,575, or 100% of the artifacts are associated with historical land use. The historical material included ten ceramic sherds, 48 glass fragments, 14 cut nail fragments, 1,435 reddish-brown handmade brick fragments, and 68 sand-and-shell-tempered mortar fragments. The ceramic sherds included ten pearlware. The six undecorated pearlware sherds potted in England circa post-1779 were too small to identify the vessel shapes. One pearlware sherd exhibited a blue hand-painted design on the exterior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. One pearlware sherd exhibited a black and green hand-painted design on the exterior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. One pearlware sherd exhibited a blue transfer-print design on the exterior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. The aqua bottle glass fragment is too small to date accurately. The clear bottle glass dates post-1900.

Stratum B, 0.60 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Seven hundred and fifty-three artifacts were recovered from Stratum B fill. Of this number, none, or 0% of the artifacts, are associated with the Native American occupation at the site, and 753, or 100% of the artifacts, are associated with historical land use. The historical material included 23 glass fragments, eight cut nail fragments, one 3-inch-long cut nail, 589 reddish-brown handmade brick fragments, and 132 sand-and-shell tempered mortar fragments. The aqua bottle glass fragment is too small to date accurately. The clear bottle glass fragments date circa post-1900.

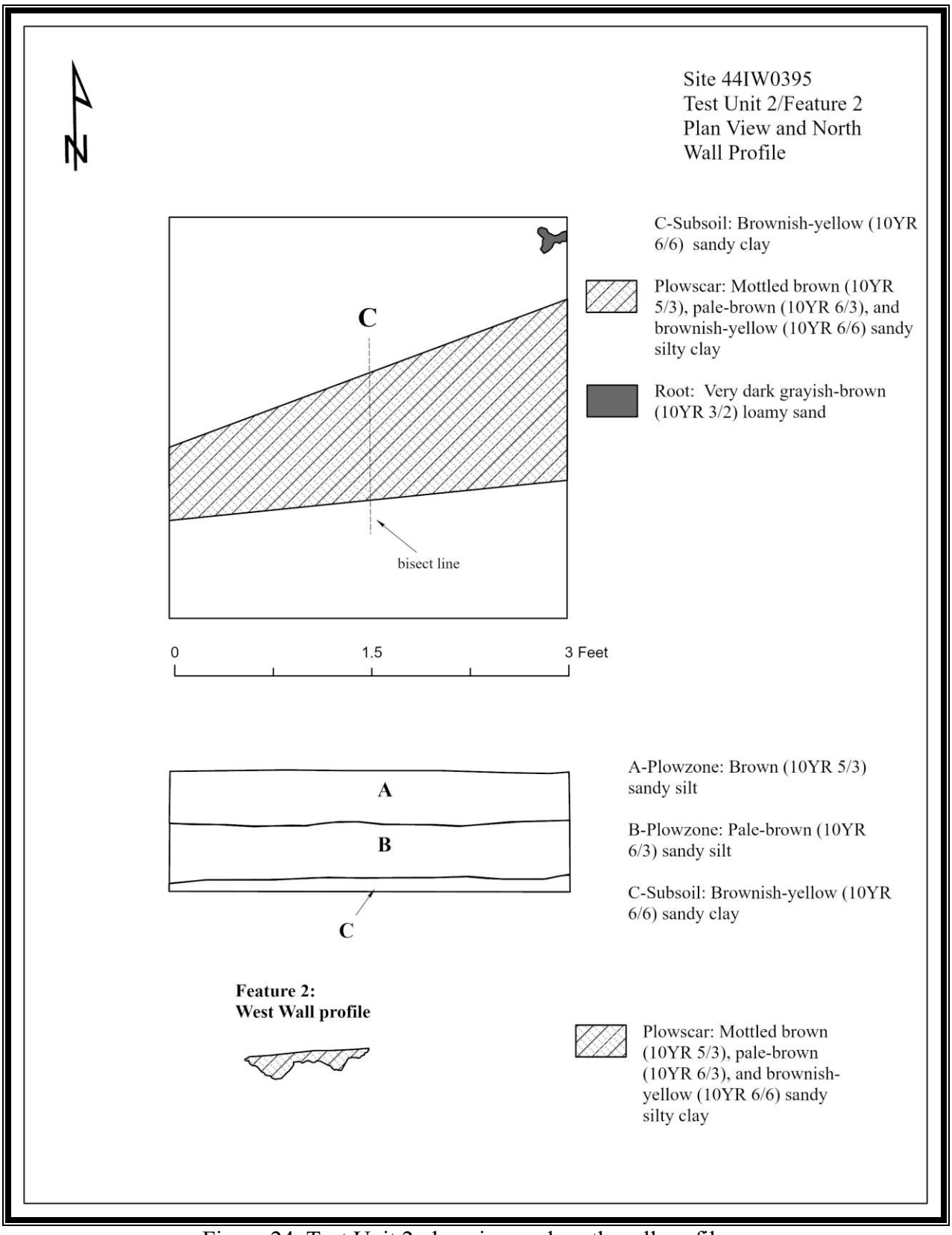


Figure 24. Test Unit 2 plan view and north wall profile.



Plate 3. Plan view of Test Unit 2 with the plow scars excavated, looking north.



Plate 4. View of representative artifacts recovered from Test Unit 2. Left to right: aqua fire-damaged glass and hand-painted blue pearlware.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. No other cultural features were noted within the unit.

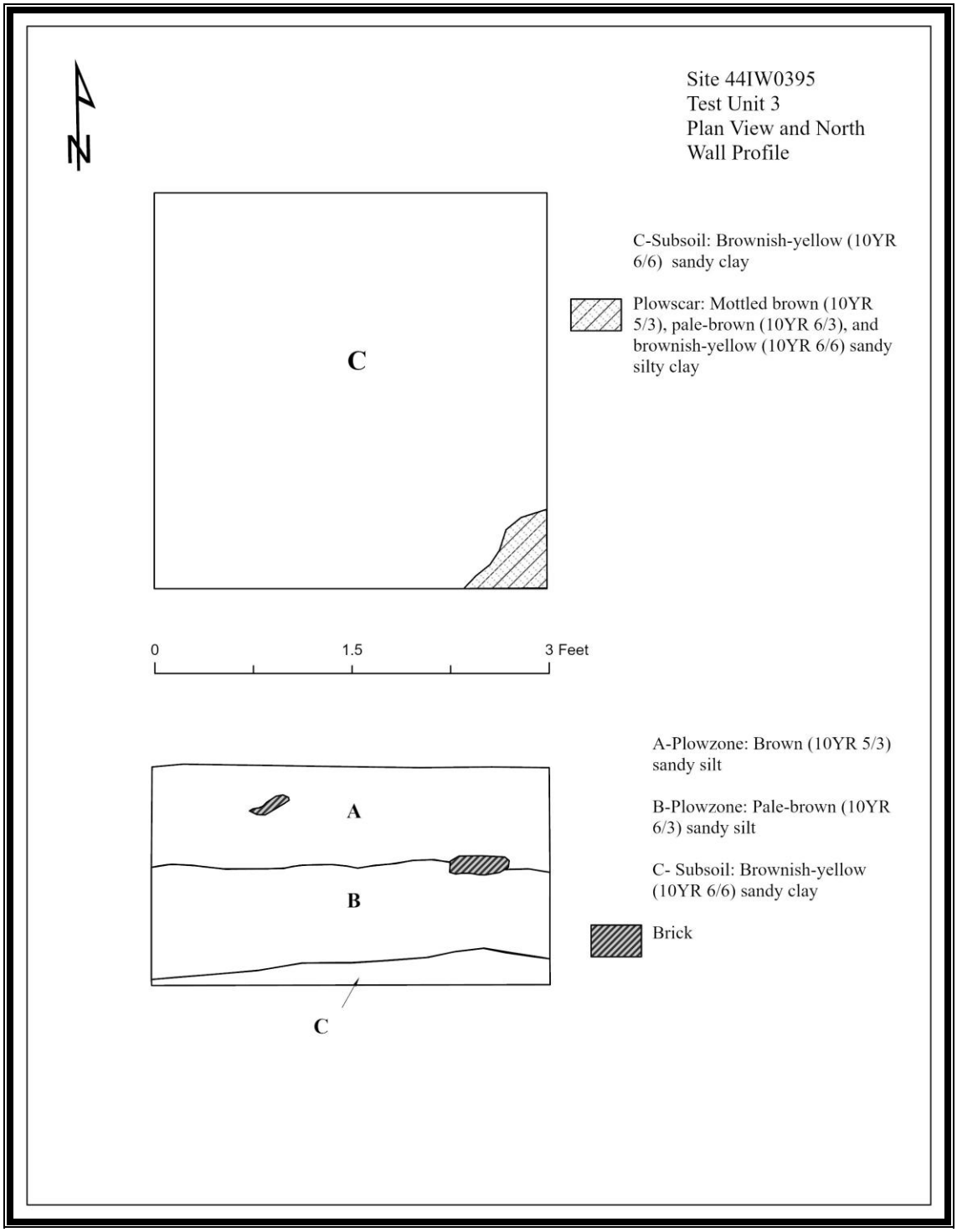


Figure 25. Test Unit 3 plan view and north wall profile.



Plate 5. Representative artifacts recovered from Test Unit 3. Top row: clear bottle glass base, quartzite worked flake, hand-painted blue pearlware, hand-painted green and brown pearlware, hand-painted green and molded pearlware, and aqua fire-damaged glass.

Test Unit 4

Test Unit 4, a three-foot-by-three-foot unit, was placed near ST J1-6 and in an area with a high concentration of brick fragments. Two soil strata were excavated before reaching subsoil 1.00 feet below the ground surface (Figure 26). Stratum A, 0.40 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. The artifacts were recovered throughout the stratum. Twenty-six artifacts were recovered from Stratum A fill (Plate 6). Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site and 26 or 100% of the artifacts are associated with historical land use. The historical material included one pearlware glaze chip and 25 reddish-brown handmade brick fragments. The pearlware glaze chip exhibited a hand-painted green and incised shell edge on the exterior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape.

Stratum B, 0.60 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Thirty-nine artifacts were recovered from Stratum B fill. Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site and 39 or 100% of the artifacts are associated with historical land use. The historical material included three ceramic sherds, one fire-damaged aqua glass fragment, 25 reddish-brown handmade brick fragments, one oyster shell fragment, and three charred wood fragments. The ceramic sherds included three pearlware sherds. One undecorated sherd was typical of ware potted in England c. post-1779. One pearlware sherd exhibited a blue hand-painted design on the exterior and was typical of ware

potted in England circa post-1795. The sherd was too small to identify the vessel shape. One pearlware sherd exhibited a blue and brown hand-painted design on the interior, typical of pottery potted in England circa post-1795. The sherd was too small to identify the vessel shape.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. No other cultural features were noted within the unit.

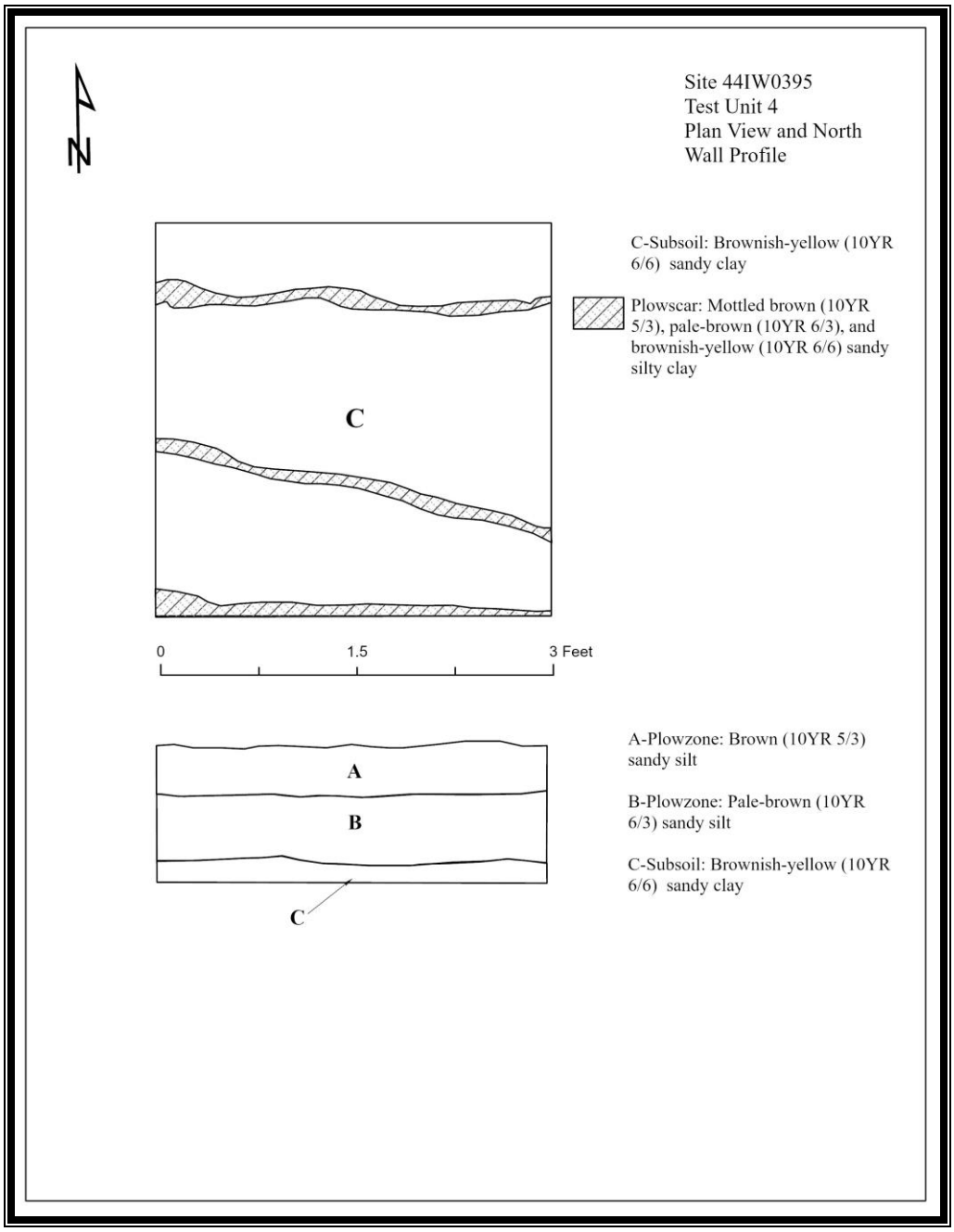


Figure 26. Test Unit 4 plan view and north wall profile.



Plate 6. Representative artifacts recovered from Test Unit 4. Left to right: green shell-edge pearlware, hand-painted blue and brown pearlware, aqua fire-damaged glass fragment, and aqua window glass fragment.

Test Unit 5

Test Unit 5, a three-foot-by-three-foot unit, was placed near ST 4-5. Two soil strata were excavated before reaching subsoil 1.30 feet below the ground surface (Figure 27). Stratum A, 1.10 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. The artifacts were recovered throughout the stratum. Sixteen artifacts were recovered from Stratum A fill. Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site and 16 or 100% of the artifacts are associated with historical land use. The historical material included 16 reddish-brown handmade brick fragments.

Stratum B, 0.20 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Two artifacts were recovered from Stratum B fill. Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site, and two or 100% of the artifacts are associated with historical land use. The historical material included two reddish-brown handmade brick fragments.

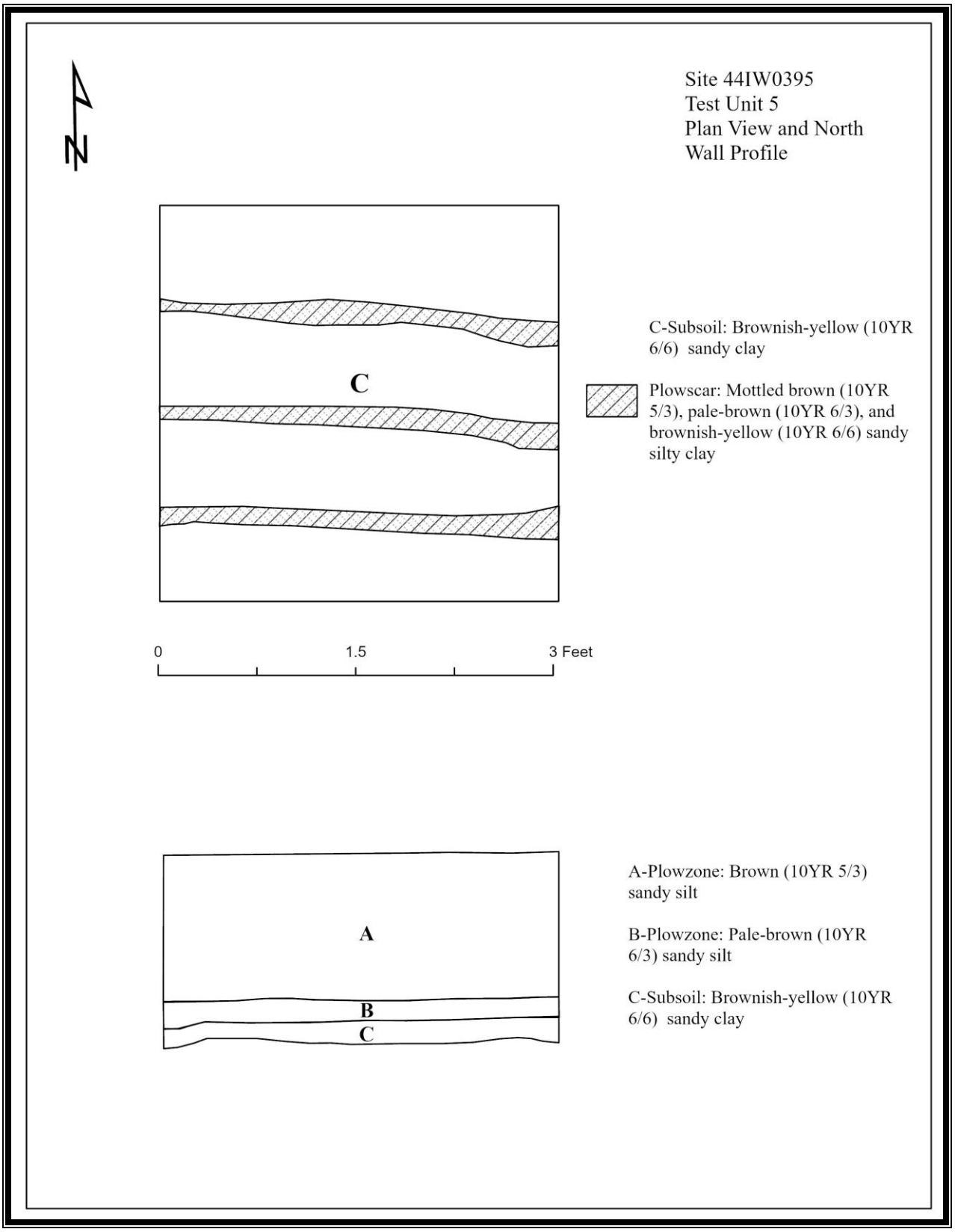


Figure 27. Test Unit 5 plan view and north wall profile.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. Feature 1 was noted in the northwestern corner of the test unit at the base of Stratum A and intruding into Stratum B.

Feature 1 consists of a 0.55-foot north-to-south by 0.65-foot east-to-west square stain (Figure 28). The feature was bisected from north to south, and the east half was excavated first, then the west half. Stratum A consisted of a brown (10YR 5/3) sandy silt plowzone 0.20 feet thick. No artifacts were recovered from the feature. The function of the feature is unknown, but it does not appear to be cultural.

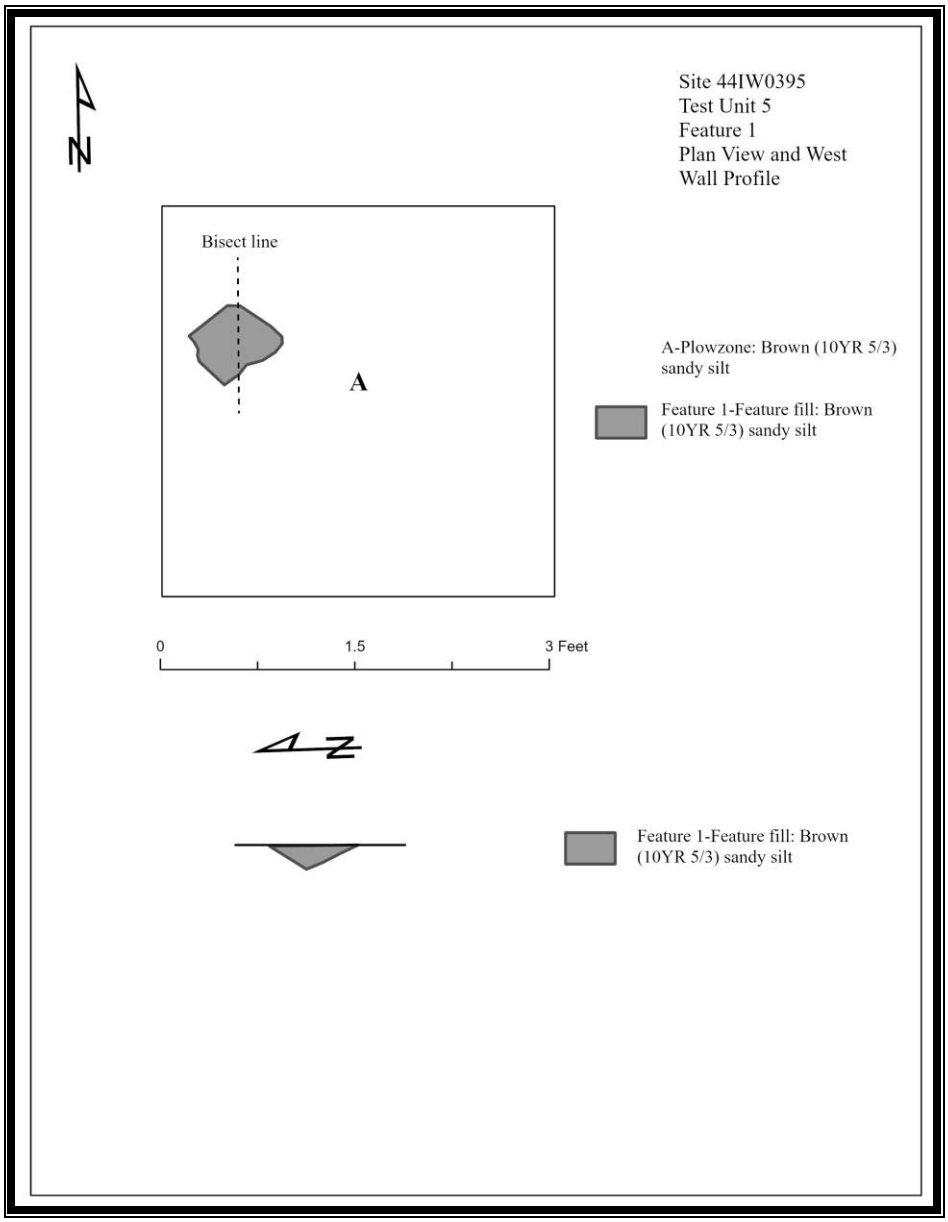


Figure 28. Test Unit 5, Feature 1, plan view and west wall profile.

Test Unit 6

Test Unit 6, a three-foot-by-three-foot unit, was placed near ST 8-9 in a high concentration of high brick fragments. Two soil strata were excavated before reaching subsoil 1.40 feet below the ground surface (Figure 29). Stratum A, 0.70 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. The artifacts were recovered throughout the stratum. One thousand four hundred and fifty-two artifacts were recovered from Stratum A fill (Plate 7). Of this number, one, or 1% of the artifacts, are associated with the Native American occupation at the site, and 1,451, or 99%, of the artifacts are associated with historical land use. The Native American material included one quartzite secondary flake. The historical material included one fire-damaged refined earthenware glaze chip, two pearlware sherds, one fire-damaged aqua glass fragment, 12 aqua 3/32-inch-thick window glass fragments, and 1,435 reddish-brown handmade brick fragments. The undecorated pearlware glaze chip is typical of ware potted in England circa post-1779. The two glaze chips were too small to identify the vessel shapes. One pearlware sherd exhibited a blue hand-painted design on the exterior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape.

Stratum B, 0.70 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Three hundred and two artifacts were recovered from Stratum B fill. Of this number, one or 1% of the artifacts are associated with the Native American occupation at the site and 301 or 99% of the artifacts are associated with historical land use. The Native American material included one quartz tertiary flake. The historical material included three pearlware sherds, one cut nail fragment, and 297 reddish-brown handmade brick fragments. The undecorated pearlware sherds are typical of ware potted in England circa post-1779. The sherds were too small to identify the vessel shapes.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. No other cultural features were noted within the unit.

Test Unit 7

Test Unit 7, a three-foot-by-three-foot unit, was placed north of Test Units 2 and 3 in a high concertation of brick fragments. Two soil strata were excavated before reaching subsoil 1.10 feet below the ground surface (Figure 30 and Plate 8). Stratum A, 0.40 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. The artifacts were recovered throughout the stratum. Four hundred and six artifacts were recovered from Stratum A fill (Plate 9). Of this number, one, or 1% of the artifacts, are associated with the Native American occupation at the site, and 405, or 99% of the artifacts are associated with historical land use. The Native American artifact included one quartzite biface base fragment.

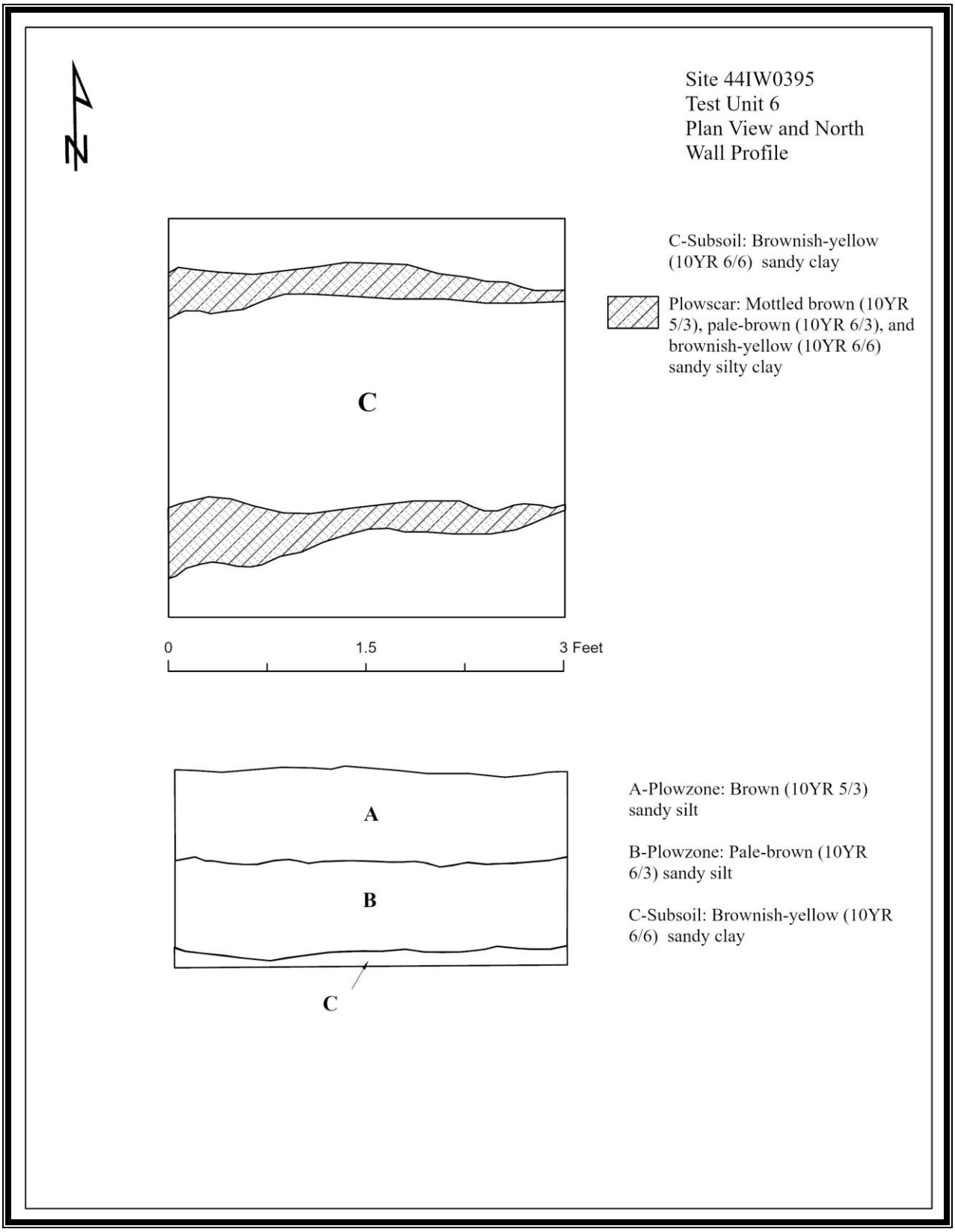


Figure 29. Test Unit 6 plan view and north wall profile.



Plate 7. Representative artifacts recovered from Test Unit 6. Left to right: Quartzite secondary flake, aqua fire-damaged glass, fire-damaged refined earthenware, aqua window glass.

The historical material included eight pearlware sherds, 15 glass fragments, one cut nail fragment, one tapered iron strap fragment, 350 reddish-brown handmade brick fragments, 14 sand- and shell-tempered mortar fragments, and 16 fire-damaged sand- and shell-tempered mortar fragments. Five pearlware sherds were undecorated and typical of ware potted in England circa post-1779. One pearlware sherd exhibited a blue hand-painted design on the exterior and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. One fire-damaged pearlware sherd exhibited an indeterminate hand-painted design on the exterior, which is typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. One pearlware sherd exhibited a hand-painted blue band on the rim edge and was typical of ware potted in England circa post-1795. The sherd was too small to identify the vessel shape. The 15 glass fragments included one aqua and six clear bottle glass fragments, two fire-damaged aqua glass fragments, one clear hurricane lamp chimney globe fragment, and five aqua 3/32-inch-thick window glass fragments. The aqua glass fragment is too small to date. The clear bottle glass fragments date circa post-1900.

Stratum B, 0.70 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Two hundred and eighty-one artifacts were recovered from Stratum B fill. Of this number, none, or 0% of the artifacts, are associated with the Native American occupation at the site, and 281, or 100% of the artifacts are associated with historical land use. The historical material included five

pearlware sherds, one aqua 3/32-inch-thick window glass fragment, one aqua bottle glass fragment, three reddish-brown handmade brick fragments, eight oyster shell fragments, one oyster shell, and one charred wood fragment. The aqua bottle glass was too small to date accurately.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. The plowscars were excavated and ranged in depth from 0.08 to 0.18 feet thick. Features 3, 4, and 5 were bisected north to south, and the east half, then the west half was excavated. No artifacts were recovered from the feature fill; however, a several brick smears were noted. No other cultural features were noted within the unit.

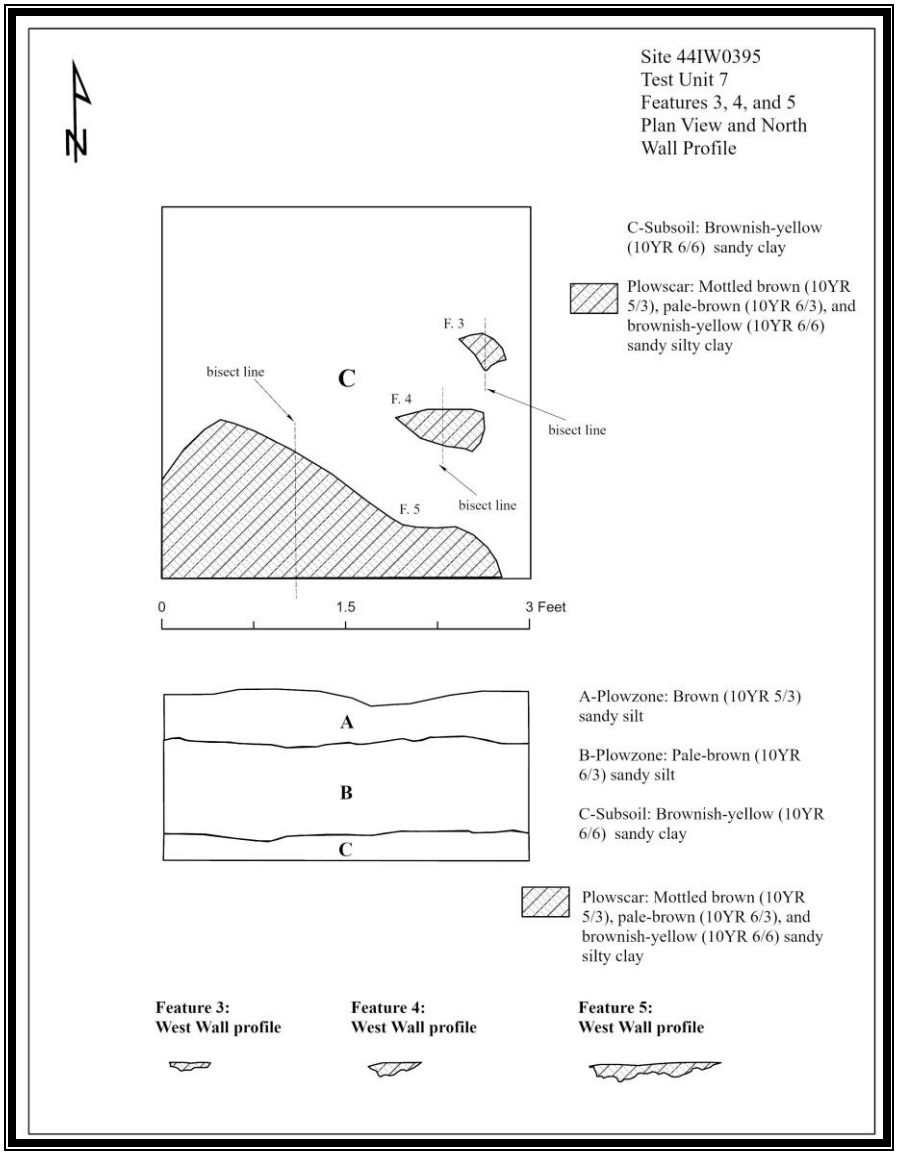


Figure 30. Test Unit 7 plan view and north wall profile.



Plate 8. Plan view of Test Unit 7, after plowscar excavations, looking north.



Plate 9. Representative artifacts recovered from Test Unit 7. Left to right: Aqua window glass fragment and pearlware sherd.

Test Unit 8

Test Unit 8, a three-foot-by-three-foot unit, was placed south of Test Units 2 and 3 in a high concertation of brick fragments. Two soil strata were excavated before reaching subsoil 1.00 feet below the ground surface (Figure 31 and Plate 10). Stratum A, 0.40 feet thick, consisted of brown (10YR 5/3) silty sand plowzone. The artifacts were recovered throughout the stratum. Ninety-five artifacts were recovered from Stratum A fill (Plate 11). Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site and 95 or 100% of the artifacts are associated with historical land use. The historical material included one pearlware glaze chip, two aqua bottle glass fragments, one aqua 3/32-inch-thick window glass fragment, 90 reddish-brown handmade brick fragments, and one aluminum can fragment. The pearlware glaze chip is typical of ware potted in England circa post-1779. The two aqua bottle glass fragments are too small to date.

Stratum B, 0.60 feet thick, consisted of a pale-brown (10YR 6/3) sandy silt plowzone. One hundred and twenty-six artifacts were recovered from Stratum B fill. Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site and 126 or 100% of the artifacts are associated with historical land use. The historical material included three pearlware glaze chips, two aqua 3/32-inch-thick window glass fragments, and 121 reddish-brown handmade brick fragments. Two pearlware glaze chips are typical of ware potted in England circa post-1779. One pearlware glaze chip exhibited a hand-painted black band typical of ware potted in England circa post-1795. The glaze chips were too small to identify the vessel's shape.

Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. Plowscars were noted in the base of the test unit. Plowscars consisted of a mottled brown (10YR 5/3), pale-brown (10YR 6/3), and brownish-yellow (10YR 6/6) sandy silty clay. Feature 6 was bisected north to south, and the east half, then the west half was excavated. The profile varied from 0.10 to 0.26 feet in depth. No artifacts were recovered from the feature fill; however, several brick and charred wood smears were noted. No other cultural features were noted within the unit.

Test Unit 9

Test Unit 9, a three-foot-by-three-foot unit, was placed west of the wetlands in a high concentration of brick fragments. Two soil strata were excavated before reaching subsoil 1.40 feet below the ground surface (Figure 32). Stratum A, 0.70 feet thick, consisted of dark yellowish-brown (10YR 4/4) silty sand. The artifacts were recovered throughout the stratum. One hundred and fifty-two artifacts were recovered from Stratum A fill (Plate 12). Of this number, none or 0% of the artifacts are associated with the Native American occupation at the site and 152 or 100% of the artifacts are associated with historical land use. The historical material included one pearlware glaze chip, one clear bottle glass fragment, 147 reddish-brown handmade brick fragments, one oyster shell fragment, and one drain tile fragment. The pearlware glaze chip was potted in England circa post-1779 and was too small to identify the vessel shape. The clear bottle glass dates circa post-1900.

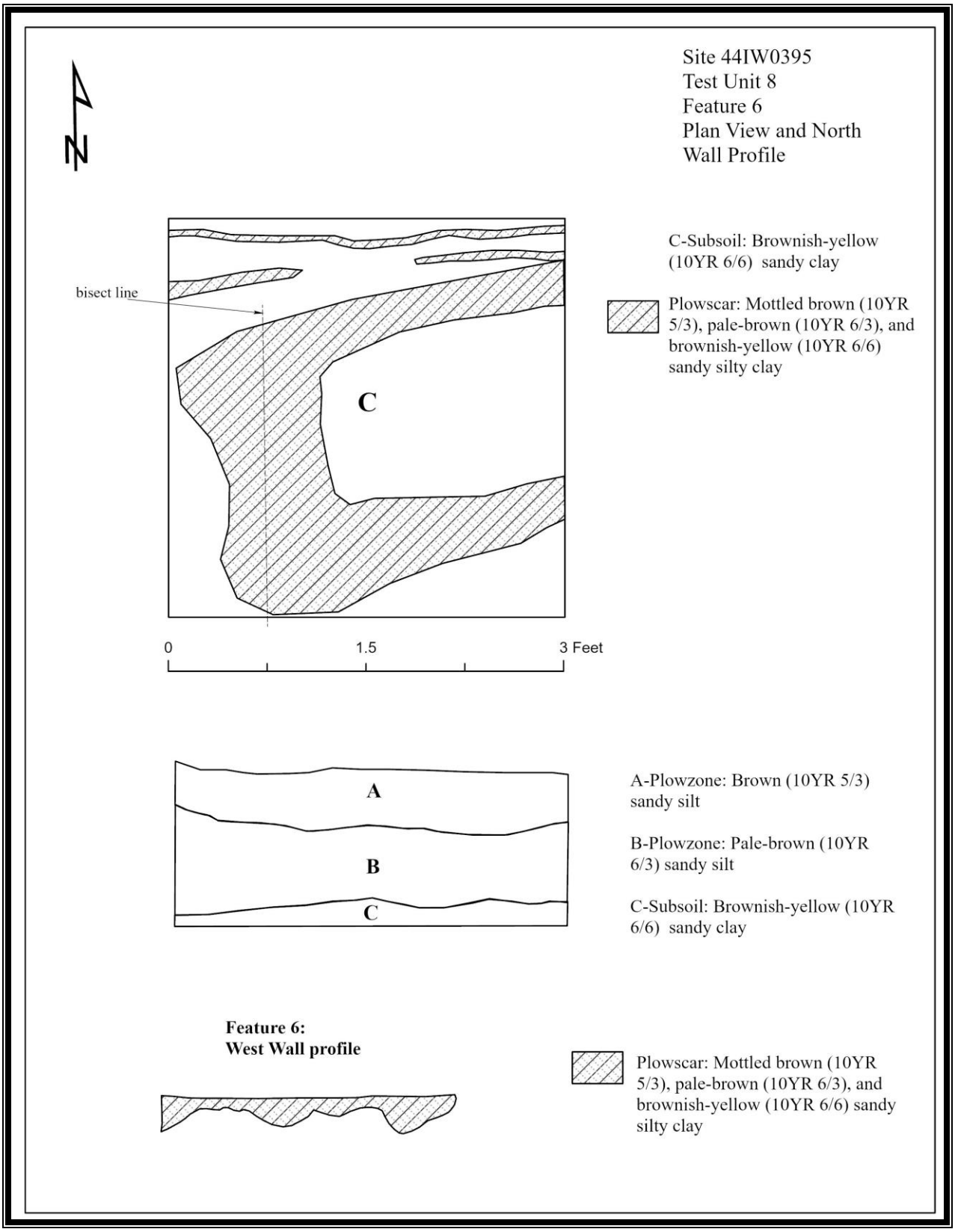


Figure 31. Test Unit 8 plan view and north wall profile.



Plate 10. Plan view of Test Unit 8, looking north.

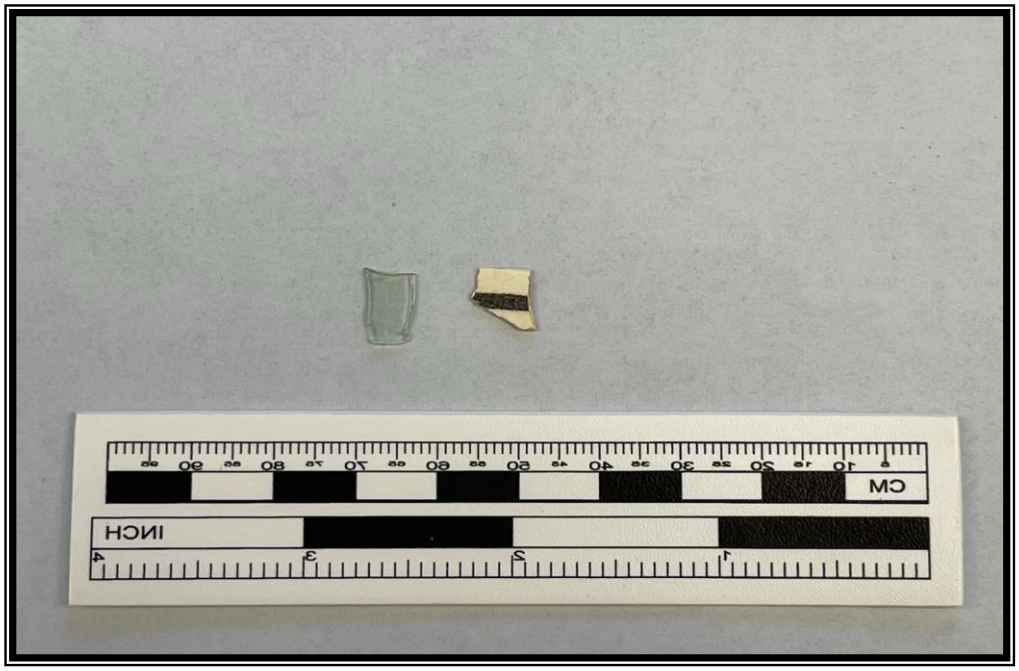


Plate 11. Representative artifacts recovered from Test Unit 8. Left to right: Aqua window glass fragment and hand-painted black pearlware.

Stratum B, 0.70 feet thick, consisted of a pale brown (10YR 6/3) sandy silt plowzone. No artifacts were recovered from Stratum B. Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep. No artifacts were recovered from Stratum C. No cultural features were noted within the unit.

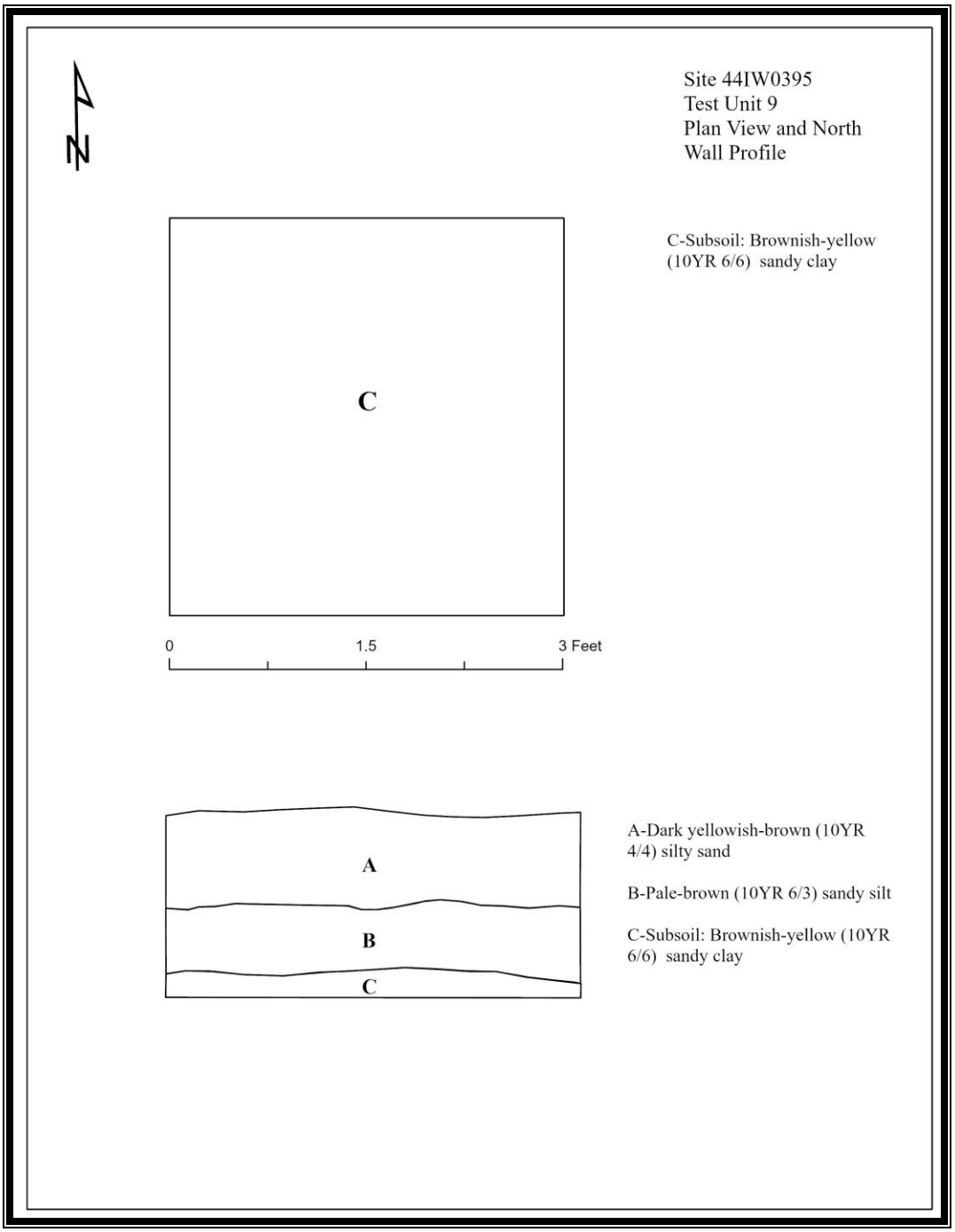


Figure 32. Test Unit 9 plan view and north wall profile.



Plate 12. View of representative artifacts recovered from Test Unit 9. Left to right: Pearlware sherd and clear bottle glass fragment.

Summary of Site 44IW0395 Phase I and Phase II Artifacts

Combining the Phase I shovel testing and Phase II shovel testing and test unit excavations at Site 44IW0395, 8,284 artifacts were recovered. Of these, 15, or 0.18%, were associated with the Native American occupation of the site, and 8,269, or 99.81%, were associated with the historic period.

The Phase I surface collection and shovel testing recovered 283 artifacts. Of these, two, or 0.70%, were associated with Native American occupation of the site, and 281, or 99.29%, dated to the historic period. Both Native American artifacts, or 100%, were lithics, and none, or 0%, were pottery. The Native American artifacts included two quartzite secondary flakes. Historic material included 19 (67.61%) domestic artifacts, 258 (91.81%) architectural artifacts, none (0%) metal artifacts, and four (14.23%) faunal artifacts.

In contrast, the Phase II shovel testing and unit excavation recovered 8,003 artifacts. This material included 1,978 (24.71%) from the shovel testing and 6,023 (75.25%) from the test unit excavation. Of these, 13, or 0.16%, were associated with Native American occupation of the site, and 7,988, or 99.81%, dated to the historic period. Thirteen, or 100%, of the Native American artifacts were lithics, and none, or 0%, were pottery. Historic material included 149 (1.86%) domestic artifacts, 7,819 (97.70%) architectural artifacts, eight (0.09%) metal artifacts, and 12

(0.14%) faunal artifacts. Specific information on the artifacts recovered at the site is summarized in Tables 4 and 5.

Table 4. Native American Artifact Summary of Site 44IW0395 Phase I and Phase II Surface Collection and Shovel Testing

Artifact Classification	Artifacts Type	Artifact Subtype	Phase I Shovel Tests	Phase II Shovel Tests	Phase II Unit Excavations
Native American	Lithic	Flake, primary, quartzite		2	
		Flake, quartzite, secondary	2		3
		Flake, rhyolite, secondary		1	
		Flake, quartz tertiary			1
		Flake, chert, tertiary			1
		Flake, silicious slate, tertiary		2	
		Biface, quartzite, fragment			1
		Fire-cracked rock, quartzite		1	
		Cobble, fragment, quartzite		1	
		Total artifact count	**2**	**7**	**6**

Table 5. Historic Artifact Summary of Site 44IW0395 Phase I and Phase II Surface Collection and Shovel Testing

Artifact Classification	Artifacts Type	Artifact Subtype	Phase I Surface Collection and Shovel Tests	Phase II Shovel Tests	Phase II Unit Excavations
Domestic	Ceramic	Creamware, sherd	2	3	1
		Pearlware, sherd	13	18	45
		Stoneware, sherd	1	1	
		Coarse earthenware, sherd	1	1	1
		Yellowware, sherd			2
		Refined earthenware, sherd		1	1
		Delftware, sherd		1	
	Glass	Bottle glass, dark green, fragment	1	1	
		Bottle glass, aqua, fragment	1	6	8
		Bottle glass, clear, fragment		4	24
		Bottle glass, amber, fragment		1	
		Bottle glass, olive green, fragment		1	
		Aqua, fragment			28
		Hurricane lamp chimney globe, clear, fragment			1
Architectural	Brick	Handmade, reddish-brown fragment	243	1,753	5,552
		Handmade, buff, fragment	3		
		Handmade, reddish-brown, brick bat		1	
	Nail	Wrought, 1 ½-inch long	1		
		Wrought, fragment	1		
		Cut, 2-inch long		1	
		Cut, 3-inch long			1
		Cut, fragment	1	13	29
		Fragment		2	

Artifact Classification	Artifacts Type	Artifact Subtype	Phase I Surface Collection and Shovel Tests	Phase II Shovel Tests	Phase II Unit Excavations
	Window glass	Aqua, fragment	9	9	62
	Mortar	Sand- and shell-tempered, fragment		100	254
		Sand-tempered, fragment		41	
	Drain tile	Reddish-orange, fragment			1
Metal	Iron	Strap, fragment			1
		Lid, fragment		3	
		Fragment		2	
	Aluminum	Can, fragment		1	1
Faunal	Shell	Oyster, fragment	4	5	2
	Wood	Charred, fragment		2	3
		Total artifact count	**281**	**1,971**	**6,017**

Architectural Resources
During the Phase II survey, Circa~ re-surveyed one previously identified architectural resource.

Site 046-5629

Background
Site 046-5629 is identified as the Butler-Jones Cemetery. On October 5, 2005, the Isle of Wight County Historical Society (IWCHS) Grave Site Survey Task Force (GSSTF) visited the Butler-Jones Cemetery. The GSSTF cleaned the stones with shaving foam, water, or talcum powder to improve the legibility of the inscriptions on the older tombstones. Afterward, a clean water spray was used to remove any residue. GSSTF members were careful not to damage monuments or artifacts during the transcription process (Plate 13). The stone is inscribed:

To My Father
JOSEPH JONES
Born
April 8, 1813
Died
Feb. 12, 1890

His toils are past, his work is
done,
He fought the fight – the victory
won.
Erected by his son Frank



Plate 13. View of the cleaned stone, by the GSSTF, June 2, 2005.

The cemetery is within a copse of trees on the Project Area's western side. The stones are difficult to read, with some broken and lying on the ground. A few strands of fencing were noted on the eastern side of the cemetery. There could be additional unmarked graves (Plates 14 - 20).

Fieldwork-geophysical survey

The investigation will include electromagnetic (EM) and ground-penetrating radar (GPR) surveys to locate suspected human graves (Figure 33 and Plates 21 - 25). The EM survey was conducted using an EM-31 induction meter. The EM measures the apparent conductivity of the subsurface using the principles of electromagnetic induction. The EM consists of two horizontal coplanar loops, one acting as a transmitter and the other as a receiver. The transmitter induces eddy currents in the earth, producing a secondary field. The receiver intercepts the secondary field in which the EM measures the terrain conductivity by comparing the strength of the secondary field to that of the primary. The EM can be used to locate nonmetal debris, trenches, pits, grave shafts, or any interface that can create a contrast in the dielectric properties.



Plate 14. View of Site 046-5629 in September 2022, looking west.



Plate 15. View of Site 046-5629 in September 2022, looking west.



Plate 16. View of Site 046-5629 in April 2023, looking southeast.



Plate 17. View of headstone in September 2022, looking west.



Plate 18. View of broken stone in September 2022, looking north.



Plate 19. View of broken stones and daffodils in the cemetery, looking west.



Plate 20. View of fencing and daffodils within Site 046-5629, looking northwest.



Figure 33. GPR survey area within the buffer area.


Plate 21. View of the northern side of the buffer around the cemetery, looking east.



Plate 22. View of the eastern side of the buffer around the cemetery, looking south.



Plate 23. View of the southern side of the buffer around the cemetery, looking west.



Plate 24. View of the GPR on the northeastern side of the buffer around the cemetery, looking east.



Plate 25. View of the GPR survey on the eastern side of the buffer around the cemetery, looking north.

The GPR profiles were conducted using a Sensors & Software GPR system with a 250 MHZ shielded antenna. GPR are impulse systems that transmit short-duration EM pulses into the ground from an antenna near the surface. These EM pulses are reflected from interfaces with contrasting electrical properties back to the receiver section of the antenna connected to the control unit for processing and display. Contrasts in electrical properties of materials in the earth cause radar signal reflections. These reflections occur at different soil strata, soil/rock interfaces, rock/air interfaces (voids), fractures, manmade objects (drums, USTs, trenches, graves, pits), or any interface that can create a contrast in the dielectric properties.

EM and GPR surveys were conducted from the woodline into the field 30 feet on the site's north, south, and eastern edges to locate unmarked graves outside the forested portion (see attached map). The proposed development will not impact the western side. EM data was collected along linear one- to two-foot traverses with stations at ten readings per second using an Archer data logger connected to a GPS within sub-meter accuracy. GPR measurements were collected with lines at two-foot centers with stations at 0.10 feet for the GPR survey. The GPR was connected to a sub-meter GPS instrument.

GPR was limited to a maximum depth of approximately five feet in some areas; however, this maximum depth was inconsistent over the entire scan area. The operator scanned in a grid pattern to determine if there were any anomalies with characteristics of an unmarked grave. There were no anomalies within the scan area that portrayed characteristics of an unmarked grave or graves being present. The row crops were limitations encountered throughout the scans; however, the field was level and clear for the sled to run between the rows.

CONCLUSIONS AND RECOMMENDATIONS

Site 44IW0395

This site appears to have been the home of a small-scale farmer of modest economic status or may have been associated with slaves. The occupation may have begun sometime after circa 1775 and ended by about 1830 to 1840. The Phase I surface survey and shovel tests indicated artifacts concentrated within an area measuring approximately 325 feet north-to-south by 400 feet east-to-west. However, the Phase II borders were expanded north and south to approximately 500 feet north-to-south by 400 feet east-to-west. The site's core is on the top of a knoll in the field, with gentle slopes to the east, north, and south. The outlying shovel tests were sparse, with one or two small brick fragments artifacts recovered from the excavations. The excavations in the field indicated two plowzone strata. Although no plowscars were evident within the shovel tests, plowscars were evident intruding into the subsoil in the test unit excavations.

Fourteen previously recorded historic archaeological sites and 30 previously identified architectural sites are located within one mile of Site 44IW0395, which is identified as a late 18th to mid-19th century domestic site. Many of these resources provided substantial building details. Most appear to be typically one or one-and-a-half-story, gable roof, often with dormers, Georgian style, hall and parlor or central passage design, wood-frame houses clad in wood weatherboard and resting on raised brick foundations with two interior or exterior end chimneys. The windows are typically sash, double-hung sash, wood-frame. There is often a front porch and

an ell extension. Many of these dwellings were situated on small parcels with a few outbuildings. The outbuildings typically included a combination of barns, smokehouses, corncribs, sheds, granaries, wells, slave or servant quarters, and sometimes a family cemetery.

Two of these sites also included a Native American component. These typically consisted of quartzite flakes, projectile points, and quartz or quartzite debitage. These findings indicate that the components are small, single-use temporary campsites used by one group at a time with no long-term, day-to-day activities. A pattern similar to the results of the excavations at this site was observed, although chert, silicious slate, and rhyolite material were also recorded at the site. Given this review of dwellings near Site 44IW0395, most of these domestic sites appeared to have at least one single dwelling, and several had a few scattered outbuildings with family cemeteries.

Ceramic artifacts include limited sherds of utilitarian ware such as yellowware and stoneware types with a few refined, finer ceramics such as creamware and pearlware. The sherds were primarily small and undecorated. Decorated wares included hand-painted and transfer print designs. The sherds were too small to identify vessel shapes and sometimes countries of origin. The creamware and pearlware were potted in England from 1775 to 1830. Most of the ceramics were pearlware, which is circa post-1779 to 1830 date. The absence of whiteware, circa post-1830, but the presence of yellowware potted circa post-1830 suggests occupation at the site past 1830.

None of the patterns or the shapes of the undecorated or decorated wares matched, indicating the items may have been purchased one at a time. The presence of blue in most of the patterns could reflect a desire to match colors but could be more reflective of the pieces available and price. The presence of the combination of locally produced American ceramics and a few imported European ceramics indicates consumer activity reflective of household necessity. Utilitarian wares such as stoneware and other earthenware would have been purchased for daily food preparatory use and consumption without regard to the item's aesthetic nature.

Glass artifacts included bottles, lightning, and window glass fragments. No white ball clay pipe stems were recovered. Other historic period artifacts of note include wrought and cut nails and handmade brick fragments. These nails indicate a relatively mid- to late 18th-century period of house construction within the site confines. The presence of 7,552 brick fragments could indicate the structure had a brick chimney or brick piers. The presence of fire-damaged artifacts and charred wood suggests the house burned. The lack of domestic artifacts could reflect the house was abandoned, and only the broken or discarded artifacts were left behind. In general, the artifacts were very small, indicating impacts from plowing.

The individuals working and living at the site were probably small landowners who may have diversified their agricultural efforts to include grain or, perhaps, livestock production. The shovel testing indicates the site was plowed with a more recent plowzone from the shift of no-till practices overlying an older, deeper plowzone from when the field was consistently mechanically plowed. The absence of cultural features and the presence of plowscars in the base of test units, coupled with the minute size of artifacts, suggests the repeated plowing of the site has erased any features associated with the site.

All artifacts were recovered from an undifferentiated/mixed-plowed stratigraphic context. No subsurface features beyond plowscars were identified. The lack of spatial and temporal integrity caused by repeated plowing episodes and the absence of subsurface features limit the research potential of the site to contain significant archaeological resources that could answer important research questions pertaining to this period in the region. Circa~ recommends that the site is not eligible for listing on the National Register of Historic Places under Criterion D. Criteria A, B, and C are also not warranted for the site. No further work is recommended.

Site 046-5629

At the conclusion of the Phase I survey, Circa~ recommended that Site 046-5629 was not potentially eligible for listing on the National Register of Historic Places under Criteria A, B, C, or D. The cemetery will be avoided by development; however, development is planned within the buffer. The GPR survey did not record any additional burial features within the buffer. Circa~ does recommend installing orange safety fencing around the cemetery edge to ensure that any unmarked graves are not impacted during construction.

REFERENCES CITED

Advisory Council on Historic Preservation
1986 "36 CFR Part 800 – Protection of Historic Properties (incorporating amendments effective August 5, 2004)" *Regulations of the Advisory Council on Historic Preservation Governing the Section 106 Review Process*. Available online at http://www.achp.gov

AECOM
2019 *Phase I Archaeological Survey Cypress Creek Crossing, Isle of Wight County, Virginia*. Available at the Virginia Department of Historic Resources archives, Richmond, Virginia.

Anonymous
1863 *Military map of Suffolk & vicinity for Majr. Genl. J. A. Dix*. Available online at http://www.loc.gov/maps/collections

Bache, A. D.
1862 *Map of the state of Virginia*. Available online at http://www.loc.gov/maps/collections

1862-1863 *Coast of North Carolina and Virginia*. Available online at http://www.loc.gov/maps/collections

1864 *Map of eastern Virginia*. Available online at http://www.loc.gov/maps/collections

Blanton, Dennis B., and Julia A. King, eds.
2004 *Indian and European Contact in Context: The Mid-Atlantic Region*. University Press of Florida, Gainesville, Florida.

Boddie, John Bennett
1973 *Seventeenth Century Isle of Wight County, Virginia*. Genealogical Publishing Company, Baltimore, Maryland.

Boye, Herman
1825 *A map of the state of Virginia, constructed in conformity to law from the late surveys authorized by the legislature and other original and authentic documents*. Available online at http://www.loc.gov/maps/collections

Bureau of Refugees
1862-1866 *List of Confiscated Lands*. National Archives, Washington, D. C.

Butts, Marshall W.
1961 *Portsmouth Under Four Flags, 1752-1961*. Portsmouth Historical Association, Portsmouth, Virginia.

Carson, Cary, Norman F. Barka, William M. Kelso, Garry Wheeler Stone, and Dell Upton
1981 "Impermanent Architecture in the Southern American Colonies," *Winterthur Portfolio* 16: 136-196.

Circa~ Cultural Resources Management, LLC
2023 *Phase I Cultural Resources Survey of the 13009 Windsor Boulevard Tract, Isle of Wight County, Virginia.* Available at the Virginia Department of Historic Resources archives, Richmond, Virginia.

2023 *Phase I Cultural Resources Survey of Windsor Commerce Center, Isle of Wight County, Virginia*. Available at the Virginia Department of Historic Resources archives, Richmond, Virginia.

Commonwealth Heritage Group
2019 *Cultural Resources Survey Proposed Solidago Solar Farm, Isle of Wight County, Virginia*. Available at the Virginia Department of Historic Resources archives, Richmond, Virginia.

Cram, T. J.
1861 *S.E. portion of Virginia and N.E. portion of N'th Carolina.* Available online at http://www.loc.gov/maps/collections

Department of the Interior, National Park Service
1983 Archaeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines. *Federal Register* 48:44716-44762. Available online at http://www.nps.gov

Fry, Joshua, and Peter Jefferson
1751 *A map of the most inhabited part of Virginia containing the whole province of Maryland with part of Pensilvania, New Jersey and North Carolina.* Available online at http://www.loc.gov/maps/collections

GPRS
2023 *Job Summary Report.*

Hening, William W., ed.
1809-1823 *The Statutes At Large: Being a Collection of All the Laws of Virginia.* 13 vols. University Press of Virginia, Charlottesville, Virginia.

Herrmann, Augustine
1670 *Virginia and Maryland in 1670*. Available online at http://www.loc.gov/maps/collections

Hobbs, Kermit and William A. Paquette
1987 *Suffolk: A Pictorial History*. Donning Company, Norfolk, Virginia.

Hove, B. Jr.
1862 *Southeastern part of Virginia, from York River, and west to Black Water River*. Available online at http://www.loc.gov/maps/collections

Howe, Henry
1969 *Historical Collections of Virginia*. Genealogical Publishing, Baltimore, Maryland.

Isle of Wight County
No date Various deed records. Available at the Isle of Wight County Courthouse.

J. H. Colton Establishment
1855 *J.H. Colton's topographical map of seat of war in Virginia, Maryland*. Available online at http://www.loc.gov/maps/collections

Jefferson, Thomas
1787 *A Map of the Country between Albemarle Sound and Lake Erie.* Available online at http://www.loc.gov/maps/collections

Johnson, R. U. and C. C. Buel
1956 *North to Antietam, Battles and Leaders of the Civil War.* 4 vol. T. Yoseloff, New York, New York.

King, Helen H.
1993 *Historical Notes on Isle of Wight County*. Isle of Wight County Board of Supervisors, Isle of Wight County, Virginia.

Lewis, Samuel
1794 *The State of Virginia from the Best Authorities*. Matthew Carey Publishers, Philadelphia, Pennsylvania.

Mansfield, Stephen S.
1989 *Princess Anne County and Virginia Beach A Pictorial History*. Donning Company Publishers, Norfolk, Virginia.

McCartney, Martha.
1997 *James City County Keystone of the Commonwealth.* Donning Company Publishers, Virginia Beach, Virginia.

McIlwaine, H. R., ed.
1924 *Minutes of Council and General Court of Colonial Virginia*. The Library Board, Richmond, Virginia. Reprinted 1934, 1979.

Morrison, Colonel E. M.
1907 *A History of Isle of Wight County, Virginia*. Available online at http://www.iwchs.com/IWCHistory.html

Nansemond County
1820 – 1850 Land Tax Records.

National Park Service
1990 *National Register of Historic Places Bulletin 15: How to Apply the National Register of Historic Places Criteria for Evaluation.* Available online at http://www.nps.gov

Natural Resources Conservation Service
2023 Online soil data. Available online at http://soils.usda.gov/.

Norfleet, Fillmore
1974 *Suffolk In Virginia, c. 1795-1840*. Whittet and Shepperson, Richmond, Virginia.

Nugent, Nell Marion (ed.)
1969-1979 *Cavaliers and Pioneers: Abstracts of Virginia Land Patents and Grants*. Three vols. Genealogical Publishing Company, Baltimore, Maryland.

1992 *Cavaliers and Pioneers: Abstracts of Virginia Land Patents and Grants, Vol. 1: 1623-1666*. Genealogical Publishing Company, Baltimore, Maryland.

Parramore, Thomas C.
1978 *Southampton County*. Printed for the Southampton County Historical Society, University Press of Virginia, Charlottesville, Virginia.

Rountree, Helen C.
1989 *The Powhatan Indians of Virginia*. The University of Oklahoma Press, Normandy and London.

Smith, Barbara Clark
1985 *After the Revolution*. Random House, New York, New York.

Smith, John
1606 *Virginia discovered and described.* Available online at http://www.loc.gov/maps/collections

1910 *Travels and Works of Captain John Smith, President of Virginia and Admiral of New England, 1580-1631*, ed. by Edward Arber. 2 Vols. Kessinger Publishers, Whitefish, Montana.

Turner, Florence Kimberly.
1985 *Gateway to the New World: A History of Princess Anne County 1607-1824.* Southern Historical Press, Easley, South Carolina.

Tyler, Lyon G.
1907 "Williamsburg-The Old Colonial Capital." *William and Mary Quarterly*, Vol. XVI (series 1). Colonial Williamsburg Foundation, Williamsburg, Virginia.

United States Geological Survey
1919 Smithfield Quad map. Available online at http://historicalmaps.arcgis.com/usgs/

1938 Smithfield Quad map. Available online at http://historicalmaps.arcgis.com/usgs/

1944 Windsor Quad map. Available online at http://historicalmaps.arcgis.com/usgs/

1961 Windsor Quad map. Available online at http://historicalmaps.arcgis.com/usgs/

1973 Windsor Quad map. Available online at http://historicalmaps.arcgis.com/usgs/

1985 Windsor Quad map. Available online at http://historicalmaps.arcgis.com/usgs/

Virginia Department of Historic Resources
2017 *Guidelines for Conducting Historic Resources Survey in Virginia*. Available at the Virginia Department of Historic Resources, Richmond, Virginia.

Virginia State Library
1965 *A Hornbook of Virginia History*. Virginia State Library, Richmond, Virginia.

APPENDIX A
VDHR V-CRIS FORMS

Snapshot

Date Generated: August 23, 2023

Site Name: Site 1
Site Classification: Terrestrial, open air
Year(s): 1751 - 1789, 1790 - 1829, 1830 - 1860
Site Type(s): Dwelling, single
Other DHR ID: No Data
Temporary Designation: No Data

Site Evaluation Status

Locational Information

USGS Quad: WINDSOR
County/Independent City: Isle Of Wight (County)
Physiographic Province: Coastal Plain
Elevation: 61 feet
Aspect: Flat
Drainage: James
Slope: 0-2%
Acreage: 0.680
Landform: Knoll
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Dwelling, single
Cultural Affiliation: Euro-American
Cultural Affiliation Detail: No Data
DHR Time Period: Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)
Start Year: 1775
End Year: 1840
Comments: June 2023: The site was recorded by an extensive surface scatter of artifacts in the field and Phase I shovel testing on a 50-foot grid in the forested area to the southeast. In addition, Circa~ completed judgmental shovel testing in the field to determine the depth of the plowzone. The surface collection and Phase I shovel tests indicated artifacts concentrated within an area measuring approximately 325 feet north-to-south by 400 feet east-to-west. Circa~ excavated 23 shovel tests in this area on the 50-foot grid and 11 shovel tests on 25-foot intervals. Of these, 17 shovel tests were negative, and 17 were positive. The site borders were defined by the surface scatter and shovel testing to the south and east. The artifacts recovered from the site suggest occupation from the late 18th century, with the use of the parcel continuing into the early- to mid-19th century.

In the forested area, Stratum A, lying under an inch or two of root mat and organic matter, ranging from a very dark-brown (10YR 2/2) to a very dark grayish-brown (10YR 3/2) sand from 0.45 to 0.65 feet thick. Stratum B ranged from brown (10YR 4/3) to yellowish-brown (10YR 5/4) sandy clay 0.35 feet to 0.60 feet thick. Stratum C, subsoil or C-horizon, consisted of light yellowish-brown (10YR 6/4) sandy clay excavated 0.30 feet.

Two soil strata were noted over subsoil in the cultivated field. Stratum A ranged from 0.60 to 0.75 feet thick and consisted of a grayish-brown (10YR 6/4 to 6/6) sandy plowzone. Stratum B ranged from brown (10YR 4/3) to yellowish-brown (10YR 5/4) sandy clay 0.30 feet to 0.45 feet thick. Stratum C, excavated 0.20 feet wide, consists of a sterile yellowish-brown (2.5Y 5/6) sandy clay subsoil or C-horizon.

March 2023

August 2023: Circa re-established the Phase I grid at the site and filled it in at 25-foot intervals with an additional 272 shovel tests. Phase I surface survey and shovel tests indicated artifacts concentrated within an area measuring approximately 325 feet north-to-south by 400 feet east-to-west. However, the Phase II borders were expanded north and south to approximately 500 feet north-to-south by 400 feet east-to-west. The site's core is on the top of a knoll in the field, with gentle slopes to the east, north, and south. Of these,

190 shovel tests were negative, and 82 were positive. The site borders were defined by double-negative shovel tests to the west, north, and east and by the wetlands and double-negative shovel tests to the south.

In the agricultural field, Stratum A ranged from 0.40 to 0.65 feet thick and consisted of brown (10YR 5/3) silty sand plowzone. Stratum B ranged from 0.30 to 0.60 feet thick and consisted of a pale-brown (10YR 6/3) sandy silt plowzone. Stratum C consisted of a sterile brownish-yellow (10YR 6/6) sandy clay subsoil excavated 0.20 feet deep.

In the forested area, Stratum A, lying under an inch or two of root mat and organic matter, ranging from a very dark-brown (10YR 2/2) to a very dark grayish-brown (10YR 3/2) sand from 0.45 to 0.65 feet thick. Stratum B ranged from brown (10YR 4/3) to yellowish-brown (10YR 5/4) sandy clay 0.35 feet to 0.60 feet thick. Stratum C, subsoil or C-horizon, consisted of light yellowish-brown (10YR 6/4) sandy clay excavated 0.30 feet.

This site appears to have been the home of a small-scale farmer of modest economic status or associated with slaves. The occupation seems to have begun sometime after circa 1775 and ended by about 1830 to 1840. The outlying shovel tests were sparse, with one or two small brick fragments artifacts recovered from the excavations. The excavations in the field indicated two plowzone strata. Although no plowscars were evident within the shovel tests, plowscars were evident intruding into the subsoil in the test unit excavations. The individuals working and living at the site were probably small landowners who may have diversified their agricultural efforts to include grain or perhaps livestock production. The shovel testing indicates that the site was plowed with a more recent plowzone overlying a relic plowzone. The absence of features and the presence of plowscars in the base of test units coupled with the minute size of artifacts suggests the repeated plowing of the site has erased any features associated with the site.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: Survey:Phase II

Project Staff/Notes:

August 2023: In the summer of 2023, Circa~ Cultural Resource Management, LLC (Circa~) conducted a Phase II evaluation of Site 44IW0395 located within the overall 83-acre Windsor Commerce Center Tract in Isle of Wight County, Virginia. The owner plans to construct a warehouse and associated infrastructure on the property. The overall project area is bordered by Ennis Pond to the north, an unnamed dammed tributary of Ennis Pond to the east, residential properties to the west, and Windsor Boulevard (Route 460) to the south.

Circa~ conducted a Phase I cultural resources survey of the project area earlier in 2023 and identified 66 isolated finds, one previously identified archaeological resource, two new archaeological resources, one previously identified architectural resource, and no new architectural resources. One of the archaeological resources, Site 44IW0395, was recommended as potentially eligible for listing on the National Register of Historic Places.

At Circa~, Carol D. Tyrer, Register of Professional Archaeologists (RPA), served as Project Manager and Principal Investigator for the project and oversaw the course of the project. Dawn M. Muir, RPA, served as the Historian for the project and completed the historic research for the project. Skye Hughes, RPA, completed the graphics. Carol D. Tyrer, Skye Hughes, and Dawn M. Muir prepared the report. The successful completion of the Phase II survey for the proposed development was made possible by the contribution of many individuals. In particular, the current landowner, John Hollowell, ensured that project information and maps were always available for the study.

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Circa~ Cultural Resource Management, LLC

Investigator: Carol D. Tyrer

Survey Date: 7/17/2023

Survey Description:

August 2023: Phase II level archival research was undertaken to support archaeological tests conducted at the site. Historical maps, plats, surveys were reviewed, and land ownership records were reviewed. Extensive efforts were made to determine who owned or occupied the site. The property's history was traced using land patents, deeds, wills, demographic records, and other locally generated court documents such as tax rolls. Real estate tax lists, filed with the State Auditor's Office commencing in 1782, specify the quantity of land and number of parcels owned by each taxpayer and often contain notations about property boundaries and when and how acreage was transferred from one person to another by sale or bequest. Commencing in 1820, tax commissioners began recording the collective value of any buildings present on the parcels they assessed. Also, they usually noted the estimated worth of any new buildings constructed since their last visit. Assessors omitted their estimates' uninhabitable man-made features such as fences, roads, and wells. Conversely, they reduced a landowner's assessment if previously existing buildings had been razed or destroyed.

The study of land tax lists evaluated the presence or absence of structural features within the site, and specific gaps in antebellum court records were bridged. The analysis of these documents also provided a considerable amount of insight into the phases of development that occurred within the site and yielded data on local land use patterns. On the other hand, personal property tax rolls provide a wealth of information on the quantities of enslaved people, livestock, and other taxable personal property that taxpayers own, which are extremely useful in gauging the socio-economic status and individual wealth.

Land and personal property tax rolls usually indicate whether individual property owners were residents of the county in which they were being taxed, making it possible to identify absentee landowners. Agricultural census records were used as a source of data on land use and productivity. In contrast, census records and slave schedules can be expected to yield information on the household, family composition, and ethnicity. A diligent search was done for public records and personal papers pertaining to those who owned and/or occupied the site and the study area. The research was conducted at the Isle of Wight County Courthouse, the Colonial Williamsburg Foundation's Rockefeller Library, the Swem Library, the Library of Congress, and the Virginia Historical Society. Use was made of online sources whenever it proved practical.

The Phase II archaeological evaluation of Site 44IW0395 included the excavation of screened shovel tests and the hand excavation of three-foot-square test units in areas where positive shovel tests were located.
The project area was surveyed by the hand excavation of shovel tests in transects at 25-foot intervals across the site. All shovel tests were excavated by natural levels to the sterile subsoil, and all soils were screened through a ¼-inch wire mesh. Profiles were recorded for all shovel tests and soil color recorded per the Munsell classification system. All shovel tests were recorded on standard field forms, and all cultural material was retained. The location of all excavated shovel tests was marked on a base map of the site.

Test units measuring three feet square were excavated by hand in those areas that had demonstrated the densest concentration of artifacts or to sample the landform. The locations of all excavated test units were marked on a base map of the site. All excavated soils were screened through a ¼-inch wire mesh. Test unit base plans and sidewall profiles were recorded and photographed, and soils were described with the Munsell classification system.

Once removed from the field, all archaeological data and specimens were transported to Circa~ 's laboratory for processing and analysis. Before washing, artifacts from a given provenience were first emptied into a screened basket and sorted. Items determined to be unstable were either dry brushed or, in some cases, not washed and re-bagged with the appropriate provenience information. These items may include unstable organic objects, such as Wood or other plant material, leather, bone, fabric, metal requiring immediate conservation, overglaze painted delftware, and other soft-bodied ceramics such as some local wares. Stable objects were washed with a soft brush, and edges of ceramics and glass were thoroughly cleaned to identify body type and mending. Items will then be placed by provenience on a drying rack.

Artifacts were sorted first by material and checked for mends in a given provenience. Stylistic attributes were described with current terminology and recorded by count into a database for analysis. Non-diagnostic artifacts with like attributes will be grouped - i.e., clear, amber, etc., bottle body glass fragments, unrecognizable nail fragments, corroded metal fragments, and aqua window glass. Diagnostic artifacts were sorted and grouped based on type or ware and vessel or function.

Current Land Use	Date of Use	Comments
Agricultural field	7/17/2023	August 2023: The site's core is on the top of a knoll in the field, with gentle slopes to the east, north, and south.

Threats to Resource: Development

Site Conditions: Surface Deposits Present But With No Subsurface Integrity

Survey Strategies: Informant, Observation, Subsurface Testing, Surface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

August 2023: The Phase II shovel testing and unit excavation recovered 8,003 artifacts. This material included 1,978 (24.71%) from the shovel testing and 6,023 (75.25%) from the test unit excavation. Of these, 13, or 0.16%, were associated with Native American occupation of the site, and 7,988, or 99.81%, dated to the historic period. Thirteen, or 100%, of the Native American artifacts, were lithics, and none, or 0%, were pottery. Historic material included 38 (0.47%) domestic artifacts, 1,920 (23.99%) architectural artifacts, six (0.07%) metal artifacts, and seven (0.08%) faunal artifacts.

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Circa~

Permanent Curation Repository: Land owner

Field Notes: Yes

Field Notes Repository: Circa~

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Circa~
2023 Phase II Archaeological Evaluation of Site 44IW0395 The Windsor Commerce Center Tract, Isle of Wight County, Virginia

Survey Report Repository: VDHR

DHR Library Reference Number: No Data

Significance Statement:

June 2023: The artifacts recovered from the site suggest occupation from the late 18th century, with the use of the parcel continuing into the early- to mid-19th century. The shovel testing indicates a moderate density of artifacts. The majority of the artifacts were recovered from Stratum B. The site appeared to have vertical and horizontal integrity and cultural stratigraphy underneath the plowzone. The site has good research potential and is recommended as potentially eligible for the National Register of Historic Places under Criterion D, with Criteria A, B, and C not applicable. If the development cannot avoid the site, then Circa~ recommends a Phase II evaluation be completed on the site before ground-disturbing activities. Circa~ recommended that if the site is avoided, it be protected during construction activities by placing orange-safety fencing around its perimeter.

August 2023: The individuals working and living at the site were probably small landowners who may have diversified their agricultural efforts to include grain or perhaps livestock production. The shovel testing indicates that the site was plowed with a more recent plowzone overlying a relic plowzone. The absence of features and the presence of plowscars in the base of test units coupled with the minute size of artifacts suggests the repeated plowing of the site has erased any features associated with the site. The research potential at the site is considered poor, and Circa~ recommends that the site is not eligible for listing on the National Register of Historic Places under Criterion D. Criteria A, B. and C is also not warranted for the site. No further work is recommended.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations: No Data

Surveyor's NR Criteria Considerations: No Data

Event Type: Survey:Phase I

Project Staff/Notes:

June 2023: In March and April 2023, Circa~ Cultural Resource Management, LLC (Circa~) conducted a Phase I cultural resources survey of the Windsor Commerce Center Tract in Isle of Wight County, Virginia. The project area, which encompasses approximately 83 acres, is bordered by Ennis Pond to the north, an unnamed dammed tributary of Ennis Pond to the east, residential properties to the west, and Windsor Boulevard (Route 460) to the south. The Area of Potential Effect (APE) for archaeological and architectural resources is the 83-acre project area. The owner plans to construct a warehouse and associated infrastructure on the property.

At Circa~, Carol D. Tyrer, Registered Professional Archaeologist (RPA), served as Project Manager and Principal Investigator for the project. Dawn M. Muir, RPA, served as the Architectural Historian for the project. Skye Hughes, RPA, created the graphics for the report. Carol D. Tyrer, Dawn M. Muir, and Skye Hughes prepared the report. The successful completion of the Phase I survey for the proposed development was made possible by the contribution of many individuals. In particular, the current landowner, John Hollowell, ensured that project information and maps were always available for the study.

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Circa~ Cultural Resource Management, LLC

Investigator: Carol D. Tyrer

Survey Date: 3/13/2023

Survey Description:

June 2023: Archival research commenced with examining cartographic and historical works on file online with the Library of Congress, the Colonial Williamsburg Rockefeller Library, VDHR, the Library of Virginia, and Isle of Wight County. Efforts were made to determine whether historic road rights-of-way passed close to the project area and whether subsurface cultural deposits were likely present. Data accumulated during previous archival research on historical sites throughout the region were also examined.

Prior to subsurface testing, the entire project area was visually inspected via pedestrian survey, and all aboveground evidence of cultural activity was noted and recorded. The project area was located within an agricultural field, and the survey was completed right after the application of Roundup after the crop was harvested. As a result, surface visibility was 80% or better, and a pedestrian survey of the cultivated areas was completed at 35-foot intervals. In addition, limited shovel testing was completed in areas where artifacts were recorded on the ground surface to sample the soil stratigraphy or the presence of subsurface cultural layers.

Judgmental shovel tests were excavated on a 50-foot grid in areas where surface artifacts were located to determine the depth of the plowzone, any intact soil stratum under the plowzone, artifact densities within the soil profiles, and site boundaries. In addition, shovel tests were excavated at 50-foot intervals in the forested areas. Shovel tests, approximately 1.50 feet in diameter, were excavated at 50-foot intervals. Shovel tests were excavated at a 25-foot radius around selected positive shovel tests to aid in the determination of isolated finds. Waterlogged areas, or portions of the project area with slopes in excess of 15%, were carefully examined for cultural material but were not subjected to subsurface testing. All shovel tests were excavated according to natural levels to the sterile subsoil, and all soils were screened through a ¼-inch wire mesh. Profiles were recorded for representative shovel tests, and soil color was recorded per the Munsell classification system. All shovel tests were recorded on standard field forms, and all cultural material was retained.

Once removed from the field, all archaeological data and specimens were transported to Circa~ 's laboratory for processing and analysis. Before washing, artifacts from a given provenience were first emptied into a screened basket and sorted. Items determined to be unstable will be either dry brushed or, in some cases, not washed and re-bagged with the appropriate provenience information. These items may include unstable organic objects, such as wood or other plant material, leather, bone, fabric, metal requiring immediate conservation, overglaze painted delftware, and other soft-bodied ceramics such as some local wares. Stable objects will be washed with a soft brush. The edges of ceramics and glass will be thoroughly cleaned to identify body type and mending. Items will then be placed by provenience on a drying rack.

Artifacts were sorted first by material and checked for mends in a given provenience. Stylistic attributes were described with current terminology and recorded by count into a database for analysis. Non-diagnostic artifacts with like attributes will be grouped - i.e., clear, amber, etc., bottle body glass fragments, unrecognizable nail fragments, corroded metal fragments, and aqua window glass. Diagnostic artifacts were sorted and grouped based on type, ware, vessel, or function.

Current Land Use	Date of Use	Comments
Agricultural field	6/1/2023	June 2023: The site is on a level, slightly higher knoll in the agricultural field and within the fringe of trees to the southeast. The elevation is 61 feet AMSL, and the landform drains to the north and east.

Threats to Resource: Development

Site Conditions: Surface Deposits Present And With Subsurface Integrity

Survey Strategies: Subsurface Testing, Surface Testing

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

June 2023: Two hundred and eight-four artifacts were recovered from the survey, 21 from the surface collection, and 263 from shovel testing. On average, 15.47 artifacts were recovered from the 17 positive tests. Of the 284 artifacts recovered, two, or 1%, date to Native American land use, and 282, or 99%, are historic. Historic material included 21 artifacts recovered from the surface, 55 from Stratum A, and 206 from Stratum B.

Circa~ only collected a representative sampling of artifacts from the field to help date the site. Material recovered from the surface of the plowed field included two creamware, nine pearlware, and one stoneware sherd; six reddish-brown handmade brick fragments; and three oyster shell fragments.

Material recovered from Stratum A consisted of one dark green bottle glass fragment, one aqua window glass fragment, one wrought nail fragment, one burned 1 ½-inch long wrought nail, 51 reddish-brown handmade brick fragments, and one oyster shell fragment.

Material recovered from Stratum B included two quartzite secondary flakes, one coarse earthenware sherd, four pearlware sherds, one aqua bottle glass fragment, eight aqua window glass fragments, one cut nail fragment, and 186 reddish-brown handmade brick fragments.

The creamware sherds were potted in England circa 1775-1820 and were too small to identify the vessel shape. The pearlware sherds were potted in England and date circa post-1779. The sherds represented two plates and one platter. One pearlware sherd exhibited a light and medium blue transfer print design typical of ware potted in England circa post-1795. This sherd was identified as a holloware vessel. The stoneware sherd exhibited a hand decorated cobalt blue design typical of ware potted in America circa post-1750. The sherd was too small to identify the vessel shape. The presence of the combination of locally produced American ceramics and imported European ceramics indicates consumer activity reflective of household necessity. The utilitarian wares such as the stoneware and other earthenware would have been purchased for daily food preparatory use and consumption without regard to the item’s aesthetic nature.

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Circa~CRM

Permanent Curation Repository: Landowner

Field Notes: Yes

Field Notes Repository:	Circa~CRM
Photographic Media:	Digital
Survey Reports:	Yes
Survey Report Information:	

Circa~
2023 Phase I Cultural Resources Survey of the Windsor Commerce Center Tract, Isle of Wight, Virginia

Survey Report Repository:	VDHR
DHR Library Reference Number:	No Data
Significance Statement:	June 2023: The artifacts recovered from the site suggest occupation from the late 18th century, with the use of the parcel continuing into the early- to mid-19th century. The shovel testing indicates a moderate density of artifacts. The majority of the artifacts were recovered from Stratum B. The site appeared to have vertical and horizontal integrity and cultural stratigraphy underneath the plowzone. The site has good research potential and is recommended as potentially eligible for the National Register of Historic Places under Criterion D, with Criteria A, B, and C not applicable. If the development cannot avoid the site, then Circa~ recommends a Phase II evaluation be completed on the site before ground-disturbing activities. Circa~ recommended that if the site is avoided, it be protected during construction activities by placing orange-safety fencing around its perimeter.
Surveyor's Eligibility Recommendations:	Recommended Eligible
Surveyor's NR Criteria Recommendations:	D
Surveyor's NR Criteria Considerations:	No Data

Property Information

Property Names

Name Explanation	Name
Current Name	Butler/Jones Cemetery
Function/Location	Cemetery, Lovers Lane

Property Evaluation Status

Property Addresses

Current - Lovers Lane

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23487
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): WINDSOR

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

DHR Staff 2020: This cemetery is located just northeast of the intersection of Lovers Lane and Windsor Boulevard.

June 2023: The cemetery is within a cope of trees located in the western side of the current Project Area.

August 2023: No changes have been made to the site since the previous survey.

Surveyor Assessment:

DHR Staff 2020: Further survey recommended.

June 2023: Circa~ recommends the site is not potentially eligible for listing on the National Register of Historic Places under Criteria A, B, C, or D. The cemetery will be avoided by development, and Circa~ recommends installing orange-safety fencing 25 feet from the edge of the woods to ensure unmarked graves are not impacted during construction. If the buffer cannot be set aside, Circa~ recommends monitoring of construction for the cemetery environs.

August 2023: At the conclusion of the Phase I survey, Circa~ recommended that the cemetery was not potentially eligible for listing on the National Register of Historic Places. Circa~ noted that the cemetery will be avoided and that orange safety fencing should be installed to ensure that any unmarked graves are not impacted during construction. The results of the GPR survey did not provide any information that would change that recommendation. The cemetery will still be avoided by the project construction. However, Circa ~ does continue to recommend installing orange-safety fencing around the cemetery edge to ensure any unmarked graves are not impacted during construction.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Funerary
Resource Type: Cemetery
NR Resource Type: Site
Date of Construction: ca 1890
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Funerary
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*

Number of Stories: *No Data*
Condition: Poor
Threats to Resource: Erosion, Neglect
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

IWCHS GSSTF, 2015: A selection of shaving foam, water, or talcum powder was used to improve the legibility of the inscriptions on the older tombstones. Afterwards, a clean water spray was used to remove any residue. GSSTF members were careful not to damage tombstones or artifacts during the transcription process. Throughout the transcribing process, an attempt was made to preserve the, 'look and feel' of the original inscriptions as regards word spacing, arrangement, and possible misspellings.

The cemetery was visited on October 5, 2005. Transcriptions were made for Joseph Jones. See survey form for more details (including epitaphs, birth dates, and death dates). Photographs included. There is an additional unknown headstone with no markings visible.

DHR Staff, 2020: Circa date of construction based upon oldest recorded burial date. Some additional information on those buried here included on survey form (namely epitaphs, birth, and death dates).

June 2023: Site 046-5629 is identified as the Butler- Jones Cemetery. On October 5, 2005, the Isle of Wight County Historical Society (IWCHS) Grave Site Survey Task Force (GSSTF) visited the Butler-Jones Cemetery. The GSSTF cleaned the stones with a selection of shaving foam, water, and/or talcum powder to improve the legibility of the inscriptions on the older tombstones. Afterwards, a clean water spray was used to remove any residue. GSSTF members were careful not to damage tombstones or artifacts during the transcription process. The stone is inscribed:

To My Father
JOSEPH JONES
Born
April 8, 1813
Died
Feb. 12, 1890

His toils are past, his work is
done,
He fought the fight – the victory
won.
Erected by his son Frank

The cemetery is within a cope of trees located in the western side of the Project Area. The stones are difficult to read, with some broken and lying on the ground. A few strands of fencing were noted on the eastern side of the cemetery. There could be additional unmarked graves.

August 2023: A ground-penetrating radar (GPR) or electromagnetic (EM) survey was conducted on this site as part of a Phase II archaeological survey for the current project. This survey was intended to locate suspected human graves. The survey was conducted using an EM-31 induction meter. The EM measures the apparent conductivity of the subsurface using the principles of electromagnetic induction. The EM consists of two horizontal coplanar loops, one acting as a transmitter and the other as a receiver. The transmitter induces eddy currents in the earth, producing a secondary field. The receiver intercepts the secondary field in which the EM measures the terrain conductivity by comparing the strength of the secondary field to that of the primary. The EM can be used to locate nonmetal debris, trenches, pits, grave shafts, or any interface that can create a contrast in the dielectric properties.

The GPR profiles were conducted using a Sensors & Software GPR system with a 250 MHZ shielded antenna. GPR are impulse systems that transmit short-duration EM pulses into the ground from an antenna near the surface. These EM pulses are reflected from interfaces with contrasting electrical properties back to the receiver section of the antenna connected to the control unit for processing and display. Contrasts in electrical properties of materials in the earth cause radar signal reflections. These reflections occur at different soil strata, soil/rock interfaces, rock/air interfaces (voids), fractures, manmade objects (drums, USTs, trenches, graves, pits), or any interface that can create a contrast in the dielectric properties.

EM and GPR surveys were conducted from the wood line into the field 30 feet on the site's north, south, and eastern edges to locate unmarked graves outside the forested portion. The proposed development will not impact the western side. EM data was collected along linear one to two-foot traverses having stations at 10 readings per second using an Archer data logger connected to a GPS within sub-meter accuracy. GPR measurements were collected with lines at two-foot centers with stations at 0.10 feet for the GPR survey. The GPR was connected to a sub-meter GPS instrument.

GPR was limited to a max depth of approximately five feet in areas; however, this max depth was not consistent over the entire scan area. The operator scanned in a grid pattern to determine if there were any anomalies with characteristics of an unmarked grave. There were no anomalies within the scan area that portrayed characteristics of an unmarked grave being present. Surface obstructions, overgrown vegetation, and rough terrain were limitations encountered throughout the scans.

Cemetery Information

Current Use: Family
Historic Religious Affilitation: Unknown
Ethnic Affiliation: *No Data*
Has Marked Graves: Yes
Has Unmarked Graves: Yes
Enclosure Type: None
Number Of Gravestones: 0 - 5

Earliest Marked Death Year: 1890
Latest Marked Death Year: *No Data*

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Other

Project Review File Number: *No Data*
Investigator: Dawn Muir
Organization/Company: Circa~ Cultural Resource Management, LLC
Photographic Media: Digital
Survey Date: 8/1/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:

August 2023: In the summer of 2023, Circa~ Cultural Resource Management, LLC (Circa~) conducted a Phase II evaluation of Site 44IW0395 located within the overall 83-acre Windsor Commerce Center Tract in Isle of Wight County, Virginia. The owner plans to construct a warehouse and associated infrastructure on the property. The overall project area is bordered by Ennis Pond to the north, an unnamed dammed tributary of Ennis Pond to the east, residential properties to the west, and Windsor Boulevard (Route 460) to the south.

Circa~ conducted a Phase I cultural resources survey of the project area earlier in 2023 and identified 66 isolated finds, one previously identified archaeological resource, two new archaeological resources, one previously identified architectural resource, and no new architectural resources. One of the archaeological resources, Site 44IW0395, was recommended as potentially eligible for listing on the National Register of Historic Places. In addition to the Phase II survey of Site 44IW0395, Circa~ also completed a GPR survey of Site 046-5629 as it fell within the Phase II project area.

At Circa~, Carol D. Tyrer, Register of Professional Archaeologists (RPA), served as Project Manager and Principal Investigator for the project and oversaw the course of the project. Dawn M. Muir, RPA, served as the Historian for the project and completed the historic research for the project. Skye Hughes, RPA, completed the graphics. Carol D. Tyrer, Skye Hughes, and Dawn M. Muir prepared the report. The successful completion of the Phase II survey for the proposed development was made possible by the contribution of many individuals. In particular, the current landowner, John Hollowell, ensured that project information and maps were always available for the study.

Project Bibliographic Information:

Circa~
2023 Phase II Archaeological Evaluation of Site 44IW0395 The Windsor Commerce Center Tract, Isle of Wight County, Virginia.

GPRS
2023 Job Summary for Windsor Project.

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Dawn Muir
Organization/Company: Circa~ Cultural Resource Management, LLC
Photographic Media: Digital
Survey Date: 3/13/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:

June 2023: In March and April 2023, Circa~ Cultural Resource Management, LLC (Circa~) conducted a Phase I cultural resources survey of the Windsor Commerce Center Tract in Isle of Wight County, Virginia. The project area, which encompasses approximately 83 acres, is bordered by Ennis Pond to the north, an unnamed dammed tributary of Ennis Pond to the east, residential properties to the west, and Windsor Boulevard

(Route 460) to the south. The Area of Potential Effect (APE) for archaeological and architectural resources is the 83-acre project area. The owner plans to construct a warehouse and associated infrastructure on the property.

At Circa~, Carol D. Tyrer, Registered Professional Archaeologist (RPA), served as Project Manager and Principal Investigator for the project. She photographed the resources. Dawn M. Muir, RPA, served as the Architectural Historian for the project and completed the architectural survey and V-CRIS data entry. Skye Hughes, RPA, created the graphics for the report. and assisted with V-CRIS data entry. Carol D. Tyrer, Dawn M. Muir, and Skye Hughes prepared the report. The successful completion of the Phase I survey for the proposed development was made possible by the contribution of many individuals. In particular, the current landowner, John Hollowell, ensured that project information and maps were always available for the study.

Project Bibliographic Information:

Circa~
2023 Phase II Archaeological Evaluation of Site 44IW0395 The Windsor Commerce Center Tract, Isle of Wight County, Virginia.

GPRS
2023 Job Summary for Windsor Project.

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Isle of Wight County Historical Society Grave Site Survey Task Force
Organization/Company: DHR
Photographic Media: Digital
Survey Date: 6/2/2015
Dhr Library Report Number: *No Data*

Project Staff/Notes:

Data entry for cemeteries recorded by the Isle of Wight County Historical Society (IWCHS) Grave Site Survey Task Force (GSSTF). Documentation obtained from their website (iwchs.com/Cemetery-Reports.html). Survey dates range from the fall of 2003 to the spring of 2015. Their last update is noted as June 2, 2015. Data entry completed by DHR archives assistants Amber Cox and Jonathan Valalik.

Project Bibliographic Information:

Circa~
2023 Phase II Archaeological Evaluation of Site 44IW0395 The Windsor Commerce Center Tract, Isle of Wight County, Virginia.

GPRS
2023 Job Summary for Windsor Project.

Bibliographic Information

Bibliography:

No Data

Property Notes:

No Data

APPENDIX B
ARTIFACT INVENTORY

ARTIFACT INVENTORY

Site: 44IW0395 **Phase I**

Recorder: C. Tyrer **April 27, 2023**

Provenience	Quantity	Description
Surface collection		
Surface collection	2	Creamware body sherds, c. 1775-1820
	6	Pearlware body sherds, c. post 1779
	1	Pearlware body sherd, medium and light blue transfer print design on exterior, c. post 1795
	2	Pearlware base sherds, c. post 1779
	1	Stoneware body sherd, gray body, gray salt glaze on interior and exterior, cobalt blue design on exterior, American, c. post 1750
	6	Brick fragments, reddish brown, handmade, discarded
	3	Shell fragments, oyster
Shovel Tests		
ST 14-13 Stratum B	2	Brick fragments, reddish brown, handmade, discarded
ST 14-14 Stratum B	4	Brick fragments, reddish brown, handmade, discarded
ST 16-10 Stratum A	1	Brick fragment, reddish brown, handmade, discarded
Judgmental Shovel Test in Field		
J1-1	3	Brick fragments, buff, handmade, discarded
Stratum A	4	Brick fragments, reddish brown, handmade, discarded
J2-2	1	Bottle glass body fragment, dark green
Stratum A	1	Window glass fragment, aqua, 3/32” thick
	11	Brick fragments, reddish brown, handmade, discarded
ST J1-2 Stratum A	16	Brick fragments, reddish brown, handmade, discarded
ST J1-4	1	Pearlware body sherd, c. post 1779
Stratum B	7	Window glass fragments, aqua, 2/32” thick
	1	Nail fragment, wrought
	1	Nail, wrought, 1 ½” L, burned
	101	Brick fragments, reddish brown, handmade (19.6723 grams), discarded

ST J1-5 Stratum A	8	Brick fragments, reddish brown, handmade, discarded
ST J1-5 Stratum B	1 4	Pearlware body sherd, c. post 1795 Brick fragments, reddish brown, handmade, discarded
J1-6 Stratum A	1 5 1	Nail fragment, cut Brick fragments, reddish brown, handmade, discarded Shell fragment, oyster
ST J2-2 Stratum A	3	Brick fragments, reddish brown, handmade, discarded
ST J2-2 Stratum B	2	Brick fragments, reddish brown, handmade, discarded
ST J2-3 Stratum B	1 1 23	Pearlware base sherd, c. post 1775 Window glass fragment, aqua, 2/32” thick Brick fragments, reddish brown, handmade, discarded
ST J2-5 Stratum B	1 1 18	Pearlware body sherd, c. post 1779 Bottle glass body fragment, aqua Brick fragments, reddish brown, handmade, discarded
ST J2-6 Stratum B	10	Brick fragments, reddish brown, handmade, discarded
ST J2-7 Stratum B	2 1 25	Flakes, quartzite, secondary Coarse earthenware body sherd, reddish orange body with a thick black lead glaze on interior and exterior, English, c. 1700 to 1810 Brick fragments, reddish brown, handmade (02.8891 grams), discarded

ARTIFACT INVENTORY

Site: 44IW0395 **Phase II**

Recorder: C. Tyrer **July 7, 2023**

Provenience	Quantity	Description
Shovel Tests		
ST -1-3	1	Window glass fragment, aqua, 2/32" thick
Stratum A	1	Brick fragment, reddish brown, handmade, discarded
ST 1-3	1	Creamware glaze chip, c. 1775-1820
Stratum B	1	Brick fragment, reddish brown, handmade, discarded
ST 1-4	2	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 1-9	1	Flake, silicious slate, tertiary
Stratum A	1	Pearlware glaze chip, c. post 1779
	2	Brick fragments, reddish brown, handmade, discarded
ST 2-6	1	Brick fragment, reddish brown, handmade, discarded
Stratum A		
ST 3-4	4	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 3-5	1	Brick fragment, reddish brown, handmade, discarded
Stratum B		
ST 3-6	1	Brick fragment, reddish brown, handmade, discarded
Stratum A		
ST 3-11	4	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 3-11	6	Brick fragments, reddish brown, handmade, discarded
Stratum B		
ST 4-5	2	Brick fragments, reddish brown, handmade, discarded
Stratum A		

ST 4-5	1	Bottle glass body fragment, dark green
Stratum B	10	Brick fragments, reddish brown, handmade, discarded
	1	Shell fragment, oyster, discarded
ST 4-6	18	Brick fragments, reddish brown, handmade, discarded
Stratum A	1	Aluminum can fragment
ST 4-7	1	Nail fragment, cut
Stratum A	3	Brick fragments, reddish brown, handmade, discarded
ST 4-9	5	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 4-11	8	Brick fragments, reddish brown, handmade (40.1571
Stratum A		grams), discarded
ST 4-12	3	Brick fragments, reddish brown, handmade, discarded
Stratum B		
ST 5-3	4	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 5-4	1	Brick fragment, reddish brown, handmade, discarded
Stratum B		
ST 5-5	1	Brick fragment, reddish brown, handmade, discarded
Stratum B		
ST 5-6	3	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 5-8	1	Window glass fragment, aqua, 2/32” thick
Strata A/B	53	Brick fragments, reddish brown, handmade, discarded
ST 5-9	5	Brick fragment, reddish brown, handmade, discarded
Stratum A		
ST 5-9	1	Nail fragment, indeterminate
Stratum A	16	Brick fragments, reddish brown, handmade, discarded
ST 5-11	1	Fire-cracked rock, quartzite
Stratum A	11	Brick fragments, reddish brown, handmade, discarded
ST 5-11	8	Brick fragments, reddish brown, handmade (08.9615
Stratum B		grams), discarded

ST 5-12 Stratum A	12	Brick fragments, reddish brown, handmade (04.9502 grams), discarded
	1	Shell fragment, oyster, discarded
ST 5-13 Stratum B	11	Brick fragments, reddish brown, handmade (45.3592 grams), discarded
ST 6-4 Stratum A	9	Brick fragments, reddish brown, handmade, discarded
ST 6-7 Stratum A	1	Nail fragment, cut
	10	Brick fragments, reddish brown, handmade, discarded
	1	Mortar fragment, sand temper, discarded
ST 6-8 Stratum A	1	Creamware body sherd, green glaze, molded dot design on exterior, c. 1775-1820
	2	Window glass fragments, aqua, 2/32" thick
	3	Nail fragments, cut
	142	Brick fragments, reddish brown, handmade (1241.82 grams), discarded
	8	Mortar fragments, sand and shell temper, discarded
ST 6-9 Stratum A	2	Bottle glass body fragment, aqua
	5	Nail fragments, cut
	1	Nail, cut, 2" L
	244	Brick fragments, reddish brown, handmade (1133.98 grams), discarded
	40	Mortar fragments, fine sand temper, discarded
	1	Shell fragment, discarded
ST 6-11 Stratum A	1	Nail fragment, cut
	19	Brick fragments, reddish brown, handmade (45.3592 grams), discarded
	6	Mortar fragments, sand and shell temper (12.5619 grams) discarded
ST 6-11 Stratum B	1	Brick batt, reddish brown, handmade (42.4751 grams), discarded
ST 6-12 Stratum A	1	Pearlware body sherd, c. post 1779
	1	Bottle glass body fragment, clear
	78	Brick fragments, reddish brown, handmade (46.9371 grams), discarded
	22	Mortar fragments, sand and shell temper, discarded

ST 6-12 Stratum B	9	Brick fragments, reddish brown, handmade, discarded
ST 6-13	1	Creamware glaze chip, c. 1775-1820
Stratum B	34	Brick fragments, reddish brown, handmade (05.1638 grams), discarded
ST 7-6 Stratum A	4	Brick fragments, reddish brown, handmade, discarded
ST 7-8	1	Delftware glaze chip, buff body with a blue-tinted tin glaze
Stratum A		c. 1600-1800
	1	Pearlware glaze chip, c. post 1779
	1	Pearlware body sherd, hand painted black and blue design on interior, c. post 1795
	1	Bottle glass body fragment, aqua, fire damaged
	102	Brick fragments, reddish brown, handmade (453.592 grams), discarded
	34	Mortar fragments, sand and shell temper (90.7815 grams) discarded
ST 7-9	1	Flake, quartzite, primary
Stratum A	1	Pearlware rim sherd, blue molded shell edge on interior, c. post 1795
	1	Pearlware rim sherd, hand painted black band on rim interior, c. post 1795
	1	Pearlware rim sherd, hand painted black band on rim interior and green foliage design on interior, c. post 1795
	1	Bottle glass body fragment, clear
	1	Window glass fragment, aqua, 3/32” thick
	50	Brick fragments, reddish brown, handmade (1133.98 grams), discarded
ST 7-13	1	Window glass fragments, aqua, 3/32” thick
Stratum B	28	Brick fragments, reddish brown, handmade (45.3592 grams), discarded
	2	Charred wood fragments, discarded
ST 7-15 Stratum A	4	Brick fragments, reddish brown, handmade, discarded
ST 8-5	1	Pearlware glaze sherd, c. post 1775
Stratum B	2	Brick fragments, reddish brown, handmade, discarded
ST 8-6 Stratum A	11	Brick fragments, reddish brown, handmade, discarded

ST 8-6 Stratum B	4	Brick fragments, reddish brown, handmade (08.8701 grams), discarded
ST 8-8 Stratum A	47	Brick fragments reddish brown, handmade (26.8791 grams), discarded
ST 8-9	1	Window glass fragment, aqua, 2/32” thick
Stratum A	48	Brick fragments, reddish brown, handmade, discarded
ST 8-11	1	Pearlware glaze chip, c. post 1779
Stratum A	1	Bottle glass body fragment, clear
	1	Nail fragment, cut
	13	Brick fragments, reddish brown, handmade (41.5981 grams), discarded
	1	Shell fragment, oyster
ST 8-11 Stratum B	19	Brick fragments, reddish brown, handmade (45.3597 grams), discarded
ST 8-12	1	Cobble fragment, quartzite, reduced
Stratum A	1	Nail fragment, indeterminate
	1	Brick fragment, reddish brown, handmade, discarded
ST 8-13 Stratum B	21	Brick fragments, reddish brown, handmade, discarded
ST 9-5 Stratum B	1	Brick fragment, reddish brown, handmade, discarded
ST 9-6	1	Flake, rhyolite, secondary
Stratum A	1	Window glass fragment, aqua, 2/32” thick
	75	Brick fragments, reddish brown, handmade (45.7691 grams), discarded
	4	Mortar fragments, sand and shell temper, discarded
ST 9-9	1	Window glass fragment, aqua, 2/32” thick
Stratum A	34	Brick fragments, reddish brown, handmade, discarded
ST 9-16	3	Iron lid fragments, oval-shaped
Stratum A	10	Brick fragments, reddish brown, handmade (33.5612 grams), discarded

ST 10-4	1	Bottle glass body fragment, amber
Stratum B	8	Brick fragments, reddish brown, handmade, discarded
ST 10-9	1	Pearlware glaze chip, c. post 1779
Stratum A	29	Brick fragments, reddish brown, handmade, discarded
ST 10-10	10	Brick fragments, reddish brown, handmade, discarded
Stratum B		
ST 10-11	3	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 10-12	1	Flake, quartzite, primary
Stratum B	1	Bottle glass body fragment, olive green
	23	Brick fragments, reddish brown, handmade (06.7811 grams), discarded
ST 11-4	3	Brick fragments, reddish brown, handmade, discarded
Stratum B		
ST 11-6	3	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 11-10	5	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 12-4	5	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 12-5	1	Flake, silicious slate, tertiary
Stratum B	10	Brick fragments, reddish brown, handmade, discarded
ST 12-6	5	Brick fragments, reddish brown, handmade, discarded
Stratum A		
ST 13-3	1	Pearlware body sherd, c. post 1779
Stratum B	1	Bottle glass body fragment, aqua
	3	Brick fragments, reddish brown, handmade, discarded
ST 13-4	4	Brick fragments, reddish brown, handmade, discarded
Stratum B		
ST 13-6	2	Brick fragments, reddish brown, handmade, discarded
Stratum A		

ST 14-5 Stratum B	1	Brick fragment, reddish brown, handmade, discarded
ST 14-6 Stratum A	40	Brick fragments, reddish brown, handmade (45.3592 grams), discarded
	11	Mortar fragments, sand and shell temper (41.5612 grams) discarded
ST 14-6	2	Bottle glass body fragments, aqua
Stratum B	10	Brick fragments, reddish brown, handmade, discarded
ST 14-8 Strata A/B	1	Coarse earthenware core sherd, reddish buff body, redware
	1	Refined earthenware base sherd, fire-damaged
	1	Stoneware body sherd, red body, unglazed
	255	Brick fragments, reddish brown, handmade (45.3592 grams), discarded
	8	Mortar fragments, shell and sand temper, discarded
ST 14-8 Stratum B	43	Brick fragments, reddish brown, handmade (367.891 grams), discarded
	7	Mortar fragments, shell and sand temper (11.0157 grams) discarded
	1	Shell fragment, oyster, discarded
ST 14-9	1	Bottle glass body fragment, clear, 20th century
Stratum B	1	Brick fragment, reddish brown, handmade, discarded
ST 15-4	1	Pearlware glaze chip, c. post 1779
Stratum B	2	Brick fragments, reddish brown, handmade, discarded
ST 15-7	1	Pearlware glaze chip, c. post 1779
Stratum A	1	Brick fragment, reddish brown, handmade, discarded
ST 16-4 Stratum A	2	Brick fragments, reddish brown, handmade, discarded
ST 16-5 Stratum A	3	Brick fragments, reddish brown, handmade, discarded
ST 16-6 Stratum A	3	Brick fragments, reddish brown, handmade, discarded
ST 17- 4 Stratum A	1	Nail fragment, cut

ST 17-5 Stratum B	2	Iron fragments, indeterminate, discarded
ST 17-6 Stratum A	8	Brick fragments, reddish brown, handmade, discarded
ST 17-6 Stratum B	3	Brick fragments, reddish brown, handmade, discarded
ST 18-5 Stratum A	2 2	Pearlware glaze chips, c. post 1779 Brick fragments, reddish brown, handmade, discarded
ST 18-5 Stratum B	1 3	Pearlware glaze chip, c. post 1779 Brick fragments, reddish brown, handmade, discarded
ST 18-6 Stratum B	3	Brick fragments, reddish brown, handmade, discarded
ST 19-5 Stratum B	4	Brick fragments, reddish brown, handmade, discarded
ST 19-6 Stratum A	20	Brick fragments, reddish brown, handmade (09.1794 grams), discarded
ST 19-6 Stratum B	2	Brick fragments, reddish brown, handmade, discarded
ST 20-5 Stratum A	2 4	Pearlware glaze chips, traces of a blue transfer print design, c. post 1795 Brick fragments, reddish brown, handmade, discarded
ST 20-6 Stratum B	14	Brick fragments, reddish brown, handmade, discarded

Test Units

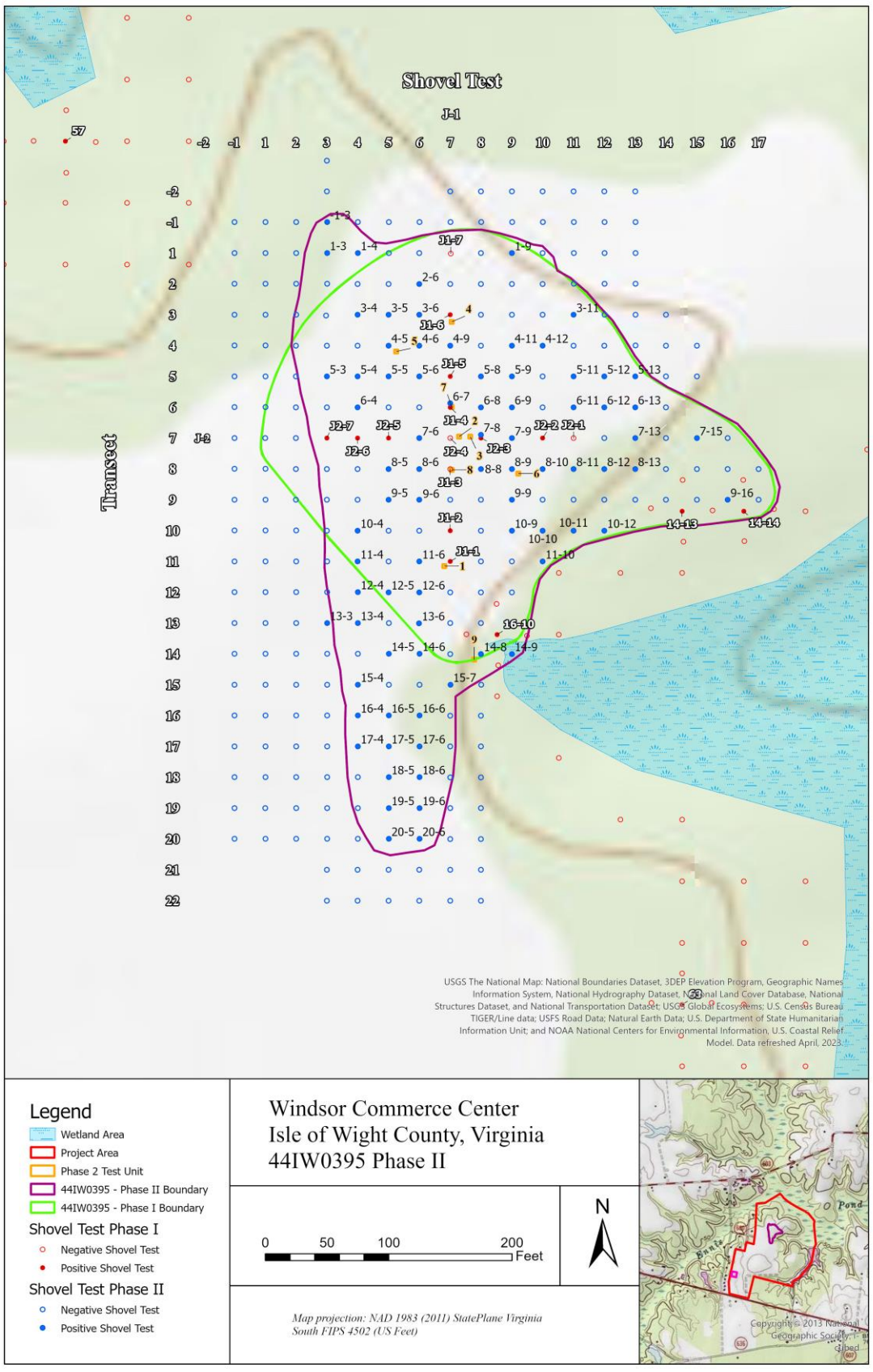
Test Unit 1	1	Flake, quartzite, secondary
Stratum A	1	Creamware glaze chip, c. 1775-1820
	1	Pearlware body sherd, underglaze blue hand painted design on the interior, c. post 1795
	1	Pearlware rim sherd, blue transfer print design on interior, c. post 1795
	1	Yellowware body sherd, c. post 1830
	1	Bottle glass body fragment, aqua
	1	Bottle glass body fragment, clear
	2	Nail fragments, cut
	119	Brick fragments, reddish brown, handmade (453.592 grams), discarded
Test Unit 1	1	Flake, quartzite, secondary
Stratum B	1	Pearlware body sherd, medium and light blue transfer print design on interior, c. post 1795
	3	Window glass fragments, aqua, 2/32" thick
	62	Brick fragments, reddish brown, handmade (226.796 grams), discarded
Test Unit 2	1	Flake, chert, tertiary
Stratum A	1	Pearlware glaze chip, c. post 1779
	3	Pearlware body sherds, c. post 1779
	1	Pearlware body sherd, hand painted blue design on the exterior, c. post 1795
	1	Yellowware body sherd, c. post 1830
	2	Bottle glass body fragment, aqua
	4	Glass fragments, aqua, fire-damaged
	8	Window glass fragments, aqua, 3/32" thick
	3	Nail fragments, cut
	270	Brick fragments, reddish brown, handmade (680.389 grams), discarded
	2	Mortar fragments, sand and shell temper, discarded
Test Unit 2	1	Coarse earthenware rim glaze chip, fire-damaged
Stratum B	315	Brick fragments, reddish brown, handmade (1139.84 grams), discarded
Test Unit 3	5	Pearlware body sherds, c. post 1779
Stratum A	1	Pearlware glaze chip, blue and green design on exterior, c. post 1779
	1	Pearlware rim sherd, c. post 1779
	1	Pearlware body sherd, hand painted blue design on the

		exterior, c. post 1795
	1	Pearlware body sherd, hand painted black and green design on the exterior, c. post 1795
	1	Pearlware body sherd, blue transfer print design on the exterior, c. post 1795
	1	Bottle glass body fragment, aqua
	12	Glass fragments, aqua, fire damaged
	11	Bottle glass body fragments, clear
	1	Bottle glass base fragment, clear, "…101132 …OHIBITED …"
	2	Bottle glass rim fragments, clear, molded screw threads
	21	Window glass fragments, aqua, 3/32" thick
	14	Nail fragments, cut
	1,435	Brick fragments, reddish brown, handmade (7247.48 grams), discarded
	68	Mortar fragments, sand and shell temper, discarded
Test Unit 3	1	Bottle glass body fragment, aqua
Stratum B	5	Bottle glass body fragments, clear
	1	Bottle glass base fragment, clear
	8	Glass fragments, aqua, fire damaged
	8	Window glass fragments, aqua, 3/32" thick
	8	Nail fragments, cut
	1	Nail, cut, 3" L
	589	Brick fragments, reddish brown, handmade, (2721.55 grams), discarded
	132	Mortar fragments, sand and shell temper, discarded
Test Unit 4	1	Pearlware glaze chip, traces of a green hand painted
Stratum A		and incised shell edge, c. post 1795
	25	Brick fragments, reddish brown, handmade, discarded
Test Unit 4	1	Pearlware body sherd, c. post 1779
Stratum B	1	Pearlware body sherd, hand-painted blue design on exterior, c. post 1795
	1	Pearlware rim sherd, hand painted blue and brown design on interior, c. post 1795
	1	Glass fragment, aqua, fire damaged
	1	Window glass fragment, aqua, 2/32" thick
	25	Brick fragments, reddish brown, handmade, discarded
	1	Shell fragment, oyster, discarded
	3	Charred wood fragments, discarded
Test Unit 5	16	Brick fragments, reddish brown, handmade, discarded
Stratum A		

Test Unit 5 Stratum B	2	Brick fragments, reddish brown, handmade, discarded
Test Unit 6 Stratum A	1	Flake, quartzite, secondary
	1	Refined earthenware glaze chip, fire-damaged
	1	Pearlware glaze chip, c. post 1779
	1	Pearlware body sherd, hand-painted blue design on interior, c. post 1795
	1	Glass fragment, aqua, fire-damaged
	12	Window glass fragments, aqua, 3/32” thick
	1435	Brick fragments, reddish brown, handmade (1600 grams), discarded
Test Unit 6 Stratum B	1	Flake, quartz, tertiary
	2	Pearlware body sherds, c. post 1779
	1	Pearlware rim sherd, c. post 1779
	1	Nail fragment, cut
	297	Brick fragments, reddish brown, handmade (226.796 grams), discarded
Test Unit 7 Stratum A	1	Biface base fragment, quartzite
	5	Pearlware body fragments, c. post 1779
	1	Pearlware body fragment, hand painted blue design on exterior, c. post 1795
	1	Pearlware body sherd, hand painted design on exterior, fire damaged
	1	Pearlware rim sherd, blue band on rim edge, c. post 1795
	1	Bottle glass body fragment, aqua
	3	Bottle glass body fragments, clear
	3	Bottle glass rim fragments, clear, molded screw threads
	2	Glass fragments, aqua, fire damaged
	1	Hurricane lamp chimney globe fragment, clear
	5	Window glass fragments, aqua, 3/32” thick
	1	Nail fragment, cut
	1	Iron strap fragment, tapered end
	350	Brick fragments, reddish brown, handmade (221.651 grams), discarded
	14	Mortar fragments, sand and shell temper, discarded
	16	Mortar fragments, sand and shell temper, fire-damaged, discarded
Test Unit 7 Stratum B	5	Pearlware body sherds, c. post 1779
	1	Window glass fragment, aqua, 3/32” thick
	254	Brick fragments, reddish brown, handmade (226.796 grams), discarded
	20	Mortar fragments, sand and shell temper

	1	Mortar fragment, sand and shell temper, fire damaged
Test Unit 8	1	Pearlware glaze chip, c. post 1779
Stratum A	2	Bottle glass body fragments, aqua
	1	Window glass fragment, aqua, 3/32” thick
	90	Brick fragments, reddish brown, handmade (39.8901 grams), discarded
	1	Aluminum can fragment
Test Unit 8	2	Pearlware glaze chips, c. post 1779
Stratum B	1	Pearlware rim glaze chip, hand painted black band c. post 1795
	2	Window glass fragments, aqua, 3/32” thick
	121	Brick fragments, reddish brown, handmade (45.3592 grams), discarded
Test Unit 9	1	Pearlware glaze chip, c. post 1779
Stratum A	1	Bottle glass body fragment, clear, 20th century
	147	Brick fragments, reddish brown, handmade (07.8702 grams), discarded
	1	Mortar fragment, sand and shell temper. discarded
	1	Shell fragment, oyster, discarded
	1	Drain file fragment, reddish orange, discarded

APPENDIX C
PROJECT MAP


Shovel Test
Transect
J-1
J-2
Legend
Wetland Area
Project Area
Phase 2 Test Unit
44IW0395 - Phase II Boundary
44IW0395 - Phase I Boundary
Shovel Test Phase I
Negative Shovel Test
Positive Shovel Test
Shovel Test Phase II
Negative Shovel Test
Positive Shovel Test
Windsor Commerce Center
Isle of Wight County, Virginia
44IW0395 Phase II
0 50 100 200 Feet
N
Map projection: NAD 1983 (2011) StatePlane Virginia South FIPS 4502 (US Feet)
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed April, 2023.
Pond
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APPENDIX D
GPR REPORT

JOB SUMMARY

Service Completed Date: 07/26/2023

Customer: KIMLEY HORN **Phone Number:**

Billing Address	City	State	Zip
11700 KATY FWY	HOUSTON	TX	77079

Job Details

Jobsite Location	City	State	Zip
11483 Windsor Boulevard	Windsor	Virginia	

Work Order Number 573052-77979 **Customer Service Phone Num**

Job Num **PO Num**

Project Manager: Timothy Woods **Email:** Logan.Woods@gprsinc.com

Thank you for using GPRS on your project. We appreciate the opportunity to work with you. If you have questions regarding the results of this scanning, please contact the lead GPRS technician on this project.

EQUIPMENT USED

The following equipment was used on this project:

- **Underground GPR Antenna:** This GPR Antenna uses frequencies ranging from 250 MHz to 450 MHz and is mounted in a stroller frame that rolls over the surface. Data is displayed on a screen and marked in the field in real-time. The surface needs to be reasonably smooth and unobstructed to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the efficacy of GPR. The total effective scan depth can be as much as 8' or more with this antenna but can vary widely depending on the soil conditions and composition. Some soil types, such as clay, may limit maximum depths to 3' or less. As depth increases, targets must be larger to be detected, and non-metallic targets can be challenging to locate. The depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **GPS:** This handheld unit offers accuracy down to 4 inches; however, the accuracy achieved will depend on the satellite environment at the time of collection and is not considered survey-grade. Features can be collected as points, lines, or areas and then exported as a KML/KMZ or overlaid on a CAD drawing. For more information, please visit: Link

JOB SUMMARY

WORK PERFORMED

GPRS performed the following work on this project:

CEMETERY

- The effective depth of GPR will vary throughout a site depending on a variety of factors such as surface type, surface conditions, soil type, and moisture content. At this site, the maximum effective GPR depth was approximately 5 feet.

RESULTS AND NOTES

Client's Scope of Work	Scan for possible unmarked graves within the scan area.		
Additional Notes	GPR was used for locating possible unmarked graves. GPR was limited to a max depth of approximately 5ft in areas but this max depth was not consistent over the entire scan area. I scanned in a grid pattern to determine if there were any anomalies with characteristics to what an unmarked grave would be. There were no anomalies within the scan area that portrayed characteristics of an unmarked grave being present. Surface obstructions, overgrown vegetation and rough terrain were limitations encountered throughout the scans. -Understand we cannot scan within 2' of all obstructions. We advise to stay 2' from all markings. -Note some lines/utilities are not traceable without direct access points. -Note, GPRS does not replace 811 mandates. -GPR technology dictates, In order to be seen with GPR, pipes must be larger as the depth increases -Understand our max depth does not indicate that we could see this deep throughout the entire work area. - GPRS strongly advises potholing or daylighting the location/depth of any marked out utilities for verification prior to any excavations within 2' of markings.		
Limitations Encountered:	Surface Obstructions, Overgrown Vegetation	Findings Walkthrough done with client:	Yes

JOB SUMMARY

Image 1



Image 2



Image 3



Image 4



JOB SUMMARY

CONTACT / SIGNATURE INFORMATION

TERMS & CONDITIONS

http://www.gprsinc.com/termsandconditions.html

SIGNATURE

CONTACT NAME

Victoria Holmes 757-350-6669

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APPENDIX E
STAFF RESUMES

CAROL D. TYRER, RPA
PRESIDENT/PROJECT MANAGER/PRINCIPAL INVESTIGATOR/LABORATORY DIRECTOR
CIRCA~ CULTURAL RESOURCE MANAGEMENT, LLC
Williamsburg, Virginia Office

Education:

University of Tennessee, Chattanooga, 1984, BA, Sociology and Anthropology: Anthropology
University of Tennessee, Chattanooga, 1984, BA English and American Language and Literature: Technical Writing
University of Tennessee, Chattanooga, 1987, English: Technical Writing Graduate classes
University of Denver, 2012, MLS. Global Affairs: World History and Culture
Liberty University: Ph.D., American History, (ongoing) est. 2023

October 2019 to present: Register of Professional Archaeologists (RPA) #18078

Professional Experience:

2012-present: President/Project Manager/Principal Investigator/Laboratory Director, Circa~ Cultural Resource Management, Inc., Williamsburg, Virginia.
2005-2012: President/Project Manager/Laboratory Director, Circa~ Cultural Resource Management, Inc., Williamsburg, Virginia.
2002-2005: Partner/Chief Financial Officer/Operations Manager/Project Manager/Marketing Director/Laboratory Director, James River Institute for Archaeology, Inc. (JRIA), Williamsburg, Virginia.
1995-2002: Operations Manager/Project Manager/ Marketing Director/Archaeological Laboratory Director, Cultural Resources, Inc. (CRI), Williamsburg, Virginia.
1991-1995: Project Manager/Marketing Director/ Archaeological Laboratory Director, Espey, Huston & Associates, Inc. (EH&A), Williamsburg, Virginia.
1990-1991: Consultant, Colonial Williamsburg Foundation.
1988-1991: Project Manager/Archaeological Laboratory Director, Mid-Atlantic Archaeological Research & Associates (MAAR), Williamsburg, Virginia.
1990 Field Crew, College of William and Mary Archaeological Project Center, Williamsburg, Virginia.
1985-1986: Assistant Curator, Riley County Historical Museum, Manhattan, Kansas.
1985: Assistant Field Supervisor, Environmental Systems, Inc., Kansas City, Kansas.
1985: Field Supervisor/Field Crew, Fort Riley, Kansas, University of Wichita, Kansas.
1983-1984: Field Crew, St. Simon's Island, Georgia, University of Tennessee
1982-1984: Lab Technician, University of Tennessee
1977-1982: Field and Lab Technician (summers), TVA, Chattanooga, Tennessee

Non-Profit Experience:

1996 to present: Co-president, Friends of the National Park Service Historic Green Spring Park, Williamsburg, Virginia
2010 to present: Vice-president Watermen's Museum, Yorktown, Virginia

Fields of Experience:

Ms. Tyrer has over 42 years of professional experience in the field of archaeology and the management of archaeological and museum collections. Her current responsibilities at Circa~ include managerial and technical tasks associated with archaeological assessments and Phase I, II, and III excavations, consultation with and representation of clients before state and national review agencies, writing and editing technical reports, preparing and managing project budgets, and developing and implementing archaeological research designs, site predictability models, and sensitivity areas. She has been the principal author of over 400 technical reports and historical studies (all accepted by the regulatory agencies), and worked closely with the Virginia Department of Historic Resources (VDHR) and other official agencies to fulfill the requirements of local, state, and federal regulations related to both archaeological and architectural resources.

As Laboratory Director, Ms. Tyrer has identified, catalogued, and analyzed artifacts from sites in Tennessee, North Carolina, South Carolina, Kentucky, West Virginia, Maryland, Florida, Pennsylvania, Georgia, Kansas, and Virginia. She has performed these analyses on Native American sites of all periods and on 17th, 18th, 19th, and 20th century historic sites. She is familiar with the state and federal artifact curation standards and uses these guidelines daily. She has prepared field soil samples for flotation of faunal remains and for carbon-14 dating and has experience in metal conservation. She also identifies and analyzes artifacts recovered from excavations and prepares distribution maps, vessel counts, and detailed discussions on artifact types for reports.

Ms. Tyrer's specialty is the identification and analysis of ceramics. She completed specialized computer cataloguing of the extensive ceramic study collection at The Colonial Williamsburg Foundation in Williamsburg, Virginia. Ms. Tyrer has also worked in a county historical museum identifying, labeling, curating, and appraising artifacts and museum specimens, and preparing exhibits. In addition, Ms. Tyrer has re-cataloged and analyzed the approximately 100,000-artifact collection from George Washington's Boyhood Home using the Automated National Catalog System (ANCS) developed by the National Park Service.

Ms. Tyrer has considerable experience in historic and prehistoric archaeological resources. She has personally designed and completed investigations for dozens of projects ranging from a large-scale study archaeological and historical resources to detailed investigations of numerous individual historic and prehistoric sites throughout the east coast. Ms. Tyrer's technical capabilities include detailed archival and literary research at the local, state, and national levels; site documentation and analysis; evaluation of properties for National Register and State Landmark significance; and technical report writing. As with other

senior staff, she will also be responsible for the formulation of research designs, preparation of project budgets, selection and guidance of field crews, and the preparation of technical reports.

Ms. Tyrer also has extensive experience with assessment, survey, evaluation, and mitigation of historic and prehistoric resources. She has developed sampling designs for site locations models and settlement patterns for prehistoric and historic sites for tracts of land ranging from a few acres to thousands of acres. These sampling designs are based on previous and present land use, environmental characteristics, and topographic features. Other responsibilities include the dissemination of archaeological information to the public through various media and exhibits, educational site brochures, and site visits.

DAWN M. MUIR, R.P.A.
HISTORIAN
ARCHITECTURAL HISTORIAN
PRINCIPAL INVESTIGATOR
CIRCA~ CULTURAL RESOURCE MANAGEMENT, LLC

Education:

Radford University, 1996, B.A. Interior Merchandising

Middle Tennessee State University, M.A., 2000, Public History: Historic Preservation tract

2010-present: Registered Professional Archaeologist (RPA) #203780

Professional Experience:

2007-present: Architectural Historian, Historian, Principal Investigator, Circa~ Cultural Resource Management, LLC, Williamsburg, Virginia.

2004-2007: Cultural Resources Manager, Preservation Planner, Vanasse Hangen Brustlin, Inc. (VHB), Williamsburg, Virginia.

2000-2004: Cultural Resource Specialist, Architectural Historian, General Scientific Corporation under contract to Naval Air Station Patuxent River, Patuxent River, Maryland.

1998-2000: Assistant, Main Street Murfreesboro, Murfreesboro, Tennessee.

Fields of Experience:

Ms. Muir has over 20 years of professional experience in the fields of archaeology, architectural history, and cultural resources. Her current responsibilities at Circa~ include managerial and technical tasks associated with cultural resources assessments including both archaeology and architectural resources and Phase I, II, and III surveys and excavations, consultation with state and national review agencies, developing and implementing archaeological and architectural research designs, and writing and editing technical reports. She has authored or co-authored over 200 technical reports and historical studies (all accepted by the regulatory agencies), and worked closely with the Virginia Department of Historic Resources (VDHR), the Maryland Historical Trust (MHT), the National Park Service (NPS), the U.S. Army Corps of Engineers, and other official agencies to fulfill the requirements of local, state, and federal regulations related to archaeological and architectural resources.

As a principal investigator and architectural historian, Ms. Muir has identified archaeological and architectural resources in Tennessee, Maryland, Pennsylvania, New York, North Carolina, Massachusetts, Maine, and Virginia. She has performed surveys and analyses on all periods including Paleoindian to Woodland Native American sites and 17th, 18th, 19th, and 20th century historic sites and burials. She has completed investigations for numerous projects that range from large-scale studies of archaeological and historic resources to detailed investigations of individual Native American and historic sites. Ms. Muir is familiar with the management and preparation of environmental documents that comply with the National Historic Preservation Act of 1966, as amended and the National Environmental Policy Act of 1969. She has a solid understanding of federal and state environmental and cultural resources including the *Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation*. She is familiar with both the Maryland and Virginia standards, and she uses these guidelines when drafting reports.

Ms. Muir's technical capabilities include detailed archival and literary research at the local, state, and national levels; site documentation and analysis; evaluation of properties for National Register of Historic Places and State Landmark significance; preparation of project budgets; selection and guidance of field crew; and technical report writing. Ms. Muir also has extensive experience with assessment, survey, evaluation, and mitigation of both Native American and historic resources. In addition, Ms. Muir has a thorough understanding of the Section 106 process and has written over 100 Section 106 compliance packages. As part of the Section 106 process, Ms. Muir has drafted over 30 Memorandums of Agreement (MOA) as mitigation for various projects and has developed a draft Programmatic Agreement (PA) for Disaster Preparedness related to cultural resources.

In addition, Ms. Muir has also attended various training sessions including How to Manage the National Environmental Policy Act and Write Effective National Environmental Policy Act documents, How to Write Creative Mitigation, an Introductory and Advanced Section 106 Seminar, and How to Write Programmatic Agreements. Ms. Muir was also instrumental in arranging a Historic Preservation Workshop for Naval Air Station (NAS) Patuxent River.

Prior to joining Circa~, Ms. Muir worked as a cultural resource specialist contractor for NAS Patuxent River in Patuxent River, Maryland, where she oversaw the historic preservation requirements of the NAS. Ms. Muir also maintained the historic building database for the NAS, which contained over 50 historic structures at both the NAS and two outlying properties. In addition, Ms. Muir assisted in a station-wide survey of buildings over 50 years of age. This effort resulted in a comprehensive report of the station's history and significance, the identification of and preparation of nominations for four National Register of Historic Places eligible districts, and the eventual completion of an Integrated Cultural Resources Management Plan (ICRMP) for the NAS. Ms. Muir also assisted in archaeological

requirements for NAS Patuxent River including monitoring for underground utilities at an 18th century house site, assisting in survey of a Jesuit Mission site on an outlying base of NAS Patuxent River, and finalizing the artifact collection for the Officers Club archaeological survey.

Ms. Muir has also worked on several other notable projects. While at NAS Patuxent River, Ms. Muir conducted an architectural and landscape survey and National Register nomination of the Mattapany-Sewell Historic District, which included a 18th century house and outbuildings; drafted a Preservation Plan and National Register nomination for the Point Lookout Light Station Complex, owned and operated at the time by NAS Patuxent River; and drafted a Preservation Plan and repair scope of work for the St. Nicholas Chapel on the NAS in response to water and roof damage sustained during several hurricanes. In addition, Ms. Muir assisted in a project to relocate the St. Nicholas Chapel cemetery and restore the existing gravestones that had been buried by the U. S. Navy in the 1940s. More recently, Ms. Muir assisted in a Phase I Architectural Reconnaissance Survey of the East and West Area of NASA Langley Air Field, in Hampton, Virginia.

SKYE W. HUGHES, R.P.A.
HISTORIAN/PRINCIPAL INVESTIGATOR/GIS ANALYIST
CIRCA~ CULTURAL RESOURCE MANAGEMENT, LLC

Education:

New Mexico State University, 1996, B.A. Anthropology and French

Florida Atlantic University, M.A., 2003, Anthropology

Register of Professional Archaeologists (RPA) #12804

Professional Experience:

2017-present: Historian, GIS Analyst, Principal Investigator, Circa~ Cultural Resource Management, LLC, Williamsburg, Virginia.

2003-2008: Principal Investigator, Panamerican Consultants, Inc. (PCI), Tampa, Florida.

2002-2003: Archaeologist, Southeastern Archaeological Company, Inc. (SEARCH), Riverview, Florida.

1999-2002: Archaeologist, Technical Writer, Illustrator, Janus Research, St. Petersburg, Florida

1998-2000: Museum attendant, Morikami Museum and Japanese Gardens, Delray Beach, Florida

1997-1998: Assistant instructor Introduction to Anthropology, Florida Atlantic University, Boca Raton, Florida

1997: Laboratory Director, Florida Atlantic University, Boca Raton, Florida

1997-1998: Consulting archaeologist, Historic Preservation Services, Plantation, Florida

1996-1998: Archaeologist, Archaeological and Historical Conservancy, Inc., Miami, Florida

Fields of Experience:

Ms. Hughes has over 25 years of professional experience in the fields of archaeology, architectural history, and cultural resources. From 2003 to 2008, Ms. Hughes worked as a Principal Investigator for Panamerican Consultants, supervising for five years archaeological and architectural fieldwork and studies. Her current responsibilities at Circa~ include technical tasks associated with cultural resources assessments including both archaeology and architectural resources and Phase I, II, and III surveys and excavations, consultation with state and national review agencies, developing and implementing archaeological and architectural research designs, and writing and editing technical reports. She has authored or co-authored over 200 technical reports and historical studies (all accepted by the regulatory agencies) and worked closely with the U. S. Fish and Wildlife Service (USFWS), the U. S. Army Corps of Engineers (USACE), and other official agencies to fulfill the requirements of local, state, and federal regulations related to archaeological and architectural resources.

As an archaeologist and principal investigator, Ms. Hughes has identified archaeological and architectural resources in Florida, Louisiana, Texas, Alabama, and Virginia. She has performed surveys and analyses on all periods including Paleoindian to Woodland Native American sites and 17th, 18th, 19th, and 20th century historic sites and burials. She has completed investigations for numerous projects that range from large-scale studies of archaeological and historic resources to detailed investigations of individual Native American and historic sites. Ms. Hughes is familiar with the management and preparation of environmental documents that comply with the National Historic Preservation Act of 1966, as amended and the National Environmental Policy Act (NEPA) of 1969. She has a solid understanding of federal and state environmental and cultural resources including the *Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation*. She is familiar with Virginia standards, and she uses these guidelines when drafting reports.

Ms. Hughes's technical capabilities include detailed archival and literary research at the local, state, and national levels; site documentation and analysis; evaluation of properties for National Register of Historic Places and State Landmark significance; preparation of project budgets; selection and guidance of field crew; and technical report writing. Ms. Hughes also has extensive experience with assessment, survey, evaluation, and mitigation of both Native American and historic resources. In addition, Ms. Hughes has a thorough understanding of the Section 106 process.

In addition, Ms. Hughes gained teaching experience while working towards her graduate degree in Anthropology working as an assistant instructor and teaching assistant while at Florida Atlantic University. She has also given guest lectures on zooarchaeology and presented professional papers at various conferences.

Prior to joining Circa~, Ms. Hughes worked as a staff archaeologist for PCI in Tampa Florida, where she served as a Principal Investigator for archaeological projects under contract to many different firms. Ms. Hughes has also worked on several notable projects. These include a 3,000+-acre survey for the Southwest Florida Water Management District and Sarasota County, a Phase I survey at Naval Station Mayport, and Phase I and II excavations at Naval Air Station (NAS) Jacksonville.

Economic Impact Analysis

October 2023

Tidewater Logistics Center

Prospective Investment + Operations

Commonwealth of Virginia / Isle of Wight County

UPDATED VERSION

Document may contain proprietary information

Prepared By:

HICKEY

A NEW ERA IN SITE SELECTION

TABLE OF CONTENTS

Executive Summary	Page 3
Data Assumptions	Page 5
Potential Economic Impact	Page 6
Jobs Impact	Page 7
Tax Revenue Impact	Page 8
Money Impact	Page 9
Conclusion	Page 10
Supplemental Information Request	Page 11

EXECUTIVE SUMMARY

Purpose and Scope of Work

Hickey & Associates, LLC, (Hickey) has been retained to develop an Economic Impact Analysis (EIA) on behalf of The Meridian Group. The robust EIA is focused on prospective new capital investment and economic activities for the Tidewater Logistics Center in the Commonwealth of Virginia.

The objective of this EIA is to clearly demonstrate the significance and scale of the potential economic impact of new capital investment and economic activities tied to the development of the Tidewater Logistics Center by calculating the monetary impact from operations, the magnitude of employment/jobs, and the generated tax revenues for the commonwealth and local communities. The financial impact directly related to anticipated capital investment and job creation has been calculated, including infrastructure improvements, equipment acquisition, goods and services, and wages for direct employees and indirect jobs.

The inputs and assumptions are uniquely tailored to accommodate the potential operational blend for the site in the Commonwealth of Virginia.

Methodology and Inputs

In the 1970's, the U.S. Department of Commerce, Bureau of Economic Analysis (BEA) developed a method for estimating regional I-O (Input-Output) multipliers known as the Regional Industrial Multiplier System or RIMS.

In the 1980's, the BEA completed an enhancement of RIMS, known as RIMS II (Regional Input-Output Modeling System). Since then, the RIMS II Model has undergone further refinement and updates, over the years.

RIMS II is based on an accounting framework called an I-O table. For each industry, an I-O table shows the industrial distribution of inputs purchased and outputs sold. A typical I-O table in RIMS II is derived from two data sources: BEA's national I-O table, which shows the input and output structure of nearly 500 U.S. industries and BEA's regional economic accounts, which are used to adjust the national I-O table to show a region's industrial structure and trading patterns.

RIMS II multipliers can be estimated for any region composed of one or more counties and for any industry, or group of industries, in the national I-O table. The accessibility of the main data sources for RIMS II keeps the cost of estimating regional multipliers relatively low. Empirical tests show that estimates based on relatively expensive surveys and RIMS II based estimates are similar in magnitude. For this study, 2012/2021 multipliers for the Virginia Beach-Norfolk, VA-NC Combined Statistical Area were utilized.

Methodology and Inputs, continued

RIMS II measures and evaluates an industry for three elements of potential economic impact:

- Direct impacts include earnings (income) and employment (jobs) generated by an employer, as well as, direct expenditures
- Induced impacts are a result of what employees spend in the regional economy
- Indirect impacts are a result of the goods and services purchased by the employer throughout the regional economy

RIMS II is widely used in both the public and private sectors. In the public sector, the U.S. Department of Defense uses it to estimate the regional impacts of military base closings, and state transportation departments use it to estimate regional impacts of airport construction and expansion. In the private sector, consultants and analysts use it to estimate regional impacts of a variety of projects, such as, general business expansions, development of shopping malls, sports stadiums, industrial parks, etc.

The EIA aims to capture the potential impact of existing and potential future operations in the Commonwealth of Virginia. These include the following:

- **Total Money Impact** – The potential total money impact of operations is a measure of the total capital circulation created by existing operations and the associated investment.
- **Total Jobs Impact** – The potential job impact is a measure of the total number of jobs created as a result of the prospective. Job creation reflects the direct employees hired to perform work at the facility, as well as, the indirect and induced jobs that result from the wages and benefits paid to the direct employees, the annual purchases of goods and services, the investment in personal property and the investment in the facilities.
- **Total Tax Revenue Impact** – Tax revenue impact is determined by the annual revenue contribution to income tax, sales tax and property tax for all of the direct, indirect/induced and construction employees, as well as, the taxes paid by the facility in previous years. The calculations utilize local and state tax rates and employee average annual income.

DATA ASSUMPTIONS

Data inputs were developed based on an estimated blend of building / industry use across the development site of the Tidewater Logistics Center with a blend of 10% Light Manufacturing / 20% Manufacturing / 70% Warehousing.

Wages, planned infrastructure, equipment and goods and services expenses were estimated specific to the site and leveraged insights from similar projects in the commonwealth and throughout the United States for 2024 - 2033.

Annual wages are estimated to increase by approximately 3% each year.

The following are the data assumptions utilized for the EIA:

Employment Data

New Employment Schedule

Type	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	PEAK
Manufacturing Total	400	400	400	400	400	400	400	400	400	400	400
Warehousing Total	800	800	800	800	800	800	800	800	800	800	800
All Total	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200

Wage Schedule

Job Types	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Manufacturing	$48,940	$50,408	$51,920	$53,478	$55,082	$56,735	$58,437	$60,190	$61,996	$63,856
Warehousing	$42,570	$43,847	$45,163	$46,517	$47,913	$49,350	$50,831	$52,356	$53,926	$55,544
Blended Wage	$44,481	$45,815	$46,274	$46,736	$47,204	$47,676	$48,152	$48,634	$49,120	$49,612

Capital Investment Data

Site Investment

Investment Type	2024
Construction	$106,000,000
MM&E	$40,000,000
Investment Total	$146,000,000

POTENTIAL ECONOMIC IMPACT

2024 - 2033



TOTAL JOB IMPACT
5,158 Jobs



TOTAL ECONOMIC IMPACT
$2.9 Billion



TOTAL TAX REVENUE IMPACT
$269.3 Million

JOBS IMPACT

The potential job impact is a measure of the total number of jobs as a result of operations. Job creation reflects the direct employees hired to perform work for the project, as well as, the indirect jobs that result from the wages and benefits paid to the direct employees, the annual purchases of goods and services, the investment in personal property, and the investment in facilities.

The most current available RIMS II multipliers were obtained by the U.S. Department of Commerce, Regional Product Division of the Bureau of Economic Analysis.

Jobs are not added together over the years. Instead, the impact of jobs must be examined annually. Utilizing the RIMS II model, the anticipated Total Job Impact for the potential future operations would be 5,198 jobs over the study period.



5,198 JOBS

DIRECT = 1,200 JOBS

INDIRECT / INDUCED + CONSTRUCTION = 3,958 JOBS

ECONOMIC IMPACT

The potential total earnings impact of the project is a measure of the direct and indirect impact of wages, the capital investment, and annual goods & services purchases.

In total, the money impact attributed to existing and potential future operations for the reviewed period is $2.9 billion.



$2.9 Billion

DIRECT = $146 Million
INDIRECT & INDUCED = $2.754 Billion

TAX REVENUE IMPACT

Tax revenue impact is determined by the annual revenue contribution to the government due to the creation of direct and indirect jobs, as well as, purchases and investment in the operations.

The total tax revenue impact attributed to the existing and potential future operations would be $269.3 Million over the reviewed period. Further breakdown of the tax revenues is below.



$269.3 Million

SALES TAX = $42.1 Million
PROPERTY TAX = $99.7 Million
INCOME TAX = $111.5 Million

CONCLUSION

The objective of this EIA is to clearly demonstrate the significance and scale of the potential economic impact of new contracts and existing operations in the Commonwealth of Virginia by calculating the monetary impact from operations, the magnitude of employment/jobs, and the generated tax revenues for the state and for local communities.

The EIA indicates the significant positive impact of projected investment in the local economy.

The direct economic benefit over the reviewed period is estimated at $2.9 billion, with a total tax revenue impact of approximately $269.3 million, and a projection of 5,198 jobs.

SUPPLEMENTAL INFORMATION REQUEST

Per a request from the County of Isle of Wight Office of the Commissioner of the Revenue, Hickey has developed the following response to questions regarding the EIA.

Geographic Economic Impact

As the report was developed, the primary estimated figures are for the Isle of Wight County with a regional impact. With the workforce to be derived from within and outside of the county, the economic impact analysis does assume a wider regional impact. Certain tax revenues, such as sales taxes, are considered to be collected at the local level, with the most significant impact being in the initial years of construction.

Employment Assumptions + Outputs

For the assumptions of the EIA, with the blended investment project of industrial and distribution uses, the following are the direct, indirect/induced, and the construction jobs (temporary) to be created by the project:

Job Type	Estimated Creation
Direct (Full-Time / Part-Time)	1,200
Indirect / Induced	2,599
Construction	1,359
Total Employment	5,198

Tax Revenue Estimates

The EIA developed for the Tidewater Logistics Center assumes a total tax revenue impact based on the annual revenue contribution to income tax, sales tax and property tax for all of the direct, indirect/induced and construction employees, as well as, taxes estimated to incur by the investment in the facility. The calculations utilizes the following local and state tax rates and employee average annual income and capital investment schedule.

Inputs	Jurisdiction	Rate / Value	Source
Real Estate Property Tax Rate	County	0.710%	Isle of Wight County Website
State Sales Tax Rate	State	5.0%	Isle of Wight County Website
County Sales Tax Rate	County	1.0%	Isle of Wight County Website
Virginia Income Tax Blended Rate	State	3.875%	Virginia Dept of Taxation Website
Average Home Price / Value	County	$299,223	Zillow
Home Ownership Rate	County	77.9%	U.S. Census Bureau

Tax Type	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Sales Tax	$5,325,341	$3,689,589	$3,782,170	$3,877,533	$3,975,774	$4,076,992	$4,181,288	$4,288,769	$4,399,546	$4,513,733	**$42,110,735**
Property Tax	$14,124,657	$9,476,649	$9,485,116	$9,493,838	$9,502,821	$9,512,073	$9,521,603	$9,531,419	$9,541,529	$9,551,943	**$99,741,648**
Income Tax	$15,465,007	$10,494,712	$10,536,356	$10,578,616	$10,621,506	$10,665,037	$10,709,223	$10,754,076	$10,799,611	$10,845,840	**$111,469,983**

SUPPLEMENTAL INFORMATION REQUEST, CONTINUED

Economic Impact Multipliers

For additional reference, the following are the primary RIMS II 2012/2021 economic impact multipliers for the Virginia Beach-Norfolk, VA-NC Combined Statistical Area utilized in the study:

Category	Economic Impact Multipliers		
	Output	Employment	Earnings
Direct	1.6014	9.2559	0.4696
Construction	1.8251	12.8208	0.6709
Machinery + Equipment	1.7351	7.419	0.4837
Goods + Services	1.6907	10.0062	0.5521

PROFFERED CONDITIONS

February 21, 2024

Conditional Zoning Request ZA-04-23 (the "Application") has been filed by the "Owner" (hereinafter defined) for certain real property owned by Hollowell Holdings LLC ("Hollowell") and the Industrial Development Authority of Isle of Wight County ("IDA"), which property is situated within the territorial confines of the County of Isle of Wight, Virginia (the "County") located at 13009 Windsor Boulevard (Tax Parcels ID Numbers 54-01-086J, 55-01-013, and 54-01-086B) in the Windsor Development Service District and more particularly described on **Exhibit A** attached hereto and made part hereof (the "Property"). Meridian Property Purchaser, L.L.C. ("Meridian") is the contract purchaser of the Property. Hollowell, IDA and Meridian (collectively, the "Owner") filed the Application requesting that the zoning of the Property be changed from RAC – Rural Agricultural Conservation to C-LI – Conditional Limited Industrial with proffers in order to permit the development of an industrial park (the "Project").

The Owner and the County have carefully evaluated, among other things, a traffic impact analysis and community impact analysis (copies of which are on file with the County's Community Development Department, hereinafter referred to as the "Department") and the on and off site impacts of the Project and have determined (i) the impacts specifically attributable to the Project (the "Impacts"), (ii) certain Impacts create a need (or identifiable portion of a need) for the expansion of existing capacity of public transportation facilities (the "Expansion of Existing Capacity"), (iii) the Project will receive a direct and material benefit from the Expansion of Existing Capacity, and (iv) the provisions of the County's zoning ordinance ("Zoning Ordinance") are inadequate for addressing various of the Impacts and necessitate supplementation by these Proffers.

In furtherance of the Application, the Owner, for itself and its successors and/or assigns, hereby voluntarily proffers the conditions specifically set forth below, in addition to the regulations provided for by the Zoning Ordinance, which proffered conditions are determined by the Owner and, upon acceptance by the Board of Supervisors in connection with the approval of the Application, the County: (i) to be reasonable, (ii) to address impacts specifically attributable to the Project, (iii) to address the need (or identifiable portion of a need) for the Expansion of Existing Capacity, (iv) to directly and materially benefit the Project, (v) to have a reasonable relation to the proposed change in zoning, (vi) to be in conformity with County's adopted comprehensive plan, and (vii) to be in accordance with the provisions of Section 15.2-2296, et seq. of the Code of Virginia (1950), as amended (the "Virginia Code"), Section 15.2-2303.2 through 15.2-2303.4 of the Virginia Code, and the County Zoning Ordinance. The following proffered conditions apply only to the Property.

1. Plan of Development. A conceptual development plan of the Project entitled "Tidewater Logistics Center Concept Plan dated 02/05/2024, prepared by ARCO Design/Build (the "Master Plan"), has been submitted to the Department for review by the County in connection with the Application. The Master Plan is on file with the Department. Development of the Property shall be in substantial conformance, as determined by the Community Development Director (the "Director") with the Master Plan. The Master Plan may be modified from time to time provided that such modifications do not alter the basic concept or character of the Master Plan and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

2. Land Use. The Property shall be used as permitted under the Conditional – Limited Industrial zoning designation and more specifically for the following uses:

a. Custom manufacturing
b. Industry, Type 1
c. Warehousing and distribution
d. Industry, Type 2
e. Reconstructed Wetland

The following uses shall be expressly prohibited on the Property:

a. Agricultural Uses
    i. Fertilizer Storage
    ii. Assembly and Repair of Storage Equipment
    iii. Forestry, Silvicultural
    iv. Agricultural Farming Operation
    v. Timbering
    vi. Sawmill
b. Civic Uses
    i. Adult Care Center
c. Commercial Uses
    i. Adult Entertainment Establishment
    ii. Laundry
    iii. Lawn and Garden Services
    iv. Mini Warehouse
    v. Motor Vehicle Repair Service/Major
d. Industrial Uses
    i. Construction Yard
    ii. Convenience Center
    iii. Meat Packing
    iv. Recycling Center
    v. Abattoir or Livestock Processing
    vi. Asphalt Plant
    vii. Industry, Type III
    viii. Landfill, Industrial
    ix. Landfill, Rubble
    x. Transfer Station
    xi. Resource Extraction
    xii. Scrap and Salvage Service
    xiii. Petroleum Storage for resale purposes
    xiv. Manufacture of production of aluminum
    xv. Sand, gravel, or brick operations
e. Miscellaneous Uses
    i. Aviation Facility, General

3. Design. The buildings on the Property shall be constructed by the Owner in substantial conformance with the drawings entitled "CONCEPTUAL RENDERING – BUILDING D", dated 02/05/2024, prepared by ARCO Design/Build and One Four Two Design Group, "CONCEPTUAL RENDERING", dated 02/05/2024, prepared by ARCO Design/Build and One Four Two Design Group, and "PRELIMINARY ELEVATIONS - BUILDING D", dated 02/05/2024, prepared by ARCO Design/Build and ADB Design Services (the "Renderings") and in substantial conformance with the Highway Corridor Overlay zoning ordinance as determined by the Director. A copy of the

Renderings are on file in the Department. The Renderings may be modified from time to time provided that such modifications do not alter the basic concept or character of the Renderings and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

4. Buffer Design. The site plan(s) for the development of Buildings A and B on the Master Plan shall include in the area shown on the Master Plan located along a portion of the western boundary line of the Property labeled "BERM" a landscaped berm with a minimum height of six feet with enhanced landscape buffering as shown generally on that certain drawing entitled "LANDSCAPE BUFFER SECTION DETAIL AND CONCEPT PLAN", dated 02/05/2024, prepared by Kimley Horn (the "Landscape Buffer Concept Drawing") or such comparable design as may be approved by the Director. A copy of the Landscape Buffer Concept Drawing is on file in the Department. The Renderings may be modified from time to time provided that such modifications do not alter the basic concept or character of the Renderings and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

5. Sound Study. A sound study shall be performed by Owner and submitted to the Department with any site plan for development of any site located along the western boundary line as approved by the zoning administrator. Such site plan shall include the implementation of the recommendations of such sound study for code compliance, which could include but not be limited to a noise wall. Nothwithstanding the forgoing, in no event shall noise levels along the western boundary line exceed hourly equivalent noise levels of 80 dBA during daytime hours and 65 dBA during nighttime hours per the Isle of Wight County noise ordinance with noise level measurements using a Type I integrating sound level meter.

6. Historic Resources. Owner shall document in the Virginia Cultural Resource Information System (VCRIS) the dense concentration of redeposited historic architectural, agricultural, and domestic materials exposed on and within an eroding ditch on the Property, as referenced in Attachment A of the Virginia Department of Historic Resources letter to Isle of Wight County dated February 12, 2024, DHR File No. 2023-4713 ("VDHR Letter". Owner shall also engage a qualified archaeologist to monitor ground disturbance around the cemetary noted in the VDHR Letter as DHR ID No. 046-5629. Additionally, Owner shall explore additional controlled excavation regarding Site 44IW0395 as referenced in the VDHR Letter. Owner shall include a ten foot landscape buffer in compliance with the industrial buffer zone landscaping requirements found in section 8-1005. of the zoning ordinance around the c. 1796 Henry Saunders House as shown on the Concept Plan to protect the viewshed of the house and shall provide funding for a highway marker for the house through the Virginia Department of Historic Resources. In the event the c. 1796 Henry Saunders House is subdivided from the Property in the future, the landscape buffer shall continue to be located within the Project.

7. Traffic Improvements.

a. Prior to issuance of a final certificate of occupancy for any of the buildings on the Property shown on the Master Plan, the construction, installation, and/or implementation of the following improvements at Windsor Boulevard and Dominion Way shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision:

   i. Reconstruct the existing traffic signal to add a north leg of the intersection to accommodate the Project;
   ii. Modify existing protected-permissive left-turn phasing to flashing yellow arrow;

iii. Modify coordinated traffic signal timings at this intersection based on new signal phasing and volumes;
iv. Construct an exclusive eastbound left-turn lane with 200-feet of storage and a 200-foot taper on Windsor Boulevard;
v. Construct an exclusive westbound right-turn lane with 200-feet of storage and a 200-foot taper on Windsor Boulevard;
vi. Restripe the existing right-turn lane to a through/right-turn on northbound Dominion Way; and
vii. Construct one exclusive left-turn lane and one shared through /right-tun lane on the southbound Project access road.

b. Prior to issuance of a final certificate of occupancy for Buildings D or E shown on the Master Plan, the construction, installation, and/or implementation of an exclusive right-turn lane with 200-feet of storage and a 200-foot taper on westbound Windsor Boulevard at the western right-in/right-out Project entrance shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision.

c. Prior to issuance of a final certificate of occupancy for Building D shown on the Master Plan, the construction, installation, and/or implementation of an exclusive right-turn lane with 200-feet of storage and a 200-foot taper on westbound Windsor Boulevard at the eastern right-in/right-out Project entrance shall be completed or guaranteed by the Owner in accordance with Section 15.2-2299 of the Virginia Code or such successor provision.

8. Successors and Assigns. These Proffers shall run with the title to the Property and shall be binding on the parties hereto and their respective successors and assigns; provided, however once a party ceases to own any portion of the Property, such party shall have no continuing liability hereunder.

9. Severability. In the event that (i) the County's approval of the Application and/or acceptance of these Proffers is appealed within 30 days after the date of the Board of Supervisors' action on same, and (ii) any clause, sentence, paragraph, subparagraph, section or subsection of these Proffers shall be judged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, then the change in zoning intended to be accomplished by the County's approval of the Application and acceptance of these Proffers shall be deemed void and the zoning of the Property shall automatically revert to that which existed immediately prior to the date of such approval.

10. Headings. All paragraph and subparagraph headings of the Proffers herein are for convenience only and are not part of these Proffers.

11. Conflicts. In the event that there is any conflict between these Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Director subject to the appeal process to the Board of Zoning Appeals and the Courts as otherwise provided by law.

12. Void if Application not Approved. In the event that the Application is not approved by the County or is overturned by subsequent judicial determination, these Proffers and the Master Plan shall be null and void.

[SIGNATURE PAGE TO PROFFERS]

WITNESS the following signatures, thereunto duly authorized:

HOLLOWELL HOLDINGS LLC

By: John W. Hollowell Jr.

Print Name: John W. Hollowell, Jr.

Title: Property Manager/Owner

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Lancaster, to wit:

The foregoing instrument was acknowledged before me this 21 day of February, 2025 by John Holloway as owner of Hollowell Holdings LLC.

Lisa V. Miles
NOTARY PUBLIC

My commission expires: 10/31/2026
Registration No.: 278519

LISA V MILES
NOTARY PUBLIC
REG. # 278519
MY COMMISSION EXPIRES
10/31/2026
COMMONWEALTH OF VIRGINIA

[SIGNATURE PAGE TO PROFFERS]

INDUSTRIAL DEVELOPMENT AUTHORITY OF ISLE OF WIGHT COUNTY

By: Kristi R Sutphin

Print Name: Kristi R. Sutphin

Title: Secretary - Treasurer

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Isle of Wight, to wit:

The foregoing instrument was acknowledged before me this 21st day of February, 2024 by Kristi R. Sutphin as Secretary-Treasurer of the Industrial Development Authority of Isle of Wight County.

Gloria Banks Spratley
NOTARY PUBLIC

GLORIA BANKS SPRATLEY NOTARY PUBLIC REG # 7543850 MY COMMISSION EXPIRES 6/30/2025 COMMONWEALTH OF VIRGINIA

My commission expires: June 30, 2025
Registration No.: 7543850

[SIGNATURE PAGE TO PROFFERS]

MERIDIAN PROPERTY PURCHASER, L.L.C.

By: _____

Print Name: MARK D. KING

Title: PRESIDENT

COMMONWEALTH OF Maryland
CITY/COUNTY OF Montgomery, to wit:

The foregoing instrument was acknowledged before me this 22nd day of February, 2024 by Mark King as President of Meridian Property Purchaser, L.L.C.

_____
NOTARY PUBLIC

My commission expires: 6/24/25
Registration No.: N/A

KATHERINE GRACE BOGUE
NOTARY PUBLIC
MONTGOMERY COUNTY, MD
MY COMMISSION EXPIRES
JUNE 24, 2025

EXHIBIT A

HOLLOWELL

All that certain lot or parcel of land together with all improvements thereon located and being in the County of Isle Of Wight, VA and being more particularly described as follows:

Parcel One:

ALL THAT certain tract, piece or parcel of land lying, situate and being on the North side of U.S. Route 460, Windsor Magisterial District, Isle of Wight County, Virginia, containing a total area of 84.9 acres, more or less, according to a survey made by Roy Brinkley on August 9, 1949, with corrections to both conveyances thereafter made and bounded and described with reference to said survey as follows, to-wit: Beginning at a marked pine tree at the Northwest corner of the property hereby conveyed and on the Eastern edge of a swamp forming a part of the Western boundary line of the tract hereby conveyed and running thence South 77° 30' East a distance of 715.4 feet to a concrete post set in the run of another branch; thence following said branch South 45° East 52 feet to a gum; thence South 19° East 215 feet to a cypress; thence South 11° East 200 feet to a poplar; thence South 3° West 171 feet to a gum; thence South 14° East 84 feet to a gum; thence South 42° 30' East 251 feet to a gum in branch; thence leaving said branch and running South 27° East 147 feet to an iron pin; thence along the fence set on the Western side of a field path South 13° 30' West 1225 feet to a post set on the North side of U.S. Route 460,a corner; thence Northwestwardly along the North side of Route 460 1543 feet to a Hickory Tree and iron pipe which point is the Southeast corner of the land conveyed by William B. Spivey to John A. Wells and Estelle Slade Wells by deed recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, in Deed Book 160, page 10; thence North 21° 30' East 397 feet to an iron pin; thence North 68° 30' East 280 feet along the Northern boundary line of said Wells land to an iron pin; thence along the Eastern edge of the swamp as follows:

North 10° West 73 feet to a beech; thence
North 12° East 108 feet to a beech; thence
North 20° East 164 feet to a hickory; thence
North 76° East 60 feet to a poplar; thence
North 66° East 147 feet to a black gum; thence
North 50° East 115 feet to a red oak; thence
North 46° 30' East 131 feet to a red oak; thence
North 41° 30' East 212 feet to a hickory; thence
North 42° East 112 feet to a pine; thence
North 14° East 293 feet to an oak; thence
North 10° East 218 feet to a pine, the point of beginning.

LESS AND EXCEPT that certain parcel conveyed to the Board of Supervisors of Isle of Wight County, Virginia dated May 29, 20004, and duly recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, as Instrument Number 040003535.

Parcel Two:

ALL THAT certain piece, parcel or tract of land contiguous to the western boundary line of the land of Dr. John W. Hollowell in Windsor Magisterial District, Isle of Wight County, Virginia conveyed to Dr. John W. Hollowell by Fred T. Mathews and Hazel Keaton Mathews by deed dated March 8, 1967, and duly recorded in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, on March 14, 1967, in Deed Book 187, page 43, which said parcel of land conveyed hereby is known, numbered and designated as Parcel A, as shown on a plat thereof entitled, "Plat 'A' The Property of F. T. Matthews Estate Being Conveyed to Dr. John W. Hollowell", made by Roy Brinkley, Surveyor, dated June 7, 1968, a copy of which plat is attached to and made a part of the Deed recorded as Instrument No. 050713, and particular reference is hereby made to said plat for description of said property by metes and bounds.

IDA
All that certain lot or parcel of land together with all improvements thereon located and being in the County of Isle Of Wight, VA and being more particularly described as follows:

All of that certain tract, piece or parcel of land situate, lying and being in Windsor Magisterial District, Isle of Wight County, Virginia, on both sides of Route 460 and containing 279.58 acres according to a survey made by Roy Brinkley, licensed surveyor, and being bounded and described with reference to a plat of said survey styled "Plat Showing Property of K.E. Johnson Estate Windsor District Isle of Wight Co. Scale 1" - 400 Sept 25, 1961", which plat is recorded in Plat Book 4, page 151 in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, which property is more particularly described by metes and bounds shown on said plat:

LESS, SAVE AND EXCEPT the property conveyed by the following deeds, all of which are incorporated herein by reference:

1. A deed from Allie Johnson Edwards et als, to Earl E. Bussey et ux, dated July 18, 1957, recorded in Deed Book 152,
page 106 conveying 1-3/4 acres.
2. A deed from Allie Johnson Edwards et als, to Harry D. Young et ux, dated May 27, 1958, recorded in Deed Book 154,
page 402 conveying 2.67 acres.
3. A deed from Fred T. Mathews et ux to Otis Thomas Eanes, Jr., dated April 25, 1966 recorded in Deed Book 183 at page
255, containing 17 acres, more or less.
4. A deed from Fred T. Mathews, Jr., et als to the Commonwealth of Virginia, dated February 17, 1970, recorded in Deed
Book 201 at page 589, conveying right of way to widen Route 636 to a width of up to 50 feet, located between Routes 607
and 608.
5. A deed from Fred T. Mathews, Jr., et als to the Commonwealth of Virginia, dated February 18, 1970, recorded in Deed
Book 200 at page 531, conveying right and easement to build a drainage ditch along Route 636 just west of Route 607.
6. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors, to Lloyd Raymond Olson, Jr. et ux, dated
December 1, 1979, recorded in Deed Book 203 at page 726, conveying 2.095 acres
7. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors to Victor L. Walker et ux, dated January 29,
1971, recorded in Deed Book 206 at page 116, conveying 1.377 acres.
8. A deed from Fred T. Mathews, Jr. and John Thomas Mathews, Executors to John T. Mathews, dated January 14, 1972,
recorded in Deed Book 211, page 275, conveying 12.50 acres.
9. A deed from HRFT, Inc. to James R. Hughes, Jr. et ux, dated January 2, 1973, recorded in Deed Book 217, page 72,
conveying 2 lots, each containing 30,000 square feet.
10. A deed from HRFT, Inc. to James L. Griggs et ux, dated December 8, 1976, recorded in Deed Book 242, page 795,
conveying Lot 3, containing 1.148 acres.
11. A deed from HRFT, Inc. to Kenneth L. Murphy et ux, dated May 2, 1977 recorded in Deed Book 245 page 813,
conveying Lot 1, containing 1.148 acres.
12. A deed from HRFT, Inc. to Henry A. Opauski et ux, dated October 12, 1977, recorded in Deed Book 249, page 624,
conveying Lot 2, containing 1.148 acres.
13. A deed from HRFT, Inc. to Leland D. Johansen et ux, dated February 15, 1983, recorded in Deed

Book 286, page 300
conveying 1.55 acres.
14. A deed from HRFT, Inc. to Walter F. Gilchrist, II et al, dated November 30, 1989, recorded in Deed Book 365, page 97
conveying 1.963 acres.
15. A deed from HRFT, Inc. to Isle of Wight County Industrial Development Authority, dated September 29, 1993, recorded
in Deed Book 422, page 882, conveying tract on south side of Highway 460. Corrected by deed of correction dated April 2,
2004, recorded as Instrument No. 040003193, conveying 93.16 acres.
16. A. deed from HRFT, Inc. to the Board of Supervisors of Isle of Wight County, Virginia, dated February 5, 2001,
recorded as Instrument No. 010001645, conveying 0.605 acre.
17. A deed from HRFT, Inc. to Walter D. Freeman et ux, dated July 26, 2001, recorded as Instrument No. 010003715
conveying Parcel B, in Hazelwood containing 0.092 acre.
18. A quitclaim deed from HRFT, Inc. to the Board of Supervisors of Isle of Wight County, Virginia, dated May 21, 2004,
recorded as Instrument No. 040003534. conveying 0.004 acre.

ALSO SPECIFICALLY EXCEPTED FROM THIS CONVEYANCE is that certain tract, piece or parcel of land containing 16.30± acres, shown and identified as "Residual of Tax Parcel 54-01-86" on that certain plat of survey entitled "PLAT SHOWING RESIDUAL OF TAX PARCEL 54-01-086 TO BE RETAINED BY HRFT, INC. WHEREAS THE REMAINDER OF TAX PARCEL 54-01-086 SHOWN HEREON AS PARCEL A IS TO BE ACQUIRED BY THE ISLE OF WIGHT COUNTY INDUSTRIAL DEVELOPMENT AUTHORITY PROPERTY LOCATED IN WINDSOR MAGISTERIAL DISTRICT, ISLE OF WIGHT COUNTY, VIRGINIA SCALE: 1" = 200' AUGUST 15, 2008" made by Stafford C. Camp, Land Surveyor, a copy of which plat is recorded in Plat Cabinet 2, Slide 190, page 16, in the Clerk's Office of the Circuit Court of Isle of Wight County, Virginia, reference to which is here made for a complete metes and bounds description of the property reserved.

THE PROPERTY IS DESCRIBED BY METES & BOUNDS DESCRIPTION AS SURVEYED:
BEGINNING AT A PIN FOUND ON THE NORTHERN RIGHT-OF-WAY OF WINDSOR BOULEVARD AND BEING 210.65' FROM THE INTERSECTION OF WINDSOR BOULEVARD AND LOVERS LANE, SAID PIN FOUND BEING THE POINT OF BEGINNING; THENCE, N 02° 30' 16" W, A DISTANCE OF 203.37' TO A PIN FOUND; THENCE, N 00° 21' 50" E, A DISTANCE OF 103.01' TO A POINT; THENCE, N 05° 07' 42" E, A DISTANCE OF 103.18' TO A PIN FOUND; THENCE, N 11° 25' 17" E, A DISTANCE OF 100.15' TO A POINT; THENCE, N 13° 18' 52" E, A DISTANCE OF 710.00' TO A PIN FOUND; THENCE, S 77° 26' 04" E, A DISTANCE OF 250.00' TO A POINT ON THE SOUTHEAST CORNER OF KEATON AVENUE; THENCE, N 12° 31' 34" E, A DISTANCE OF 217.56' TO A PIPE FOUND; THENCE DEPARTING KEATON AVENUE, S 78° 16' 43" E, A DISTANCE OF 200.00' TO A POINT; THENCE, N 12° 28' 17" E, A DISTANCE OF 100.00' TO A POINT; THENCE, N 06° 58' 17" E, A DISTANCE OF 100.00' TO A PIN FOUND ON THE EASTERN TERMINUS OF HAZELWOOD DRIVE; THENCE ALONG SAID EASTERN TERMINUS, N 05° 18' 33" E, A DISTANCE OF 46.36' TO A POINT; THENCE DEPARTING HAZELWOOD DRIVE, N 06° 40' 04" E, A DISTANCE OF 105.00' TO A POINT; THENCE N 05° 40' 04" E, A DISTANCE OF 771.09' TO A POINT NEAR THE CENTER OF A SWAMP; THENCE ALONG A TIE LINE THROUGH SAID SWAMP, N 86° 53' 03" E, A DISTANCE OF 174.16' TO A POINT; THENCE ALONG A TIE LINE, N 58° 39' 13" E, A DISTANCE OF 487.43' TO A POINT; THENCE, S 35° 39' 44" E, A DISTANCE OF 79.86' TO A POINT; THENCE, S 36° 54' 44" E, A DISTANCE OF 230.00' TO A POINT; THENCE, S 70° 43' 44" E, A DISTANCE OF 470.00' TO A POINT; THENCE, S 44° 30' 44" E, A DISTANCE OF 295.00' TO A POINT; THENCE, S 44° 30' 44" E, A ISTANCE OF 172.76' TO A CALCULATED POINT; THENCE, S 02° 32' 41" W, A DISTANCE OF 647.85' TO A CALCULATED POINT; THENCE, S 29° 22' 41" W, A DISTANCE OF 132.00' TO A POINT IN ENNIS POND;
THENCE, S 04° 32' 41" W, A DISTANCE OF 328.00' TO A POINT IN ENNIS POND; THENCE, S 34° 32' 41" W, A DISTANCE OF 550.00' TO A POINT IN ENNIS POND; THENCE, S 61° 32' 41" W, A

DISTANCE OF 200.00' TO A POINT IN ENNIS POND; THENCE, S 09° 32' 41" W, A DISTANCE OF 123.77' TO A POINT; THENCE, N 75° 54' 38" W, A DISTANCE OF 1068.11' TO A PIN FOUND; THENCE, S 14° 05' 22" W, A DISTANCE OF 608.00' TO A PIN FOUND ON THE NORTHERN RIGHT-OF-WAY OF WINDSOR BOULEVARD; THENCE ALONG WINDSOR BOULEVARD, N 75° 54' 38" W, A DISTANCE OF 548.98' TO THE POINT OF BEGINNING; CONTAINING 3,948,817 SQUARE FEET OR 90.652 ACRES, MORE OR LESS.

RESOLUTION NUMBER PC-24-01

ISLE OF WIGHT COUNTY PLANNING COMMISSION
A RESOLUTION TO PRESENT A REPORT AND RECOMMENDATION
TO THE BOARD OF SUPERVISORS RELATING TO REZONING REQUEST ZA-04-23
TO CONDITIONALLY REZONE APPROXIMATELY 154 ACRES OF LAND IDENTIFIED AS
TAX MAP NUMBERS 54-01-086B, 54-01-086J, AND 55-01-013

WHEREAS, Industrial Development Authority of Isle of Wight and Hollowell Holdings LLC, property owners, and Meridian Property Purchaser, LLC, applicant, requested a change in the zoning district from Rural Agricultural Conservation to Conditional Limited Industrial for approximately 154.3 acres on tax map numbers 54-01-086B, 54-01-086J, and 55-01-013 to allow the following uses: Custom Manufacturing, Industry Type 1, Warehousing and Distribution, Industry Type II, and Reconstructed Wetland;

WHEREAS, the procedural requirements for the consideration of this request by the Planning Commission have been met; and

NOW, THEREFORE, BE IT RESOLVED by the Planning Commission of Isle of Wight County, that:

Section 1. Findings.

A. The Isle of Wight County Planning Commission finds that the proposed rezoning is reasonable and warranted due to a change in circumstances affecting the property, and has considered the following factors and finds that the proposed rezoning does not conflict with:

1. the existing use and character of property within the County;

2. the Comprehensive Plan;

3. the suitability of the property for various uses;

4. the trends of growth or change;

5. the current or future requirements of the community as to land for various purposes as determined by population and economic studies and other studies;

6. the transportation requirements of the community;

7. the requirements for airports, housing, schools, parks, playgrounds, recreation areas and other public services;

8. the conservation of natural resources;

9. the preservation of flood plains;

10. the preservation of agricultural and forestal land;

11. the conservation of properties and their values;

12. the encouragement of the most appropriate use of land throughout the County;

Section 2. Recommendation to Board of Supervisors.

The Planning Commission recommends to the Board of Supervisors that the request, PC-24-04, be:

___ a. Granted as submitted, and that the Board of Supervisors adopt the proposed Ordinance without modification.

___b. Denied, and that Board of Supervisors do not adopt the proposed Ordinance.

___c. Granted with the modifications and/or proffered conditions set forth on the attached exhibit, and that the Board of Supervisors adopt the proposed Ordinance with such modifications and/or conditions.

READ AND PASSED: _____

TESTE: _____

Approved as to Form:

_____

Robert W. Jones, Jr., County Attorney

ORDINANCE NUMBER: _____

AN ORDINANCE TO CHANGE THE ZONING DISTRICT FROM RURAL AGRICULTURAL CONSERVATION TO CONDITIONAL LIMITED INDUSTRIAL FOR APPROXIMATELY 154.3 ACRES ON TAX MAP NUMBERS 54-01-086B, 54-01-086J, AND 55-01-013 TO ALLOW CUSTOM MANUFACTURING, INDUSTRY TYPE 1, WAREHOUSING AND DISTRIBUTION, INDUSTRY TYPE II WITH A CONDITIONAL USE PERMIT, AND RECONSTRUCTED WETLAND

WHEREAS, the Industrial Development Authority of Isle of Wight and Hollowell Holdings, LLC, property owners, and Meridian Property Purchaser, LLC, applicant, have requested a change in the zoning district from Rural Agricultural Conservation to Conditional Limited Industrial for approximately 154.3 acres on tax map numbers 54-01-086B, 54-01-086J, and 55-01-013 to allow Custom manufacturing, Industry Type 1, Warehousing and Distribution, Industry Type II with a Conditional Use Permit, and Reconstructed Wetland and said property is depicted in Exhibit B; and

WHEREAS, the proposed zoning map amendment application (ZA-4-23) has been advertised and reviewed by the Planning Commission in compliance with the requirements of state law; and,

WHEREAS, the Planning Commission has made a recommendation as stated in Exhibit "A"; and,

WHEREAS, a public hearing before the Isle of Wight County Board of Supervisors was duly advertised as required by law and held on May 16, 2024, at which public hearing the public was presented with the opportunity to comment on the proposed rezoning.

NOW, THEREFORE, BE IT ORDAINED by the Isle of Wight County Board of Supervisors of Isle of Wight County, Virginia, that:

Section 1. Exhibits.

Exhibit “A”, “Planning Commission Recommendation” and Exhibit “B”, “Property Map”, and Exhibit “C” “Proffer Statement” are attached hereto, are hereby incorporated as part of this ordinance.

Section 2. Findings.

The Board of Supervisors finds that the change in zoning district application, ZA-4-23, as submitted or modified with conditions herein, for the expressed purpose to allow the proposed uses as listed in the proffered conditions is in harmony with the standards of the Isle of Wight County Zoning Ordinance, and that it will have no more adverse effects on the health, safety or comfort of persons living or working in or driving through the neighborhood, and will be no more injurious to property or improvements in the neighborhood than would any other uses generally permitted in the same district, taking into consideration the location, type and height of buildings or structures, the type and extent of landscaping and screening on site and whether the use is consistent with any theme, action, policy or map of the Comprehensive Plan with the conditions set forth below.

These findings are based upon the consideration for the existing use and character of the property,

the Comprehensive Plan, the suitability of the property for various uses, the trends of growth or change, the current and future requirements of the community as to land for various purposes as determined by population and economic studies and other studies, the transportation requirements of the community, the requirements of airports, housing, schools, parks, playgrounds, recreation areas and other public services, the conservation of natural resources, the preservation floodplains, the preservation of agricultural and forestal land, the conservation of properties and their values, and the encouragement of the most appropriate use of land throughout the County.

Section 3. Rezoning.

A. The property as shown on the attached Exhibit "B" is hereby rezoned and the official zoning map be, and is hereby, amended to limit the uses to only include uses as listed in the proffered conditions shown on Exhibit "C".

B. The foregoing rezoning and amendment to the official zoning map shall remain in effect until a subsequent amendment changes the zoning of the property.

Section 4. Severability.

It is the intention of the Board of Supervisors that the provisions, sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable; and if any phrase, clause, sentence, paragraph, section, and provision of this ordinance hereby adopted shall be declared unconstitutional or otherwise invalid by the valid judgement or decree of a court of competent jurisdiction, such unconstitutionality or invalidity shall not affect any of the remaining phrase, clauses, sentences, paragraphs, sections, and provisions of this ordinance, to the extent that they can be enforced notwithstanding such determination

Section 5. Effective Date

This ordinance shall be effective upon passage and shall not be published or codified.

DATE: _____

READ AND PASSED: _____
Chairman, Board of Supervisors

TESTE: _____
Clerk, Board of Supervisors

Approved as to Form:

_____
Robert W. Jones Jr, County Attorney

ISSUE:

Application of NVR, Inc., Applicant, and, Henry Layden, Special Trustee for the William Grover Yeoman, III Trust, Property Owner, for a Conditional Rezoning (ZA-06-19) of Approximately 250 Acres of Property Located on Benns Grant Boulevard (Rte. 10) from the Rural Agricultural Conservation (RAC) Zoning District to the Conditional - Planned Development - Mixed Use (C-PD-MX) Zoning District

BACKGROUND:

NVR, Inc., applicant, and, Henry Layden, special trustee for the William Grover Yeoman, III Trust, property owner, submitted an application for a Conditional Rezoning (ZA-06-19) of approximately 250 acres of property with tax map number 32-01-009 located on Benns Grant Boulevard (Rte. 10) from the Rural Agricultural Conservation (RAC) zoning district to the Conditional - Planned Development - Mixed Use (C-PD-MX) zoning district.

The proposed project is located on an approximately 249.47 acre portion of the property with tax map number 32-01-009, also known as the Yeoman tract. The property is bounded to the north by the Town of Smithfield jurisdictional boundary as well as a residential property in the RAC zoning district, and a property in the Conditional-Limited Industrial zoning district which is currently used by the Sherwin Williams Paint Store. The project site is bounded to the west by Benns Church Boulevard (Rte.10), and the remainder of tax map number 32-01-009 is directly across Rte. 10. The property is bounded to the east by Jones Creek, residential and agricultural property in the RAC zoning district. To the south, it is adjacent to residential and agricultural property in the RAC zoning district as well as one property, known as St. Luke's Village, in the C-PD-MX zoning district.

The portion of the property on which the proposed project is located is currently in agricultural and silvicultural use. There is an approximately twenty acre remaining portion on the west side of Route 10 that is also currently in agricultural use. However, a conditional use permit is currently under review for a convenience store and gasoline station on approximately 3.8 acres of the property at the southwest corner of the Turner Drive and Benns Church Boulevard intersection. The property has historically been used for agricultural and silvicultural uses.

The purpose of the application is to allow for up to 390 age-restricted single family detached residential units, 225 residential townhomes, and approximately five acres of commercial uses to include up to 18,000 square feet of retail and commercial uses and up to 55,000 square feet of office uses.

The elevations and materials for the residential units are attached to the staff report as Sweetgrass Elevations. Although there are no examples of the single family detached models constructed in the County, there are examples of the townhome models located in the Benn's Grant community. Pictures are attached to the staff report. The proffer statement commits to a master bedroom on the first floor of the age-restricted single family homes. The fiscal impact analysis projects the average sales price of an age-restricted unit to be $305,200 and townhomes to be $258,875.

Retail uses are defined separately in the Zoning Ordinance and are considered a commercial use type. In addition to the proffered retail use, other permitted commercial uses in the PD-MX zoning district could include the following:

- Antique shop;
- Business support service;
- Construction office, temporary;
- Event center;
- Garden center;
- Golf course;
- Itinerant merchant;
- Micro-brewery, distillery, cidery;
- Motor vehicle parts/supply, retail;

- Peddler;
- Personal improvement service;
- Personal service;
- Real estate office, temporary;
- Restaurant, drive-in fast food;
- Restaurant, general;
- Retail sales;
- Studio, fine arts;
- Veterinary hospital/clinic;
- and Wholesale sales.

A copy of the proffered conditions, illustrative concept plan, and other supporting documents are attached to this staff report for your information. Among the proffered conditions are a set of residential and commercial design guidelines as well as a proffer that the age-restricted units will have a master bedroom and bathroom on the first floor. Enforcement of the age-restriction condition and the maintenance for all open space, recreational amenities, stormwater facilities, and landscaping shall be the responsibility of the property owner's association.

Staff assessed the application for its consistency with the County's plans and ordinances as well as potential impacts to natural and cultural resources, public facilities and services. The following is a summary of the projected benefits, potential impacts and any mitigation measures proposed by the applicant.

Environmental Assessment:

The project site lies within the Chesapeake Bay watershed area and has several wetland areas and tributary streams to Jones Creek within it which have been confirmed by the US Army Corps of Engineers. In addition, the Resource Protection Area (RPA) buffer has been confirmed by the Virginia Department of Environmental Quality. There is also a large farm pond created many years ago by a dam that still provides connectivity to the tributary stream.

The Department of Conservation and Recreation has classified the areas containing the streams, wetlands, and Jones Creek as having a "high" (C3) ecological core area score. Ecological core areas are classified into five categories of ecological integrity: C1 - Outstanding; C2 - Very High; C3 - High; C4 - Moderate; and C5 - General. Scores are enhanced if the core or habitat fragment is part of a larger complex of natural lands. Scores also increase for those cores and habitat fragments that contribute to water quality enhancement. In general, larger, more biologically diverse areas are given higher scores.

A review of information from the National Fish and Wildlife Service shows the possibility of several endangered and rare species and species of concern in the general including the Bald Eagle, the northern long-eared bat, tri-colored bat, red-headed woodpecker, and several other migratory species. Although it is not known whether there are any of these species present on the property, the USFWS information does not identify the property as critical habitat for any of these species.
The Sweetgrass project proposes to retain and restore the full extent of the RPA and floodplain areas that are within the ecological core area except for several access road crossings. The lot area as shown on the concept plan do not contain RPA buffer areas. Future construction on the property may be subject to time-of-year restrictions based on the breeding and migratory needs of critical species.

A review of the USDA soils information shows that the areas proposed for development will occur on soils designated either soils of statewide importance or prime farmland soils. Poorly drained soils occur in and near the wetland, stream and floodplain areas of the property. Prior to construction, all habitable structures will require a shrink/swell soils assessment for foundation design.

Even though the concept plan and water quality impact assessment (WQIA) submitted with the project propose impacts for road crossing and stormwater management impacts, these impacts are subject to a separate review and approval process. Although the concept plan notes these impacts are subject to additional review and approval, staff does not include the WQIA as part of the rezoning approval request, because it will be submitted as part of a future RPA Buffer modification application.

Historic Resources Assessment:

The property falls within the high probability area for archeological resources according to County records. The applicant provide a Phase 1A Cultural Resources Analysis study with their initial application. A copy of the report is attached, however, the staff request for a final report without the word "draft" on it has gone unheeded as of the date of this report. The report states that there are no known archeological resources on the site, however, several of the existing out buildings may be of an historic nature and recommends that a Phase I be conducted. The applicant commits to a Phase I study with further Phase II and Phase III studies as appropriate in the proffer statement. These studies shall be submitted prior to subdivision or site plan submittal and shall be subject to review by the Virginia Department of Historic Resources. County Historic Resources staff concerns are satisfied with the proffered condition.

Transportation Facility Impacts:

All of the streets within the proposed project will be public streets, except for the private drive aisles within the townhome phase which are proposed for a condominium style of ownership. All public roads will be required to be built to the Virginia Department of Transportation (VDOT) standards in order to be accepted into the state secondary street system maintenance program. The project proposes two entrances to serve the development from Benn's Church Boulevard (Rte. 10).

The main entrance will be closest to the Smithfield Town boundary and will utilize an existing median cut. The Traffic Impact Analysis (TIA) recommends and the applicant proffers to a signal at this intersection. The second southern entrance will be a right in/right out entrance only with no signal.

The TIA shows the new development would add an average of 6,685 new vehicle trips per day. The average number of new peak hour morning (6 AM to 8 AM) trips would be 521 trips and new peak hour evening (2:30 PM to 5:30 PM) trips would average 692.

The TIA projects that traffic generated by the development will exceed current turn lane storage length at Turner Drive and Benns Church Boulevard as well as create a need for a new traffic signal and increased turn lane storage at the main entrance of Sweetgrass. The TIA recommends the following traffic improvements be made to mitigate for the projected negative traffic impacts:

1. Construct northbound right turn lane (200’ storage plus 200’ taper) into right in/rightout development entrance off of US 258/Rt 10 (Benns Church Boulevard).
2. Construct northbound right turn lane (200’ storage plus 200’ taper) into main entrance off of US 258/Rt 10 (Benns Church Boulevard).
3. Lengthen southbound left turn lane to provide 200’ storage plus 200’ taper into main entrance off of US 258/Rt 10 (Benns Church Boulevard).
4. Install traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and main entrance.
5. Install signal infrastructure to provide a protected eastbound right-turn overlap at US258/Rt 10 (Benns Church Boulevard) and Turner Drive.
6. Install flashing yellow arrows for the northbound and southbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) at Canterberry Lane, Cypress Run Drive, Turner Drive and the main entrance to allow lead/lag operation.
7. Optimize signal timings along the corridor.

The applicant has committed to making the recommended road improvements in the proffer statement. The proffered conditions address earlier concerns from VDOT and the County Transportation Manager.

As a matter for informational purposes, the County is currently coordinating a master TIA project for the Benn's Church Boulevard and Turner Drive intersection area that will assess needed road improvements to accommodate future commercial, residential and school development planned in both the County and Town of Smithfield. The Sweetgrass applicants are currently not participating in this project.

Emergency Services, Fire and Public Safety Facility Impacts:

The County Capital Impact Model does not show that the proposed development will generate a need for additional capacity at existing fire and rescue or public safety facilities in the northern service area where the project site is located. However, the capital impact model does not show operational impacts, such as additional staff, equipment or supply needs, to these services.

The County's Department of Fire and Rescue reviewed the proposed development as currently proffered and found that the department will see a significate increase in calls for service. The projected annual increase is 349 calls for service with 296 additional EMS calls and 53 additional Fire calls. Since the public hearing at the September Planning Commission meeting, Community Development staff met with Fire and Rescue staff to analyze operational impacts more closely. Fire and Rescue staff concluded the projected increase in call volume would not be detrimental to the County's current level of service.

School Facility Impacts:

The County Capital Impact Model shows that the proposed development will generate approximately 52 new school students with thirty new elementary school students, seven new middle school students, and fifteen high school students. Although the model shows Sweetgrass generating a need for capacity expansion at the middle school, Dr. Chris Coleman with the Isle of Wight School System stated that there is remaining capacity at the middle school to accommodate the projected number of new students. The new Westside, planned to function as a new middle school, remains in the CIP with an estimated total cost of $38 million.

Please note the capital impact model does not show operational impacts, such as additional staff, equipment or supply needs, to these services.

Since the December 12, 2023, Planning Commission meeting, the applicant has submitted a revised proffer statement to reduce potential school impacts with the following proffered conditions:

- One-time cash contribution to the County in the amount of $1,825.76 for each townhouse. The contribution shall be payable at the time of issuance of a final certificate of occupancy for each townhouse. The amount of the cash contribution is based on the cost of providing the additional capacity for the seven middle school students created by the project.
- A cap of 60 certificates of occupancy for townhouses constructed on the Property within the succeeding 12 consecutive month period and in each successive 12 consecutive month period thereafter; provided, however, that if during any such 12 month period less than 60 certificates of occupancy are issued for townhouses constructed on the Property, the number of certificates of occupancy allowed but unissued in such 12 month period may be carried forward and shall be permitted to be issued in any subsequent 12 month period in addition to the base 60 certificates of occupancy that may be issued in such 12 month period. The intent of this proffered condition is to slow the potential impact of new students to the schools.

Parks and Recreation Facility Impacts

The County Capital Impact Model shows that the proposed development will generate approximately 1,297 new people which will create a need for additional regional park, neighborhood park, recreational center, community center, and event center recreational facility space. However, the proposed development will include 9.87 acres of pocket park and central park space as well as a community clubhouse facility, pool, play equipment and pedestrian trails throughout the community to help meet this need. The development will also be required to install its portion of the multipurpose trail along its road frontage with Benn's Church Boulevard. The applicant also proposes to preserve the RPA buffer and floodplain to the maximum extent possible which greatly increases the amount of open space in the neighborhood.

Economic Impact Assessment:

While the County's Capital Impact Model reviews impacts to public facilities only, a fiscal impact analysis compares revenues generated from the project with both the operating and capital costs to a jurisdiction associated with the provision of public services and facilities to serve the new development. It includes all direct revenues and costs associated with the development proposal.

The June 2021 Fiscal Impact Analysis submitted with the application assumes an annual absorption of 65 age-restricted single family units per year and 38 townhouses is assumed in the analysis with a six year build-out. The report states that the average projected price of an age-restricted unit will be $305,200 and townhomes will be $258,875. The FIA concludes that the proposed development, to include both the residential and commercial uses, will generate $43.6 million in revenue compared to $22.7 million in expenditures over a 20-year period, generating a $20.9 million net surplus. Costs include ongoing annual operating expenditures and capital costs that include debt financing with payments that continue beyond the last year in the model projection period. The average annual revenues are estimated at$1.05 million per year. No job creation data was included in either the FIA or community impact statement.

To address staff's concern in regard to market saturation of age-restricted housing units in the County, the applicant submitted a market analysis report. The County currently has several age-restricted communities, including the 340 unit South Harbor development in Carrollton and Church Square in the Town of Smithfield. The 2021 market report states Sweetgrass will draw interest from a broad geographic area, and census data shows 61,234 persons over the age of 55 in that market area. An average of 13% of this population will desire a living or lifestyle change every year. That produces 6,665 potential buyers per year. The applicant’s experience suggests that it will capture a minimum of 10% of this market equating to 67 units per year just for the age-restricted housing.

Viewshed Analysis:

The applicant provided several viewshed renderings showing the perspective from Route 10 as to what the proposed residential buildings will look like after project completion. According to the applicant, many of the residential buildings will be similar to the styles Ryan Homes built in Benn's Grant. Examples of a commercial facade are included in the commercial design guidelines. The renderings are included as an attachment to the staff report. The conceptual site plan also includes a recreational greenspace along Route 10 which will preserve a terminal vista down to the pond and woodland at the rear of the property, preserving a portion of the historical landscape within the proposed development.

Staff Findings:

After assessing the project's consistency with the County's Plans, Ordinances and current level of service of public facilities available to current County residents, staff found the application generally consistent with the future recommended land use found in the 2020 Comprehensive Plan and was capable of meeting ordinance requirements. However, staff found that the proposed residential uses may negatively impact existing public facilities and services, such as school facilities, until such time as public expenditures are made to increase facility and operational capacity.

As discussed in the school impact section above, the applicant submitted a revised proffer statement dated March 5, 2024, which mitigates the potential school facility impacts. In addition, school capacity increases are included in the County's five year capital improvement plan.

The Comprehensive Plan projects the County population to reach 45,200 people by 2040. To meet the housing needs of the County's growing population, there will be a need for an additional 2,567 residential units based on the 2022 average of 2.3 people per household.

According to the US Census Bureau, the County had 17,085 existing housing units in 2022 . County records that same year show approximately 2,497 additional units approved but not yet constructed. The County's 2022 total population is estimated to be 40,151 people, representing a 2% average growth rate since the 2020 Census. This rate is double the initial projected rate of 1% a year. Although the number of approved units appears to meet the currently projected future need, a reassessment of the number of housing units needed may be in order, if the future growth

trend exceeds expectations, barring any economic downshifts similar to 2008. A table showing current residential projects is attached to the report.

COMPREHENSIVE LAND USE PLAN:

The subject property is located in the Newport Development Service District (DSD), an area described in the Comprehensive Plan as a focus area for future growth in the County. The Land Use Plan ("Envision the Isle" chapter) designates the property for future Mixed Use (MU) as part of the larger mixed-use activity center surrounding the intersection of Carrollton Boulevard and Benns Church Boulevard. Mixed use areas are described generally in the plan as comprised of "housing mixed with office, commercial, and other uses…located on major transportation routes and at major intersections." The plan describes future residential development anticipated in these areas as "a mix of detached and attached single family residences, multiplexes, townhomes, and apartment style residences, [having] community amenities and preserved natural features" up to density of 14 dwelling units per acre or higher. The project as conceptually designed accomplishes several Comprehensive Plan policies regarding the preservation of natural resources. The Plan states that mixed-use areas should include abundant open spaces which preserve natural features (e.g., mature forest cover, wetlands, etc.) and create active- and passive-use recreational amenities such as walking and multi-use trails, playgrounds, open spaces, and natural areas for residents of the community.

The proposed development and its proximity to commercial areas help implement policy statements and accomplish the purposes of the Plan's Newport DSD and Urban Development Area (UDA) designations with respect to housing. The Plan's housing policies and actions aim to provide opportunities for a variety of housing types for people of all incomes, backgrounds, and ages, and to increase opportunities within DSDs for residences to be in close proximity to retail, employment, and public facilities such as schools and parks. The proposed rezoning, therefore, is considered consistent with the Comprehensive Plan.

ORDINANCE REVIEW:

The applicant requests a conditional zoning to the Planned Development-Mixed Use zoning district. In addition, the development also lies within the Newport Development Service and Chesapeake Bay Preservation Area Overlay Districts which require additional performance criteria over and above the underlying zoning district regulations. According to the Zoning Ordinance, all PD-MX areas are also designated urban development areas (UDA) which must meet minimum UDA and Traditional Neighborhood Design requirements in the Zoning and Subdivision Ordinances, such as minimum densities, floor area ratio, open space area, and pedestrian access facilities.

Staff reviewed the proffered residential and commercial design guidelines as well as the conceptual master plan for consistency with the County's Zoning and Subdivision Ordinances. Should the the zoning request be approved, the applicant will be required to submit subdivision plats, construction plans, signage plans, RPA buffer modification applications, and building plans in accordance with the proffered conditions, Zoning, and Subdivision Ordinances.

The Planning Commission held a public hearing on the proposed application at their September 26, 2023, regular meeting. Following the public hearing, the Planning Commission discussed the application and moved to continue their discussion to their next regular meeting in order to allow staff time to provide additional information to the Commission. Staff subsequently sent the list of questions from the Commission to Dr. Chris Coleman at Isle of Wight County Schools. Dr. Coleman responded that additional time was needed to provide responses to the questions.

Staff also met with Fire and Rescue staff to further discuss the operational impact of the projected 349 additional fire and rescue calls from the proposed development. Based on current call volume, staff determined that the additional calls can be absorbed without degradation of service. Staff analysis shows that the development could generate approximately one additional EMS call per day and one additional fire call per week for the northern service area.

In addition, staff also received additional review comments from the Town of Smithfield and the Economic Development Department which are attached to this staff report. Because additional time is needed to provide the requested school information, staff recommended no action for the Planning Commission at their October 24, 2023,

regular meeting. Following additional discussion, the Planning Commission voted to continue their discussion of the application to their November 28, 2023, regular meeting in order to allow school staff additional time to provide responses to the questions from the Planning Commission. At the November 28, 2023, regular meeting, the Planning Commission again continued their discussion until the next regular meeting.

Dr. Coleman and Lynn Briggs with Isle of Wight County Schools attended the December 12, 2023, regular Planning Commission meeting and presented the following information:

- With the developments only currently under construction and including Sweetgrass development, the program capacity at Smithfield Middle School would be at 101%, Smithfield High School 97%, Hardy Elementary School 90% and Westside Elementary School 82%.
- The local fiscal year cost per student is $5,728.
- There are four funding sources; state funds, sales and use tax, federal funds and local funds, and the total cost per student is $14,309 a year.
- Schools uses a recommended best practice of 85, 90, 95 percent capacity triggers for facilities to determine when to start planning to expand capacity.
- Westside is in the plan for a new school.
- Westside has a need for replacement due to condition not capacity.

Following their discussion, the Planning Commission recommended denial of the application to the Board of Supervisors by a vote of six in favor of the motion and two voting against.

After the Planning Commission decision, the applicant then requested to defer the application from the Board's consideration to allow them more time to address outstanding concerns. In March 2024, the applicant submitted a revised proffer statement with the following changes to address concerns with potential school impacts:

- One-time cash contribution to the County in the amount of $1,825.76 for each townhouse. The contribution shall be payable at the time of issuance of a final certificate of occupancy for each townhouse.
- A cap of 60 certificates of occupancy for townhouses constructed on the Property within the succeeding 12 consecutive month period and in each successive 12 consecutive month period thereafter; provided, however, that if during any such 12 month period less than 60 certificates of occupancy are issued for townhouses constructed on the Property, the number of certificates of occupancy allowed but unissued in such 12 month period may be carried forward and shall be permitted to be issued in any subsequent 12 month period in addition to the base 60 certificates of occupancy that may be issued in such 12 month period.

Based on this analysis, staff identified the following strengths and weaknesses:

Strengths:

1. The application is generally consistent with the Comprehensive Plan and can meet all ordinance requirements.
2. The project proposes to preserve the RPA buffer area and floodplain to the greatest extent possible.
3. The proposed development will provide over 9.89 acres of park, trails, community center, pool and play areas to provide parks and recreation services.
4. The applicant proffers that all age-restricted units will have a first floor master bedroom and bathroom which will help facilitate age-friendly housing.
5. The development will include up to 18,000 square feet of retail and commercial uses as well as 55,000 square feet of office which will create employment opportunities and additional revenues to meet public facility and service needs.
6. The conceptual site plan also includes a recreational greenspace along Route 10 which will preserve a terminal vista down to the pond and woodland at the rear of the property, preserving a portion of the historical landscape within the proposed development.

Weaknesses:

1. The proposed residential uses may negatively impact school operations and facilities, such transportation, until such time as public expenditures are made to increase facility and operational capacity. The recently revised proffered conditions, however, reduce the potential impact by making cash contributions for needed capacity expansion and to reduce the total number of new students created by the project each year by limiting the

expansion and to reduce the total number of new students created by the project each year by limiting the number of certificates of occupancy issued per year for non-age restricted units.

2. It is unclear what existing historical and cultural resources exist on the project site which may impact the final layout and design of the community.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

The Planning Commission approved a motion to recommend denial to the Board of Supervisors by a vote of six in favor and two voting against the motion (6-2) at their December 12, 2023, regular meeting.

Based on the strengths of the application, the revised proffered conditions dated March 5, 2024, submitted after Planning Commission consideration which reduce the school capital impacts and that school capacity increases are included in the County's five year capital improvement plan, staff recommends approval.

ATTACHMENTS:

Description	Type	Upload Date
Revised Proffer Statement Redline March 5, 2024	Backup Material	5/7/2024
Revised Proffer Statement Dated March 5, 2024	Backup Material	5/7/2024
Application	Backup Material	9/6/2023
Land Use Narrative	Backup Material	9/6/2023
Community Impact Statement	Backup Material	9/6/2023
Sweetgrass Proffer Statement exec 090823	Backup Material	9/8/2023
Residential Design Guidelines Aug 18 2023	Backup Material	9/8/2023
Commercial Design Guidelines	Backup Material	9/8/2023
Sweetgrass Concept Plan Aug 2023	Backup Material	9/8/2023
Sweetgrass Traffic Impact Analysis 2023 Update	Backup Material	9/6/2023
Sweetgrass TIA 2021 Supplemental	Backup Material	9/6/2023
Sweetgrass TIA 2019	Backup Material	9/6/2023
Wetland Confirmation	Cover Memo	9/6/2023
Water Quality Impact Assessment	Backup Material	9/6/2023
Fiscal Impact Analysis	Backup Material	9/6/2023
Fiscal Impact Analysis Update	Backup Material	9/6/2023
Market Analysis	Backup Material	9/6/2023
Sweetgrass VIsual Impact Analysis June 15, 2023	Backup Material	9/19/2023
Sweetgrass Elevations	Backup Material	9/19/2023
Townhome model 1	Backup Material	9/19/2023
Townhome model 2	Backup Material	9/19/2023
Cultural Resources Assessment 2022	Backup Material	9/6/2023
VDOT Final Comments Aug 2023	Backup Material	9/6/2023
Residential Development Project list	Backup Material	9/19/2023
Schools Revised Review Comments 092623	Backup Material	9/26/2023
Smithfield Review Comments	Backup Material	10/18/2023
Economic Development Review Comments	Backup Material	11/21/2023
Schools Enrollment Info	Backup Material	11/15/2023
Memo to Planning Commission Oct 23	Cover Memo	11/27/2023
Revised Proffer statement received Oct 23	Backup Material	11/27/2023
Revised Residential Guidelines received Oct 23	Backup Material	11/27/2023
Revised Commercial Guidelines Recd Oct 23	Backup Material	11/27/2023
Rte 10 Visual Impact Oct 23	Backup Material	11/27/2023
Updated FIA memo Oct 23	Backup Material	11/27/2023
Updated Master Plan Oct 23	Backup Material	11/27/2023
PC staff report	Backup Material	5/7/2024
Ordinance	Ordinance	5/7/2024

PROFFERED CONDITIONS

~~October 20, 2023~~
March ___, 2024

Conditional Zoning Request ZA-6-19 (the "Application") has been filed by Henry Layden, as Special Trustee of The William G. Yeoman III Trust ("Owner"), the owner of certain real property located within the territorial confines of the County of Isle of Wight, Virginia (the "County") being a portion of that property located at 14096 Benns Church Blvd., Smithfield, VA 23430, Tax Parcel # 32-01-009 (the "Property") more particularly described on **Exhibit A** attached hereto and made part hereof. NVR, INC. ("NVR") is the contract purchaser of the Property. Yeoman and NVR (collectively, the "Owner") filed the Application requesting that the zoning of the Property be changed from RAC to C-PD-MX with proffers in order to permit the development of a mixed use planned development consisting of single-family dwellings, townhouses, and a commercial area (the "Project").

The Owner and the County have carefully evaluated, among other things, a traffic impact analysis, community impact analysis, and fiscal impact analysis (copies of which are on file with the County's Community Development Department, hereinafter referred to as the "Department") and the on and off site impacts of the Project and have determined (i) the impacts specifically attributable to the Project (the "Impacts"), (ii) certain Impacts create a need (or identifiable portion of a need) for the expansion of existing capacity of public school facilities and public transportation facilities (the "Expansion of Existing Capacity"), (iii) the Project will receive a direct and material benefit from the Expansion of Existing Capacity and ~~Proffer 6~~ Proffers 6 and 11 below, and (iv) the provisions of the County's zoning ordinance ("Zoning Ordinance") are inadequate for addressing various of the Impacts and necessitate supplementation by these Proffers.

In furtherance of the Application, the Owner, for itself and its successors and/or assigns, hereby voluntarily proffers the conditions specifically set forth below, in addition to the regulations provided for by the Zoning Ordinance, which proffered conditions are determined by the Owner and, upon acceptance by the Board of Supervisors in connection with the approval of the Application, the County: (i) to be reasonable, (ii) to address impacts specifically attributable to the Project, (iii) to address the need (or identifiable portion of a need) for the Expansion of Existing Capacity, (iv) to directly and materially benefit the Project, (v) to have a reasonable relation to the proposed change in zoning, (vi) to be in conformity with County's adopted comprehensive plan, and (vii) to be in accordance with the provisions of Section 15.2-2296, et seq. of the Code of Virginia (1950), as amended (the "Virginia Code"), Sections 15.2-2303.2 through 15.2-2303.4 of the Virginia Code, and the County Zoning Ordinance. The following proffered conditions apply only to the Property.

1. Plan of Development. A conceptual development plan of the Project entitled "MASTER PLAN FOR SWEETGRASS", dated June 14, 2019, and last revised October 17, 2023, prepared by AES Consulting Engineers (the "Master Plan"), has been submitted to the County Planning Division for review by the County in connection with the Application. The Master Plan is on file with the Department. Development of the Property shall be in substantial conformance, as determined by the Community Development Director (the "Director") with the Master Plan.

2. Residential Units. There shall be no more than 615 residential dwellings (the "Residential Units") constructed on the Property, of which no more than 390 of the Residential Units shall be single-family (detached) dwellings, and no more than 225 of the Residential Units shall be townhouses.

Field Code Changed

3. Non-Residential Use Restrictions. The use of the portion of the Property designated as "COMMERCIAL SECTION 5 AC +/-" on the Mater Plan (the "Commercial Area") shall be limited to (a) inline retail and commercial uses (including accessory uses) comprising no more than 18,000 square feet of floor area, and (b) office uses (including accessory uses) comprising no more than 55,000 square feet of floor area. Notwithstanding the foregoing, the Owner shall not be permitted to develop an amount of non-residential floor area on the Commercial Area that would be projected to exceed 220 p.m. peak hour trips (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) until the Owner submits for review and approval by the County and the Virginia Department of Transportation ("VDOT") an updated traffic impact analysis including such proposed additional square footage and includes in its site plan for such additional commercial square footage any traffic improvements recommended by the updated traffic impact analysis and not already contained in these Proffers. If not previously installed in connection with the development of the Commercial Area, the landscaping and buffer located on the Commercial Area adjacent to Rt 10 (Benns Church Boulevard) shall be installed prior to issuance of the 50th certificate of occupancy ("CO") for Residential Units on the Property.

4. Design. The Residential Units and clubhouse on the Property shall be constructed by the Owner in substantial conformance with the architectural elevations entitled "Sweetgrass Elevations", dated October 20, 2023 (the "Elevations") and the design guidelines entitled "Residential Design Guidelines for Sweetgrass Development", dated October 20, 2023 (the "Residential Guidelines"), as determined by the Director. The development within the Commercial Area shall be constructed by the Owner in substantial conformance with the design guidelines entitled "Commercial Center Design Guidelines for Sweetgrass Development", dated August 18, 2023 (the "Commercial Guidelines"), as determined by the Director. A copy of the Elevations, the Residential Guidelines, and the Commercial Guidelines are on file in the Department. The Elevations, Residential Guidelines, and Commercial Guidelines may be modified from time to time provided that such modifications do not alter the basic concept or character of the Elevations, Residential Guidelines, and Commercial Guidelines and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

5. Age Restriction. All of the single-family (detached) dwellings Residential Units shall be occupied solely as "housing for older persons" as such term is defined in Virginia Code Section 36-96.7(A), provided no person under 19 years of age shall be housed or domiciled or shall reside in any Residential Unit. Such restriction shall be set forth in the Declaration and enforced by the Association (as such terms are defined in Proffer 9 below). Unless otherwise approved by the Director, each age-restricted Residential Unit shall have a first-floor bedroom and full bath.

6. Traffic Improvements.

a. Prior to the issuance of the first certificate of occupancy for Residential Units on the Property (not including model homes), the construction, installation, and/or implementation of the following improvements shall be completed or guaranteed by the Owner in accordance with Virginia Code Section 15.2-2299 or such successor provision (a "Guarantee"):

i. Westbound right turn lane (200-foot storage plus 200-foot taper) into right in/right out proposed secondary Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

ii. Westbound right turn lane (200-foot storage plus 200-foot taper) into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

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iii. Lengthen the existing eastbound left turn lane to provide 200-foot storage plus 200-foot taper into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

iv. Lengthen the existing westbound left turn lane on US 258/Rt 10 to provide 250-foot storage plus 100-foot taper at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive (the "Rt. 10/Turner Drive Turn Lane Improvement");

v. Replace the existing 3 section signal head serving the dedicated right turn lane on eastbound Turner Drive at US 258/Rt 10 (Benns Church Boulevard) with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 1"); and

vi. Install flashing yellow arrows for the eastbound and westbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Canterberry Lane, Cypress Run Drive, and Turner Drive.

b. At such time as deemed warranted by VDOT, but in no event prior to issuance of the 50th CO for Residential Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first), the Owner shall replace the existing 3 section signal head serving the dedicated right turn lane on eastbound US 258/Rt 10 (Benns Church Boulevard) at Turner Drive with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 2"). In the event that the Rt. 10/Turner Drive Signal Improvement 2 is not warranted by VDOT prior to the issuance of the final CO for Residential Units on the Property, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of Rt. 10/Turner Drive Signal Improvement 2 (including design, construction, labor, and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(b).

c. Notwithstanding the preceding subsections a(iv), a(v), and b, if the County, prior to implementation of the Rt. 10/Turner Drive Turn Lane Improvement, Rt. 10/Turner Drive Signal Improvement 1, and/or the Rt. 10/Turner Drive Signal Improvement 2 (collectively, the "Rt. 10/Turner Drive Proffered Improvements") (i) approves or adopts plans for modification of the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive that conflict with or supersede one or more of the Rt. 10/Turner Drive Proffered Improvements, or (ii) accepts proffers from or imposes conditions upon another developer(s) for substantially the same obligations as one or more of the Rt. 10/Turner Drive Proffered Improvements (each of such affected Rt. 10 Turner Drive Proffered Improvements being an "Affected Improvement"), then the Owner shall contribute to the County an amount of cash equal to the then estimated cost to complete the Affected Improvement(s) (including design, construction, labor, and materials) as approved by the County multiplied by the Project's proportionate share (assuming the Project's full buildout) of the vehicle trips associated with such Affected Improvements (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) (the "Cash in Lieu Payment") no later than ninety (90) days after (1) the award of the construction contract for the construction of such conflicting, superseding, or substantially similar improvement(s), and (2) issuance a written request from the County to the Owner for such Cash in Lieu Payment; provided, however, under no circumstances shall the Cash in Lieu Payment be due prior to issuance of the 50th CO for Residential

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Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first). The payment by the Owner to the County of such Cash in Lieu Payment shall be deemed satisfaction in full of the corresponding portion of the Rt. 10/Turner Drive Proffered Improvements.

d. At such time as deemed warranted by the VDOT, the Owner shall install a traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. Prior to the issuance of the 150th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal (including flashing yellow arrows for the eastbound and westbound left turn lanes and any planned pedestrian accommodations at the signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

i. In the event that such traffic signal is not warranted by VDOT in connection with the first traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 300th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

ii. In the event that such traffic signal is not warranted by VDOT in connection with the second traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 450th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

iii. In the event that such traffic signal is not warranted by VDOT in connection with the third traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 600th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the

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intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of the final certificate of occupancy for the Residential Units on the Property.

iv. In the event that such traffic signal is not warranted by VDOT in connection with the fourth traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of the traffic signal (including design and construction labor and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(d).

7. Timing of Recreational Amenities. The clubhouse and pool described on the Master Plan shall be completed prior to issuance of the 150th CO for Residential Units constructed on the Property. If not sooner constructed, the pedestrian amenities shown on the Master Plan shall be constructed sequentially by phase when the corresponding phase of the development in which such amenities are shown is constructed.

8. Archaeology. A Phase I Archaeological Site Assessment for the Property shall be submitted to the Director for their review and approval prior to preliminary site plan or subdivision plan submittal. A treatment plan or Phase II Archaeological Site Assessment shall be submitted to, and approved by, the Director for all sites in the Phase I study that are recommended for a Phase II evaluation, and/or identified as being eligible for inclusion on the National Register of Historic Places. If a Phase II study is undertaken, such a study shall be approved by the Director and a treatment plan or Phase III Archaeological Site Assessment for said sites shall be submitted to, and approved by, the Director for sites that are determined to be eligible for inclusion on the National Register of Historic Places and/or those sites that require a Phase III study. If in the Phase II study, a site is determined eligible for nomination to the National Register of Historic Places and said site is to be preserved in place, the treatment plan shall include nomination of the site to the National Register of Historic Places. If a Phase III study is undertaken for said sites, such studies shall be approved by the Director prior to land disturbance within the study area. All Phase I, Phase II and Phase III studies shall meet the Virginia Department of Historic Resources' Guidelines for Preparing Archaeological Resource Management Reports and the Secretary of the Interior's Standard and Guidelines for Archaeological Documentation, as applicable, and shall be conducted under the supervision of a qualified archaeologist who meets the qualifications set forth in the Secretary of the Interior's Professional Qualification Standards. All approved treatment plans shall be incorporated into the plan of development for the site and shall be adhered to during the clearing, grading and construction activities thereon.

9. Property Owners Association. The Owner shall form one or more Property Owners' Associations and/or a Condominium Unit Owners Associations (each an "Association"), which may include separate or sub-associations for the age restricted and non-age restricted Residential Units, in accordance with Virginia law, with the preparation and execution of a Declaration of Covenants, Conditions and Restrictions or Declaration of Condominium, as applicable (a "Declaration") with the members thereof being the owners of the portions of the Property designated for residential use (the "Residential Property"). The Declaration shall provide for, among other things, the qualifying age restrictions in Proffer 5 above, design review by a design

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review board, and the conveyance from the Owner to an Association of all of the common areas, open spaces, green areas, recreation areas and facilities and the stormwater management system associated with the Residential Property (collectively, the "Common Elements"). The Owner agrees that it shall retain sole responsibility for the maintenance of the Common Elements until such time as the same are conveyed to an Association, at which time the obligation shall be assigned to an Association. Each Residential Unit owner within the Residential Property shall be a voting member of an Association and be subject to assessments as set forth in the Declaration. The Declaration shall be subject to the approval of the County Attorney for consistency with this proffer and upon approval shall be duly recorded in the Clerk's Office for the Circuit Court of Isle of Wight County. The Declaration shall be recorded in connection with the recordation of the first subdivision (or condominium) plat for the Residential Units on the Property.

10. Short Term Rental Prohibition. No Residential Unit shall be leased for a term of less than one year except as may be necessary to comply with applicable law (e.g., Servicemembers Civil Relief Act). No leases or other temporary occupancy agreements on a daily, weekly or monthly basis shall be permitted for any Residential Unit. No lease of less than all of a Residential Unit shall be permitted.

11. School Capacity Expansion. In order to facilitate the Expansion of Existing Capacity and to provide a direct and material benefit to the Project, the Owner shall make a one-time cash contribution to the County in the amount of $1,825.76 for each townhouse constructed on the Property (the "Per Unit School Capacity Expansion Contribution"), which Per Unit School Capacity Expansion Contribution shall be payable to the County at the time of issuance by the County of a final certificate of occupancy for each townhouse. The County shall use the Per Unit School Capacity Expansion Contribution funds for the expansion of the existing instructional capacity at the schools which are impacted by the Project.

12. Phasing. Beginning at the time of final subdivision construction plan approval for development of the first phase of townhouses on the Property, there shall be no more than 60 certificates of occupancy issued by the County for townhouses constructed on the Property within the succeeding 12 consecutive month period and in each successive 12 consecutive month period thereafter; provided, however, that if during any such 12 month period less than 60 certificates of occupancy are issued for townhouses constructed on the Property, the number of certificates of occupancy allowed but unissued in such 12 month period may be carried forward and shall be permitted to be issued in any subsequent 12 month period in addition to the base 60 certificates of occupancy that may be issued in such 12 month period.

~~11.~~13. Successors and Assigns. These Proffers shall run with the title to the Property and shall be binding on the parties hereto and their respective successors and assigns; provided, however once a party ceases to own any portion of the Property, such party shall have no continuing liability hereunder.

~~12.~~14. Severability. In the event that (i) the County's approval of the Application and/or acceptance of these Proffers is appealed within 30 days after the date of the Board of Supervisors' action on same, and (ii) any clause, sentence, paragraph, subparagraph, section or subsection of these Proffers shall be judged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, then the change in zoning intended to be accomplished by the County's approval of the Application and acceptance of these Proffers shall be deemed void and the zoning of the Property shall automatically revert to that which existed immediately prior to the date of such approval.

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~~13.~~15. Headings. All paragraph and subparagraph headings of the Proffers herein are for convenience only and are not part of these Proffers.

~~14.~~16. Conflicts. In the event that there is any conflict between these Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Director subject to the appeal process to the Board of Zoning Appeals and the Courts as otherwise provided by law.

~~15.~~17. Void if Application not Approved. In the event that the Application is not approved by the County or is overturned by subsequent judicial determination, these Proffers and the Master Plan shall be null and void.

[SIGNATURES LOCATED ON FOLLOWING PAGES]

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[SIGNATURE PAGE TO PROFFERS]

WITNESS the following signatures, thereunto duly authorized:

NVR, INC.

By: _____

Print Name: _____

Title: _____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to wit:

The foregoing instrument was acknowledged before me this ____ day of _____, ~~2023~~ 2024 by _____ as _____ of NVR, Inc.

_____
NOTARY PUBLIC

My commission expires: _____
Registration No.: _____

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[SIGNATURE PAGE TO PROFFERS]

THE WILLIAM G. YEOMAN III TRUST :

_____
Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to wit:

The foregoing instrument was acknowledged before me this ____ day of _____, ~~2023~~ 2024 by Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended.

_____
NOTARY PUBLIC

My commission expires: _____
Registration No.: _____

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EXHIBIT A

All that certain tract, piece or parcel of land containing approximately 249.47 acres, situate, lying and being near Benns Church, in Newport Magisterial District, Isle of Wight County, Virginia; lying on the East side of State Highway No. 10, and bounded by said Highway, the lands now or formerly of Daisy M. Bunkley, Phillip F. Edwards, Jones' Creek, the lands now or formerly owned by George Yeoman, Christie Jordan, C.E. Johnson, J.F. Minton and others and being a portion of the same land of which E.K. Batten and Maggie E. Batten, his wife, died seized and possessed.

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PROFFERED CONDITIONS

March 5, 2024

Conditional Zoning Request ZA-6-19 (the "Application") has been filed by Henry Layden, as Special Trustee of The William G. Yeoman III Trust ("Owner"), the owner of certain real property located within the territorial confines of the County of Isle of Wight, Virginia (the "County") being a portion of that property located at 14096 Benns Church Blvd., Smithfield, VA 23430, Tax Parcel # 32-01-009 (the "Property") more particularly described on **Exhibit A** attached hereto and made part hereof. NVR, INC. ("NVR") is the contract purchaser of the Property. Yeoman and NVR (collectively, the "Owner") filed the Application requesting that the zoning of the Property be changed from RAC to C-PD-MX with proffers in order to permit the development of a mixed use planned development consisting of single-family dwellings, townhouses, and a commercial area (the "Project").

The Owner and the County have carefully evaluated, among other things, a traffic impact analysis, community impact analysis, and fiscal impact analysis (copies of which are on file with the County's Community Development Department, hereinafter referred to as the "Department") and the on and off site impacts of the Project and have determined (i) the impacts specifically attributable to the Project (the "Impacts"), (ii) certain Impacts create a need (or identifiable portion of a need) for the expansion of existing capacity of public school facilities and public transportation facilities (the "Expansion of Existing Capacity"), (iii) the Project will receive a direct and material benefit from the Expansion of Existing Capacity and Proffers 6 and 11 below, and (iv) the provisions of the County's zoning ordinance ("Zoning Ordinance") are inadequate for addressing various of the Impacts and necessitate supplementation by these Proffers.

In furtherance of the Application, the Owner, for itself and its successors and/or assigns, hereby voluntarily proffers the conditions specifically set forth below, in addition to the regulations provided for by the Zoning Ordinance, which proffered conditions are determined by the Owner and, upon acceptance by the Board of Supervisors in connection with the approval of the Application, the County: (i) to be reasonable, (ii) to address impacts specifically attributable to the Project, (iii) to address the need (or identifiable portion of a need) for the Expansion of Existing Capacity, (iv) to directly and materially benefit the Project, (v) to have a reasonable relation to the proposed change in zoning, (vi) to be in conformity with County's adopted comprehensive plan, and (vii) to be in accordance with the provisions of Section 15.2-2296, et seq. of the Code of Virginia (1950), as amended (the "Virginia Code"), Sections 15.2-2303.2 through 15.2-2303.4 of the Virginia Code, and the County Zoning Ordinance. The following proffered conditions apply only to the Property.

1. Plan of Development. A conceptual development plan of the Project entitled "MASTER PLAN FOR SWEETGRASS", dated June 14, 2019, and last revised October 17, 2023, prepared by AES Consulting Engineers (the "Master Plan"), has been submitted to the County Planning Division for review by the County in connection with the Application. The Master Plan is on file with the Department. Development of the Property shall be in substantial conformance, as determined by the Community Development Director (the "Director") with the Master Plan.

2. Residential Units. There shall be no more than 615 residential dwellings (the "Residential Units") constructed on the Property, of which no more than 390 of the Residential Units shall be single-family (detached) dwellings, and no more than 225 of the Residential Units shall be townhouses.

3. Non-Residential Use Restrictions. The use of the portion of the Property designated as "COMMERCIAL SECTION 5 AC +/-" on the Mater Plan (the "Commercial Area") shall be limited to (a) inline retail and commercial uses (including accessory uses) comprising no more than 18,000 square feet of floor area, and (b) office uses (including accessory uses) comprising no more than 55,000 square feet of floor area. Notwithstanding the foregoing, the Owner shall not be permitted to develop an amount of non-residential floor area on the Commercial Area that would be projected to exceed 220 p.m. peak hour trips (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) until the Owner submits for review and approval by the County and the Virginia Department of Transportation ("VDOT") an updated traffic impact analysis including such proposed additional square footage and includes in its site plan for such additional commercial square footage any traffic improvements recommended by the updated traffic impact analysis and not already contained in these Proffers. If not previously installed in connection with the development of the Commercial Area, the landscaping and buffer located on the Commercial Area adjacent to Rt 10 (Benns Church Boulevard) shall be installed prior to issuance of the 50th certificate of occupancy ("CO") for Residential Units on the Property.

4. Design. The Residential Units and clubhouse on the Property shall be constructed by the Owner in substantial conformance with the architectural elevations entitled "Sweetgrass Elevations", dated October 20, 2023 (the "Elevations") and the design guidelines entitled "Residential Design Guidelines for Sweetgrass Development", dated October 20, 2023 (the "Residential Guidelines"), as determined by the Director. The development within the Commercial Area shall be constructed by the Owner in substantial conformance with the design guidelines entitled "Commercial Center Design Guidelines for Sweetgrass Development", dated August 18, 2023 (the "Commercial Guidelines"), as determined by the Director. A copy of the Elevations, the Residential Guidelines, and the Commercial Guidelines are on file in the Department. The Elevations, Residential Guidelines, and Commercial Guidelines may be modified from time to time provided that such modifications do not alter the basic concept or character of the Elevations, Residential Guidelines, and Commercial Guidelines and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

5. Age Restriction. All of the single-family (detached) dwellings Residential Units shall be occupied solely as "housing for older persons" as such term is defined in Virginia Code Section 36-96.7(A), provided no person under 19 years of age shall be housed or domiciled or shall reside in any Residential Unit. Such restriction shall be set forth in the Declaration and enforced by the Association (as such terms are defined in Proffer 9 below). Unless otherwise approved by the Director, each age-restricted Residential Unit shall have a first-floor bedroom and full bath.

6. Traffic Improvements.

a. Prior to the issuance of the first certificate of occupancy for Residential Units on the Property (not including model homes), the construction, installation, and/or implementation of the following improvements shall be completed or guaranteed by the Owner in accordance with Virginia Code Section 15.2-2299 or such successor provision (a "Guarantee"):

i. Westbound right turn lane (200-foot storage plus 200-foot taper) into right in/right out proposed secondary Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

ii. Westbound right turn lane (200-foot storage plus 200-foot taper) into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

iii. Lengthen the existing eastbound left turn lane to provide 200-foot storage plus 200-foot taper into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

iv. Lengthen the existing westbound left turn lane on US 258/Rt 10 to provide 250-foot storage plus 100-foot taper at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive (the "Rt. 10/Turner Drive Turn Lane Improvement");

v. Replace the existing 3 section signal head serving the dedicated right turn lane on eastbound Turner Drive at US 258/Rt 10 (Benns Church Boulevard) with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 1"); and

vi. Install flashing yellow arrows for the eastbound and westbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Canterberry Lane, Cypress Run Drive, and Turner Drive.

b. At such time as deemed warranted by VDOT, but in no event prior to issuance of the 50th CO for Residential Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first), the Owner shall replace the existing 3 section signal head serving the dedicated right turn lane on eastbound US 258/Rt 10 (Benns Church Boulevard) at Turner Drive with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 2"). In the event that the Rt. 10/Turner Drive Signal Improvement 2 is not warranted by VDOT prior to the issuance of the final CO for Residential Units on the Property, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of Rt. 10/Turner Drive Signal Improvement 2 (including design, construction, labor, and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(b).

c. Notwithstanding the preceding subsections a(iv), a(v), and b, if the County, prior to implementation of the Rt. 10/Turner Drive Turn Lane Improvement, Rt. 10/Turner Drive Signal Improvement 1, and/or the Rt. 10/Turner Drive Signal Improvement 2 (collectively, the "Rt. 10/Turner Drive Proffered Improvements") (i) approves or adopts plans for modification of the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive that conflict with or supersede one or more of the Rt. 10/Turner Drive Proffered Improvements, or (ii) accepts proffers from or imposes conditions upon another developer(s) for substantially the same obligations as one or more of the Rt. 10/Turner Drive Proffered Improvements (each of such affected Rt. 10 Turner Drive Proffered Improvements being an "Affected Improvement"), then the Owner shall contribute to the County an amount of cash equal to the then estimated cost to complete the Affected Improvement(s) (including design, construction, labor, and materials) as approved by the County multiplied by the Project's proportionate share (assuming the Project's full buildout) of the vehicle trips associated with such Affected Improvements (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) (the "Cash in Lieu Payment") no later than ninety (90) days after (1) the award of the construction contract for the construction of such conflicting, superseding, or substantially similar improvement(s), and (2) issuance a written request from the County to the Owner for such Cash in Lieu Payment; provided, however, under no circumstances shall the Cash in Lieu Payment be due prior to issuance of the 50th CO for Residential

Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first). The payment by the Owner to the County of such Cash in Lieu Payment shall be deemed satisfaction in full of the corresponding portion of the Rt. 10/Turner Drive Proffered Improvements.

d. At such time as deemed warranted by the VDOT, the Owner shall install a traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. Prior to the issuance of the 150th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal (including flashing yellow arrows for the eastbound and westbound left turn lanes and any planned pedestrian accommodations at the signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

i. In the event that such traffic signal is not warranted by VDOT in connection with the first traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 300th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

ii. In the event that such traffic signal is not warranted by VDOT in connection with the second traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 450th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

iii. In the event that such traffic signal is not warranted by VDOT in connection with the third traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 600th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main

entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of the final certificate of occupancy for the Residential Units on the Property.

iv. In the event that such traffic signal is not warranted by VDOT in connection with the fourth traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of the traffic signal (including design and construction labor and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(d).

7. Timing of Recreational Amenities. The clubhouse and pool described on the Master Plan shall be completed prior to issuance of the 150th CO for Residential Units constructed on the Property. If not sooner constructed, the pedestrian amenities shown on the Master Plan shall be constructed sequentially by phase when the corresponding phase of the development in which such amenities are shown is constructed.

8. Archaeology. A Phase I Archaeological Site Assessment for the Property shall be submitted to the Director for their review and approval prior to preliminary site plan or subdivision plan submittal. A treatment plan or Phase II Archaeological Site Assessment shall be submitted to, and approved by, the Director for all sites in the Phase I study that are recommended for a Phase II evaluation, and/or identified as being eligible for inclusion on the National Register of Historic Places. If a Phase II study is undertaken, such a study shall be approved by the Director and a treatment plan or Phase III Archaeological Site Assessment for said sites shall be submitted to, and approved by, the Director for sites that are determined to be eligible for inclusion on the National Register of Historic Places and/or those sites that require a Phase III study. If in the Phase II study, a site is determined eligible for nomination to the National Register of Historic Places and said site is to be preserved in place, the treatment plan shall include nomination of the site to the National Register of Historic Places. If a Phase III study is undertaken for said sites, such studies shall be approved by the Director prior to land disturbance within the study area. All Phase I, Phase II and Phase III studies shall meet the Virginia Department of Historic Resources' Guidelines for Preparing Archaeological Resource Management Reports and the Secretary of the Interior's Standard and Guidelines for Archaeological Documentation, as applicable, and shall be conducted under the supervision of a qualified archaeologist who meets the qualifications set forth in the Secretary of the Interior's Professional Qualification Standards. All approved treatment plans shall be incorporated into the plan of development for the site and shall be adhered to during the clearing, grading and construction activities thereon.

9. Property Owners Association. The Owner shall form one or more Property Owners' Associations and/or a Condominium Unit Owners Associations (each an "Association"), which may include separate or sub-associations for the age restricted and non-age restricted Residential Units, in accordance with Virginia law, with the preparation and execution of a Declaration of Covenants, Conditions and Restrictions or Declaration of Condominium, as applicable (a "Declaration") with the members thereof being the owners of the portions of the Property designated for residential use (the "Residential Property"). The Declaration shall provide for, among other things, the qualifying age restrictions in Proffer 5 above, design review by a design review board, and the conveyance from the Owner to an Association of all of the common areas, open spaces, green areas, recreation areas and facilities and the stormwater management

system associated with the Residential Property (collectively, the "Common Elements"). The Owner agrees that it shall retain sole responsibility for the maintenance of the Common Elements until such time as the same are conveyed to an Association, at which time the obligation shall be assigned to an Association. Each Residential Unit owner within the Residential Property shall be a voting member of an Association and be subject to assessments as set forth in the Declaration. The Declaration shall be subject to the approval of the County Attorney for consistency with this proffer and upon approval shall be duly recorded in the Clerk's Office for the Circuit Court of Isle of Wight County. The Declaration shall be recorded in connection with the recordation of the first subdivision (or condominium) plat for the Residential Units on the Property.

10. Short Term Rental Prohibition. No Residential Unit shall be leased for a term of less than one year except as may be necessary to comply with applicable law (e.g., Servicemembers Civil Relief Act). No leases or other temporary occupancy agreements on a daily, weekly or monthly basis shall be permitted for any Residential Unit. No lease of less than all of a Residential Unit shall be permitted.

11. School Capacity Expansion. In order to facilitate the Expansion of Existing Capacity and to provide a direct and material benefit to the Project, the Owner shall make a one-time cash contribution to the County in the amount of $1,825.76 for each townhouse constructed on the Property (the "Per Unit School Capacity Expansion Contribution"), which Per Unit School Capacity Expansion Contribution shall be payable to the County at the time of issuance by the County of a final certificate of occupancy for each townhouse. The County shall use the Per Unit School Capacity Expansion Contribution funds for the expansion of the existing instructional capacity at the schools which are impacted by the Project.

12. Phasing. Beginning at the time of final subdivision construction plan approval for development of the first phase of townhouses on the Property, there shall be no more than 60 certificates of occupancy issued by the County for townhouses constructed on the Property within the succeeding 12 consecutive month period and in each successive 12 consecutive month period thereafter; provided, however, that if during any such 12 month period less than 60 certificates of occupancy are issued for townhouses constructed on the Property, the number of certificates of occupancy allowed but unissued in such 12 month period may be carried forward and shall be permitted to be issued in any subsequent 12 month period in addition to the base 60 certificates of occupancy that may be issued in such 12 month period.

13. Successors and Assigns. These Proffers shall run with the title to the Property and shall be binding on the parties hereto and their respective successors and assigns; provided, however once a party ceases to own any portion of the Property, such party shall have no continuing liability hereunder.

14. Severability. In the event that (i) the County's approval of the Application and/or acceptance of these Proffers is appealed within 30 days after the date of the Board of Supervisors' action on same, and (ii) any clause, sentence, paragraph, subparagraph, section or subsection of these Proffers shall be judged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, then the change in zoning intended to be accomplished by the County's approval of the Application and acceptance of these Proffers shall be deemed void and the zoning of the Property shall automatically revert to that which existed immediately prior to the date of such approval.

15. Headings. All paragraph and subparagraph headings of the Proffers herein are for convenience only and are not part of these Proffers.

16. Conflicts. In the event that there is any conflict between these Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Director subject to the appeal process to the Board of Zoning Appeals and the Courts as otherwise provided by law.

17. Void if Application not Approved. In the event that the Application is not approved by the County or is overturned by subsequent judicial determination, these Proffers and the Master Plan shall be null and void.

[SIGNATURES LOCATED ON FOLLOWING PAGES]

[SIGNATURE PAGE TO PROFFERS]

WITNESS the following signatures, thereunto duly authorized:

NVR, INC.

JULIE ANN McCORKINDALE
NOTARY PUBLIC • REG. # 7962005
Commonwealth of Virginia
My Commission Expires JANUARY 31, ____

By: _____

Print Name: ANNIE EMISON

Title: VICE PRESIDENT

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Virginia Beach, to wit:

The foregoing instrument was acknowledged before me this 2nd day of May, 2024 by Annie Emison as Vice President of NVR, Inc.

_____
NOTARY PUBLIC

My commission expires: 01/31/2029
Registration No.: 7962009

[SIGNATURE PAGE TO PROFFERS]

THE WILLIAM G. YEOMAN III TRUST :

Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Isle of Wight to wit:

The foregoing instrument was acknowledged before me this 2nd day of May, 2024 by Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended.

NOTARY PUBLIC

My commission expires: 31st Dec 2027
Registration No.: 7767629

ELIZABETH D JONES
STATE OF VIRGINIA
NOTARY PUBLIC
COMMISSION #7767629
EXPIRES DECEMBER 31 2027

EXHIBIT A

All that certain tract, piece or parcel of land containing approximately 249.47 acres, situate, lying and being near Benns Church, in Newport Magisterial District, Isle of Wight County, Virginia; lying on the East side of State Highway No. 10, and bounded by said Highway, the lands now or formerly of Daisy M. Bunkley, Phillip F. Edwards, Jones' Creek, the lands now or formerly owned by George Yeoman, Christie Jordan, C.E. Johnson, J.F. Minton and others and being a portion of the same land of which E.K. Batten and Maggie E. Batten, his wife, died seized and possessed.

ISLE OF WIGHT
COUNTY, VIRGINIA
DEPARTMENT OF PLANNING AND ZONING

APPLICATION FOR REZONING/CONDITIONAL ZONING AMENDMENT

This application should be used to petition for a change to the Official Zoning Map or for an amendment of zoning conditions. The following application requirements are consistent with the procedures set forth in Section 1-1015, *Amendments*, of the Isle of Wight County Zoning Ordinance, as amended.

A. APPLICATION FOR (CHECK ALL THAT APPLY):

[ ] Rezoning

[X] Conditional Rezoning (Are voluntary proffered conditions attached?): X Yes _____ No

Request to change the subject property(s) from the RAC to the PD-MX zoning district.

Proposed Use or Activity: Single Family Detached Homes and Townhomes with commercial outparcel as more particularly described in the accompanying submittal materials.

[ ] Amendment to Conditional Zoning

Request to change conditional zoning as follows (Attach current and proposed conditions): _____

B. PROJECT DESCRIPTION:

Project Name: Sweetgrass

Property Address (if any): 14096 Benns Church Boulevard

Election District: Windsor Legal Reference: _____

Deed Book#_____ Page#_____ Instrument #000000662

Comprehensive Plan Designation: _____

The rezoning will apply to 250 ** acres out of 250 ** total acres **North of Route 10

Tax Parcel Identification # 32-01-009 Number of Acres to be Rezoned: 250**

Requesting Zoning District Change from: RAC to PD-MX

Tax Parcel Identification # _____ Number of Acres to be Rezoned: _____

Requesting Zoning District Change from: _____ to _____

Tax Parcel Identification # _____ Number of Acres to be Rezoned: _____

Requesting Zoning District Change from: _____ to _____

Proposed Utilities (check all that apply): Public Water _____ Private Well _____

Public Sewer _____ Private Septic _____

C. **APPLICATION INFORMATION:**

Applicant(s) Name(s): NVR, Inc. Attn: Eric Shirey

Address: 860 Greenbrier Circle, Suite 100

City, State, Zip Code: Chesapeake, VA 23320

Phone No.: 757.603.0802 Email: eshirey@nvrinc.com Fax No.:

Property Owner(s) Name(s): Henry Layden, special Trustee of the William Grover Yeoman, III Trust, dated December 14, 2007, as amended

Address: 1801 S. Church Street, Suite 7

City, State, Zip Code: Smithfield, VA 23430

Phone No.: Email: Fax No.:

Applicants/Owners Affidavit (including compliance with all deed restrictions and covenants)

This application must be signed by the owner(s) of the subject property or must have attached written evidence of the owner's consent, which may be in the form of a binding contract of sale with the owner's signature or a letter signed by the owner(s), containing written authorization to act with full authority on the owner(s) behalf in filing this rezoning application. Signing this application shall certify the owner's compliance with all deed restrictions and covenants, and shall constitute the granting of authority of the County to enter onto the property for the purpose of conducting site analyses and compliance with Federal, State and County regulations.

Applicant: NVR, Inc. Attn: Eric Shirey
Printed or Typed Name

Applicant: _____ Date: _____
Signature

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me _____,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this ___day of _____, 20___

_____
Notary Public

My Commission Expires_____

Henry Layden, special Trustee of the William Grover Yeoman, III Trust, dated December 14, 2007, as amended
Owner:
Printed or Typed Name

Owner: Henry Layden Date: 6/5/19
Signature

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me Elizabeth Dixon Jones,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this 5th day of June, 2019

Elizabeth Dixon Jones
Notary Public

My Commission Expires Dec. 31, 2022

Owner: _____
Printed or Typed Name

Owner: _____ Date: _____
Signature

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me _____,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this ___day of _____, 20___

_____
Notary Public

My Commission Expires_____

Owner: _____
Printed or Typed Name

Owner: _____ Date: _____
Signature

ELIZABETH DIXON JONES
NOTARY PUBLIC
Commonwealth of Virginia
Reg. # 7767629
Com. Exp. Dec. 31, 2022

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me _____,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this __day of _____, 20__

_____
Notary Public

My Commission Expires_____

C. **APPLICATION INFORMATION:**

Applicant(s) Name(s): NVR, Inc. Attn: Eric Shirey

Address: 860 Greenbrier Circle, Suite 100

City, State, Zip Code: Chesapeake, VA 23320

Phone No.: 757.603.0802 Email: eshirey@nvrinc.com Fax No.:

Property Owner(s) Name(s): Henry Layden, special Trustee of the William Grover Yeoman, III Trust, dated December 14, 2007, as amended

Address: 1801 S. Church Street, Suite 7

City, State, Zip Code: Smithfield, VA 23430

Phone No.: Email: Fax No.:

Applicants/Owners Affidavit (including compliance with all deed restrictions and covenants)

This application must be signed by the owner(s) of the subject property or must have attached written evidence of the owner's consent, which may be in the form of a binding contract of sale with the owner's signature or a letter signed by the owner(s), containing written authorization to act with full authority on the owner(s) behalf in filing this rezoning application. Signing this application shall certify the owner's compliance with all deed restrictions and covenants, and shall constitute the granting of authority of the County to enter onto the property for the purpose of conducting site analyses and compliance with Federal, State and County regulations.

Applicant: NVR, Inc. Attn: Eric Shirey
Printed or Typed Name

Applicant: Eric Shirey Date: 6/13/19
Signature

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me Diane Renee Spieker,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this 13 day of June, 2019

Diane Renee Spieker
NOTARY PUBLIC 7581566
Commonwealth of Virginia
My Commission Expires Mar. 31, 2022

Diane Renee Spieker
Notary Public

My Commission Expires March 31, 2022

Owner: Henry Layden, special Trustee of the William Grover Yeoman, III Trust, dated December 14, 2007, as amended
Printed or Typed Name

Owner: Date:
Signature

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me ,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this day of , 20

Notary Public

My Commission Expires

Owner:
Printed or Typed Name

Owner: Date:
Signature

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me ,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this day of , 20

Notary Public

My Commission Expires

Owner:
Printed or Typed Name

Owner: Date:
Signature

County of Isle of Wight, Commonwealth of Virginia

Subscribed and sworn to before me ,
A Notary Public in and for the County of Isle of Wight,
Commonwealth of Virginia, this day of , 20

Notary Public

My Commission Expires

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Department of Planning and Zoning, 17140 Monument Circle, Suite 201 P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: _____ Fees Paid: _____
Tax Query: [ ] Current [ ] Delinquent Posted/Date to Post: _____

AGENCIES REFERRALS:

_____ Department of Conservation & Recreation
_____ Economic Development
_____ Emergency Services
_____ Engineering
_____ Environmental Planner
_____ Health Department
_____ Other _____

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Budget & Finance
_____ County Attorney

Verified By: _____ Date: _____

SWEETGRASS
LAND USE NARRATIVE

14096 Benns Church Boulevard

February 21, 2020

The Applicant, NVR Inc. d/b/a Ryan Homes, was founded in 1948 in Pittsburgh, Pennsylvania to provide housing in the expanding post-war economy. For more than 70 years Ryan Homes has been building exceptional, award-winning homes – one home at a time. What began as a small, family-run business in Pittsburgh has evolved into one of the top builders in the nation. Today, Ryan Homes builds homes in 32 metropolitan areas in 14 states, as well as Washington D.C., and has constructed more than 400,000 homes. The success of Ryan Homes is built upon unparalleled customer service, innovative, award-winning designs, quality construction, affordable prices and unique communities in prime locations. It's no coincidence a large percentage of the homes Ryan Homes sells are a direct result of customer referrals.

Ryan Homes has been building new homes in Isle of Wight County for many years and is very attracted to the sound governance and quality of life the County has to offer its customers. Accordingly, Ryan Homes is excited to present "Sweetgrass" to Isle of Wight County and strongly desires to continue a mutually beneficial relationship with the County. Similar projects include Benn's Grant and Lakeview Cove in Isle of Wight, Stonehouse and Candle Station in James City County, Arbordale and Silverwood in York County, and Culpepper Landing in Chesapeake.

The property upon which Sweetgrass is envisioned is located at 14096 Benns Church Boulevard in the Windsor District of Smithfield. The site contains approximately 249.47 acres located on the East side of Benns Church Boulevard (Parcel ID # 32-01-009) and is currently zoned RAC – Rural Agricultural Conservation. The property is described by deed as lying on the East side of State Highway No. 10, and bounded by said Highway, the lands now or formerly of Daisy M. Bunkley, Philip F. Edwards, Jones' Creek, the lands now or formerly owned by George Yeoman, Christine Jordan, C. E. Johnson, J. F. Minton and others, and being a portion of the same land of which E. K. Batten and Maggie E. Batten, his wife, died seized and possessed, and is more particularly shown on the Applicant's Master Plan.

As the County's commercial hub in the Smithfield area evolves with the "new" economy, it is important to put consumers and employees in close and convenient proximity to such economic centers. Sweetgrass is strategically positioned on the fringe of the commercial hub for the area and will serve to ensure its success by avoiding sprawl and placing a population center with convenient access to one of the County's primary business districts.

The proposal consists of 400 age-restricted single family homes, 285 non age-restricted townhomes, and a parcel reserved for business/commercial uses. The Applicant's Master Plan, Elevations, and Proffers are intended to present a high quality aesthetic that will contribute to and enhance the appearance of the corridor. The proposed site design incorporates the property's natural beauty and ponds into the creation of view sheds and recreational areas for the project which include large contiguous areas of open space, walking trails, clubhouse and pool, and dog park. The Applicant's Traffic Study indicates that, with the proffered improvements, an acceptable level of service will be maintained on adjacent roadways. Finally, the Applicant's Fiscal Impact Analysis projects that the project, at build out, will generate net positive revenue to the County in the amount of approximately $1.2 million per year.

CONSULTING ENGINEERS

5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone (757) 253-0040
Fax (757) 220-8994
aesva.com

Community Impact Statement

Conditional Rezoning

For

Sweetgrass Development

Prepared For

NVR, INC
860 Greenbrier Circle, Suite 100
Chesapeake, Virginia 23320

And
Timothy O. Trant II
Kaufman & Canoles
11815 Fountain Way, Suite 400
Newport News, Virginia 23606

April 2019
Revised October 2021

AES Project Number: W10516-00

Prepared by:

CONSULTING ENGINEERS

5248 Olde Towne Road Suite 1
Williamsburg, Virginia 23188
Phone: 757-253-0040
www.aesva.com

TABLE OF CONTENTS

I. INTRODUCTION 2
II. THE PROJECT TEAM 4
III. PLANNING CONSIDERATIONS AND PROJECT DESCRIPTION 4
IV. ANALYSIS OF IMPACTS TO PUBLIC FACILITIES AND SERVICES 5
A. Public Water Facilities 5
B. Public Sewer Facilities 6
C. Public Schools 7
D. Fire Protection, Emergency Services and Law Enforcement 7
E. Solid Waste 8
F. Utility Service Providers 8
V. ANALYSIS OF ENVIRONMENTAL IMPACTS 8
VI. ANALYSIS OF STORMWATER MANAGEMENT (SWM) / BEST MANAGEMENT PRACTICES (BMP) 8
VII. ANALYSIS OF IMPACTS TO TRAFFIC 10
VIII. ANALYSIS OF FISCAL IMPACTS 10
IX. ANALYSIS OF CULTURAL RESOURCES IMPACTS 11
X. VISUAL IMPACTS 11
XI. CONCLUSION 11

LIST OF EXHIBITS

Exhibit 1 Location Map

LIST OF TABLES

Table 1 Projected Water Usages
Table 2 Projected Wastewater Flows

ATTACHMENTS

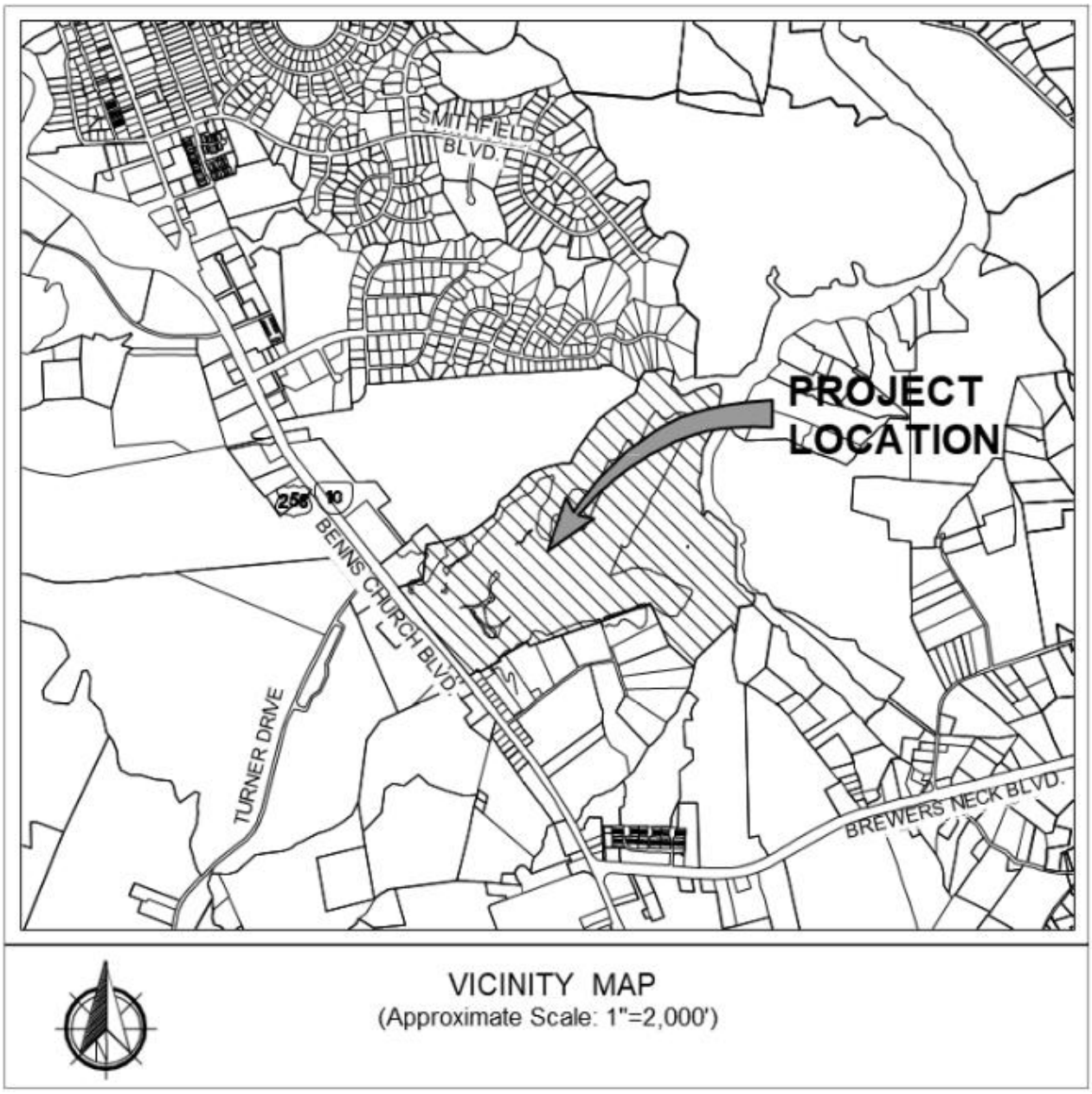
Appendix A Fiscal Analysis
Appendix B Wetlands, Water & CBPA Assessment
Appendix C WQIA
Appendix D Traffic Impact Analysis
Appendix E Phase Map
Appendix F Visual Impact Study

I. INTRODUCTION

The property owner, on behalf of NVR, Inc., proposes to request a conditional rezoning of their parcel within the Windsor Magisterial District containing 249.47 acres located on the east side of Benns Church Boulevard. The property is currently zoned RAC (Rural Conservation District) and the proposed zoning would be to convert the property to PD/MX (Planned Development Mixed Use) at 14096 Benns Church Boulevard, Smithfield Virginia.

The site is currently undeveloped, with a large portion of the property is in active crop land. The property is fully within the County of Isle of Wight but the property borders the Smithfield town limits to the North, Jones Creek to the East, single family subdivision to the South and Benns Church Boulevard (Route 10/Route 258) to the West. The site contains existing ponds which discharge to the existing Jones Creek. The average soils slope 2% to 6%. The site is within the Peanut Soil and Water Conservation District and has a hydrologic unit code of JL41 which represents the Pagan River-Jones Creek drainage areas.

Exhibit 1 – Location Map



II. THE PROJECT TEAM

The organizations that participated in the preparation of the information provided in this impact study are as follows:

- Developer - NVR, LLC
- Planning/Engineering - Jason Grimes, AES Consulting Engineers
- Legal - Tim Trant, Kaufman & Canoles
- Environmental - Bob Kerr, Wetlands Solutions
- Traffic - Kristen Tynch, VHB
- Fiscal - Julie Herlands, Tischler Bise

Key components of this Community Impact Study are:

- Planning Considerations, Project Description and Density Analysis
- Analysis of Impacts to Public Facilities and Services
- Environmental Inventory
- Traffic
- Fiscal Impact Study
- Visual Impact Study

III. PLANNING CONSIDERATIONS AND PROJECT DESCRIPTION

Planning Considerations

This parcel fronts on Benns Church Boulevard and contains 249.47 acres of wooded and cropland areas. Existing Zoning is currently Rural Agricultural Conservation (RAC). With this proposal, we are making a conditional request to rezone the property to Planned Development Mixed Use (PD-MX) zoning. According to the 2020 Comprehensive Plan this site is within the Newport Development Service District (DSD) and the Highway Corridor Overlay District. Additionally, the property falls within the Urban Development Area (UDA).

Project Description

The developer is proposing a development of the entire parcel of 249.47 acres. Under the conditional zoning, there will be a mixture of uses; from Commercial and Townhomes along Benns Church Boulevard to single family detached homes and Townhomes with multiple recreation areas and a large park area at the central core of the property. The development areas within the project will be built in a more urban nature in keeping with the proposed zoning; small lots, sidewalk lined grided streets, pocket parks, centrally located amenities and large perimeter open area will be provided.

Project Phasing

The developer is proposing to develop this project in phases over the course of the next 5 years and bring on to market a mix of unit types and price points of homes with the goal of bringing online 150 units a year. Amenities and offsite improvements will be brought online as the development size increases and as outlined in the project proffers. A phasing plan is provided showing a general anticipated phasing (Appendix E).

IV. ANALYSIS OF IMPACTS TO PUBLIC FACILITIES AND SERVICES

Public water and public sanitary sewer services (and other public services such as police, fire and life rescue) are presently provided to parcel within Benns Church Blvd.

A. Public Water Facilities

The subject property will be served with public drinking water by the existing water main along Benns Church Blvd as indicated on 2020 Comprehensive Plan (Water Service Areas). The general location of the water system and fire hydrants have been provided on the master plan.

Water consumption for the proposed project is estimated at 197,650 gallons per day. Peak Hour Water Demand for this project is estimated at 32,942.4 gallons per hour (approximately 549.04 gallons per minute). See Table 1 below for details of the projected water usage.

Table 1 – Projected Water Usage

Type of Development	No. of Units	Flow (GPD/Unit)	Average Flow (GPD)	Duration (hrs)	Avg Flow (GPM)	Peak Flow* (GPM)
Single-Family	390	310	120,900	24	83.96	335.84
Townhomes	225	310	69,750	24	48.44	193.76
Office/ Commercial	35,000	0.2	7,000	12	4.86	19.44
Total			197,650		137.26	549.04

*Peak Flow = 4 * Avg. Flow

B. Public Sewer Facilities

The subject property will be served with public sewer by the existing force main along Benns Church as indicated on 2020 Comprehensive Plan (Sewer Service Areas). A single centrally located sewage lift station is planned to service the community.

The estimated average daily flow generated from the proposed development is 197,650 gallons per day (GPD) with a peak flow rate of 345.57 gallons per minute (GPM). See Table 2 below for details of projected project wastewater flows.

Table 2 – Wastewater Flows

Type of Development	No. of Units	Flow (GPD/Unit)	Average Flow (GPD)	Duration (hrs)	Avg Flow (GPM)	Peak Flow* (GPM)
Single-Family	390	310	120,900	24	83.96	209.90
Townhomes	225	310	69,750	24	48.44	121.09
Office/ Commercial	35,000	0.2	7,000	12	4.86	14.58
Total			197,650		137.26	345.57

*Peak Flow = 2.5 * Avg. Flow (Residential)
*Peak Flow = 3 * Avg. Flow (Commercial)

C. Public Schools

The parcel is located within the Carrolton PK-3rd grade area, the Westside 4th -6 grades, Smithfield Middle School and the Smithfield high school zones. Projections indicate this development would be anticipated to generate 66 school age children (@ 0.23 students per unit of townhomes). For specific school capacity see the attached Fiscal Impact Analysis by Tischler Bise (See Attached Fiscal Impact Analysis report for additional information).

D. Fire Protection, Emergency Services and Law Enforcement

There are currently two Volunteer fire stations (VDF) located within Smithfield and Carrollton providing fire protection to the proposed development.

There also are two Volunteer Emergency Medical Services (EMS). The Isle of Wight Volunteer Rescue Squad services Smithfield as well as the Carrollton Volunteer Fire Department as backup for protection of the proposed development. Each station is placed within the County in such a way as to help achieve the response goal of 7.5 minutes or less.

Law Enforcement protection is provided by county's Sheriff Department along with the Virginia State Police.

E. Solid Waste

The proposed development on the subject property will generate solid wastes that will require collection and disposal to promote a safe and healthy environment. County approved, private contractors will handle the collection of the solid waste.

F. Utility Service Providers

Virginia Natural Gas, Dominion Energy, and Spectrum Communications provide, respectively, natural gas, electricity, cable TV service, and telephone service to this area. The current policy of these utility service providers is to extend service to the new development at no cost to the developer when positive revenue is identified; plus, with the new land development, these utility service providers are required to place all new utility service underground.

V. ANALYSIS OF ENVIRONMENTAL IMPACTS

A letter of findings dated November 30, 2017, Wetland, Water and CBPA Assessment by Kerr Environmental Services Corp. has been provided. Additionally, Wetlands Solutions has completed additional field observations to refine the limits of RPA resources, those have been incorporated into the master plan set and impacts to those environmental areas are noted in the Water Quality Impact Assessment included with the submitted zoning package. Impacts associated with roads and stormwater outfalls have been anticipated and noted in the environmental inventory sheet of the master plan.

VI. ANALYSIS OF STORMWATER MANAGEMENT (SWM) / BEST MANAGEMENT PRACTICES (BMP)

A conceptual stormwater management program, meeting the general criteria of the Commonwealth of Virginia and Isle of Wight County's stormwater requirements, was completed

as a component of the planning for the proposed Sweetgrass development. The goal of the stormwater management program is to meet and exceed local and state stormwater requirements.

In evaluating preliminary stormwater management solutions of the proposed development on the subject site, the site characteristics are considered. Preliminary site observations and mapping identify the following unique site characteristics to be considered in stormwater management planning:

- The property drains to an unnamed tributary of the Jones Creek watershed.
- The developable portion of the site is mostly active crop field, with limited forested land.
- All of the project area's existing drainage is surface runoff, ultimately converging to the existing farm pond and out to an unnamed tributary of Jones Creek, located in central and the North and the East of the project site.
- The project site largely consists of sloping of 2 to 6% slopes, with >10% slopes located within the RPA buffer. The site consists of mostly hydric soils.

A stormwater management plan is proposed as part of the master plan for this project to meet the general criteria of the Commonwealth of Virginia and Isle of Wight County stormwater requirements. Stormwater is to be managed by a series of best management practices and pipe drainage networks that ultimately discharge into downstream wetlands.

1. Stormwater ponds will be provided around the site as indicated on the master plan. These ponds may not be needed depending on final staff determination on the use of the existing farm ponds.
2. Low impact development measures such as bioretentions and dry swales (along with the possible purchasing of stormwater credits) will be used to meet the additional water quality requirements of the Virginia Runoff Reduction Method. Per compliance with the Virginia Runoff Reduction Method, all proposed site work will be managed by these stormwater measures to negate downstream wetlands impacts and pollution from entering into the Chesapeake Bay. Final design and placement will be determined by site specific geotechnical analysis when preparing the construction plans.
3. The existing wet ponds on the property have served as the primary means of water quality and quantity control for years. These existing ponds are located in the center of

the site and it is the design team's belief that these existing ponds are best suited to provide for stormwater control with the least potential adverse impact on the environment and to minimize long term HOA maintenance costs, however it is understood that this will have to be confirmed with County Staff bases upon CBPA regulations.

These conceptually planned facilities will be designed to detain and release the regulated design storm events for the on-site and the currently uncontrolled off-site drainage. Stormwater management will be accomplished in accordance with all current applicable standards including the Virginia Stormwater Management Handbook and the Virginia Erosion and Sediment Control Handbook. Our preliminary analysis of the Sweetgrass Development project indicates that the stormwater management plan proposed will improve the overall downstream water quality and will help to control the downstream erosion from uncontrolled runoff from the neighboring properties.

VII. ANALYSIS OF IMPACTS TO TRAFFIC

Based on a Traffic Impact Study was prepared by VHB dated March 14, 2019 and a memo update dated June 2021 outlining changes based on IofW and VDOT staff (along with adjustments to total units) has been provided with this submittal. The results show that the proposed site will still have modest impacts on the intersections within the study area. All intersections are expected to continue to operate at an acceptable LOS D or better. There are several offsite roadway improvements planned to address the proposed traffic as outlined in the traffic analysis and within the development proffers. See Attachment: "Yeoman's Tract Traffic Impact Analysis" as prepared by VHB dated March 14, 2019 and the summary memo dated June 25, 2021 for more details. for more details.

VIII. ANALYSIS OF FISCAL IMPACTS

A Fiscal Impact Analysis was prepared by Tischler Bise dated March 29, 2019. This analysis compares operating and capital costs to revenues generated over a 20-year period. The results of

the analysis show the project generates a $19.3 million net surplus over the 20-year projection period. See Attachments for detailed Fiscal Impact Analysis.

IX. ANALYSIS OF CULTURAL RESOURCES IMPACTS

An Archaeological Assessment to be prepared for Isle of Wight County has been included in the proffers for the development.

X. VISUAL IMPACTS

See Appendix F

XI. CONCLUSION

In summary, the Sweetgrass Development proposes 390 single family detached units, 225 townhomes, and approximately 35,000sf of commercial use under the new zoning, Planned Development Mixed Use (PD-MX). The development will provide a positive Fiscal Impact to the County and proposes traffic improvements to address the added traffic from the development.

- The development provides a significant tax benefit to the County.
- There is adequate capacity in the system of roads serving this project. Additional traffic improvements are proposed to offset any impacts and to address preexisting traffic. The improvements include extended turn lanes and traffic signal.
- The proposed stormwater management systems as proposed will protect downstream channels from erosion and the onsite low impact development measures will increase water infiltration and reduce uncontrolled runoff.
- Adequate public facilities (water, sewer and fire), and utility services (gas, electric cable TV, telephone), are available for the development.

PROFFERED CONDITIONS

August 18, 2023

Conditional Zoning Request ZA-6-19 (the "Application") has been filed by Henry Layden, as Special Trustee of The William G. Yeoman III Trust ("Owner"), the owner of certain real property located within the territorial confines of the County of Isle of Wight, Virginia (the "County") being a portion of that property located at 14096 Benns Church Blvd., Smithfield, VA 23430, Tax Parcel # 32-01-009 (the "Property") more particularly described on **Exhibit A** attached hereto and made part hereof. NVR, INC. ("NVR") is the contract purchaser of the Property. Yeoman and NVR (collectively, the "Owner") filed the Application requesting that the zoning of the Property be changed from RAC to C-PD-MX with proffers in order to permit the development of a mixed use planned development consisting of single-family dwellings, townhouses, and a commercial outparcel (the "Project").

The Owner and the County have carefully evaluated, among other things, a traffic impact analysis, community impact analysis, and fiscal impact analysis (copies of which are on file with the County's Community Development Department, hereinafter referred to as the "Department") and the on and off site impacts of the Project and have determined (i) the impacts specifically attributable to the Project (the "Impacts"), (ii) certain Impacts create a need (or identifiable portion of a need) for the expansion of existing capacity of public transportation facilities (the "Expansion of Existing Capacity"), (iii) the Project will receive a direct and material benefit from the Expansion of Existing Capacity and Proffer 6 below, and (iv) the provisions of the County's zoning ordinance ("Zoning Ordinance") are inadequate for addressing various of the Impacts and necessitate supplementation by these Proffers.

In furtherance of the Application, the Owner, for itself and its successors and/or assigns, hereby voluntarily proffers the conditions specifically set forth below, in addition to the regulations provided for by the Zoning Ordinance, which proffered conditions are determined by the Owner and, upon acceptance by the Board of Supervisors in connection with the approval of the Application, the County: (i) to be reasonable, (ii) to address impacts specifically attributable to the Project, (iii) to address the need (or identifiable portion of a need) for the Expansion of Existing Capacity, (iv) to directly and materially benefit the Project, (v) to have a reasonable relation to the proposed change in zoning, (vi) to be in conformity with County's adopted comprehensive plan, and (vii) to be in accordance with the provisions of Section 15.2-2296, et seq. of the Code of Virginia (1950), as amended (the "Virginia Code"), Sections 15.2-2303.2 through 15.2-2303.4 of the Virginia Code, and the County Zoning Ordinance. The following proffered conditions apply only to the Property.

1. Plan of Development. A conceptual development plan of the Project entitled "MASTER PLAN FOR SWEETGRASS", dated June 14, 2019, and last revised August 18, 2023, prepared by AES Consulting Engineers (the "Master Plan"), has been submitted to the County Planning Division for review by the County in connection with the Application. The Master Plan is on file with the Department. Development of the Property shall be in substantial conformance, as determined by the Community Development Director (the "Director") with the Master Plan.

2. Residential Units. There shall be no more than 615 residential dwellings (the "Residential Units") constructed on the Property, of which no more than 390 of the Residential Units shall be single-family (detached) dwellings, and no more than 225 of the Residential Units shall be townhouses.

3. Non-Residential Use Restrictions. The use of the portion of the Property designated as "COMMERCIAL SECTION 5 AC +/-" on the Mater Plan (the "Commercial Area") shall be limited to (a) inline retail and commercial uses (including accessory uses) comprising no more than 18,000 square feet of floor area, and (b) office uses (including accessory uses) comprising no more than 55,000 square feet of floor area. Notwithstanding the foregoing, the Owner shall not be permitted to develop an amount of non-residential floor area on the Commercial Area that would be projected to exceed 220 p.m. peak hour trips (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) until the Owner submits for review and approval by the County and the Virginia Department of Transportation ("VDOT") an updated traffic impact analysis including such proposed additional square footage and includes in its site plan for such additional commercial square footage any traffic improvements recommended by the updated traffic impact analysis and not already contained in these Proffers.

4. Design. The Residential Units and clubhouse on the Property shall be constructed by the Owner in substantial conformance with the architectural elevations entitled "Sweetgrass Elevations", dated June 15, 2023 (the "Elevations") and the design guidelines entitled "Residential Design Guidelines for Sweetgrass Development", dated June 16, 2023 (the "Residential Guidelines"), as determined by the Director. The development within the Commercial Area shall be constructed by the Owner in substantial conformance with the design guidelines entitled "Commercial Center Design Guidelines for Sweetgrass Development", dated August 18, 2023 (the "Commercial Guidelines"), as determined by the Director. A copy of the Elevations, the Residential Guidelines, and the Commercial Guidelines are on file in the Department. The Elevations, Residential Guidelines, and Commercial Guidelines may be modified from time to time provided that such modifications do not alter the basic concept or character of the Elevations, Residential Guidelines, and Commercial Guidelines and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

5. Age Restriction. All of the single-family (detached) dwellings Residential Units shall be occupied solely as "housing for older persons" as such term is defined in Virginia Code Section 36-96.7(A), provided no person under 19 years of age shall be housed or domiciled or shall reside in any Residential Unit. For purposes of the foregoing, a person shall be deemed to be housed, domiciled or to reside in a Residential Unit if he or she stays overnight for more than 75 days in any 90-day period or for more than 90 days in any 12-month period. Such restriction shall be set forth in the Declaration and enforced by the Association (as such terms are defined in Proffer 9 below). Unless otherwise approved by the Director, each age-restricted Residential Unit shall have a first-floor bedroom and full bath.

6. Traffic Improvements.

a. Prior to the issuance of the first certificate of occupancy for Residential Units on the Property (not including model homes), the construction, installation, and/or implementation of the following improvements shall be completed or guaranteed by the Owner in accordance with Virginia Code Section 15.2-2299 or such successor provision (a "Guarantee"):

i. Westbound right turn lane (200-foot storage plus 200-foot taper) into right in/right out proposed secondary Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

ii. Westbound right turn lane (200-foot storage plus 200-foot taper) into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

iii. Lengthen the existing eastbound left turn lane to provide 200-foot storage plus 200-foot taper into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

iv. Lengthen the existing westbound left turn lane on US 258/Rt 10 to provide 250-foot storage plus 100-foot taper at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive (the "Rt. 10/Turner Drive Turn Lane Improvement");

v. Replace the existing 3 section signal head serving the dedicated right turn lane on eastbound Turner Drive at US 258/Rt 10 (Benns Church Boulevard) with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 1"); and

vi. Install flashing yellow arrows for the eastbound and westbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Canterberry Lane, Cypress Run Drive, and Turner Drive.

b. At such time as deemed warranted by VDOT, but in no event prior to issuance of the 50th certificate of occupancy ("CO") for Residential Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first), the Owner shall replace the existing 3 section signal head serving the dedicated right turn lane on eastbound US 258/Rt 10 (Benns Church Boulevard) at Turner Drive with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 2"). In the event that the Rt. 10/Turner Drive Signal Improvement 2 is not warranted by VDOT prior to the issuance of the final CO for Residential Units on the Property, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of Rt. 10/Turner Drive Signal Improvement 2 (including design, construction, labor, and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(b).

c. Notwithstanding the preceding subsections a(iv), a(v), and b, if the County, prior to implementation of the Rt. 10/Turner Drive Turn Lane Improvement, Rt. 10/Turner Drive Signal Improvement 1, and/or the Rt. 10/Turner Drive Signal Improvement 2 (collectively, the "Rt. 10/Turner Drive Proffered Improvements") (i) approves or adopts plans for modification of the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive that conflict with or supersede one or more of the Rt. 10/Turner Drive Proffered Improvements, or (ii) accepts proffers from or imposes conditions upon another developer(s) for substantially the same obligations as one or more of the Rt. 10/Turner Drive Proffered Improvements (each of such affected Rt. 10 Turner Drive Proffered Improvements being an "Affected Improvement"), then the Owner shall contribute to the County an amount of cash equal to the then estimated cost to complete the Affected Improvement(s) (including design, construction, labor, and materials) as approved by the County multiplied by the Project's proportionate share (assuming the Project's full buildout) of the vehicle trips associated with such Affected Improvements (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) (the "Cash in Lieu Payment") no later than ninety (90) days after (1) the award of the construction contract for the construction of such conflicting, superseding, or substantially similar improvement(s), and (2) issuance a written request from the County to the Owner for such Cash in Lieu Payment; provided, however, under no circumstances shall the Cash in Lieu Payment be due prior to issuance of the 50th CO for Residential

Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first). The payment by the Owner to the County of such Cash in Lieu Payment shall be deemed satisfaction in full of the corresponding portion of the Rt. 10/Turner Drive Proffered Improvements.

d. At such time as deemed warranted by the VDOT, the Owner shall install a traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. Prior to the issuance of the 150th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal (including flashing yellow arrows for the eastbound and westbound left turn lanes and any planned pedestrian accommodations at the signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

i. In the event that such traffic signal is not warranted by VDOT in connection with the first traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 300th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

ii. In the event that such traffic signal is not warranted by VDOT in connection with the second traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 450th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

iii. In the event that such traffic signal is not warranted by VDOT in connection with the third traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 600th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main

entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of the final certificate of occupancy for the Residential Units on the Property.

iv. In the event that such traffic signal is not warranted by VDOT in connection with the fourth traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of the traffic signal (including design and construction labor and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(d).

7. Timing of Recreational Amenities. The clubhouse and pool described on the Master Plan shall be completed prior to issuance of the 150th CO for Residential Units constructed on the Property. If not sooner constructed, the pedestrian amenities shown on the Master Plan shall be constructed sequentially by phase when the corresponding phase of the development in when such amenities are shown is constructed.

8. Archaeology. A Phase I Archaeological Site Assessment for the Property shall be submitted to the Director for their review and approval prior to preliminary site plan or subdivision plan submittal. A treatment plan or Phase II Archaeological Site Assessment shall be submitted to, and approved by, the Director for all sites in the Phase I study that are recommended for a Phase II evaluation, and/or identified as being eligible for inclusion on the National Register of Historic Places. If a Phase II study is undertaken, such a study shall be approved by the Director and a treatment plan or Phase III Archaeological Site Assessment for said sites shall be submitted to, and approved by, the Director for sites that are determined to be eligible for inclusion on the National Register of Historic Places and/or those sites that require a Phase III study. If in the Phase II study, a site is determined eligible for nomination to the National Register of Historic Places and said site is to be preserved in place, the treatment plan shall include nomination of the site to the National Register of Historic Places. If a Phase III study is undertaken for said sites, such studies shall be approved by the Director prior to land disturbance within the study area. All Phase I, Phase II and Phase III studies shall meet the Virginia Department of Historic Resources' Guidelines for Preparing Archaeological Resource Management Reports and the Secretary of the Interior's Standard and Guidelines for Archaeological Documentation, as applicable, and shall be conducted under the supervision of a qualified archaeologist who meets the qualifications set forth in the Secretary of the Interior's Professional Qualification Standards. All approved treatment plans shall be incorporated into the plan of development for the site and shall be adhered to during the clearing, grading and construction activities thereon.

9. Property Owners Association. The Owner shall form one or more Property Owners' Associations and/or a Condominium Unit Owners Associations (each an "Association"), which may include separate or sub-associations for the age restricted and non-age restricted Residential Units, in accordance with Virginia law, with the preparation and execution of a Declaration of Covenants, Conditions and Restrictions or Declaration of Condominium, as applicable (a "Declaration") with the members thereof being the owners of the portions of the Property designated for residential use (the "Residential Property"). The Declaration shall provide for, among other things, the qualifying age restrictions in Proffer 5 above, design review by a design review board, and the conveyance from the Owner to an Association of all of the common areas, open spaces, green areas, recreation areas and facilities and the stormwater management

system associated with the Residential Property (collectively, the "Common Elements"). The Owner agrees that it shall retain sole responsibility for the maintenance of the Common Elements until such time as the same are conveyed to an Association, at which time the obligation shall be assigned to an Association. Each Residential Unit owner within the Residential Property shall be a voting member of an Association and be subject to assessments as set forth in the Declaration. The Declaration shall be subject to the approval of the County Attorney for consistency with this proffer and upon approval shall be duly recorded in the Clerk's Office for the Circuit Court of Isle of Wight County. The Declaration shall be recorded in connection with the recordation of the first subdivision (or condominium) plat for the Residential Units on the Property.

10. Successors and Assigns. These Proffers shall run with the title to the Property and shall be binding on the parties hereto and their respective successors and assigns; provided, however once a party ceases to own any portion of the Property, such party shall have no continuing liability hereunder.

11. Severability. In the event that (i) the County's approval of the Application and/or acceptance of these Proffers is appealed within 30 days after the date of the Board of Supervisors' action on same, and (ii) any clause, sentence, paragraph, subparagraph, section or subsection of these Proffers shall be judged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, then the change in zoning intended to be accomplished by the County's approval of the Application and acceptance of these Proffers shall be deemed void and the zoning of the Property shall automatically revert to that which existed immediately prior to the date of such approval.

12. Headings. All paragraph and subparagraph headings of the Proffers herein are for convenience only and are not part of these Proffers.

13. Conflicts. In the event that there is any conflict between these Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Director subject to the appeal process to the Board of Zoning Appeals and the Courts as otherwise provided by law.

14. Void if Application not Approved. In the event that the Application is not approved by the County or is overturned by subsequent judicial determination, these Proffers and the Master Plan shall be null and void.

[SIGNATURES LOCATED ON FOLLOWING PAGES]

[SIGNATURE PAGE TO PROFFERS]

WITNESS the following signatures, thereunto duly authorized:

NVR, INC.

By: _____

Print Name: Jesse Faisant

Title: Vice President

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Richmond, to wit:

The foregoing instrument was acknowledged before me this 8th day of September, 2023 by Jesse Faisant as VP of Operations of NVR, Inc.

Kimberly D. Hamrick
NOTARY PUBLIC

My commission expires: 8/31/2025
Registration No.: 7714267

Kimberly Denise Hamrick
Commonwealth of Virginia
Notary Public
Commission No. 7714267
My Commission Expires 8/31/2025

[SIGNATURE PAGE TO PROFFERS]

THE WILLIAM G. YEOMAN III TRUST :

Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Isle of Wight, to wit:

The foregoing instrument was acknowledged before me this 8th day of Sept, 2023 by Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended.

ELIZABETH D JONES STATE OF VIRGINIA NOTARY PUBLIC COMMISSION #7761629 EXPIRES DECEMBER 31 2027

Elizabeth D Jones
NOTARY PUBLIC

My commission expires: December 31, 2027
Registration No.: 7761629

ELIZABETH D JONES STATE OF VIRGINIA NOTARY PUBLIC COMMISSION #7761629 EXPIRES DECEMBER 31 2027

EXHIBIT A

All that certain tract, piece or parcel of land containing approximately 249.47 acres, situate, lying and being near Benns Church, in Newport Magisterial District, Isle of Wight County, Virginia; lying on the East side of State Highway No. 10, and bounded by said Highway, the lands now or formerly of Daisy M. Bunkley, Phillip F. Edwards, Jones' Creek, the lands now or formerly owned by George Yeoman, Christie Jordan, C.E. Johnson, J.F. Minton and others and being a portion of the same land of which E.K. Batten and Maggie E. Batten, his wife, died seized and possessed.

RESIDENTIAL

DESIGN GUIDELINES

FOR

SWEETGRASS DEVELOPMENT

DATED _____

BUILDING design guidelines seek to create a distinct yet coherent architecture that will foster a unique identity for Sweetgrass and form the backdrop to a rich street level experience. These guidelines will significantly help distinguish the community, help define its character and eventually raise its value in the marketplace. The following set of principles will be applied to each of the buildings, irrespective of its use or location.

1. Build in the tradition of simple yet elegant designs. Building architecture and elevations promote a more contemporary nature through use of simple unifying roof and window lines and careful selection of materials. The building aesthetic should emerge from elevation components and building details rather than from mere ornamentation.

2. Variety- Single family homes immediately adjacent to or across from one another shall have distinct and different elevations. No identical color schemes for single family detached houses shall be repeated within three consecutive lots.

3. Use traditional, high quality and durable materials throughout the community. When walls are constructed of more than one material, changes in material shall be permitted along a horizontal or vertical line and should reinforce a base, middle and top for the building. Building walls shall be of one or more of the following materials:

- Brick- A variety of traditional brick colors and modules and bonding variations are encouraged
- Stone- Natural stone and stone veneer are permitted and shall be laid predominantly rectilinear stones in a horizontal pattern. Cast stone shall be permitted as sills, headers and accents.
- Siding- Cement or fiber board siding or high-quality vinyl or its equivalent is the prescribed siding material where brick or stone is not utilized. Aluminum siding is not permitted. A variance in color and texture is encouraged.

4. Emphasize main entries of each home regardless of elevation. The main entrance to each home should be easily identifiable from the main travel ways through use of materials and forms.

Single Family Detached Lots Guidelines

"The architecture shown herein is a representation of builders' architecture that may be built in Sweetgrass, but does not represent the full sampling of architecture or builders that may be provided within the community."

In a development like Sweetgrass it is important to capture a broad buyer group including new buyers, upgrade buyers, move-down buyers, etc. Sweetgrass is offering 3 different minimum lot sizes within the community. The minimum lot size of a single family detached lot is 50' wide (measured at the front BSL) x 100'deep.

Minimum Building Setback Line (BSL)

20' front
15' rear
5' side

Architecture Treatments and Materials

Single Family Detached Highly Visible Lots (HV)

Lots on prominent corners will be designated as High Vis or "HV" lots. These prominent corners will be defined as those fronting on multiple public rights of way, or those that directly border any of the defined recreation areas. These lots will be required to have upgraded architectural features on the visible facades.

HV Features required:

- Masonry water table
- Storm shutters or Trimmed windows
- Gable vent or other similar trim

High Visibility "HV" lots must have landscaping placed along the side foundation that faces the street. The corner lot side setback will be 10 from public right of way'.

Elevations and Materials

Creating a unique and diverse streetscape throughout Sweetgrass is a high priority; to continue pursuing this there will be limitations placed on the frequency and location of elevations that can be used on adjacent lots. The following guidelines shall be followed:

- Builder elevations will be reviewed and approved by the developer prior to construction to ensure a cohesive theme throughout the community.
- Lots next to or across the street from each other cannot be the same elevation/model.
- Accent materials shall be varied to create more differentiation between lots.

Traditional, high-quality and durable building materials shall be used throughout the community. Building materials shall meet all current Local, State, and Federal building codes and regulations. Materials include:

- Brick; includes painted brick
- Natural stone
- Stone veneer
- High quality vinyl siding
- Cement or fiber board siding

Fencing, Landscaping, HVAC Equipment, and Height Restrictions

Fences

Fences will be permitted within the Sweetgrass community but must follow the guidelines below and in accordance with County Code:

- Fence material shall be vinyl.
- Vinyl fencing must be white and non-glossy; including vinyl covered picket fencing.
- Maximum fence height shall be six (6) feet.
- No front yard fencing shall be allowed.
- Fencing shall not be used to satisfy upgraded architectural requirements.

Landscaping

Lot landscaping and screening can add a lot of value and create and aesthetically pleasing streetscape throughout the community. The follow guidelines shall be considered:

- Foundation plantings must be included on every house prior to occupancy.
- Corner lots or high vis lots shall have landscape buffers to screen sides of houses from the street.
- Lots that back to other lots shall include landscaping at the rear of the property to create a visual screen between adjacent lots. Buffer shall be located outside drainage or utility easements.

Utility Equipment

- HV lots shall ensure the HVAC equipment is screened from view of the street with a fence or other opaque screen.
- No equipment shall be placed on the side of the house that abuts two public streets.

Height

- No single family detached dwellings median roof height will be taller than 45 feet in height.

Single Family Attached (SFA) Lots Guidelines

"The architecture shown herein is a representation of builders' architecture that may be built in Sweetgrass but does not represent the full sampling of architecture or builders that may be provided within the community."

In a development like Sweetgrass, it is important to capture a broad buyer group including new buyers, upgrade buyers, move-down buyers, etc. Sweetgrass is offering 2 single-family attached Products.

Minimum Lot Size:	Maximum Stories:
Interior Lot: 1400 square feet	3 levels
Exterior Lot: 1800 square feet	

Setbacks

SFA Fee Simple:

Rear Loading Town Home Building Restriction Line (BSL)

Front yard:	5 feet minimum (front door to front property line).
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)

Front Loading Town Home Building Restriction Line (BSL)

Front yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	10 feet minimum (From rear of unit to property line)

SFA Condominium Ownership:

Rear Loading Town Home Building Restriction Line (BSL)

Front yard:	5 feet minimum; 20' minimum building separation between buildings
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)

Front Loading Town Home Building Restriction Line (BSL)

Front yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	10 feet minimum; 20' minimum building separation between buildings

Setback guidelines:

- Every other lot shall be staggered by two (2) feet for each lot located
- The two (2) alternate setback lots must be separated by a Typical front yard setback lot.
- Front porches will be allowed to encroach over the front yard BSL by 3'.

Architecture Treatments and Materials

Single Family Attached (SFA) Highly Visible Lots (HV)

Lots on prominent corners will be designated as High Vis or “HV” lots. These prominent corners will be defined as those fronting on multiple public rights of way, the subdivision entrance road or those that directly border any of the defined recreation areas. These lots will be required to have upgraded architectural features on the visible facades. Features to be included on these lots are outlined below:

Single Family Attached High Vis 1 Lots (HV1)

Features required:

- Masonry water table
- Storm shutters
- Trimmed windows
- Gable vent
- Gable trim
- Siding located in reverse gable shall be architecturally different from main portion of the house. Options include:
    - Tighter spaced siding
    - Shake siding
    - Vertical siding

Elevations and Materials

Creating a unique and diverse streetscape throughout Sweetgrass is a high priority; to continue pursuing this there will be limitations placed on the frequency and location of elevations that can be used on adjacent lots. The following guidelines shall be followed:

- Builder elevations will be reviewed and approved by the developer prior to construction to ensure a cohesive theme throughout the community.
- Accent materials shall be varied to create more differentiation between elevations.

Traditional, high-quality and durable building materials shall be used throughout the community. Building materials shall meet all current Local, State, and Federal building codes and regulations.

- Materials include:
    - Brick; includes painted brick
    - Natural stone
    - Stone veneer
    - High quality vinyl siding
    - Cement or fiber board siding

Fencing, Landscaping and HVAC Equipment

Fences

Fences will be permitted within the Sweetgrass community but must follow the guidelines below and be in accordance with County Code.

- Fence material shall be vinyl.
- Vinyl fencing must be white and non-glossy
- Maximum fence height shall be six (6) feet.
- For end units side yard fencing shall not extend beyond the middle point of the house.
- Corner lot fencing layout shall be reviewed on a case by case basis, and must meet the minimum County ordinance requirements, to determine the appropriate fence location
- No front yard fencing shall be allowed.
- Fencing shall not be used to satisfy upgraded architectural requirements.

Landscaping

Lot landscaping and screening can add a lot of value and create and aesthetically pleasing streetscape through-out the community. The follow guidelines shall be considered:

- Foundation plantings must be included on every house once constructed.
- Lots with walk-out basements or exposed foundations shall include landscaping to break up large architecture planes.
    - Columnar or taller evergreens shall be used to “soften” the architecture.
- Corner lots or high vis lots shall have landscape buffers to screen rear or sides of houses from the street.
- Lots that back to other lots shall include landscaping at the rear of the property to create a visual screen between adjacent lots. Buffers shall be located outside of drainage and utility easements.

HVAC Equipment

- HVAC units shall be placed in the rear yard.
- High Vis 1 lots shall ensure the HVAC equipment is screened from view of the street with a fence or other opaque screen.
- No equipment shall be placed on the side of end units.

Height Restrictions

- No single family attached dwellings median roof height will be taller than 48 feet in height.

COMMERCIAL CENTER

DESIGN GUIDELINES

FOR

SWEETGRASS DEVELOPMENT

DATED JUNE 16, 2023

COMMERCIAL CENTER STANDARDS (Sweetgrass)

1. Introduction

The commercial center within Sweetgrass is located along the frontage of Route 10 on the Town limits of Smithfield. This commercial center establishes the first image and impression of the Sweetgrass Community and the Town of Smithfield to those who pass by or visit from other areas in the region. Architectural character, landscape requirements, parking and service areas, pedestrian interaction, vehicular movement, signage and lighting are all major factors which should be considered in the design of any commercial center.

2. Building Placement & Massing

2.1. Building Orientation

The orientation and massing of a group of buildings or single building within the commercial center should create a positive spatial ensemble rather than occur as free standing random elements. Buildings should be located so that they form an ordered relationship with one another, ideally through the creation of public open space.

2.2. Building Shape and Footprint

Buildings should be predominantly rectangular in shape or composed of simple rectangular pieces.

Where building footprints are larger than 10,000 sf the buildings should be broken up with alternating materials or architectural elements that give the appearance of multiple buildings. Additionally building depths may not be greater than 100' without being divided into what appears to be multiple buildings.

2.3. Building Height

An appropriate building height is desirable to establish a scale to the mixed-use Community and will not exceed the maximum or minimum heights as set forth in the County PDMX ordinance.

2.4. Building Setback Lines/Frontage Zone

- Benn's Church Boulevard BSL: 70' from Right of Way
- Main Entrance Road BSL: 25' from Right of Way
- All other BSL: 50' from Property Line.

3. Visual Character

3.1. Edge Definition and Screening

1. General Provisions

Walls, fences and planting are to be employed to improve the visual environment as well as to reinforce a streetwall condition. These elements are not intended to block views of the fronts of the buildings but to serve two functions: to define street edges and parking areas and to conceal undesirable views into service areas.

Parking lots and landscaped areas of the site should be defined with a continuous hedge, low walls or fences, combined with planting where appropriate, along the property line or established setback line. The walls and fences should be architecturally consistent with the adjacent buildings and should be limited to 60" in height. The canopy of trees planted within the parking areas or other positive features should dominate the view over such walls and fences to soften the effect of parking area along street rights-of-way.

Loading, service and trash areas, as well as mechanical equipment, are to be screened with high walls or fences, a minimum of 5' in height, combined with planting where appropriate, and consistent in character with the buildings or may be screened by the buildings themselves. Walls or fences should have a minimum opacity of 75%.

2. Mechanical Equipment

All roof mounted mechanical equipment, including ductwork, is to be screened from all public view and access.

3.2. Plantings

Planting is encouraged in all setback areas and throughout the parking areas. Within large areas of parking, planting should be designed to break down large parking lots into smaller parking areas. The preservation of existing mature trees within planting and parking areas is encouraged.

3.3. Scale and Articulation

Buildings in the commercial center should not appear monolithic, but should appear consistent with a village character. The use of articulation should be employed to help reduce the overall size of large buildings. Articulation may be expressed through two devices: building massing and architectural elements. Buildings with large profiles may be designed to appear smaller if the overall massing is articulated as a collection of component masses. The use of architectural elements such as bays, balconies, porches, loggias and arcades can add interest to building facades and aid in relating the scale of any building to human dimensions. Roofs may be articulated through the use of dormers, lanterns, monitors, windows watches and other roof-top elements. Each of these devices adds character and interest to the buildings of the town which, in turn, reinforces the village character intended by these guidelines.

The building height limitations will be determined by the applicable County ordinance and should utilize simple geometric shapes in plan and elevation, subject to required treatment of 1 story buildings set forth in Chapter 3, Section 3.3 above. The overall massing of any building should be a collection of small and medium simple volumes. Buildings are encouraged to have pitched roofs, especially if they contain residential uses, with attic

stories and dormers. Wings and additions should be simple rectangles in plan and oriented parallel or perpendicular to the main body of the building or toward a street frontage.

3.4. Site Lighting

All site lighting should prevent light from shining directly up and should be full cut-off fixtures with the light source fully shielded, except for low wattage and fossil fuel sources, temporary emergency lighting, seasonal lighting, sports field lighting and other special situations. Pedestrian luminaries that permit the limited and controlled visibility of indirect light from the source as an aid to way finding and spatial definition are permitted.

Acceptable light sources include incandescent, fluorescent and metal halide lamps, and should produce a color temperature close to daylight. Mercury vapor sources are not permitted.

The maximum height for on-site fixture poles is 20'.

3.5. Architectural Expression

1. Walls

- Recommended Materials

  - Building walls: brick, with limited use of stucco or synthetic stucco, wood or fiber cement shingle, wood or fiber cement clapboard, board and batten
  - Exposed Foundation Walls: Brick or brick facing, or stucco finished poured concrete block or cast-in-place concrete.

2. Building Elements

- Recommended Materials

  - Chimneys: brick, stucco or synthetic stucco.
  - Arcades and colonnades: brick, stucco, synthetic stucco, wood, or high grade synthetic wood alternative.
  - Porches, columns: painted wood, painted metal
  - Posts, spindles, balusters: painted wood, painted metal- Stoops, exterior stairs: brick, concrete
- Decks: wood
- Signs: wood, painted metal
- Awning and canopies: canvas-covered metal structure, designed to be compatible in configuration and color with the architecture of the buildings.

4. <u>Roofs</u>

- Recommended Materials

- Roofs: Wood shingles, metal standing seam, copper, lead-coated copper, slate, synthetic slate, 40-year architectural asphalt shingle
-Gutters and downspouts: painted metal, copper
-Flashing: copper, lead coated copper, anodized aluminum

- Configurational Standards

  Buildings should have a varied character of traditionally shaped roofs.

  Items to be considered are:

  - Principal Roofs: Gabled, hipped, hipped gables, gabled hips or gambrel in a symmetrical fashion with a slope of 4:12 to 8:12; Buildings with roof areas greater than 12,000 sf may have portions which are flat if concealed from view by sloped roofs of the character described above.
  - Secondary Roofs: Shed with minimum slope of 3:12.
  - Flat Roofs: Flat roofs are to have parapets or railings.
  - Parapets: Horizontal or gabled in elevation
  - Dormers: Pitched or eyebrow
  - Special roof-top elements: Symmetrically situated or aligned with the rhythm of structural bays and fenestration.
  - Roof-top mechanical enclosures: Concealed from view by sloped roofs of the character described above.

5. Openings

- Recommended Materials

  - Windows: wood, painted metal
  - Bay windows: wood, painted metal, with metal tops
  - Doors: painted wood, painted metal
  - Storefronts: painted wood, painted metal
  - Shutters: wood
  - Security doors and grilles: metal

The following photographs are not intended to represent actual users or layouts but merely illustrate the quality of materials and design that is intended to be required by these guidelines.





MASTER PLAN

FOR

SWEETGRASS

WINDSOR DISTRICT

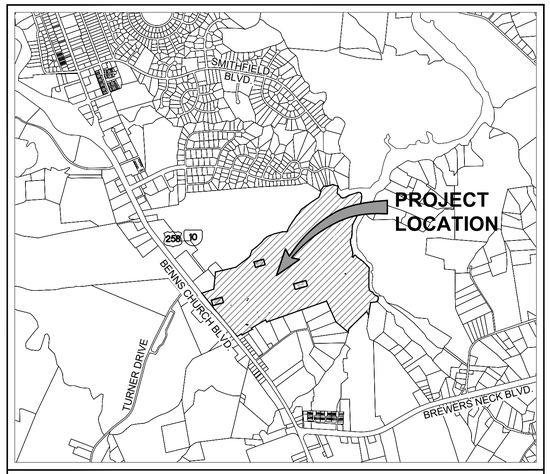
ISLE OF WIGHT, VIRGINIA

APPLICANT INFORMATION:

NVR, INC.
CONTACT: MR. ERIC SHIREY
860 GREENBRIER CIRCLE
CHESAPEAKE, VIRGINIA 23320
PHONE NO.: (757) 603-0802

SITE DATA:

PARCEL ID:	32-01-009
PROPERTY OWNER:	WILLIAM G. YEOMAN III TRUSTEE
PROPERTY ADDRESS:	14096 BENNS CHURCH BOULEVARD
CURRENT ZONING:	RAC, RURAL AGRICULTURAL CONSERVATION DISTRICT
PROPOSED ZONING:	C-PD-MX, CONDITIONAL PLANNED DEVELOPMENT MIXED USE DISTRICT
PROPERTY ACREAGE:	250 AC. ±
OVERLAY DISTRICTS:	NEWPORT DEVELOPMENT SERVICE OVERLAY DISTRICT (DSD) & CHESAPEAKE BAY PRESERVATION AREA OVERLAY DISTRICT



VICINITY MAP
(Approximate Scale: 1"=2,000')

INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	MASTER PLAN
3	ENVIRONMENTAL INVENTORY

County Project No.: ZA-06-19
Original Submittal Date: JUNE 14, 2019

Rev.	Date	Description	Revised By
5	8/18/23	REVISED PER COUNTY COMMENTS	JAG
4	2/15/23	REVISED PER COUNTY COMMENTS	JAG
3	7/22/22	REVISED PER COUNTY COMMENTS	JAG
2	6/01/21	REVISED PER COUNTY COMMENTS	JAG
1		REVISED PER COUNTY COMMENTS	JAG

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AES CONSULTING ENGINEERS
Middle Peninsula | Central Virginia | Hampton Roads

REZONING MASTER PLAN
FOR
SWEETGRASS
ISLE OF WIGHT COUNTY WINDSOR DISTRICT VIRGINIA

Project Contacts:	JAG
Project Number:	W10516-00
Scale: AS NOTED	Date: 6/14/19
Sheet Title:	COVER SHEET
Sheet Number	1 OF 3

DENSITY CALCULATIONS

	SF	AC	%
TOTAL SITE AREA	10,866,832	249.47	100%
COMMERCIAL SECTION:	SF	AC	%
TOTAL AREA	236,520	5.43	2%
SLOPES 15%-30%	3,110	0.07	
SLOPES GREATER THAN 30%	-	-	
100' RPA, TIDAL WETLANDS, 100 YEAR FLOOD PLAIN	21,585	0.50	
AREA OF ROUTE 10 BUFFER	50,863	1.17	
NON-DEVELOPABLE AREA	75,558	1.73	
AREA FOR DENSITY CALCULATION	160,962	3.70	
MINIMUM REQUIRED DENSITY	64,385		
PROPOSED DENSITY	73,000 SF		
TOWNHOME SECTION:	SF	AC	%
TOTAL AREA	3,429,642	78.73	32%
SLOPES 15%-30%	2,517	0.06	
SLOPES GREATER THAN 30%	6,742	0.15	
NON-TIDAL WETLANDS	31,513	0.72	
100' RPA, TIDAL WETLANDS, 100 YEAR FLOOD PLAIN	1,791,639	41.13	
NET DEVELOPABLE AREA	1,614,246	37.06	
AREA FOR DENSITY CALCULATION (less 20% RW)	1,291,397	29.65	
PROPOSED OPEN SPACE	2,180,625 SF		64%
MINIMUM REQUIRED DENSITY	178 UNITS		
PROPOSED DENSITY	225 UNITS		
SINGLE FAMILY SECTION:	SF	AC	%
TOTAL AREA	7,135,818	163.82	66%
SLOPES 15%-30%	23,748	0.55	
SLOPES GREATER THAN 30%	-	-	
100' RPA, TIDAL WETLANDS, 100 YEAR FLOOD PLAIN	2,949,782	67.72	
NET DEVELOPABLE AREA	4,174,162	95.83	
AREA FOR DENSITY CALCULATION (less 20% RW)	3,339,330	76.66	
PROPOSED OPEN SPACE	4,307,625 SF		60%
MINIMUM REQUIRED DENSITY	307 UNITS		
PROPOSED DENSITY	390 UNITS		
OVERALL MAXIMUM RESIDENTIAL UNITS (PER PROFFERS)	615 UNITS		

N/F
THOMAS BARBARA F
910 CANTEBERRY LN
PARCEL ID: 22J-02-150
ZONING: SMITHFIELD: N-R

N/F
EVANS ANTHONY
906 CANTEBERRY LN
PARCEL ID: 22J-02-152
ZONING: SMITHFIELD: N-R

N/F
DIPPO LAWRENCE A & ELIZABETH A
TRS L A & E A DIPPO LIVING TRUST
908 CANTEBERRY LN
PARCEL ID: 22J-02-151
ZONING: SMITHFIELD: N-R

N/F
BERLAND EDNA R
916 CANTEBERRY LN
PARCEL ID: 22J-02-147
ZONING: SMITHFIELD: N-R

N/F
HENDRIX THOMAS
912 CANTEBERRY LN
PARCEL ID: 22J-02-149
ZONING: SMITHFIELD: N-R

N/F
FORSYTHE TIMOTHY A & DEBRA K
TRS T A & D K FORSYTHE FAMILY REV TRUST
914 CANTEBERRY LN
PARCEL ID: 22J-02-148
ZONING: SMITHFIELD: N-R

N/F
EDWARDS PHILLIP F JR & CONNIE A
BENNS CHURCH BLVD
PARCEL ID: 32-01-096
ZONING: SMITHFIELD: C-C

N/F
CROWN CASTLE GT COMPANY LLC
14005 BENNS CHURCH BLVD
PARCEL ID: 32-01-096B
ZONING: RAC

N/F
WILSON ANGELA B & WILSON JAMES G JR
TRS A B WILCON REVOC LIVING TRUST
14041 BENNS CHURCH BLVD
PARCEL ID: 32-01-095
ZONING: LI

N/F
YEOMAN WILLIAM G III
WILLIAM G YEOMAN III TRUST
BENNS CHURCH BLVD
PARCEL ID: 32-01-007
ZONING: RAC

N/F
ISLE OF WIGHT COUNTY SCHOOL BOARD
14171 SMITHFIELD CIR, SMITHFIELD
PARCEL ID: 32-01-010A
ZONING: RAC

N/F
CORNETT GEORGE C
14106 BENNS CHURCH BLVD
PARCEL ID: 32-01-008
ZONING: RAC

N/F
WILLIAM G. YEOMAN, TRUSTEE
14096 BENNS CURCH BOULEVARD
PARCEL ID:32-01-009
ZONING: RAC

N/F
EDWARDS RYLAND B JR &
MARY ANN D &
EDWARDS RYLAND B & ETALS
14202 BENNS CHURCH BLVD
PARCEL ID: 32-01-062
ZONING: RAC

N/F
GIRARD PATRICIA A
14221 BENNS CHURCH BOULEVARD
PARCEL ID:32A-02-012
ZONING: RAC

N/F
TOTTEN CHARLES D
BEECHWOOD LN
PARCEL ID:32-01-094,094C,094D
ZONING: RAC

N/F
BELL LINWOOD E & BARBARA G
19341 BEECHWOOD LN
PARCEL ID:31-01-094B

N/F
WALLACE JIMMY J & MYRTLE T
14108 HAYLOFT LN
PARCEL ID:32-01-094A
ZONING: RAC

N/F
WALLACE JIMMY J & MYRTLE T
14111 HAYLOFT LN
PARCEL ID:32B-01-005
ZONING: RAC

N/F
CARNEY PAMELA D
14125 HAYLOFT LN
PARCEL ID:32B-01-006
ZONING: RAC

N/F
CARNEY PAMELA D
14125 HAYLOFT LN
PARCEL ID:32B-01-006
ZONING: RAC

N/F
BOWDEN RONALD
BREWERS NECK BLVD
PARCEL ID: 33-01-005
ZONING: RAC

N/F
GRAY ROBERTA
C/O GARY LAWRENCE N
CHAPMANS LN
PARCEL ID:33-03-006
ZONING: RAC

N/F
ST LUKES VILLAGES LLC
C/O MCCALE DEV COR
20081 BREWERS NECK BLVD
PARCEL ID: 33-01-012E
ZONING: PD-MX

TOWNHOME PARCEL

EXISTING TREELINE (TYP.)

RECREATION AREA 1

RECREATION AREA 2

RECREATION AREA 3

RECREATION AREA 4

APPROX. LIMITS OF EXISTING TREELINE

PRIVATE CONDOMINIUM ROAD AND PARKING

TOWNHOME SECTION 80 AC.±

"COMMERCIAL" SECTION 5 AC.±

SINGLE FAMILY SECTION 164 AC.±

OPEN AREA

OPEN SPACE

PEDESTRIAN ACCESS

BMP C1

BMP D

BMP A

POTENTIAL BMP C2 LOCATION

POTENTIAL BMP B LOCATION

DOG PARK

CENTRAL PARK

END OF PUBLIC ROAD

PARKING FOR PARK

LIMITS OF 100' RPA

LIMITS OF ZONE AE FLOOD PLAIN ELEV = 8

70' BUILDING SETBACK

MULTI-USE PATHWAY

RESTRICTED ACCESS (RIGHT IN/OUT ONLY)

PUBLIC RIGHT OF WAY EXTENDED TO BOUNDARY

POTENTIAL PUBLIC RIGHT OF WAY EXTENDED TO BOUNDARY. FINAL LOCATION TO BE CONFIRMED WITH DEVELOPMENT PLANS.

BEECHWOOD LANE

BENNS CHURCH BLVD (VARIABLE WIDTH PUBLIC R/W)

1220.51'

686'

60' PUBLIC R/W

53' PUBLIC R/W

S PUBLIC RW

LEGEND

- 100 FOOT RPA BUFFER TO PROPERTY LINE
- 100'RPA — 100 FOOT RPA BUFFER
- WETLANDS
- EX. TREELINE
- FLOOD PLANE ZONE AE
- MULTI-USE PATH
- PARK/RECREATION AREA
- WATER / POND
- CONDO TOWNHOME UNITS
- LOTS LINES

* NOTE: WETLANDS AND RPA BUFFERS ARE SHOWN BASED UPON DATA PROVIDED BY WSSI AND ARE NOT FIELD SURVEYED.

PARK/ RECREATION

RECREATION AREAS 1-4 =	4.7 AC. ±
DOG PARK =	1.5 AC. ±
CENTRAL PARK =	3.67 AC. ±

* RECREATION TO INCLUDE: CLUBHOUSE, POOL, PAVED AND UNPAVED TRAILS, PLAY FIELDS, MINIMUM OF 2 GAZEBOS, BENCHES, FIRE PIT AND OTHER AMENITIES

GRAPHIC SCALE
200' 0' 200' 400'
SCALE: 1" = 200'

Rev.	Date	Description	Revised By
5	8/18/23	REVISED PER COUNTY COMMENTS	JAG
4	2/15/23	REVISED PER COUNTY COMMENTS	JAG
3	7/22/22	REVISED PER COUNTY COMMENTS	JAG
2	6/01/21	REVISED PER COUNTY COMMENTS	JAG
1	11/1/2019	**REVISED PER COUNTY COMMENTS**	**JAG**

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REZONING MASTER PLAN
FOR
SWEETGRASS
ISLE OF WIGHT COUNTY | WINDSOR DISTRICT | VIRGINIA

Project Contacts:	JAG
Project Number:	W10516-00
Scale: 1"=200'	Date: 06/14/2019

Sheet Title:
CONCEPTUAL MASTER PLAN

Sheet Number
2 OF 3

SOIL CHARACTERISTICS

SOIL#	SOIL NAME	HYDROLOGIC SOIL GROUP	TYPICAL SLOPES	EROSION FACTOR (K)	EROSION FACTOR (T)
2	BOHICKET SILTY CLAY LOAM	D	0–1%	0.32	5
3	Chickahominy silt loam	D	0–2%	0.55	5
7	Kinston loam	B/D	0–4%	0.32	5
11E	Nevarc and Remlik soils	A	15–35%	0.55	5
12A	Peawick silt loam	D	0–2%	0.55	5
12B	Peawick silt loam	D	2–6%	0.55	5
16	Rumford loamy sand	A	0–4%	0.10	5
18B	Slagle fine sandy loam	C	2–6%	0.24	5

INFORMATION TAKEN FROM "SOIL SURVEY OF TIDEWATER CITIES AREA, VIRGINIA" ISSUED IN 2009 BY THE UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE IN COOPERATION WITH VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY.

SOIL SUSCEPTIBILITY TO EROSION CLASSIFICATION (K)
0.23 AND LOWER – LOW ERODIBILITY
0.23 – 0.36 – MODERATE ERODIBILITY
0.36 AND UP – HIGH ERODIBILITY

THE MAP SHOWN IS A "BEST FIT MODEL" OF THE SCS MAPS WITH EXISTING BASE INFORMATION.

LEGEND

- SLOPES 15% TO 30%
- SLOPES 30% OR GREATER
- EXISTING WATER
- RPA BUFFER IMPACTS** ± 69,501 S.F.; ± 1.60 AC.
- WETLAND IMPACTS** ± 16,653 S.F. ; ± 0.38 AC.

** NOTE: THE PURPOSE OF THIS MAP IS TO SHOW REPRESENTATIVE IMPACTS BASED ON THE PROPOSED MASTER PLAN. THE APPROVAL OF THIS MASTER PLAN DOES NOT INTEND TO APPROVE THESE IMPACTS. ADDITIONAL PERMITS AND WAIVERS SHALL BE SOUGHT THROUGH THE PROPER REVIEWING AGENCIES.

ENVIRONMENTAL INVENTORY IMPACTS

TIDAL WETLANDS:	NONE IMPACTED
TIDAL SHORES:	NONE IMPACTED
NON-TIDAL WETLANDS IN RPA:	2,670 S.F./0.06 AC.
NON-TIDAL WETLANDS NOT IN RPA:	13,983 S.F./0.32 AC.
100 FT RPA BUFFER:	89,832 S.F./2.07 AC.
NON-TIDAL WETLANDS IN RMA:	NONE IMPACTED
HYDRIC SOILS:	NONE IMPACTED

* SEE WQIA SUBMITTED WITH REZONING APPLICATION FOR DETAILS.

LEGEND

SOILS BOUNDARY

19B SOILS TYPE

GRAPHIC SCALE
200' 0' 200' 400'
SCALE: 1" = 200'

THIS PROPERTY IS IN FLOOD ZONE "X" AND AE (EL 8) AS SHOWN ON MAP NUMBER 51093C0154E, PANEL 0154E AND 51093C0153E, PANEL 0153E FOR COMMUNITY NUMBERS 510303 & 510081, DATED 12/2/2015 OF THE FLOOD INSURANCE RATE MAPS FOR ISLE OF WIGHT COUNTY, VIRGINIA. ZONE "X" IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN. ZONE "AE" IS DEFINED AS SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD.

N/F THOMAS BARBARA F 910 CANTEBERRY LN PARCEL ID: 22J-02-150 ZONING: SMITHFIELD: N-R

N/F HENDRIX THOMAS 912 CANTEBERRY LN PARCEL ID: 22J-02-149 ZONING: SMITHFIELD: N-R

N/F EVANS ANTHONY 906 CANTEBERRY LN PARCEL ID: 22J-02-152 ZONING: SMITHFIELD: N-R

N/F BERLAND EDNA R 916 CANTEBERRY LN PARCEL ID: 22J-02-147 ZONING: SMITHFIELD: N-R

N/F DIPPO LAWRENCE K & ELIZABETH TRS L / A & E A DIPPO LIVING TRUST 908 CANTEBERRY LN PARCEL ID: 22J-02-151 ZONING: SMITHFIELD: N-R

N/F FORSYTHE TIMOTHY A & DEBRA K TRS T A & D K FORSYTHE FAMILY REV TRUST 914 CANTEBERRY LN PARCEL ID: 22J-02-148 ZONING: SMITHFIELD: N-R

RPA BUFFER IMPACT #7 6,734 S.F.±; 0.15 AC.±

TOWNHOME PARCEL

EXISTING TREELINE (TYP.)

N/F EDWARDS PHILLIP F JR & CONNIE A BENNS CHURCH BLVD PARCEL ID: 32-01-096 ZONING: SMITHFIELD: C-C

RECREATION AREA 1

RECREATION AREA 4

OPEN SPACE

BMP C1

APPROX. LIMITS OF EXISTING TREELINE

N/F CROWN CASTLE GT COMPANY LLC 14105 BENNS CHURCH BLVD PARCEL ID: 32-01-096B ZONING: RAC

PRIVATE CONDOMINIUM ROAD AND PARKING

TOWNHOME SECTION 80 AC.±

OPEN AREA

PEDESTRIAN ACCESS

WETLANDS IMPACT #1 1,540 S.F.±; 0.04 AC.±

55' PUBLIC R/W

POTENTIAL BMP C2 LOCATION

RPA BUFFER IMPACT #6 4,870 S.F.±; 0.11 AC.±

PARKING FOR PARK

DOG PARK

TURNER DRIVE

N/F WILSON ANGELA B & WILSON JAMES G TRS A B WILSON REVOCABLE LIVING TRUST 14041 BENNS CHURCH BLVD PARCEL ID: 32-01-095 ZONING: LI

N/F YEOMAN WILLIAM G III WILLIAM G YEOMAN III TRUST BENNS CHURCH BLVD PARCEL ID: 32-01-007 ZONING: RAC

RPA BUFFER IMPACT #1 1,756 S.F.±; 0.04AC.±

RPA BUFFER IMPACT #9 4,962 S.F.±; 0.11AC.±

RPA BUFFER IMPACT #5 5,330 S.F.±; 0.12 AC.±

OPEN AREA

BMP D

CENTRAL PARK

END OF PUBLIC ROAD

BMP A

LIMITS OF 100' RPA

LIMITS OF ZONE AE FLOOD PLAIN ELEV = 8

1220.51'

BENNS CHURCH BLVD

N/F ISLE OF WIGHT COUNTY SCHOOL BOARD 14171 SMITHFIELD CIR, SMITHFIELD PARCEL ID: 32-01-010A ZONING: RAC

COMMERCIAL SECTION 5 AC.±

SINGLE FAMILY SECTION 164 AC.±

N/F CORNELL GEORGE C 14106 BENNS CHURCH BLVD PARCEL ID: 32-01-008 ZONING: RAC

70' BUILDING SETBACK

RPA BUFFER IMPACT #2 12,872 S.F.±; 0.30 AC.±

RPA BUFFER IMPACT #10 1,539 S.F.±; 0.04 AC.± (SANITARY SEWER)

WETLANDS IMPACT #3 2,672 S.F.±;0.06 AC.±

RECREATION AREA 2

RECREATION AREA 3

WETLANDS IMPACT #2 3,041 S.F.±; 0.1 AC.±

60' PUBLIC R/W

53' PUBLIC R/W

OPEN SPACE

PARKING FOR PARK

LIMITS OF 100' RPA

RPA BUFFER IMPACT #3 12,149 S.F.±; 0.28 AC.±

RPA BUFFER IMPACT #4 26,023 S.F.±; 0.60 AC.±

EXISTING TREELINE (TYP.)

POTENTIAL PUBLIC RIGHT OF WAY EXTENDED TO BOUNDARY. FINAL LOCATION TO BE CONFIRMED WITH DEVELOPMENT PLANS.

WETLANDS IMPACT #4 9,516 S.F.±; 0.22 AC.±

POTENTIAL BMP B LOCATION

N/F WILLIAM G. YEOMAN, TRUSTEE 14096 BENNS CURCH BOULEVARD PARCEL ID: 32-01-009 ZONING: RAC

MULTI-USE PATHWAY

N/F EDWARDS RYLAND B JR & MARY ANN D & EDWARDS RYLAND B & ETALS 14202 BENNS CHURCH BLVD PARCEL ID: 32-01-062 ZONING: RAC

PUBLIC RIGHT OF WAY EXTENDED TO BOUNDARY

RESTRICTED ACCESS (RIGHT IN/OUT ONLY)

N/F GIRARD PATRICIA A 14225 BENNS CHURCH BOULEVARD PARCEL ID:32A-02-012 ZONING: RAC

N/F WALLACE JIMMY J & MYRTLE T 14111 HAYLOFT LN PARCEL ID: 32B-01-005 ZONING: RAC

N/F WALLACE JIMMY J & MYRTLE T 14108 HAYLOFT LN PARCEL ID: 32-01-094A ZONING: RAC

N/F CARNEY PAMELA D 14125 HAYLOFT LN PARCEL ID: 32B-01-006 ZONING: RAC

N/F BOWDEN RONALD BREWERS NECK BLVD PARCEL ID: 32-01-005 ZONING: RAC

N/F GRAY ROBERTA C/O GARY LAWRENCE 11 CHAPMANS LN PARCEL ID: 32C1-004 ZONING: RAC

N/F TOTTEN CHARLES D BEECHWOOD LN PARCEL ID: 32-01-094,094C,094D ZONING: RAC

N/F CARNEY PAMELA D 14125 HAYLOFT LN PARCEL ID: 32B-01-006 ZONING: RAC

N/F ST LUKES VILLAGES LLC C/O MCCALE DEV CORP 20081 BREWERS NECK BLVD PARCEL ID: 33-01-012E ZONING: PD-MX

BEECHWOOD LANE

N/F BELL LINWOOD E & BARBARA G 19341 BEECHWOOD LN PARCEL ID: 31-01-094B ZONING: RAC

** NOTE: THE PURPOSE OF THIS MAP IS TO SHOW REPRESENTATIVE IMPACTS BASED ON THE PROPOSED MASTER PLAN. THE APPROVAL OF THIS MASTER PLAN DOES NOT INTEND TO APPROVE THESE IMPACTS. ADDITIONAL PERMITS AND WAIVERS SHALL BE SOUGHT THROUGH THE PROPER REVIEWING AGENCIES.

Rev	Date	Description
5	8/18/23	REVISED PER COUNTY COMMENTS
4	2/16/23	REVISED PER COUNTY COMMENTS
3	7/22/22	REVISED PER COUNTY COMMENTS
2	6/01/21	REVISED PER COUNTY COMMENTS
1	11/12/19	REVISED PER COUNTY COMMENTS

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REZONING MASTER PLAN
FOR
SWEETGRASS

Project Contacts:	JAG
Project Number:	W10516-0C
Scale: 1"=200'	Date: 06/14/2019

Sheet Title:
ENVIRONMENTAL INVENTORY

Sheet Number
3 OF 3

Memorandum

To: VDOT and Isle of Wight County

Date: March 17, 2023

Project #: 34417.00

From: Kirsten Tynch, PE, PTOE
Sean Becker, PE, PMP

Re: Sweetgrass Supplemental Memo to December 2019 Traffic Impact Study and June 2021 Memo

Introduction

Sweetgrass (previously referred to as Yeoman's Tract) is an undeveloped parcel located at 14096 Benns Church Boulevard in Isle of Wight County. The parcel is on the northeast side US 258/Rt (Benns Church Boulevard) between US 258/Rt 32 (Brewers Neck Boulevard) and Canteberry Lane. Ryan Homes is planning a development of single family, and multi-family living residential units as well as a shopping center on this parcel. The developer is in the process of rezoning the property to Conditional Mixed-Use Areas (C-PD-MX). This development is expected to be in full operation in 2026.

The Virginia Department of Transportation (VDOT) and Isle of Wight County require a traffic study in compliance with Chapter 527 Regulations. A traffic impact analysis (TIA) was completed in December 2019 and submitted for approval. This memorandum is a supplement and follow up to the December 2019 traffic impact study, as well as the Memo submitted June 2021. Modifications were made to the development and in response to requests to provide pedestrian signal timings at the proposed entrance to the development, which results in changes on trip generation and Synchro Build traffic analysis discussed herein. Only 2026 and 2032 Build conditions were updated for the purposes of this memo.

Trip Generation

The development plan has been modified since the 2019 TIA and June 2021 memo to reduce the shopping center area (using a different land use code that better reflects the type of development proposed) and adding general office space, summarized in Table 1. These changes result in a net reduction in trips compared to the previous June 2021 submission, shown in Table 2. December 2019 TIA trip generation is shown in Table 3.

Table 1. Trip Generation for Current Development Plan

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	390	Dwelling Units	3,682	72	217	289	243	143	386
Multifamily Housing (Low-Rise)	220	225	Dwelling Units	1,660	24	80	104	79	47	126
Strip Retail Plaza (<40k)	822	18	1000 Sq. Ft. GLA	989	25	17	42	59	60	119
General Office	710	55	1000 Sq. Ft. GLA	690	88	12	100	17	84	101
Subtotal				**7,021**	**209**	**326**	**535**	**398**	**334**	**732**
Pass-by Trips (Shopping Center)	34%		% Pass-by	336	9	6	14	20	20	40
Total New Trips				**6,685**	**200**	**320**	**521**	**378**	**314**	**692**

Note: Used highest of average rate and fitted curve unless fitted curve unless R2<0.75

Table 2. Trip Generation from June 2021 Memo

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	390	Dwelling Units	3,682	72	217	289	243	143	386
Multifamily Housing (Low-Rise)	220	225	Dwelling Units	1,660	24	80	104	79	47	126
Shopping Center	820	35	1000 Sq. Ft. GLA	2,944	20	13	33	120	130	250
Subtotal				**8,286**	**116**	**310**	**426**	**442**	**320**	**762**
Pass-by Trips (Shopping Center)	34%		% Pass-by	1,001	7	4	11	41	44	85
Total New Trips				**7,285**	**109**	**306**	**415**	**401**	**276**	**677**

Reference: Trip Generation, 10th Edition + Supplement, Institute of Transportation Engineers, Washington, DC. 2019.
Note: Used highest of average rate and fitted curve unless fitted curve unless R2<0.75

Table 3. Trip Generation from December 2019 TIA

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	400	Dwelling Units	3,776	74	222	296	249	147	396
Multifamily Housing (Low-Rise)	220	285	Dwelling Units	2,144	30	101	131	101	59	160
Shopping Center	820	30	1000 Sq. Ft. GLA	2,651	17	11	28	107	116	223
Public Park	411	4	Acres	91	0	0	0	13	10	23
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	2,355	102	99	201	85	78	163
Subtotal				**11,017**	**223**	**433**	**656**	**555**	**410**	**965**
Pass-by Trips (Fast Food only)	49%		% Pass-by	1,154	50	49	98	42	38	80
Pass-by Trips (Shopping Center)	34%		% Pass-by	901	6	4	10	36	39	76
Total New Trips				**8,962**	**167**	**380**	**548**	**477**	**333**	**809**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between aveage rate and fitted curve unless R2<0.75

The site is estimated to generate 6,685 new daily trips with 521 trips in the morning peak hour and 692 trips during the evening peak hour. This is a reduction of 600 daily trips from the June 2021 memo submission, however, AM peak trips increase by 106 and PM peak trips increase by 15. Appendices for this memo include revised figures for trip generation, projected 2026 build volumes, and projected 2032 build volumes for the AM and PM peak.

As compared to the original December 2019 TIA submission, there are 2,277 fewer daily trips, with 27 fewer AM peak hour trips, and 117 fewer PM peak hour trips. Due to lower volumes and generally improved LOS compared to previous analyses, no modifications to mitigation measures are recommended.

Memorandum

Synchro Analysis

To accommodate pedestrian signal timing at the development main entrance, revisions are required to the phase splits along US 258/Rt 10 (Benns Church Blvd) to ensure corridor progression. Split adjustments shift cycle time to the side streets to provide sufficient timing for pedestrian crossings. Results of the updated synchro analysis and comparison to previous analysis are discussed in the following sections.

LOS Summary

A summary of LOS results with timing updates completed is shown in Table 4. Table 5 shows the summary of LOS as submitted in 2019.

In comparing the results from the original TIA against the updated results, LOS and delay is generally reduced across the board or minimally impacted due to the pedestrian timing updates. No approaches are below a LOS D in the updated model. In the 2019 TIA submission, the eastbound approach at US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane was project to be LOS E in both the 2026 and 2032 build conditions model. With the updated model reflecting lower trip generation and new signal timing for pedestrians, this movement is projected to maintain a LOS C or D in both build conditions.

Table 4. Level of Service Results Summary

Detailed Level of Service Results Summary

ID	Intersection and Approach	Control	2026 Build		2032 Build	
			AM	PM	AM	PM
1	**US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane**	Signalized	**B (14.9 sec/veh)**	**C (31.1 sec/veh)**	**B (19.9 sec/veh)**	**D (40.6 sec/veh)**
	Eastbound		C-24.9	D-45.3	D-38.8	D-49.5
	Westbound		D-44	D-35.6	D-52	D-37.6
	Northbound		B-10.9	C-32.3	B-17.8	D-47.1
	Southbound		B-14.1	C-27.4	B-17.1	C-32.7
2	**US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive**	Signalized	**A (2 sec/veh)**	**A (9.1 sec/veh)**	**A (2.6 sec/veh)**	**A (7.8 sec/veh)**
	Eastbound		A-7.6	D-36.6	B-11.2	D-45.2
	Westbound		---	---	---	---
	Northbound		A-2	A-9.1	A-1.7	A-6.7
	Southbound		A-1.9	A-4.9	A-3	A-3.3
3	**US 258/Rt 10 (Benns Church Boulevard) & Turner Drive**	Signalized	**B (17.9 sec/veh)**	**C (22 sec/veh)**	**C (31.0 sec/veh)**	**A (9.1 sec/veh)**
	Eastbound		C-33.5	B-19.7	C-32.8	B-18.7
	Westbound		C-32.7	C-22.7	D-44.8	C-31.0
	Northbound		A-9	C-22.6	C-26.0	A-9.0
	Southbound		B-18.6	C-21.7	C-33.7	A-7.5
4	**US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance**	Signalized	**A (7.6 sec/veh)**	**B (11.6 sec/veh)**	**B (13.6 sec/veh)**	**B (18.6 sec/veh)**
	Eastbound		---	---	---	---
	Westbound		C-28.5	C-27.3	D-41.5	C-27.8
	Northbound		A-8.8	B-12.7	A-6.7	C-22.1
	Southbound		A-3	A-6.4	B-15	B-12
5	**US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)**	Signalized	**A (8.6 sec/veh)**	**B (13.3 sec/veh)**	**B (10.6 sec/veh)**	**B (16 sec/veh)**
	Eastbound		---	---	---	---
	Westbound		A-4.9	B-13.9	A-8.1	C-22.6
	Northbound		B-18.3	D-36	C-23.4	C-33.3
	Southbound		A-9.3	A-8.2	B-10.1	A-4.6
6	**Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)**	Signalized	**B (16.1 sec/veh)**	**B (19.8 sec/veh)**	**C (21.7 sec/veh)**	**C (21.4 sec/veh)**
	Eastbound		C-21.9	C-33.5	B-10.9	D-35.4
	Westbound		B-14.8	B-15.5	D-40	B-17.1
	Northbound		A-3.9	A-3.7	A-5.9	A-3.7
	Southbound		C-23.1	C-26.1	C-27.8	C-26.1
7	**US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance**	Unsignalized	**A (0.5 sec/veh)**	**A (0.3 sec/veh)**	**A (0.5 sec/veh)**	**A (0.3 sec/veh)**
	Eastbound		---	---	---	---
	Westbound		C-15.2	C-19.6	C-16.3	C-21.8
	Northbound		--0	--0	--0	--0
	Southbound		--0	--0	--0	--0

Table 5. Level of Service Results Summary from December 2019 Submission

ID	Intersection and Approach	Control	2026 Build		2032 Build	
			AM	PM	AM	PM
	US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	**B (16.6 sec/veh)**	**C (30.3 sec/veh)**	**B (18.5 sec/veh)**	**D (41.6 sec/veh)**
1	Eastbound		C-21.5	E-59	D-39.6	E-68.3
	Westbound		D-43.5	D-38.2	D-50.2	D-40
	Northbound		B-14.2	C-30.6	B-14.7	D-50.5
	Southbound		B-15.2	C-25.1	B-17	C-28.7
	US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	**A (4.1 sec/veh)**	**A (9.5 sec/veh)**	**A (3.6 sec/veh)**	**B (10.9 sec/veh)**
2	Eastbound		A-6.6	D-36.1	B-11.2	D-39.2
	Westbound		---	---	---	---
	Northbound		A-3.4	A-9.4	A-2.6	B-11.2
	Southbound		A-4.5	A-5.6	A-4	A-6.2
	US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	**C (25.7 sec/veh)**	**C (23.1 sec/veh)**	**C (31 sec/veh)**	**C (27.6 sec/veh)**
3	Eastbound		C-27.5	B-17.4	C-31.2	B-18.2
	Westbound		C-28.5	C-22.7	C-29	C-22.7
	Northbound		C-22.2	C-23.3	C-27.7	C-27.9
	Southbound		C-27.8	C-23.7	C-33.9	C-28.7
	US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Signalized	**B (10.6 sec/veh)**	**B (18.7 sec/veh)**	**B (12.3 sec/veh)**	**C (21.5 sec/veh)**
4	Eastbound		---	---	---	---
	Westbound		C-24.3	C-31.8	C-21.1	C-32.2
	Northbound		B-10.1	C-20.2	B-13.2	C-25.8
	Southbound		A-7.7	B-13.1	A-9.6	B-13
	US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**A (8.8 sec/veh)**	**B (17.3 sec/veh)**	**B (10.3 sec/veh)**	**C (22.9 sec/veh)**
5	Eastbound		---	---	---	---
	Westbound		A-4.5	C-25.6	A-7.3	D-36
	Northbound		C-21.7	C-25.7	C-22.7	C-29.8
	Southbound		A-9.3	A-5.2	B-10.2	A-5
	Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**B (17.8 sec/veh)**	**C (20.1 sec/veh)**	**B (19.1 sec/veh)**	**C (22 sec/veh)**
6	Eastbound		C-23.4	D-35.4	B-12.3	D-40.5
	Westbound		B-17.1	B-15.1	C-32.2	B-15.7
	Northbound		A-5	A-3.4	A-5.6	A-3.5
	Southbound		C-25.6	C-23.7	C-27.8	C-26.1
	US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance	Unsignalized	**A (0.6 sec/veh)**	**A (0.4 sec/veh)**	**A (0.6 sec/veh)**	**A (0.4 sec/veh)**
7	Eastbound		---	---	---	---
	Westbound		C-15.3	C-20.8	C-16.4	C-23.4
	Northbound		A-0	--0	--0	--0
	Southbound		A-0	--0	--0	--0

Memorandum

Queue Summary

Results of the updated queue analysis are summarized in Table 5. For comparative purposes, queue results from the 2019 analysis are shown in Table 6. For both tables, queues exceeding available queue storage are shown in red. For the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive, the 2032 Build AM peak eastbound right, 2026 Build PM peak southbound left, and 2032 AM peak southbound right appear to exceed the full storage length shown in the summary table. However, the effective storage length, as measurement in accordance to VDOT's Traffic Operations and Safety Analysis Manual (TOSAM), is sufficient to accommodate these projected queues under both the 2026 and 2032 build conditions. VDOT's TOSAM defines effective storage length as the turn bay length plus one-half taper length, which was utilized in the simulation model, therefore all build condition queue lengths are within effective storage length. The effective storage length was used in the Synchro analyses.

The addition of a right turn overlap at US 258/Rt 10 (Benns Church Boulevard) & Turner Drive during the 2032 Build condition reduces southbound right queue storage to remain within available effective storage. Further, the expansion of the northbound left queue storage at this same intersection to 250 feet as noted in the 2021 provide sufficient storage for the project queues in 2026 and 2032 build conditions.

No additional improvements over those defined in the 2019 TIA and 2021 memo are necessary to mitigate the projected traffic impacts of the revised proposed development and the addition of pedestrian signals at the main entrance into the site.

Table 5. Queue Results Summary

Queuing Analysis - 95th Percentile Queue										
Intersection	Movement	Link Distance	Storage Length	Existing (AM/PM Peak)	2026 No Build (AM/PM Peak)	2032 No Build (AM/PM Peak)	Link Distance	Storage Length	2026 Build (AM/PM Peak)	2032 Build (AM/PM Peak)
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	EBLT	277		56/162	50/170	58/178	277		47/145	50/201
	EBR	277		45/65	42/68	50/75	277		36/61	58/64
	WBLT	1172		137/103	147/101	162/110	1172		123/159	164/139
	WBR	1172		64/112	72/122	74/125	1172		64/102	107/122
	NBL		150	32/135	33/177	47/208		150	43/91	34/67
	NBT	663		175/348	197/404	210/546	663		126/322	224/277
	NBT	663		183/359	197/411	216/544	663		134/335	233/306
	NBR		225	35/47	36/93	45/271		225	36/55	45/52
	SBL		150	54/114	63/139	66/182		150	63/136	57/126
	SBT	1895		189/227	224/284	240/347	1895		212/246	270/287
	SBT	1895		198/241	230/290	252/355	1895		222/258	305/318
	SBR		325	24/39	26/40	25/41		325	22/40	23/44
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	EBLT	1824		9/128	10/139	13/138	1824		12/135	11/160
	EBR	1824		31/96	38/101	38/103	1824		33/81	20/107
	WBLTR	1402		-/8	-/6	-/12	1402		-/10	-/14
	NBL		175	33/104	39/125	46/137		175	51/134	62/136
	NBT	1913		61/140	58/185	69/205	1913		37/148	48/86
	NBTR	1913		76/150	77/205	83/229	1913		51/161	72/106
	SBL		75	3/-	3/-	2/-		75	3/-	3/-
	SBT	663		56/81	61/86	75/89	663		68/81	84/89
	SBT	663		69/93	77/105	87/101	633		64/94	97/122
	SBR		150	9/46	14/45	14/49		150	9/44	10/53
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	EBLTR	1442		342/113	-	-			-	-
	EBLT	1440		-	174/91	220/100	1442		194/101	235/125
	EBR		200	-	168/66	197/73		200	183/73	216/98
	WBL		100	8/-	3/-	6/-	648		-/-	-/-
	WBTR	648		87/19	95/19	109/19	648		-/-	-/-
	WBLTR								94/15	121/16
	NBL		75	185/151	179/136	201/168		250	211/195	147/153
	NBT	1098		260/243	204/218	311/327	1065		174/326	356/160
	NBTR	1098		251/242	189/223	259/324	1065		152/330	310/49
	SBL		75	42/77	46/80	52/89		75	17/77	12/79
	SBT	1913		363/230	302/228	391/282	1913		249/251	334/192
	SBT	1913		378/240	307/237	401/288	1913		258/256	359/199
	SBR		175	200/57	153/59	248/93		175	126/60	252/58
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	WBL			-	-	-	816		127/127	145/152
	WBL			-	-	-	816		67/75	105/114
	WBR			-	-	-	816		69/106	138/132
	NBU		75	10/10	17/14	16/14		75	53/77	48/76
	NBT	3868	-	-	-/-	-	470		178/498	259/363
	NBT								161/496	234/360
	NBR							200	38/204	39/40
	SBU		100	5/-	4/-	3/-			-	-
	SBL							200	99/138	95/140
	SBT						1065		172/105	188/176
	SBT	1086		-	-	110/-	1065		191/121	190/194
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	WBR	1008		104/227	134/284	158/337	1008		72/389	129/437
	WBR	1008		104/229	135/280	154/350	1008		76/418	116/426
	NBT	2766		72/71	64/78	73/92	2766		66/103	76/116
	NBT	2766		70/82	73/86	79/103	2766		90/117	80/141
	SBL		200	147/111	150/119	165/135		200	142/160	190/128
	SBL	3868		172/134	180/147	187/163	3191		175/182	214/137
	SBT	3868		4/-	9/-	-/-	3191		-/4	-/-
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	EBL		125	25/25	24/24	28/27		125	17/27	26/30
	EBT	1008		240/200	265/223	324/260	1008		237/326	306/281
	EBTR	1008		249/217	273/233	327/267	1008		256/337	318/301
	WBL		500	150/242	166/300	183/350		500	156/311	164/396
	WBT	785		238/338	262/417	298/447	785		63/513	162/486
	WBT	785		200/327	235/403	275/460	785		46/525	130/531
	WBR		250	4/13	4/41	6/89		250	-/104	8/116
	NBLT	858		14/15	14/16	11/19	858		9/15	6/14
	NBR		250	171/96	187/106	220/127		250	170/122	193/131
	NBR		250	110/35	127/40	172/59		250	110/59	156/71
	SBLT	565		24/25	28/30	31/30	565		27/25	27/26
	SBR	565		33/27	34/31	38/32	565		29/34	24/28
US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance	WBR			-	-	-	1244		57/87	54/60
	NBT			-	-	-	3191		-/9	-/-
	NBT			-	-	-	3191		-/8	-/-
	NBR			-	-	-		100	-/-	-/-

Table 6. Queue Results Summary from December 2019 Submission

Queuing Analysis - 95th Percentile Queue										
Intersection	Movement	Link Distance	Storage Length	Existing (AM/PM Peak)	2026 No Build (AM/PM Peak)	2032 No Build (AM/PM Peak)	Link Distance	Storage Length	2026 Build (AM/PM Peak)	2032 Build (AM/PM Peak)
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	EBLT	277		56/162	50/170	58/178	277		52/190	55/198
	EBR	277		45/65	42/68	50/75	277		34/62	47/67
	WBLT	1172		137/103	147/101	162/110	1172		123/134	171/171
	WBR	1172		64/112	72/122	74/125	1172		68/108	91/113
	NBL		150	32/135	33/177	47/208		150	37/114	56/137
	NBT	663		175/348	197/404	210/546	663		171/321	231/396
	NBT	663		183/359	197/411	216/544	663		186/329	242/407
	NBR		225	35/47	36/93	45/271		225	47/78	42/154
	SBL		150	54/114	63/139	66/182		150	64/121	70/144
	SBT	1895		189/227	224/284	240/347	1895		199/250	271/276
	SBT	1895		198/241	230/290	252/355	1895		213/255	289/286
	SBR		325	24/39	26/40	25/41		325	25/38	24/41
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	EBLT	1824		9/128	10/139	13/138	1824		9/133	11/169
	EBR	1824		31/96	38/101	38/103	1824		22/88	31/99
	WBLTR	1402		-/8	-/6	-/12	1402		-/12	-/11
	NBL		175	33/104	39/125	46/137		175	45/125	53/141
	NBT	1913		61/140	58/185	69/205	1913		58/151	58/164
	NBTR	1913		76/150	77/205	83/229	1913		81/169	86/180
	SBL		75	3/-	3/-	2/-		75	2/-	3/-
	SBT	663		56/81	61/86	75/89	663		59/89	91/96
	SBT	663		69/93	77/105	87/101	633		74/93	120/107
	SBR		150	9/46	14/45	14/49		150	14/49	10/58
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	EBLTR	1442		342/113	-	-			-	-
	EBLT	1440		-	174/91	220/100	1442		240/93	309/95
	EBR		200	-	168/66	197/73		200	184/87	240/90
	WBL		100	8/-	3/-	6/-	648		-/3	8/-
	WBTR	648		87/19	95/19	109/19	648		93/14	94/17
	NBL		75	185/151	179/136	201/168		75	192/171	204/201
	NBT	1098		260/243	204/218	311/327	1065		277/310	373/375
	NBTR	1098		251/242	189/223	259/324	1065		241/309	300/374
	SBL		75	42/77	46/80	52/89		75	53/95	63/105
	SBT	1913		363/230	302/228	391/282	1913		312/267	356/309
	SBT	1913		378/240	307/237	401/288	1913		315/272	356/314
	SBR		175	200/57	153/59	248/93		175	192/67	218/85
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	WBL			-	-	-	816		137/151	123/162
	WBL			-	-	-	816		88/108	71/126
	WBR			-	-	-	816		87/115	157/111
	NBU		75	10/10	17/14	16/14		75	54/60	64/54
	NBT	3868	-	-	-/-	-	470		191/314	221/390
	NBT								175/314	200/378
	NBR							200	38/96	42/156
	SBU		100	5/-	4/-	3/-			-	-
	SBL							200	111/191	108/212
	SBT						1065		142/102	151/118
	SBT	1086		-	-	110/-	1065		168/119	176/125
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	WBR	1008		104/227	134/284	158/337	1008		82/442	94/536
	WBR	1008		104/229	135/280	154/350	1008		73/456	88/555
	NBT	2766		72/71	64/78	73/92	2766		80/83	84/101
	NBT	2766		70/82	73/86	79/103	2766		81/101	118/88
	SBL		200	147/111	150/119	165/135		200	165/118	189/121
	SBL	3868		172/134	180/147	187/163	3191		187/146	204/149
	SBT	3868		4/-	9/-	-/-	3191		13/4	5/16
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	EBL		125	25/25	24/24	28/27		125	23/28	26/30
	EBT	1008		240/200	265/223	324/260	1008		299/253	317/297
	EBTR	1008		249/217	273/233	327/267	1008		303/259	321/304
	WBL		500	150/242	166/300	183/350		500	117/319	182/437
	WBT	785		238/338	262/417	298/447	785		86/513	82/614
	WBT	785		200/327	235/403	275/460	785		61/528	60/645
	WBR		250	4/13	4/41	6/89		250	4/55	6/98
	NBLT	858		14/15	14/16	11/19	858		6/14	3/16
	NBR		250	171/96	187/106	220/127		250	190/111	200/136
	NBR		250	110/35	127/40	172/59		250	147/43	154/68
	SBLT	565		24/25	28/30	31/30	565		31/25	34/28
	SBR	565		33/27	34/31	38/32	565		34/34	39/30
US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance	WBR			-	-	-	1244		71/101	70/137
	NBT			-	-	-	3191		-/4	-/14
	NBT			-	-	-	3191		-/4	-/16
	NBR			-	-	-		100	-/4	-/-

Memorandum

Appendix
Revised Network Figures

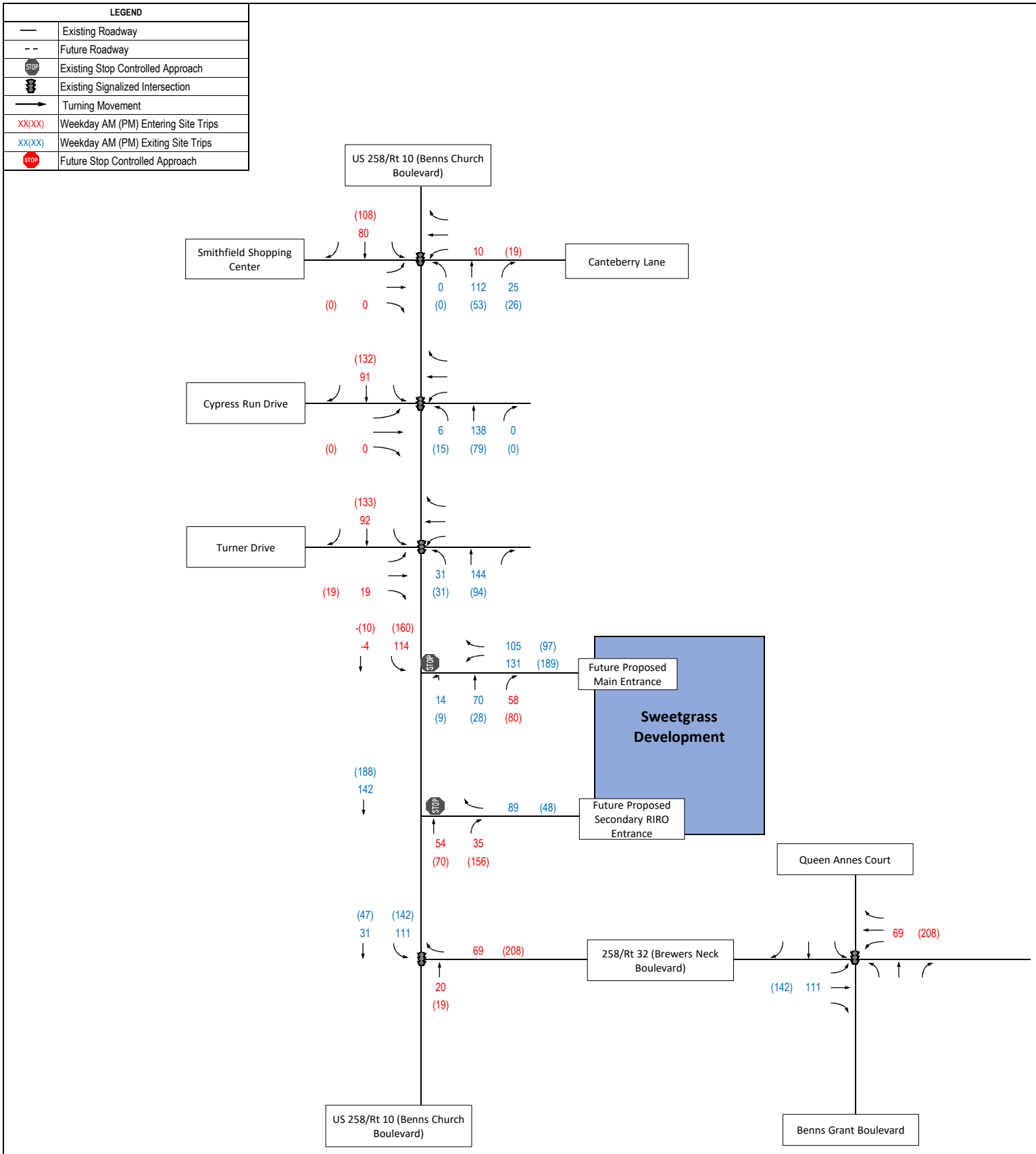


Figure 10
Combined AM and PM Peak Hour Site Trips

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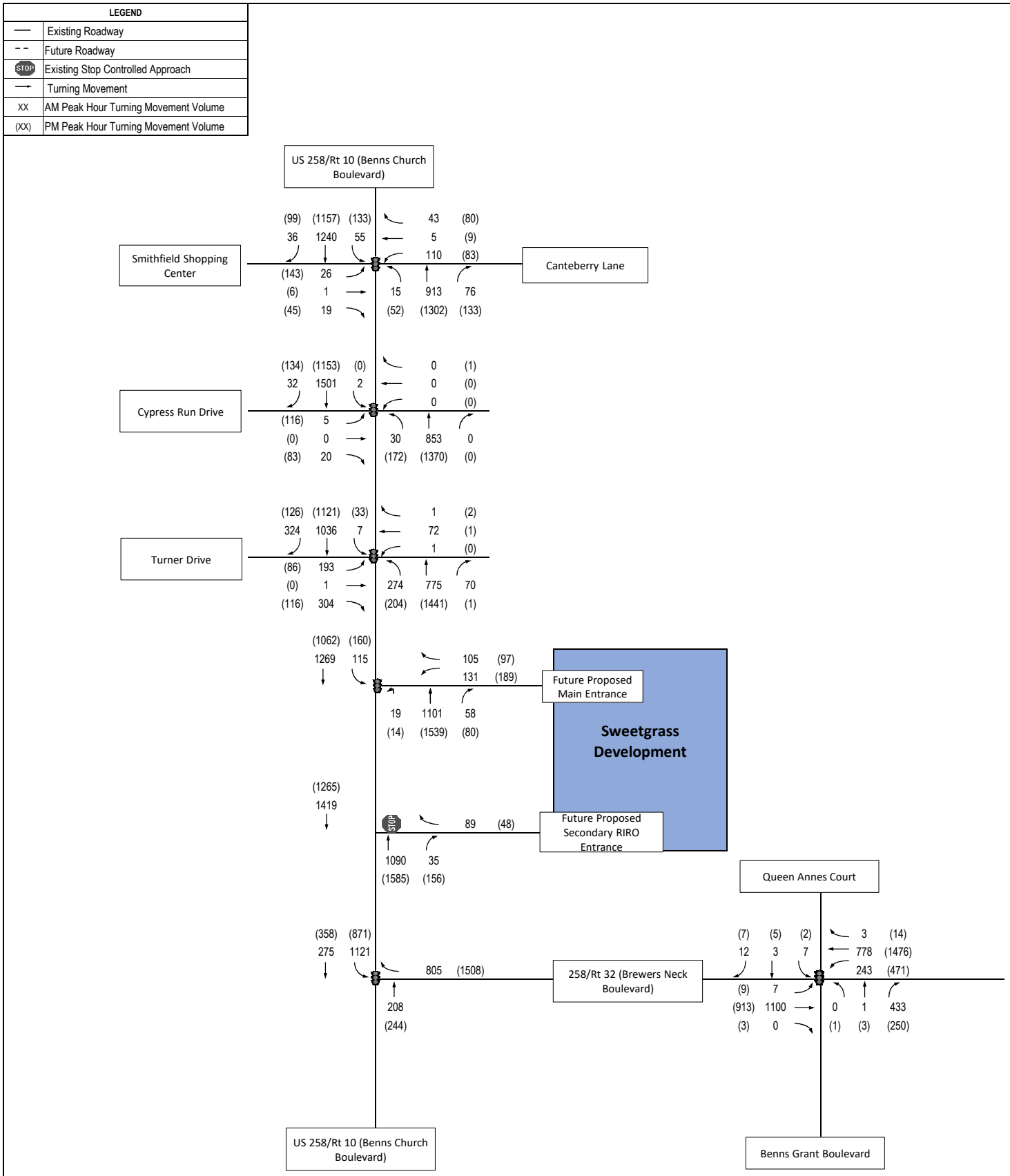


Figure 11
2026 Build AM and PM Peak Hour Traffic Volumes

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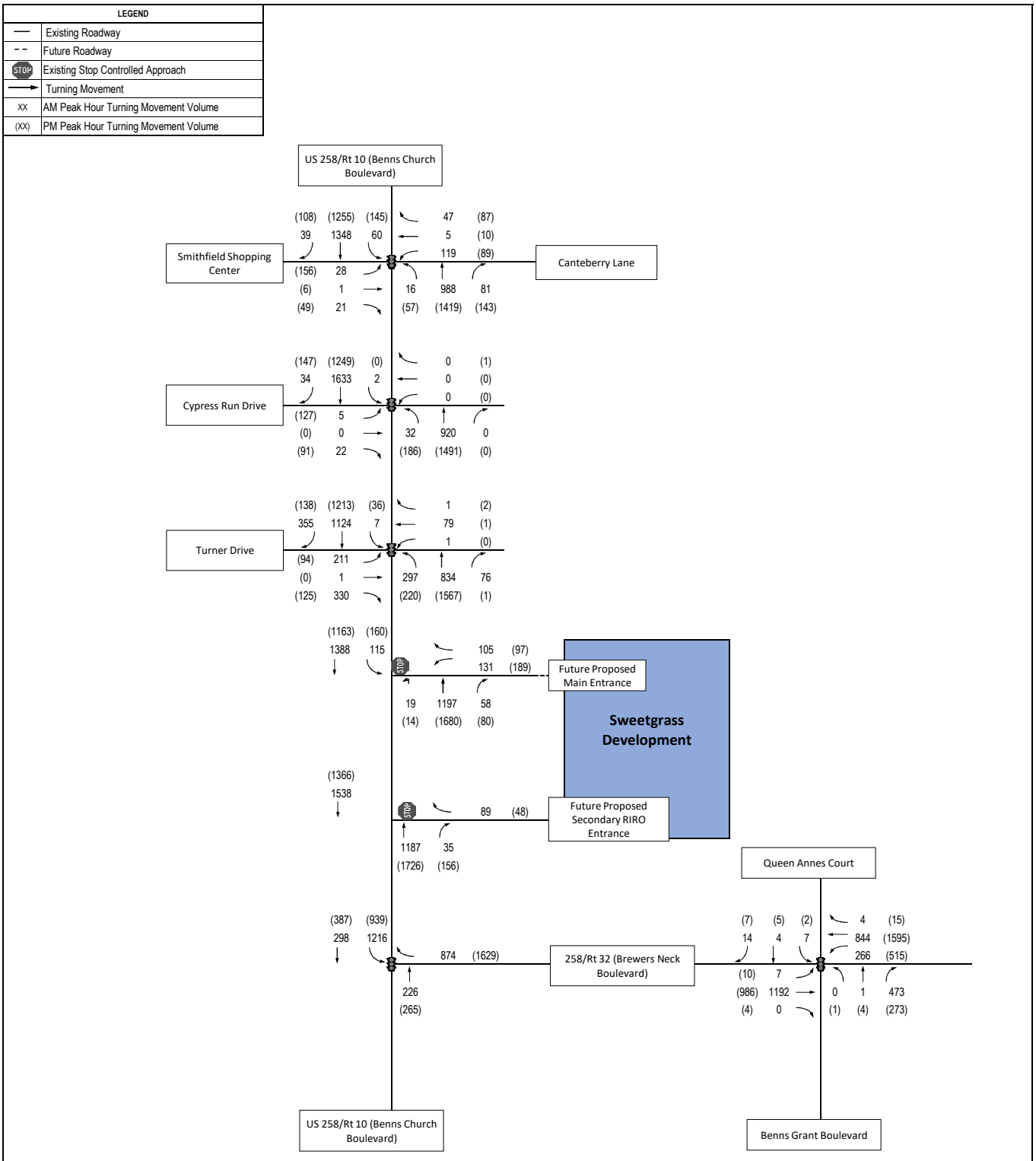


Figure 12
2032 Build AM and PM Peak Hour Traffic Volumes

Sweetgrass
Isle of Wight County, VA

Memorandum

To: VDOT and Isle of Wight County

Date: June 25, 2021
Project #: 34417.00

From: Kirsten Tynch, PE, PTOE

Re: Sweetgrass Supplemental Memo to December 2019 Traffic Impact Study

Introduction

Yeoman's Tract is an undeveloped parcel located at 14096 Benns Church Boulevard in Isle of Wight County. The parcel is on the northeast side US 258/Rt (Benns Church Boulevard) between US 258/Rt 32 (Brewers Neck Boulevard) and Canteberry Lane. Ryan Homes is planning a development of single family, and multi-family living residential units as well as a shopping center on this parcel. The developer is in the process of rezoning the property to Conditional Mixed Use Areas (C-PD-MX). This development is expected to be in full operation in 2026.

The Virginia Department of Transportation (VDOT) and Isle of Wight County require a traffic study in compliance with Chapter 527 Regulations. A traffic study was completed in December 2019 and submitted for approval. The proposed development is now referred to as Sweetgrass, and this memorandum is a supplement to the December 2019 traffic impact study.

Trip Generation

The development plan has been modified since the 2019 TIA to provide a lower number of housing units. It also eliminated the public park and the fast food restaurant with a drive thru. Table 1 shows the land use plan for the proposed development and trips generated by this updated plan, while Table 2 shows the trips that were to be generated from the December 2019 plan.

Table 1. Trip generation for current development plan

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	390	Dwelling Units	3,682	72	217	289	243	143	386
Multifamily Housing (Low-Rise)	220	225	Dwelling Units	1,660	24	80	104	79	47	126
Shopping Center	820	35	1000 Sq. Ft. GLA	2,944	20	13	33	120	130	250
Subtotal				**8,286**	**116**	**310**	**426**	**442**	**320**	**762**
Pass-by Trips (Shopping Center)	34%		% Pass-by	1,001	7	4	11	41	44	85
Total New Trips				**7,285**	**109**	**306**	**415**	**401**	**276**	**677**

Reference: Trip Generation, 10th Edition + Supplement, Institute of Transportation Engineers, Washington, DC. 2019.
Note: Used highest of average rate and fitted curve unless fitted curve unless R2<0.75

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Table 2. Trip generation from December 2019 TIA

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	400	Dwelling Units	3,776	74	222	296	249	147	396
Multifamily Housing (Low-Rise)	220	285	Dwelling Units	2,144	30	101	131	101	59	160
Shopping Center	820	30	1000 Sq. Ft. GLA	2,651	17	11	28	107	116	223
Public Park	411	4	Acres	91	0	0	0	13	10	23
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	2,355	102	99	201	85	78	163
Subtotal				**11,017**	**223**	**433**	**656**	**555**	**410**	**965**
Pass-by Trips (Fast Food only)	49%		% Pass-by	1,154	50	49	98	42	38	80
Pass-by Trips (Shopping Center)	34%		% Pass-by	901	6	4	10	36	39	76
Total New Trips				**8,962**	**167**	**380**	**548**	**477**	**333**	**809**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between aveage rate and fitted curve unless R2<0.75

The site is estimated to generate 7,285 new daily trips with 415 trips in the morning peak hour and 677 trips during the evening peak hour. This equates to a reduction of 1,677 daily trips, 133 AM peak trips and 132 PM peak trips. The Appendix includes figures with the site trips and the projected 2026 and 2032 Build volumes for the AM and PM peak.

Since the anticipated traffic volumes are expected to be lower than those studied in the December 2019 TIA, the mitigation measures recommended as part of that study are still appropriate. One additional recommendation has been included to address a comment received by VDOT in 2020 regarding queuing at Benns Church Boulevard and Turner Drive.

The TIA showed that queuing occurs at the intersection of Benns Church Boulevard and Turner Drive under existing conditions. The proposed development is expected to increase queuing for some movements. In order to address the queuing for the northbound left turn movement that experiences the most significant queuing under existing conditions, it is recommended that the turn lane storage be extended to 250' while maintaining the 100' taper. This would address any projected queuing deficiencies for any of the analyzed scenarios. For the Build conditions, it would allow a reduction in green time for northbound left turn movement which would reduce queuing on the southbound right turn.

Response to June 2020 Comments

VHB received comments on June 12, 2020 for the above referenced project. The project was placed on hold while a new development plan was developed. The following offers responses to the documented comments based on the June 2021 development plan:

Isle of Wight County Comments:

1. On page 1, two different AM peak trips are listed - one for 548 trips in the second paragraph and one for 380 in fifth paragraph. Last bullet refers to planned improvements to Turner Drive. Please note that these are now complete.

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P 757.490.0132

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- The total trips generated in the AM peak is 401 trips based on the current development plan. This volume is reflected in the TIA memo dated June 25, 2021.

2. Page 5 should refer to the proposed conditional planned mixed use development and delete the reference to the comprehensive plan amendment application.
    - Noted. Reference to the comprehensive plan amendment can be deleted and land use has been updated to reflect the Conditional Mixed Use Areas (C-PD-MX). This is reflected in the TIA memo dated June 25, 2021.
3. The TIA should not include an assumption that all network signal cycle lengths and splits will be optimized for the 2026 and 2032 build scenarios. There are no plans to do this, and who would perform and pay for this signal optimization?
    - As traffic grows on a state-maintained corridor, signal operations are periodically reviewed by VDOT. By 2026, a new statewide central signal system and controller should be implemented allowing easier review of traffic conditions and more frequent optimization of signal timings by VDOT.
4. Please address the degradation of capacity for the northbound through movement between the 2018-2026 build scenario for the Brewers Neck/Benns Church Blvd. intersection. Explain how capacity improves again in 2032.
    - Optimization of the signal timings for the 2026 and 2032 Build conditions influence the change in level of service from 2018 to 2026 and 2032. Since the background growth factor was applied to all movements, adjustments were made to provide improved traffic flow on individual movements throughout the corridor. By increasing green time for turning movements, there was minor increase in the anticipated delay for the northbound movement under the 2026 Build conditions. As traffic was projected to 2032, additional changes were made to intersection splits that improved the projected delay under the 2032 Build conditions for the northbound through movement. During all analysis periods, the northbound through movement is projected to continue to operate at an acceptable LOS (LOS D or better).
5. In table 7, there is improved queue storage for the northbound left at Benns Church Blvd and Turner Drive in the 2032 build scenario in the am. What changes to increase storage? Similar questions for Tables 8 and 9 where service levels seem to increase in the build scenarios. What accounts for these improvements?
    - The cycle length for 2026 was 90 seconds compared to 130 seconds for 2032. The optimization of signal timings in 2026 and 2032 provides different amounts of green time for the northbound left movement. The amount of green time allocated to movement impacts the expected queuing of stopped vehicles during each cycle.
6. On page 7 of signal warrant analysis, warrant 5 is not met due to no planned school crossing. Because the proposed development is located less than a mile from the assigned high school and middle school, it is a safe assumption that a school crossing will be in place on Route 10 and possibly Turner Drive in the future.

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P 757.490.0132

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- Current conditions do not have sidewalks along Benns Church Boulevard or Turned Drive. Without sidewalks, a school crossing is not recommended.

7. Warrant 6 is not met in the signal analysis due to an uncoordinated signal system; however, you assume a coordinated system throughout the rest of the analysis. Please explain.
   - During the initial screening of the signal warrants, the adjacent signal was not part of a coordinated system. Therefore, it did not meet that warrant. Once the modeling was completed, it was determined that coordination of the corridor provided better traffic flow. Since a signal was warranted by other criteria, it was not deemed necessary to modify the original signal warrant documentation.
8. Page 11 of Appendix I shows a 45 mph speed limit at the Queen Anne's Court and Brewers Neck intersection. Please revised to show the actual speed limit of 55 mph.
   - Correction of the speed limit is noted. However, the change doesn't impact analyses or proposed recommendations of the study.
9. Please provide a written narrative as to why a partial median U-turn cannot be used in place of a conventional signal. It appears to provide less conflict points and is considered safer for pedestrians. Copies of the worksheets are hard to read, and no written explanation of the results is provided. Please submit legible copies.

Phase 1 Use	No. of Units	Units
Single Family Detached Housing	400	dwelling units
Multi-Family Housing (Low-Rise)	285	dwelling units
Public Park	4	acres
Shopping Center	30	1000 sq. ft. GLA
Fast Food with Drive Thru	5	1000 sq. ft. GLA

   - Based on the width of the existing median and lane geometry, preliminary evaluations show that a loon, or bulb out of the pavement, would need to be provided to accommodate the U-turn movement of single unit and larger trucks. Based on AASHTO Guidelines, the minimum median width for U-turn crossovers to accommodate trucks varies between 49' to 64' (depending on truck size) without providing a loon, or bulb out, to accommodate the movement. Constructing a loon would require right of way acquisition on property not controlled/owned by the developer.

VDOT Comments:

1. We concur with the proposed trip generation rates as provided in the submitted study based on the following development schedule:

4500 Main Street
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The proposed uses have the potential to generate 11,017 daily, 656 AM peak hour, and 965PM peak hour trips on the roadway network. As outlined in the study, these trips are reduced by allowable pass-by and internal capture rates to represent new trips on the roadway network (8,962 daily, 548 AM peak, and 809 PM peak).

- Noted. The revised trip distribution provided in the TIA Memo dated June 25, 2021 uses the same methodology and equations as the previous analysis with the revised number of units resulting in a reduction of trips generated by the development. The new totals are 7,285 vpd, 415 vph in the AM peak and 677 vph in the PM peak. No new analysis was performed and the recommendations remain unchanged with the exception of item #2 below.

2. Although queuing is an existing issue for northbound left turns at the Benn's Church Blvd. and Turner Drive intersection, the development adds to the queues during the build scenarios. There are no recommended improvements at this intersection. We recommend providing improvements to mitigate the queuing situation, including the installation of a turn lane with sufficient storage to accommodate the queuing.
   - As discussed earlier in this memo, the development has minor increases in queuing for eastbound right and southbound left movements. These minor increases are less than a car length. No changes in storage based on development are recommended. There is additional storage required for the southbound right due to additional green time allocated to the northbound left to reduce queuing on this leg. The developer will increase the storage to 250' for the northbound left turn movement at Turner + 100' taper. This change would address an existing issue and allow for less green time in the future conditions which should reduce the queuing for the southbound right movement.
3. The construction of dual exiting left turns will likely impact the northbound U-turn lane at the main entrance, as the turn radius required will take up more of the median break. Reconstruction of this intersection shall include constructing the turn lanes to the minimum VDOT standards (100' storage x 100' taper).
   - Site plan will reflect the 100' storage and 100' taper.
4. Our previous recommendation of a 200' storage x 200' taper right turn lane was incorporated into the submitted traffic study. The submitted traffic improvement proffers, particularly Item 6(a)(i), still indicates using a 100' storage x 200' taper right turn lane.
   - Proffer has been adjusted to match traffic study recommendation.

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Recommendations

The following improvements are recommended to address impacts of the proposed development:

2026 Build:

- Construct northbound right turn lane (200' storage plus 200' taper) into right in/right out Proposed Secondary Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Construct northbound right turn lane (200' storage plus 200' taper) into Proposed Main Entrance off of US 258/ Rt 10 (Benns Church Boulevard).
- Lengthen southbound left turn lane to provide 200' storage plus 200' taper into Proposed Main Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Install traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and Proposed Main Entrance.
- Install signal infrastructure to provide a protected eastbound right-turn overlap at US 258/Rt 10 (Benns Church Boulevard) and Turner Drive.
- Construct a northbound turn lane with 250' storage and 100' taper at US 258/Rt 10 (Benns Church Boulevard) and Turner Drive.
- Install flashing yellow arrows for the northbound and southbound left turn lanes at the intersection of US 258/ Rt 10 (Benns Church Boulevard) at Canteberry Lane, Cypress Run Drive, Turner Drive and the Proposed Main Entrance to allow lead/lag operation.

2032 Build:

- Install signal infrastructure to provide a protected southbound right-turn overlap at US 258/Rt 10 (Benns Church Boulevard) and Turner Drive.

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Appendix
Revised Figures

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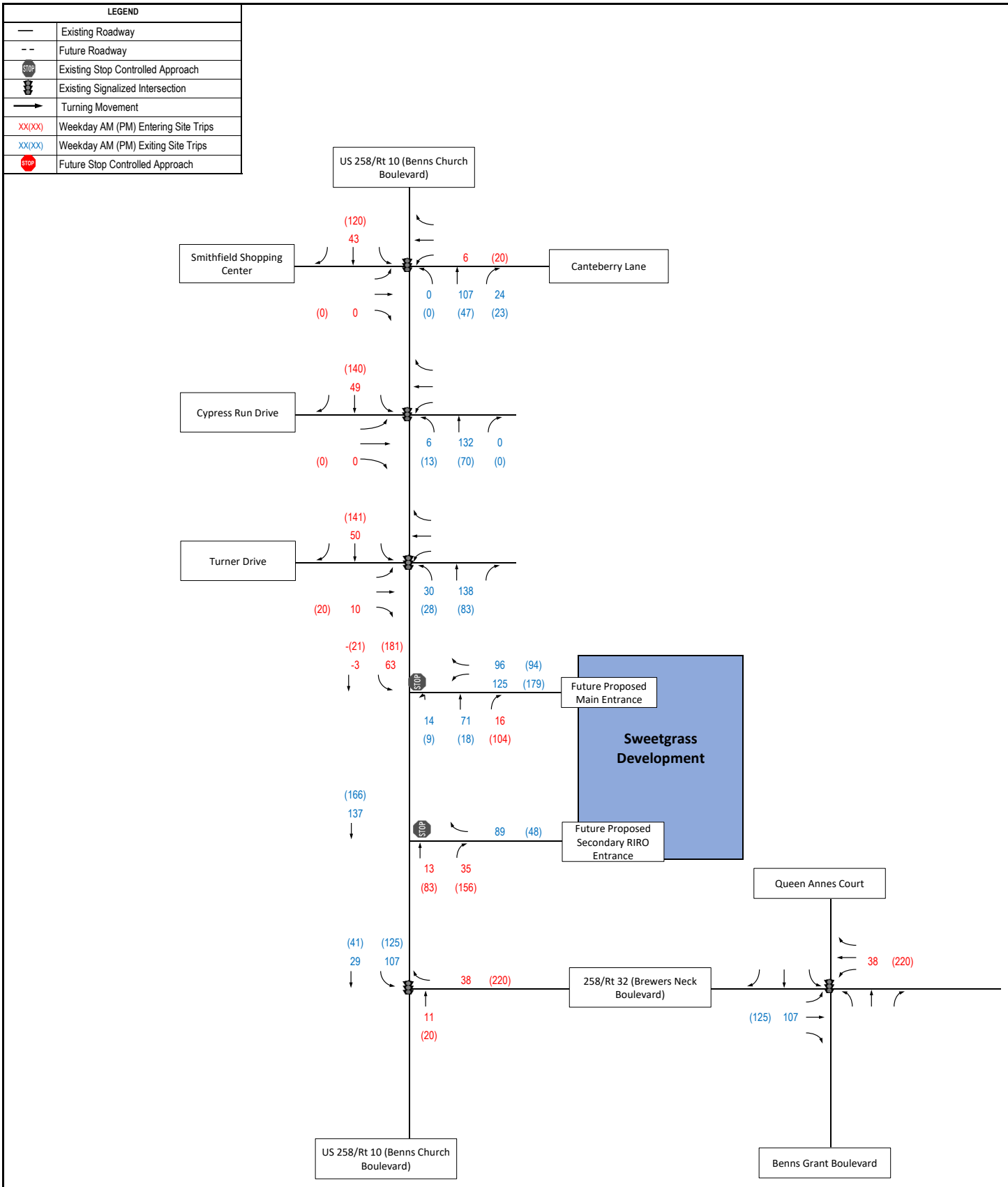


Figure 10
Combined AM and PM Peak Hour Site Trips

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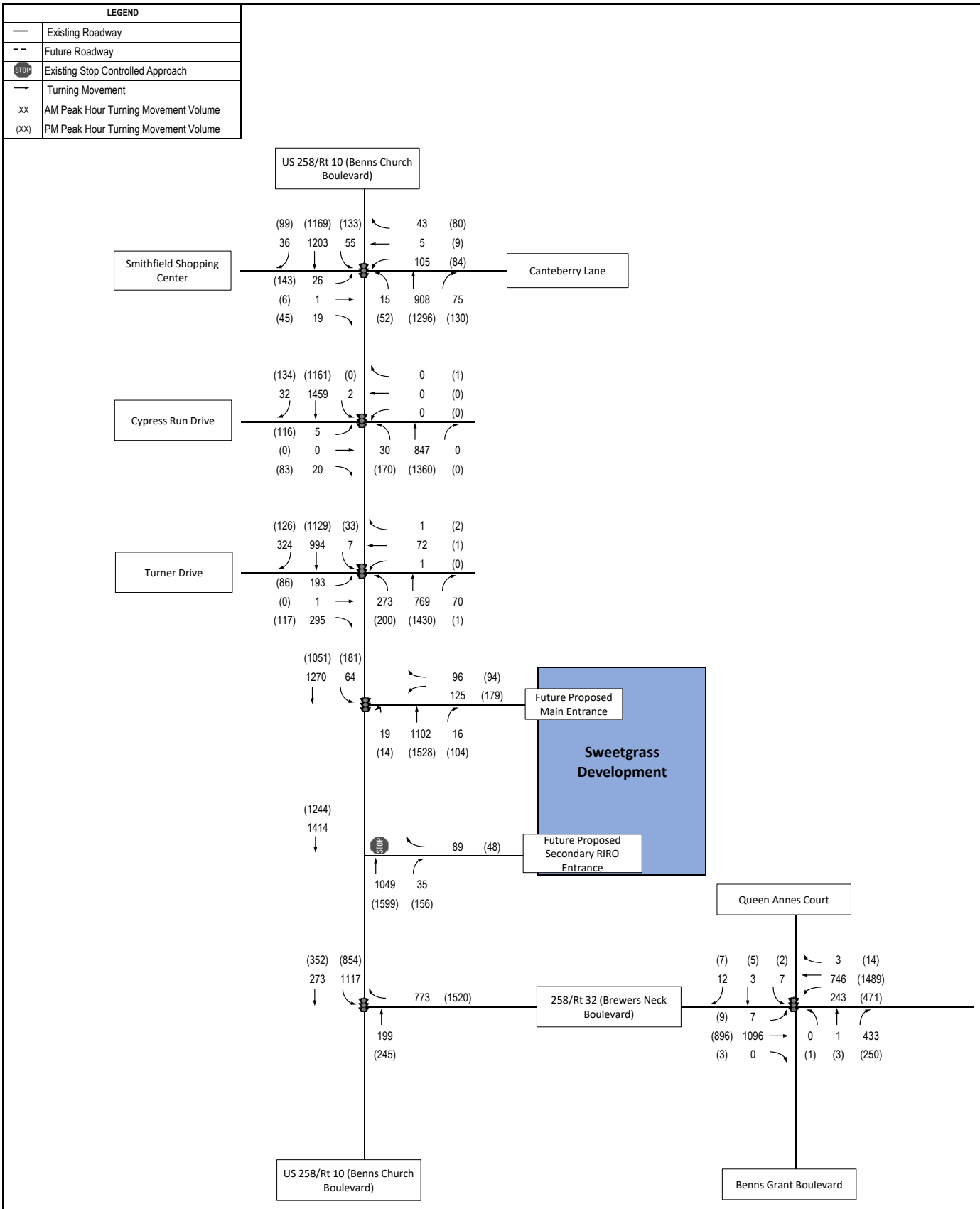


Figure 11
2026 Build AM and PM Peak Hour Traffic Volumes

Sweetgrass
Isle of Wight County, VA

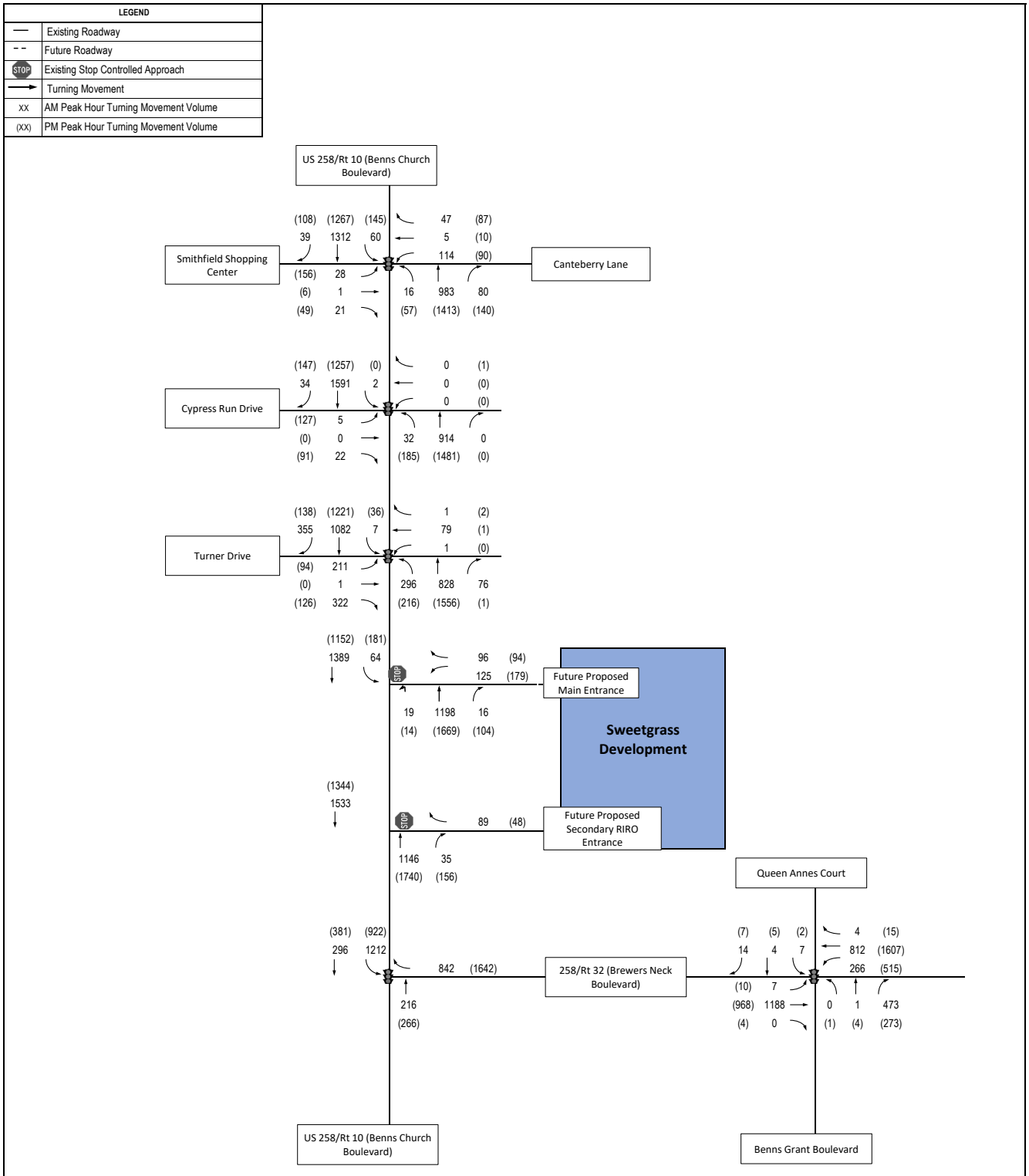


Figure 12
2032 Build AM and PM Peak Hour Traffic Volumes

Sweetgrass
Isle of Wight County, VA

Virginia Department of Transportation

TIA REGULATION SUBMITTAL INFORMATION SHEET

This sheet is a summary of information on a Chapter 527 submittal for entering into the LandTrack data base.

Submission Details

Project Name	Yeoman Tract TIA	Locality's Project ID	
VDOT District	Hampton Roads	Jurisdiction	Isle of Wight
Locality Contact		TIA Preparer	Lisa Simpson

Location

Route Number	Address	Principal Rte	ADT
10	14096 Benns Church Bl	☒	25000
		☐	
		☐	
		☐	
		☐	
		☐	
		☐	
		☐	
		☐	

Site Details

Submission Type	Zoning TIA Review		
Facility Type	Mixed Use - Commercial / Residential	Acreage	0
Residential Units	685	Commercial SqFt	35000
VPH (net)	809	VPD (net)	8962
Principal Parcel ID	32-01-009	Doubles Road VPD	NO
Other Parcel ID(s)			

Payment

Fee Waived	NO	Reason for Waiver	-- Select --
Payment Included	YES	Payment Type	Check
Check #		Check Holder	
Payment Amount		Received From	

Tracking

Date Received by Locality	Locality's Requested Due Date

Comments

December 2019

YEOMAN'S TRACT

Isle of Wight County, Virginia

Traffic Impact Study



Table of Contents

Introduction and Summary 1
- Purpose 1
- Executive Summary 1

Background Information 2
- Study Area Roadways – Existing and Programmed Conditions 3
- Existing Traffic Volumes 4
- Existing Pedestrian and Transit Services 4
- Proposed Development 4
- Site Access 5
- Proposed Pedestrian and Transit Services 5

Analysis of Existing Conditions 12
- Capacity Analysis 12

Analysis of Future No Build Conditions 14
- Planned Transportation System Improvements 14
- Capacity Analysis 14

Analysis of Build Conditions 20
- Trip Generation 20
- Trip Distribution 20

Auxiliary Lanes 25
Signal Warrant Analysis 25
Capacity Analysis 27
Queue Analysis 30
Recommended Improvements 33
Summary and Conclusions 34

List of Figures

Figure 1. Vicinity Map. 6
Figure 2. Study Area Map. 7
Figure 3. Existing Lane Configuration. 8
Figure 4. Bus Routes for Existing and No Build Conditions 9
Figure 5. Conceptual Site Plan 10
Figure 6. Existing and Proposed Land Use. 11
Figure 7. 2026 and 2032 Future No Build Lane Configuration 15
Figure 8. 2026 No Build AM and PM Peak Hour Traffic Volumes. 16
Figure 9. 2032 No Build AM and PM Peak Traffic Volumes. 17
Figure 10. Combined AM and PM Peak Hour Site Trips. 22
Figure 11. 2026 Build AM and PM Peak Hour Traffic Volumes. 23
Figure 12. 2032 Build AM and PM Peak Hour Traffic Volumes. 24
Figure 13. 2026 and 2032 Future Build Lane Configuration. 26

List of Tables

Table 1. 2018 Existing Measures of Effectiveness. 13
Table 2. 2026 No-Build Measures of Effectiveness. 18
Table 3. 2032 No Build Measures of Effectiveness 19
Table 4. Trip Generation. 20
Table 5. 2026 Build Measures of Effectiveness. 28
Table 6. 2032 Build Measures of Effectiveness. 29
Table 7. Queue Analysis 32
Table 8. 2018 Existing, 2026 No Build and 2032 No Build LOS Summary 35
Table 9. 2026 Build and 2032 Build LOS Summary 36

Appendices

Appendix A	Approved Pre-Scoping Form
Appendix B	Traffic Data
Appendix C	2018 Existing Synchro Reports
Appendix D	2026 No Build Synchro Reports
Appendix E	2032 No Build Synchro Reports
Appendix F	Trip Distribution Percentages and Volumes
Appendix G	Turn Lane Warrant Analysis
Appendix H	Signal Warrant Analysis
Appendix I	2026 Build Synchro Reports
Appendix J	2032 Build Synchro Reports
Appendix K	Queue Reports
Appendix L	Signal Justification Report

Introduction and Summary

Purpose

Yeoman's Tract is an undeveloped parcel located at 14096 Benns Church Boulevard in Isle of Wight County. The parcel is on the northeast side US 258/Rt (Benns Church Boulevard) between US 258/Rt 32 (Brewers Neck Boulevard) and Canteberry Lane. Ryan Homes is planning a development of single family, and multi-family living residential units as well as, a public park, a shopping center and a fast food restaurant on this parcel. The developer is in the process of rezoning the property. This development is expected to be in full operation in 2026.

The site is estimated to generate 8,962 new daily trips with 548 trips in the morning peak hour and 809 trips during the evening peak hour.

The Virginia Department of Transportation (VDOT) and Isle of Wight County require a traffic study in compliance with Chapter 527 Regulations. A scoping meeting was held with VDOT and Isle of Wight County on April 23, 2018. A copy of the approved Pre-Scoping Form is included in Appendix A.

Executive Summary

In order to project the expected impact of the proposed development, trips were generated base on the Institute of Transportation Engineers Trip Generation Manual and distributed to the adjacent roadway network based on anticipated travel patterns. The development plan for the site consists of:

- 400 Single-family Detached Homes
- 285 Multi-family Detached Homes
- 4-acre Public Park
- 30,000 sf Shopping Center
- 5,000 sf Fast Food with Drive-Thru

This development plan is estimated to generate 8,962 new daily trips with 380 trips in the morning peak hour and 809 trips during the evening peak hour. Based on the results of the auxiliary lane, capacity and queuing analyses performed in this study, the following improvements are recommended:

<u>2018 Existing:</u>

- VDOT to construct eastbound right turn lane at US 258/Rt 10 (Benns Church Boulevard) and Turner Lane as planned.

2026 No Build:

- VDOT should review and optimize signal timings along the corridor, if necessary.

2026 Build:

- Construct northbound right turn lane (200' storage plus 200' taper) into right in/right out Proposed Secondary Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Construct northbound right turn lane (200' storage plus 200' taper) into Proposed Main Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Lengthen southbound left turn lane to provide 200' storage plus 200' taper into Proposed Main Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Install traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and Proposed Main Entrance.
- Install signal infrastructure to provide a protected eastbound right-turn overlap at US 258/Rt 10 (Benns Church Boulevard) and Turner Lane.
- Install flashing yellow arrows for the northbound and southbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) at Canterberry Lane, Cypress Run Drive, Turner Drive and the Proposed Main Entrance to allow lead/lag operation.
- Optimize signal timings along the corridor.

2032 No Build:

- No additional improvements required.

2032 Build:

- Install signal infrastructure to provide a protected southbound right-turn overlap at US 258/Rt 10 (Benns Church Boulevard) and Turner Lane.
- Optimize signal timings along the corridor.

Background Information

The intersections included in the study area are:

- US 258/Rt 10 (Benns Church Boulevard) and US 258/Rt 32 (Brewers Neck Boulevard) – signalized;
- US 258/Rt 32 (Brewers Neck Boulevard) and Queen Annes Court – signalized;
- US 258/Rt 10 (Benns Church Boulevard) and Cypress Run Drive – signalized;

- US 258/Rt 10 (Benns Church Boulevard) and Turner Drive – signalized;
- US 258/Rt 10 (Benns Church Boulevard) and Canteberry Lane – signalized;
- US 258/Rt 10 (Benns Church Boulevard) and the Proposed Main Entrance (unsignalized); and,
- US 258/Rt 10 (Benns Church Boulevard) and the Proposed Secondary Entrance (unsignalized).

The vicinity map is shown in Figure 1. Figure 2 shows the site location, study intersections and the street network serving the site. Figure 3 shows the existing lane configurations at each of the intersections.

Study Area Roadways – Existing and Programmed Conditions

US 258/Rt 10 (Benns Church Boulevard)
Benns Church Boulevard is a four-lane divided Minor Arterial which traverses in a north-south direction west of the study site. The posted speed limit in the vicinity of the site is 45 miles per hour (mph). The corridor includes retail and residential land uses.

US 258/Rt 32 (Brewers Neck Boulevard)
Brewers Neck Boulevards is a four-lane divided Principal Arterial south of the study site. It has a posted speed limit of 55 mph. US 258/Rt 32 (Brewers Neck Boulevard) runs east-west and intersects with US 258/Rt 10 (Benns Church Boulevard). Westbound left turns from Brewers Neck Boulevard onto US 258/RT 10 (Benns Church Boulevard) are restricted. South of the site, the corridor contains residential and civic land uses.

Canteberry Lane
Canteberry Lane is a four-lane divided local roadway. It provides access to residential land uses as well as commercial developments. The posted speed limit is 25 mph.

Turner Drive
Turner Drive is a two-lane Major Collector. It provides access to commercial land uses and Smithfield Middle School. A project is planned for summer 2018 to construct an eastbound right turn lane at US 258/Rt 10 (Benns Church Boulevard). The posted speed limit is 40 mph.

Cypress Run Drive
Cypress Run Drive is a two-lane local road with turn lanes. It provides access to commercial land uses. The posted speed limit is 15 mph.

Existing Traffic Volumes

The project area is within the Isle of Wight County. Traffic counts taken by VDOT in 2017 show the following average daily traffic volumes:

- US 258/Rt 10 (Benns Church Boulevard) – 25,000 vpd
- US 258/Rt 32 (Brewers Neck Boulevard) – 24,000 vpd
- Canteberry Lane – 1,300 vpd
- Turner Drive – 3,100 vpd
- Cypress Run Drive – 880 vpd

Historical data shows little or no traffic growth on US 258/Rt 10 or US 258/Rt 32 in the last 10 years.

Peak hour turning movement counts were taken on Tuesday, April 24th, Wednesday, April 25th and Thursday, April 26th, 2018 from 6:00 am to 8:00 am and from 2:30pm to 5:30pm at each intersection in the study area. Detailed count data is provided in Appendix B.

Actual AM and PM peak hour volumes were used in the capacity analysis to model existing traffic conditions.

Existing Pedestrian and Transit Services

The roadways within project area have paved shoulders, but the roadways within the project area do not have pedestrian facilities.

Senior Services of Southeastern Virginia provides transit access along the corridor on I-Ride. The I-Ride is a fixed route system, open to all, that provides access around Smithfield and connects to Hampton Roads Transit (HRT) in Newport News. The closest stop is at the Red Oak Mobile Homes on Benns Church Boulevard. The bus routes are shown on Figure 4.

Proposed Development

The Yeoman's Tract development includes a mixture of residential and commercial uses. The conceptual plan includes:

- 400 Single-family Detached Homes
- 285 Multi-family Detached Homes
- 4-acre Public Park
- 30,000 sf Shopping Center
- 5,000 sf Fast Food with Drive-Thru

Figure 5 shows the proposed site plan.

Currently the property is zoned for Rural Agricultural Conservation (RAC). However, it is being rezoned for Mixed Use Areas (PD-MX). This requires an amendment to Isle of Wight's Comprehensive Plan. In the Comprehensive Plan, the corridor is proposed to be a combination of mixed use areas and business and employment centers. Figure 6 shows the land use zoning for the project.

Site Access

There are two (2) planned access points to the proposed site. One right in/right out entrance off US 258/Rt 10 (Benns Church Boulevard) and one full access intersection at the existing median opening on US 258/Rt 10 (Benns Church Boulevard) south of Turner Drive as shown in Figure 5.

Proposed Pedestrian and Transit Services

Multipurpose trails will be provided within the development and along the US 258/Rt 10 (Benns Church Boulevard) street frontage. There will be no changes to transit services.

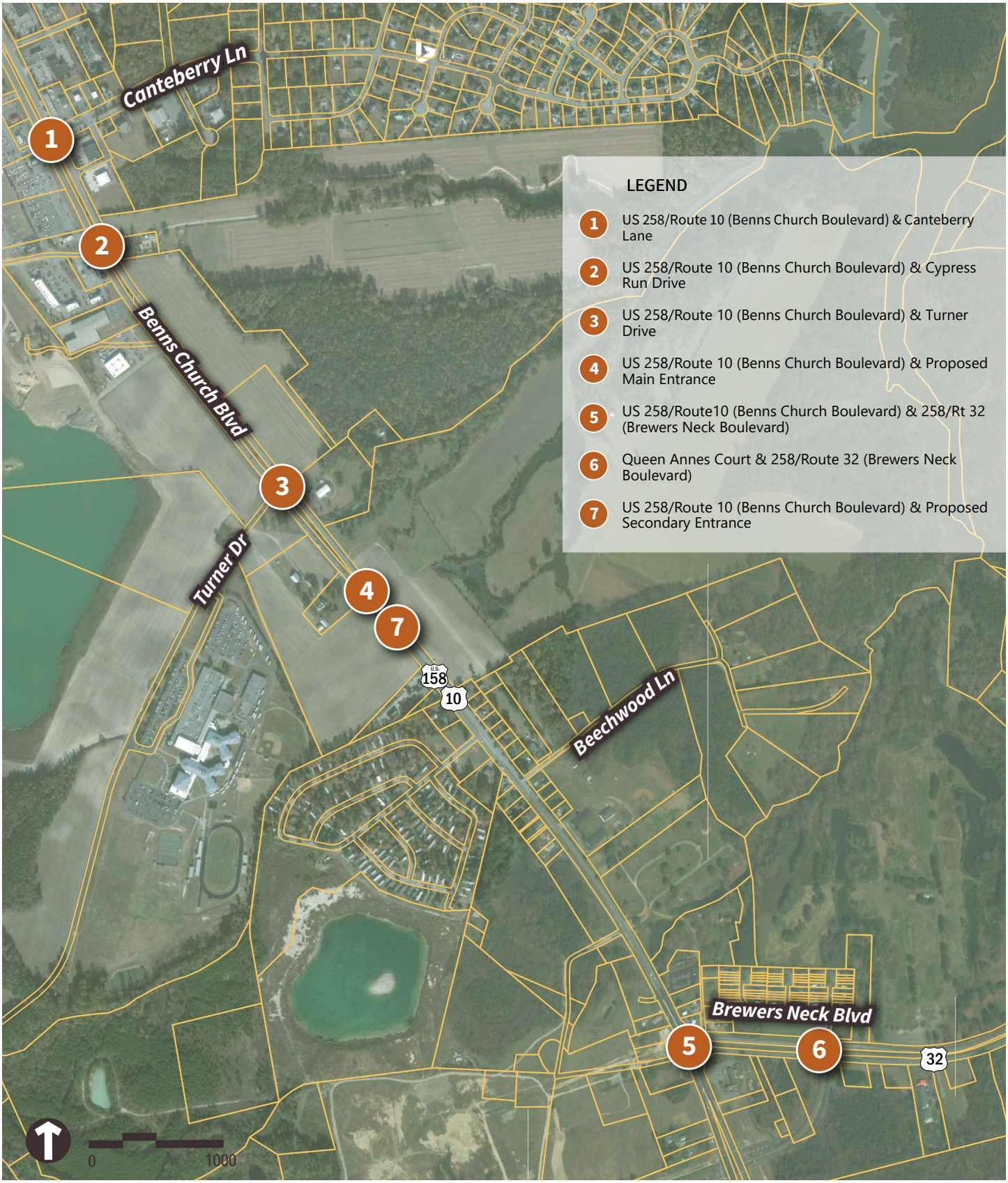


SOURCE: BING, (c) 2015 Microsoft Corporation and its data suppliers.

FIGURE 1

Vicinity Map

Yeoman Tract Traffic Impact Study
Isle of Wight County, Virginia

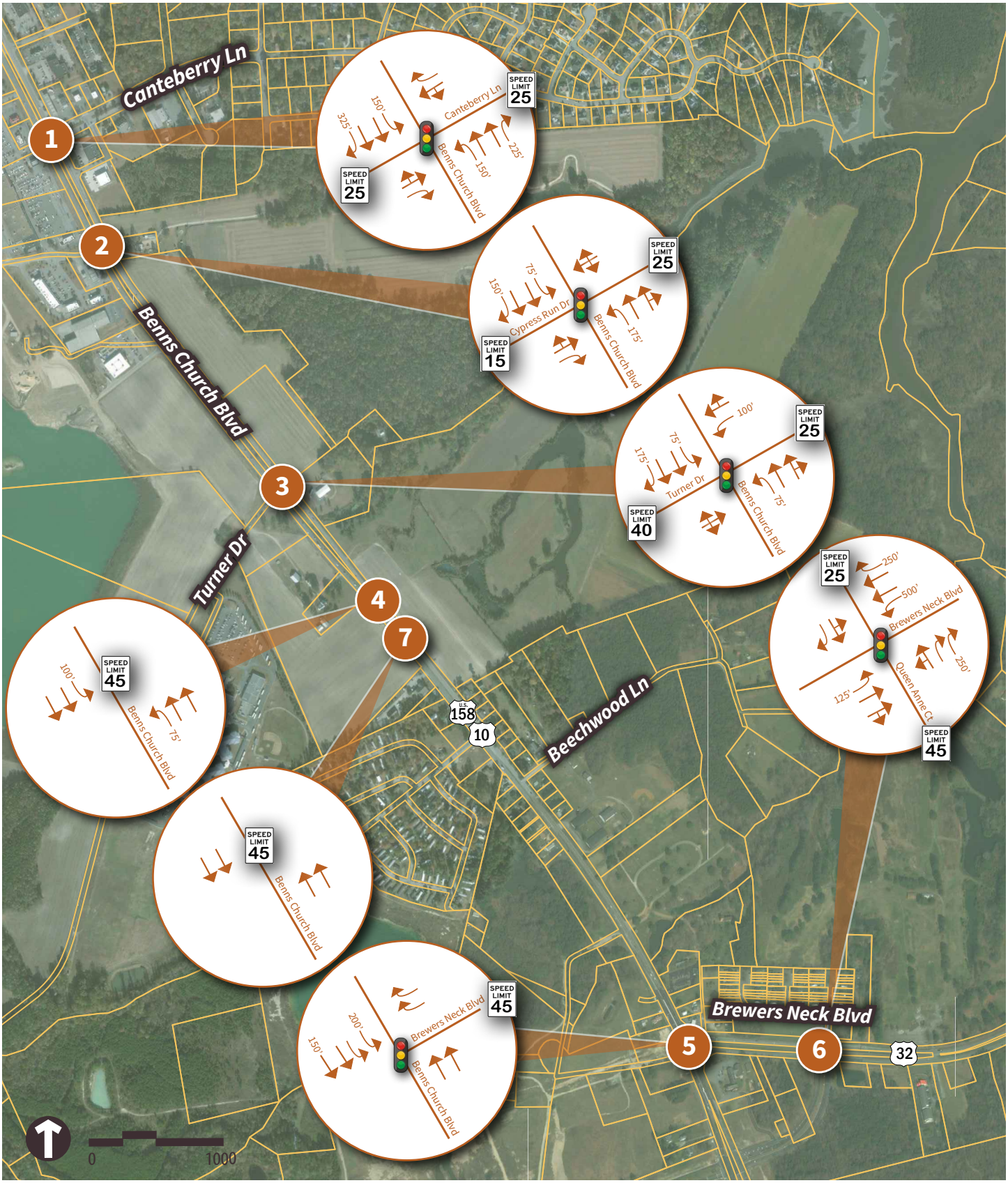


SOURCE: BING, (c) 2015 Microsoft Corporation and its data suppliers.

FIGURE 2

Study Area Map

Yeoman Tract Traffic Impact Study
Isle of Wight County, Virginia



SOURCE: BING, (c) 2015 Microsoft Corporation and its data suppliers.

FIGURE 3

Existing Lane Configuration

Yeoman Tract Traffic Impact Study
Isle of Wight County, Virginia



SOURCE: BING, (c) 2015 Microsoft Corporation and its data suppliers.

FIGURE 4

Bus Routes for Existing and No Build Conditions

Yeoman Tract Traffic Impact Study
Isle of Wight County, Virginia

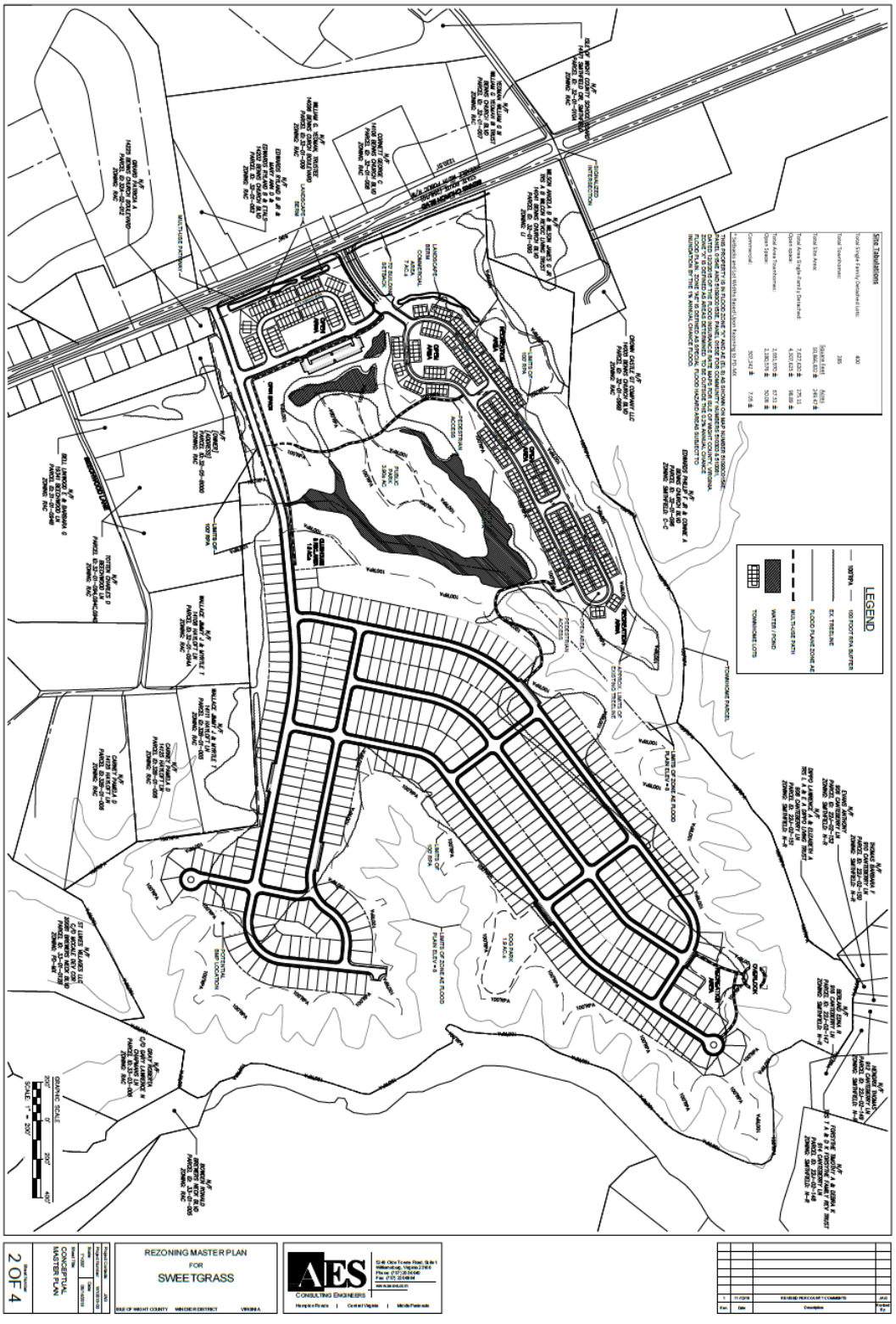


Figure 5. Conceptual Site Plan

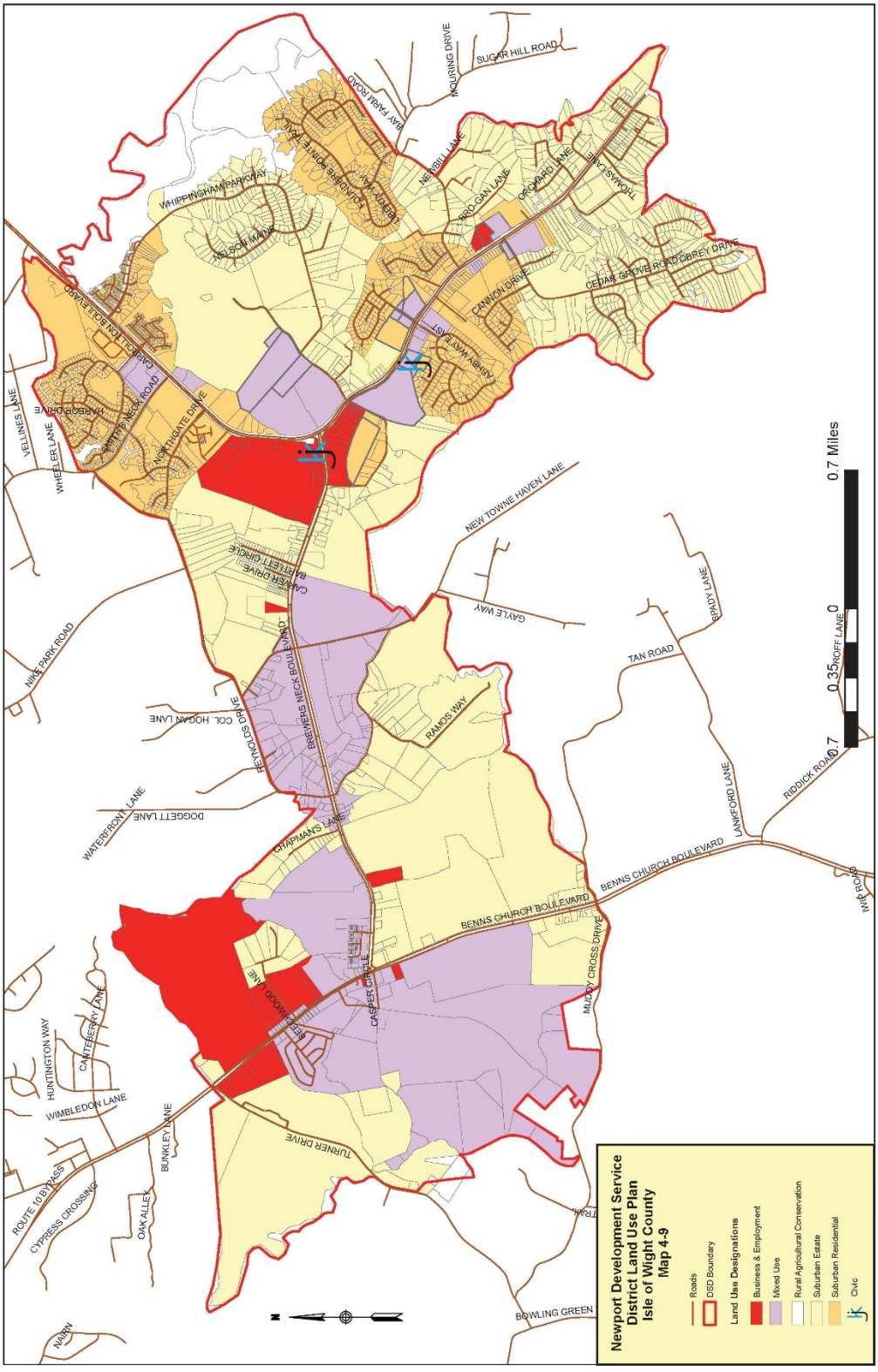


Figure 6. Existing and Proposed Land Use.

Analysis of Existing Conditions

Capacity Analysis

Capacity analysis results are expressed in terms of Level of Service (LOS). LOS is a qualitative measurement of traffic operations. It is translated from a measure of delay to drivers in units of time, seconds per vehicle. The Transportation Research Board's Highway Capacity Manual (HCM) defines six levels of service for intersections with LOS "A" representing operating conditions with minimal constraints on traffic movements and LOS "F" representing extremely congested operating conditions. LOS "D" is considered the threshold of acceptable operations for an overall intersection. Exhibit 18-4 of the HCM gives the criteria for signal controlled intersections, while HCM Exhibit 19-1 gives the criteria for unsignalized intersections.

HCM Exhibit 18-4: Level of Service Criteria

Signalized Level of Service	Signal Delay per Vehicle (sec/veh)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

HCM Exhibit 19-1: Level of Service Criteria

Unsignalized Level of Service	Stopped Delay per Vehicle (sec/veh)
A	≤ 10.0
B	> 10.0 and ≤ 15.0
C	> 15.0 and ≤ 25.0
D	> 25.0 and ≤ 35.0
E	> 35.0 and ≤ 50.0
F	> 50.0

Synchro 9.1 was the software tool used in determining the delay, capacity and corresponding LOS of the study intersections. The delay and LOS information calculated in the analysis are presented in Table 1. Appendix C includes the Synchro reports for the 2018 Existing conditions.

Based on the existing conditions analyses, most of the corridor operates acceptably at LOS C or better, with the exception of the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive. Currently, during morning peak hour, LOS at this intersection experiences an unacceptable LOS F with over 108 seconds per vehicle (sec/veh) in delay. Improvements are planned to improve operations at this intersection. Current plans were provided to VHB by VDOT and the future lane configuration was taken into the account in the future year No Build and Build analyses. Based on the planned improvements, no interim improvements are recommended.

Table 1. 2018 Existing Measures of Effectiveness.

Intersection and Approach	Control	2018 Existing	
		AM	PM
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	**C (21.4 sec/veh)**	**C (25.4 sec/veh)**
Eastbound		C-28.2	D-43.3
Westbound		D-52.6	D-35
Northbound		B-13	C-23.4
Southbound		C-22.3	C-23.1
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	**A (3 sec/veh)**	**A (9.2 sec/veh)**
Eastbound		B-11.5	C-33.9
Westbound		---	---
Northbound		A-2.8	A-7.4
Southbound		A-2.8	A-6.1
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	**F (108.1 sec/veh)**	**B (16.9 sec/veh)**
Eastbound		F-131.1	C-26.3
Westbound		C-33.1	C-28.3
Northbound		D-40.8	B-15.6
Southbound		F-152.7	B-16.5
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Unsignalized	**-**	**-**
Eastbound		---	---
Westbound		---	---
Northbound		---	---
Southbound		---	---
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**A (6.3 sec/veh)**	**A (7 sec/veh)**
Eastbound		---	---
Westbound		A-2.1	A-6.1
Northbound		C-21.8	C-20.6
Southbound		A-6.8	A-5
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**B (18.1 sec/veh)**	**B (18.1 sec/veh)**
Eastbound		C-26.3	C-28.1
Westbound		B-15.6	B-16.2
Northbound		A-4	A-4.6
Southbound		C-20.7	C-22.8

Analysis of Future No Build Conditions

Background Traffic

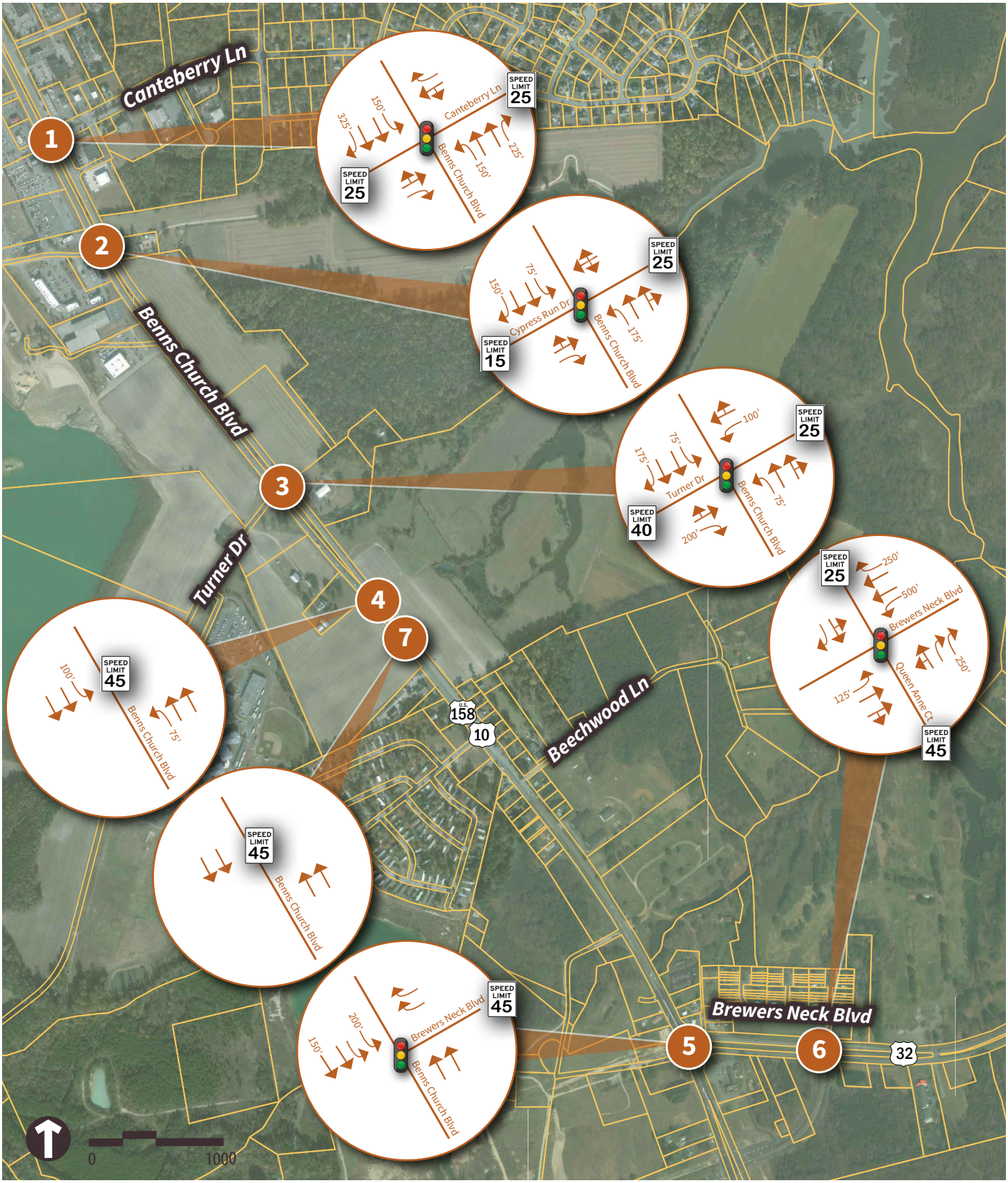
The 2018 am and pm peak hour volumes were projected to horizon years 2026 and 2032 using a growth factor approved by VDOT and Isle of Wight County. One and a half percent (1.5%) growth was used for all intersections within the study area.

Planned Transportation System Improvements

As mentioned earlier in the report, there are improvements planned for the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive. An exclusive right turn lane, with 200 feet of storage, will be added to eastbound approach. Figure 7 shows the lane configurations for future 2026 and 2032 No Build and Build scenarios. The two (2) site entrances shown in Figure 7 apply to the Build conditions only. The lane configurations at all other intersections used in future conditions analyses are identical to those shown for the existing conditions.

Capacity Analysis

Synchro 9.1 was the software tool used in determining the delay, capacity and corresponding level of service of the study intersections using the projected traffic volumes. The results indicate that all intersections operate at an overall LOS C with the exception of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive is expected to be E during morning peak hour with the constructed eastbound right turn lane. Tables 2 and 3 present the delay and LOS information calculated in the analysis for these conditions. Even though the overall LOS at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive is expected to be E during morning peak hour, the eastbound approach will continue to operate at unacceptable LOS F with almost 96 sec/veh in delay in 2026. With signal optimization the delay to the eastbound movement is reduced to 74 seconds (LOS F) in the 2032 AM No Build condition, however the northbound and southbound movements are reduced to a LOS E. Figures 8 and 9 show the projected traffic volumes for 2026 and 2032 No Build Conditions, respectively. The network signal cycle lengths and splits were optimized for the 2026 and 2032 No Build analyses. Appendix D includes the Synchro reports for the 2026 No Build conditions and Appendix E includes the Synchro reports for the 2032 No Build conditions.



SOURCE: BING, (c) 2015 Microsoft Corporation and its data suppliers.

FIGURE 7

2026 and 2032 Future No Build Lane Configuration

Yeoman Tract Traffic Impact Study
Isle of Wight County, Virginia

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
⟶	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

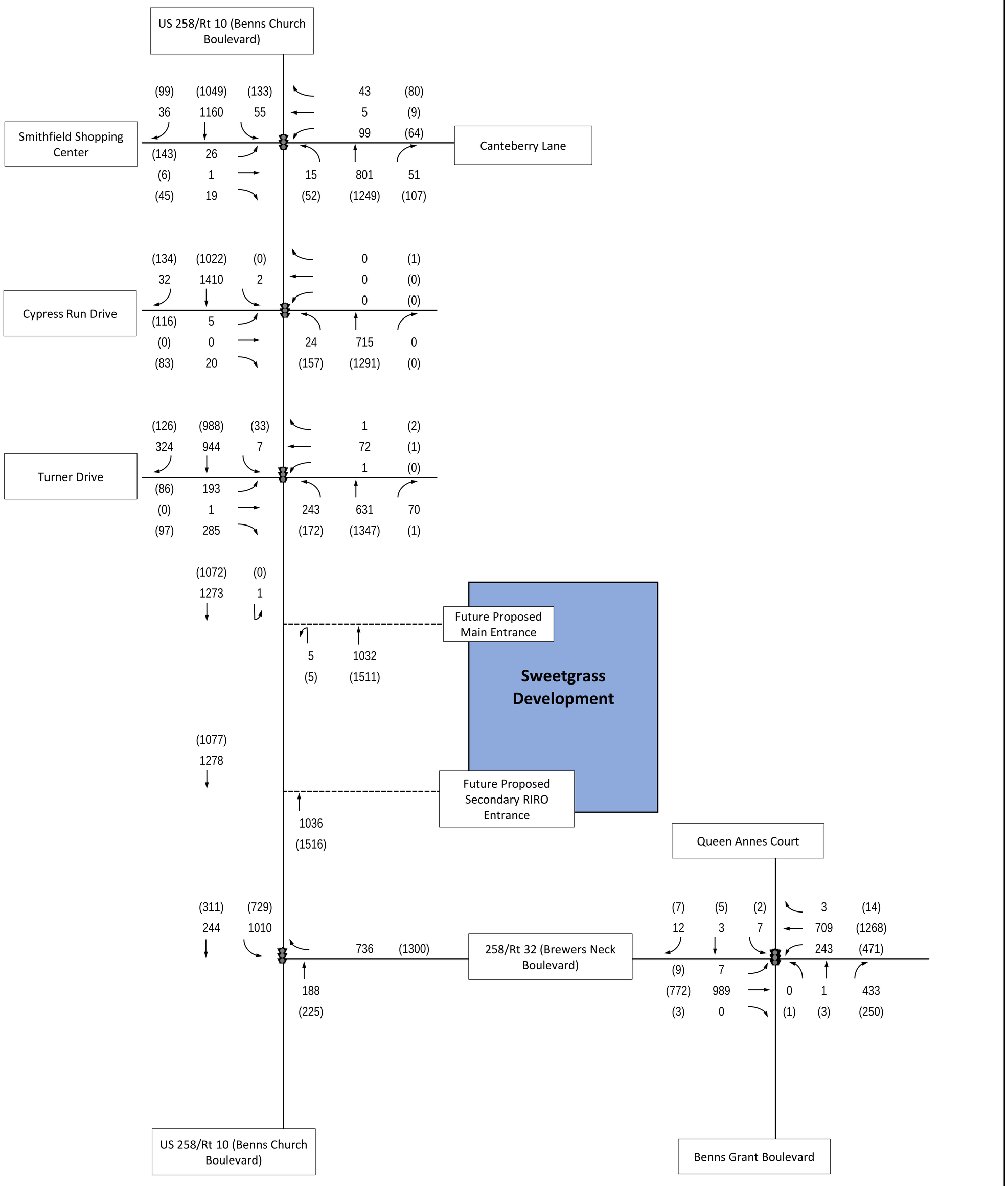


Figure 8
2026 No Build AM and PM Peak Hour Traffic Volumes

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

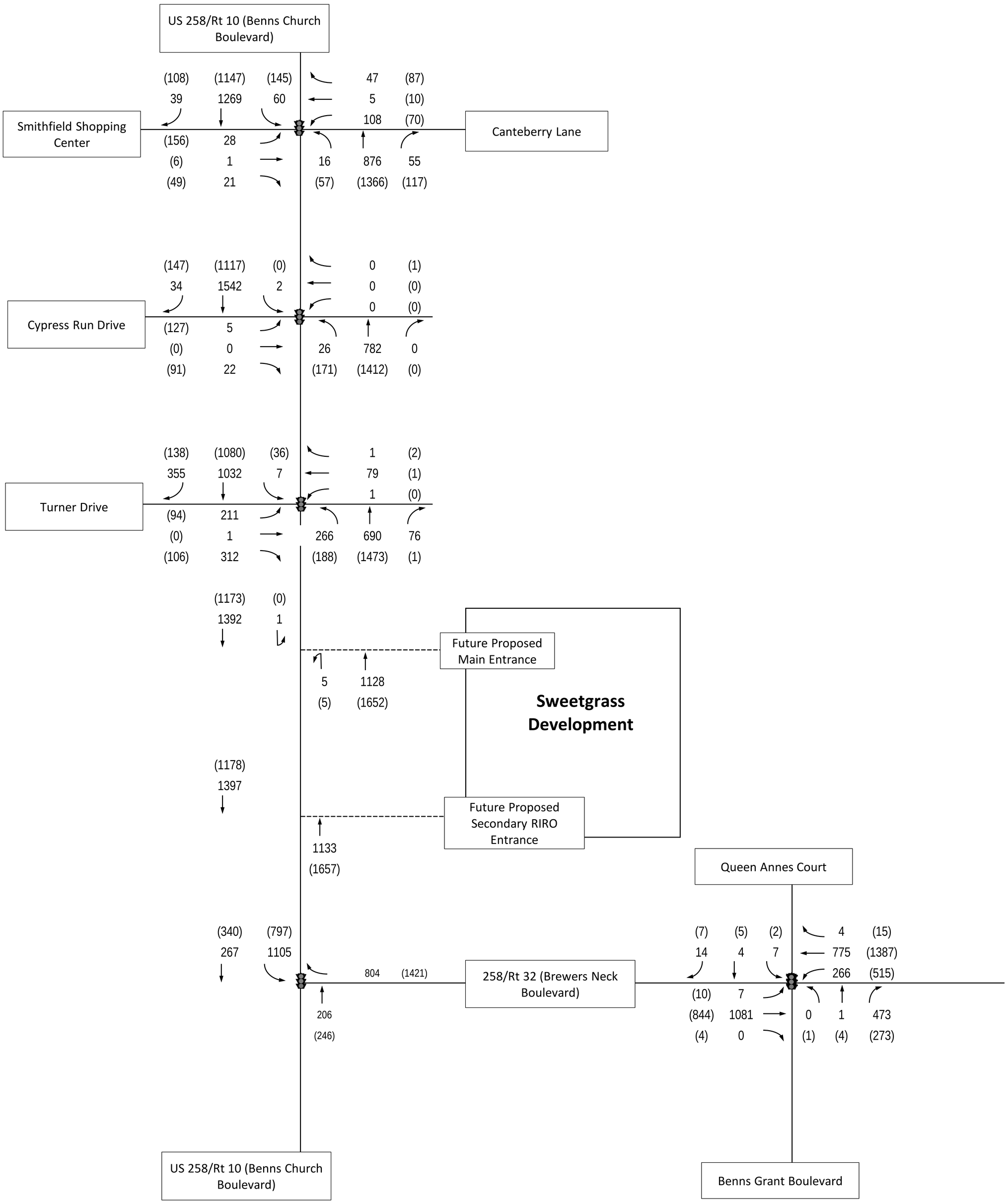


Figure 9
2032 No Build AM and PM Peak Hour Traffic Volumes

Sweetgrass, Isle of Wight County, VA

Table 2. 2026 No-Build Measures of Effectiveness.

Intersection and Approach	Control	2026 No-Build	
		AM	PM
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	**C (25.3 sec/veh)**	**C (31.3 sec/veh)**
Eastbound		C-28.5	D-43.2
Westbound		E-57	D-35.6
Northbound		B-14.2	C-28
Southbound		C-27.5	C-32.4
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	**A (4.8 sec/veh)**	**A (9.9 sec/veh)**
Eastbound		B-12.5	C-34.4
Westbound		---	---
Northbound		A-3.1	A-8.9
Southbound		A-5.4	A-5.8
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	**E (58.4 sec/veh)**	**B (18.4 sec/veh)**
Eastbound		F-95.9	C-26.8
Westbound		D-38.6	C-26.7
Northbound		D-47.4	B-17.8
Southbound		D-54.5	B-17.5
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Unsignalized	**-**	**-**
Eastbound		---	---
Westbound		---	---
Northbound		---	---
Southbound		---	---
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**A (7.1 sec/veh)**	**A (8.4 sec/veh)**
Eastbound		---	---
Westbound		A-3.4	A-8.5
Northbound		C-24	C-23.7
Southbound		A-7.1	A-4.8
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**B (20 sec/veh)**	**B (19.9 sec/veh)**
Eastbound		C-31.1	C-28.6
Westbound		B-15.7	B-18.8
Northbound		A-3.7	A-4.4
Southbound		C-20.7	C-23.2

Table 3. 2032 No Build Measures of Effectiveness.

Intersection and Approach	Control	2032 No-Build	
		AM	PM
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	**C (26.4 sec/veh)**	**D (36.9 sec/veh)**
Eastbound		D-44.3	D-43
Westbound		E-70.4	D-36.4
Northbound		B-15.3	D-35.2
Southbound		C-26.8	D-37.9
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	**A (2.8 sec/veh)**	**B (11.1 sec/veh)**
Eastbound		B-16.8	D-35.8
Westbound		---	---
Northbound		A-2.2	B-10.9
Southbound		A-2.7	A-5.8
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	**E (73.9 sec/veh)**	**C (22.2 sec/veh)**
Eastbound		F-88.1	C-28.8
Westbound		D-45.2	C-29.7
Northbound		E-71.5	C-21.4
Southbound		E-73.4	C-21.7
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Unsignalized	**-**	**-**
Eastbound		---	---
Westbound		---	---
Northbound		---	---
Southbound		---	---
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**A (9.5 sec/veh)**	**A (9.8 sec/veh)**
Eastbound		---	---
Westbound		A-7.9	B-10.9
Northbound		B-19.2	C-25.8
Southbound		A-9.1	A-4.7
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**C (21.6 sec/veh)**	**C (26.6 sec/veh)**
Eastbound		C-29	C-31
Westbound		B-19.5	C-28.6
Northbound		A-8.1	A-4.5
Southbound		C-25.9	C-24.9

Analysis of Build Conditions

Trip Generation

Traffic that may be generated by the proposed development was established using equations and rates available through the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 10th Edition.

Trip generation for the site was prepared for each individual land use. ITE provides information for single-family detached housing (Land Use 210), low-rise multi-family housing (Land Use 220), public park (Land Use 411), shopping center (Land Use Code 820) and fast food with drive-through (Land Use 934).

The types of commercial development are unknown at this time, so shopping center was used. Pass-by trips to/from fast food restaurant were considered at a 49% rate and to/from the shopping center were considered at a 34% rate. Summary of all future site trips are presented in Table 4 below.

Table 4. Trip Generation.

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	400	Dwelling Units	3,776	74	222	296	249	147	396
Multifamily Housing (Low-Rise)	220	285	Dwelling Units	2,144	30	101	131	101	59	160
Public Park	411	4	Acres	91	0	0	0	13	10	23
Shopping Center	820	30	1000 Sq. Ft. GLA	2,651	17	11	28	107	116	223
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	2,355	102	99	201	85	78	163
Subtotal				**11,017**	**223**	**433**	**656**	**555**	**410**	**965**
Pass-by Trips (Fast Food only)	49%		% Pass-by	1,154	50	49	98	42	38	80
Pass-by Trips (Shopping Center)	34%		% Pass-by	901	6	4	10	36	39	76
Total New Trips				**8,962**	**167**	**380**	**548**	**477**	**333**	**809**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between average rate and fitted curve unless R2<0.75

The site is estimated to generate 8,962 new daily trips with 548 trips in the morning peak hour and 809 trips during the evening peak hour.

Trip Distribution

Trip distribution was based on the existing traffic patterns and the understanding of the land uses within the surrounding area.

The site traffic distribution for the residential uses assumes 70% will enter from and exit to the south during the AM peak and 60% will enter from and exit to the south during the PM peak. For the shopping and fast-food used it is assumed that 55% will enter from and exit to the

south during AM peak hour and 55% will enter from and exit to the south during PM peak hour. Trip distribution percentages and traffic volumes for each land use are shown in Appendix F. Combined AM and PM peak hour site trips for all land uses are shown on Figure 10.

The resulting 2026 Build AM and PM traffic volumes are provided in Figure 11, while the 2032 Build AM and PM traffic volumes are provided in Figure 12.

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

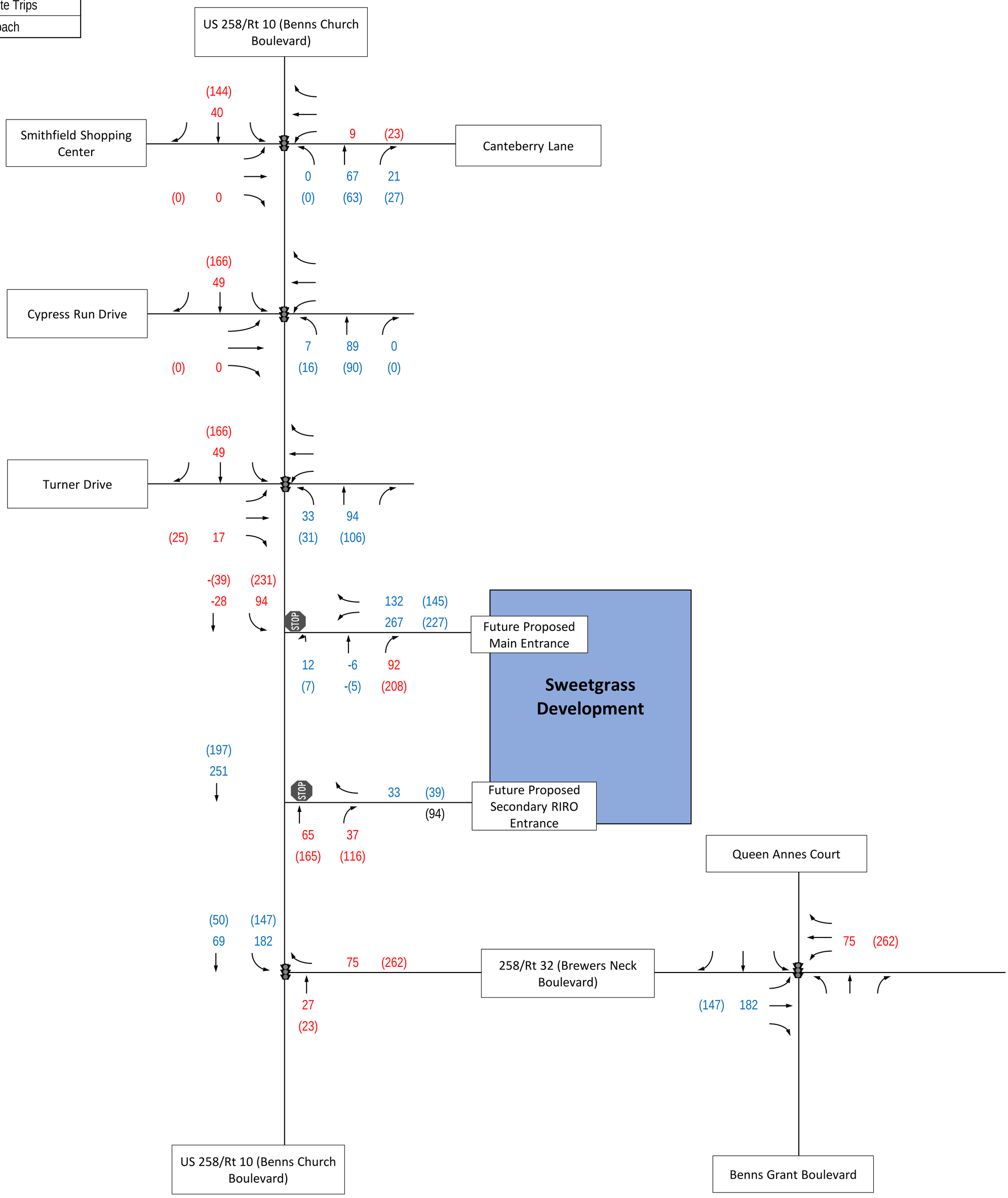


Figure 10
Combined AM and PM Peak Hour Site Trips

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

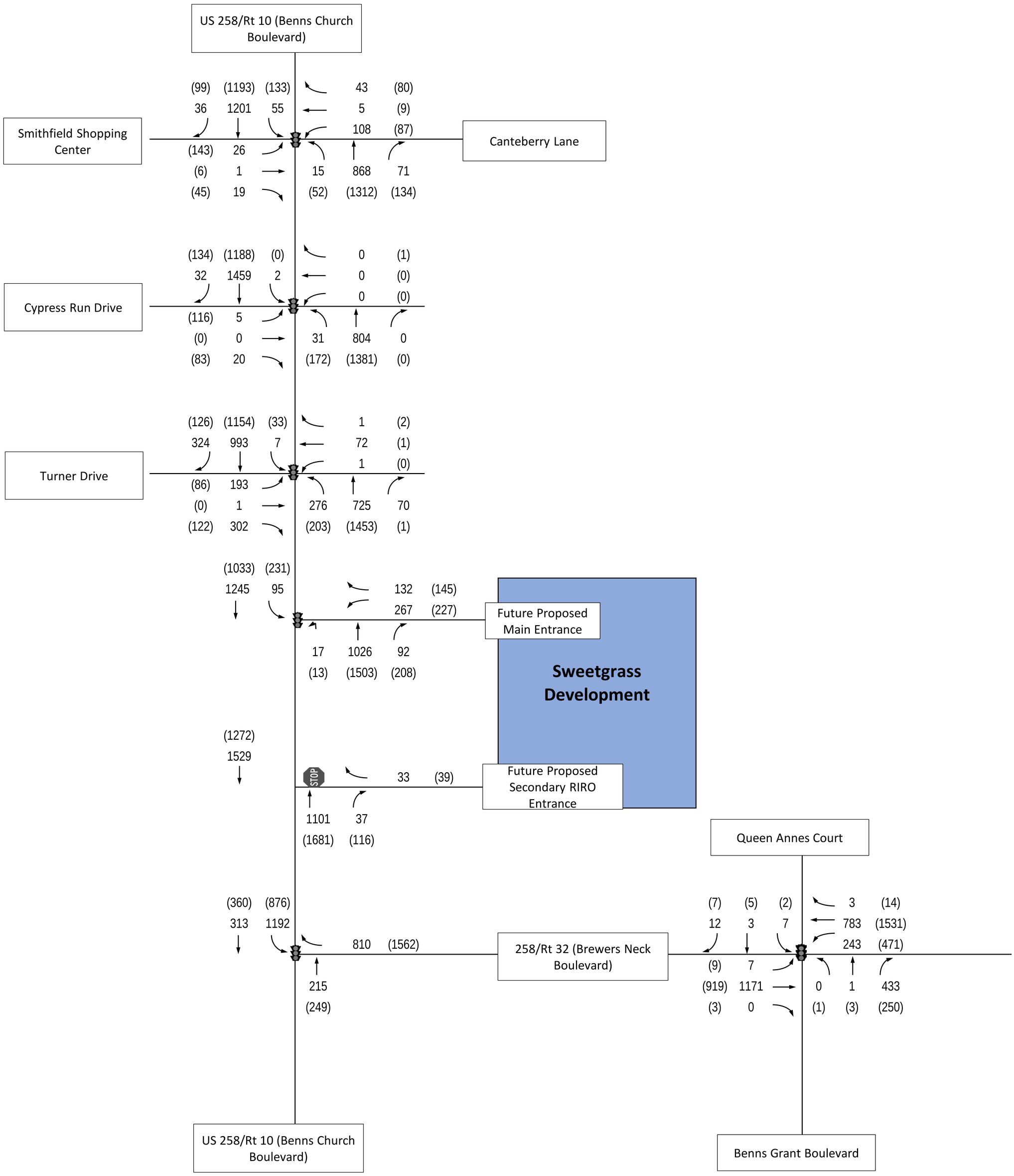


Figure 11
2026 Build AM and PM Peak Hour Traffic Volumes

Sweetgrass, Isle of Wight County, VA

LEGEND	
—	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

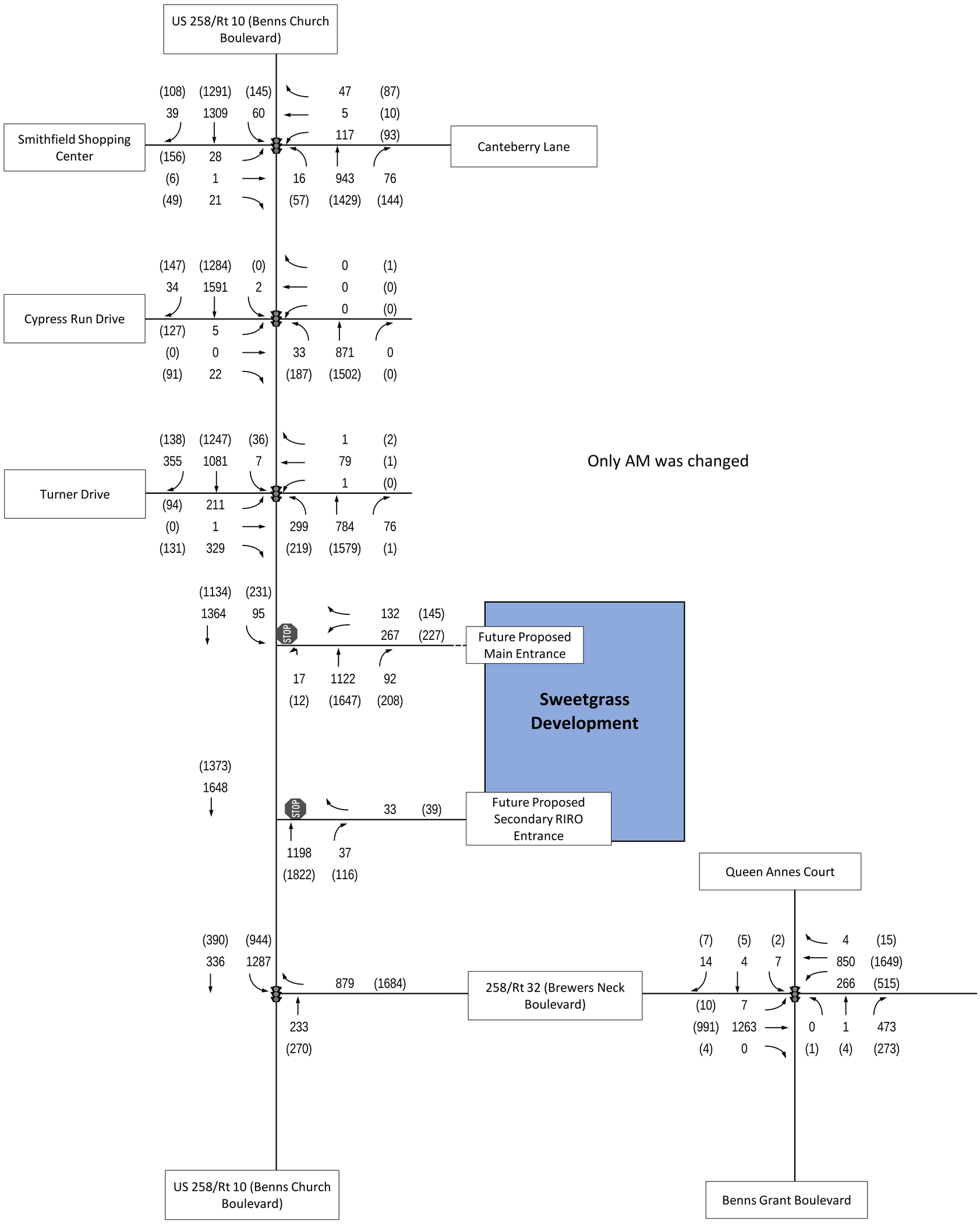


Figure 12
2032 Build AM and PM Peak Hour Traffic Volumes

Sweetgrass,
Isle of Wight County, VA

Auxiliary Lanes

There are two (2) entrances into the proposed site. The future Proposed Main Entrance allows all turning movements on to and off of US 258/Rt.10 (Benns Church Boulevard). The Proposed Secondary Entrance is right-in/right-out and allows limited ingress and egress from the development. Based on VDOT Road Design Manual and forecasted volumes, a 200-foot right turn lane with 200-foot taper is required for the northbound right turn lane at the Proposed Main Entrance. In addition, the southbound left turn lane at this intersection should be lengthened to provide 200' storage and a 200-foot taper. At the Proposed Secondary Entrance, a 200-foot right turn lane with a 200' taper is required. For the purpose of the Build analysis, the proposed left turn and right turn lanes at each entrance were taken into account. More detailed turn lane warrant analysis is shown in Appendix G.

Signal Warrant Analysis

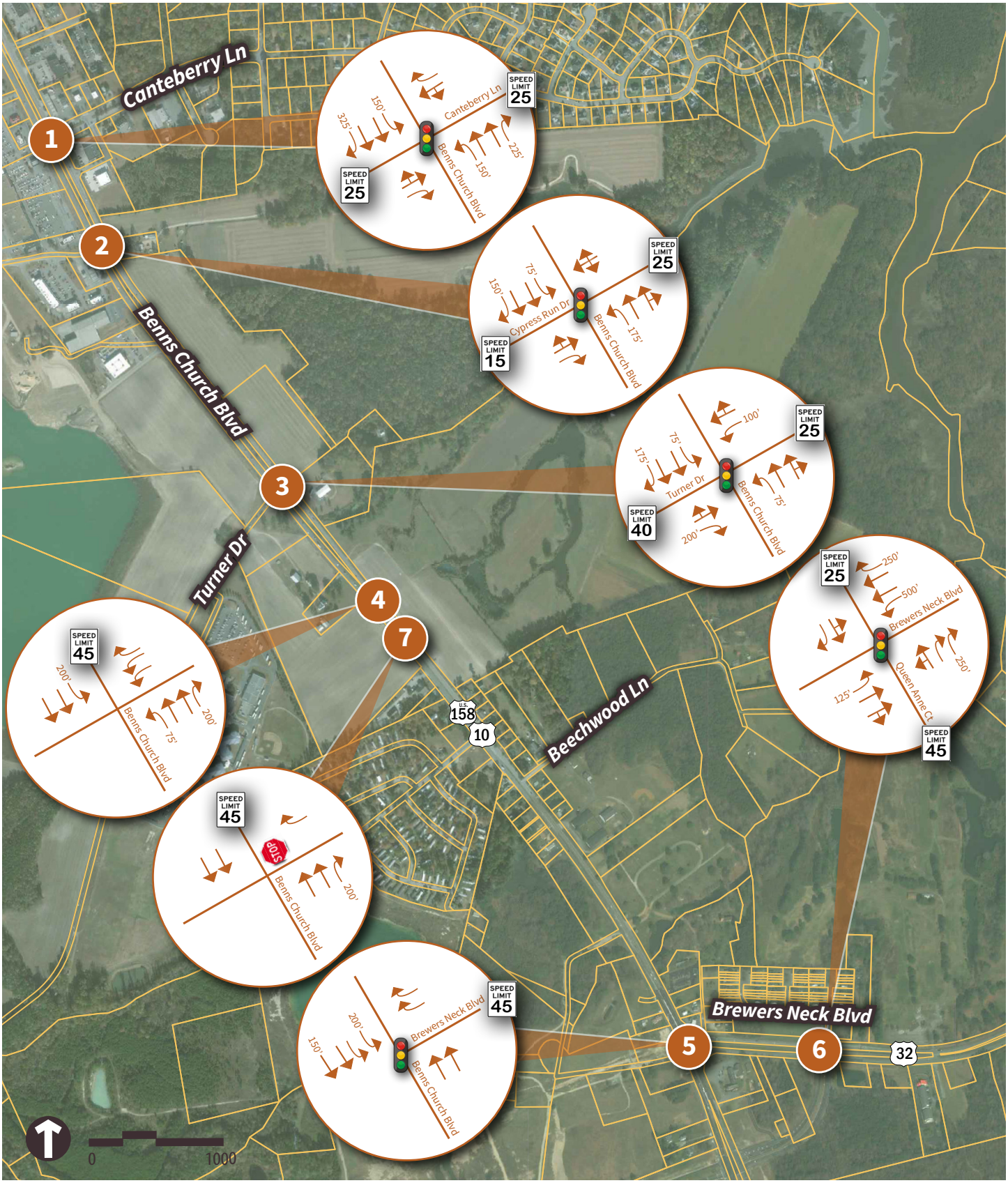
A Manual of Uniform Traffic Control Devices (MUTCD) signal warrant screening was performed based on projected volumes at the intersection of US 258 /Rt.10 (Benns Church Boulevard) and the future proposed main entrance to the development. Chapter 4C (Traffic Control Signal Needs Studies) of the MUTCD identifies nine (9) warrants. All nine warrants were analyzed as a part of this study and detailed results are presented in Appendix H.

The MUTCD allows some, or all, right turns to be combined with the left turns for the purpose of conducting the signal warrants. Engineering judgement should be applied based on the level of conflict and delay expected for the right turning traffic entering the roadway network.

Analysis was conducted based on the projected volumes and current posted speed limit on US 258/Rt 10 (Benns Church Boulevard) of 45 mph. Based on the available data and the signal warrant requirements included in the Virginia Supplement to the MUTCD, the analysis indicates that the eight-hour, four-hour, and peak hour vehicular volume warrants (Warrants 1, 2 and 3) were satisfied.

A signal is recommended at the subject intersection at full build out. A Signal Justification Report (SJR) has been generated and has been submitted to VDOT for review and approval.

For the purpose of this study, a signal at the Proposed Main Entrance and US 258/Rt.10 (Benns Church Boulevard) was assumed and incorporated into all Build scenarios.



SOURCE: BING, (c) 2015 Microsoft Corporation and its data suppliers.

FIGURE 13

2026 and 2032 Future Build Lane Configuration

Yeoman Tract Traffic Impact Study
Isle of Wight County, Virginia

Capacity Analysis

The 2026 and 2032 Build Condition volumes were analyzed using the Synchro 9.1 software. The network signal timings were optimized along with offsets and cycle lengths for the 2026 and 2032 Build analyses. Appendix I includes the Synchro reports for the 2026 Build conditions and Appendix J includes the Synchro reports for the 2032 Build conditions.

There are two (2) entrances into the proposed site. The Proposed Main Entrance is a full entrance on US 258/Rt 10 (Benns Church Boulevard). The Proposed Secondary Entrance is a right-in/right out entrance onto US 258/Rt 10 (Benns Church Boulevard) south of the Proposed Main Entrance.

At the intersection at the Proposed Main Entrance, signal control was assumed for the purpose of this analysis. In addition, the lengthened left turn lane on southbound approach with 200-foot storage and 200-foot taper along as well as the proposed 200-foot right turn storage lane and 200-foot taper on the northbound approach were also included. At the Proposed Secondary Entrance, stop control was assumed on the westbound approach and a 200-foot right turn storage lane with 200-foot taper on the northbound approach was included. Projected LOS and delay results at each intersection for 2026 and 2032 Build scenario are presented in Table 5 and 6 respectively.

Table 5. 2026 Build Measures of Effectiveness.

Intersection and Approach	Control	2026 Build	
		AM	PM
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	**C (32.1 sec/veh)**	**C (32.1 sec/veh)**
Eastbound		D-45.3	D-45.3
Westbound		D-38.2	D-38.2
Northbound		C-33.3	C-33.3
Southbound		C-28.4	C-28.4
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	**A (9.3 sec/veh)**	**A (9.3 sec/veh)**
Eastbound		D-36.6	D-36.6
Westbound		---	---
Northbound		A-9.4	A-9.4
Southbound		A-5.1	A-5.1
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	**C (21.1 sec/veh)**	**C (21.1 sec/veh)**
Eastbound		B-19.6	B-19.6
Westbound		C-22.7	C-22.7
Northbound		C-20.3	C-20.3
Southbound		C-22.5	C-22.5
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Signalized	**B (15.1 sec/veh)**	**B (15.1 sec/veh)**
Eastbound		---	---
Westbound		C-29.2	C-29.2
Northbound		B-17.8	B-17.8
Southbound		A-7.4	A-7.4
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**B (12.7 sec/veh)**	**B (12.7 sec/veh)**
Eastbound		---	---
Westbound		B-15.5	B-15.5
Northbound		D-36.7	D-36.7
Southbound		A-4.2	A-4.2
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**B (19.9 sec/veh)**	**B (19.9 sec/veh)**
Eastbound		C-33.6	C-33.6
Westbound		B-15.5	B-15.5
Northbound		A-3.7	A-3.7
Southbound		C-26.1	C-26.1
US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance	Unsignalized	**B (13.8 sec/veh)**	**C (20.5 sec/veh)**
Eastbound		---	---
Westbound		B-13.8	C-20.5
Northbound		A-0	A-0
Southbound		A-0	A-0

Table 6. 2032 Build Measures of Effectiveness.

Intersection and Approach	Control	2032 Build	
		AM	PM
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	**B (18.5 sec/veh)**	**D (42.5 sec/veh)**
Eastbound		D-38.8	D-49.5
Westbound		D-51.7	D-39.6
Northbound		B-14.7	D-49.6
Southbound		B-16.6	C-34.5
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	**A (2.4 sec/veh)**	**A (8.1 sec/veh)**
Eastbound		B-11.2	D-45.2
Westbound		---	---
Northbound		A-1.2	A-7.3
Southbound		A-2.9	A-3.5
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	**C (32.1 sec/veh)**	**A (9.1 sec/veh)**
Eastbound		C-30.7	B-19.7
Westbound		D-43.1	C-26.3
Northbound		C-29.8	A-9.4
Southbound		C-33.9	A-7
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Signalized	**B (11.6 sec/veh)**	**B (16.9 sec/veh)**
Eastbound		---	---
Westbound		C-24.4	C-33.6
Northbound		B-13.5	B-19.3
Southbound		A-6.6	A-8.9
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**A (9.5 sec/veh)**	**B (19 sec/veh)**
Eastbound		---	---
Westbound		A-8.1	C-28.1
Northbound		C-24	C-33.6
Southbound		A-8.2	A-4.6
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	**C (21.1 sec/veh)**	**C (21.4 sec/veh)**
Eastbound		B-10.1	D-35.5
Westbound		D-39.8	B-17.1
Northbound		A-5.9	A-3.7
Southbound		C-27.8	C-26.1
US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance	Unsignalized	**B (14.6 sec/veh)**	**C (22.8 sec/veh)**
Eastbound		---	---
Westbound		B-14.6	C-22.8
Northbound		A-0	A-0
Southbound		A-0	A-0

All the intersections in the study area are expected to continue to operate under the acceptable LOS D or better under both 2026 and 2032 Build Conditions.

The network signal cycle lengths and splits were optimized for the 2026 and 2032 Build analyses, including a change to provide a protected/permissive eastbound left at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive. A flashing yellow arrow was included in the signal design for the northbound and southbound lefts to improve the efficiency of the intersection operation. Additional improvements to this intersection include an eastbound right turn overlap with the northbound left movement in the 2026 build condition and a southbound right turn overlap with the eastbound left movement in 2032 AM condition. With these improvements, the eastbound approach at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive is expected to operate at LOS C under 2026 Build Conditions 2032 during the morning peak. A LOS B I anticipated in the eastbound under 2032 Build Conditions during the evening peak hour. This is better than the expected No Build conditions.

Queue Analysis

SimTraffic was used to estimate the queues at the six (6) signalized intersections included in the project area. SimTraffic uses a hot spot, 20 feet in length, at the top of each lane or approach just prior to the adjacent intersection to help to identify possible queuing or spillback issues on adjacent intersections. If a vehicle is in that hot spot and is traveling less than 10 mph, it is assumed to be queued. The queuing and blocking reports are a result of the average of 10 runs.

Table 7 presents the estimated 95th percentile queue lengths for the 2018 Existing, 2026 No Build, 2026 Build, 2032 No Build and 2032 Build PM peak. The full Synchro queue reports can be found in Appendix K. Results and observations of queuing simulations show that most of the intersections are expected to queue within their storage capacities. However, the analysis of 2018 Existing Conditions has shown that at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive, the left turn queue on the northbound approach is currently 207 feet during morning peak hour and 148 feet during evening peak hour, exceeding existing storage capacity of 75 feet. Since this queuing issue is an existing condition and not a result of the proposed development, no changes to the existing storage lengths are proposed at this intersection.

The southbound right at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive is also anticipated to exceed the existing storage length in the 2032 AM peak hour. However, this movement is anticipated to operate at a LOS B with just over 10 seconds of delay. Therefore, it is anticipated this queue is the result of through vehicles blocking vehicles

from entering the right turn lane and is not an issue of available storage.

Table 7. Queue Analysis

Queuing Analysis - 95th Percentile Queue										
Intersection	Movement	Link Distance	Storage Length	Existing (AM/PM Peak)	2026 No Build (AM/PM Peak)	2032 No Build (AM/PM Peak)	Link Distance	Storage Length	2026 Build (AM/PM Peak)	2032 Build (AM/PM Peak)
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	EBLT	277		49/158	51/179	66/181	277		49/152	60/200
	EBR	277		39/59	42/63	46/74	277		37/60	50/64
	WBLT	1172		125/98	145/104	194/107	1172		134/158	173/131
	WBR	1172		59/112	67/113	86/116	1172		68/114	77/110
	NBL		150	31/108	35/167	51/222		150	38/108	53/190
	NBT	663		160/349	181/439	244/555	663		136/325	243/500
	NBT	663		168/364	186/445	249/563	663		145/335	258/509
	NBR		225	36/46	35/51	38/173		225	36/58	62/176
	SBL		150	52/119	59/144	60/176		150	62/141	75/164
	SBT	1895		187/235	209/275	248/330	1895		210/262	247/425
	SBT	1895		190/242	220/288	265/347	1895		230/268	267/341
	SBR		325	22/40	22/39	24/43		325	24/41	45/42
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	EBLT	1824		10/131	11/146	9/141	1824		11/126	15/212
	EBR	1824		29/93	34/99	35/116	1824		28/91	28/101
	WBLTR	1402		-/8	-/8	/9	1402		-/9	-/13
	NBL		175	49/111	37/125	43/130		175	48/122	50/156
	NBT	1913		59/143	56/171	63/214	1913		35/142	62/97
	NBTR	1913		1/159	75/185	86/231	1913		51/163	89/110
	SBL		75	47/-	4/-	2/-		75	3/-	2/-
	SBT	663		62/90	62/91	103/92	663		58/90	95/128
	SBT	663		10/108	69/109	123/112	633		78/100	119/134
	SBR		150	9/44	12/44	13/46		150	12/42	12/61
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	EBLTR	1442		326/121	-	-			-	-
	EBLT	1440		-	195/89	269/100	1442		242/105	277/111
	EBR		200	-	149/68	219/71		200	158/84	231/93
	WBLTR	648		88/22	97/18	119/20	648		102/20	130/22
	NBL		75	207/148	205/139	251/180		75	222/161	135/192
	NBT	1098		238/258	199/212	329/280	1065		200/239	427/234
	NBTR	1098		233/264	178/220	266/295	1065		157/251	351/230
	SBL		75	59/69	39/80	57/81		75	19/88	41/62
	SBT	1913		366/243	302/226	414/319	1913		252/274	344/159
	SBT	1913		383/253	311/241	423/328	1913		257/283	361/162
	SBR		175	140/64	137/58	178/91		175	131/60	269/57
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	WBL			-	-	-	816		167/170	154/193
	WBL			-	-	-	816		132/138	114/175
	WBR			-	-	-	816		78/121	120/151
	NBU		75	10/11	13/15	14/12		200	50/61	63/54
	NBT	3868	-	-	-/-	-	470		206/340	197/412
	NBT								202/336	187/405
	NBR							200	42/83	49/129
	SBU		100	5/-	6/-	6/-			-	-
	SBL							200	98/167	87/181
	SBT						1065		181/99	155/151
	SBT	1086		-	-	-/-	1065		204/120	177/165
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	WBR	1008		109/222	140/286	172/372	1008		104/451	118/531
	WBR	1008		109/225	141/291	172/373	1008		101/451	109/551
	NBT	2766		67/73	71/81	64/88	2766		66/109	84/104
	NBT	2766		70/80	74/86	72/99	2766		77/111	87/119
	SBL		200	149/116	152/128	169/138		200	150/155	196/146
	SBL	3868		175/135	177/150	193/160	3191		173/155	233/146
	SBT	3868		4/2	8/1	-/7	3191		5/-	-/6
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	EBL		125	21/25	27/29	23/25		125	27/27	44/31
	EBT	1008		246/192	259/240	294/251	1008		267/304	308/315
	EBTR	1008		261/208	272/249	302/263	1008		277/314	318/319
	WBL		500	145/244	169/296	215/347		500	188/407	191/406
	WBT	785		236/344	283/406	318/471	785		135/568	147/630
	WBT	785		205/334	246/408	297/481	785		121/588	129/673
	WBR		250	4/12	5/16	4/81		250	4/115	4/152
	NBLT	858		9/14	8/15	12/17	858		9/11	7/21
	NBR		250	162/91	185/108	224/116		250	204/120	208/134
	NBR		250	99/38	137/43	191/45		250	163/56	174/64
	SBLT	565		26/21	32/26	31/22	565		31/25	34/30
	SBR	565		30/26	32/34	39/31	565		40/24	37/30
US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance	WBR			-	-	-	1244		43/71	39/72
	SBT			-	-	-	3191		-/-	3/-
	NBT			-	-	-	3191		-/1	-/-
	NBR			-	-	-		100	-/-	-/-

Recommended Improvements

Based on the results of the auxiliary lane, capacity and queuing analyses performed in this study, the following improvements are recommended:

2018 Existing:

- VDOT to construct eastbound right turn lane at US 258/Rt 10 (Benns Church Boulevard) and Turner Lane as planned.

2026 No Build:

- VDOT should review and optimize signal timings along the corridor, if necessary.

2026 Build:

- Construct northbound right turn lane (200' storage plus 200' taper) into right in/right out Proposed Secondary Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Construct northbound right turn lane (200' storage plus 200' taper) into Proposed Main Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Lengthen southbound left turn lane to provide 200' storage plus 200' taper into Proposed Main Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Install traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and Proposed Main Entrance.
- Install signal infrastructure to provide a protected eastbound right-turn overlap at US 258/Rt 10 (Benns Church Boulevard) and Turner Lane.
- Install flashing yellow arrows for the northbound and southbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) at Canterberry Lane, Cypress Run Drive, Turner Drive and the Proposed Main Entrance to allow lead/lag operation.
- Optimize signal timings along the corridor.

2032 No Build:

- No additional improvements required.

2032 Build:

- Install signal infrastructure to provide a protected southbound right-turn overlap at US 258/Rt 10 (Benns Church Boulevard) and Turner Lane.
- Optimize signal timings along the corridor.

Summary and Conclusions

This study performed an evaluation of the 2018 Existing as well as No Build and Build scenarios for the future years of 2026 and 2032 peak hours. The study intersections included in the analyses were:

- US 258/Rt 10 (Benns Church Boulevard) and US 258/Rt 32 (Brewers Neck Boulevard) - signalized;
- US 258/Rt 32 (Brewers Neck Boulevard) and Queen Annes Court - signalized;
- US 258/Rt 10 (Benns Church Boulevard) and Cypress Run Drive - signalize;
- US 258/Rt 10 (Benns Church Boulevard) and Turner Drive - signalized;
- US 258/Rt 10 (Benns Church Boulevard) and Canteberry Lane - signalized;
- US 258/Rt 10 (Benns Church Boulevard) and the Proposed Main Entrance (unsignalized); and,
- US 258/Rt 10 (Benns Church Boulevard) and the Proposed Secondary Entrance (unsignalized).

The site is estimated to generate 8,962 new daily trips with 548 trips in the morning peak hour and 809 trips during the evening peak hour.

Under 2018 Existing Conditions, most of the corridor operates acceptably at LOS C or better, with the exception of the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive. Currently, during morning peak hour, LOS at this intersection experiences an unacceptable LOS F with over 108 seconds per vehicle (sec/veh) in delay. Improvements are planned to improve operations at this intersection. Current plans were provided to VHB by VDOT and the future lane configuration was taken into the account in the future year No Build and Build analyses. Based on the planned improvements, no interim improvements are recommended.

The 2026 and 2032 No Build analyses showed that most of the intersections in the network are expected to continue to operate at an acceptable LOS D or better with the exception of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive. Even though the overall LOS at this intersection is expected to be E during morning peak hour, the eastbound approach will continue to operate at unacceptable LOS F under 2026 and 2032 No Build conditions.

The Proposed Main Entrance allows all turning movements onto and off of US 258/Rt.10 (Benns Church Boulevard). The Proposed Secondary Entrance is right-in/right-out and allows limited access/exit to/from the development. Turn lane warrant analysis was performed to identify turn

lane storage lengths and tapers. For the purpose of the Build analysis, the proposed left turn and right turn lanes at each entrance were taken into account.

A signal warrant analysis was performed at the Proposed Main Entrance and a signal is recommended at this intersection. Signalized traffic control at this intersection was assumed for all Build Conditions.

The 2026 and 2032 Build analyses show that all intersections in the network are expected to continue to operate at an acceptable LOS D or better.

Results and observations of queuing simulations show that most of the intersections are expected to queue within their storage capacities. However, the analysis of 2018 Existing Conditions has shown that at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Turner Drive, left turn queue on northbound approach is currently longer than the existing storage lane. Since this is an existing condition, no change to the storage length is proposed.

In conclusion, the results of the analyses indicate that the development of the site as proposed will have modest impact on the intersections within the study area.

Table 8. 2018 Existing, 2026 No Build and 2032 No Build LOS Summary

Intersection and Approach	Control	2018 Existing		2026 No-Build		2032 No-Build	
		AM	PM	AM	PM	AM	PM
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	C (WB-D)	C (EB-D)	C (WB-E)	C (EB-D)	C (WB-E)	D (EB-D)
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	A (EB-B)	A (EB-C)	A (EB-B)	A (EB-C)	A (EB-B)	B (EB-D)
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	F (SB-F)	B (WB-C)	E (EB-F)	B (EB-C)	E (EB-F)	C (WB-C)
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Unsignalized	N/A	N/A	N/A	N/A	N/A	N/A
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	A (NB-C)	A (NB-C)	A (NB-C)	A (NB-C)	A (NB-B)	A (NB-C)
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	B (EB-C)	B (EB-C)	B (EB-C)	B (EB-C)	C (EB-C)	C (EB-C)

Table 9. 2026 Build and 2032 Build LOS Summary

Intersection Name	Control	2026 Build		2032 Build	
		AM	PM	AM	PM
US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane	Signalized	B (WB-D)	C (EB-D)	B (WB-D)	D (NB-D)
US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive	Signalized	A (EB-A)	A (EB-D)	A (EB-B)	A (EB-D)
US 258/Rt 10 (Benns Church Boulevard) & Turner Drive	Signalized	B (EB-C)	C (WB-C)	C (WB-D)	A (WB-C)
US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance	Signalized	A (WB-C)	B (WB-C)	B (WB-C)	B (WB-C)
US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	A (NB-B)	B (NB-D)	A (NB-C)	B (NB-C)
Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)	Signalized	B (SB-C)	B (EB-C)	C (WB-D)	C (EB-D)
US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance	Unsignalized	(WB-B)	(WB-C)	(WB-C)	(WB-C)

APPENDIX A

Approved Pre-Scoping Data

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:	VHB 757.233.3223 ktynch@vhb.com			
Developer/Owner Name: Tele: E-mail:	Ryan Homes 757.905.5298 eshirey@nvrinc.com			
Project Information				
Project Name:	Yeoman Tract		Locality/County:	Isle of Wight
Project Location: (Attach regional and site specific location map)	Located off of Rt 10 between Rt 614 and Rt 32 (Brewers Neck Blvd)			
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)	343 single family homes, 165 townhomes. 125 attached senior living residences, 20k sf general office, 20k sf shopping center, 5k sf fast food restaurant with drive thru and 4 ac public park.			
Proposed Use(s): (Check all that apply; attach additional pages as necessary)	Residential ☒	Commercial ☒	Mixed Use ☐	Other ☐
	Residential Uses(s) Number of Units: 633 ITE LU Code(s): 210 220 252 **Commercial Use(s)** ITE LU Code(s): 820 710 934 Square Ft or Other Variable:		**Other Use(s)** ITE LU Code(s): 411 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: 2018	Build-out Year: 2026	Design Year: 2032
Study Area Boundaries (Attach map)	North: Canteberry Lane	South: Brewers Neck Blvd	
	East: N/A	West: Rt 10	
External Factors That Could Affect Project (Planned road improvements, other nearby developments)	New turn lane from high school (200' turn lane + 200' taper)		
Consistency With Comprehensive Plan (Land use, transportation plan)	No		
Available Traffic Data (Historical, forecasts)	2017 VDOT count 25,000 vpd, taking intersection counts with project		
Trip Distribution (Attach sketch)	Road Name: Rt 10 (distribution will be based on counts)	Road Name:	
	Road Name:	Road Name:	
Annual Vehicle Trip Growth Rate:	1.5%	Peak Period for Study (check all that apply)	☒ AM ☒ PM ☐ SAT
		Peak Hour of the Generator	4-5 pm
Study Intersections and/or Road Segments (Attach additional sheets as necessary)	1.Brewers Neck Blvd and Rt 10	6.Benns Neck Blvd and Benns Grant Blvd	
	2.Benns Church Blvd and Main Access to Site	7.	
	3.Benns Church Blvd and Canteberry Lane	8.	
	4.Benns Chuch Blvd and Secondary Access to Site	9.	
	5.Benns Church Blvd and Turner Dr	10.	
Trip Adjustment Factors	Internal allowance: ☐ Yes ☒ No Reduction: _____% trips	Pass-by allowance: ☒ Yes ☐ No Reduction: 49% trips	
Software Methodology	☒ Synchro ☐ HCS (v.2000/+) ☐ aaSIDRA ☐ CORSIM ☐ Other _____		
Traffic Signal Proposed or Affected (Analysis software to be used, progression speed, cycle length)	TBD		

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	Signal, turn lanes
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: Developed as 1 phase. Recreational areas and club house serve rsidential community only, and will not generate additional traffic.

SIGNED: Kirsten B. Tynch DATE: 4/23/18
Applicant or Consultant

PRINT NAME: Kirsten B. Tynch
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.

Rezoning Package Checklist

Traffic Impact Analysis Regulations: 24 VAC 30-155-40

☑ **A COVER SHEET** containing:

- ☑ **Contact Information** for the
  - ☑ Locality,
  - ☑ Developer (or owner), if applicable;
- ☑ **Site Information**
  - ☑ Rezoning location,
  - ☑ Highways adjacent to the site,
  - ☑ Parcel number or numbers;
- ☑ **Proposal Summary** with the
  - ☑ Development's name,
  - ☑ Size (acreage),
  - ☑ Proposed zoning;
  - ☑ Proposed types of land uses, including maximum number of lots or maximum business square feet, and
- ☑ **A Statement** regarding the proposal's compliance with the comprehensive plan.

☑ **A TRAFFIC IMPACT ANALYSIS** prepared in accordance with 24-VAC-30-155-60.

☑ **A CONCEPT PLAN** of the proposed development.

☐ **ANY PROFFERED CONDITIONS** submitted by the applicant.

☑ **FEES** -

- ☑ **For the initial or second review** of a rezoning proposal, a single fee for both reviews will be determined by the number of vehicle trips generated per peak hour of the generator, as follows:
  - ☐ Low volume road submission 24VAC30-155-40 A 3 - $250
  - ☑ All other submissions - $1,000
- ☐ **For a third or subsequent submission** of a rezoning proposal that is requested by VDOT on the basis of the failure of the applicant to address deficiencies previously identified by VDOT, the fee is equal to the initial fee paid.

Site Tabulations

Total Single Family Detached Lots:	400	
Total Townhomes:	285	
	Square Feet	Acres
Total Site Area:	10,866,832 ±	249.47 ±
Total Area Single-Family Detached:	7,627,620 ±	175.11
Open space:	4,307,625 ±	98.89 ±
Total Area Townhomes:	2,931,970 ±	67.31 ±
Open Space:	2,180,576 ±	50.06 ±
Commercial:	307,242 ±	7.05 ±

* Setbacks and Lot Widths Based Upon Rezoning to PD-MX

THIS PROPERTY IS IN FLOOD ZONE "X" AND AE (EL 8) AS SHOWN ON MAP NUMBER 51093C0154E; PANEL 0154E AND 51093C0153E, PANEL 0153E FOR COMMUNITY NUMBERS 510303 & 510081, DATED 12/2/2015 OF THE FLOOD INSURANCE RATE MAPS FOR ISLE OF WIGHT COUNTY, VIRGINIA. ZONE "X" IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN. ZONE "AE" IS DEFINED AS SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD.

LEGEND

- 100'RPA — 100 FOOT RPA BUFFER
- EX. TREELINE
- FLOOD PLANE ZONE AE
- MULTI-USE PATH
- WATER / POND
- TOWNHOME LOTS

N/F
THOMAS BARBARA F
910 CANTEBERRY LN
PARCEL ID: 22J-02-150
ZONING: SMITHFIELD: N-R

N/F
EVANS ANTHONY
906 CANTEBERRY LN
PARCEL ID: 22J-02-152
ZONING: SMITHFIELD: N-R

N/F
DIPPO LAWRENCE A & ELIZABETH A
TRS L A & E A DIPPO LIVING TRUST
908 CANTEBERRY LN
PARCEL ID: 22J-02-151
ZONING: SMITHFIELD: N-R

N/F
BERLAND EDNA R
916 CANTEBERRY LN
PARCEL ID: 22J-02-147
ZONING: SMITHFIELD: N-R

N/F
HENDRIX THOMAS
912 CANTEBERRY LN
PARCEL ID: 22J-02-149
ZONING: SMITHFIELD: N-R

N/F
FORSYTHE TIMOTHY A & DEBRA K
TRS T A & D K FORSYTHE FAMILY REV TRUST
914 CANTEBERRY LN
PARCEL ID: 22J-02-148
ZONING: SMITHFIELD: N-R

N/F
EDWARDS PHILLIP F JR & CONNIE A
BENNS CHURCH BLVD
PARCEL ID: 32-01-096
ZONING: SMITHFIELD: C-C

N/F
CROWN CASTLE GT COMPANY LLC
14005 BENNS CHURCH BLVD
PARCEL ID: 32-01-096B
ZONING: RAC

N/F
ISLE OF WIGHT COUNTY SCHOOL BOARD
14101 SMITHFIELD CIR, SMITHFIELD
PARCEL ID: 32-01-010A
ZONING: RAC

N/F
WILSON ANGELA B & WILSON JAMES G JR
TRS A B WILCON REVOC LIVING TRUST
14041 BENNS CHURCH BLVD
PARCEL ID: 32-01-095
ZONING: LI

N/F
YEOMAN WILLIAM G III
WILLIAM G YEOMAN III TRUST
BENNS CHURCH BLVD
PARCEL ID: 32-01-007
ZONING: RAC

N/F
CORNETT GEORGE C
14106 BENNS CHURCH BLVD
PARCEL ID: 32-01-008
ZONING: RAC

N/F
WILLIAM G. YEOMAN, TRUSTEE
14096 BENNS CURCH BOULEVARD
PARCEL ID: 32-01-009
ZONING: RAC

N/F
EDWARDS RYLAND B JR &
MARY ANN D &
EDWARDS RYLAND B & ETALS
14202 BENNS CHURCH BLVD
PARCEL ID: 32-01-062
ZONING: RAC

N/F
GIRARD PATRICIA A
14225 BENNS CHURCH BOULEVARD
PARCEL ID: 32A-02-012
ZONING: RAC

N/F
[OWNER]
[ADDRESS]
PARCEL ID: 32-05-B000
ZONING: RAC

N/F
WALLACE JIMMY J & MYRTLE T
14108 HAYLOFT LN
PARCEL ID: 32-01-094A
ZONING: RAC

N/F
WALLACE JIMMY J & MYRTLE T
14111 HAYLOFT LN
PARCEL ID: 32B-01-005
ZONING: RAC

N/F
CARNEY PAMELA D
14125 HAYLOFT LN
PARCEL ID: 32B-01-006
ZONING: RAC

N/F
TOTTEN CHARLES D
BEECHWOOD LN
PARCEL ID: 32-01-094,094C,094D
ZONING: RAC

N/F
BELL LINWOOD E & BARBARA G
19341 BEECHWOOD LN
PARCEL ID: 31-01-094B
ZONING: RAC

N/F
ST LUKES VILLAGES LLC
C/O MCCALE DEV COR
20081 BREWERS NECK BLVD
PARCEL ID: 33-01-012B
ZONING: PD-MX

N/F
BOWDEN RONALD
BREWERS NECK BLVD
PARCEL ID: 33-01-005
ZONING: RAC

N/F
GRAY ROBERTA
C/O GARY LAWRENCE N
CHAPMANS LN
PARCEL ID: 33-03-006
ZONING: RAC

BENNS CHURCH BLVD
(VARIABLE WIDTH PUBLIC R/W)
(SLOPE EASEMENT VARIES WITH TOPOGRAPHY)
1220.51'
696'

SIGNALIZED INTERSECTION
TOWNHOME PARCEL
LIMITS OF ZONE AE FLOOD PLAIN ELEV = 8
APPROX. LIMITS OF EXISTING TREELINE
RECREATION AREA
OPEN AREA
PEDESTRIAN ACCESS
LIMITS OF 100' RPA
LANDSCAPE BERM
COMMERCIAL AREA 7 AC.±
70' BUILDING SETBACK
PUBLIC PARK 3.90± AC
OPEN SPACE
CLUBHOUSE & REC. AREA 1.0 AC.±
OVERLOOK
DOG PARK 1.9 AC.±
POTENTIAL BMP LOCATION
MULTI-USE PATHWAY
BEECHWOOD LANE

GRAPHIC SCALE
200' 0' 200' 400'
SCALE: 1" = 200'

Rev.	Date	Description	Reviewed By
1	11/1/2019	REVISED PER COUNTY COMMENTS	JAG

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
Phone: (757) 253-0040
Fax: (757) 220-8994
www.aesva.com
Hampton Roads | Central Virginia | Middle Peninsula

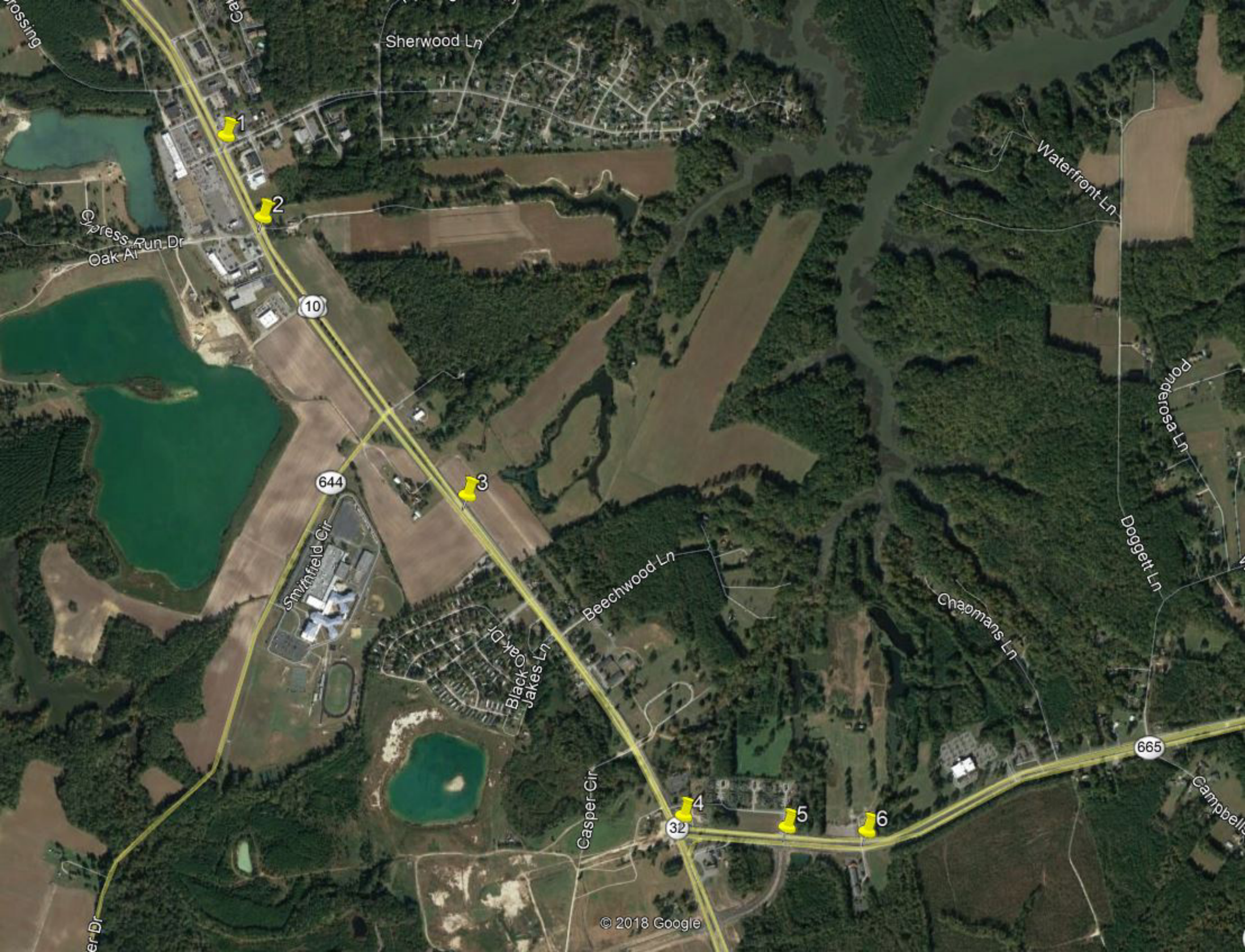
REZONING MASTER PLAN FOR SWEETGRASS

ISLE OF WIGHT COUNTY | WINDSOR DISTRICT | VIRGINIA

Project Contacts:	JAG
Project Number:	W10516-00
Scale: 1"=200'	Date: 06/14/2019

Sheet Title:
CONCEPTUAL MASTER PLAN

Sheet Number
2 OF 4


Sherwood Ln
Waterfront Ln
Cypress Run Dr
Oak Al
10
644
Smithfield Cir
Beechwood Ln
Black Oak Dr
Jakes Ln
Doggett Ln
Chaomans Ln
Ponderosa Ln
Casper Cir
32
665
Campbell
1
2
3
4
5
6
© 2018 Google

APPENDIX B

Traffic Data

4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

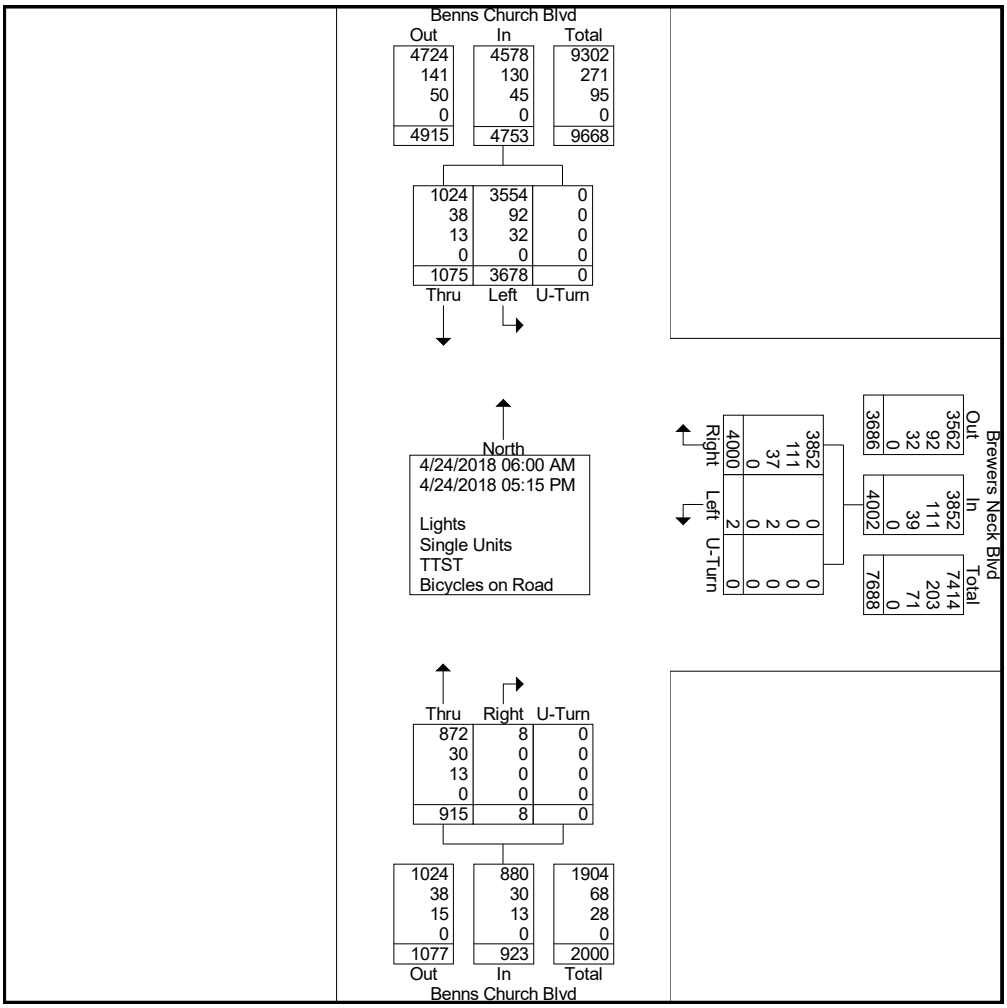
File Name : Benns_Church_and_Brewers_Neck_514974_04-24-2018
Site Code :
Start Date : 4/24/2018
Page No : 1

Groups Printed- Lights - Single Units - TTST - Bicycles on Road

	Benns Church Blvd Southbound			Brewers Neck Blvd Westbound			Benns Church Blvd Northbound			
Start Time	Left	Thru	U-Turn	Left	Right	U-Turn	Thru	Right	U-Turn	Int. Total
06:00 AM	211	34	0	0	103	0	43	0	0	391
06:15 AM	225	32	0	0	117	0	34	0	0	408
06:30 AM	238	34	0	0	121	0	37	0	0	430
06:45 AM	191	39	0	0	140	0	34	0	0	404
Total	865	139	0	0	481	0	148	0	0	1633
07:00 AM	211	33	0	0	227	0	47	0	0	518
07:15 AM	224	42	0	0	181	0	29	0	0	476
07:30 AM	269	86	0	0	125	0	41	0	0	521
07:45 AM	193	56	0	0	120	0	49	1	0	419
Total	897	217	0	0	653	0	166	1	0	1934
02:30 PM	139	43	0	0	155	0	55	0	0	392
02:45 PM	167	35	0	0	185	0	36	0	0	423
Total	306	78	0	0	340	0	91	0	0	815
03:00 PM	182	50	0	2	189	0	44	0	0	467
03:15 PM	151	54	0	0	233	0	48	0	0	486
03:30 PM	109	58	0	0	228	0	49	1	0	445
03:45 PM	175	65	0	0	221	0	45	0	0	506
Total	617	227	0	2	871	0	186	1	0	1904
04:00 PM	163	62	0	0	311	0	51	2	0	589
04:15 PM	164	66	0	0	286	0	42	2	0	560
04:30 PM	162	81	0	0	278	0	47	1	0	569
04:45 PM	158	67	0	0	279	0	55	0	0	559
Total	647	276	0	0	1154	0	195	5	0	2277
05:00 PM	172	62	0	0	241	0	64	1	0	540
05:15 PM	174	76	0	0	260	0	65	0	0	575
Grand Total	3678	1075	0	2	4000	0	915	8	0	9678
Apprch %	77.4	22.6	0	0	100	0	99.1	0.9	0	
Total %	38	11.1	0	0	41.3	0	9.5	0.1	0	
Lights	3554	1024	0	0	3852	0	872	8	0	9310
% Lights	96.6	95.3	0	0	96.3	0	95.3	100	0	96.2
Single Units	92	38	0	0	111	0	30	0	0	271
% Single Units	2.5	3.5	0	0	2.8	0	3.3	0	0	2.8
TTST	32	13	0	2	37	0	13	0	0	97
% TTST	0.9	1.2	0	100	0.9	0	1.4	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0

4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

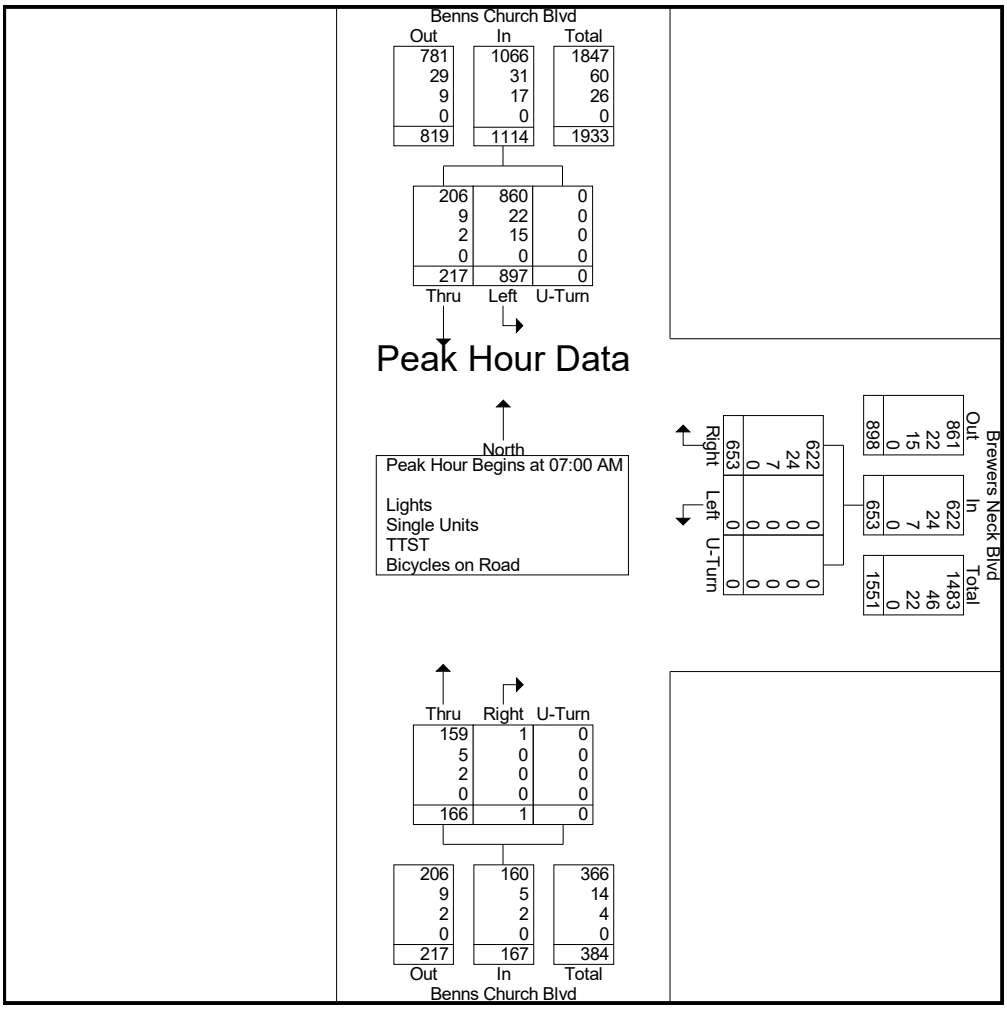
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Site Code :
Start Date : 4/24/2018
Page No : 2



4500 Main Street
Suite 400
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Site Code :
Start Date : 4/24/2018
Page No : 3

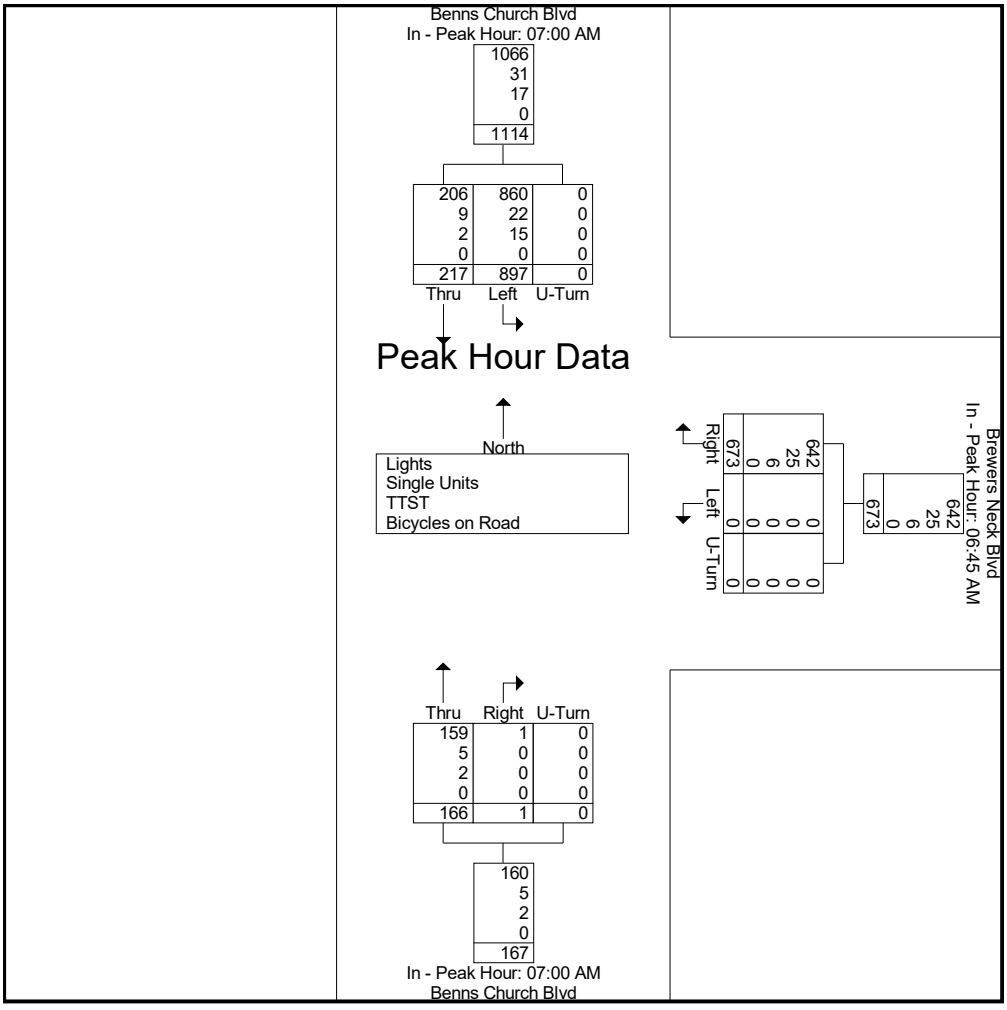
	Benns Church Blvd Southbound				Brewers Neck Blvd Westbound				Benns Church Blvd Northbound				
Start Time	Left	Thru	U-Turn	App. Total	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	211	33	0	244	0	227	0	227	47	0	0	47	518
07:15 AM	224	42	0	266	0	181	0	181	29	0	0	29	476
07:30 AM	269	86	0	355	0	125	0	125	41	0	0	41	521
07:45 AM	193	56	0	249	0	120	0	120	49	1	0	50	419
Total Volume	897	217	0	1114	0	653	0	653	166	1	0	167	1934
% App. Total	80.5	19.5	0		0	100	0		99.4	0.6	0		
PHF	.834	.631	.000	.785	.000	.719	.000	.719	.847	.250	.000	.835	.928
Lights	860	206	0	1066	0	622	0	622	159	1	0	160	1848
% Lights	95.9	94.9	0	95.7	0	95.3	0	95.3	95.8	100	0	95.8	95.6
Single Units	22	9	0	31	0	24	0	24	5	0	0	5	60
% Single Units	2.5	4.1	0	2.8	0	3.7	0	3.7	3.0	0	0	3.0	3.1
TTST	15	2	0	17	0	7	0	7	2	0	0	2	26
% TTST	1.7	0.9	0	1.5	0	1.1	0	1.1	1.2	0	0	1.2	1.3
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
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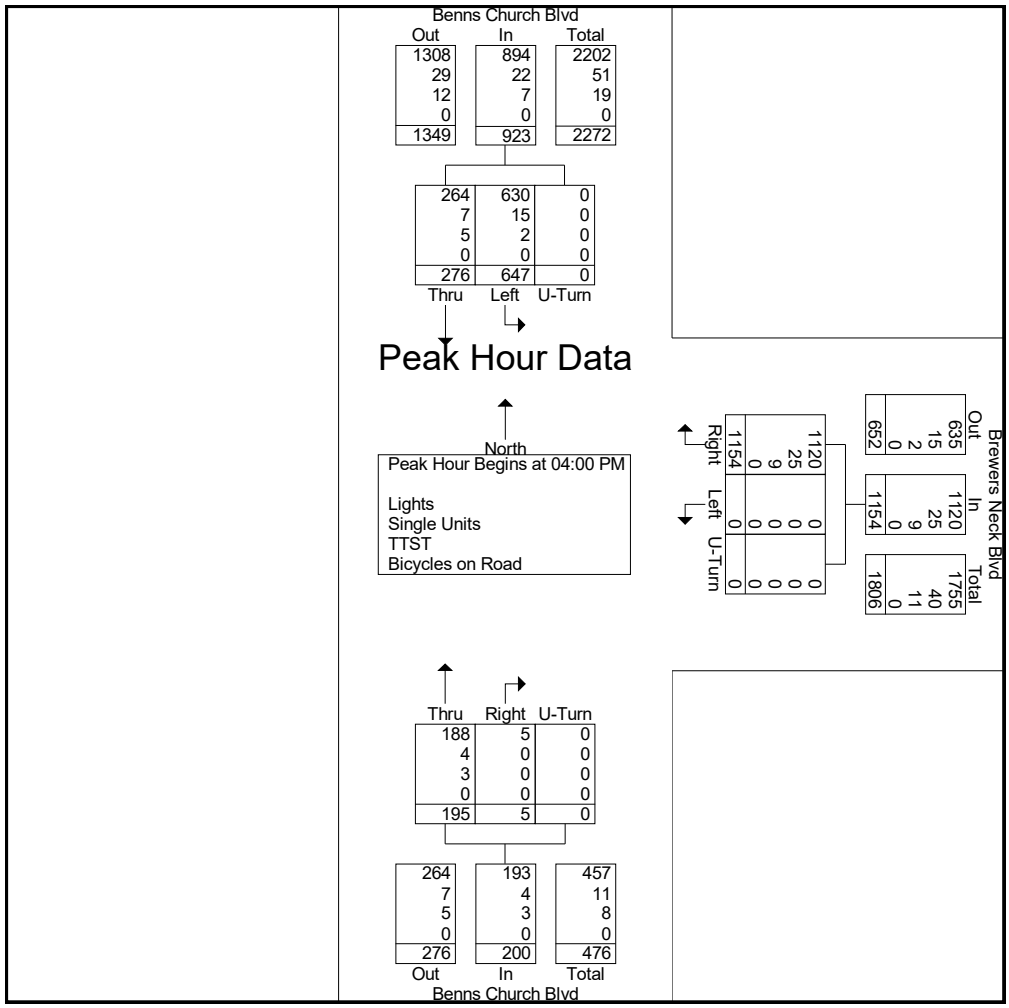
	Benns Church Blvd Southbound				Brewers Neck Blvd Westbound				Benns Church Blvd Northbound				
Start Time	Left	Thru	U-Turn	App. Total	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:00 AM				06:45 AM				07:00 AM				
+0 mins.	211	33	0	244	0	140	0	140	47	0	0	47	
+15 mins.	224	42	0	266	0	227	0	227	29	0	0	29	
+30 mins.	269	86	0	355	0	181	0	181	41	0	0	41	
+45 mins.	193	56	0	249	0	125	0	125	49	1	0	50	
Total Volume	897	217	0	1114	0	673	0	673	166	1	0	167	
% App. Total	80.5	19.5	0		0	100	0		99.4	0.6	0		
PHF	.834	.631	.000	.785	.000	.741	.000	.741	.847	.250	.000	.835	
Lights	860	206	0	1066	0	642	0	642	159	1	0	160	
% Lights	95.9	94.9	0	95.7	0	95.4	0	95.4	95.8	100	0	95.8	
Single Units	22	9	0	31	0	25	0	25	5	0	0	5	
% Single Units	2.5	4.1	0	2.8	0	3.7	0	3.7	3	0	0	3	
TTST	15	2	0	17	0	6	0	6	2	0	0	2	
% TTST	1.7	0.9	0	1.5	0	0.9	0	0.9	1.2	0	0	1.2	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	



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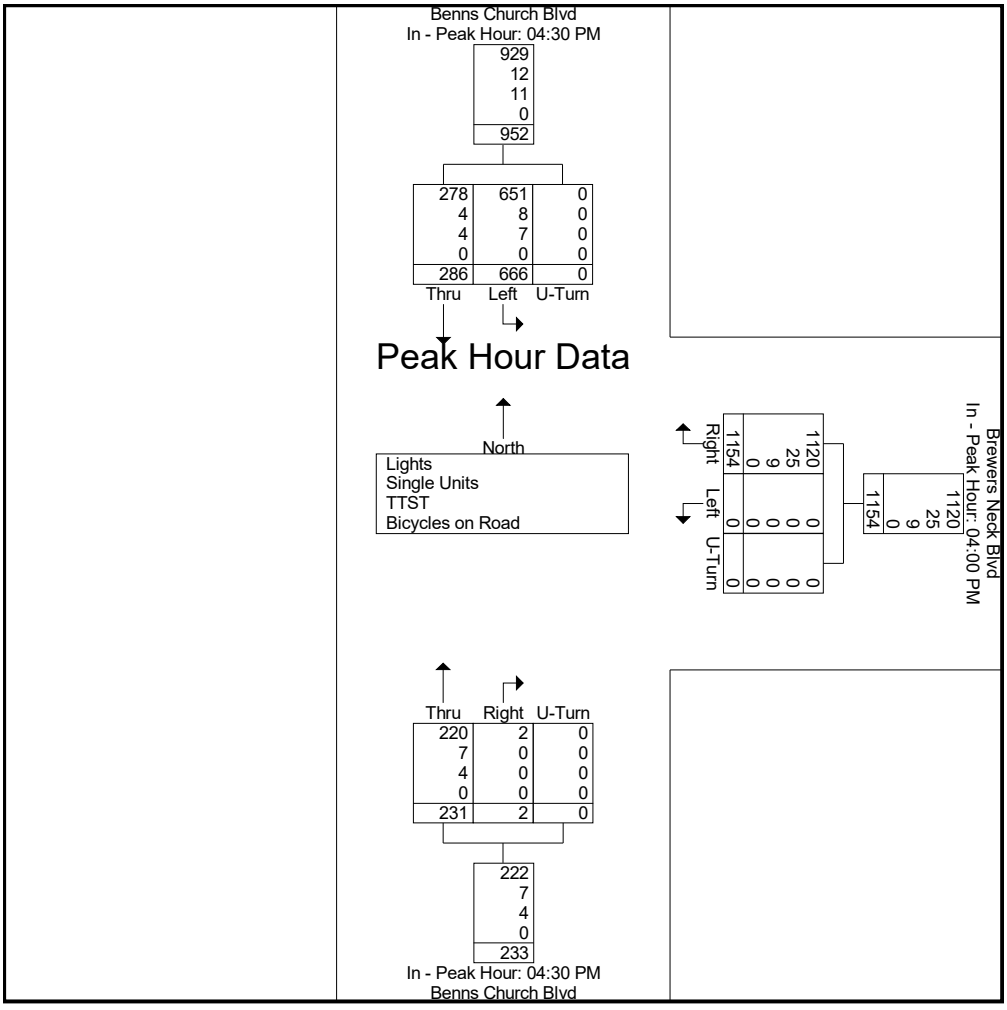
	Benns Church Blvd Southbound				Brewers Neck Blvd Westbound				Benns Church Blvd Northbound				
Start Time	Left	Thru	U-Turn	App. Total	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	163	62	0	225	0	311	0	311	51	2	0	53	589
04:15 PM	164	66	0	230	0	286	0	286	42	2	0	44	560
04:30 PM	162	81	0	243	0	278	0	278	47	1	0	48	569
04:45 PM	158	67	0	225	0	279	0	279	55	0	0	55	559
Total Volume	647	276	0	923	0	1154	0	1154	195	5	0	200	2277
% App. Total	70.1	29.9	0		0	100	0		97.5	2.5	0		
PHF	.986	.852	.000	.950	.000	.928	.000	.928	.886	.625	.000	.909	.966
Lights	630	264	0	894	0	1120	0	1120	188	5	0	193	2207
% Lights	97.4	95.7	0	96.9	0	97.1	0	97.1	96.4	100	0	96.5	96.9
Single Units	15	7	0	22	0	25	0	25	4	0	0	4	51
% Single Units	2.3	2.5	0	2.4	0	2.2	0	2.2	2.1	0	0	2.0	2.2
TTST	2	5	0	7	0	9	0	9	3	0	0	3	19
% TTST	0.3	1.8	0	0.8	0	0.8	0	0.8	1.5	0	0	1.5	0.8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Brewers_Neck_514974_04-24-2018
Site Code :
Start Date : 4/24/2018
Page No : 6

	Benns Church Blvd Southbound				Brewers Neck Blvd Westbound				Benns Church Blvd Northbound				
Start Time	Left	Thru	U-Turn	App. Total	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:30 PM				04:00 PM				04:30 PM				
+0 mins.	162	81	0	243	0	311	0	311	47	1	0	48	
+15 mins.	158	67	0	225	0	286	0	286	55	0	0	55	
+30 mins.	172	62	0	234	0	278	0	278	64	1	0	65	
+45 mins.	174	76	0	250	0	279	0	279	65	0	0	65	
Total Volume	666	286	0	952	0	1154	0	1154	231	2	0	233	
% App. Total	70	30	0		0	100	0		99.1	0.9	0		
PHF	.957	.883	.000	.952	.000	.928	.000	.928	.888	.500	.000	.896	
Lights	651	278	0	929	0	1120	0	1120	220	2	0	222	
% Lights	97.7	97.2	0	97.6	0	97.1	0	97.1	95.2	100	0	95.3	
Single Units	8	4	0	12	0	25	0	25	7	0	0	7	
% Single Units	1.2	1.4	0	1.3	0	2.2	0	2.2	3	0	0	3	
TTST	7	4	0	11	0	9	0	9	4	0	0	4	
% TTST	1.1	1.4	0	1.2	0	0.8	0	0.8	1.7	0	0	1.7	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	



4500 Main Street
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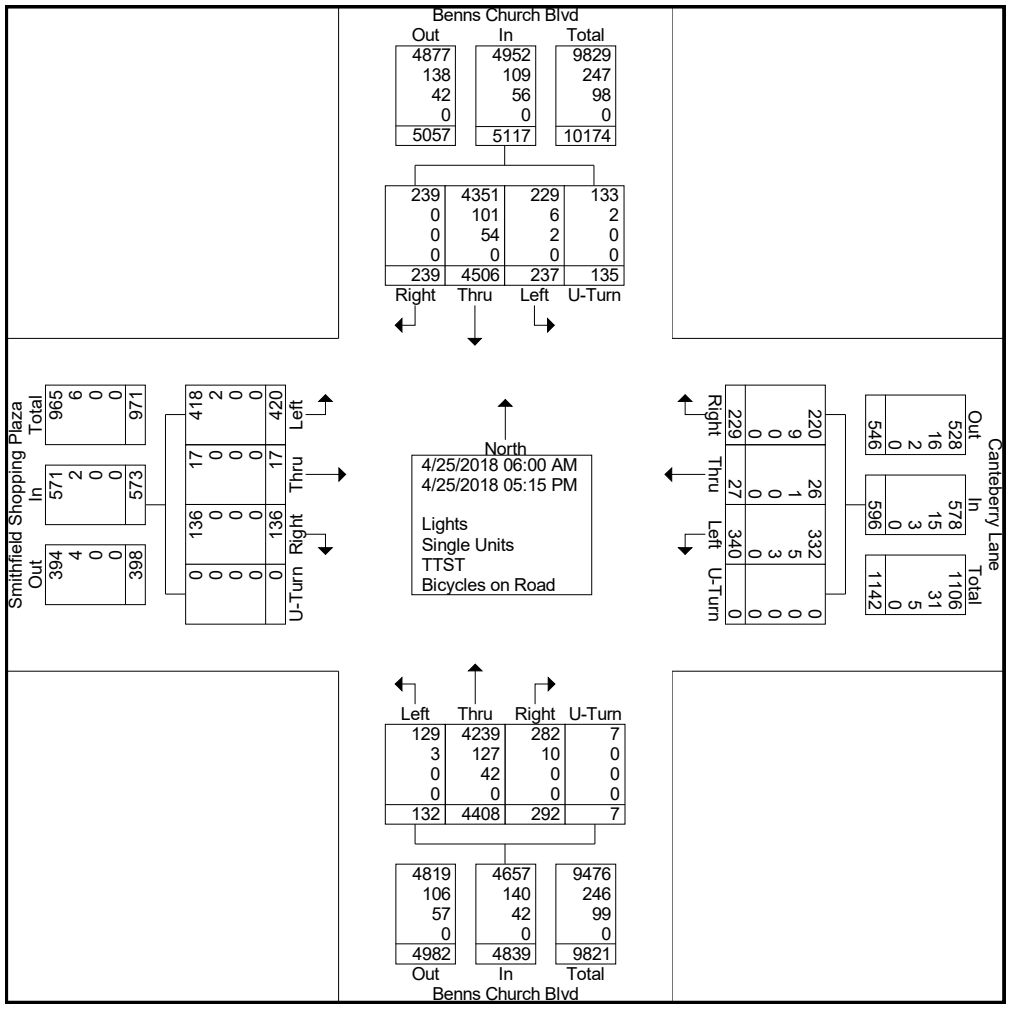
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Site Code :
Start Date : 4/25/2018
Page No : 1

Groups Printed- Lights - Single Units - TTST - Bicycles on Road

	Benns Church Blvd Southbound				Canteberry Lane Westbound				Benns Church Blvd Northbound				Smithfield Shopping Plaza Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Int. Total
06:00 AM	1	204	3	4	7	2	5	0	1	146	2	0	0	0	4	0	379
06:15 AM	7	211	2	3	20	1	3	0	0	164	4	0	0	0	1	0	416
06:30 AM	11	260	2	6	20	0	7	0	4	126	8	0	4	0	3	0	451
06:45 AM	9	242	7	3	23	1	10	0	6	105	9	0	5	0	5	0	425
Total	28	917	14	16	70	4	25	0	11	541	23	0	9	0	13	0	1671
07:00 AM	7	408	7	1	29	2	9	0	5	140	9	0	3	0	4	0	624
07:15 AM	12	245	10	6	15	0	12	0	1	194	15	0	6	0	8	0	524
07:30 AM	9	192	7	3	25	1	5	0	0	192	13	0	7	0	4	0	458
07:45 AM	7	185	8	4	19	1	12	0	7	185	8	0	7	1	1	0	445
Total	35	1030	32	14	88	4	38	0	13	711	45	0	23	1	17	0	2051
02:30 PM	9	200	13	4	19	1	8	0	7	197	7	0	37	1	6	0	509
02:45 PM	12	182	10	6	13	4	8	0	5	246	18	2	25	1	12	0	544
Total	21	382	23	10	32	5	16	0	12	443	25	2	62	2	18	0	1053
03:00 PM	7	189	13	7	13	1	5	0	13	278	15	1	24	0	11	0	577
03:15 PM	11	205	13	7	9	0	13	0	8	248	19	0	37	1	8	0	579
03:30 PM	10	170	14	10	18	2	11	0	4	263	12	0	25	4	8	0	551
03:45 PM	22	218	11	6	23	1	11	0	8	264	18	1	32	2	14	0	631
Total	50	782	51	30	63	4	40	0	33	1053	64	2	118	7	41	0	2338
04:00 PM	15	244	31	7	16	3	17	0	11	269	28	2	31	2	6	0	682
04:15 PM	15	206	15	15	13	2	18	0	6	281	19	0	28	3	18	0	639
04:30 PM	21	233	20	7	19	2	19	0	18	265	11	0	35	0	5	0	655
04:45 PM	25	248	22	13	9	1	17	0	8	294	37	1	33	0	11	0	719
Total	76	931	88	42	57	8	71	0	43	1109	95	3	127	5	40	0	2695
05:00 PM	12	223	13	11	20	2	25	0	9	268	20	0	48	1	1	0	653
05:15 PM	15	241	18	12	10	0	14	0	11	283	20	0	33	1	6	0	664
Grand Total	237	4506	239	135	340	27	229	0	132	4408	292	7	420	17	136	0	11125
Apprch %	4.6	88.1	4.7	2.6	57	4.5	38.4	0	2.7	91.1	6	0.1	73.3	3	23.7	0	
Total %	2.1	40.5	2.1	1.2	3.1	0.2	2.1	0	1.2	39.6	2.6	0.1	3.8	0.2	1.2	0	
Lights	229	4351	239	133	332	26	220	0	129	4239	282	7	418	17	136	0	10758
% Lights	96.6	96.6	100	98.5	97.6	96.3	96.1	0	97.7	96.2	96.6	100	99.5	100	100	0	96.7
Single Units	6	101	0	2	5	1	9	0	3	127	10	0	2	0	0	0	266
% Single Units	2.5	2.2	0	1.5	1.5	3.7	3.9	0	2.3	2.9	3.4	0	0.5	0	0	0	2.4
TTST	2	54	0	0	3	0	0	0	0	42	0	0	0	0	0	0	101
% TTST	0.8	1.2	0	0	0.9	0	0	0	0	1	0	0	0	0	0	0	0.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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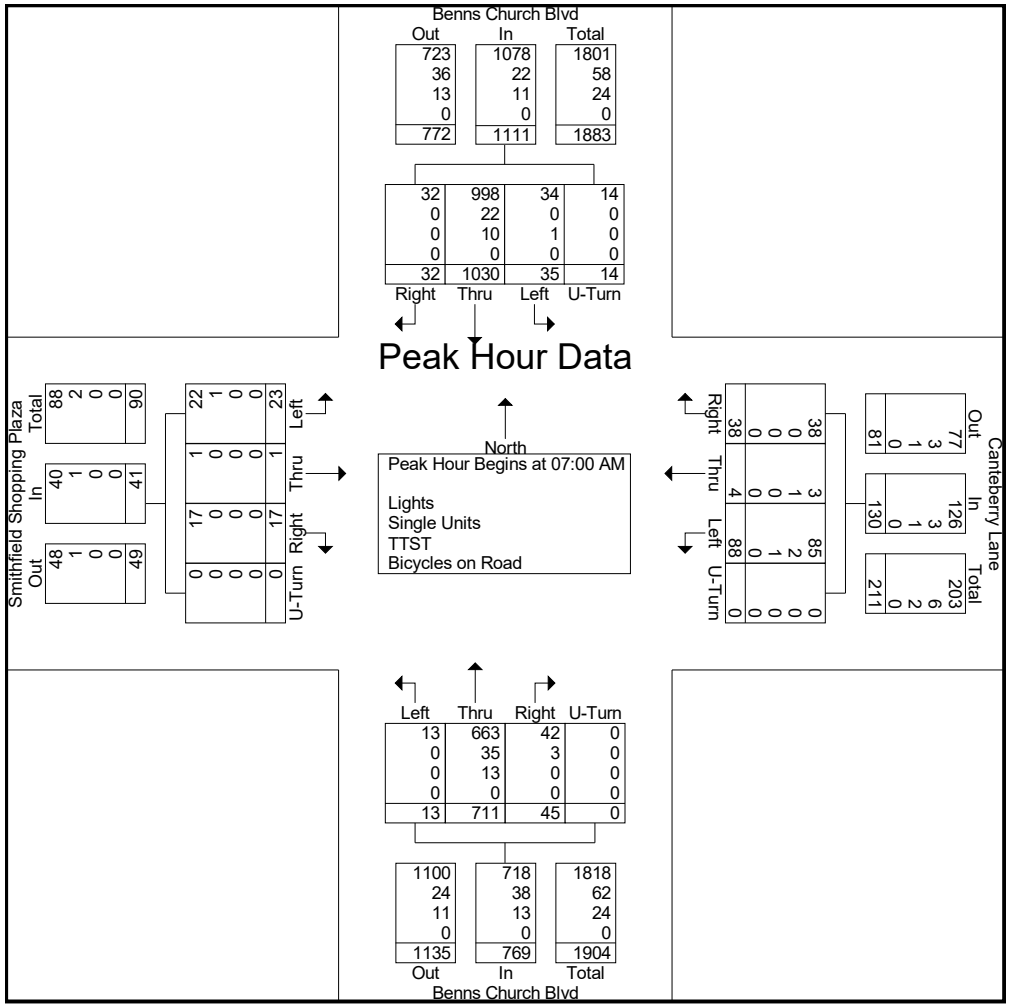
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Site Code :
Start Date : 4/25/2018
Page No : 2



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
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File Name : Benns_Church_and_Canteberry_Ln_514982_04-25-2018
Site Code :
Start Date : 4/25/2018

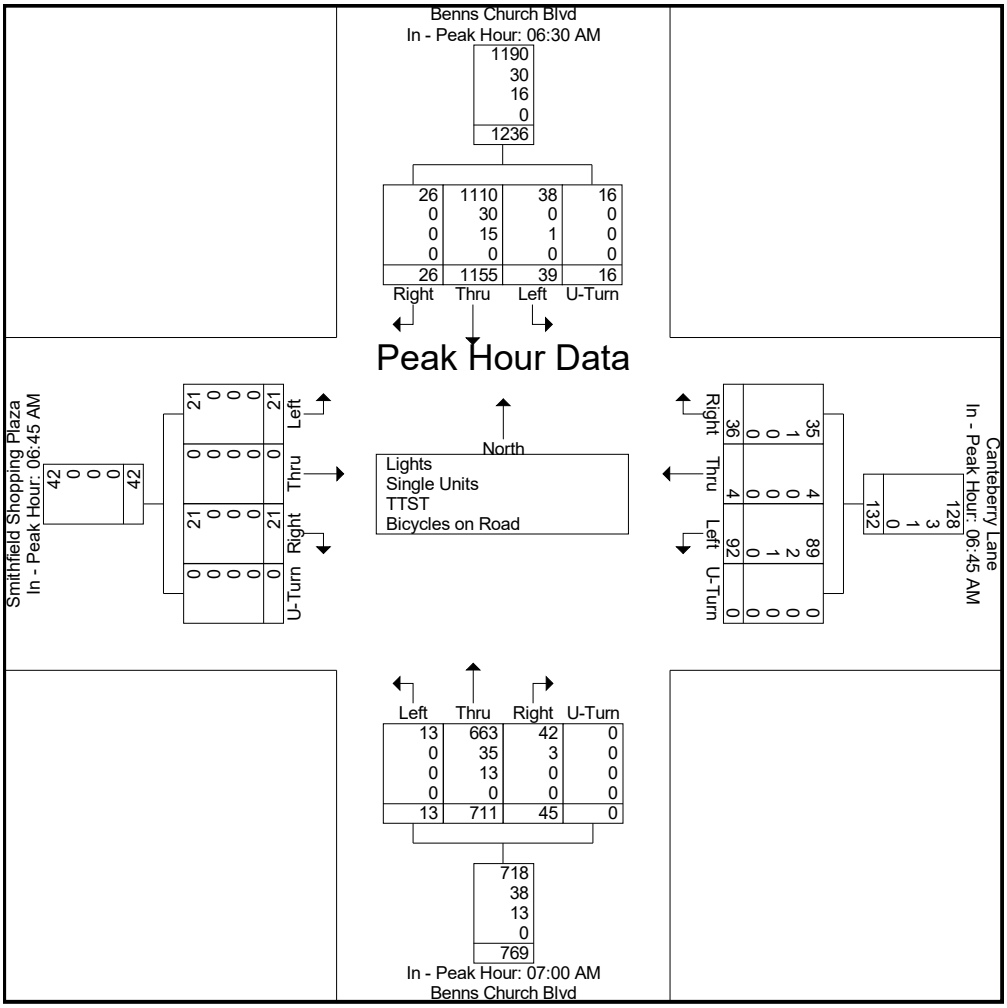
	Benns Church Blvd Southbound					Canteberry Lane Westbound					Benns Church Blvd Northbound					Smithfield Shopping Plaza Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	7	408	7	1	423	29	2	9	0	40	5	140	9	0	154	3	0	4	0	7	624
07:15 AM	12	245	10	6	273	15	0	12	0	27	1	194	15	0	210	6	0	8	0	14	524
07:30 AM	9	192	7	3	211	25	1	5	0	31	0	192	13	0	205	7	0	4	0	11	458
07:45 AM	7	185	8	4	204	19	1	12	0	32	7	185	8	0	200	7	1	1	0	9	445
Total Volume	35	1030	32	14	1111	88	4	38	0	130	13	711	45	0	769	23	1	17	0	41	2051
% App. Total	3.2	92.7	2.9	1.3		67.7	3.1	29.2	0		1.7	92.5	5.9	0		56.1	2.4	41.5	0		
PHF	.729	.631	.800	.583	.657	.759	.500	.792	.000	.813	.464	.916	.750	.000	.915	.821	.250	.531	.000	.732	.822
Lights	34	998	32	14	1078	85	3	38	0	126	13	663	42	0	718	22	1	17	0	40	1962
% Lights	97.1	96.9	100	100	97.0	96.6	75.0	100	0	96.9	100	93.2	93.3	0	93.4	95.7	100	100	0	97.6	95.7
Single Units	0	22	0	0	22	2	1	0	0	3	0	35	3	0	38	1	0	0	0	1	64
% Single Units	0	2.1	0	0	2.0	2.3	25.0	0	0	2.3	0	4.9	6.7	0	4.9	4.3	0	0	0	2.4	3.1
TTST	1	10	0	0	11	1	0	0	0	1	0	13	0	0	13	0	0	0	0	0	25
% TTST	2.9	1.0	0	0	1.0	1.1	0	0	0	0.8	0	1.8	0	0	1.7	0	0	0	0	0	1.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
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Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Canteberry_Ln_514982_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 4

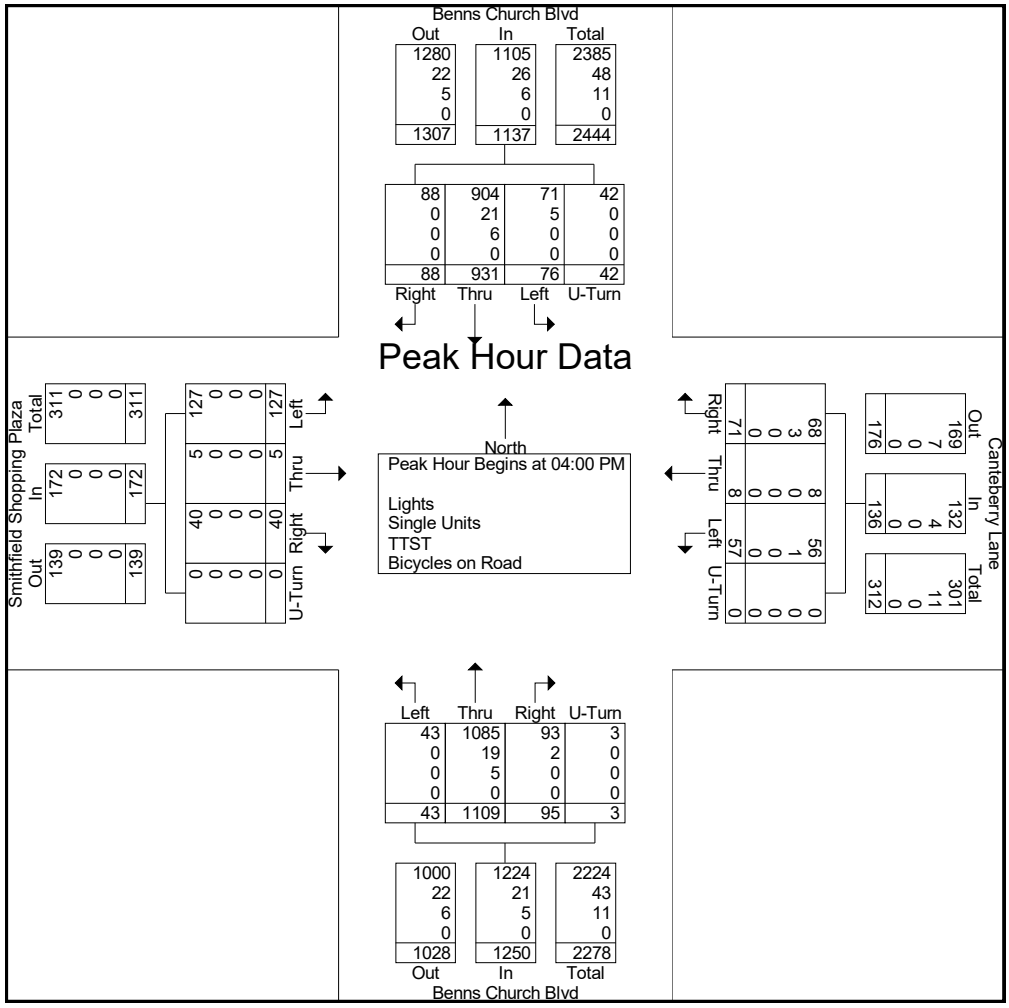
	Benns Church Blvd Southbound					Canteberry Lane Westbound					Benns Church Blvd Northbound					Smithfield Shopping Plaza Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:30 AM					06:45 AM					07:00 AM					06:45 AM					
+0 mins.	11	260	2	6	279	23	1	10	0	34	5	140	9	0	154	5	0	5	0	10	
+15 mins.	9	242	7	3	261	29	2	9	0	40	1	194	15	0	210	3	0	4	0	7	
+30 mins.	7	408	7	1	423	15	0	12	0	27	0	192	13	0	205	6	0	8	0	14	
+45 mins.	12	245	10	6	273	25	1	5	0	31	7	185	8	0	200	7	0	4	0	11	
Total Volume	39	1155	26	16	1236	92	4	36	0	132	13	711	45	0	769	21	0	21	0	42	
% App. Total	3.2	93.4	2.1	1.3		69.7	3	27.3	0		1.7	92.5	5.9	0		50	0	50	0		
PHF	.813	.708	.650	.667	.730	.793	.500	.750	.000	.825	.464	.916	.750	.000	.915	.750	.000	.656	.000	.750	
Lights	38	1110	26	16	1190	89	4	35	0	128	13	663	42	0	718	21	0	21	0	42	
% Lights	97.4	96.1	100	100	96.3	96.7	100	97.2	0	97	100	93.2	93.3	0	93.4	100	0	100	0	100	
Single Units	0	30	0	0	30	2	0	1	0	3	0	35	3	0	38	0	0	0	0	0	
% Single Units	0	2.6	0	0	2.4	2.2	0	2.8	0	2.3	0	4.9	6.7	0	4.9	0	0	0	0	0	
TTST	1	15	0	0	16	1	0	0	0	1	0	13	0	0	13	0	0	0	0	0	
% TTST	2.6	1.3	0	0	1.3	1.1	0	0	0	0.8	0	1.8	0	0	1.7	0	0	0	0	0	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



4500 Main Street
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Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Canteberry_Ln_514982_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 5

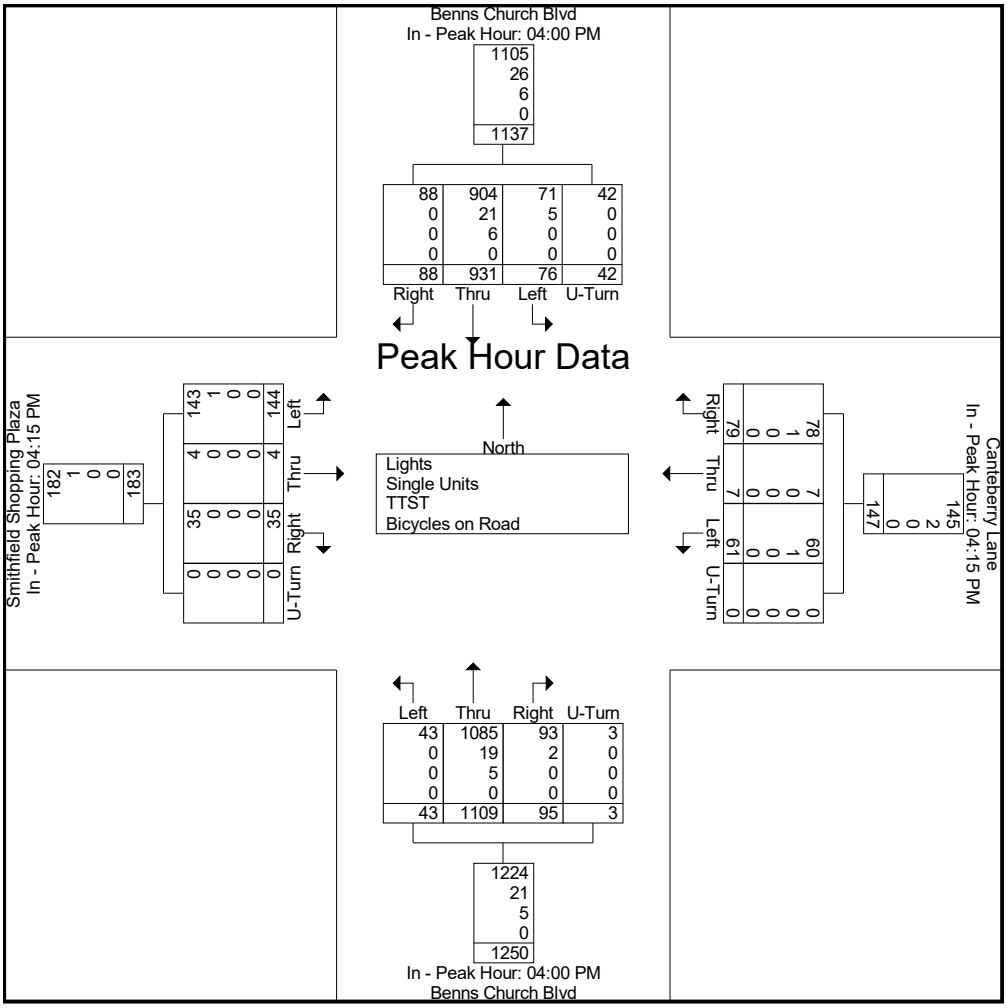
	Benns Church Blvd Southbound					Canteberry Lane Westbound					Benns Church Blvd Northbound					Smithfield Shopping Plaza Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	15	244	31	7	297	16	3	17	0	36	11	269	28	2	310	31	2	6	0	39	682
04:15 PM	15	206	15	15	251	13	2	18	0	33	6	281	19	0	306	28	3	18	0	49	639
04:30 PM	21	233	20	7	281	19	2	19	0	40	18	265	11	0	294	35	0	5	0	40	655
04:45 PM	25	248	22	13	308	9	1	17	0	27	8	294	37	1	340	33	0	11	0	44	719
Total Volume	76	931	88	42	1137	57	8	71	0	136	43	1109	95	3	1250	127	5	40	0	172	2695
% App. Total	6.7	81.9	7.7	3.7		41.9	5.9	52.2	0		3.4	88.7	7.6	0.2		73.8	2.9	23.3	0		
PHF	.760	.939	.710	.700	.923	.750	.667	.934	.000	.850	.597	.943	.642	.375	.919	.907	.417	.556	.000	.878	.937
Lights	71	904	88	42	1105	56	8	68	0	132	43	1085	93	3	1224	127	5	40	0	172	2633
% Lights	93.4	97.1	100	100	97.2	98.2	100	95.8	0	97.1	100	97.8	97.9	100	97.9	100	100	100	0	100	97.7
Single Units	5	21	0	0	26	1	0	3	0	4	0	19	2	0	21	0	0	0	0	0	51
% Single Units	6.6	2.3	0	0	2.3	1.8	0	4.2	0	2.9	0	1.7	2.1	0	1.7	0	0	0	0	0	1.9
TTST	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	11
% TTST	0	0.6	0	0	0.5	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	0.4
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
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Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Canteberry_Ln_514982_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 6

	Benns Church Blvd Southbound					Canteberry Lane Westbound					Benns Church Blvd Northbound					Smithfield Shopping Plaza Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					04:15 PM					04:00 PM					04:15 PM					
+0 mins.	15	244	31	7	297	13	2	18	0	33	11	269	28	2	310	28	3	18	0	49	
+15 mins.	15	206	15	15	251	19	2	19	0	40	6	281	19	0	306	35	0	5	0	40	
+30 mins.	21	233	20	7	281	9	1	17	0	27	18	265	11	0	294	33	0	11	0	44	
+45 mins.	25	248	22	13	308	20	2	25	0	47	8	294	37	1	340	48	1	1	0	50	
Total Volume	76	931	88	42	1137	61	7	79	0	147	43	1109	95	3	1250	144	4	35	0	183	
% App. Total	6.7	81.9	7.7	3.7		41.5	4.8	53.7	0		3.4	88.7	7.6	0.2		78.7	2.2	19.1	0		
PHF	.760	.939	.710	.700	.923	.763	.875	.790	.000	.782	.597	.943	.642	.375	.919	.750	.333	.486	.000	.915	
Lights	71	904	88	42	1105	60	7	78	0	145	43	1085	93	3	1224	143	4	35	0	182	
% Lights	93.4	97.1	100	100	97.2	98.4	100	98.7	0	98.6	100	97.8	97.9	100	97.9	99.3	100	100	0	99.5	
Single Units	5	21	0	0	26	1	0	1	0	2	0	19	2	0	21	1	0	0	0	1	
% Single Units	6.6	2.3	0	0	2.3	1.6	0	1.3	0	1.4	0	1.7	2.1	0	1.7	0.7	0	0	0	0.5	
TTST	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	
% TTST	0	0.6	0	0	0.5	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



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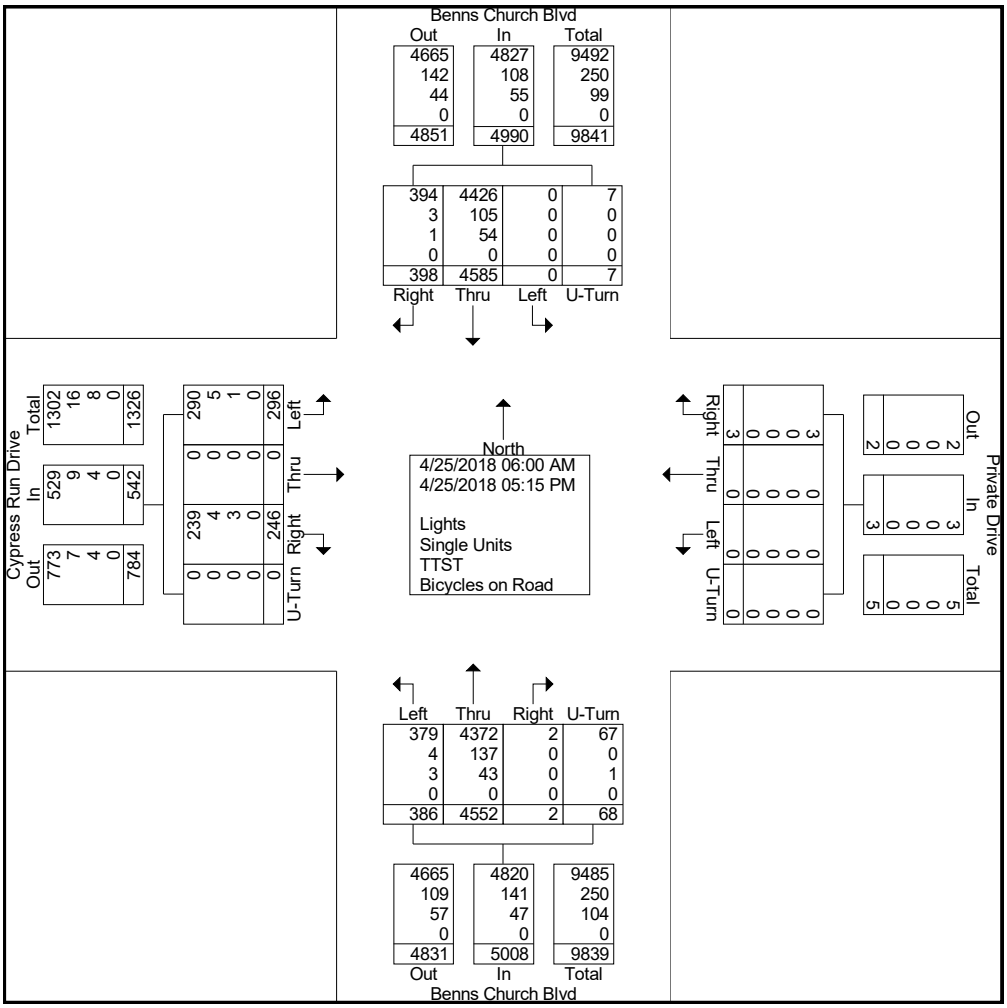
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Site Code :
Start Date : 4/25/2018
Page No : 1

Groups Printed- Lights - Single Units - TTST - Bicycles on Road

	Benns Church Blvd Southbound				Private Drive Westbound				Benns Church Blvd Northbound				Cypress Run Drive Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Int. Total
06:00 AM	0	205	7	0	0	0	0	0	2	136	0	0	1	0	4	0	355
06:15 AM	0	225	4	1	0	0	0	0	1	171	0	0	0	0	3	0	405
06:30 AM	0	278	9	1	0	0	0	0	2	149	0	4	0	0	3	0	446
06:45 AM	0	270	8	0	0	0	0	0	2	118	0	0	2	0	2	0	402
Total	0	978	28	2	0	0	0	0	7	574	0	4	3	0	12	0	1608
07:00 AM	0	433	4	0	0	0	0	0	2	157	0	2	0	0	5	0	603
07:15 AM	0	271	7	1	0	0	0	0	8	211	0	1	2	0	8	0	509
07:30 AM	0	209	9	1	0	0	0	0	3	191	0	2	4	0	3	0	422
07:45 AM	0	202	7	0	0	0	0	0	1	205	0	1	2	0	4	0	422
Total	0	1115	27	2	0	0	0	0	14	764	0	6	8	0	20	0	1956
02:30 PM	0	192	23	1	0	0	0	0	25	195	0	5	19	0	23	0	483
02:45 PM	0	179	33	0	0	0	1	0	31	256	1	2	21	0	22	0	546
Total	0	371	56	1	0	0	1	0	56	451	1	7	40	0	45	0	1029
03:00 PM	0	176	40	1	0	0	0	0	33	283	0	3	19	0	19	0	574
03:15 PM	0	197	29	0	0	0	1	0	26	244	1	6	28	0	13	0	545
03:30 PM	0	178	16	1	0	0	0	0	33	259	0	6	23	0	15	0	531
03:45 PM	0	234	16	0	0	0	0	0	36	264	0	8	22	0	18	0	598
Total	0	785	101	2	0	0	1	0	128	1050	1	23	92	0	65	0	2248
04:00 PM	0	230	40	0	0	0	0	0	40	284	0	4	26	0	17	0	641
04:15 PM	0	199	27	0	0	0	0	0	22	283	0	4	24	0	13	0	572
04:30 PM	0	240	27	0	0	0	0	0	25	269	0	4	25	0	11	0	601
04:45 PM	0	218	37	0	0	0	0	0	44	308	0	8	24	0	30	0	669
Total	0	887	131	0	0	0	0	0	131	1144	0	20	99	0	71	0	2483
05:00 PM	0	234	21	0	0	0	0	0	25	277	0	5	32	0	14	0	608
05:15 PM	0	215	34	0	0	0	1	0	25	292	0	3	22	0	19	0	611
Grand Total	0	4585	398	7	0	0	3	0	386	4552	2	68	296	0	246	0	10543
Apprch %	0	91.9	8	0.1	0	0	100	0	7.7	90.9	0	1.4	54.6	0	45.4	0	
Total %	0	43.5	3.8	0.1	0	0	0	0	3.7	43.2	0	0.6	2.8	0	2.3	0	
Lights	0	4426	394	7	0	0	3	0	379	4372	2	67	290	0	239	0	10179
% Lights	0	96.5	99	100	0	0	100	0	98.2	96	100	98.5	98	0	97.2	0	96.5
Single Units	0	105	3	0	0	0	0	0	4	137	0	0	5	0	4	0	258
% Single Units	0	2.3	0.8	0	0	0	0	0	1	3	0	0	1.7	0	1.6	0	2.4
TTST	0	54	1	0	0	0	0	0	3	43	0	1	1	0	3	0	106
% TTST	0	1.2	0.3	0	0	0	0	0	0.8	0.9	0	1.5	0.3	0	1.2	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

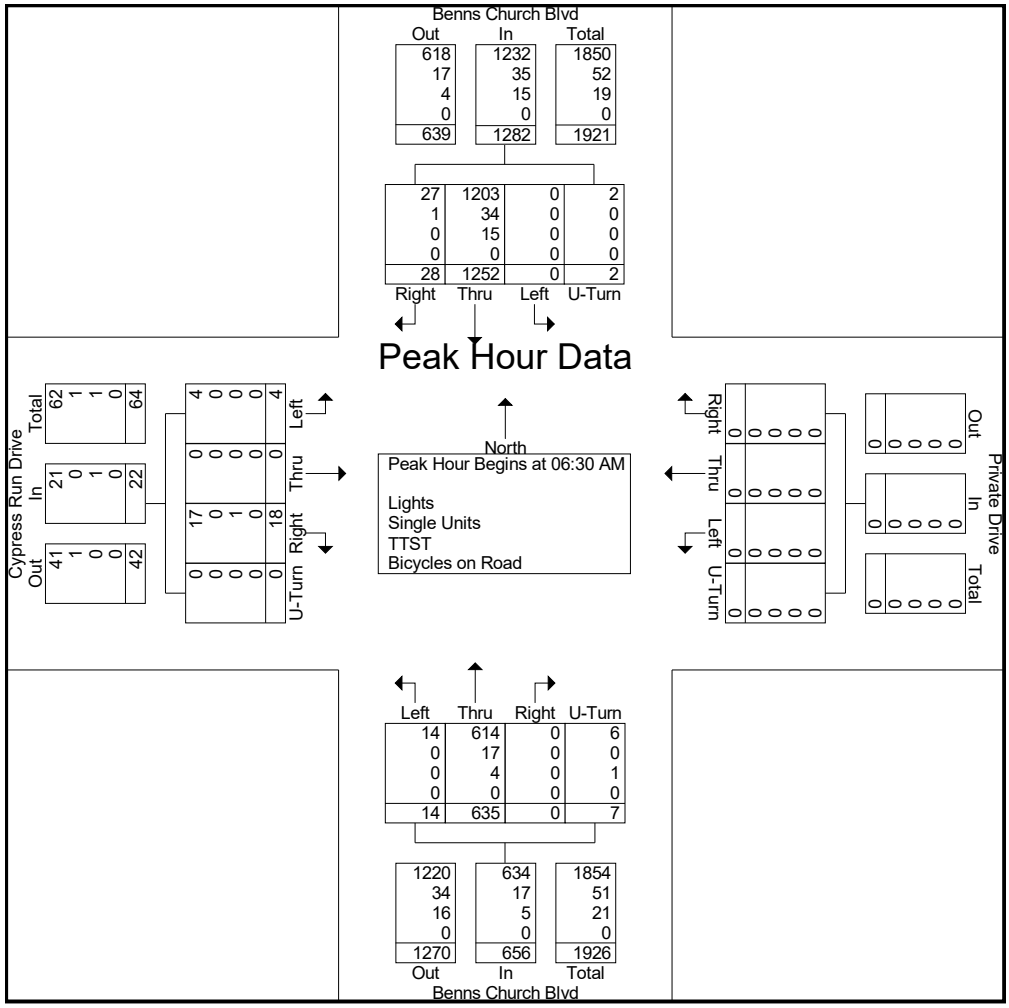
File Name : Benns_Church_and_Cypress_Run_Dr_514981_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 2



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Cypress_Run_Dr_514981_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 3

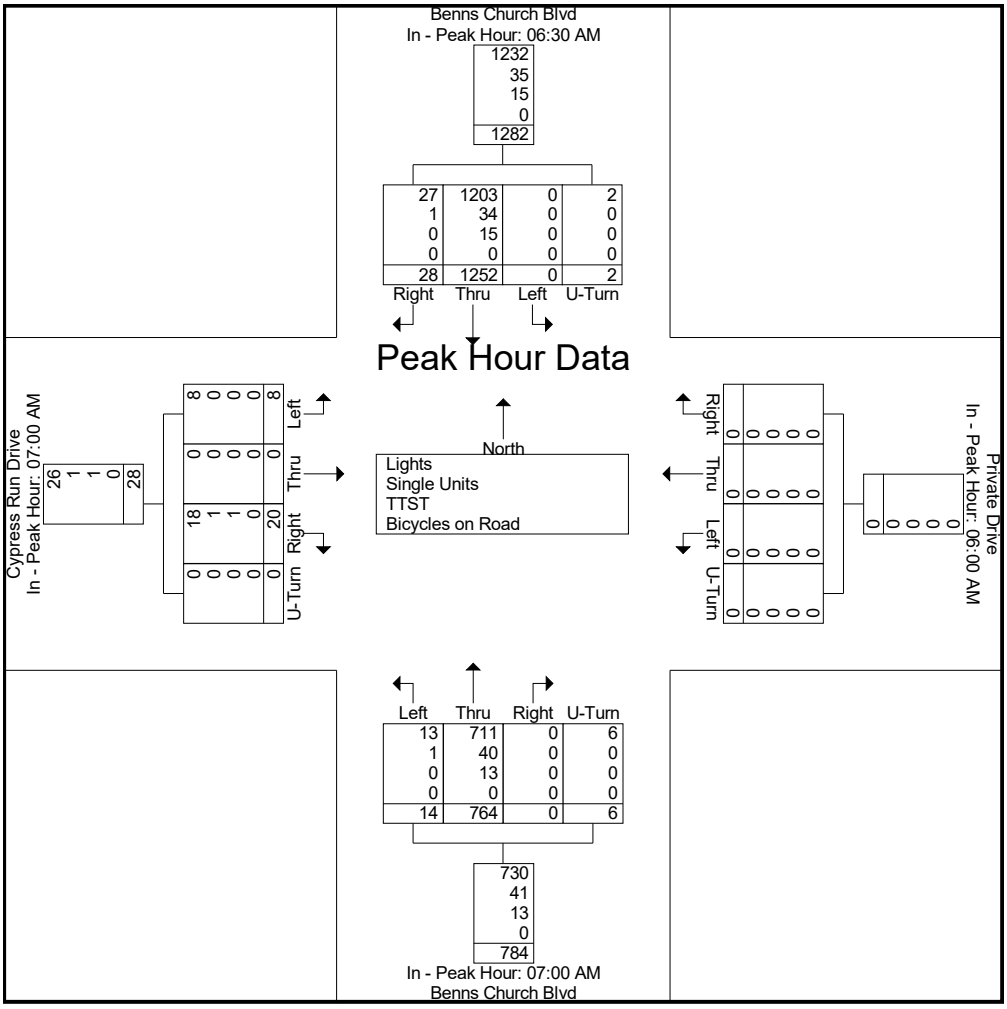
	Benns Church Blvd Southbound					Private Drive Westbound					Benns Church Blvd Northbound					Cypress Run Drive Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:30 AM																					
06:30 AM	0	278	9	1	288	0	0	0	0	0	2	149	0	4	155	0	0	3	0	3	446
06:45 AM	0	270	8	0	278	0	0	0	0	0	2	118	0	0	120	2	0	2	0	4	402
07:00 AM	0	433	4	0	437	0	0	0	0	0	2	157	0	2	161	0	0	5	0	5	603
07:15 AM	0	271	7	1	279	0	0	0	0	0	8	211	0	1	220	2	0	8	0	10	509
Total Volume	0	1252	28	2	1282	0	0	0	0	0	14	635	0	7	656	4	0	18	0	22	1960
% App. Total	0	97.7	2.2	0.2		0	0	0	0		2.1	96.8	0	1.1		18.2	0	81.8	0		
PHF	.000	.723	.778	.500	.733	.000	.000	.000	.000	.000	.438	.752	.000	.438	.745	.500	.000	.563	.000	.550	.813
Lights	0	1203	27	2	1232	0	0	0	0	0	14	614	0	6	634	4	0	17	0	21	1887
% Lights	0	96.1	96.4	100	96.1	0	0	0	0	0	100	96.7	0	85.7	96.6	100	0	94.4	0	95.5	96.3
Single Units	0	34	1	0	35	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	52
% Single Units	0	2.7	3.6	0	2.7	0	0	0	0	0	0	2.7	0	0	2.6	0	0	0	0	0	2.7
TTST	0	15	0	0	15	0	0	0	0	0	0	4	0	1	5	0	0	1	0	1	21
% TTST	0	1.2	0	0	1.2	0	0	0	0	0	0	0.6	0	14.3	0.8	0	0	5.6	0	4.5	1.1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Cypress_Run_Dr_514981_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 4

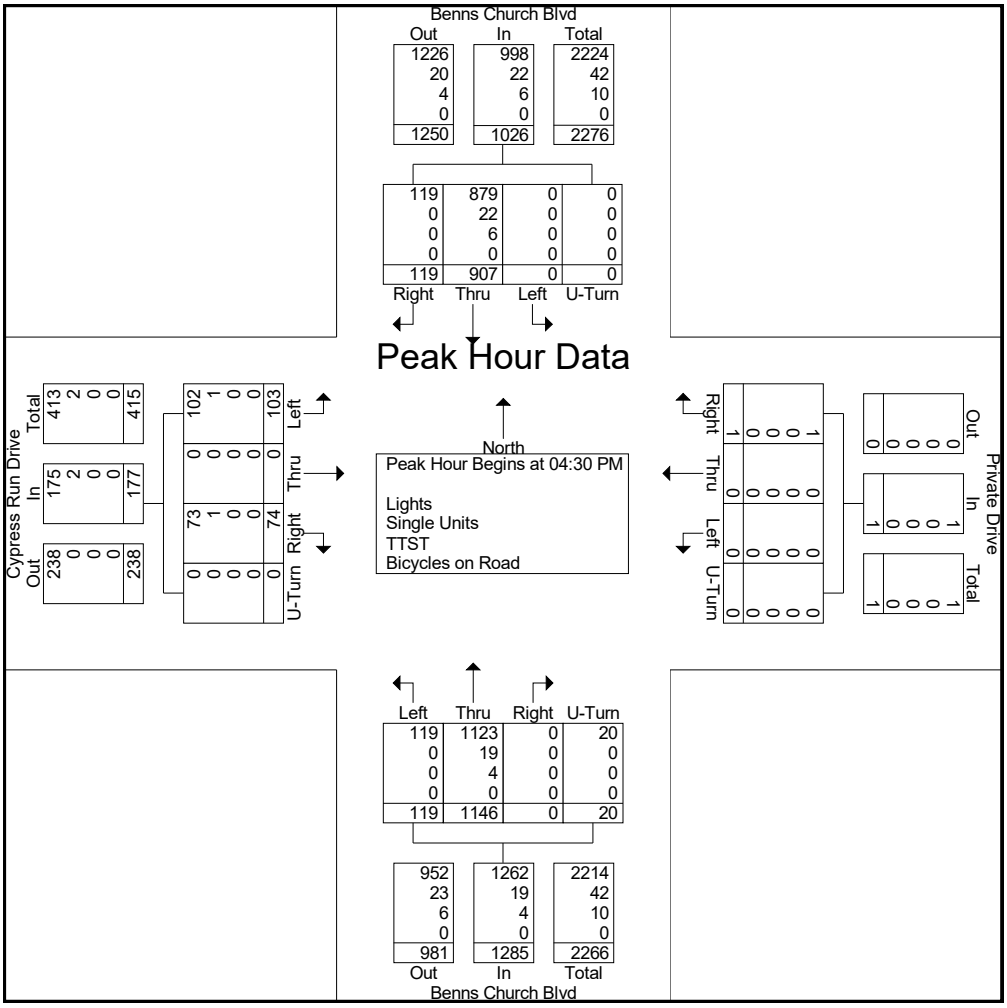
	Benns Church Blvd Southbound					Private Drive Westbound					Benns Church Blvd Northbound					Cypress Run Drive Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:30 AM					06:00 AM					07:00 AM					07:00 AM					
+0 mins.	0	278	9	1	288	0	0	0	0	0	2	157	0	2	161	0	0	5	0	5	
+15 mins.	0	270	8	0	278	0	0	0	0	0	8	211	0	1	220	2	0	8	0	10	
+30 mins.	0	433	4	0	437	0	0	0	0	0	3	191	0	2	196	4	0	3	0	7	
+45 mins.	0	271	7	1	279	0	0	0	0	0	1	205	0	1	207	2	0	4	0	6	
Total Volume	0	1252	28	2	1282	0	0	0	0	0	14	764	0	6	784	8	0	20	0	28	
% App. Total	0	97.7	2.2	0.2		0	0	0	0		1.8	97.4	0	0.8		28.6	0	71.4	0		
PHF	.000	.723	.778	.500	.733	.000	.000	.000	.000	.000	.438	.905	.000	.750	.891	.500	.000	.625	.000	.700	
Lights	0	1203	27	2	1232	0	0	0	0	0	13	711	0	6	730	8	0	18	0	26	
% Lights	0	96.1	96.4	100	96.1	0	0	0	0	0	92.9	93.1	0	100	93.1	100	0	90	0	92.9	
Single Units	0	34	1	0	35	0	0	0	0	0	1	40	0	0	41	0	0	1	0	1	
% Single Units	0	2.7	3.6	0	2.7	0	0	0	0	0	7.1	5.2	0	0	5.2	0	0	5	0	3.6	
TTST	0	15	0	0	15	0	0	0	0	0	0	13	0	0	13	0	0	1	0	1	
% TTST	0	1.2	0	0	1.2	0	0	0	0	0	0	1.7	0	0	1.7	0	0	5	0	3.6	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Cypress_Run_Dr_514981_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 5

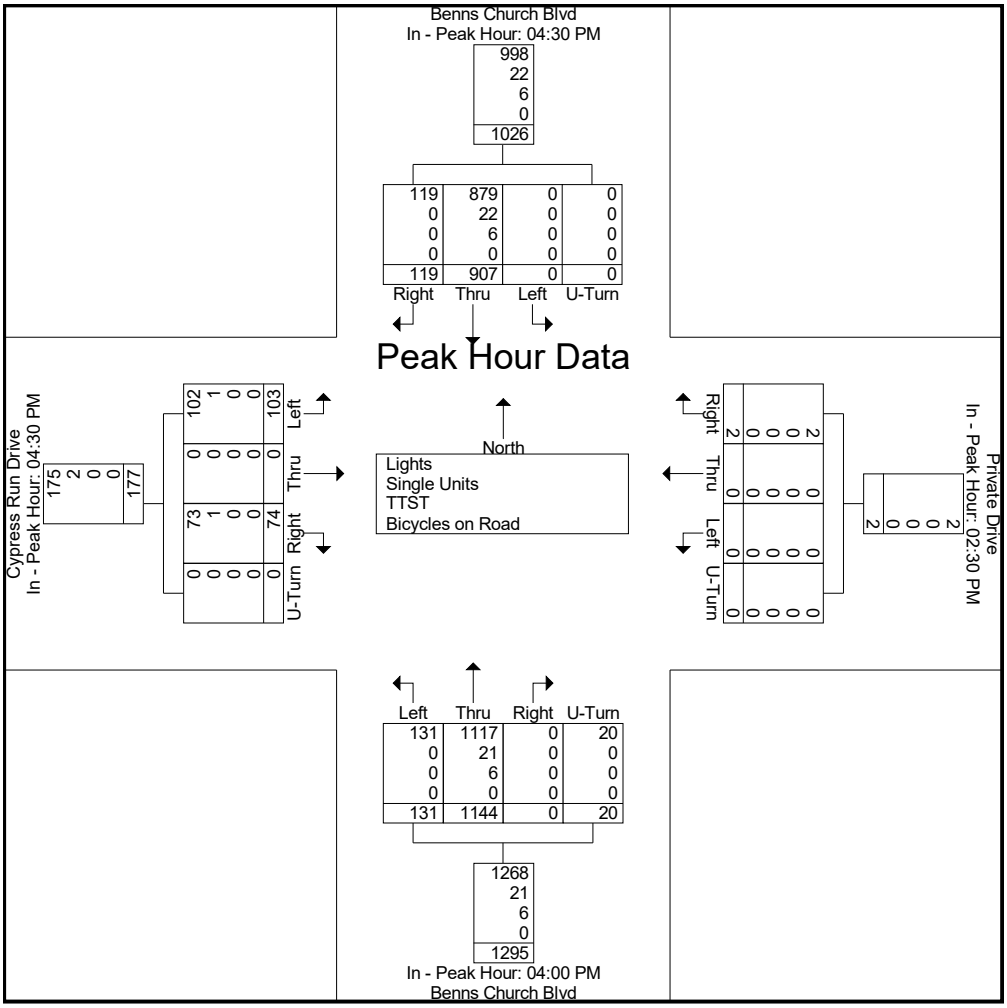
	Benns Church Blvd Southbound					Private Drive Westbound					Benns Church Blvd Northbound					Cypress Run Drive Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	240	27	0	267	0	0	0	0	0	25	269	0	4	298	25	0	11	0	36	601
04:45 PM	0	218	37	0	255	0	0	0	0	0	44	308	0	8	360	24	0	30	0	54	669
05:00 PM	0	234	21	0	255	0	0	0	0	0	25	277	0	5	307	32	0	14	0	46	608
05:15 PM	0	215	34	0	249	0	0	1	0	1	25	292	0	3	320	22	0	19	0	41	611
Total Volume	0	907	119	0	1026	0	0	1	0	1	119	1146	0	20	1285	103	0	74	0	177	2489
% App. Total	0	88.4	11.6	0		0	0	100	0		9.3	89.2	0	1.6		58.2	0	41.8	0		
PHF	.000	.945	.804	.000	.961	.000	.000	.250	.000	.250	.676	.930	.000	.625	.892	.805	.000	.617	.000	.819	.930
Lights	0	879	119	0	998	0	0	1	0	1	119	1123	0	20	1262	102	0	73	0	175	2436
% Lights	0	96.9	100	0	97.3	0	0	100	0	100	100	98.0	0	100	98.2	99.0	0	98.6	0	98.9	97.9
Single Units	0	22	0	0	22	0	0	0	0	0	0	19	0	0	19	1	0	1	0	2	43
% Single Units	0	2.4	0	0	2.1	0	0	0	0	0	0	1.7	0	0	1.5	1.0	0	1.4	0	1.1	1.7
TTST	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	10
% TTST	0	0.7	0	0	0.6	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.4
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Cypress_Run_Dr_514981_04-25-2018
Site Code :
Start Date : 4/25/2018
Page No : 6

	Benns Church Blvd Southbound					Private Drive Westbound					Benns Church Blvd Northbound					Cypress Run Drive Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					02:30 PM					04:00 PM					04:30 PM					
+0 mins.	0	240	27	0	267	0	0	0	0	0	40	284	0	4	328	25	0	11	0	36	
+15 mins.	0	218	37	0	255	0	0	1	0	1	22	283	0	4	309	24	0	30	0	54	
+30 mins.	0	234	21	0	255	0	0	0	0	0	25	269	0	4	298	32	0	14	0	46	
+45 mins.	0	215	34	0	249	0	0	1	0	1	44	308	0	8	360	22	0	19	0	41	
Total Volume	0	907	119	0	1026	0	0	2	0	2	131	1144	0	20	1295	103	0	74	0	177	
% App. Total	0	88.4	11.6	0		0	0	100	0		10.1	88.3	0	1.5		58.2	0	41.8	0		
PHF	.000	.945	.804	.000	.961	.000	.000	.500	.000	.500	.744	.929	.000	.625	.899	.805	.000	.617	.000	.819	
Lights	0	879	119	0	998	0	0	2	0	2	131	1117	0	20	1268	102	0	73	0	175	
% Lights	0	96.9	100	0	97.3	0	0	100	0	100	100	97.6	0	100	97.9	99	0	98.6	0	98.9	
Single Units	0	22	0	0	22	0	0	0	0	0	0	21	0	0	21	1	0	1	0	2	
% Single Units	0	2.4	0	0	2.1	0	0	0	0	0	0	1.8	0	0	1.6	1	0	1.4	0	1.1	
TTST	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	
% TTST	0	0.7	0	0	0.6	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



4500 Main Street
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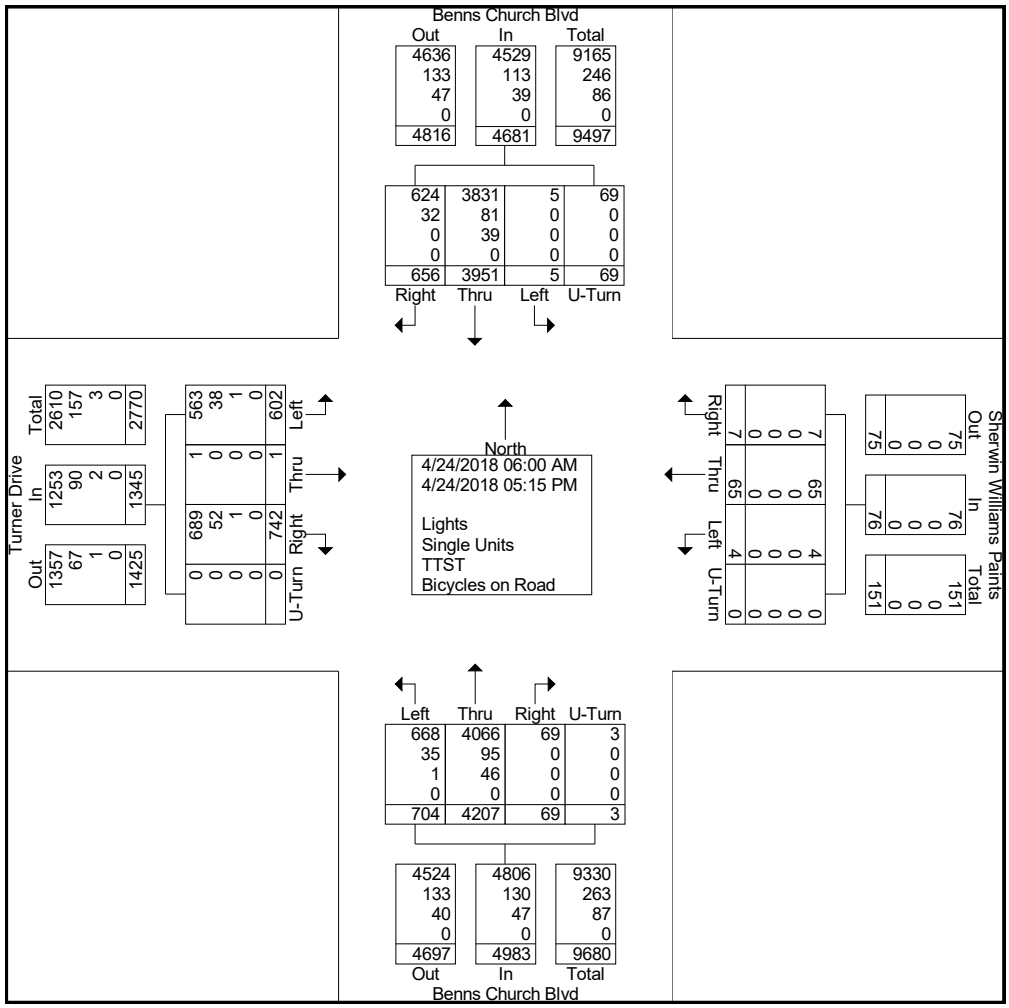
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Site Code :
Start Date : 4/24/2018
Page No : 1

Groups Printed- Lights - Single Units - TTST - Bicycles on Road

	Benns Church Blvd Southbound				Sherwin Williams Paints Westbound				Benns Church Blvd Northbound				Turner Drive Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Int. Total
06:00 AM	0	216	8	0	0	0	0	0	7	134	0	0	3	0	30	0	398
06:15 AM	0	228	10	0	0	0	0	0	7	144	0	0	7	0	30	0	426
06:30 AM	0	233	16	0	0	0	0	0	19	150	1	0	10	0	21	0	450
06:45 AM	0	186	37	0	0	0	0	0	50	130	1	0	5	0	23	0	432
Total	0	863	71	0	0	0	0	0	83	558	2	0	25	0	104	0	1706
07:00 AM	0	192	142	1	0	23	1	0	103	104	34	0	30	0	56	0	686
07:15 AM	0	168	120	2	0	41	0	0	72	148	28	0	60	1	87	0	727
07:30 AM	0	288	13	0	0	0	0	0	18	152	0	1	67	0	74	0	613
07:45 AM	1	190	13	2	1	0	0	0	22	156	0	0	14	0	36	0	435
Total	1	838	288	5	1	64	1	0	215	560	62	1	171	1	253	0	2461
02:30 PM	0	170	44	0	1	0	1	0	32	179	0	1	26	0	23	0	477
02:45 PM	1	119	22	5	1	0	0	0	21	193	0	0	124	0	70	0	556
Total	1	289	66	5	2	0	1	0	53	372	0	1	150	0	93	0	1033
03:00 PM	1	168	18	4	0	0	0	0	18	208	0	1	83	0	70	0	571
03:15 PM	0	165	16	4	0	0	1	0	28	260	1	0	30	0	35	0	540
03:30 PM	0	150	26	4	0	0	0	0	31	258	0	0	19	0	19	0	507
03:45 PM	0	197	23	9	1	0	1	0	31	204	3	0	19	0	39	0	527
Total	1	680	83	21	1	0	2	0	108	930	4	1	151	0	163	0	2145
04:00 PM	0	207	21	5	0	0	0	0	38	330	0	0	21	0	19	0	641
04:15 PM	0	197	15	6	0	0	1	0	54	261	0	0	8	0	24	0	566
04:30 PM	0	223	18	2	0	0	0	0	32	317	1	0	2	0	20	0	615
04:45 PM	0	217	31	2	0	1	0	0	43	292	0	0	23	0	27	0	636
Total	0	844	85	15	0	1	1	0	167	1200	1	0	54	0	90	0	2458
05:00 PM	1	215	30	9	0	0	1	0	40	271	0	0	30	0	14	0	611
05:15 PM	1	222	33	14	0	0	1	0	38	316	0	0	21	0	25	0	671
Grand Total	5	3951	656	69	4	65	7	0	704	4207	69	3	602	1	742	0	11085
Apprch %	0.1	84.4	14	1.5	5.3	85.5	9.2	0	14.1	84.4	1.4	0.1	44.8	0.1	55.2	0	
Total %	0	35.6	5.9	0.6	0	0.6	0.1	0	6.4	38	0.6	0	5.4	0	6.7	0	
Lights	5	3831	624	69	4	65	7	0	668	4066	69	3	563	1	689	0	10664
% Lights	100	97	95.1	100	100	100	100	0	94.9	96.6	100	100	93.5	100	92.9	0	96.2
Single Units	0	81	32	0	0	0	0	0	35	95	0	0	38	0	52	0	333
% Single Units	0	2.1	4.9	0	0	0	0	0	5	2.3	0	0	6.3	0	7	0	3
TTST	0	39	0	0	0	0	0	0	1	46	0	0	1	0	1	0	88
% TTST	0	1	0	0	0	0	0	0	0.1	1.1	0	0	0.2	0	0.1	0	0.8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4500 Main Street
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Virginia Beach, VA 23462-3361
757.490.0132

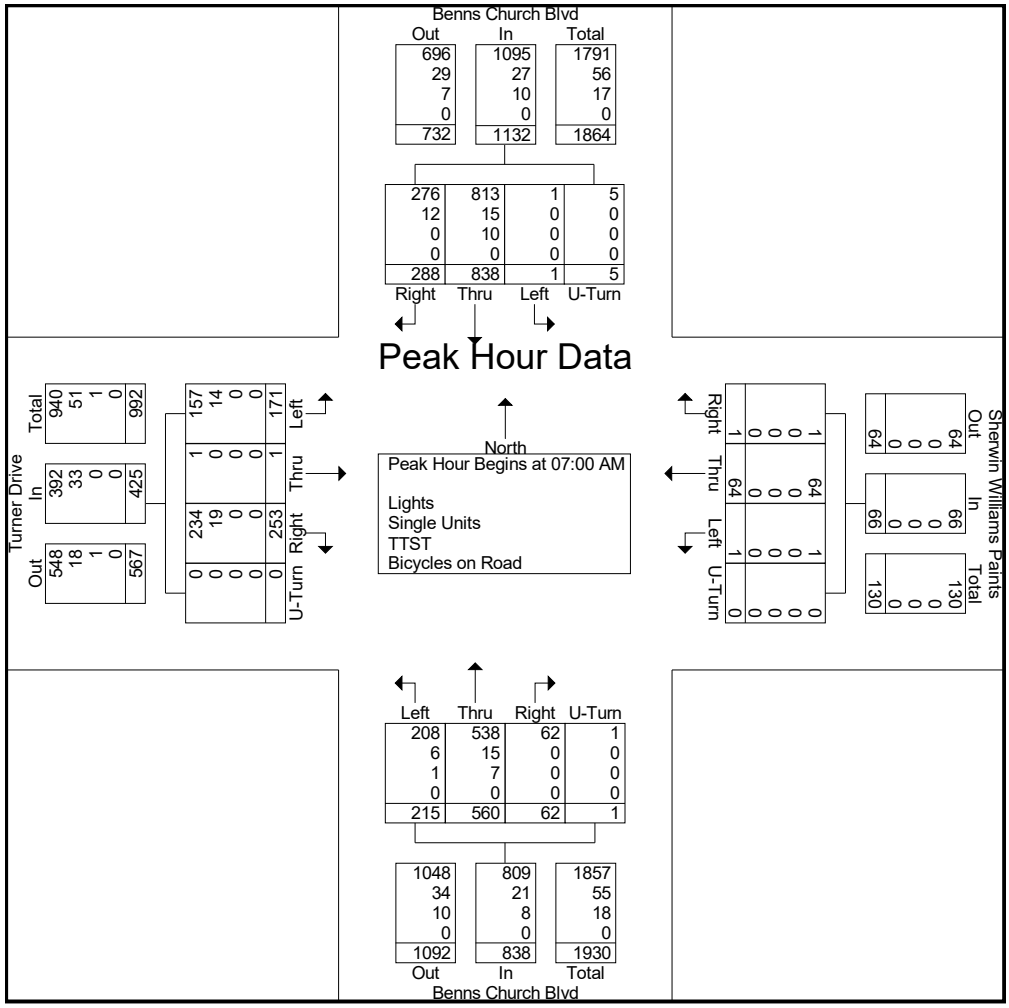
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Site Code :
Start Date : 4/24/2018
Page No : 2



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Turner_Drive_514980_04-24-2018
Site Code :
Start Date : 4/24/2018

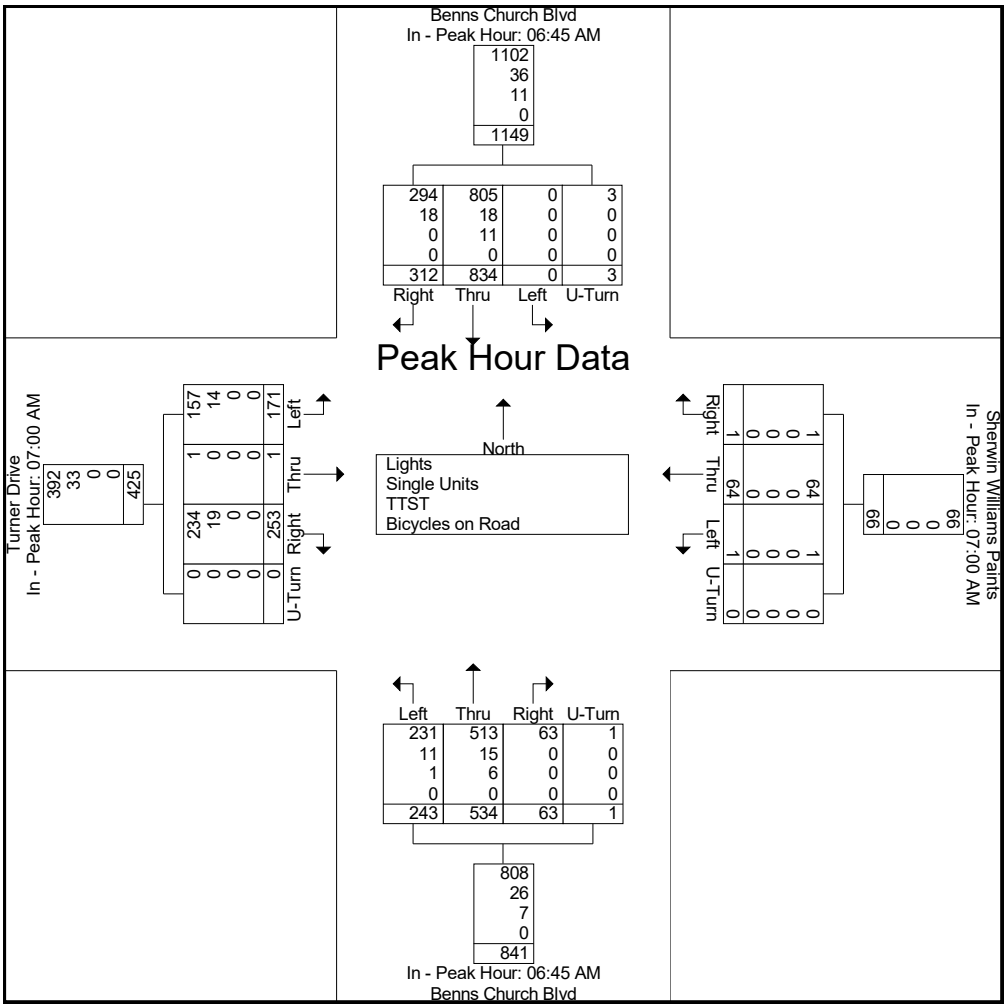
	Benns Church Blvd Southbound					Sherwin Williams Paints Westbound					Benns Church Blvd Northbound					Turner Drive Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	192	142	1	335	0	23	1	0	24	103	104	34	0	241	30	0	56	0	86	686
07:15 AM	0	168	120	2	290	0	41	0	0	41	72	148	28	0	248	60	1	87	0	148	727
07:30 AM	0	288	13	0	301	0	0	0	0	0	18	152	0	1	171	67	0	74	0	141	613
07:45 AM	1	190	13	2	206	1	0	0	0	1	22	156	0	0	178	14	0	36	0	50	435
Total Volume	1	838	288	5	1132	1	64	1	0	66	215	560	62	1	838	171	1	253	0	425	2461
% App. Total	0.1	74	25.4	0.4		1.5	97	1.5	0		25.7	66.8	7.4	0.1		40.2	0.2	59.5	0		
PHF	.250	.727	.507	.625	.845	.250	.390	.250	.000	.402	.522	.897	.456	.250	.845	.638	.250	.727	.000	.718	.846
Lights	1	813	276	5	1095	1	64	1	0	66	208	538	62	1	809	157	1	234	0	392	2362
% Lights	100	97.0	95.8	100	96.7	100	100	100	0	100	96.7	96.1	100	100	96.5	91.8	100	92.5	0	92.2	96.0
Single Units	0	15	12	0	27	0	0	0	0	0	6	15	0	0	21	14	0	19	0	33	81
% Single Units	0	1.8	4.2	0	2.4	0	0	0	0	0	2.8	2.7	0	0	2.5	8.2	0	7.5	0	7.8	3.3
TTST	0	10	0	0	10	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	18
% TTST	0	1.2	0	0	0.9	0	0	0	0	0	0.5	1.3	0	0	1.0	0	0	0	0	0	0.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Turner_Drive_514980_04-24-2018
Site Code :
Start Date : 4/24/2018

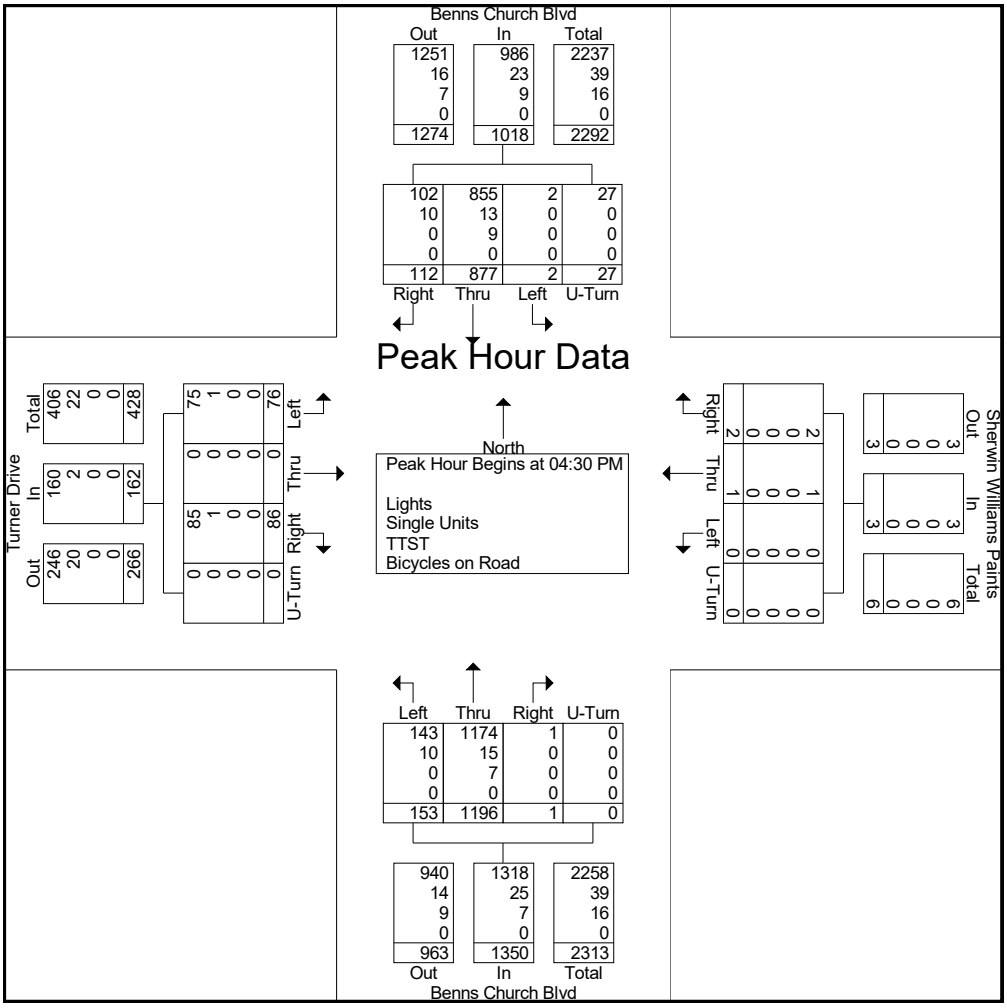
	Benns Church Blvd Southbound					Sherwin Williams Paints Westbound					Benns Church Blvd Northbound					Turner Drive Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:45 AM					07:00 AM					06:45 AM					07:00 AM					
+0 mins.	0	186	37	0	223	0	23	1	0	24	50	130	1	0	181	30	0	56	0	86	
+15 mins.	0	192	142	1	335	0	41	0	0	41	103	104	34	0	241	60	1	87	0	148	
+30 mins.	0	168	120	2	290	0	0	0	0	0	72	148	28	0	248	67	0	74	0	141	
+45 mins.	0	288	13	0	301	1	0	0	0	1	18	152	0	1	171	14	0	36	0	50	
Total Volume	0	834	312	3	1149	1	64	1	0	66	243	534	63	1	841	171	1	253	0	425	
% App. Total	0	72.6	27.2	0.3		1.5	97	1.5	0		28.9	63.5	7.5	0.1		40.2	0.2	59.5	0		
PHF	.000	.724	.549	.375	.857	.250	.390	.250	.000	.402	.590	.878	.463	.250	.848	.638	.250	.727	.000	.718	
Lights	0	805	294	3	1102	1	64	1	0	66	231	513	63	1	808	157	1	234	0	392	
% Lights	0	96.5	94.2	100	95.9	100	100	100	0	100	95.1	96.1	100	100	96.1	91.8	100	92.5	0	92.2	
Single Units	0	18	18	0	36	0	0	0	0	0	11	15	0	0	26	14	0	19	0	33	
% Single Units	0	2.2	5.8	0	3.1	0	0	0	0	0	4.5	2.8	0	0	3.1	8.2	0	7.5	0	7.8	
TTST	0	11	0	0	11	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	
% TTST	0	1.3	0	0	1	0	0	0	0	0	0.4	1.1	0	0	0.8	0	0	0	0	0	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Turner_Drive_514980_04-24-2018
Site Code :
Start Date : 4/24/2018
Page No : 5

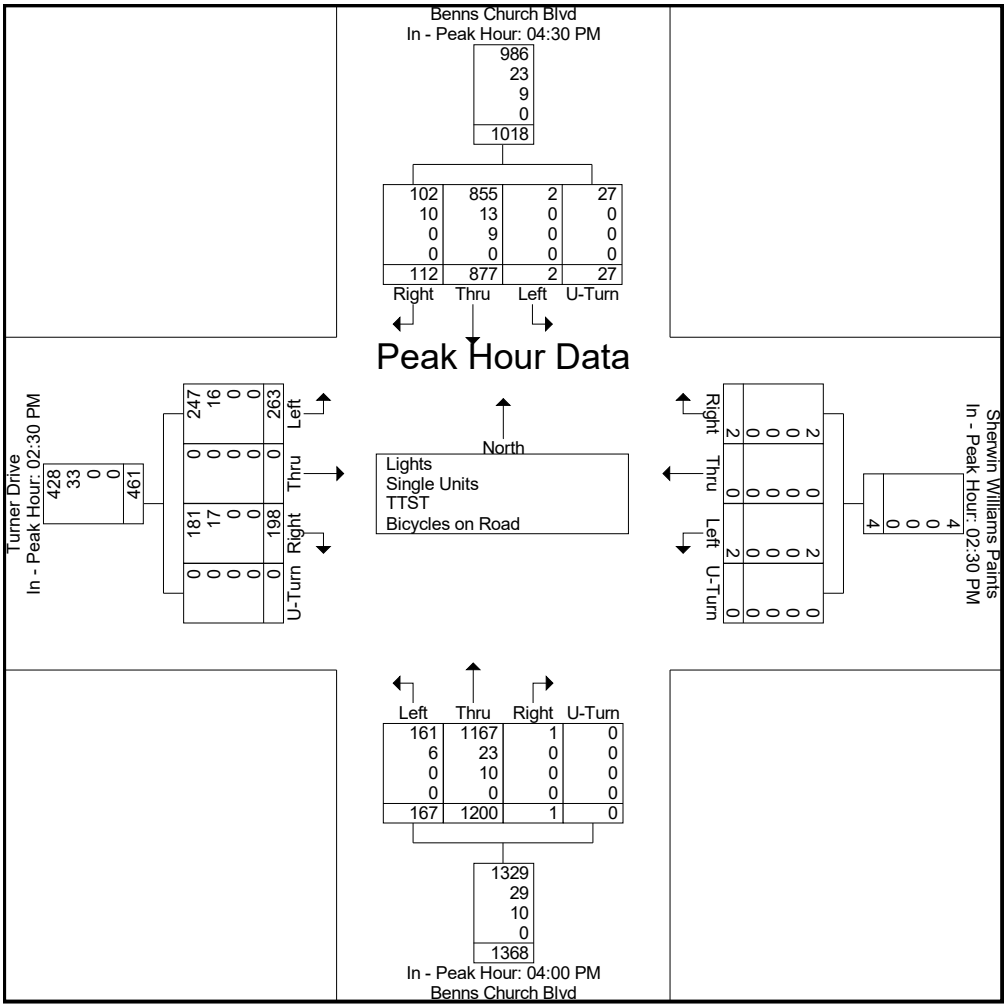
	Benns Church Blvd Southbound					Sherwin Williams Paints Westbound					Benns Church Blvd Northbound					Turner Drive Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	223	18	2	243	0	0	0	0	0	32	317	1	0	350	2	0	20	0	22	615
04:45 PM	0	217	31	2	250	0	1	0	0	1	43	292	0	0	335	23	0	27	0	50	636
05:00 PM	1	215	30	9	255	0	0	1	0	1	40	271	0	0	311	30	0	14	0	44	611
05:15 PM	1	222	33	14	270	0	0	1	0	1	38	316	0	0	354	21	0	25	0	46	671
Total Volume	2	877	112	27	1018	0	1	2	0	3	153	1196	1	0	1350	76	0	86	0	162	2533
% App. Total	0.2	86.1	11	2.7		0	33.3	66.7	0		11.3	88.6	0.1	0		46.9	0	53.1	0		
PHF	.500	.983	.848	.482	.943	.000	.250	.500	.000	.750	.890	.943	.250	.000	.953	.633	.000	.796	.000	.810	.944
Lights	2	855	102	27	986	0	1	2	0	3	143	1174	1	0	1318	75	0	85	0	160	2467
% Lights	100	97.5	91.1	100	96.9	0	100	100	0	100	93.5	98.2	100	0	97.6	98.7	0	98.8	0	98.8	97.4
Single Units	0	13	10	0	23	0	0	0	0	0	10	15	0	0	25	1	0	1	0	2	50
% Single Units	0	1.5	8.9	0	2.3	0	0	0	0	0	6.5	1.3	0	0	1.9	1.3	0	1.2	0	1.2	2.0
TTST	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	16
% TTST	0	1.0	0	0	0.9	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns_Church_and_Turner_Drive_514980_04-24-2018
Site Code :
Start Date : 4/24/2018
Page No : 6

	Benns Church Blvd Southbound					Sherwin Williams Paints Westbound					Benns Church Blvd Northbound					Turner Drive Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:30 PM					02:30 PM					04:00 PM					02:30 PM					
+0 mins.	0	223	18	2	243	1	0	1	0	2	38	330	0	0	368	26	0	23	0	49	
+15 mins.	0	217	31	2	250	1	0	0	0	1	54	261	0	0	315	124	0	70	0	194	
+30 mins.	1	215	30	9	255	0	0	0	0	0	32	317	1	0	350	83	0	70	0	153	
+45 mins.	1	222	33	14	270	0	0	1	0	1	43	292	0	0	335	30	0	35	0	65	
Total Volume	2	877	112	27	1018	2	0	2	0	4	167	1200	1	0	1368	263	0	198	0	461	
% App. Total	0.2	86.1	11	2.7		50	0	50	0		12.2	87.7	0.1	0		57	0	43	0		
PHF	.500	.983	.848	.482	.943	.500	.000	.500	.000	.500	.773	.909	.250	.000	.929	.530	.000	.707	.000	.594	
Lights	2	855	102	27	986	2	0	2	0	4	161	1167	1	0	1329	247	0	181	0	428	
% Lights	100	97.5	91.1	100	96.9	100	0	100	0	100	96.4	97.2	100	0	97.1	93.9	0	91.4	0	92.8	
Single Units	0	13	10	0	23	0	0	0	0	0	6	23	0	0	29	16	0	17	0	33	
% Single Units	0	1.5	8.9	0	2.3	0	0	0	0	0	3.6	1.9	0	0	2.1	6.1	0	8.6	0	7.2	
TTST	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	
% TTST	0	1	0	0	0.9	0	0	0	0	0	0	0.8	0	0	0.7	0	0	0	0	0	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018
Page No : 1

Groups Printed- Lights - Single Units - TTST

	Benns Church Blvd Southbound		Benns Church Blvd Northbound		
Start Time	Thru	U-Turn	Thru	U-Turn	Int. Total
06:00 AM	255	0	135	0	390
06:15 AM	263	0	174	0	437
06:30 AM	283	0	164	0	447
06:45 AM	265	0	167	0	432
Total	1066	0	640	0	1706
07:00 AM	246	0	268	0	514
07:15 AM	322	0	241	1	564
07:30 AM	314	1	213	3	531
07:45 AM	248	0	194	0	442
Total	1130	1	916	4	2051
08:00 AM	221	0	176	3	400
08:15 AM	187	0	190	1	378
08:30 AM	227	0	199	0	426
08:45 AM	194	0	194	0	388
Total	829	0	759	4	1592
09:00 AM	227	0	143	1	371
09:15 AM	188	0	159	2	349
09:30 AM	159	0	148	0	307
09:45 AM	160	0	140	3	303
Total	734	0	590	6	1330
10:00 AM	153	3	149	1	306
10:15 AM	174	0	155	0	329
10:30 AM	170	0	175	0	345
10:45 AM	152	0	171	2	325
Total	649	3	650	3	1305
11:00 AM	138	0	129	2	269
11:15 AM	175	0	179	0	354
11:30 AM	174	0	163	1	338
11:45 AM	167	0	182	0	349
Total	654	0	653	3	1310
12:00 PM	165	0	159	0	324
12:15 PM	194	1	195	2	392
12:30 PM	195	0	214	0	409
12:45 PM	181	0	200	2	383
Total	735	1	768	4	1508
01:00 PM	176	1	172	1	350
01:15 PM	211	0	195	1	407
01:30 PM	165	0	189	1	355
01:45 PM	185	1	210	3	399
Total	737	2	766	6	1511
02:00 PM	165	0	195	1	361
02:15 PM	170	0	210	0	380
02:30 PM	186	0	223	1	410
02:45 PM	230	1	241	0	472
Total	751	1	869	2	1623
03:00 PM	264	0	245	2	511
03:15 PM	229	1	294	3	527

4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

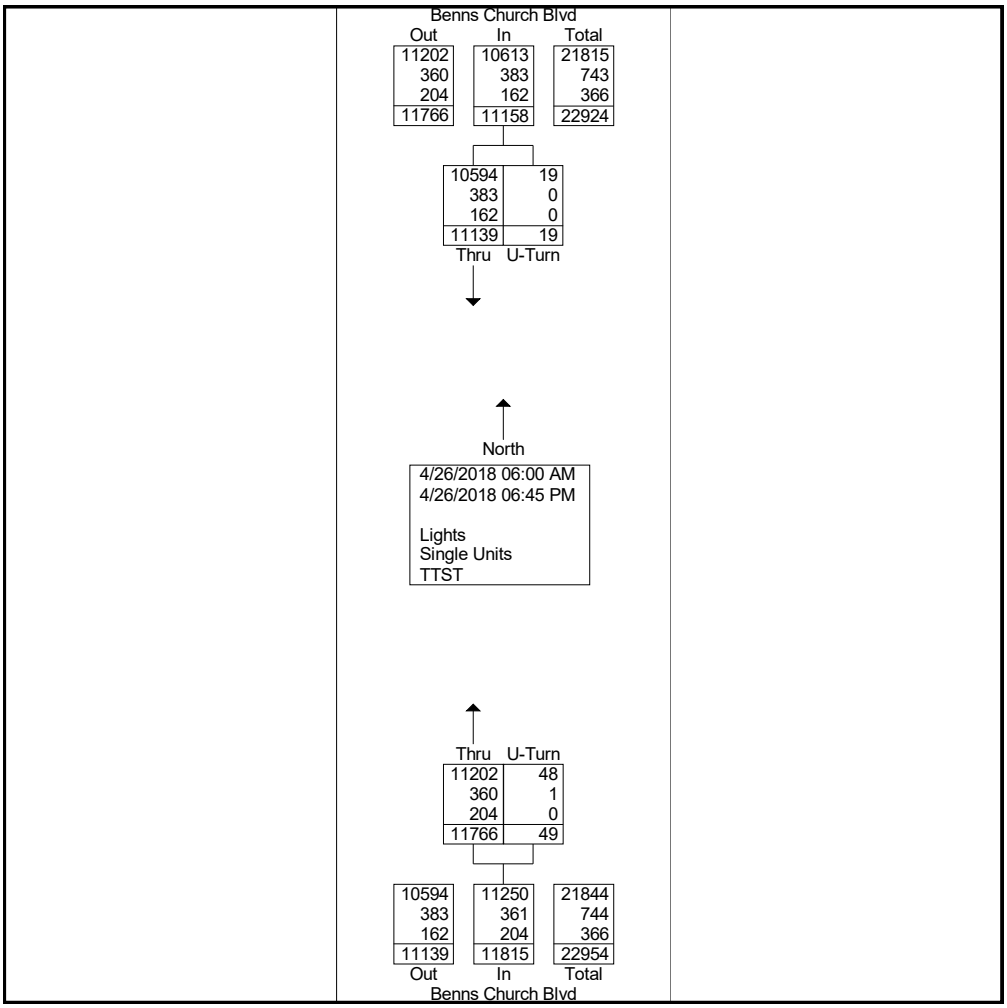
File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018
Page No : 2

Groups Printed- Lights - Single Units - TTST

	Benns Church Blvd Southbound		Benns Church Blvd Northbound		
Start Time	Thru	U-Turn	Thru	U-Turn	Int. Total
03:30 PM	234	0	280	0	514
03:45 PM	218	2	298	0	518
Total	945	3	1117	5	2070
04:00 PM	245	1	408	2	656
04:15 PM	239	2	338	1	580
04:30 PM	272	0	364	3	639
04:45 PM	282	1	376	0	659
Total	1038	4	1486	6	2534
05:00 PM	267	0	391	2	660
05:15 PM	270	0	361	1	632
05:30 PM	204	2	370	0	576
05:45 PM	213	1	403	0	617
Total	954	3	1525	3	2485
06:00 PM	219	0	342	0	561
06:15 PM	261	1	243	1	506
06:30 PM	251	0	236	1	488
06:45 PM	186	0	206	1	393
Total	917	1	1027	3	1948
Grand Total	11139	19	11766	49	22973
Apprch %	99.8	0.2	99.6	0.4	
Total %	48.5	0.1	51.2	0.2	
Lights	10594	19	11202	48	21863
% Lights	95.1	100	95.2	98	95.2
Single Units	383	0	360	1	744
% Single Units	3.4	0	3.1	2	3.2
TTST	162	0	204	0	366
% TTST	1.5	0	1.7	0	1.6

4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

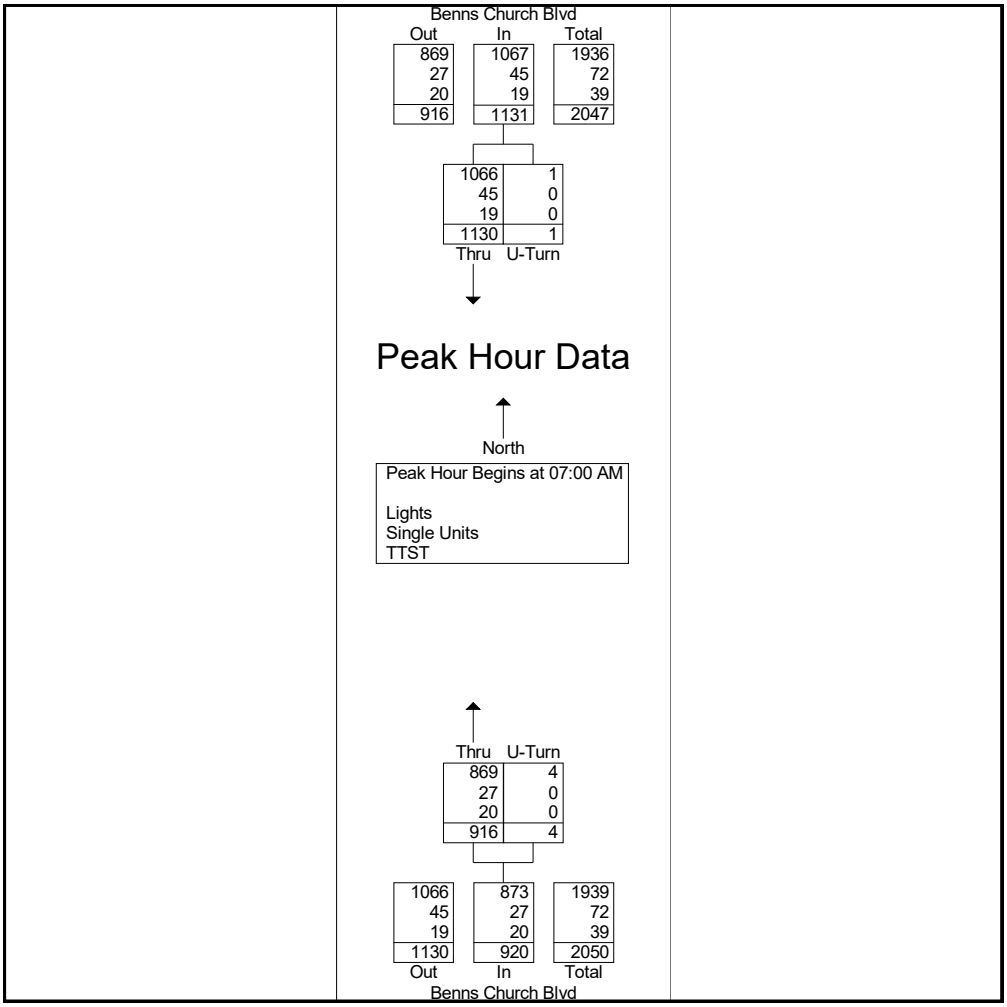
File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018
Page No : 3



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018
Page No : 4

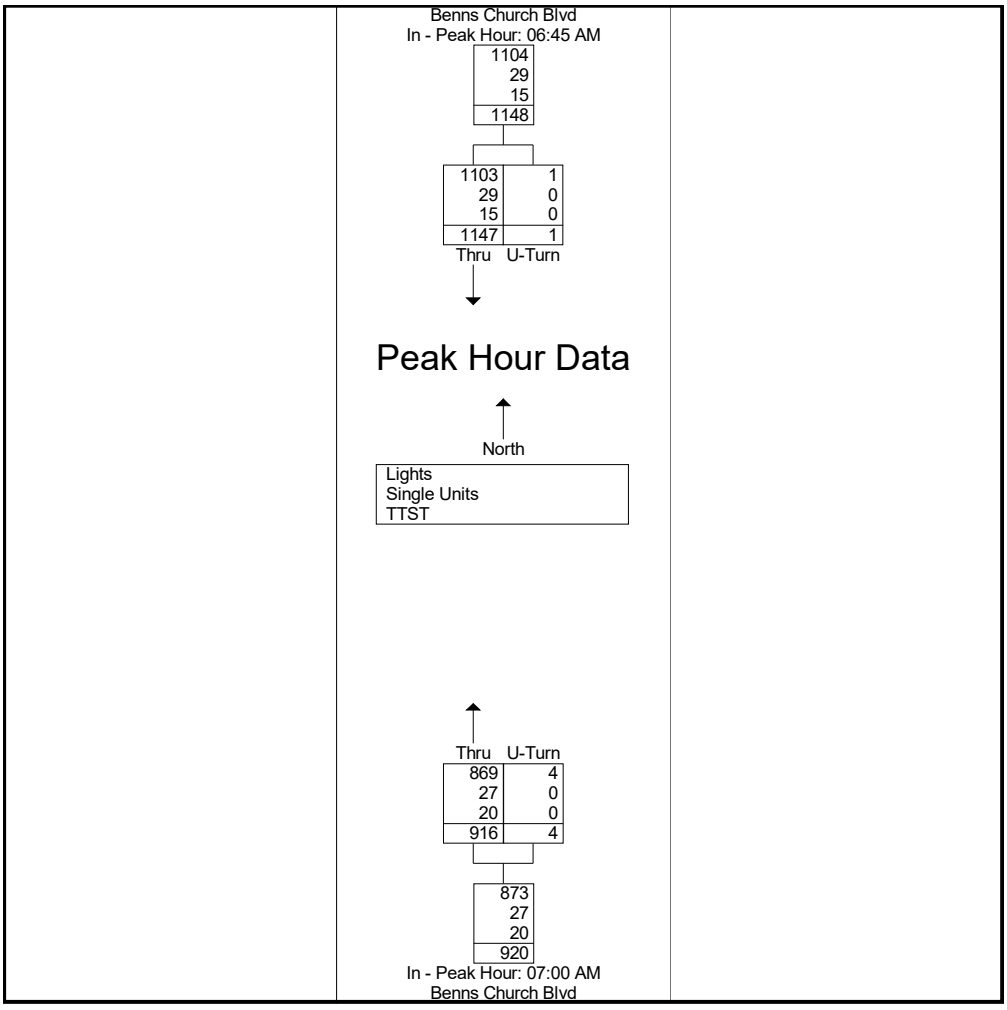
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 07:00 AM							
07:00 AM	246	0	246	268	0	268	514
07:15 AM	322	0	322	241	1	242	564
07:30 AM	314	1	315	213	3	216	531
07:45 AM	248	0	248	194	0	194	442
Total Volume	1130	1	1131	916	4	920	2051
% App. Total	99.9	0.1		99.6	0.4		
PHF	.877	.250	.878	.854	.333	.858	.909
Lights	1066	1	1067	869	4	873	1940
% Lights	94.3	100	94.3	94.9	100	94.9	94.6
Single Units	45	0	45	27	0	27	72
% Single Units	4.0	0	4.0	2.9	0	2.9	3.5
TTST	19	0	19	20	0	20	39
% TTST	1.7	0	1.7	2.2	0	2.2	1.9



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018
Page No : 5

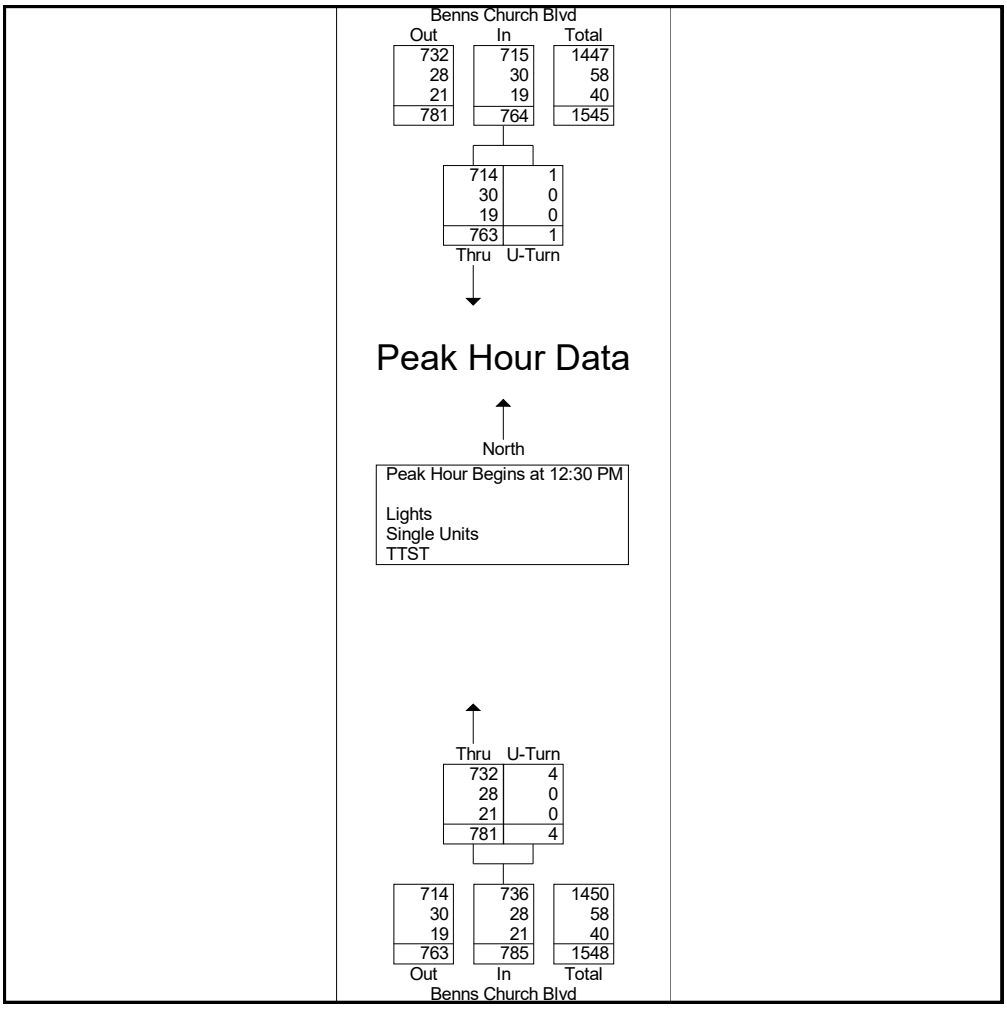
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1							
Peak Hour for Each Approach Begins at:							
	06:45 AM			07:00 AM			
+0 mins.	265	0	265	268	0	268	
+15 mins.	246	0	246	241	1	242	
+30 mins.	322	0	322	213	3	216	
+45 mins.	314	1	315	194	0	194	
Total Volume	1147	1	1148	916	4	920	
% App. Total	99.9	0.1		99.6	0.4		
PHF	.891	.250	.891	.854	.333	.858	
Lights	1103	1	1104	869	4	873	
% Lights	96.2	100	96.2	94.9	100	94.9	
Single Units	29	0	29	27	0	27	
% Single Units	2.5	0	2.5	2.9	0	2.9	
TTST	15	0	15	20	0	20	
% TTST	1.3	0	1.3	2.2	0	2.2	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018

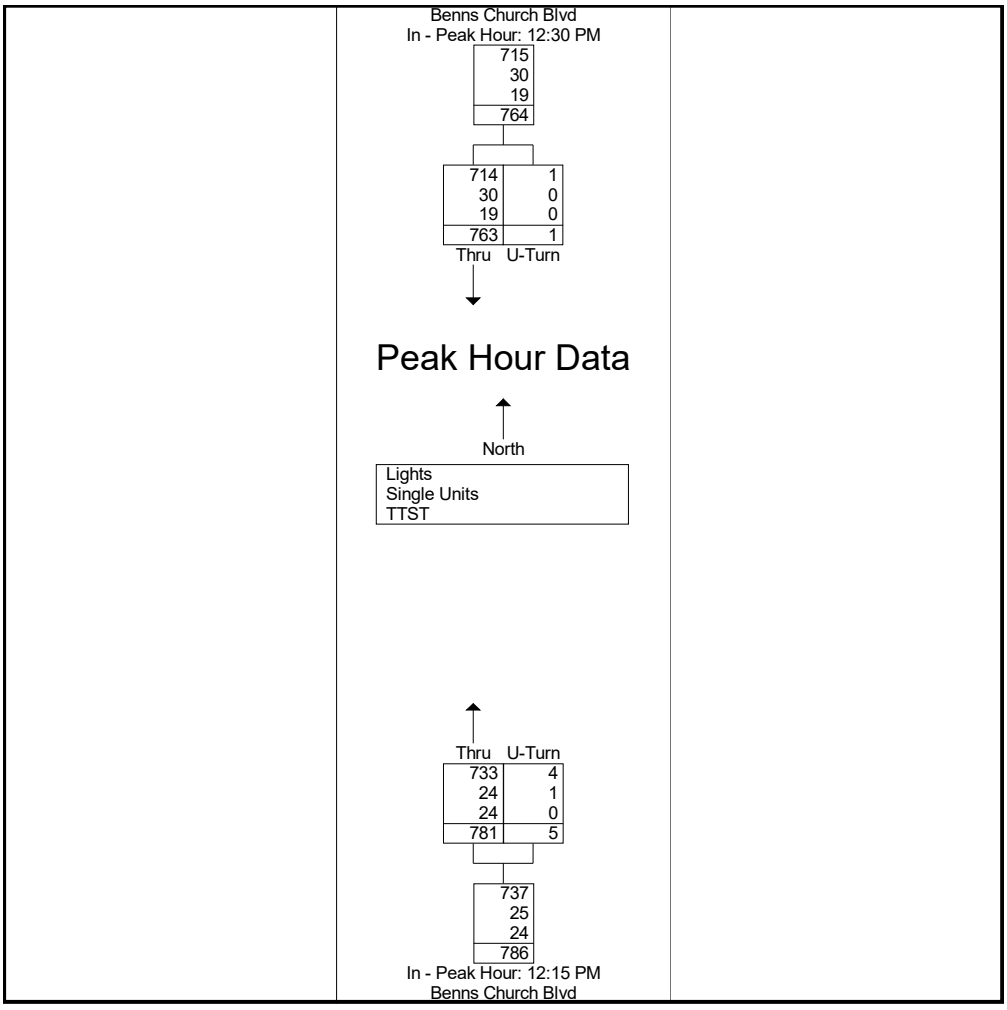
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 12:30 PM							
12:30 PM	195	0	195	214	0	214	409
12:45 PM	181	0	181	200	2	202	383
01:00 PM	176	1	177	172	1	173	350
01:15 PM	211	0	211	195	1	196	407
Total Volume	763	1	764	781	4	785	1549
% App. Total	99.9	0.1		99.5	0.5		
PHF	.904	.250	.905	.912	.500	.917	.947
Lights	714	1	715	732	4	736	1451
% Lights	93.6	100	93.6	93.7	100	93.8	93.7
Single Units	30	0	30	28	0	28	58
% Single Units	3.9	0	3.9	3.6	0	3.6	3.7
TTST	19	0	19	21	0	21	40
% TTST	2.5	0	2.5	2.7	0	2.7	2.6



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

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Site Code :
Start Date : 4/26/2018

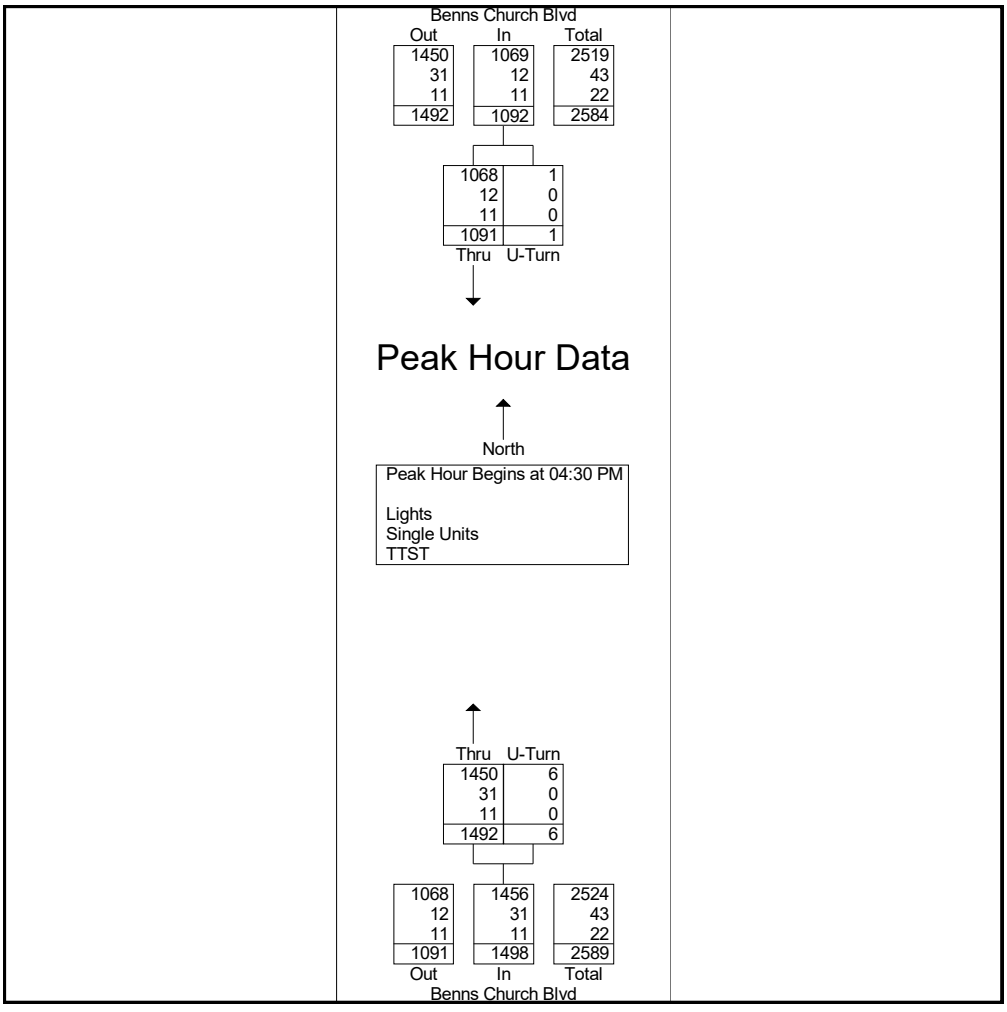
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1							
Peak Hour for Each Approach Begins at:							
	12:30 PM			12:15 PM			
+0 mins.	195	0	195	195	2	197	
+15 mins.	181	0	181	214	0	214	
+30 mins.	176	1	177	200	2	202	
+45 mins.	211	0	211	172	1	173	
Total Volume	763	1	764	781	5	786	
% App. Total	99.9	0.1		99.4	0.6		
PHF	.904	.250	.905	.912	.625	.918	
Lights	714	1	715	733	4	737	
% Lights	93.6	100	93.6	93.9	80	93.8	
Single Units	30	0	30	24	1	25	
% Single Units	3.9	0	3.9	3.1	20	3.2	
TTST	19	0	19	24	0	24	
% TTST	2.5	0	2.5	3.1	0	3.1	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018

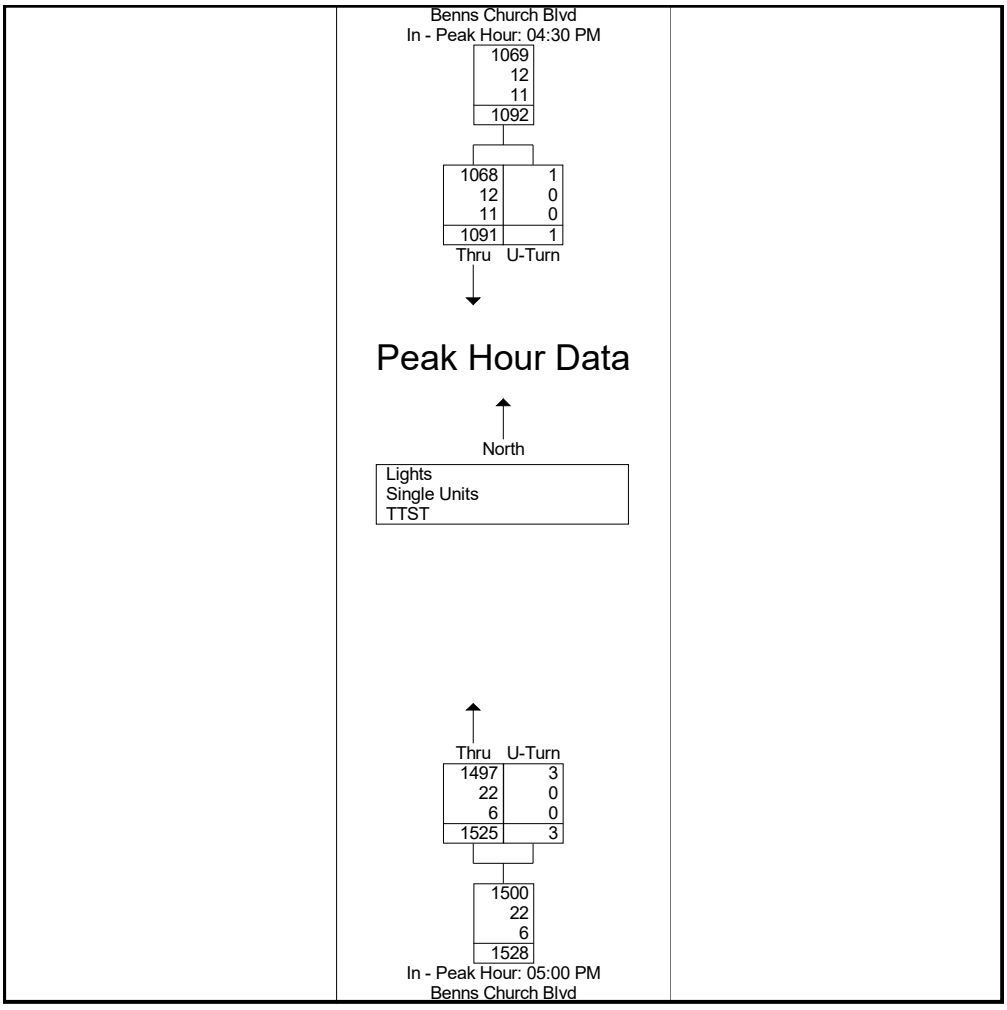
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 04:30 PM							
04:30 PM	272	0	272	364	3	367	639
04:45 PM	282	1	283	376	0	376	659
05:00 PM	267	0	267	391	2	393	660
05:15 PM	270	0	270	361	1	362	632
Total Volume	1091	1	1092	1492	6	1498	2590
% App. Total	99.9	0.1		99.6	0.4		
PHF	.967	.250	.965	.954	.500	.953	.981
Lights	1068	1	1069	1450	6	1456	2525
% Lights	97.9	100	97.9	97.2	100	97.2	97.5
Single Units	12	0	12	31	0	31	43
% Single Units	1.1	0	1.1	2.1	0	2.1	1.7
TTST	11	0	11	11	0	11	22
% TTST	1.0	0	1.0	0.7	0	0.7	0.8



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Combined
Site Code :
Start Date : 4/26/2018

	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1							
Peak Hour for Each Approach Begins at:							
	04:30 PM			05:00 PM			
+0 mins.	272	0	272	391	2	393	
+15 mins.	282	1	283	361	1	362	
+30 mins.	267	0	267	370	0	370	
+45 mins.	270	0	270	403	0	403	
Total Volume	1091	1	1092	1525	3	1528	
% App. Total	99.9	0.1		99.8	0.2		
PHF	.967	.250	.965	.946	.375	.948	
Lights	1068	1	1069	1497	3	1500	
% Lights	97.9	100	97.9	98.2	100	98.2	
Single Units	12	0	12	22	0	22	
% Single Units	1.1	0	1.1	1.4	0	1.4	
TTST	11	0	11	6	0	6	
% TTST	1	0	1	0.4	0	0.4	

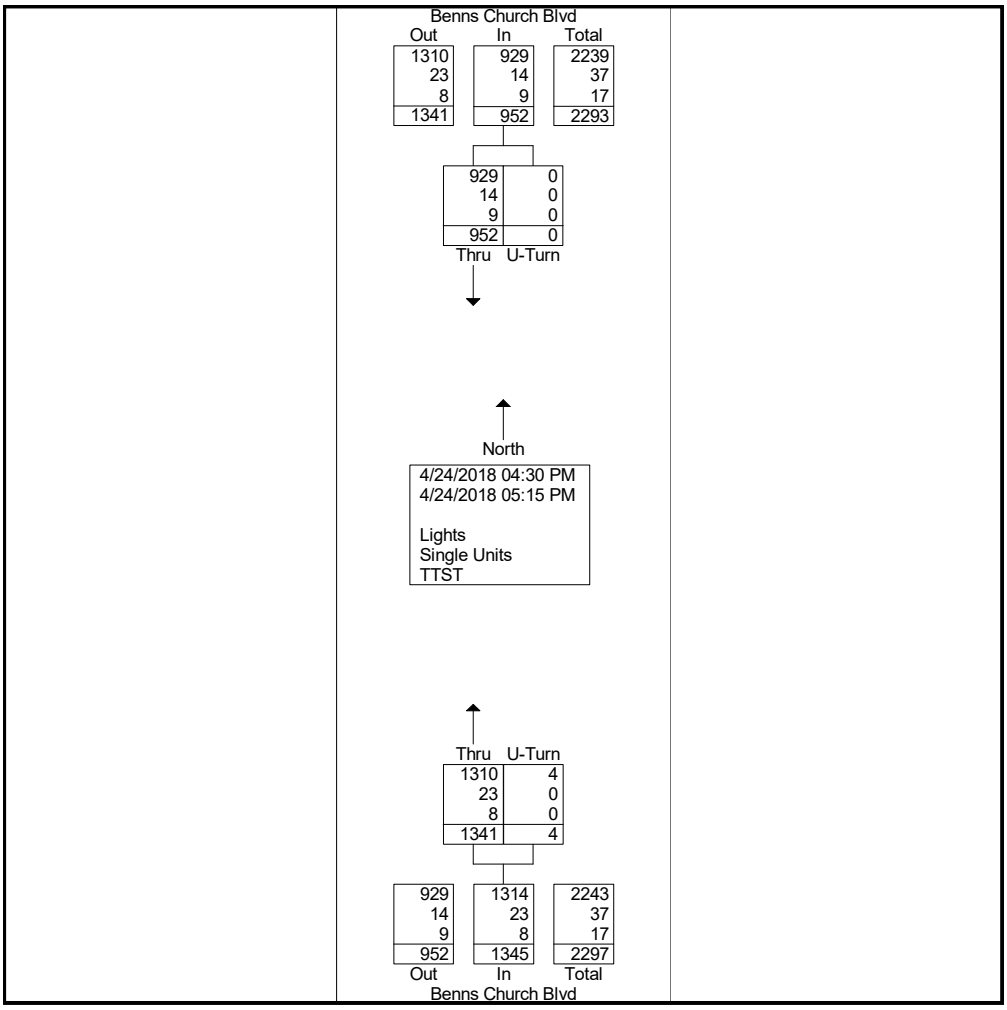


4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Day 1
Site Code :
Start Date : 4/24/2018
Page No : 1

Groups Printed- Lights - Single Units - TTST

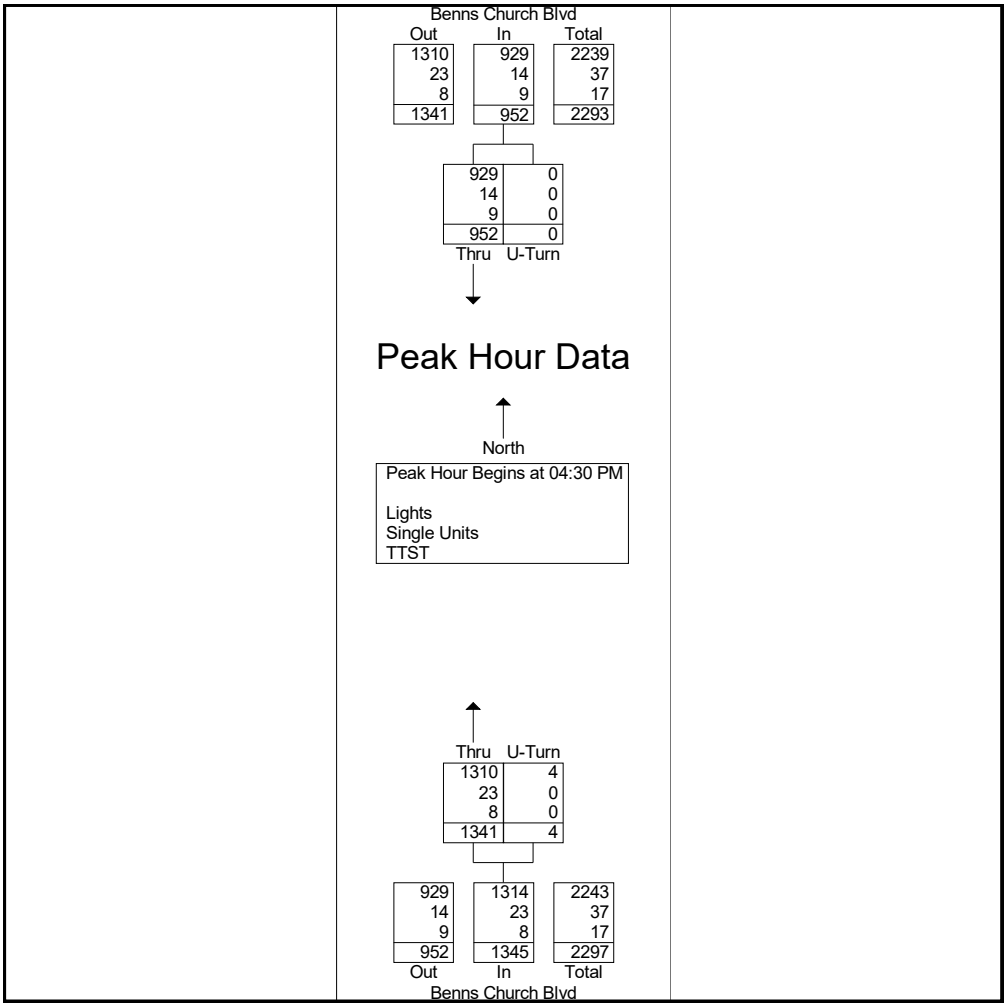
	Benns Church Blvd Southbound		Benns Church Blvd Northbound		
Start Time	Thru	U-Turn	Thru	U-Turn	Int. Total
04:30 PM	241	0	347	0	588
04:45 PM	236	0	347	1	584
Total	477	0	694	1	1172
05:00 PM	235	0	312	1	548
05:15 PM	240	0	335	2	577
Grand Total	952	0	1341	4	2297
Apprch %	100	0	99.7	0.3	
Total %	41.4	0	58.4	0.2	
Lights	929	0	1310	4	2243
% Lights	97.6	0	97.7	100	97.6
Single Units	14	0	23	0	37
% Single Units	1.5	0	1.7	0	1.6
TTST	9	0	8	0	17
% TTST	0.9	0	0.6	0	0.7



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Day 1
Site Code :
Start Date : 4/24/2018
Page No : 2

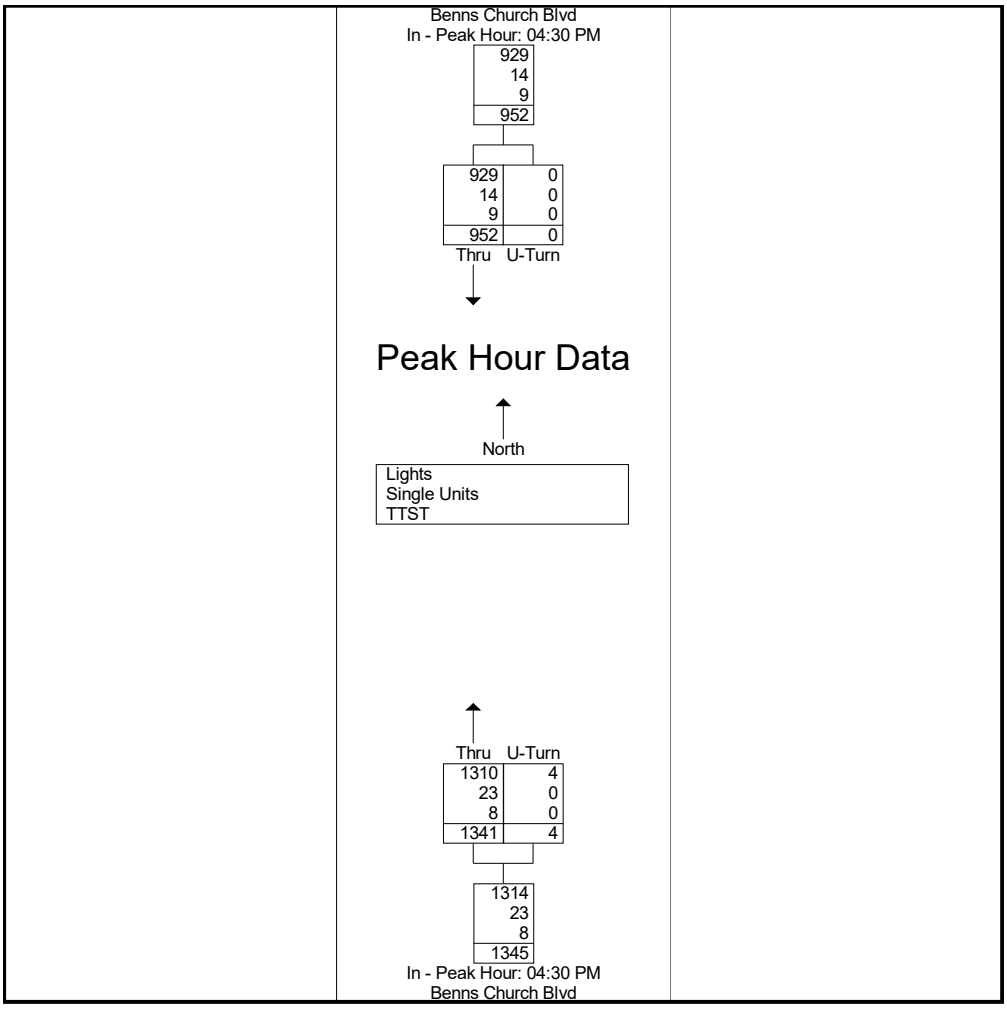
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 04:30 PM							
04:30 PM	241	0	241	347	0	347	588
04:45 PM	236	0	236	347	1	348	584
05:00 PM	235	0	235	312	1	313	548
05:15 PM	240	0	240	335	2	337	577
Total Volume	952	0	952	1341	4	1345	2297
% App. Total	100	0		99.7	0.3		
PHF	.988	.000	.988	.966	.500	.966	.977
Lights	929	0	929	1310	4	1314	2243
% Lights	97.6	0	97.6	97.7	100	97.7	97.6
Single Units	14	0	14	23	0	23	37
% Single Units	1.5	0	1.5	1.7	0	1.7	1.6
TTST	9	0	9	8	0	8	17
% TTST	0.9	0	0.9	0.6	0	0.6	0.7



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break Day 1
Site Code :
Start Date : 4/24/2018
Page No : 3

	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1							
Peak Hour for Each Approach Begins at:							
	04:30 PM			04:30 PM			
+0 mins.	241	0	241	347	0	347	
+15 mins.	236	0	236	347	1	348	
+30 mins.	235	0	235	312	1	313	
+45 mins.	240	0	240	335	2	337	
Total Volume	952	0	952	1341	4	1345	
% App. Total	100	0		99.7	0.3		
PHF	.988	.000	.988	.966	.500	.966	
Lights	929	0	929	1310	4	1314	
% Lights	97.6	0	97.6	97.7	100	97.7	
Single Units	14	0	14	23	0	23	
% Single Units	1.5	0	1.5	1.7	0	1.7	
TTST	9	0	9	8	0	8	
% TTST	0.9	0	0.9	0.6	0	0.6	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

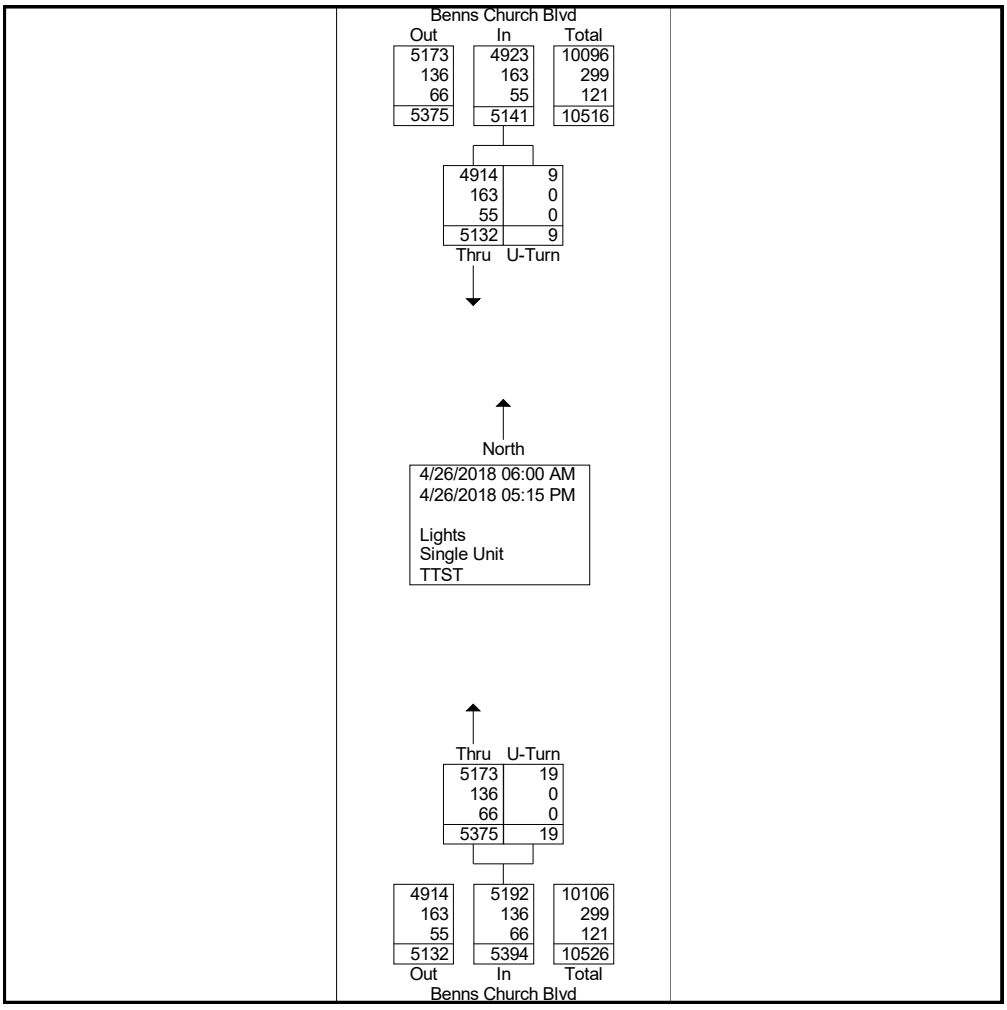
File Name : Benns Church with Median Break
Site Code :
Start Date : 4/26/2018
Page No : 1

Groups Printed- Lights - Single Unit - TTST

	Benns Church Blvd Southbound		Benns Church Blvd Northbound		
Start Time	Thru	U-Turn	Thru	U-Turn	Int. Total
06:00 AM	255	0	135	0	390
06:15 AM	263	0	174	0	437
06:30 AM	283	0	164	0	447
06:45 AM	265	0	167	0	432
Total	1066	0	640	0	1706
07:00 AM	246	0	268	0	514
07:15 AM	322	0	241	1	564
07:30 AM	314	1	213	3	531
07:45 AM	248	0	194	0	442
Total	1130	1	916	4	2051
02:30 PM	186	0	223	1	410
02:45 PM	230	1	241	0	472
Total	416	1	464	1	882
03:00 PM	264	0	245	2	511
03:15 PM	229	1	294	3	527
03:30 PM	234	0	280	0	514
03:45 PM	218	2	298	0	518
Total	945	3	1117	5	2070
04:00 PM	245	1	408	2	656
04:15 PM	239	2	338	1	580
04:30 PM	272	0	364	3	639
04:45 PM	282	1	376	0	659
Total	1038	4	1486	6	2534
05:00 PM	267	0	391	2	660
05:15 PM	270	0	361	1	632
Grand Total	5132	9	5375	19	10535
Apprch %	99.8	0.2	99.6	0.4	
Total %	48.7	0.1	51	0.2	
Lights	4914	9	5173	19	10115
% Lights	95.8	100	96.2	100	96
Single Unit	163	0	136	0	299
% Single Unit	3.2	0	2.5	0	2.8
TTST	55	0	66	0	121
% TTST	1.1	0	1.2	0	1.1

4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

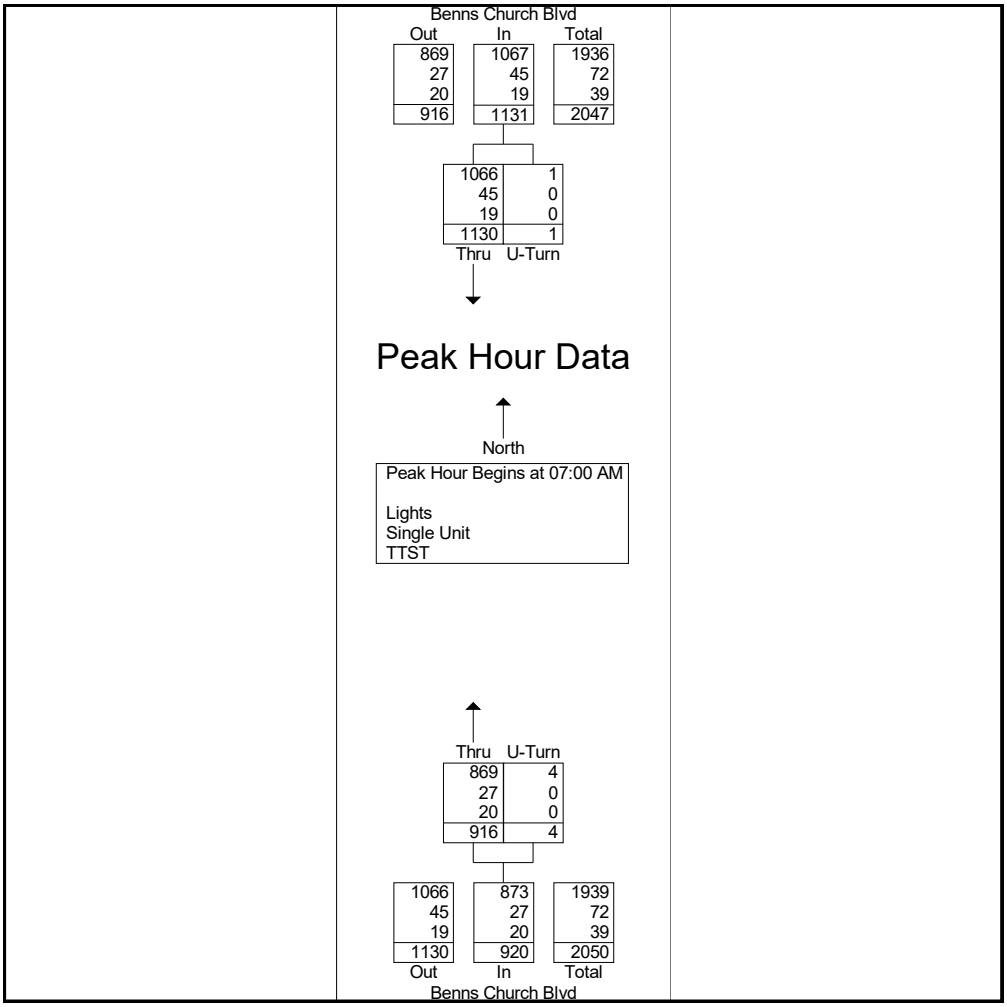
File Name : Benns Church with Median Break
Site Code :
Start Date : 4/26/2018
Page No : 2



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break
Site Code :
Start Date : 4/26/2018

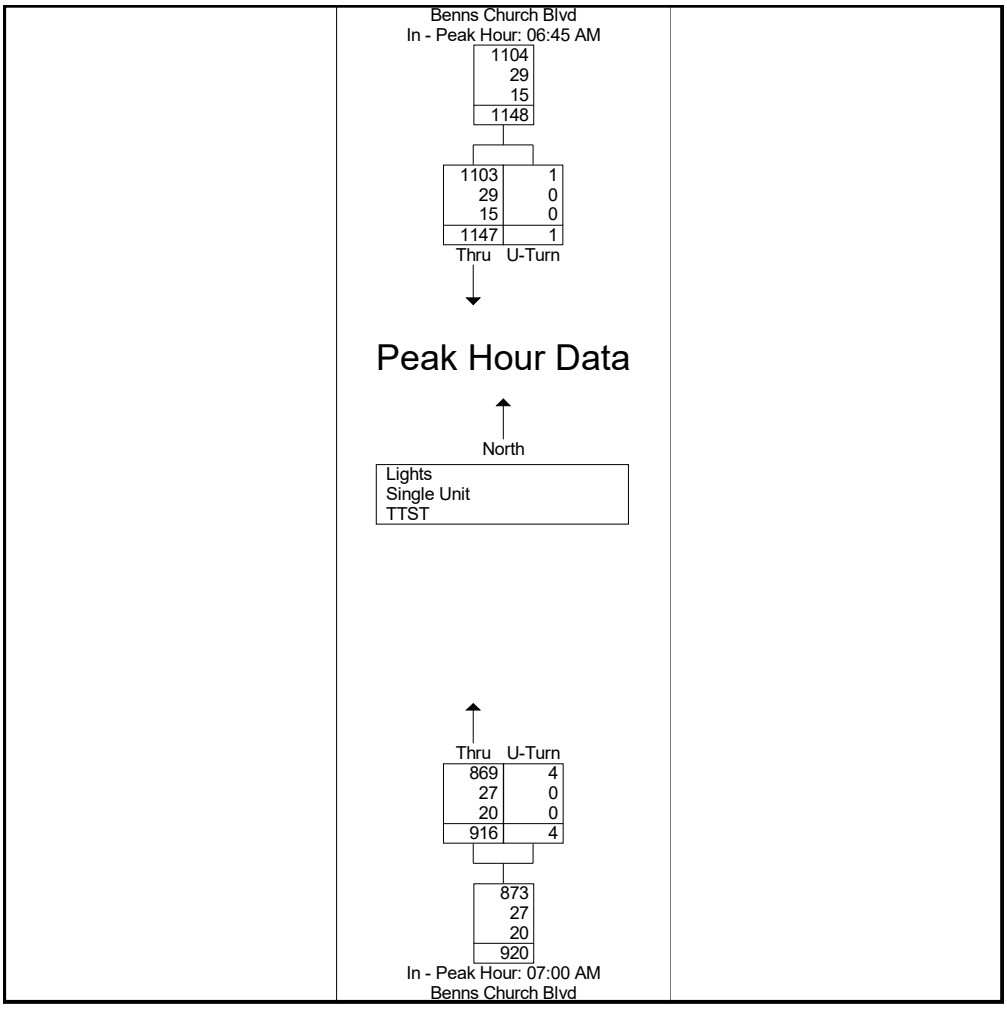
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 07:00 AM							
07:00 AM	246	0	246	268	0	268	514
07:15 AM	322	0	322	241	1	242	564
07:30 AM	314	1	315	213	3	216	531
07:45 AM	248	0	248	194	0	194	442
Total Volume	1130	1	1131	916	4	920	2051
% App. Total	99.9	0.1		99.6	0.4		
PHF	.877	.250	.878	.854	.333	.858	.909
Lights	1066	1	1067	869	4	873	1940
% Lights	94.3	100	94.3	94.9	100	94.9	94.6
Single Unit	45	0	45	27	0	27	72
% Single Unit	4.0	0	4.0	2.9	0	2.9	3.5
TTST	19	0	19	20	0	20	39
% TTST	1.7	0	1.7	2.2	0	2.2	1.9



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break
Site Code :
Start Date : 4/26/2018

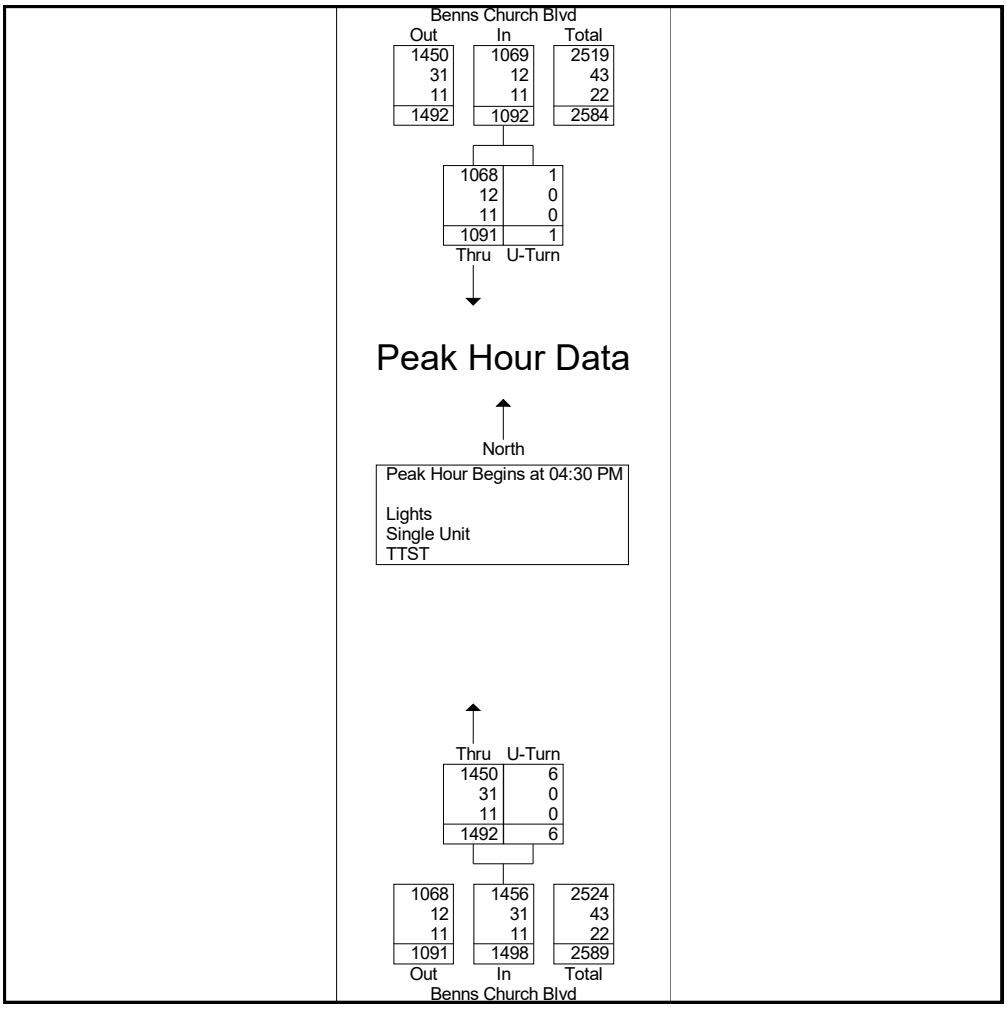
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1							
Peak Hour for Each Approach Begins at:							
	06:45 AM			07:00 AM			
+0 mins.	265	0	265	268	0	268	
+15 mins.	246	0	246	241	1	242	
+30 mins.	322	0	322	213	3	216	
+45 mins.	314	1	315	194	0	194	
Total Volume	1147	1	1148	916	4	920	
% App. Total	99.9	0.1		99.6	0.4		
PHF	.891	.250	.891	.854	.333	.858	
Lights	1103	1	1104	869	4	873	
% Lights	96.2	100	96.2	94.9	100	94.9	
Single Unit	29	0	29	27	0	27	
% Single Unit	2.5	0	2.5	2.9	0	2.9	
TTST	15	0	15	20	0	20	
% TTST	1.3	0	1.3	2.2	0	2.2	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break
Site Code :
Start Date : 4/26/2018
Page No : 5

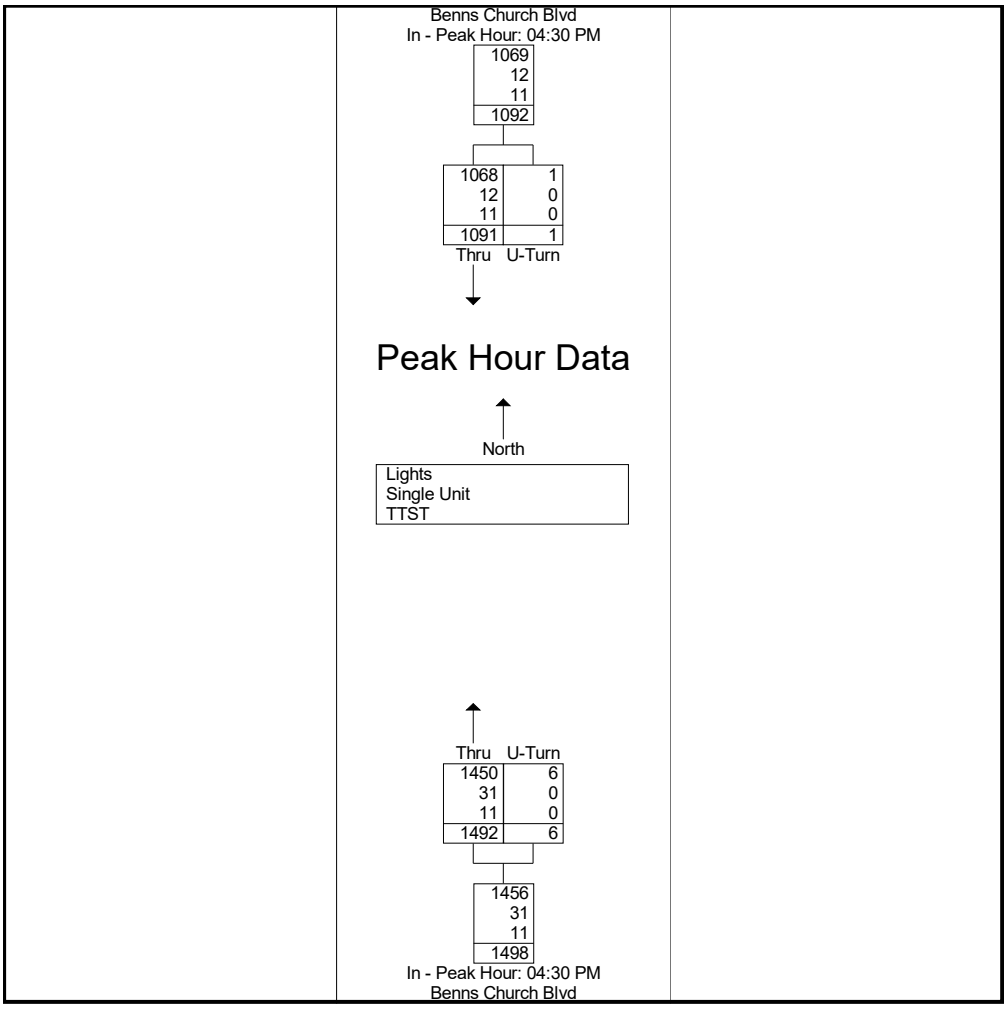
	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1							
Peak Hour for Entire Intersection Begins at 04:30 PM							
04:30 PM	272	0	272	364	3	367	639
04:45 PM	282	1	283	376	0	376	659
05:00 PM	267	0	267	391	2	393	660
05:15 PM	270	0	270	361	1	362	632
Total Volume	1091	1	1092	1492	6	1498	2590
% App. Total	99.9	0.1		99.6	0.4		
PHF	.967	.250	.965	.954	.500	.953	.981
Lights	1068	1	1069	1450	6	1456	2525
% Lights	97.9	100	97.9	97.2	100	97.2	97.5
Single Unit	12	0	12	31	0	31	43
% Single Unit	1.1	0	1.1	2.1	0	2.1	1.7
TTST	11	0	11	11	0	11	22
% TTST	1.0	0	1.0	0.7	0	0.7	0.8



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Benns Church with Median Break
Site Code :
Start Date : 4/26/2018
Page No : 6

	Benns Church Blvd Southbound			Benns Church Blvd Northbound			
Start Time	Thru	U-Turn	App. Total	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1							
Peak Hour for Each Approach Begins at:							
	04:30 PM			04:30 PM			
+0 mins.	272	0	272	364	3	367	
+15 mins.	282	1	283	376	0	376	
+30 mins.	267	0	267	391	2	393	
+45 mins.	270	0	270	361	1	362	
Total Volume	1091	1	1092	1492	6	1498	
% App. Total	99.9	0.1		99.6	0.4		
PHF	.967	.250	.965	.954	.500	.953	
Lights	1068	1	1069	1450	6	1456	
% Lights	97.9	100	97.9	97.2	100	97.2	
Single Unit	12	0	12	31	0	31	
% Single Unit	1.1	0	1.1	2.1	0	2.1	
TTST	11	0	11	11	0	11	
% TTST	1	0	1	0.7	0	0.7	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

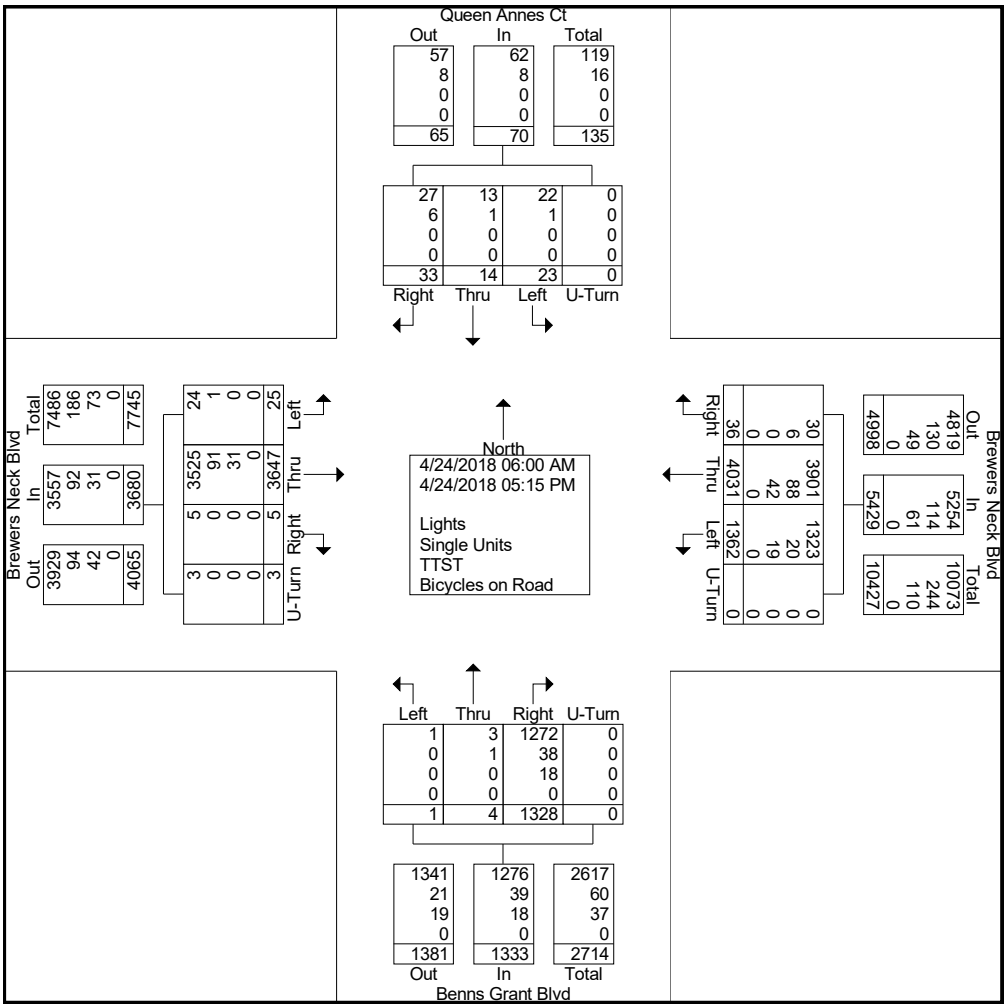
File Name : Brewers Neck and Benns Grant Blvd
Site Code :
Start Date : 4/24/2018
Page No : 1

Groups Printed- Lights - Single Units - TTST - Bicycles on Road

	Queen Annes Ct Southbound				Brewers Neck Blvd Westbound				Benns Grant Blvd Northbound				Brewers Neck Blvd Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Int. Total
06:00 AM	2	1	0	0	25	108	0	0	0	0	74	0	0	211	0	0	421
06:15 AM	1	0	1	0	30	122	0	0	0	0	90	0	1	224	0	0	469
06:30 AM	0	1	1	0	32	120	0	0	0	0	100	0	0	236	0	0	490
06:45 AM	1	0	3	0	33	132	3	0	0	0	95	0	0	190	0	0	457
Total	4	2	5	0	120	482	3	0	0	0	359	0	1	861	0	0	1837
07:00 AM	1	0	5	0	35	219	0	0	0	1	96	0	1	209	0	0	567
07:15 AM	2	0	3	0	59	161	1	0	0	0	108	0	0	203	0	0	537
07:30 AM	1	1	2	0	69	124	0	0	0	0	94	0	2	268	0	1	562
07:45 AM	2	2	1	0	53	125	2	0	0	0	86	0	1	198	0	1	471
Total	6	3	11	0	216	629	3	0	0	1	384	0	4	878	0	2	2137
02:30 PM	3	2	1	0	46	165	1	0	0	0	33	0	0	140	0	0	391
02:45 PM	2	1	2	0	57	179	1	0	0	0	33	0	5	153	0	0	433
Total	5	3	3	0	103	344	2	0	0	0	66	0	5	293	0	0	824
03:00 PM	1	0	0	0	51	196	0	0	0	0	55	0	2	193	0	0	498
03:15 PM	1	2	2	0	61	225	4	0	0	0	43	0	2	145	0	0	485
03:30 PM	0	0	1	0	75	241	2	0	0	0	51	0	0	110	1	0	481
03:45 PM	0	0	0	0	100	212	1	0	0	0	50	0	2	167	0	0	532
Total	2	2	3	0	287	874	7	0	0	0	199	0	6	615	1	0	1996
04:00 PM	3	0	4	0	109	303	4	0	0	0	48	0	1	160	1	0	633
04:15 PM	1	0	1	0	109	273	5	0	0	0	50	0	1	155	0	0	595
04:30 PM	0	1	2	0	94	294	2	0	0	0	41	0	1	172	2	0	609
04:45 PM	0	1	2	0	121	293	3	0	0	0	48	0	1	168	0	0	637
Total	4	2	9	0	433	1163	14	0	0	0	187	0	4	655	3	0	2474
05:00 PM	1	1	1	0	103	255	2	0	0	1	62	0	5	171	0	1	603
05:15 PM	1	1	1	0	100	284	5	0	1	2	71	0	0	174	1	0	641
Grand Total	23	14	33	0	1362	4031	36	0	1	4	1328	0	25	3647	5	3	10512
Apprch %	32.9	20	47.1	0	25.1	74.2	0.7	0	0.1	0.3	99.6	0	0.7	99.1	0.1	0.1	
Total %	0.2	0.1	0.3	0	13	38.3	0.3	0	0	0	12.6	0	0.2	34.7	0	0	
Lights	22	13	27	0	1323	3901	30	0	1	3	1272	0	24	3525	5	3	10149
% Lights	95.7	92.9	81.8	0	97.1	96.8	83.3	0	100	75	95.8	0	96	96.7	100	100	96.5
Single Units	1	1	6	0	20	88	6	0	0	1	38	0	1	91	0	0	253
% Single Units	4.3	7.1	18.2	0	1.5	2.2	16.7	0	0	25	2.9	0	4	2.5	0	0	2.4
TTST	0	0	0	0	19	42	0	0	0	0	18	0	0	31	0	0	110
% TTST	0	0	0	0	1.4	1	0	0	0	0	1.4	0	0	0.9	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Brewers Neck and Benns Grant Blvd
Site Code :
Start Date : 4/24/2018
Page No : 2



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Brewers Neck and Benns Grant Blvd
Site Code :
Start Date : 4/24/2018
Page No : 3

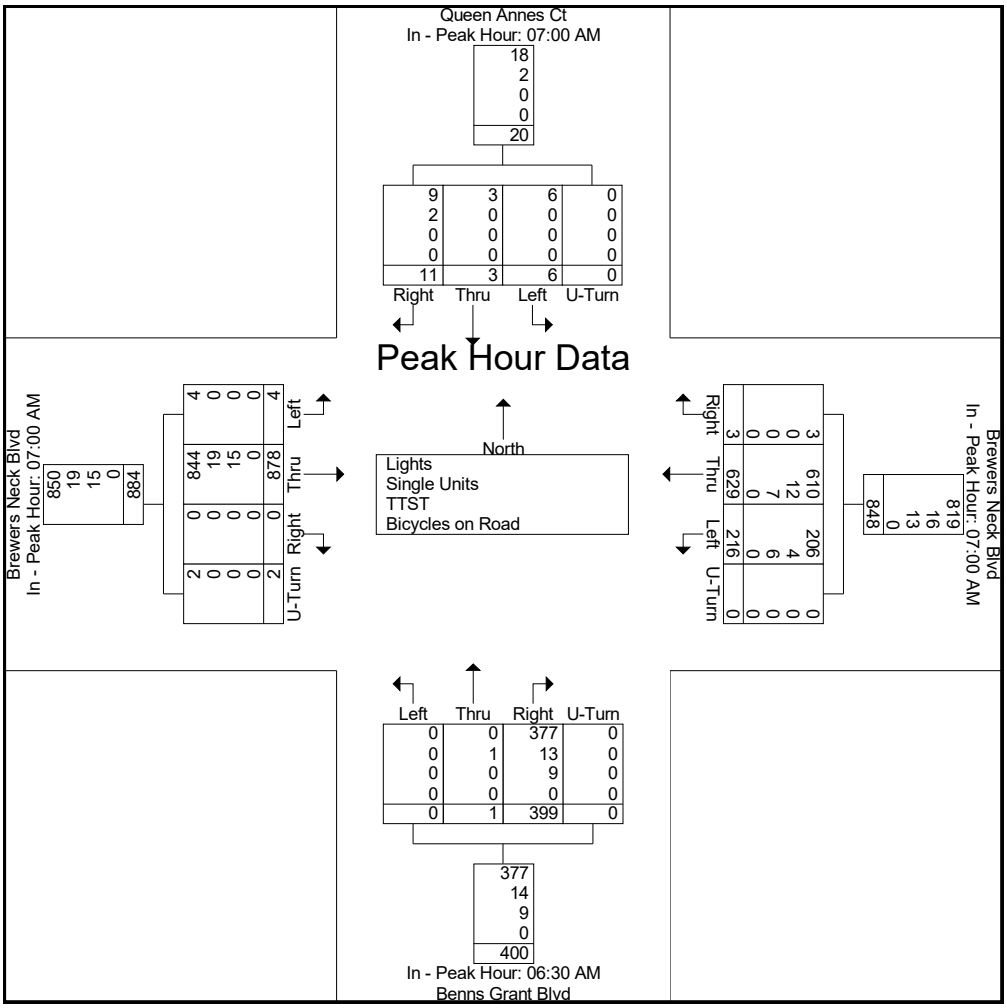
	Queen Annes Ct Southbound					Brewers Neck Blvd Westbound					Benns Grant Blvd Northbound					Brewers Neck Blvd Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	0	5	0	6	35	219	0	0	254	0	1	96	0	97	1	209	0	0	210	567
07:15 AM	2	0	3	0	5	59	161	1	0	221	0	0	108	0	108	0	203	0	0	203	537
07:30 AM	1	1	2	0	4	69	124	0	0	193	0	0	94	0	94	2	268	0	1	271	562
07:45 AM	2	2	1	0	5	53	125	2	0	180	0	0	86	0	86	1	198	0	1	200	471
Total Volume	6	3	11	0	20	216	629	3	0	848	0	1	384	0	385	4	878	0	2	884	2137
% App. Total	30	15	55	0		25.5	74.2	0.4	0		0	0.3	99.7	0		0.5	99.3	0	0.2		
PHF	.750	.375	.550	.000	.833	.783	.718	.375	.000	.835	.000	.250	.889	.000	.891	.500	.819	.000	.500	.815	.942
Lights	6	3	9	0	18	206	610	3	0	819	0	0	361	0	361	4	844	0	2	850	2048
% Lights	100	100	81.8	0	90.0	95.4	97.0	100	0	96.6	0	0	94.0	0	93.8	100	96.1	0	100	96.2	95.8
Single Units	0	0	2	0	2	4	12	0	0	16	0	1	19	0	20	0	19	0	0	19	57
% Single Units	0	0	18.2	0	10.0	1.9	1.9	0	0	1.9	0	100	4.9	0	5.2	0	2.2	0	0	2.1	2.7
TTST	0	0	0	0	0	6	7	0	0	13	0	0	4	0	4	0	15	0	0	15	32
% TTST	0	0	0	0	0	2.8	1.1	0	0	1.5	0	0	1.0	0	1.0	0	1.7	0	0	1.7	1.5
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Brewers Neck and Benns Grant Blvd
Site Code :
Start Date : 4/24/2018
Page No : 4

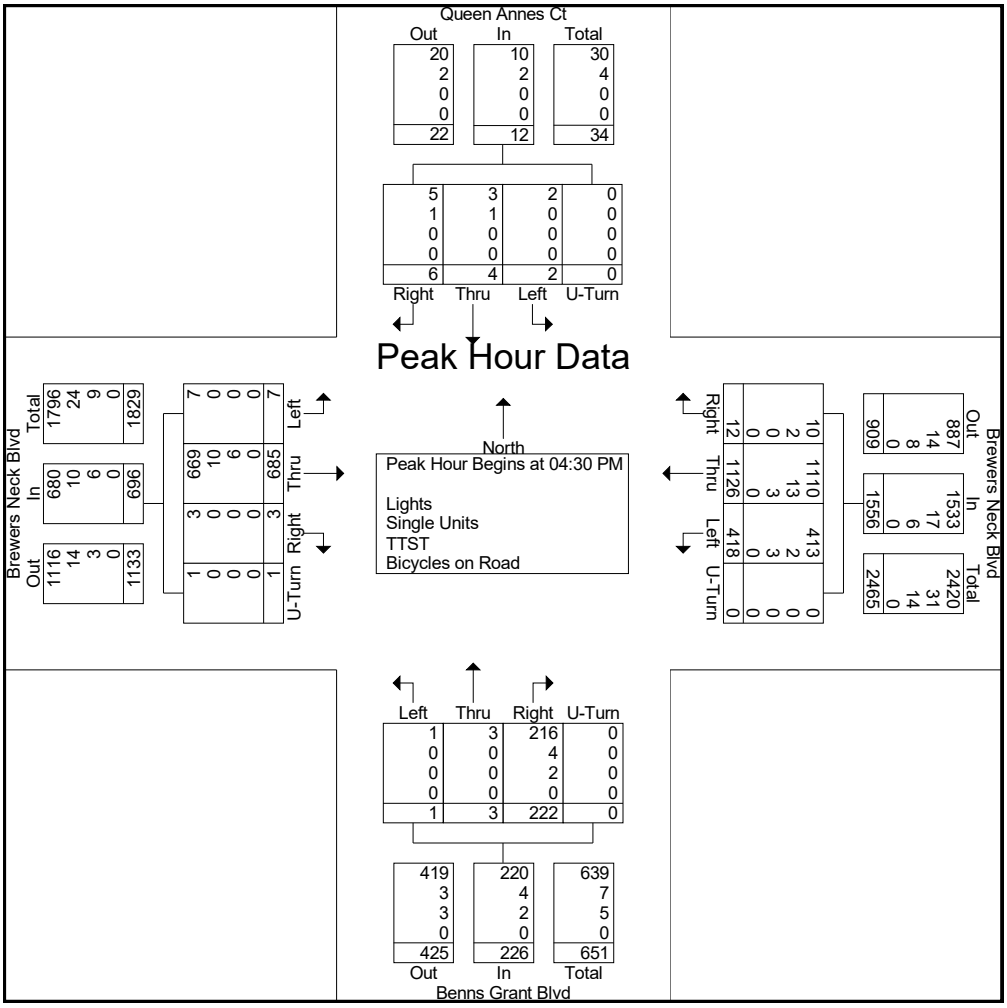
	Queen Annes Ct Southbound					Brewers Neck Blvd Westbound					Benns Grant Blvd Northbound					Brewers Neck Blvd Eastbound					
Start Time			Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00 AM					07:00 AM					06:30 AM					07:00 AM					
+0 mins.	1	0	5	0	6	35	219	0	0	254	0	0	100	0	100	1	209	0	0	210	
+15 mins.	2	0	3	0	5	59	161	1	0	221	0	0	95	0	95	0	203	0	0	203	
+30 mins.	1	1	2	0	4	69	124	0	0	193	0	1	96	0	97	2	268	0	1	271	
+45 mins.	2	2	1	0	5	53	125	2	0	180	0	0	108	0	108	1	198	0	1	200	
Total Volume	6	3	11	0	20	216	629	3	0	848	0	1	399	0	400	4	878	0	2	884	
% App. Total	30	15	55	0		25.5	74.2	0.4	0		0	0.2	99.8	0		0.5	99.3	0	0.2		
PHF	.750	.375	.550	.000	.833	.783	.718	.375	.000	.835	.000	.250	.924	.000	.926	.500	.819	.000	.500	.815	
Lights	6	3	9	0	18	206	610	3	0	819	0	0	377	0	377	4	844	0	2	850	
% Lights	100	100	81.8	0	90	95.4	97	100	0	96.6	0	0	94.5	0	94.2	100	96.1	0	100	96.2	
Single Units	0	0	2	0	2	4	12	0	0	16	0	1	13	0	14	0	19	0	0	19	
% Single Units	0	0	18.2	0	10	1.9	1.9	0	0	1.9	0	100	3.3	0	3.5	0	2.2	0	0	2.1	
TTST	0	0	0	0	0	6	7	0	0	13	0	0	9	0	9	0	15	0	0	15	
% TTST	0	0	0	0	0	2.8	1.1	0	0	1.5	0	0	2.3	0	2.2	0	1.7	0	0	1.7	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



4500 Main Street
Suite 400
Virginia Beach, VA 23462-3361
757.490.0132

File Name : Brewers Neck and Benns Grant Blvd
Site Code :
Start Date : 4/24/2018
Page No : 5

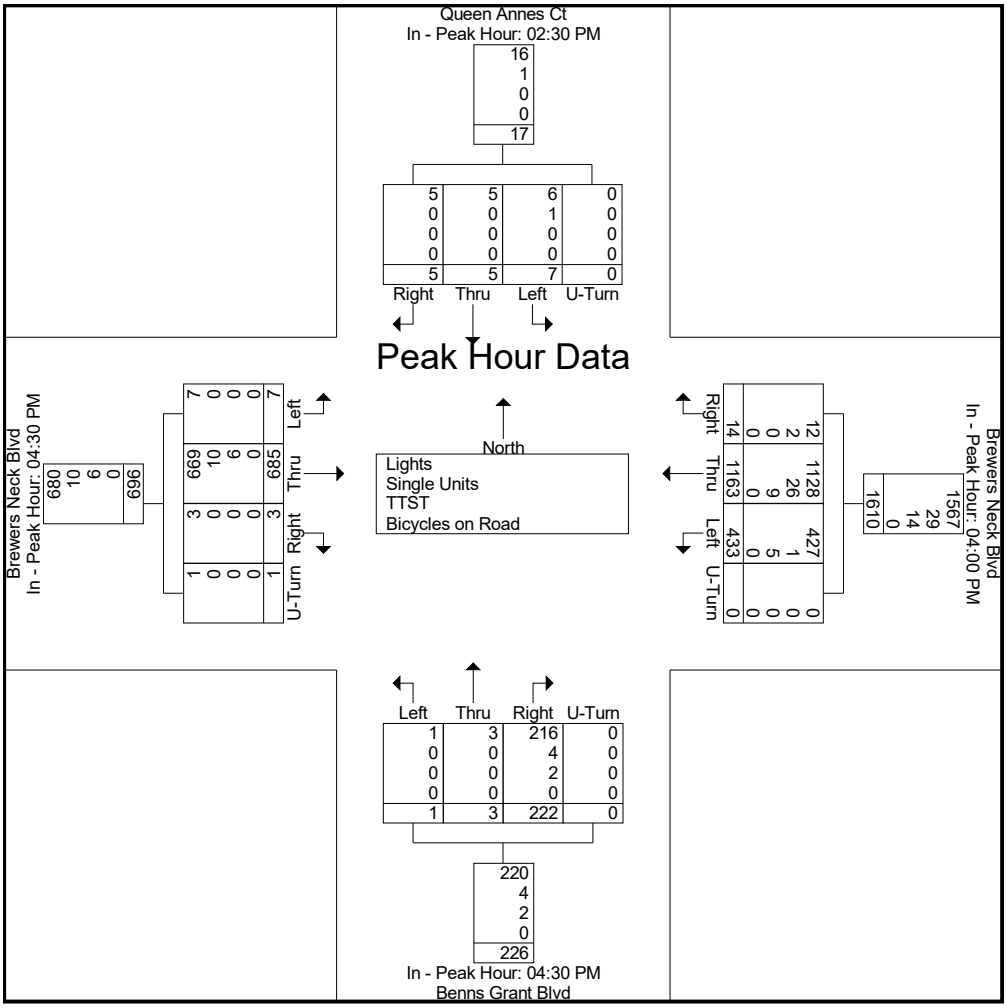
	Queen Annes Ct Southbound					Brewers Neck Blvd Westbound					Benns Grant Blvd Northbound					Brewers Neck Blvd Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	1	2	0	3	94	294	2	0	390	0	0	41	0	41	1	172	2	0	175	609
04:45 PM	0	1	2	0	3	121	293	3	0	417	0	0	48	0	48	1	168	0	0	169	637
05:00 PM	1	1	1	0	3	103	255	2	0	360	0	1	62	0	63	5	171	0	1	177	603
05:15 PM	1	1	1	0	3	100	284	5	0	389	1	2	71	0	74	0	174	1	0	175	641
Total Volume	2	4	6	0	12	418	1126	12	0	1556	1	3	222	0	226	7	685	3	1	696	2490
% App. Total	16.7	33.3	50	0		26.9	72.4	0.8	0		0.4	1.3	98.2	0		1	98.4	0.4	0.1		
PHF	.500	1.00	.750	.000	1.00	.864	.957	.600	.000	.933	.250	.375	.782	.000	.764	.350	.984	.375	.250	.983	.971
Lights	2	3	5	0	10	413	1110	10	0	1533	1	3	216	0	220	7	669	3	1	680	2443
% Lights	100	75.0	83.3	0	83.3	98.8	98.6	83.3	0	98.5	100	100	97.3	0	97.3	100	97.7	100	100	97.7	98.1
Single Units	0	1	1	0	2	2	13	2	0	17	0	0	4	0	4	0	10	0	0	10	33
% Single Units	0	25.0	16.7	0	16.7	0.5	1.2	16.7	0	1.1	0	0	1.8	0	1.8	0	1.5	0	0	1.4	1.3
TTST	0	0	0	0	0	3	3	0	0	6	0	0	2	0	2	0	6	0	0	6	14
% TTST	0	0	0	0	0	0.7	0.3	0	0	0.4	0	0	0.9	0	0.9	0	0.9	0	0	0.9	0.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Suite 400
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757.490.0132

File Name : Brewers Neck and Benns Grant Blvd
Site Code :
Start Date : 4/24/2018
Page No : 6

	Queen Annes Ct Southbound					Brewers Neck Blvd Westbound					Benns Grant Blvd Northbound					Brewers Neck Blvd Eastbound					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	02:30 PM					04:00 PM					04:30 PM					04:30 PM					
+0 mins.	3	2	1	0	6	109	303	4	0	416	0	0	41	0	41	1	172	2	0	175	
+15 mins.	2	1	2	0	5	109	273	5	0	387	0	0	48	0	48	1	168	0	0	169	
+30 mins.	1	0	0	0	1	94	294	2	0	390	0	1	62	0	63	5	171	0	1	177	
+45 mins.	1	2	2	0	5	121	293	3	0	417	1	2	71	0	74	0	174	1	0	175	
Total Volume	7	5	5	0	17	433	1163	14	0	1610	1	3	222	0	226	7	685	3	1	696	
% App. Total	41.2	29.4	29.4	0		26.9	72.2	0.9	0		0.4	1.3	98.2	0		1	98.4	0.4	0.1		
PHF	.583	.625	.625	.000	.708	.895	.960	.700	.000	.965	.250	.375	.782	.000	.764	.350	.984	.375	.250	.983	
Lights	6	5	5	0	16	427	1128	12	0	1567	1	3	216	0	220	7	669	3	1	680	
% Lights	85.7	100	100	0	94.1	98.6	97	85.7	0	97.3	100	100	97.3	0	97.3	100	97.7	100	100	97.7	
Single Units	1	0	0	0	1	1	26	2	0	29	0	0	4	0	4	0	10	0	0	10	
% Single Units	14.3	0	0	0	5.9	0.2	2.2	14.3	0	1.8	0	0	1.8	0	1.8	0	1.5	0	0	1.4	
TTST	0	0	0	0	0	5	9	0	0	14	0	0	2	0	2	0	6	0	0	6	
% TTST	0	0	0	0	0	1.2	0.8	0	0	0.9	0	0	0.9	0	0.9	0	0.9	0	0	0.9	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



APPENDIX C

2018 Existing Synchro Reports

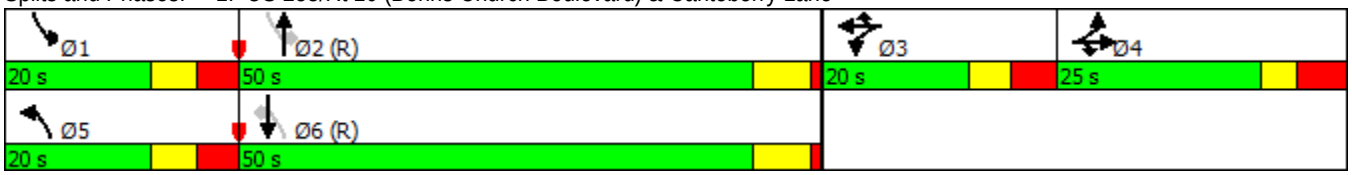
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1	17	88	4	38	13	711	45	49	1030	32
Future Volume (vph)	23	1	17	88	4	38	13	711	45	49	1030	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.958			0.955		0.950			0.950		
Satd. Flow (prot)	0	1759	1615	0	1738	1615	1805	3374	1509	1752	3505	1615
Flt Permitted		0.958			0.955		0.062			0.307		
Satd. Flow (perm)	0	1759	1615	0	1738	1615	118	3374	1509	566	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			171			171			185			185
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.82	0.25	0.53	0.76	0.50	0.79	0.46	0.92	0.75	0.73	0.63	0.80
Heavy Vehicles (%)	4%	0%	0%	3%	25%	0%	0%	7%	7%	3%	3%	0%
Adj. Flow (vph)	28	4	32	116	8	48	28	773	60	67	1635	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	32	0	124	48	28	773	60	67	1635	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0	20.0	50.0	50.0	20.0	50.0	50.0
Total Split (%)	21.7%	21.7%	21.7%	17.4%	17.4%	17.4%	17.4%	43.5%	43.5%	17.4%	43.5%	43.5%
Maximum Green (s)	17.5	17.5	17.5	12.5	12.5	12.5	12.5	44.0	44.0	12.5	44.0	44.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		8.0	8.0		11.5	11.5	71.3	66.1	66.1	69.8	69.5	69.5
Actuated g/C Ratio		0.07	0.07		0.10	0.10	0.62	0.57	0.57	0.61	0.60	0.60
v/c Ratio		0.26	0.12		0.71	0.15	0.19	0.40	0.06	0.16	0.77	0.04
Control Delay		55.5	0.9		72.5	1.0	12.5	14.0	0.4	9.8	23.3	0.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		55.5	0.9		72.5	1.0	12.5	14.0	0.4	9.8	23.3	0.1
LOS		E	A		E	A	B	B	A	A	C	A
Approach Delay		28.2			52.6			13.0			22.3	
Approach LOS		C			D			B			C	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 61.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



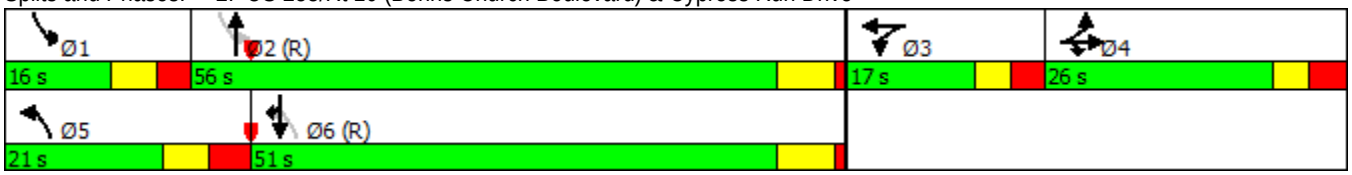
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	18	0	0	0	21	635	0	2	1252	28
Future Volume (vph)	4	0	18	0	0	0	21	635	0	2	1252	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.950					0.950			0.950		
Satd. Flow (prot)	0	1805	1524	0	1900	0	1805	3505	0	1805	3471	1553
Flt Permitted		0.950					0.099			0.326		
Satd. Flow (perm)	0	1805	1524	0	1900	0	188	3505	0	619	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152									157
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.50	0.25	0.56	0.25	0.25	0.25	0.44	0.75	0.44	0.50	0.72	0.78
Heavy Vehicles (%)	0%	0%	6%	0%	0%	0%	0%	3%	14%	0%	4%	4%
Adj. Flow (vph)	8	0	32	0	0	0	48	847	0	4	1739	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	32	0	0	0	48	847	0	4	1739	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot				D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6

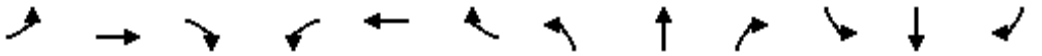
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	26.0	26.0	26.0	17.0	17.0		21.0	56.0		16.0	51.0	51.0
Total Split (%)	22.6%	22.6%	22.6%	14.8%	14.8%		18.3%	48.7%		13.9%	44.3%	44.3%
Maximum Green (s)	19.5	19.5	19.5	11.0	11.0		13.5	50.0		9.0	45.0	45.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		7.0	7.0				93.4	100.9		98.5	91.7	91.7
Actuated g/C Ratio		0.06	0.06				0.81	0.88		0.86	0.80	0.80
v/c Ratio		0.07	0.14				0.21	0.28		0.01	0.63	0.03
Control Delay		52.5	1.2				4.3	2.7		0.5	2.9	0.0
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Delay		52.5	1.2				4.3	2.7		0.5	2.9	0.0
LOS		D	A				A	A		A	A	A
Approach Delay		11.5						2.8			2.8	
Approach LOS		B						A			A	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 13 (11%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 3.0 Intersection LOS: A
Intersection Capacity Utilization 50.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	1	253	1	64	1	216	560	62	6	838	288
Future Volume (vph)	171	1	253	1	64	1	216	560	62	6	838	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	125		275
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.924			0.997			0.973				0.850
Flt Protected		0.979			0.999		0.950			0.950		
Satd. Flow (prot)	0	1719	0	0	1892	0	1752	3401	0	1805	3505	1553
Flt Permitted		0.755			0.987		0.105			0.277		
Satd. Flow (perm)	0	1325	0	0	1870	0	194	3401	0	526	3505	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			1			19				348
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1498			695			1153			1986	
Travel Time (s)		25.5			19.0			17.5			30.1	
Peak Hour Factor	0.64	0.25	0.73	0.25	0.39	0.25	0.52	0.90	0.46	0.25	0.73	0.51
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	4%	0%	0%	3%	4%
Adj. Flow (vph)	267	4	347	4	164	4	415	622	135	24	1148	565
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	618	0	0	172	0	415	757	0	24	1148	565
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases		4			8		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		2
Detector Phase	4	4		8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	15.0	15.0		14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	62.5	62.5		62.5	62.5		47.5	61.0		27.5	41.0	41.0
Total Split (%)	41.4%	41.4%		41.4%	41.4%		31.5%	40.4%		18.2%	27.2%	27.2%
Maximum Green (s)	55.0	55.0		55.0	55.0		40.0	55.0		20.0	35.0	35.0
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	4.0	4.0		4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5			7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.5	3.5		0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	20.0	20.0		0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	10.0	10.0		0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)		55.1			55.1		68.2	69.3		71.3	35.1	35.1
Actuated g/C Ratio		0.38			0.38		0.47	0.48		0.49	0.24	0.24
v/c Ratio		1.17			0.24		0.90	0.47		0.08	1.36	0.89
Control Delay		131.1			33.1		66.2	26.9		17.3	212.2	37.4
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		131.1			33.1		66.2	26.9		17.3	212.2	37.4
LOS		F			C		E	C		B	F	D
Approach Delay		131.1			33.1			40.8			152.7	
Approach LOS		F			C			D			F	

Intersection Summary

Area Type: Other
Cycle Length: 151
Actuated Cycle Length: 145.8
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.36
Intersection Signal Delay: 108.1 Intersection LOS: F
Intersection Capacity Utilization 84.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

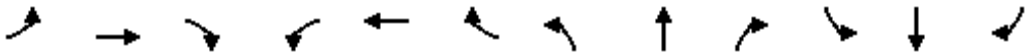


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	4	0	916	0	1	0
Future Volume (vph)	0	0	0	0	0	0	4	0	916	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		140
Storage Lanes	0		0	0		0		1		0		1
Taper Length (ft)	25			25				25				75
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Frt												
Flt Protected							0.950				0.950	
Satd. Flow (prot)	0	0	0	0	0	0	1805	0	3438	0	1805	0
Flt Permitted							0.950				0.950	
Satd. Flow (perm)	0	0	0	0	0	0	1805	0	3438	0	1805	0
Link Speed (mph)		30			30				45			
Link Distance (ft)		810			872				3921			
Travel Time (s)		18.4			19.8				59.4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.33	0.25	0.85	0.25	0.25	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	0	0	12	0	1078	0	4	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	12	0	1078	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.6%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1130	0
Future Volume (vph)	1130	0
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	3406	0
Flt Permitted		
Satd. Flow (perm)	3406	0
Link Speed (mph)	45	
Link Distance (ft)	1153	
Travel Time (s)	17.5	
Peak Hour Factor	0.88	0.25
Heavy Vehicles (%)	6%	0%
Adj. Flow (vph)	1284	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1284	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	

Intersection Summary

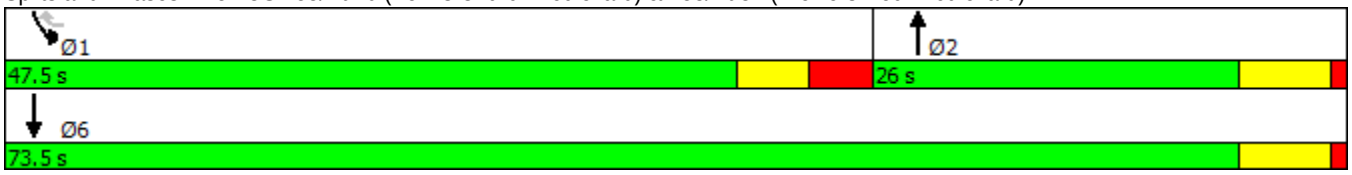


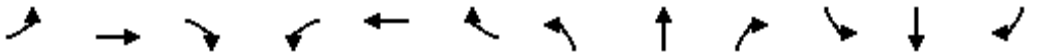
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	653	0	167	0	897	217	0
Future Volume (vph)	0	0	0	0	0	653	0	167	0	897	217	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt						0.850						
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	2707	0	3471	0	3367	3438	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2707	0	3471	0	3367	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						747						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3921	
Travel Time (s)		21.9			17.1			43.0			59.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.72	0.92	0.84	0.25	0.83	0.63	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	4%	0%	4%	5%	0%
Adj. Flow (vph)	0	0	0	0	0	907	0	199	0	1081	344	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	907	0	199	0	1081	344	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors						1		2		1	2	
Detector Template						Right		Thru		Left	Thru	
Leading Detector (ft)						20		100		20	100	
Trailing Detector (ft)						0		0		0	0	
Detector 1 Position(ft)						0		0		0	0	
Detector 1 Size(ft)						20		6		20	6	
Detector 1 Type						Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)						0.0		0.0		0.0	0.0	
Detector 1 Queue (s)						0.0		0.0		0.0	0.0	
Detector 1 Delay (s)						0.0		0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						47.5		26.0		47.5	73.5	
Total Split (%)						64.6%		35.4%		64.6%	100.0%	
Maximum Green (s)						40.0		20.0		40.0	67.5	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		None		Min	Min	
Act Effct Green (s)						30.7		10.2		30.7	54.6	
Actuated g/C Ratio						0.56		0.19		0.56	1.00	
v/c Ratio						0.49		0.31		0.57	0.10	
Control Delay						2.1		21.8		8.9	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						2.1		21.8		8.9	0.1	
LOS						A		C		A	A	
Approach Delay					2.1			21.8			6.8	
Approach LOS					A			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 73.5			
Actuated Cycle Length: 54.6			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





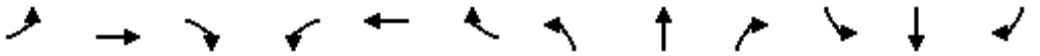
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	878	0	216	629	3	0	1	384	6	3	11
Future Volume (vph)	6	878	0	216	629	3	0	1	384	6	3	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			0.850
Flt Protected	0.950			0.950							0.976	
Satd. Flow (prot)	1805	3471	0	1719	3505	1615	0	950	2682	0	1854	1369
Flt Permitted	0.950			0.950							0.976	
Satd. Flow (perm)	1805	3471	0	1719	3505	1615	0	950	2682	0	1854	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						171			431			160
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.50	0.82	0.25	0.78	0.72	0.38	0.25	0.25	0.89	0.75	0.38	0.55
Heavy Vehicles (%)	0%	4%	0%	5%	3%	0%	0%	100%	6%	0%	0%	18%
Adj. Flow (vph)	12	1071	0	277	874	8	0	4	431	8	8	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	1071	0	277	874	8	0	4	431	0	16	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	34.0	41.5		39.5	47.0	47.0	26.0	26.0	39.5	33.0	33.0	33.0
Total Split (%)	24.3%	29.6%		28.2%	33.6%	33.6%	18.6%	18.6%	28.2%	23.6%	23.6%	23.6%
Maximum Green (s)	25.0	35.0		30.0	40.5	40.5	18.0	18.0	30.0	25.0	25.0	25.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.5	36.7		19.1	66.4	66.4		10.5	21.7		6.5	6.5
Actuated g/C Ratio	0.13	0.44		0.23	0.80	0.80		0.13	0.26		0.08	0.08
v/c Ratio	0.05	0.70		0.70	0.31	0.01		0.03	0.42		0.11	0.08
Control Delay	42.2	26.1		41.6	7.4	0.0		43.0	3.6		45.8	0.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	42.2	26.1		41.6	7.4	0.0		43.0	3.6		45.8	0.6
LOS	D	C		D	A	A		D	A		D	A
Approach Delay		26.3			15.6			4.0			20.7	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 83.1			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 18.1		Intersection LOS: B	
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)





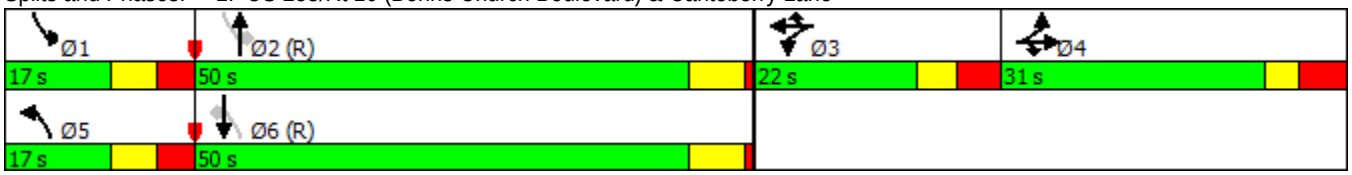
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	5	40	57	8	71	46	1109	95	118	931	88
Future Volume (vph)	127	5	40	57	8	71	46	1109	95	118	931	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.956			0.959		0.950			0.950		
Satd. Flow (prot)	0	1816	1615	0	1791	1553	1805	3539	1583	1687	3505	1615
Flt Permitted		0.956			0.959		0.198			0.121		
Satd. Flow (perm)	0	1816	1615	0	1791	1553	376	3539	1583	215	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			164			177			177
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.91	0.42	0.56	0.75	0.67	0.93	0.60	0.94	0.64	0.76	0.94	0.71
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	7%	3%	0%
Adj. Flow (vph)	140	12	71	76	12	76	77	1180	148	155	990	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	71	0	88	76	77	1180	148	155	990	124
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	

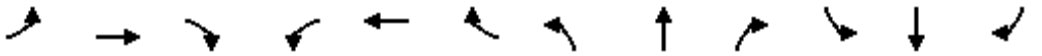
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	31.0	31.0	31.0	22.0	22.0	22.0	17.0	50.0	50.0	17.0	50.0	50.0
Total Split (%)	25.8%	25.8%	25.8%	18.3%	18.3%	18.3%	14.2%	41.7%	41.7%	14.2%	41.7%	41.7%
Maximum Green (s)	23.5	23.5	23.5	14.5	14.5	14.5	9.5	44.0	44.0	9.5	44.0	44.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		15.3	15.3		11.0	11.0	65.2	56.1	56.1	63.7	60.8	60.8
Actuated g/C Ratio		0.13	0.13		0.09	0.09	0.54	0.47	0.47	0.53	0.51	0.51
v/c Ratio		0.66	0.20		0.54	0.26	0.27	0.71	0.18	0.69	0.56	0.14
Control Delay		62.9	1.3		63.4	2.2	11.6	26.8	2.6	32.8	24.3	1.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		62.9	1.3		63.4	2.2	11.6	26.8	2.6	32.8	24.3	1.2
LOS		E	A		E	A	B	C	A	C	C	A
Approach Delay		43.3			35.0			23.4			23.1	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 25.4 Intersection LOS: C
Intersection Capacity Utilization 68.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane





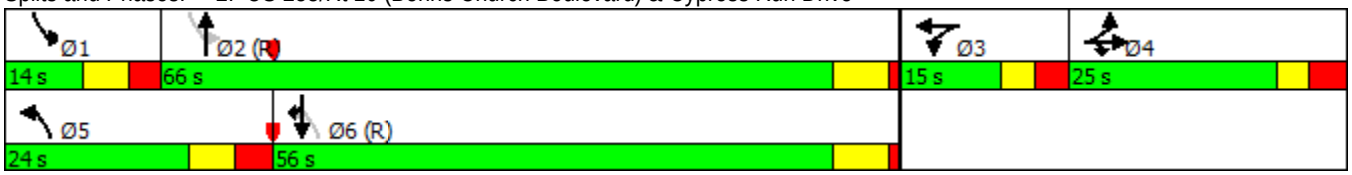
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	0	74	0	0	1	139	1146	0	0	907	119
Future Volume (vph)	103	0	74	0	0	1	139	1146	0	0	907	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.865							0.850
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1787	1599	0	1644	0	1805	3539	0	1900	3505	1615
Flt Permitted		0.950					0.232					
Satd. Flow (perm)	0	1787	1599	0	1644	0	441	3539	0	1900	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214		218							218
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.81	0.25	0.62	0.25	0.25	0.25	0.67	0.93	0.25	0.25	0.95	0.80
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	127	0	119	0	0	4	207	1232	0	0	955	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	119	0	4	0	207	1232	0	0	955	149
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot		NA		D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	25.0	25.0	25.0	15.0	15.0		24.0	66.0		14.0	56.0	56.0
Total Split (%)	20.8%	20.8%	20.8%	12.5%	12.5%		20.0%	55.0%		11.7%	46.7%	46.7%
Maximum Green (s)	18.5	18.5	18.5	9.0	9.0		16.5	60.0		7.0	50.0	50.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		13.7	13.7		7.0		82.2	91.2			70.9	70.9
Actuated g/C Ratio		0.11	0.11		0.06		0.68	0.76			0.59	0.59
v/c Ratio		0.62	0.32		0.01		0.46	0.46			0.46	0.14
Control Delay		63.6	2.3		0.0		9.5	7.0			7.1	0.3
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		63.6	2.3		0.0		9.5	7.0			7.1	0.3
LOS		E	A		A		A	A			A	A
Approach Delay		33.9						7.4			6.1	
Approach LOS		C						A			A	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 12 (10%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 9.2 Intersection LOS: A
Intersection Capacity Utilization 64.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive



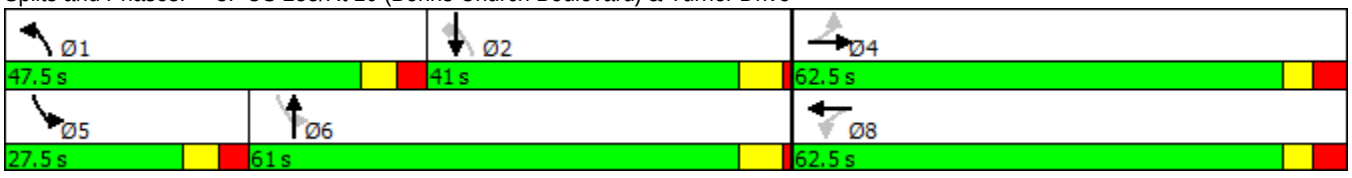
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	0	86	0	1	2	153	1196	1	29	877	112
Future Volume (vph)	76	0	86	0	1	2	153	1196	1	29	877	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	125		275
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.936			0.932							0.850
Flt Protected		0.974					0.950			0.950		
Satd. Flow (prot)	0	1715	0	0	1771	0	1687	3539	0	1805	3505	1482
Flt Permitted		0.830					0.243			0.141		
Satd. Flow (perm)	0	1461	0	0	1771	0	431	3539	0	268	3505	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		130			4							141
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1501			695			1153			1986	
Travel Time (s)		25.6			19.0			17.5			30.1	
Peak Hour Factor	0.63	0.25	0.80	0.25	0.25	0.50	0.90	0.94	0.25	0.50	0.98	0.85
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	7%	2%	0%	0%	3%	9%
Adj. Flow (vph)	121	0	108	0	4	4	170	1272	4	58	895	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	229	0	0	8	0	170	1276	0	58	895	132
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases		4			8		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		2
Detector Phase	4	4		8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	14.5	14.5		14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	62.5	62.5		62.5	62.5		47.5	61.0		27.5	41.0	41.0
Total Split (%)	41.4%	41.4%		41.4%	41.4%		31.5%	40.4%		18.2%	27.2%	27.2%
Maximum Green (s)	55.0	55.0		55.0	55.0		40.0	55.0		20.0	35.0	35.0
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	4.0	4.0		4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5			7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.5	3.5		0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	20.0	20.0		0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	10.0	10.0		0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None		None	None		None	Min		None	Min	Min
Act Effct Green (s)		14.2			9.7		51.4	50.3		53.3	42.0	42.0
Actuated g/C Ratio		0.16			0.11		0.58	0.57		0.60	0.47	0.47
v/c Ratio		0.67			0.04		0.42	0.63		0.22	0.54	0.17
Control Delay		26.3			28.3		10.0	16.4		8.4	18.9	3.2
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		26.3			28.3		10.0	16.4		8.4	18.9	3.2
LOS		C			C		A	B		A	B	A
Approach Delay		26.3			28.3			15.6			16.5	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 151
Actuated Cycle Length: 88.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 70.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



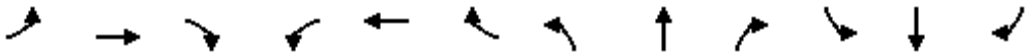
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	4	0	1341	0	0	0
Future Volume (vph)	0	0	0	0	0	0	4	0	1341	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		140
Storage Lanes	0		0	0		0		1		0		1
Taper Length (ft)	25			25				25				75
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Frt												
Flt Protected							0.950					
Satd. Flow (prot)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Link Speed (mph)		30			30				45			
Link Distance (ft)		810			872				3921			
Travel Time (s)		18.4			19.8				59.4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.25	0.97	0.25	0.50	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	0	0	16	0	1382	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	16	0	1382	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.4%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	952	0
Future Volume (vph)	952	0
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	3539	0
Flt Permitted		
Satd. Flow (perm)	3539	0
Link Speed (mph)	45	
Link Distance (ft)	1153	
Travel Time (s)	17.5	
Peak Hour Factor	0.95	0.25
Heavy Vehicles (%)	2%	0%
Adj. Flow (vph)	1002	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1002	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	

Intersection Summary

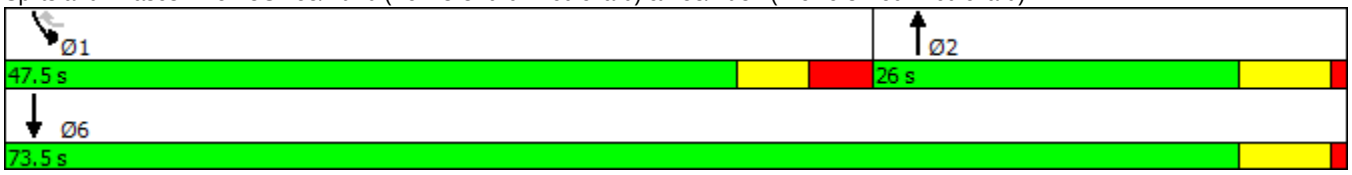


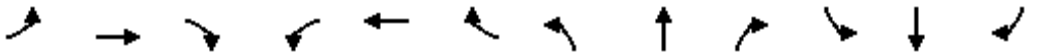
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1154	0	200	0	647	276	0
Future Volume (vph)	0	0	0	0	0	1154	0	200	0	647	276	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt						0.850						
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						659						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3921	
Travel Time (s)		21.9			17.1			43.0			59.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.25	0.89	0.25	0.99	0.85	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	4%	0%	3%	4%	0%
Adj. Flow (vph)	0	0	0	0	0	1241	0	225	0	654	325	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	1241	0	225	0	654	325	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors						1		2		1	2	
Detector Template						Right		Thru		Left	Thru	
Leading Detector (ft)						20		100		20	100	
Trailing Detector (ft)						0		0		0	0	
Detector 1 Position(ft)						0		0		0	0	
Detector 1 Size(ft)						20		6		20	6	
Detector 1 Type						Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)						0.0		0.0		0.0	0.0	
Detector 1 Queue (s)						0.0		0.0		0.0	0.0	
Detector 1 Delay (s)						0.0		0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						47.5		26.0		47.5	73.5	
Total Split (%)						64.6%		35.4%		64.6%	100.0%	
Maximum Green (s)						40.0		20.0		40.0	67.5	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		None		Min	Min	
Act Effct Green (s)						26.5		10.5		26.5	50.8	
Actuated g/C Ratio						0.52		0.21		0.52	1.00	
v/c Ratio						0.71		0.32		0.37	0.09	
Control Delay						6.1		20.6		7.5	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						6.1		20.6		7.5	0.1	
LOS						A		C		A	A	
Approach Delay					6.1			20.6			5.0	
Approach LOS					A			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 73.5			
Actuated Cycle Length: 50.8			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	685	3	418	1126	12	1	3	222	2	4	6
Future Volume (vph)	8	685	3	418	1126	12	1	3	222	2	4	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt		0.999				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.984			0.976	
Satd. Flow (prot)	1805	3536	0	1787	3539	1380	0	1870	2787	0	1648	1380
Flt Permitted	0.950			0.950				0.984			0.976	
Satd. Flow (perm)	1805	3536	0	1787	3539	1380	0	1870	2787	0	1648	1380
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						171			285			160
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.35	0.98	1.00	0.86	0.96	0.60	0.25	0.38	0.78	0.50	1.00	0.75
Heavy Vehicles (%)	0%	2%	0%	1%	2%	17%	0%	0%	2%	0%	25%	17%
Adj. Flow (vph)	23	699	3	486	1173	20	4	8	285	4	4	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	702	0	486	1173	20	0	12	285	0	8	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	34.0	41.5		39.5	47.0	47.0	26.0	26.0	39.5	33.0	33.0	33.0
Total Split (%)	24.3%	29.6%		28.2%	33.6%	33.6%	18.6%	18.6%	28.2%	23.6%	23.6%	23.6%
Maximum Green (s)	25.0	35.0		30.0	40.5	40.5	18.0	18.0	30.0	25.0	25.0	25.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.5	26.0		31.6	66.4	66.4		10.5	34.2		6.3	6.3
Actuated g/C Ratio	0.13	0.32		0.39	0.81	0.81		0.13	0.42		0.08	0.08
v/c Ratio	0.10	0.62		0.70	0.41	0.02		0.05	0.21		0.06	0.03
Control Delay	41.2	27.6		32.8	9.6	0.0		41.8	3.1		45.5	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	41.2	27.6		32.8	9.6	0.0		41.8	3.1		45.5	0.2
LOS	D	C		C	A	A		D	A		D	A
Approach Delay		28.1			16.2			4.6			22.8	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 81.7			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 18.1		Intersection LOS: B	
Intersection Capacity Utilization 70.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



APPENDIX D

2026 No Build Synchro Reports

1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	1	19	99	5	43	15	801	51	55	1160	36
Future Volume (vph)	26	1	19	99	5	43	15	801	51	55	1160	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.957			0.956		0.950			0.950		
Satd. Flow (prot)	0	1756	1615	0	1737	1615	1805	3374	1509	1752	3505	1615
Flt Permitted		0.957			0.956		0.062			0.263		
Satd. Flow (perm)	0	1756	1615	0	1737	1615	118	3374	1509	485	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			171			171			185			185
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.82	0.25	0.53	0.76	0.50	0.79	0.46	0.92	0.75	0.73	0.63	0.80
Heavy Vehicles (%)	4%	0%	0%	3%	25%	0%	0%	7%	7%	3%	3%	0%
Adj. Flow (vph)	32	4	36	130	10	54	33	871	68	75	1841	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	36	0	140	54	33	871	68	75	1841	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	

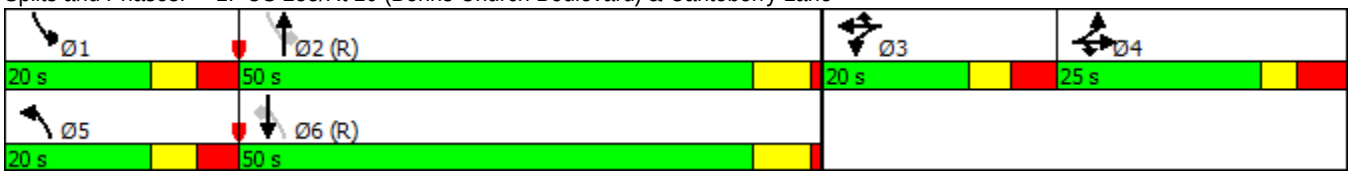
1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

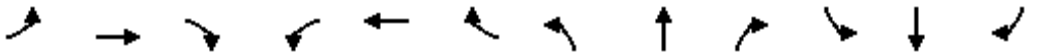
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	25.0	25.0	25.0	20.0	20.0	20.0	20.0	50.0	50.0	20.0	50.0	50.0
Total Split (%)	21.7%	21.7%	21.7%	17.4%	17.4%	17.4%	17.4%	43.5%	43.5%	17.4%	43.5%	43.5%
Maximum Green (s)	17.5	17.5	17.5	12.5	12.5	12.5	12.5	44.0	44.0	12.5	44.0	44.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		8.2	8.2		11.9	11.9	70.7	65.2	65.2	69.2	68.8	68.8
Actuated g/C Ratio		0.07	0.07		0.10	0.10	0.61	0.57	0.57	0.60	0.60	0.60
v/c Ratio		0.29	0.13		0.78	0.17	0.22	0.46	0.07	0.21	0.88	0.04
Control Delay		56.0	1.0		78.6	1.1	13.8	15.3	0.4	10.3	28.9	0.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		56.0	1.0		78.6	1.1	13.8	15.3	0.4	10.3	28.9	0.1
LOS		E	A		E	A	B	B	A	B	C	A
Approach Delay		28.5			57.0			14.2			27.5	
Approach LOS		C			E			B			C	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 25.3 Intersection LOS: C
Intersection Capacity Utilization 66.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	20	0	0	0	24	715	0	2	1410	32
Future Volume (vph)	5	0	20	0	0	0	24	715	0	2	1410	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.950					0.950			0.950		
Satd. Flow (prot)	0	1805	1524	0	1900	0	1805	3505	0	1805	3471	1553
Flt Permitted		0.950					0.067			0.288		
Satd. Flow (perm)	0	1805	1524	0	1900	0	127	3505	0	547	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152									157
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.50	0.25	0.56	0.25	0.25	0.25	0.44	0.75	0.44	0.50	0.72	0.78
Heavy Vehicles (%)	0%	0%	6%	0%	0%	0%	0%	3%	14%	0%	4%	4%
Adj. Flow (vph)	10	0	36	0	0	0	55	953	0	4	1958	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	36	0	0	0	55	953	0	4	1958	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot				D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6

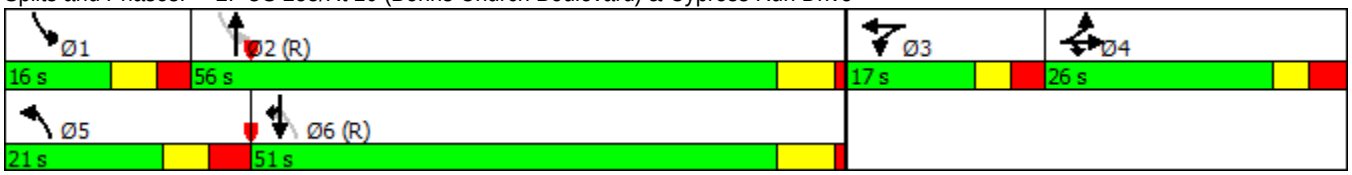
2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

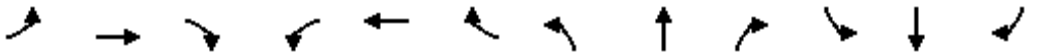
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	26.0	26.0	26.0	17.0	17.0		21.0	56.0		16.0	51.0	51.0
Total Split (%)	22.6%	22.6%	22.6%	14.8%	14.8%		18.3%	48.7%		13.9%	44.3%	44.3%
Maximum Green (s)	19.5	19.5	19.5	11.0	11.0		13.5	50.0		9.0	45.0	45.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		7.1	7.1				93.3	100.8		98.4	91.5	91.5
Actuated g/C Ratio		0.06	0.06				0.81	0.88		0.86	0.80	0.80
v/c Ratio		0.09	0.15				0.30	0.31		0.01	0.71	0.03
Control Delay		52.8	1.4				6.9	2.9		1.0	5.5	0.0
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Delay		52.8	1.4				6.9	2.9		1.0	5.5	0.0
LOS		D	A				A	A		A	A	A
Approach Delay		12.5						3.1			5.4	
Approach LOS		B						A			A	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 13 (11%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 4.8 Intersection LOS: A
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive





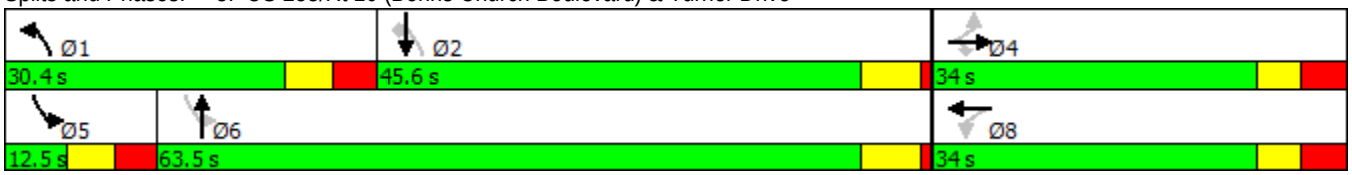
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	1	285	1	72	1	243	631	70	7	944	324
Future Volume (vph)	193	1	285	1	72	1	243	631	70	7	944	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	125		0	125		275
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	200			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.997			0.973				0.850
Flt Protected		0.953			0.999		0.950			0.950		
Satd. Flow (prot)	0	1811	1615	0	1892	0	1752	3401	0	1805	3505	1553
Flt Permitted		0.513			0.991		0.094			0.274		
Satd. Flow (perm)	0	975	1615	0	1877	0	173	3401	0	521	3505	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			311		1			35				287
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1497			695			1153			1986	
Travel Time (s)		25.5			19.0			17.5			30.1	
Peak Hour Factor	0.64	0.25	0.73	0.25	0.39	0.25	0.52	0.90	0.46	0.25	0.73	0.51
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	4%	0%	0%	3%	4%
Adj. Flow (vph)	302	4	390	4	185	4	467	701	152	28	1293	635
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	306	390	0	193	0	467	853	0	28	1293	635
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases		4			8		1	6		5	2	

3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	15.0	15.0	15.0	14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0		30.4	63.5		12.5	45.6	45.6
Total Split (%)	30.9%	30.9%	30.9%	30.9%	30.9%		27.6%	57.7%		11.4%	41.5%	41.5%
Maximum Green (s)	26.5	26.5	26.5	26.5	26.5		22.9	57.5		5.0	39.6	39.6
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	4.0	4.0	4.0	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.5	3.5	3.5	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	20.0	20.0	20.0	0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	10.0	10.0	10.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)		26.5	26.5		26.5		61.0	62.5		64.0	39.6	39.6
Actuated g/C Ratio		0.24	0.24		0.24		0.55	0.57		0.58	0.36	0.36
v/c Ratio		1.31	0.62		0.43		1.10	0.44		0.08	1.03	0.86
Control Delay		201.2	13.2		38.6		107.0	14.7		8.7	67.3	30.3
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		201.2	13.2		38.6		107.0	14.7		8.7	67.3	30.3
LOS		F	B		D		F	B		A	E	C
Approach Delay		95.9			38.6			47.4			54.5	
Approach LOS		F			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.31			
Intersection Signal Delay: 58.4		Intersection LOS: E	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



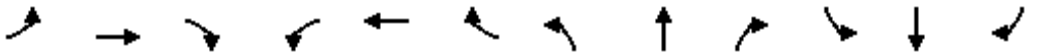
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	5	0	1032	0	1	0
Future Volume (vph)	0	0	0	0	0	0	5	0	1032	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		140
Storage Lanes	0		0	0		0		1		0		1
Taper Length (ft)	25			25				25				75
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Frt												
Flt Protected							0.950				0.950	
Satd. Flow (prot)	0	0	0	0	0	0	1805	0	3438	0	1805	0
Flt Permitted							0.950				0.950	
Satd. Flow (perm)	0	0	0	0	0	0	1805	0	3438	0	1805	0
Link Speed (mph)		30			30				45			
Link Distance (ft)		810			872				3921			
Travel Time (s)		18.4			19.8				59.4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.33	0.25	0.85	0.25	0.25	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	0	0	15	0	1214	0	4	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	15	0	1214	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1273	0
Future Volume (vph)	1273	0
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	3406	0
Flt Permitted		
Satd. Flow (perm)	3406	0
Link Speed (mph)	45	
Link Distance (ft)	1153	
Travel Time (s)	17.5	
Peak Hour Factor	0.88	0.25
Heavy Vehicles (%)	6%	0%
Adj. Flow (vph)	1447	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1447	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	

Intersection Summary

5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)



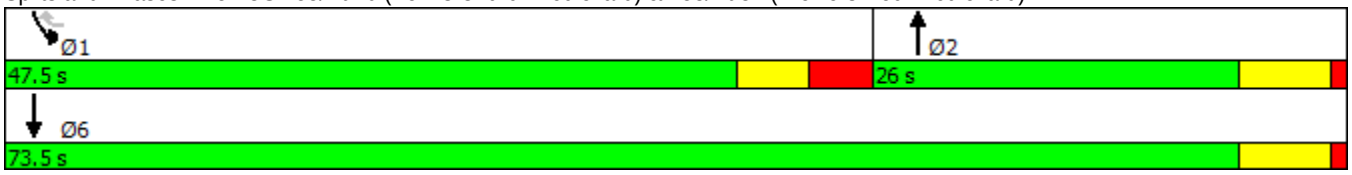
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	736	0	188	0	1010	244	0
Future Volume (vph)	0	0	0	0	0	736	0	188	0	1010	244	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt						0.850						
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	2707	0	3471	0	3367	3438	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2707	0	3471	0	3367	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						662						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3921	
Travel Time (s)		21.9			17.1			43.0			59.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.72	0.92	0.84	0.25	0.83	0.63	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	4%	0%	4%	5%	0%
Adj. Flow (vph)	0	0	0	0	0	1022	0	224	0	1217	387	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	1022	0	224	0	1217	387	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors						1		2		1	2	
Detector Template						Right		Thru		Left	Thru	
Leading Detector (ft)						20		100		20	100	
Trailing Detector (ft)						0		0		0	0	
Detector 1 Position(ft)						0		0		0	0	
Detector 1 Size(ft)						20		6		20	6	
Detector 1 Type						Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)						0.0		0.0		0.0	0.0	
Detector 1 Queue (s)						0.0		0.0		0.0	0.0	
Detector 1 Delay (s)						0.0		0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	

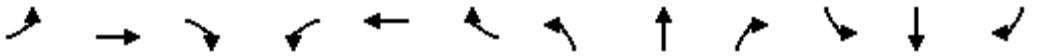
5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						47.5		26.0		47.5	73.5	
Total Split (%)						64.6%		35.4%		64.6%	100.0%	
Maximum Green (s)						40.0		20.0		40.0	67.5	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		None		Min	Min	
Act Effct Green (s)						33.5		10.4		33.5	57.5	
Actuated g/C Ratio						0.58		0.18		0.58	1.00	
v/c Ratio						0.55		0.36		0.62	0.11	
Control Delay						3.4		24.0		9.3	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						3.4		24.0		9.3	0.1	
LOS						A		C		A	A	
Approach Delay					3.4			24.0			7.1	
Approach LOS					A			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 73.5			
Actuated Cycle Length: 57.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	989	0	243	709	3	0	1	433	7	3	12
Future Volume (vph)	7	989	0	243	709	3	0	1	433	7	3	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			0.850
Flt Protected	0.950			0.950							0.974	
Satd. Flow (prot)	1805	3471	0	1719	3505	1615	0	950	2682	0	1851	1369
Flt Permitted	0.950			0.950							0.974	
Satd. Flow (perm)	1805	3471	0	1719	3505	1615	0	950	2682	0	1851	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						171			487			160
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.50	0.82	0.25	0.78	0.72	0.38	0.25	0.25	0.89	0.75	0.38	0.55
Heavy Vehicles (%)	0%	4%	0%	5%	3%	0%	0%	100%	6%	0%	0%	18%
Adj. Flow (vph)	14	1206	0	312	985	8	0	4	487	9	8	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1206	0	312	985	8	0	4	487	0	17	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	

6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

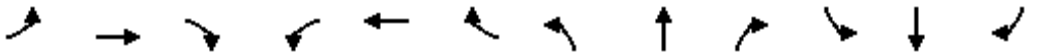
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	34.0	41.5		39.5	47.0	47.0	26.0	26.0	39.5	33.0	33.0	33.0
Total Split (%)	24.3%	29.6%		28.2%	33.6%	33.6%	18.6%	18.6%	28.2%	23.6%	23.6%	23.6%
Maximum Green (s)	25.0	35.0		30.0	40.5	40.5	18.0	18.0	30.0	25.0	25.0	25.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.5	36.6		21.7	68.8	68.8		10.5	24.4		6.6	6.6
Actuated g/C Ratio	0.12	0.43		0.25	0.80	0.80		0.12	0.28		0.08	0.08
v/c Ratio	0.06	0.81		0.72	0.35	0.01		0.03	0.44		0.12	0.09
Control Delay	43.3	31.0		41.1	7.7	0.0		44.0	3.4		46.7	0.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	43.3	31.0		41.1	7.7	0.0		44.0	3.4		46.7	0.7
LOS	D	C		D	A	A		D	A		D	A
Approach Delay		31.1			15.7			3.7			20.7	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 85.7			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 20.0		Intersection LOS: B	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	6	45	64	9	80	52	1249	107	133	1049	99
Future Volume (vph)	143	6	45	64	9	80	52	1249	107	133	1049	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.956			0.958		0.950			0.950		
Satd. Flow (prot)	0	1816	1615	0	1789	1553	1805	3539	1583	1687	3505	1615
Flt Permitted		0.956			0.958		0.143			0.074		
Satd. Flow (perm)	0	1816	1615	0	1789	1553	272	3539	1583	131	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			164			177			177
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.91	0.42	0.56	0.75	0.67	0.93	0.60	0.94	0.64	0.76	0.94	0.71
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	7%	3%	0%
Adj. Flow (vph)	157	14	80	85	13	86	87	1329	167	175	1116	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	171	80	0	98	86	87	1329	167	175	1116	139
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	

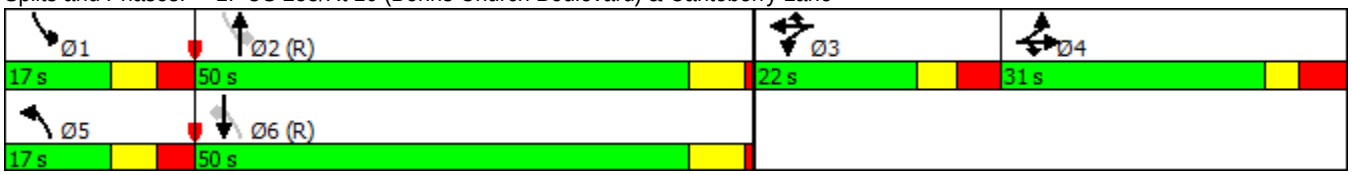
1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

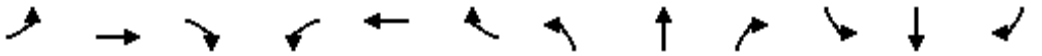
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	31.0	31.0	31.0	22.0	22.0	22.0	17.0	50.0	50.0	17.0	50.0	50.0
Total Split (%)	25.8%	25.8%	25.8%	18.3%	18.3%	18.3%	14.2%	41.7%	41.7%	14.2%	41.7%	41.7%
Maximum Green (s)	23.5	23.5	23.5	14.5	14.5	14.5	9.5	44.0	44.0	9.5	44.0	44.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		16.5	16.5		11.5	11.5	62.0	54.0	54.0	62.0	56.3	56.3
Actuated g/C Ratio		0.14	0.14		0.10	0.10	0.52	0.45	0.45	0.52	0.47	0.47
v/c Ratio		0.68	0.22		0.57	0.29	0.38	0.84	0.21	0.92	0.68	0.16
Control Delay		62.7	1.4		64.7	2.5	15.3	32.0	2.3	77.5	29.2	2.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		62.7	1.4		64.7	2.5	15.3	32.0	2.3	77.5	29.2	2.0
LOS		E	A		E	A	B	C	A	E	C	A
Approach Delay		43.2			35.6			28.0			32.4	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 31.3 Intersection LOS: C
Intersection Capacity Utilization 74.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	0	83	0	0	1	157	1291	0	0	1022	134
Future Volume (vph)	116	0	83	0	0	1	157	1291	0	0	1022	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.865							0.850
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1787	1599	0	1644	0	1805	3539	0	1900	3505	1615
Flt Permitted		0.950					0.183					
Satd. Flow (perm)	0	1787	1599	0	1644	0	348	3539	0	1900	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214		218							218
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.81	0.25	0.62	0.25	0.25	0.25	0.67	0.93	0.25	0.25	0.95	0.80
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	143	0	134	0	0	4	234	1388	0	0	1076	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	143	134	0	4	0	234	1388	0	0	1076	168
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot		NA		D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6

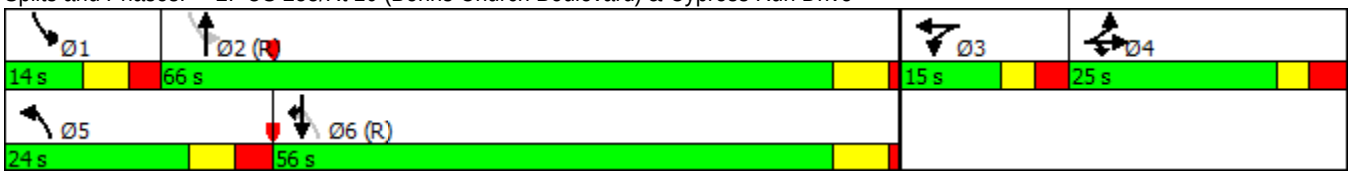
2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

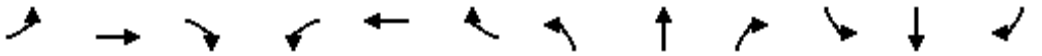
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	25.0	25.0	25.0	15.0	15.0		24.0	66.0		14.0	56.0	56.0
Total Split (%)	20.8%	20.8%	20.8%	12.5%	12.5%		20.0%	55.0%		11.7%	46.7%	46.7%
Maximum Green (s)	18.5	18.5	18.5	9.0	9.0		16.5	60.0		7.0	50.0	50.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		14.6	14.6		7.0		81.3	90.3			68.4	68.4
Actuated g/C Ratio		0.12	0.12		0.06		0.68	0.75			0.57	0.57
v/c Ratio		0.66	0.35		0.01		0.57	0.52			0.54	0.17
Control Delay		64.3	2.6		0.0		13.9	8.0			6.7	0.3
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		64.3	2.6		0.0		13.9	8.0			6.7	0.3
LOS		E	A		A		B	A			A	A
Approach Delay		34.4						8.9			5.8	
Approach LOS		C						A			A	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 12 (10%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 9.9 Intersection LOS: A
Intersection Capacity Utilization 69.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	0	97	0	1	2	172	1347	1	33	988	126
Future Volume (vph)	86	0	97	0	1	2	172	1347	1	33	988	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	100		0	125		0	125		275
Storage Lanes	0		1	1		0	1		0	1		1
Taper Length (ft)	200			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.925							0.850
Flt Protected		0.950					0.950			0.950		
Satd. Flow (prot)	0	1787	1599	1900	1758	0	1687	3539	0	1805	3505	1482
Flt Permitted		0.752					0.191			0.094		
Satd. Flow (perm)	0	1415	1599	1900	1758	0	339	3539	0	179	3505	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127		4							148
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1500			695			1153			1986	
Travel Time (s)		25.6			19.0			17.5			30.1	
Peak Hour Factor	0.63	0.25	0.80	0.25	0.25	0.50	0.90	0.94	0.25	0.50	0.98	0.85
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	7%	2%	0%	0%	3%	9%
Adj. Flow (vph)	137	0	121	0	4	4	191	1433	4	66	1008	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	137	121	0	8	0	191	1437	0	66	1008	148
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases		4			8		1	6		5	2	

3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	24.0	24.0	24.0	14.5	14.5		19.0	53.5		12.5	47.0	47.0
Total Split (%)	26.7%	26.7%	26.7%	16.1%	16.1%		21.1%	59.4%		13.9%	52.2%	52.2%
Maximum Green (s)	16.5	16.5	16.5	7.0	7.0		11.5	47.5		5.0	41.0	41.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	4.0	4.0	4.0	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5	7.5	7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.5	3.5	3.5	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	20.0	20.0	20.0	0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	10.0	10.0	10.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)		14.0	14.0		8.9		45.4	45.1		47.3	36.9	36.9
Actuated g/C Ratio		0.17	0.17		0.11		0.55	0.55		0.57	0.45	0.45
v/c Ratio		0.57	0.32		0.04		0.54	0.74		0.33	0.64	0.20
Control Delay		43.2	8.4		26.7		13.9	18.3		10.7	20.0	3.3
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		43.2	8.4		26.7		13.9	18.3		10.7	20.0	3.3
LOS		D	A		C		B	B		B	B	A
Approach Delay		26.8			26.7			17.8			17.5	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 70.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

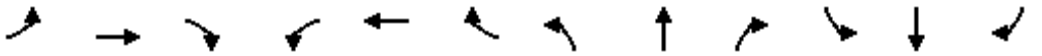


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	5	0	1511	0	0	0
Future Volume (vph)	0	0	0	0	0	0	5	0	1511	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		140
Storage Lanes	0		0	0		0		1		0		1
Taper Length (ft)	25			25				25				75
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Frt												
Flt Protected							0.950					
Satd. Flow (prot)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Link Speed (mph)		30			30				45			
Link Distance (ft)		810			872				3921			
Travel Time (s)		18.4			19.8				59.4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.25	0.97	0.25	0.50	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	0	0	20	0	1558	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	20	0	1558	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.1%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1072	0
Future Volume (vph)	1072	0
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	3539	0
Flt Permitted		
Satd. Flow (perm)	3539	0
Link Speed (mph)	45	
Link Distance (ft)	1153	
Travel Time (s)	17.5	
Peak Hour Factor	0.95	0.25
Heavy Vehicles (%)	2%	0%
Adj. Flow (vph)	1128	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1128	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	

Intersection Summary



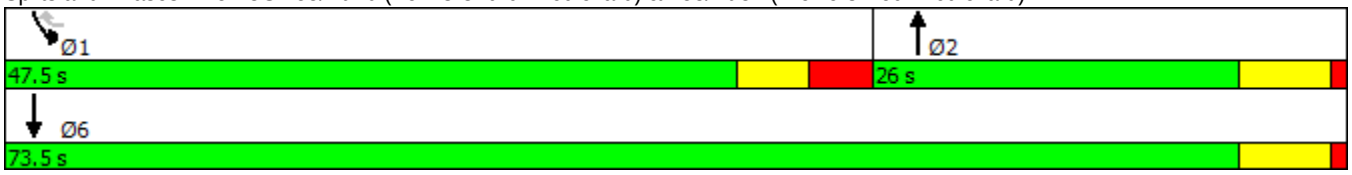
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1300	0	225	0	729	311	0
Future Volume (vph)	0	0	0	0	0	1300	0	225	0	729	311	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt						0.850						
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						575						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3921	
Travel Time (s)		21.9			17.1			43.0			59.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.25	0.89	0.25	0.99	0.85	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	4%	0%	3%	4%	0%
Adj. Flow (vph)	0	0	0	0	0	1398	0	253	0	736	366	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	1398	0	253	0	736	366	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors						1		2		1	2	
Detector Template						Right		Thru		Left	Thru	
Leading Detector (ft)						20		100		20	100	
Trailing Detector (ft)						0		0		0	0	
Detector 1 Position(ft)						0		0		0	0	
Detector 1 Size(ft)						20		6		20	6	
Detector 1 Type						Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)						0.0		0.0		0.0	0.0	
Detector 1 Queue (s)						0.0		0.0		0.0	0.0	
Detector 1 Delay (s)						0.0		0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	

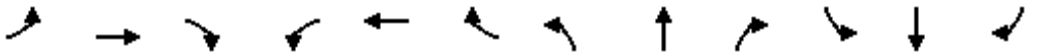
5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						47.5		26.0		47.5	73.5	
Total Split (%)						64.6%		35.4%		64.6%	100.0%	
Maximum Green (s)						40.0		20.0		40.0	67.5	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		None		Min	Min	
Act Effct Green (s)						31.2		10.7		31.2	55.8	
Actuated g/C Ratio						0.56		0.19		0.56	1.00	
v/c Ratio						0.78		0.38		0.39	0.11	
Control Delay						8.5		23.7		7.2	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						8.5		23.7		7.2	0.1	
LOS						A		C		A	A	
Approach Delay					8.5			23.7			4.8	
Approach LOS					A			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 73.5			
Actuated Cycle Length: 55.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 8.4		Intersection LOS: A	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	772	3	471	1268	14	1	3	250	2	5	7
Future Volume (vph)	9	772	3	471	1268	14	1	3	250	2	5	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt		0.999				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.984			0.978	
Satd. Flow (prot)	1805	3536	0	1787	3539	1380	0	1870	2787	0	1632	1380
Flt Permitted	0.950			0.950				0.984			0.978	
Satd. Flow (perm)	1805	3536	0	1787	3539	1380	0	1870	2787	0	1632	1380
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						171			321			160
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.35	0.98	1.00	0.86	0.96	0.60	0.25	0.38	0.78	0.50	1.00	0.75
Heavy Vehicles (%)	0%	2%	0%	1%	2%	17%	0%	0%	2%	0%	25%	17%
Adj. Flow (vph)	26	788	3	548	1321	23	4	8	321	4	5	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	791	0	548	1321	23	0	12	321	0	9	9
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	34.0	41.5		39.5	47.0	47.0	26.0	26.0	39.5	33.0	33.0	33.0
Total Split (%)	24.3%	29.6%		28.2%	33.6%	33.6%	18.6%	18.6%	28.2%	23.6%	23.6%	23.6%
Maximum Green (s)	25.0	35.0		30.0	40.5	40.5	18.0	18.0	30.0	25.0	25.0	25.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.4	28.4		31.3	68.2	68.2		10.4	34.0		6.3	6.3
Actuated g/C Ratio	0.12	0.34		0.37	0.81	0.81		0.12	0.41		0.08	0.08
v/c Ratio	0.12	0.66		0.82	0.46	0.02		0.05	0.24		0.07	0.04
Control Delay	42.0	28.2		40.0	10.3	0.0		42.2	3.0		46.1	0.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	42.0	28.2		40.0	10.3	0.0		42.2	3.0		46.1	0.3
LOS	D	C		D	B	A		D	A		D	A
Approach Delay		28.6			18.8			4.4			23.2	
Approach LOS		C			B			A			C	

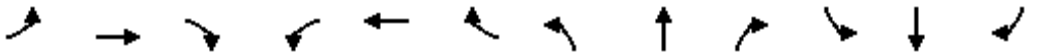
Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 83.9			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



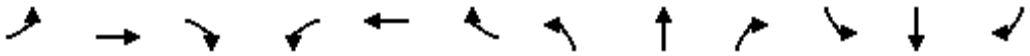
APPENDIX E

2032 No Build Synchro Reports



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	1	21	108	5	47	16	876	55	60	1269	39
Future Volume (vph)	28	1	21	108	5	47	16	876	55	60	1269	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.957			0.955		0.950			0.950		
Satd. Flow (prot)	0	1755	1615	0	1737	1615	1805	3374	1509	1752	3505	1615
Flt Permitted		0.957			0.955		0.042			0.251		
Satd. Flow (perm)	0	1755	1615	0	1737	1615	80	3374	1509	463	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131			131			142			142
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.82	0.25	0.53	0.76	0.50	0.79	0.46	0.92	0.75	0.73	0.63	0.80
Heavy Vehicles (%)	4%	0%	0%	3%	25%	0%	0%	7%	7%	3%	3%	0%
Adj. Flow (vph)	34	4	40	142	10	59	35	952	73	82	2014	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	40	0	152	59	35	952	73	82	2014	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	

1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

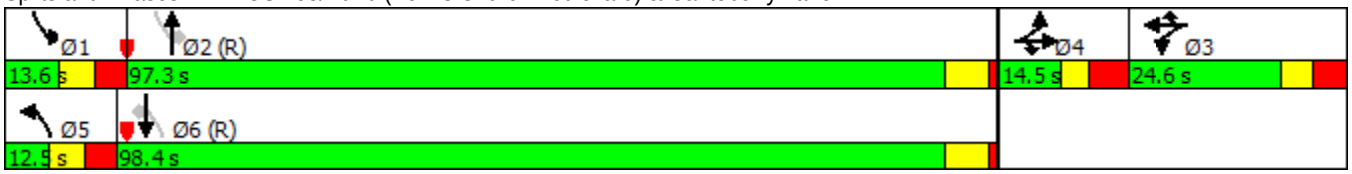


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	14.5	14.5	14.5	24.6	24.6	24.6	12.5	97.3	97.3	13.6	98.4	98.4
Total Split (%)	9.7%	9.7%	9.7%	16.4%	16.4%	16.4%	8.3%	64.9%	64.9%	9.1%	65.6%	65.6%
Maximum Green (s)	7.0	7.0	7.0	17.1	17.1	17.1	5.0	91.3	91.3	6.1	92.4	92.4
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		7.0	7.0		16.0	16.0	101.4	95.5	95.5	99.9	98.9	98.9
Actuated g/C Ratio		0.05	0.05		0.11	0.11	0.68	0.64	0.64	0.67	0.66	0.66
v/c Ratio		0.47	0.20		0.82	0.20	0.32	0.44	0.07	0.23	0.87	0.04
Control Delay		88.7	2.2		97.1	1.6	23.3	16.1	1.5	9.1	28.2	0.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		88.7	2.2		97.1	1.6	23.3	16.1	1.5	9.1	28.2	0.1
LOS		F	A		F	A	C	B	A	A	C	A
Approach Delay		44.3			70.4			15.3			26.8	
Approach LOS		D			E			B			C	
Queue Length 50th (ft)		37	0		147	0	10	219	1	24	894	0
Queue Length 95th (ft)		21	0		120	0	14	306	7	34	493	0
Internal Link Dist (ft)		255			1152			693			1857	
Turn Bay Length (ft)							200		350	275		325
Base Capacity (vph)		81	200		198	300	111	2148	1012	361	2310	1113
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.47	0.20		0.77	0.20	0.32	0.44	0.07	0.23	0.87	0.04

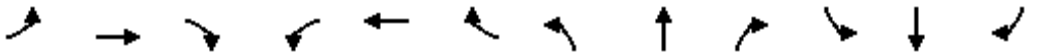
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 120 (80%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 26.4		Intersection LOS: C	
Intersection Capacity Utilization 69.7%		ICU Level of Service C	
Analysis Period (min) 15			

1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

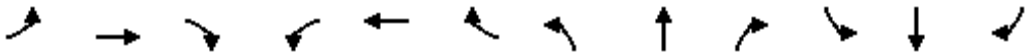


HCM 2010 analysis expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	22	0	0	0	26	782	0	2	1542	34
Future Volume (vph)	5	0	22	0	0	0	26	782	0	2	1542	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.950					0.950			0.950		
Satd. Flow (prot)	0	1805	1524	0	1900	0	1805	3505	0	1805	3471	1553
Flt Permitted		0.950					0.057			0.263		
Satd. Flow (perm)	0	1805	1524	0	1900	0	108	3505	0	500	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116									120
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.50	0.25	0.56	0.25	0.25	0.25	0.44	0.75	0.44	0.50	0.72	0.78
Heavy Vehicles (%)	0%	0%	6%	0%	0%	0%	0%	3%	14%	0%	4%	4%
Adj. Flow (vph)	10	0	39	0	0	0	59	1043	0	4	2142	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	39	0	0	0	59	1043	0	4	2142	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot				D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6

2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

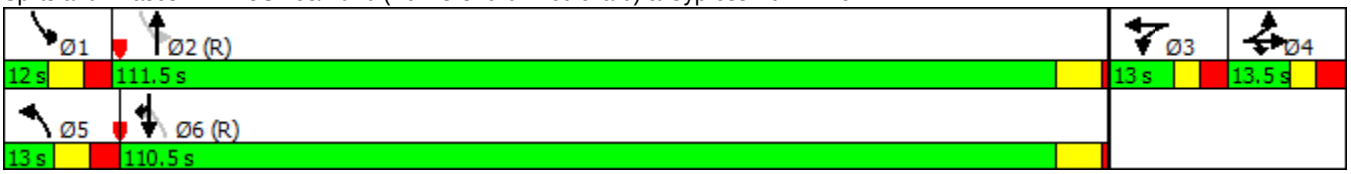


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	13.5	13.5	13.5	13.0	13.0		13.0	111.5		12.0	110.5	110.5
Total Split (%)	9.0%	9.0%	9.0%	8.7%	8.7%		8.7%	74.3%		8.0%	73.7%	73.7%
Maximum Green (s)	7.0	7.0	7.0	7.0	7.0		5.5	105.5		5.0	104.5	104.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		7.0	7.0				125.7	132.0		130.8	124.1	124.1
Actuated g/C Ratio		0.05	0.05				0.84	0.88		0.87	0.83	0.83
v/c Ratio		0.12	0.22				0.39	0.34		0.01	0.75	0.03
Control Delay		71.8	2.7				13.9	1.6		0.0	2.7	0.0
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.1	0.0
Total Delay		71.8	2.7				13.9	1.6		0.0	2.8	0.0
LOS		E	A				B	A		A	A	A
Approach Delay		16.8						2.2			2.7	
Approach LOS		B						A			A	
Queue Length 50th (ft)		10	0				6	45		0	76	0
Queue Length 95th (ft)		9	0				m4	m75		m0	68	m0
Internal Link Dist (ft)		1825			1371			1906			693	
Turn Bay Length (ft)							250			150		235
Base Capacity (vph)		84	181				152	3084		479	2871	1305
Starvation Cap Reductn		0	0				0	0		0	75	0
Spillback Cap Reductn		0	0				0	0		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		0.12	0.22				0.39	0.34		0.01	0.77	0.03

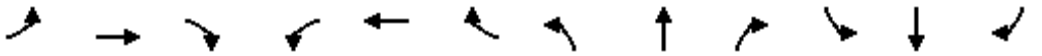
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 128 (85%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 2.8		Intersection LOS: A	
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

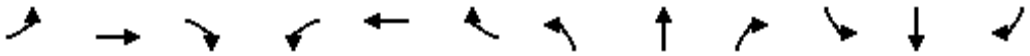


HCM 2010 analysis expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	1	312	1	79	1	266	690	76	7	1032	355
Future Volume (vph)	211	1	312	1	79	1	266	690	76	7	1032	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	100		0	125		0	125		275
Storage Lanes	0		1	1		0	1		0	1		1
Taper Length (ft)	200			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.997			0.973				0.850
Flt Protected		0.953		0.950			0.950			0.950		
Satd. Flow (prot)	0	1811	1615	1715	1800	0	1752	3401	0	1805	3505	1553
Flt Permitted		0.485		0.344			0.074			0.235		
Satd. Flow (perm)	0	922	1615	621	1800	0	137	3401	0	446	3505	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			339		1			26				307
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1496			695			1155			1986	
Travel Time (s)		25.5			19.0			17.5			30.1	
Peak Hour Factor	0.64	0.25	0.73	0.25	0.39	0.25	0.52	0.90	0.46	0.25	0.73	0.51
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	4%	0%	0%	3%	4%
Adj. Flow (vph)	330	4	427	4	203	4	512	767	165	28	1414	696
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	0	334	427	4	207	0	512	932	0	28	1414	696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases		4			8		1	6		5	2	

3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

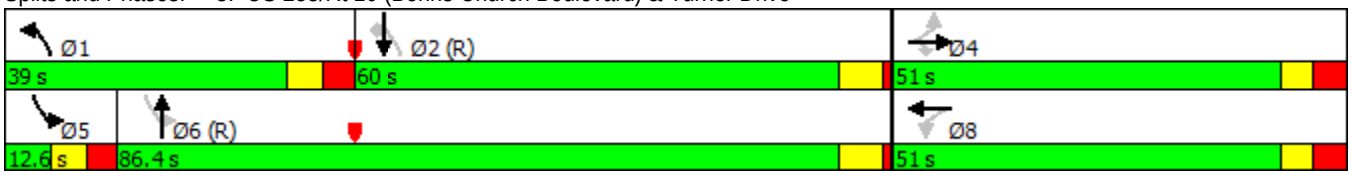


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	15.0	15.0	15.0	14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0		39.0	86.4		12.6	60.0	60.0
Total Split (%)	34.0%	34.0%	34.0%	34.0%	34.0%		26.0%	57.6%		8.4%	40.0%	40.0%
Maximum Green (s)	43.5	43.5	43.5	43.5	43.5		31.5	80.4		5.1	54.0	54.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	4.0	4.0	4.0	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5	7.5	7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.5	3.5	3.5	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	20.0	20.0	20.0	0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	10.0	10.0	10.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		43.5	43.5	43.5	43.5		84.0	85.4		87.0	54.0	54.0
Actuated g/C Ratio		0.29	0.29	0.29	0.29		0.56	0.57		0.58	0.36	0.36
v/c Ratio		1.25	0.60	0.02	0.40		1.23	0.48		0.09	1.12	0.92
Control Delay		183.4	13.5	39.0	45.3		164.8	20.2		10.3	96.5	29.0
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		183.4	13.5	39.0	45.3		164.8	20.2		10.3	96.5	29.0
LOS		F	B	D	D		F	C		B	F	C
Approach Delay		88.1			45.2			71.5			73.4	
Approach LOS		F			D			E			E	
Queue Length 50th (ft)		~406	65	3	170		~569	289		5	~826	230
Queue Length 95th (ft)		96	71	4	98		292	348		4	602	58
Internal Link Dist (ft)		1416			615			1075			1906	
Turn Bay Length (ft)			300	100			125			125		275
Base Capacity (vph)		267	709	180	522		415	1948		304	1261	755
Starvation Cap Reductn		0	0	0	0		0	0		0	0	0
Spillback Cap Reductn		0	0	0	0		0	0		0	0	0
Storage Cap Reductn		0	0	0	0		0	0		0	0	0
Reduced v/c Ratio		1.25	0.60	0.02	0.40		1.23	0.48		0.09	1.12	0.92

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 30 (20%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay: 73.9		Intersection LOS: E	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



HCM 2010 Computation does not support turning movement with Shared and Exclusive lanes.

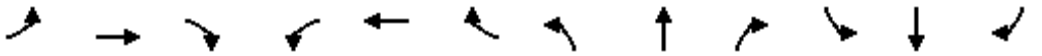
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	5	0	1128	0	1	0
Future Volume (vph)	0	0	0	0	0	0	5	0	1128	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		140
Storage Lanes	0		0	0		0		1		0		1
Taper Length (ft)	25			25				25				75
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Frt												
Flt Protected							0.950				0.950	
Satd. Flow (prot)	0	0	0	0	0	0	1805	0	3438	0	1805	0
Flt Permitted							0.950				0.950	
Satd. Flow (perm)	0	0	0	0	0	0	1805	0	3438	0	1805	0
Link Speed (mph)		30			30				45			
Link Distance (ft)		810			872				3921			
Travel Time (s)		18.4			19.8				59.4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.33	0.25	0.85	0.25	0.25	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	0	0	15	0	1327	0	4	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	15	0	1327	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1392	0
Future Volume (vph)	1392	0
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	3406	0
Flt Permitted		
Satd. Flow (perm)	3406	0
Link Speed (mph)	45	
Link Distance (ft)	1155	
Travel Time (s)	17.5	
Peak Hour Factor	0.88	0.25
Heavy Vehicles (%)	6%	0%
Adj. Flow (vph)	1582	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1582	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	

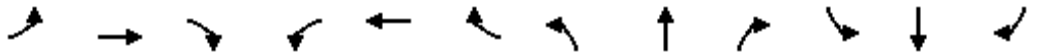
Intersection Summary

5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	804	0	206	0	1105	267	0
Future Volume (vph)	0	0	0	0	0	804	0	206	0	1105	267	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt						0.850						
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	2707	0	3471	0	3367	3438	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2707	0	3471	0	3367	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						388						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3921	
Travel Time (s)		21.9			17.1			43.0			59.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.72	0.92	0.84	0.25	0.83	0.63	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	4%	0%	4%	5%	0%
Adj. Flow (vph)	0	0	0	0	0	1117	0	245	0	1331	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	1117	0	245	0	1331	424	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors						1		2		1	2	
Detector Template						Right		Thru		Left	Thru	
Leading Detector (ft)						20		100		20	100	
Trailing Detector (ft)						0		0		0	0	
Detector 1 Position(ft)						0		0		0	0	
Detector 1 Size(ft)						20		6		20	6	
Detector 1 Type						Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)						0.0		0.0		0.0	0.0	
Detector 1 Queue (s)						0.0		0.0		0.0	0.0	
Detector 1 Delay (s)						0.0		0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	

5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

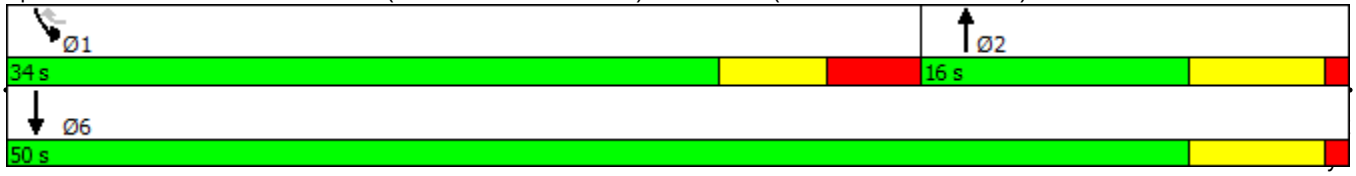


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						34.0		16.0		34.0	50.0	
Total Split (%)						68.0%		32.0%		68.0%	100.0%	
Maximum Green (s)						26.5		10.0		26.5	44.0	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		None		Min	Min	
Act Effct Green (s)						27.8		10.0		27.8	51.4	
Actuated g/C Ratio						0.54		0.19		0.54	1.00	
v/c Ratio						0.68		0.36		0.73	0.12	
Control Delay						7.9		19.2		12.0	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						7.9		19.2		12.0	0.1	
LOS						A		B		B	A	
Approach Delay					7.9			19.2			9.1	
Approach LOS					A			B			A	
Queue Length 50th (ft)						70		32		138	0	
Queue Length 95th (ft)						73		54		175	0	
Internal Link Dist (ft)		883			1046			2757			3841	
Turn Bay Length (ft)										300		
Base Capacity (vph)						1644		677		1823	3438	
Starvation Cap Reductn						0		0		0	0	
Spillback Cap Reductn						0		0		0	0	
Storage Cap Reductn						0		0		0	0	
Reduced v/c Ratio						0.68		0.36		0.73	0.12	

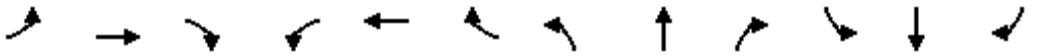
Intersection Summary

Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 51.4			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

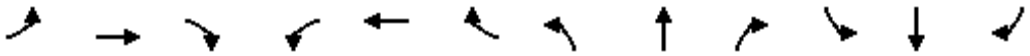


HCM 2010 Research does not support Non-NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1081	0	266	775	4	0	1	473	7	4	14
Future Volume (vph)	7	1081	0	266	775	4	0	1	473	7	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt						0.850			0.850			0.850
Flt Protected	0.950			0.950							0.978	
Satd. Flow (prot)	1805	3471	0	1719	3505	1615	0	950	2682	0	1858	1369
Flt Permitted	0.950			0.950							0.978	
Satd. Flow (perm)	1805	3471	0	1719	3505	1615	0	950	2682	0	1858	1369
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						160			445			218
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.50	0.82	0.25	0.78	0.72	0.38	0.25	0.25	0.89	0.75	0.38	0.55
Heavy Vehicles (%)	0%	4%	0%	5%	3%	0%	0%	100%	6%	0%	0%	18%
Adj. Flow (vph)	14	1318	0	341	1076	11	0	4	531	9	11	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1318	0	341	1076	11	0	4	531	0	20	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	

6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

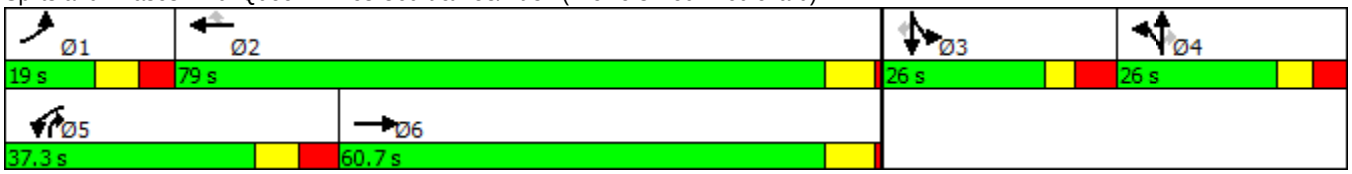


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	19.0	60.7		37.3	79.0	79.0	26.0	26.0	37.3	26.0	26.0	26.0
Total Split (%)	12.7%	40.5%		24.9%	52.7%	52.7%	17.3%	17.3%	24.9%	17.3%	17.3%	17.3%
Maximum Green (s)	10.0	54.2		27.8	72.5	72.5	18.0	18.0	27.8	18.0	18.0	18.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.1	54.9		28.2	88.8	88.8		10.1	31.2		6.8	6.8
Actuated g/C Ratio	0.09	0.49		0.25	0.80	0.80		0.09	0.28		0.06	0.06
v/c Ratio	0.09	0.77		0.78	0.38	0.01		0.05	0.49		0.18	0.09
Control Delay	53.4	28.8		54.4	8.7	0.0		54.0	7.8		57.5	0.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	53.4	28.8		54.4	8.7	0.0		54.0	7.8		57.5	0.6
LOS	D	C		D	A	A		D	A		E	A
Approach Delay		29.0			19.5			8.1			25.9	
Approach LOS		C			B			A			C	
Queue Length 50th (ft)	9	407		233	85	0		3	27		14	0
Queue Length 95th (ft)	19	576		#374	268	0		4	71		18	0
Internal Link Dist (ft)		1046			766			834			543	
Turn Bay Length (ft)	225			600		325			350			
Base Capacity (vph)	164	1716		436	2802	1323		155	1073		305	407
Starvation Cap Reductn	0	0		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.09	0.77		0.78	0.38	0.01		0.03	0.49		0.07	0.06

Intersection Summary

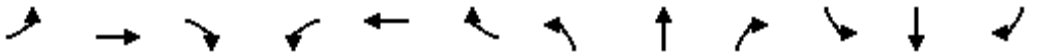
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 111
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 73.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



HCM 2010 analysis expects strict NEMA phasing.

1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	6	49	70	10	87	57	1366	117	145	1147	108
Future Volume (vph)	156	6	49	70	10	87	57	1366	117	145	1147	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.956			0.959		0.950			0.950		
Satd. Flow (prot)	0	1816	1615	0	1791	1553	1805	3539	1583	1687	3505	1615
Flt Permitted		0.956			0.959		0.103			0.076		
Satd. Flow (perm)	0	1816	1615	0	1791	1553	196	3539	1583	135	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			164			177			177
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.91	0.42	0.56	0.75	0.67	0.93	0.60	0.94	0.64	0.76	0.94	0.71
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	7%	3%	0%
Adj. Flow (vph)	171	14	88	93	15	94	95	1453	183	191	1220	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	88	0	108	94	95	1453	183	191	1220	152
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	

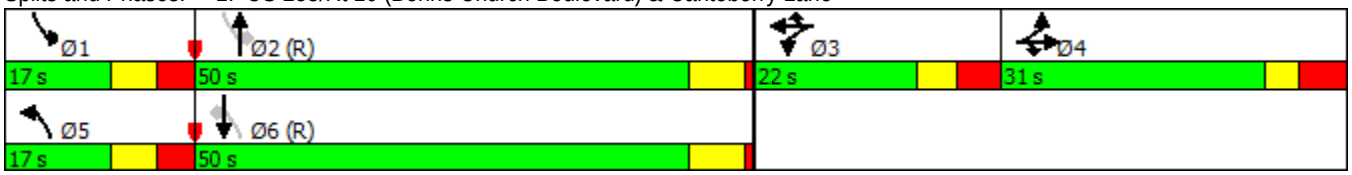
1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	31.0	31.0	31.0	22.0	22.0	22.0	17.0	50.0	50.0	17.0	50.0	50.0
Total Split (%)	25.8%	25.8%	25.8%	18.3%	18.3%	18.3%	14.2%	41.7%	41.7%	14.2%	41.7%	41.7%
Maximum Green (s)	23.5	23.5	23.5	14.5	14.5	14.5	9.5	44.0	44.0	9.5	44.0	44.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		17.4	17.4		12.0	12.0	60.6	52.6	52.6	60.6	54.7	54.7
Actuated g/C Ratio		0.14	0.14		0.10	0.10	0.50	0.44	0.44	0.50	0.46	0.46
v/c Ratio		0.70	0.24		0.61	0.31	0.48	0.94	0.23	1.00	0.76	0.18
Control Delay		62.7	1.5		65.8	2.7	26.4	39.9	2.1	97.9	32.9	2.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		62.7	1.5		65.8	2.7	26.4	39.9	2.1	97.9	32.9	2.8
LOS		E	A		E	A	C	D	A	F	C	A
Approach Delay		43.0			36.4			35.2			37.9	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 36.9 Intersection LOS: D
Intersection Capacity Utilization 78.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	0	91	0	0	1	171	1412	0	0	1117	147
Future Volume (vph)	127	0	91	0	0	1	171	1412	0	0	1117	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.865							0.850
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1787	1599	0	1644	0	1805	3539	0	1900	3505	1615
Flt Permitted		0.950					0.145					
Satd. Flow (perm)	0	1787	1599	0	1644	0	276	3539	0	1900	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214		218							218
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.81	0.25	0.62	0.25	0.25	0.25	0.67	0.93	0.25	0.25	0.95	0.80
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	157	0	147	0	0	4	255	1518	0	0	1176	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	147	0	4	0	255	1518	0	0	1176	184
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot		NA		D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6

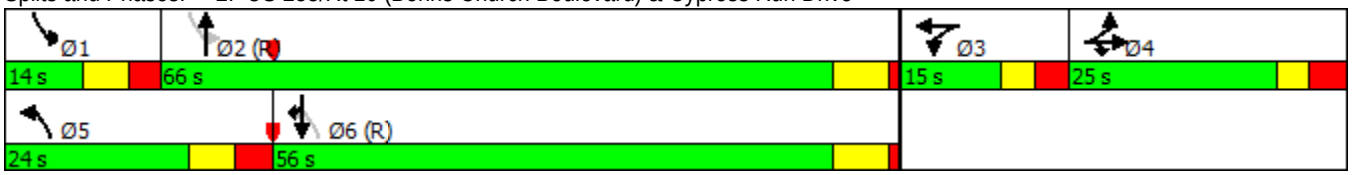
2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	25.0	25.0	25.0	15.0	15.0		24.0	66.0		14.0	56.0	56.0
Total Split (%)	20.8%	20.8%	20.8%	12.5%	12.5%		20.0%	55.0%		11.7%	46.7%	46.7%
Maximum Green (s)	18.5	18.5	18.5	9.0	9.0		16.5	60.0		7.0	50.0	50.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		15.2	15.2		7.0		80.7	89.7			66.7	66.7
Actuated g/C Ratio		0.13	0.13		0.06		0.67	0.75			0.56	0.56
v/c Ratio		0.69	0.38		0.01		0.67	0.57			0.60	0.19
Control Delay		65.8	3.8		0.0		22.8	8.9			6.7	0.3
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		65.8	3.8		0.0		22.8	8.9			6.7	0.3
LOS		E	A		A		C	A			A	A
Approach Delay		35.8						10.9			5.8	
Approach LOS		D						B			A	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 12 (10%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	0	106	0	1	2	188	1473	1	36	1080	138
Future Volume (vph)	94	0	106	0	1	2	188	1473	1	36	1080	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	100		0	125		0	125		275
Storage Lanes	0		1	1		0	1		0	1		1
Taper Length (ft)	200			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.925							0.850
Flt Protected		0.950					0.950			0.950		
Satd. Flow (prot)	0	1787	1599	1900	1758	0	1687	3539	0	1805	3505	1482
Flt Permitted		0.752					0.156			0.072		
Satd. Flow (perm)	0	1415	1599	1900	1758	0	277	3539	0	137	3505	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133		4							141
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1493			695			1153			1986	
Travel Time (s)		25.4			19.0			17.5			30.1	
Peak Hour Factor	0.63	0.25	0.80	0.25	0.25	0.50	0.90	0.94	0.25	0.50	0.98	0.85
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	7%	2%	0%	0%	3%	9%
Adj. Flow (vph)	149	0	133	0	4	4	209	1567	4	72	1102	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	149	133	0	8	0	209	1571	0	72	1102	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases		4			8		1	6		5	2	

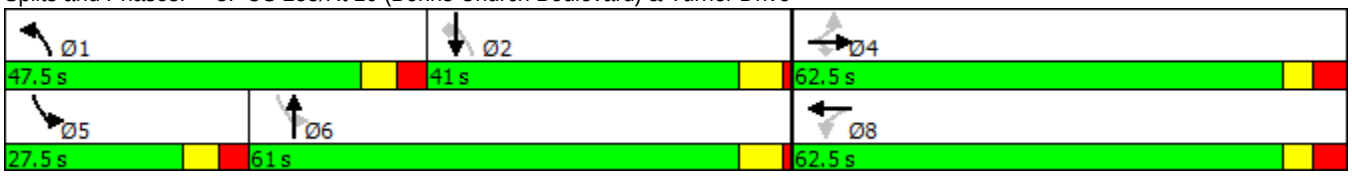
3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	62.5	62.5	62.5	62.5	62.5		47.5	61.0		27.5	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	41.4%		31.5%	40.4%		18.2%	27.2%	27.2%
Maximum Green (s)	55.0	55.0	55.0	55.0	55.0		40.0	55.0		20.0	35.0	35.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	4.0	4.0	4.0	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5	7.5	7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.5	3.5	3.5	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	20.0	20.0	20.0	0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	10.0	10.0	10.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)		17.8	17.8		10.3		57.1	55.6		58.9	45.3	45.3
Actuated g/C Ratio		0.18	0.18		0.11		0.59	0.57		0.60	0.46	0.46
v/c Ratio		0.58	0.33		0.04		0.59	0.78		0.39	0.68	0.21
Control Delay		46.8	8.6		29.7		18.6	21.8		15.5	24.5	5.4
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		46.8	8.6		29.7		18.6	21.8		15.5	24.5	5.4
LOS		D	A		C		B	C		B	C	A
Approach Delay		28.8			29.7			21.4			21.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 151
Actuated Cycle Length: 97.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 22.2 Intersection LOS: C
Intersection Capacity Utilization 74.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



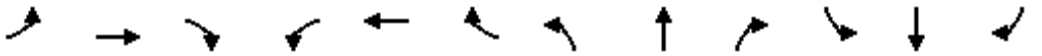
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	5	0	1652	0	0	0
Future Volume (vph)	0	0	0	0	0	0	5	0	1652	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		140
Storage Lanes	0		0	0		0		1		0		1
Taper Length (ft)	25			25				25				75
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Frt												
Flt Protected							0.950					
Satd. Flow (prot)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Link Speed (mph)		30			30				45			
Link Distance (ft)		810			872				3921			
Travel Time (s)		18.4			19.8				59.4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.25	0.97	0.25	0.50	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	0	0	20	0	1703	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	20	0	1703	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1173	0
Future Volume (vph)	1173	0
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	3539	0
Flt Permitted		
Satd. Flow (perm)	3539	0
Link Speed (mph)	45	
Link Distance (ft)	1153	
Travel Time (s)	17.5	
Peak Hour Factor	0.95	0.25
Heavy Vehicles (%)	2%	0%
Adj. Flow (vph)	1235	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1235	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	

Intersection Summary

5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)



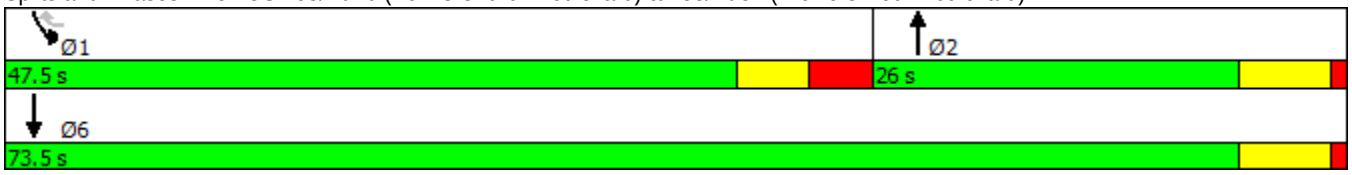
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1421	0	246	0	797	340	0
Future Volume (vph)	0	0	0	0	0	1421	0	246	0	797	340	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt						0.850						
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						514						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3921	
Travel Time (s)		21.9			17.1			43.0			59.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.25	0.89	0.25	0.99	0.85	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	4%	0%	3%	4%	0%
Adj. Flow (vph)	0	0	0	0	0	1528	0	276	0	805	400	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	1528	0	276	0	805	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors						1		2		1	2	
Detector Template						Right		Thru		Left	Thru	
Leading Detector (ft)						20		100		20	100	
Trailing Detector (ft)						0		0		0	0	
Detector 1 Position(ft)						0		0		0	0	
Detector 1 Size(ft)						20		6		20	6	
Detector 1 Type						Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)						0.0		0.0		0.0	0.0	
Detector 1 Queue (s)						0.0		0.0		0.0	0.0	
Detector 1 Delay (s)						0.0		0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	

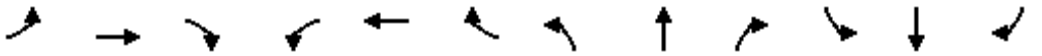
5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						47.5		26.0		47.5	73.5	
Total Split (%)						64.6%		35.4%		64.6%	100.0%	
Maximum Green (s)						40.0		20.0		40.0	67.5	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		None		Min	Min	
Act Effct Green (s)						35.9		10.8		35.9	60.4	
Actuated g/C Ratio						0.59		0.18		0.59	1.00	
v/c Ratio						0.83		0.44		0.40	0.12	
Control Delay						10.9		25.8		7.1	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						10.9		25.8		7.1	0.1	
LOS						B		C		A	A	
Approach Delay					10.9			25.8			4.7	
Approach LOS					B			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 73.5			
Actuated Cycle Length: 60.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 69.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	844	4	515	1387	15	1	4	273	2	5	7
Future Volume (vph)	10	844	4	515	1387	15	1	4	273	2	5	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt		0.999				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.987			0.978	
Satd. Flow (prot)	1805	3536	0	1787	3539	1380	0	1875	2787	0	1632	1380
Flt Permitted	0.950			0.950				0.987			0.978	
Satd. Flow (perm)	1805	3536	0	1787	3539	1380	0	1875	2787	0	1632	1380
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						171			350			160
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.35	0.98	1.00	0.86	0.96	0.60	0.25	0.38	0.78	0.50	1.00	0.75
Heavy Vehicles (%)	0%	2%	0%	1%	2%	17%	0%	0%	2%	0%	25%	17%
Adj. Flow (vph)	29	861	4	599	1445	25	4	11	350	4	5	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	865	0	599	1445	25	0	15	350	0	9	9
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	

6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	34.0	41.5		39.5	47.0	47.0	26.0	26.0	39.5	33.0	33.0	33.0
Total Split (%)	24.3%	29.6%		28.2%	33.6%	33.6%	18.6%	18.6%	28.2%	23.6%	23.6%	23.6%
Maximum Green (s)	25.0	35.0		30.0	40.5	40.5	18.0	18.0	30.0	25.0	25.0	25.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.4	32.9		31.2	72.6	72.6		10.4	37.0		6.3	6.3
Actuated g/C Ratio	0.11	0.36		0.34	0.80	0.80		0.11	0.41		0.07	0.07
v/c Ratio	0.14	0.68		0.98	0.51	0.02		0.07	0.26		0.08	0.04
Control Delay	45.6	30.5		66.1	13.6	0.1		45.6	2.7		49.6	0.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	45.6	30.5		66.1	13.6	0.1		45.6	2.7		49.6	0.3
LOS	D	C		E	B	A		D	A		D	A
Approach Delay		31.0			28.6			4.5			24.9	
Approach LOS		C			C			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 91.3			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 26.6		Intersection LOS: C	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



APPENDIX F

Trip Distribution Percentages and Volumes

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	400	Dwelling Units	3,776	74	222	296	249	147	396
Multifamily Housing (Low-Rise)	220	285	Dwelling Units	2,144	30	101	131	101	59	160
Public Park	411	4	Acres	91	0	0	0	13	10	23
Shopping Center	820	30	1000 Sq. Ft. GLA	2,651	17	11	28	107	116	223
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	2,355	102	99	201	85	78	163
Subtotal				**11,017**	**223**	**433**	**656**	**555**	**410**	**965**
Pass-by Trips (Fast Food only)	49%		% Pass-by	1,154	50	49	98	42	38	80
Pass-by Trips (Shopping Center)	34%		% Pass-by	901	6	4	10	36	39	76
Total New Trips				**8,962**	**167**	**380**	**548**	**477**	**333**	**809**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between average rate and fitted curve unless R2<0.75

Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	2,355	103	98	201	85	78	163
Pass-by Trips (Fast Food only)	49%		% Pass-by	1,154	50	48	98	42	38	80
				1,201	53	50	103	43	40	83

Shopping Center	820	30	1000 Sq. Ft. GLA	2,651	17	11	28	107	116	223
Pass-by Trips (Shopping Center Only))	34%		% Pass-by	901	6	4	10	36	39	76
				1,750	11	7	18	71	77	147

LEGEND	
—	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
→	Turning Movement
XX%(XX%)	AM (PM) Entering Percentage of Site Trips
XX%(XX%)	AM (PM) Exiting Percentage of Site Trips
STOP	Future Stop Controlled Approach

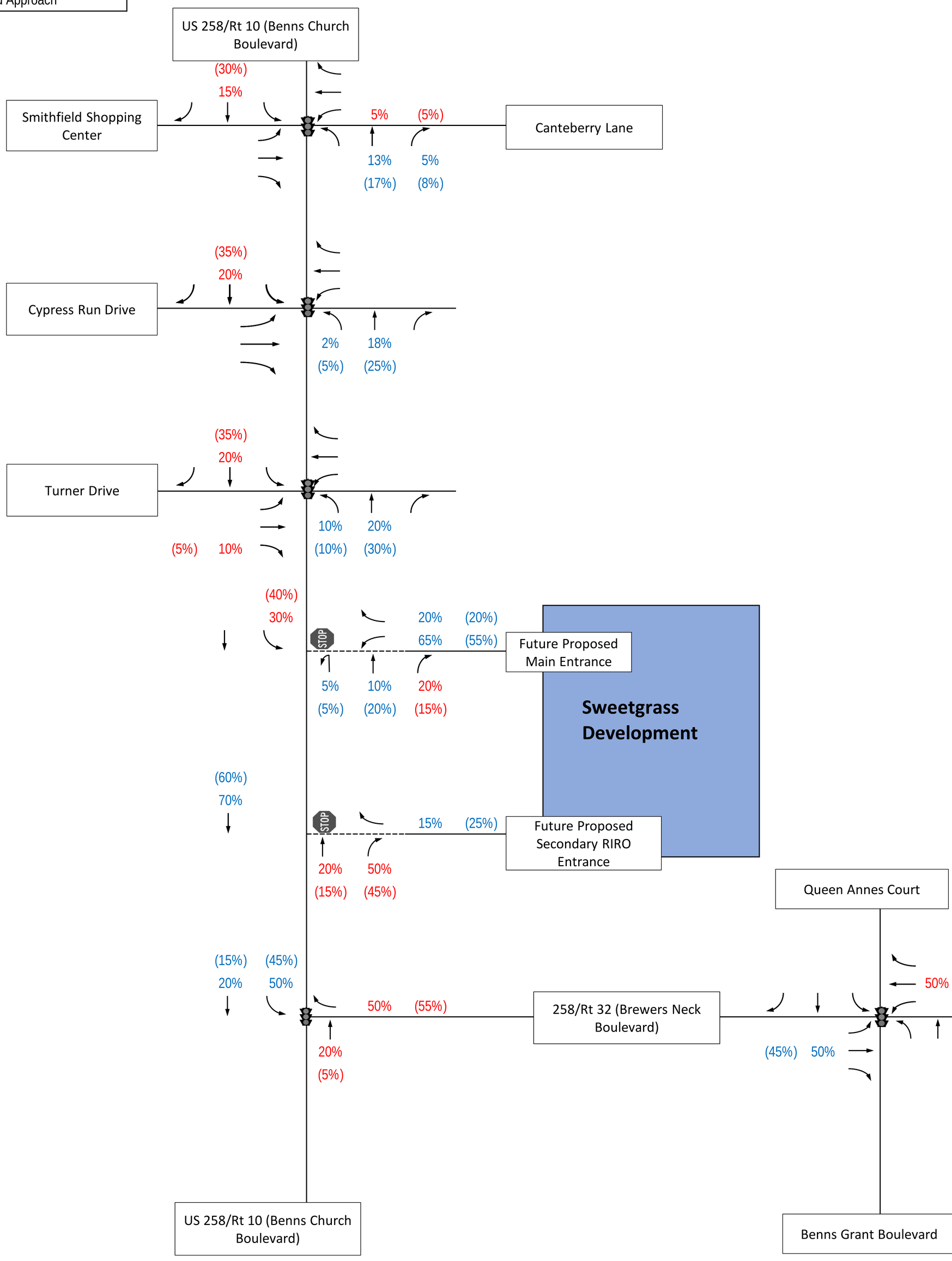


Figure F-1
Single-Family Detached Housing AM and PM Peak Hour Directional Distribution Percentages

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- - -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

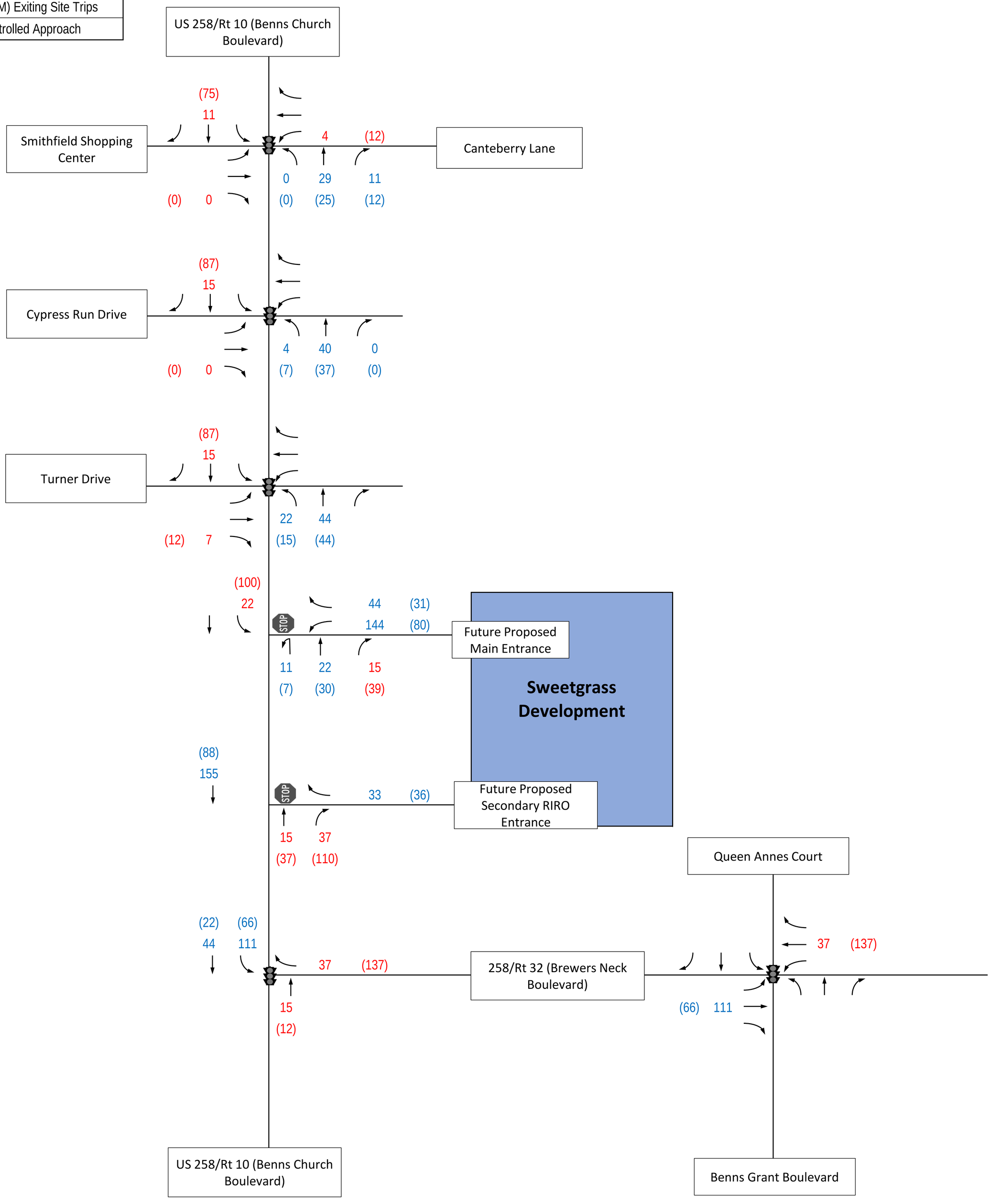


Figure F-2
Single-Family Detached Housing AM and PM Peak Hour Site Trips

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX%(XX%)	AM (PM) Entering Percentage of Site Trips
XX%(XX%)	AM (PM) Exiting Percentage of Site Trips
STOP	Future Stop Controlled Approach

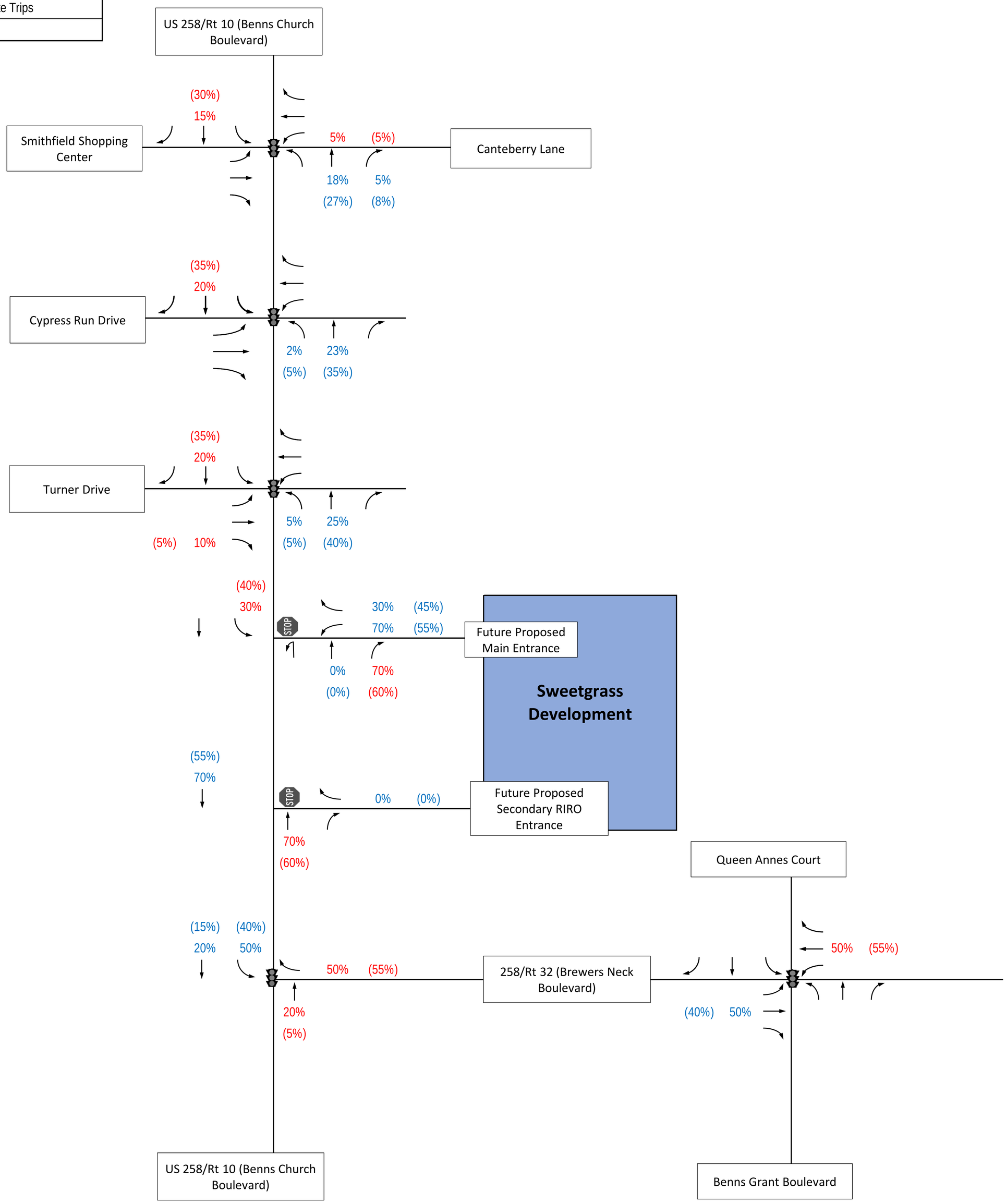


Figure F-3
Multifamily Housing (Low-Rise) AM and PM Peak Hour Directional Distribution Percentages

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- - -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
——►	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

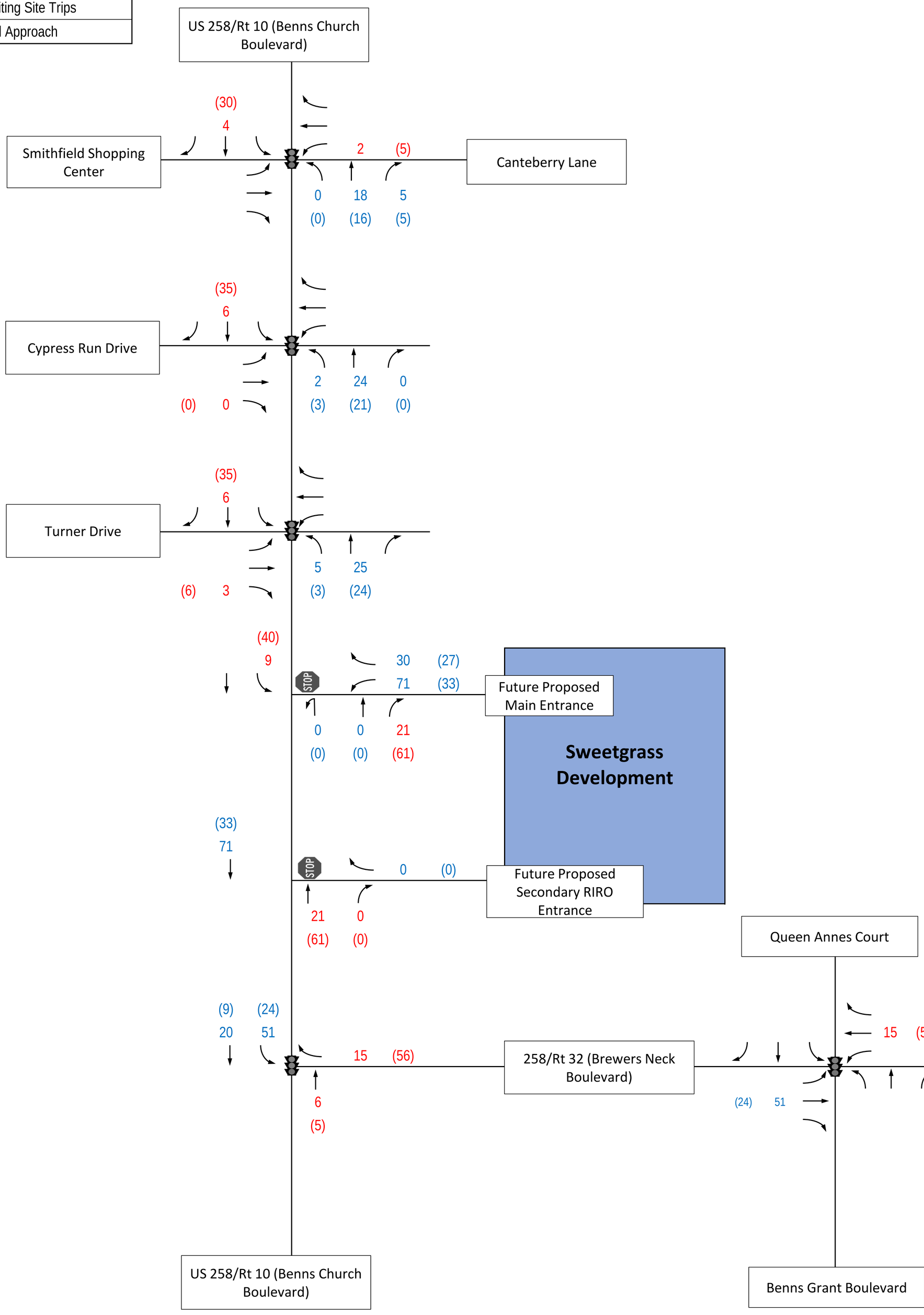


Figure F-4
Multifamily Housing (Low-Rise) AM and PM Peak Hour Site Trips

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX%(XX%)	AM (PM) Entering Percentage of Site Trips
XX%(XX%)	AM (PM) Exiting Percentage of Site Trips
STOP	Future Stop Controlled Approach

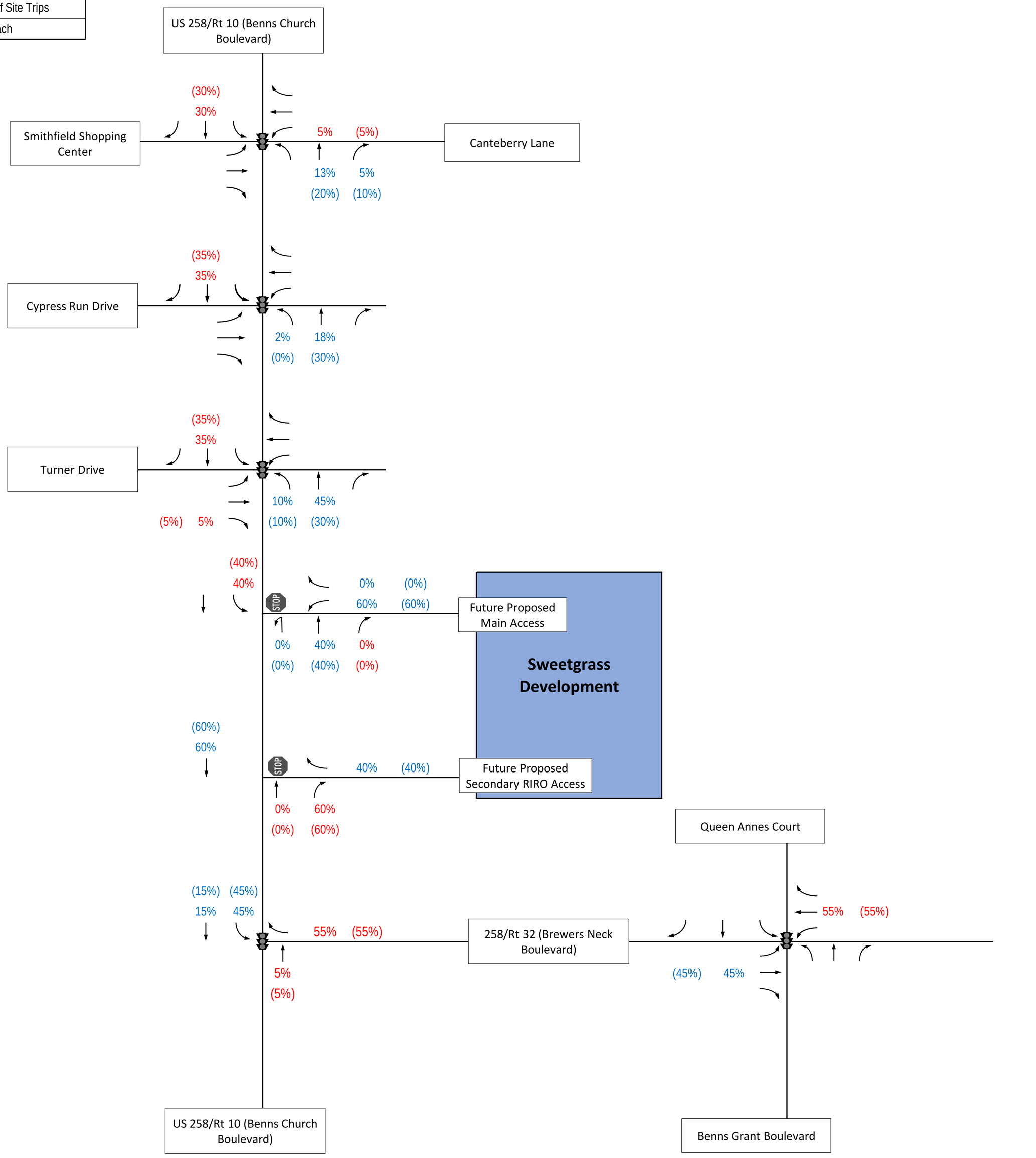


Figure F-5
Public Park AM and PM Peak Hour Directional Distribution Percentages

Sweetgrass,
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- - -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
——►	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

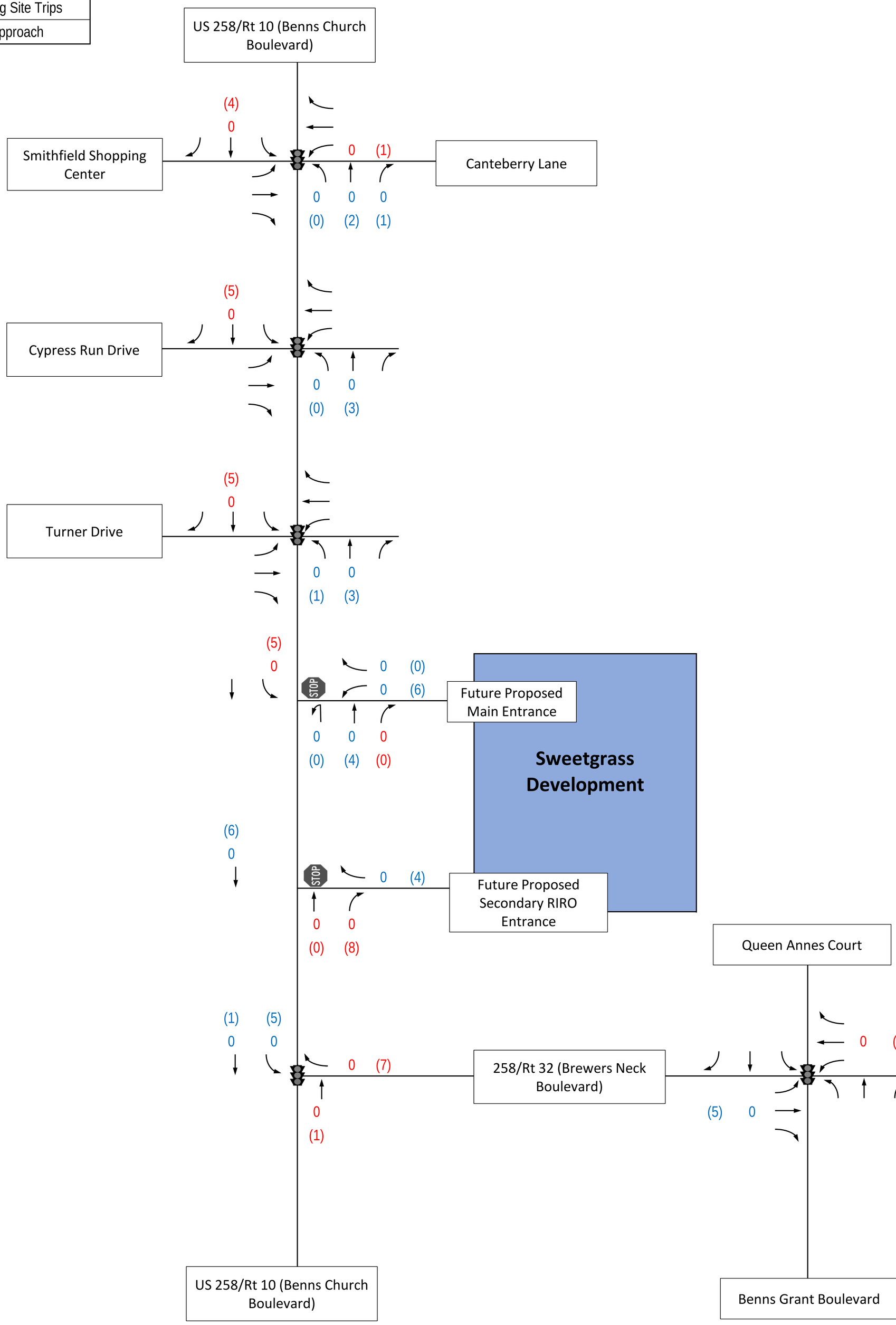


Figure F-6
Public Park AM and PM Peak Hour Site Trips

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX%(XX%)	AM (PM) Entering Percentage of Site Trips
XX%(XX%)	AM (PM) Exiting Percentage of Site Trips
STOP	Future Stop Controlled Approach

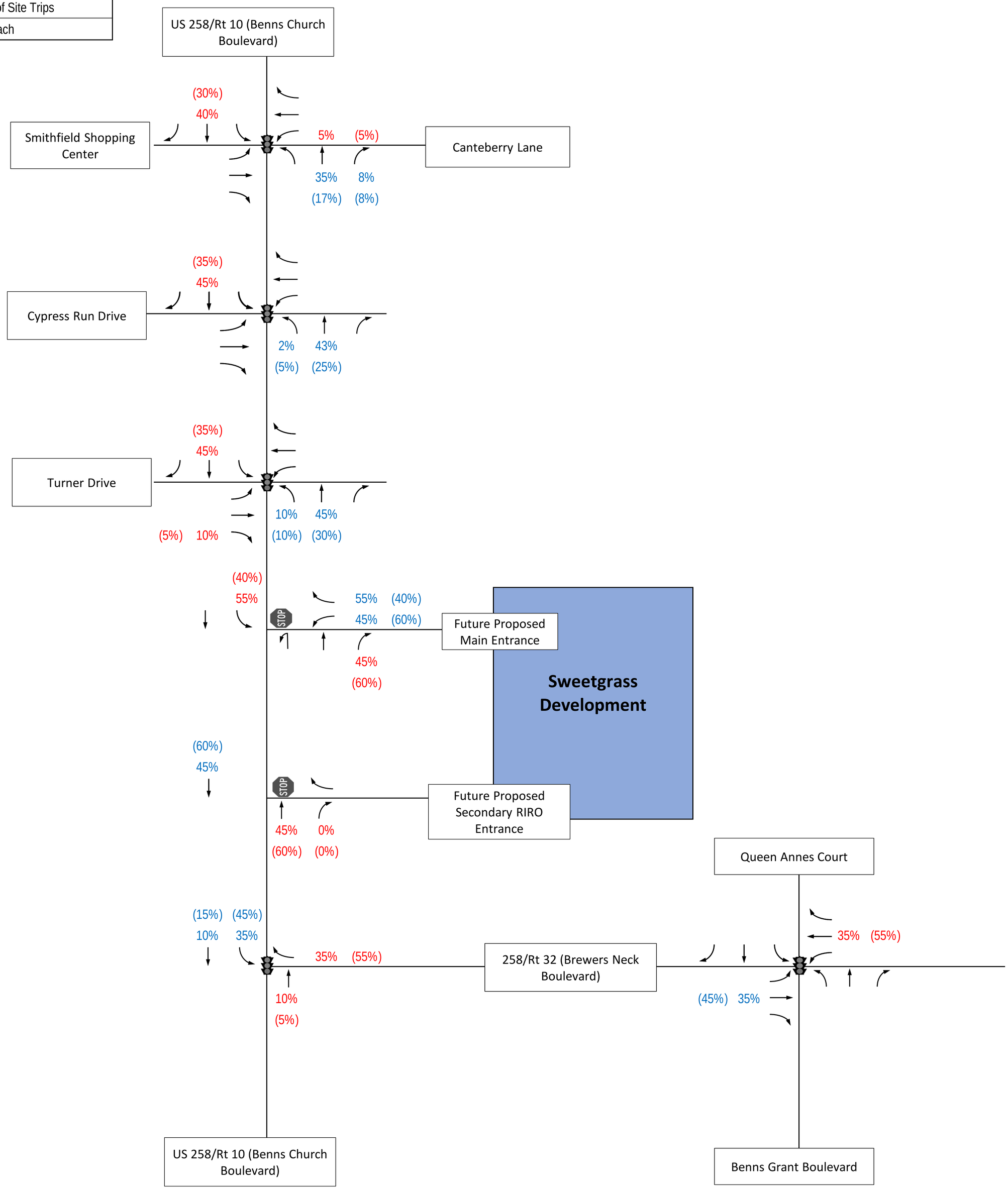


Figure F-7
Shopping Center AM and PM Peak Hour Directional Distribution Percentages

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

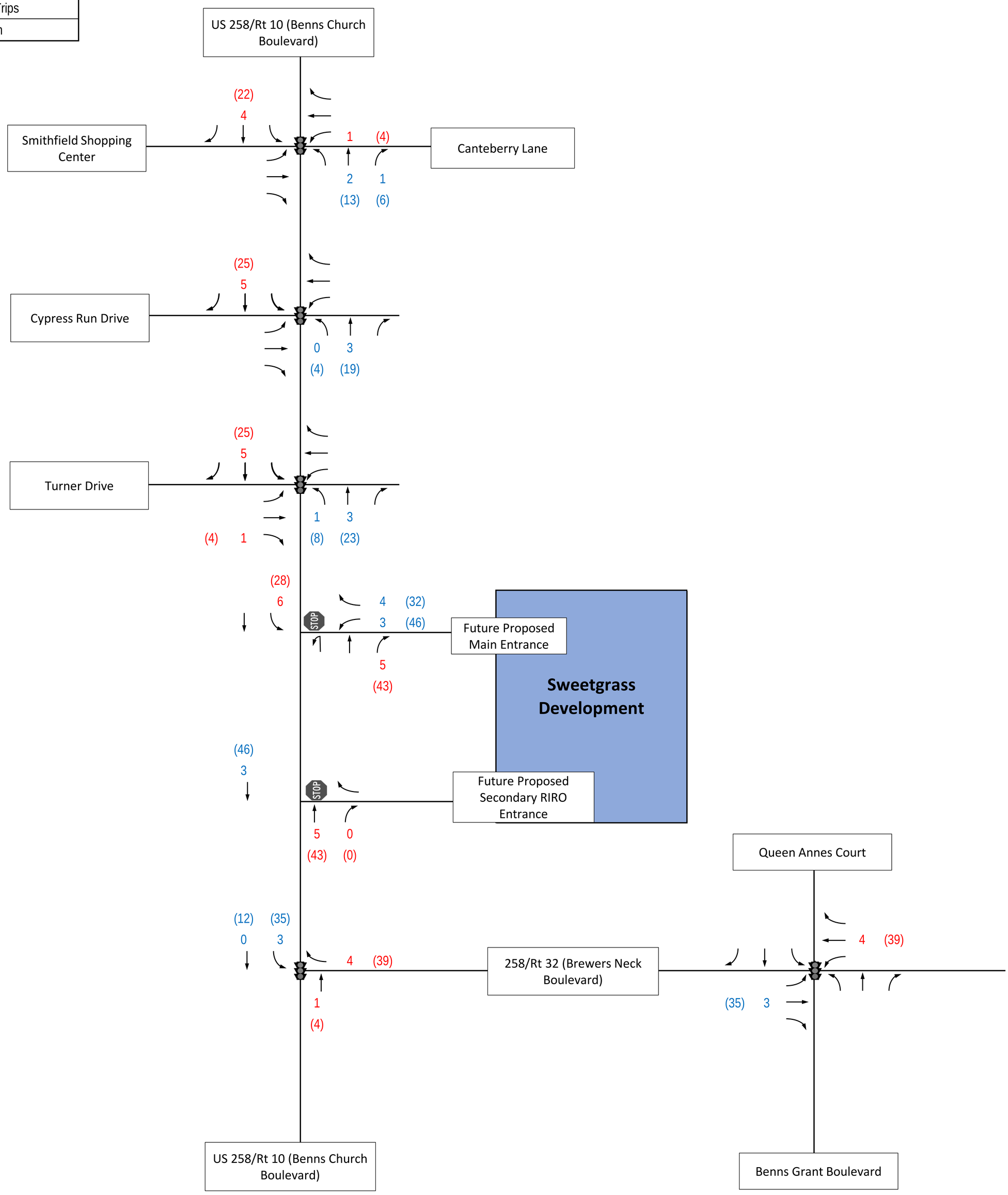


Figure F-8
Shopping Center AM and PM Peak Hour Site Trips

Sweetgrass,
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
– –	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX%(XX%)	AM (PM) Entering Percentage of Site Trips
XX%(XX%)	AM (PM) Exiting Percentage of Site Trips
STOP	Future Stop Controlled Approach

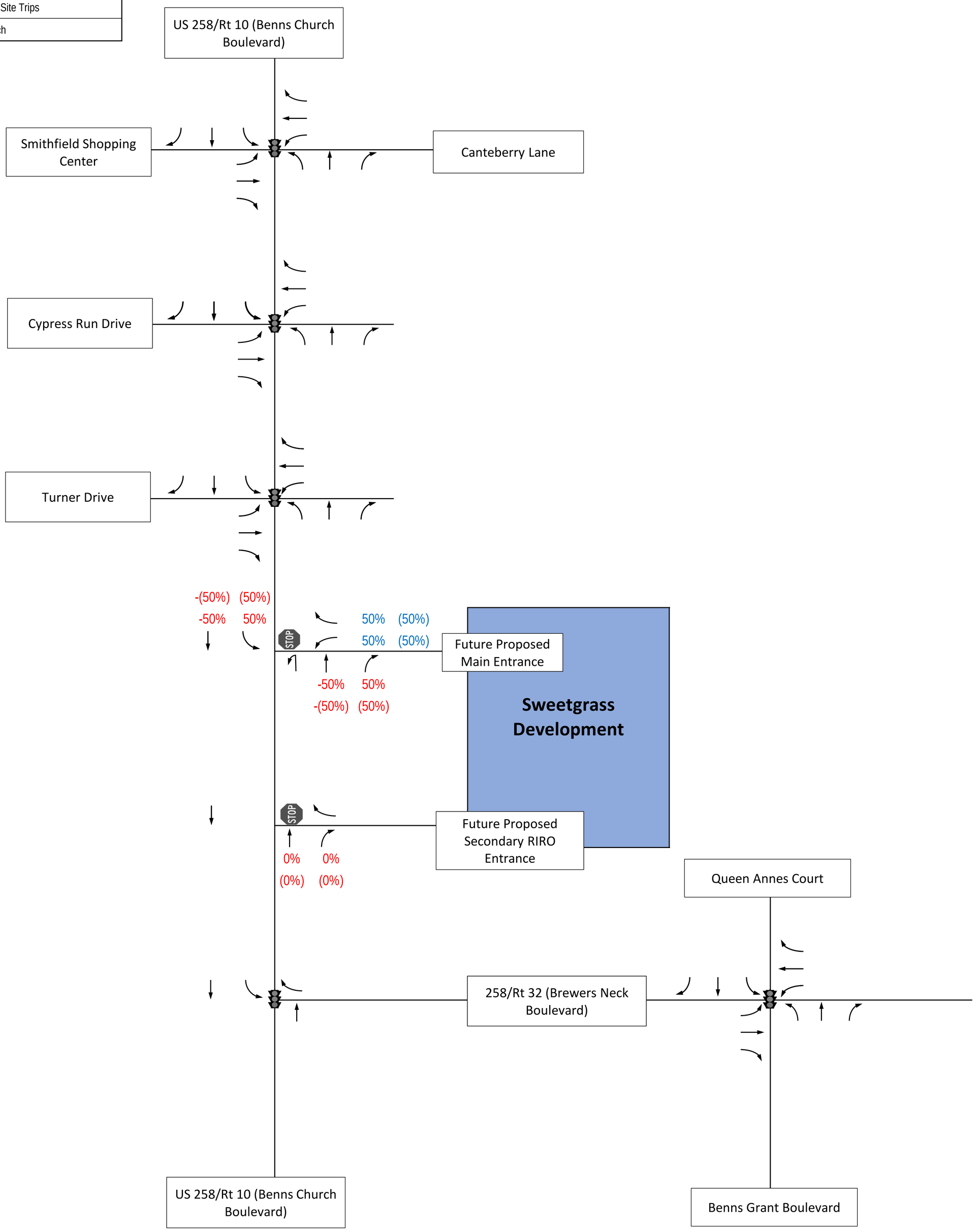


Figure F-9
Shopping Center Pass-by AM and PM Peak Hour Directional Distribution Percentages

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- - -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

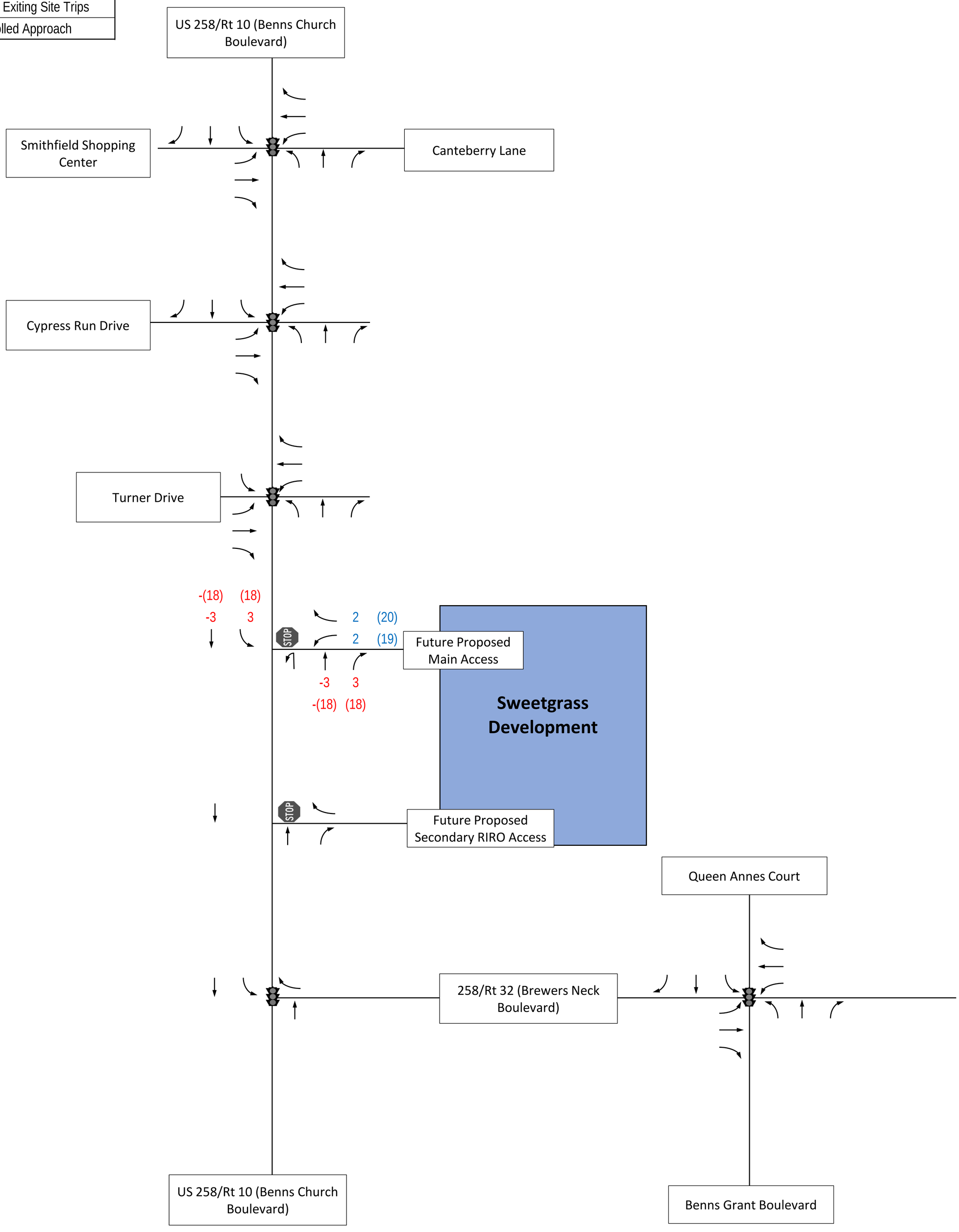


Figure F-10
Shopping Center AM and PM Peak Hour Pass-by Trips

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX%(XX%)	AM (PM) Entering Percentage of Site Trips
XX%(XX%)	AM (PM) Exiting Percentage of Site Trips
STOP	Future Stop Controlled Approach

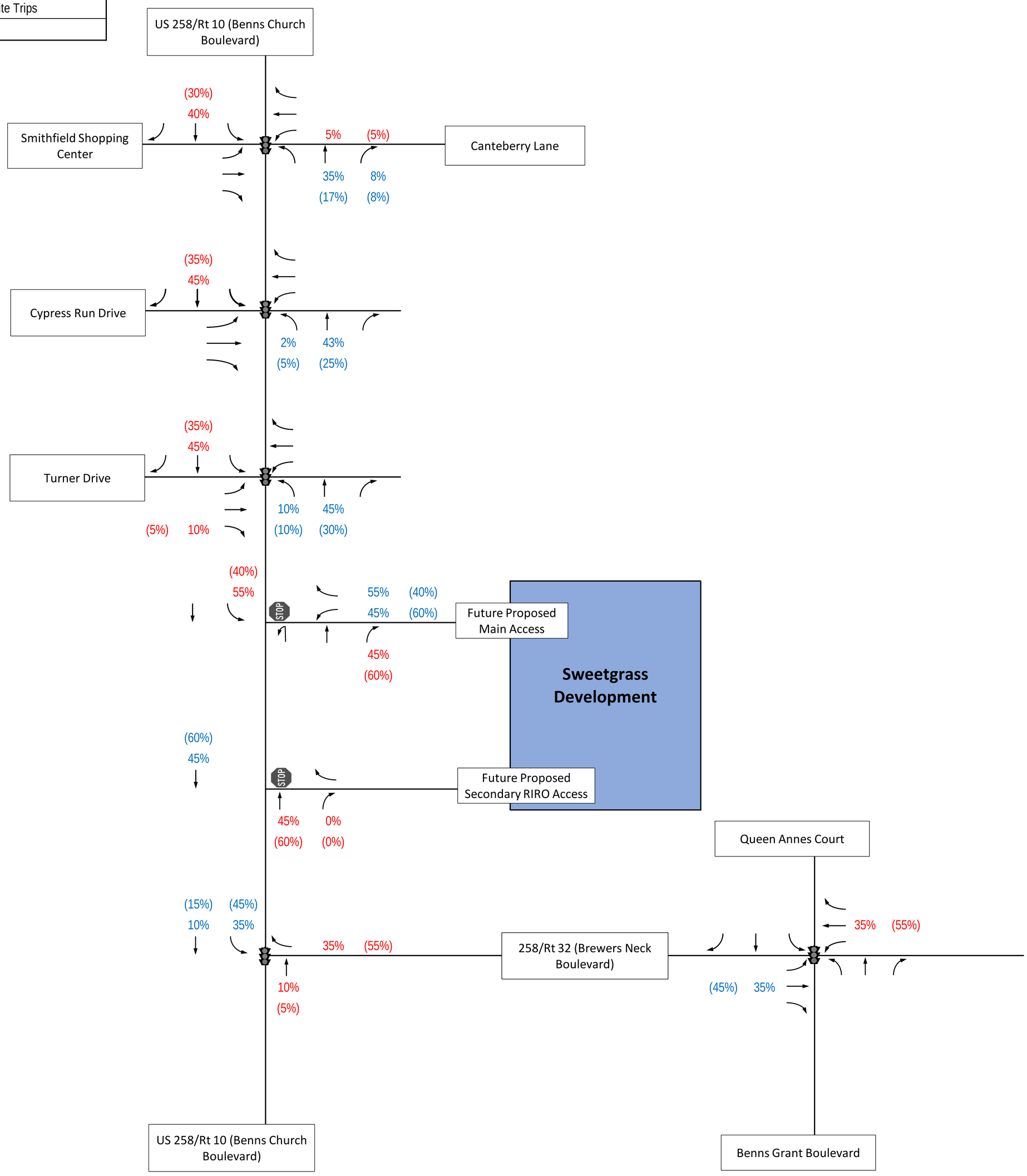


Figure F-11
Fast Food AM and PM Peak Hour Directional Distribution Percentages

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

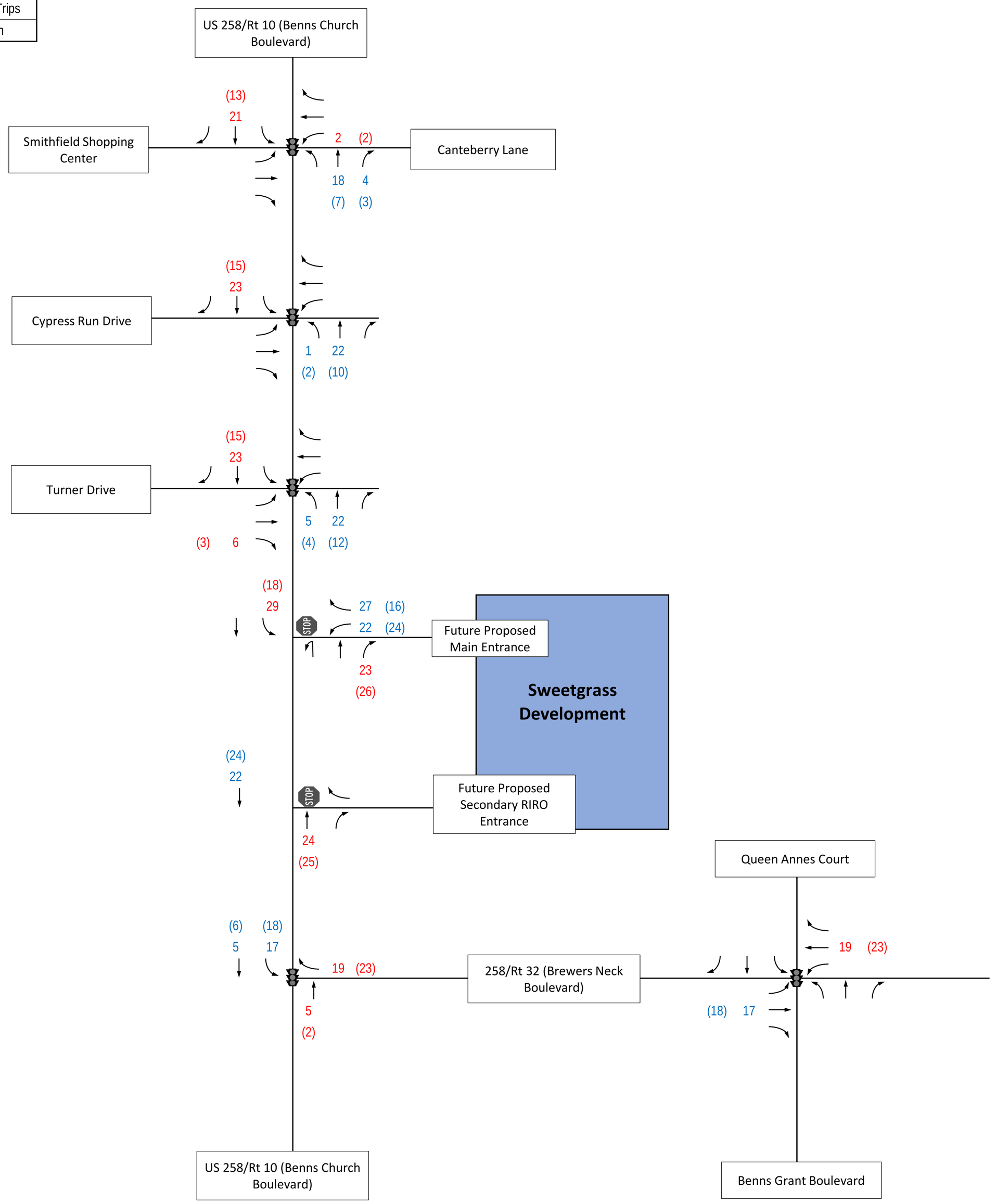


Figure F-12
Fast Food AM and PM Peak Hour New Site Trips

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
– –	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX%(XX%)	AM (PM) Entering Percentage of Site Trips
XX%(XX%)	AM (PM) Exiting Percentage of Site Trips
STOP	Future Stop Controlled Approach

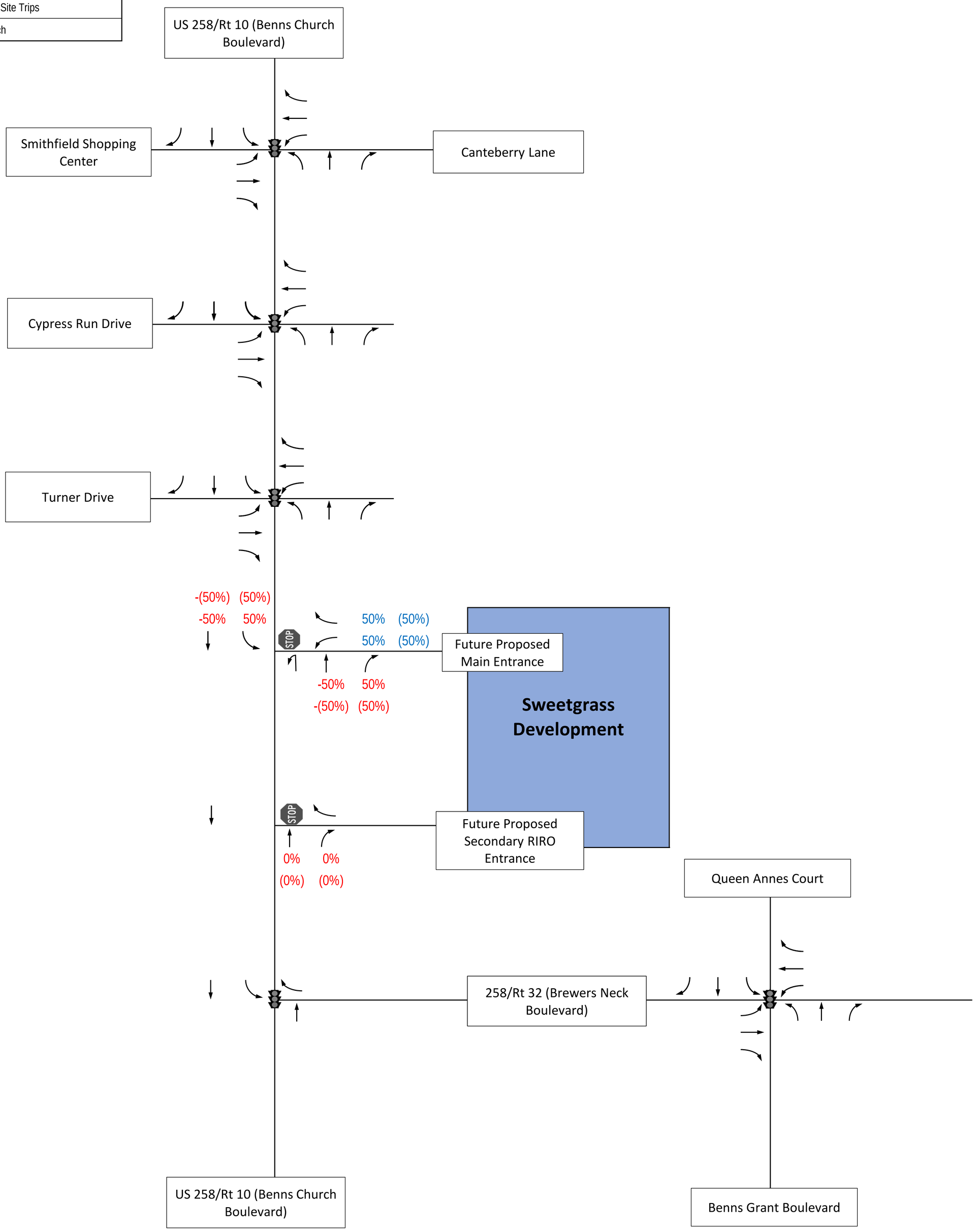


Figure F-15
Fast Food AM and PM Peak Hour Pass-by Directional Distribution Percentages

Sweetgrass
Isle of Wight County, VA

LEGEND	
——	Existing Roadway
- - -	Future Roadway
STOP	Existing Stop Controlled Approach
	Existing Signalized Intersection
⟶	Turning Movement
XX(XX)	Weekday AM (PM) Entering Site Trips
XX(XX)	Weekday AM (PM) Exiting Site Trips
STOP	Future Stop Controlled Approach

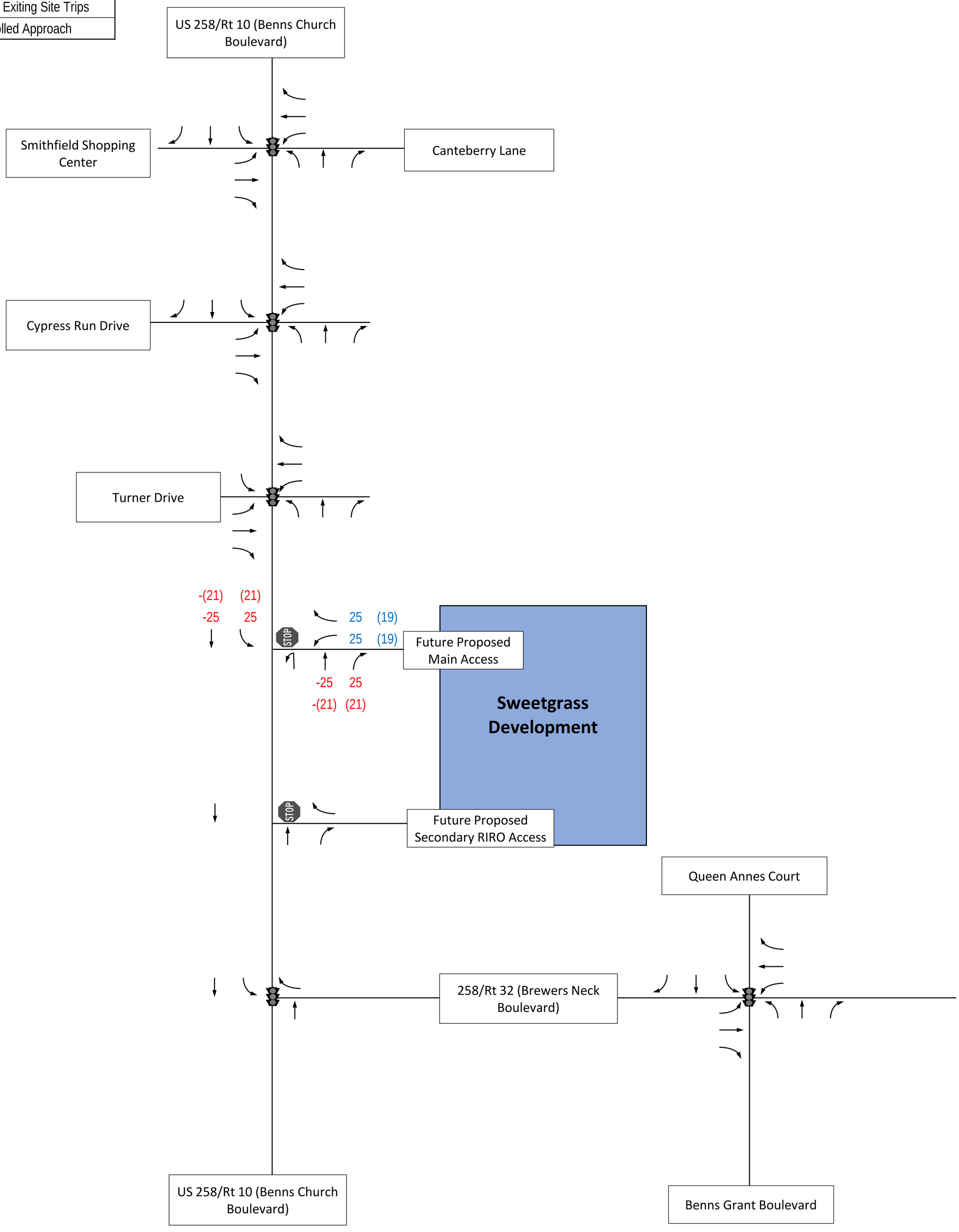


Figure F-16
Fast Food AM and PM Peak Hour Pass-by Trips

Sweetgrass
Isle of Wight County, VA

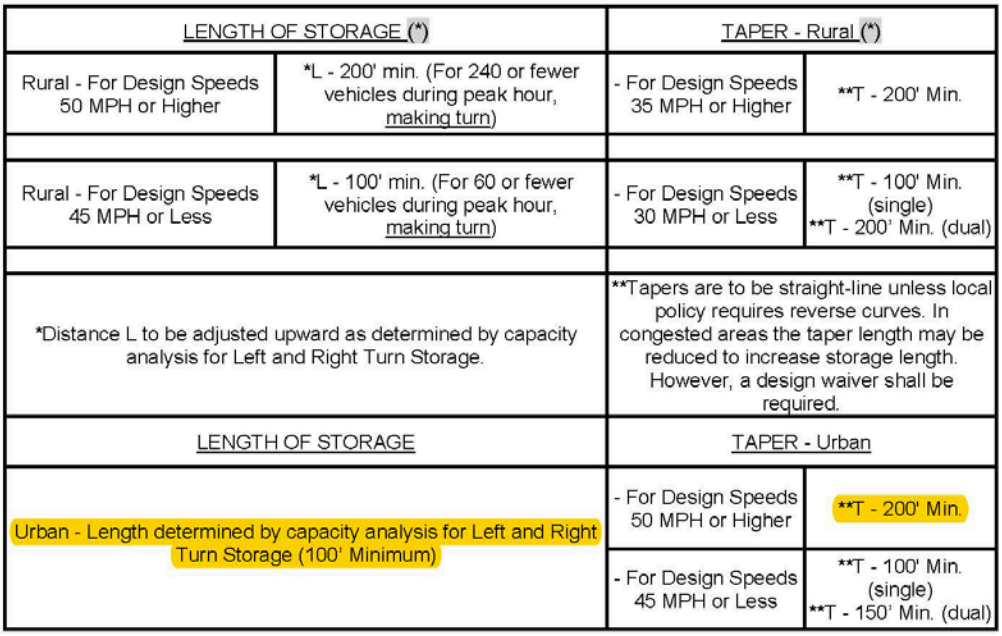
APPENDIX G

Turn Lane Warrant Analysis

Turn Lanes Warrant Analysis

Based on Figure 3-1 from Appendix F of VDOT Road Design Manual, provided below on Figure 1, both proposed entrances into development require right turn lanes. Based on the requirements shown in figure one, along with a capacity analysis, a 200-foot right turn lane with 200-foot storage is recommended at the Proposed Main Entrance and a right turn lane with 200-foot foot storage with a 200-foot taper is recommended at the Proposed Secondary Entrance.

Figure 1. Turn Lane Criteria for Single and Dual Lanes.



LENGTH OF STORAGE (*)		TAPER - Rural (*)	
Rural - For Design Speeds 50 MPH or Higher	*L - 200' min. (For 240 or fewer vehicles during peak hour, making turn)	- For Design Speeds 35 MPH or Higher	**T - 200' Min.
Rural - For Design Speeds 45 MPH or Less	*L - 100' min. (For 60 or fewer vehicles during peak hour, making turn)	- For Design Speeds 30 MPH or Less	**T - 100' Min. (single) **T - 200' Min. (dual)
*Distance L to be adjusted upward as determined by capacity analysis for Left and Right Turn Storage.		**Tapers are to be straight-line unless local policy requires reverse curves. In congested areas the taper length may be reduced to increase storage length. However, a design waiver shall be required.	
LENGTH OF STORAGE		TAPER - Urban	
Urban - Length determined by capacity analysis for Left and Right Turn Storage (100' Minimum)		- For Design Speeds 50 MPH or Higher	**T - 200' Min.
		- For Design Speeds 45 MPH or Less	**T - 100' Min. (single) **T - 150' Min. (dual)

(*) For instructions on selection of design speed, see Appendix A, Section A-1*

FIGURE 3-1 RIGHT AND LEFT TURN LANE CRITERIA FOR SINGLE AND DUAL LANES

Based on the projected volumes in year 2026 at full build-out, the projected peak hour volume right turns and approach totals at both entrances are presented below:

Entrance	Peak Hour Volume Right Turns, Vehicles per Hour	Peak Hour Volume Approach Total, Vehicles per Hour
Proposed Main Entrance	208	1724
Proposed Secondary Entrance	116	1797

Blue dots on Figure 2 below reflect where the points fall on the graph based on volumes calculations. Full-width right turn lane and a taper is required at both proposed entrances.

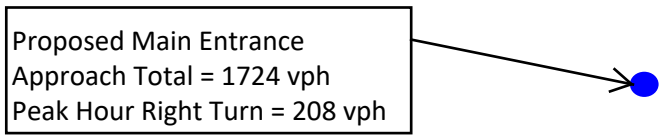
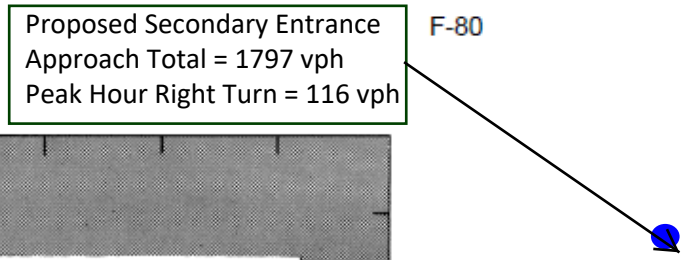
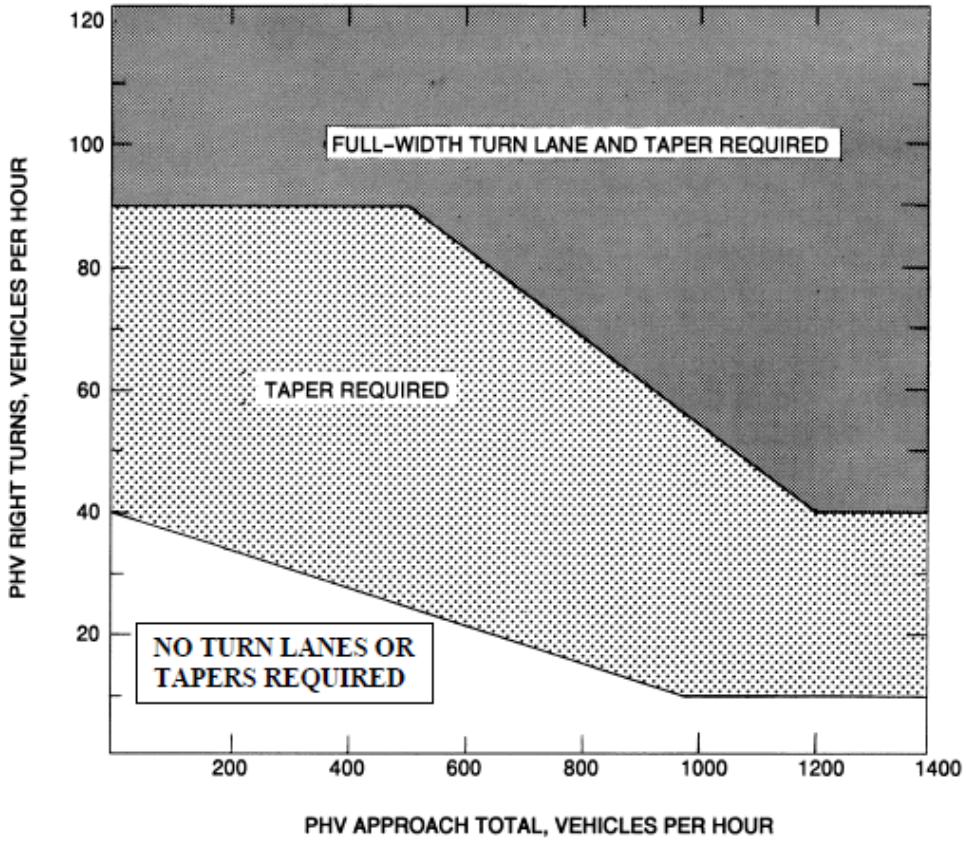


Figure 2. Warrants for Right Turn Treatment (4-Lane Highway)



F-80



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV- - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

If PHV is not known use formula: PHV = ADT x K x D

K = the percent of AADT occurring in the peak hour
D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

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

* Rev. 1/15

Based on the provided guidance on Figure 2 from Appendix F of VDOT Road Design Manual on the previous page, along with a capacity analysis, a 200-foot right turn lane with 200-foot storage is recommended at the Proposed Main Entrance and a 200-foot foot storage with a 200-foot taper is recommended at the Proposed Secondary Entrance. These right turn lane recommendations were used in the 2026 and 2032 Build analyses.

Furthermore, left turn volumes were evaluated at the proposed future main entrance based on the left turn lane storage warrant from VDOT Road Design Manual presented on Figure 1. Based on the projected queues for 2026 and 2032 Build scenarios, the existing left turn lane at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Future Proposed Main Entrance will need to be lengthened in order to facilitate the projected peak hour queues. A 200-foot left turn storage lane with 200-foot taper is recommended at this location and was assumed for AM and PM 2026 and 2032 Build scenarios in this analysis.

APPENDIX H

Signal Warrant Analysis

Traffic Signal Warrant Analysis

This report details the findings of a traffic signal warrant analysis on the US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance intersection, to determine whether a signal would be warranted for the opening day build year, 2026, of the Sweetgrass Development.

Evaluation of the need for a traffic signal at an intersection requires the examination of various factors such as traffic volumes, traffic flow and progression, and overall safety of the intersection to determine if a traffic signal would be warranted. Each of these elements is described below.

Methodology

Signal warrant analyses were performed following the procedures outlined in the 2009 edition of the Manual of Uniform Traffic Control Devices (MUTCD). Existing peak hour turning movement counts were collected at the study intersection and were used for this warrant analysis.

The traffic conditions of the intersection in the build year, 2026, were derived from a composition of existing turning movement volumes and a distribution of site trips from the Sweetgrass Development. The extent of signal warrant of the future conditions is limited by the data derived from the traffic forecast which includes only morning and evening peak hours and two additional hours, that were selected based on land uses that generate the highest traffic volumes: single-family detached housing, multifamily housing (low-rise) and fast-food restaurant.

Warrant Analysis Results

Warrant 1 – Eight Hour Vehicular Volume

Warrant 1, Eight-Hour Vehicular Volume, consists of two separate warrants; Warrant 1A-Minimum Vehicular Volume and Warrant 1B-Interruption of Continuous Traffic. The Minimum Vehicular Volume warrant is intended for use at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal. The Interruption of Continuous Traffic warrant is intended for use at locations where Warrant A is not satisfied and where the volume of traffic on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay when attempting to cross or enter the major street. Warrant 1 is intended to be used as a single warrant; if Warrant A is met and Warrant B is not met, a traffic signal is warranted. Conversely, if Warrant A is not met and Warrant B is met, a traffic signal is still warranted.

Since this is a proposed entrance, VDOT's Traffic Signal Warrant Using Average Daily Traffic Estimate for the Virginia Supplement to the MUTCD was used. The future traffic projections at the US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance intersection were developed using the daily trip generation and distribution patterns shown in the TIA. The daily trip projections and associated site traffic are shown in the following table and figure respectively. For the signal warrant, the projected site trips on US 258/Rt 10 (Benns Church Boulevard) were added to the 2017 VDOT AADT of 25,000 vpd projected to Opening Day 2026 AADT of 28,585 vpd.

Land Use	ITE Code	Size	Units	Daily		
				Enter	Exit	Total
Conceptual Site Plan						
Single-Family Detached Housing	210	400	Dwelling Units	1888	1,888	3,776
Multifamily Housing (Low-Rise)	220	220	Dwelling Units	1072	1,072	2,144
Public Park	411	4	Acres	46	45	91
Shopping Center	820	30	1000 Sq. Ft. GLA	1326	1,325	2,651
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	1177	1,178	2,355
Subtotal				**5,509**	**5,508**	**11,017**
Pass-by Trips (Fast Food only)	49%		% Pass-by	577	577	1,154
Pass-by Trips (Shopping Center)	34%		% Pass-by	451	450	901
Total New Trips				**4,481**	**4,481**	**8,962**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between average rate and fitted curve unless R2<0.75

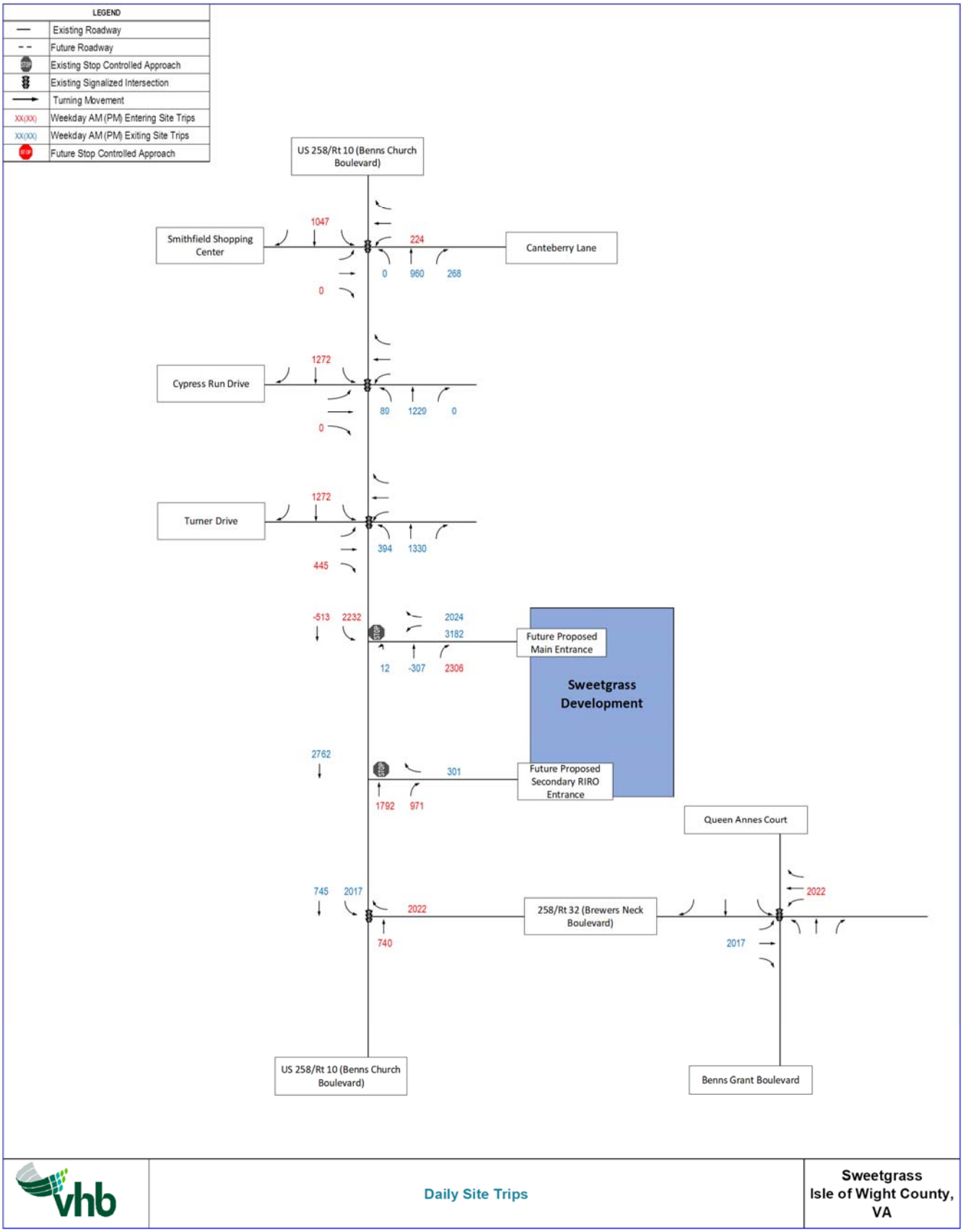

LEGEND
Existing Roadway
Future Roadway
Existing Stop Controlled Approach
Existing Signalized Intersection
Turning Movement
XX(XX) Weekday AM (PM) Entering Site Trips
XX(XX) Weekday AM (PM) Exiting Site Trips
Future Stop Controlled Approach
US 258/Rt 10 (Benns Church Boulevard)
Smithfield Shopping Center
Canteberry Lane
1047
224
0
960
268
0
Cypress Run Drive
1272
89
1229
0
0
Turner Drive
1272
394
1330
445
-513
2232
2024
3182
12
-307
2306
Future Proposed Main Entrance
Sweetgrass Development
2762
301
1792
971
Future Proposed Secondary RIRO Entrance
Queen Annes Court
745
2017
2022
2022
740
258/Rt 32 (Brewers Neck Boulevard)
2022
2017
US 258/Rt 10 (Benns Church Boulevard)
Benns Grant Boulevard
Daily Site Trips
Sweetgrass
Isle of Wight County, VA

Table 1: Future Conditions – Warrant 1 Condition A Summary

Number of Lanes		Vehicles per day on major street (total of both approaches)					Vehicles per day on minor street (total of both approaches)				
Major	Minor	100%	80%	70%	56%	Projected	100%	80%	70%	56%	Projected
2 or more	2 or more	9600	7680	6720	5376	32315	3200	2560	2240	1792	5206

Proposed signal warranted when development is: 43%

Warrant 1 is satisfied. The signal is projected to be warranted when the development is 43% built out with the 70% reduction due to the speed limit along the corridor.

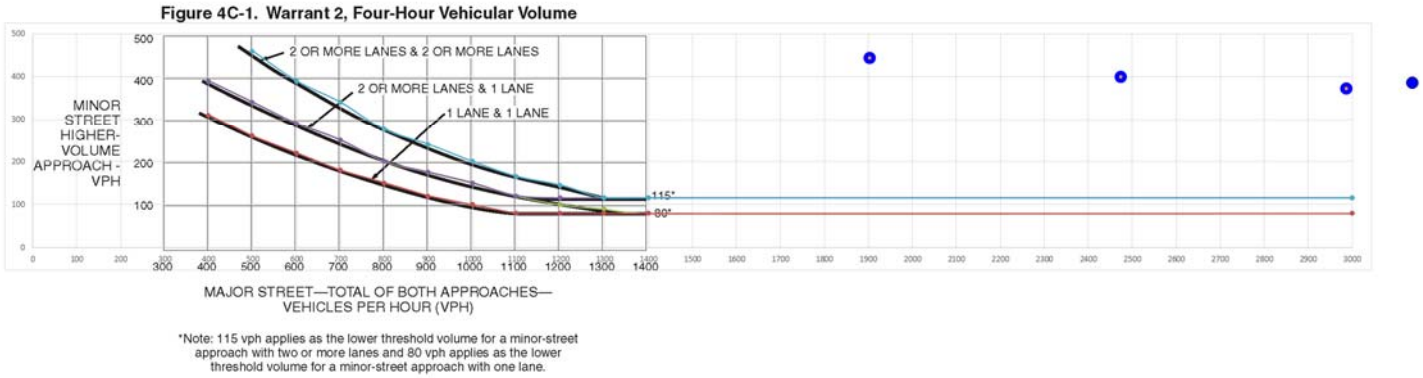
Warrant 2 – Four Hour Vehicular Volume

Warrant 2, Four-Hour Vehicular Volume, is intended for use at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal. A traffic signal is warranted based on Warrant 2 if "the plotted points representing the vehicles per hour on the major street and the minor street fall above the applicable curve."

Considering the two highest peak hours in terms of traffic volume at the study intersection the following figure shows that both, AM and PM peak hours, as well as additional two hours, would exceed the threshold of the Warrant. Based on the future land uses, it is expected that four hours would meet the minimum threshold volumes of the warrant.

Figure 1: 2026 Build Conditions Warrant 2

Time	Major Street (vph)	Minor Street (vph)
7:00 AM to 8:00 AM	2474	399
12:00 PM to 1:00 PM	1903	444
4:00 PM to 5:00 PM	3271	388
4:30 PM to 5:30 PM	2988	372



Warrant 2 is satisfied.

Warrant 3 – Peak Hour

Warrant 3, Peak Hour, "is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street." The Peak Hour warrant is met when "the plotted point representing the vehicles per hour on the major street and the minor street for one hour fall above the applicable curve" or based on the following conditions:

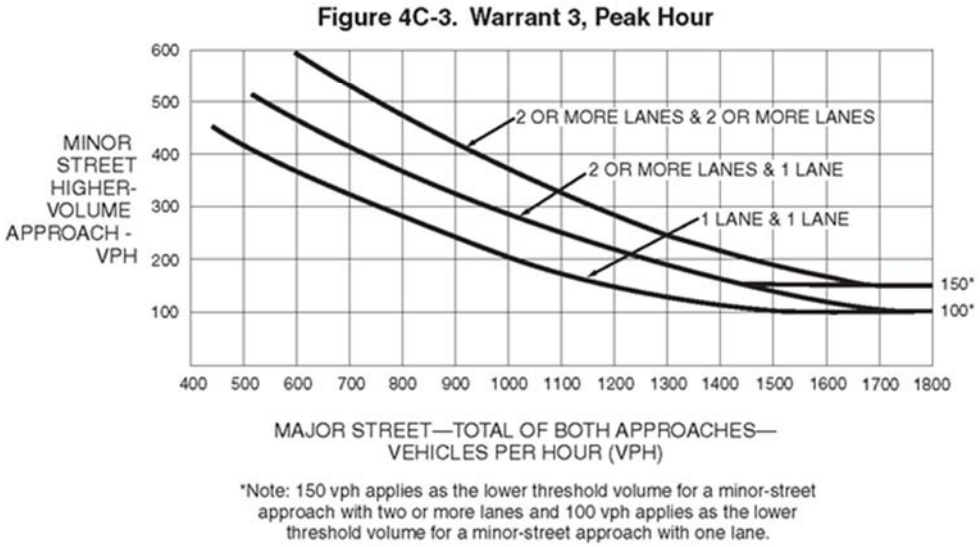
a) The total stopped time delay experienced by the traffic on one minor-street approach controlled by a stop sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and

b) The volume on the same minor-street approach equals or exceeds 100 vehicles per hour for one lane or 150 vehicles per hour for two lanes, and

c) The total entering volume during the hour meets or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

Figure 2: 2026 Build Conditions Warrant 3

Time	Major Street (vph)	Minor Street+ (vph)
7:00 AM to 8:00 AM	2474	336
4:30 PM to 8:00 AM	2988	352



As shown in Figure 2, both AM and PM peak hours fall above the curve for the geometric combination of 2 or more lanes on both the major and minor roadways.

Warrant 3 is satisfied.

Warrant 4 – Pedestrian Volume

Warrant 4, Pedestrian Volume, is intended for use at locations where the volume of traffic on the major street is so heavy that pedestrians experience significant delay or conflict when attempting to cross the major street. Warrant 4 is satisfied when "the pedestrian volume crossing the major street at an intersection during an average day is: 100 or more for each of any four hours; or 190 or more during any one hour."

Currently, there are no existing pedestrian sidewalks in the area of the study. It is not expected that the development will generate the pedestrian volumes levels required to satisfy the warrant due to the rural nature of the surrounding area.

Warrant 4 is not satisfied.

Warrant 5 – School Crossing

Warrant 5, School Crossing, is intended for use at locations “where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.” For the purposes of this warrant, the word "schoolchildren" includes elementary through high school students.

Warrant 5 is not applicable because there are no school crossings near the subject intersection.

Warrant 5 is not satisfied.

Warrant 6 – Coordinated Signal System

Warrant 6, Coordinated Signal System, is satisfied when “on a two-way street, adjacent signals do not provide the necessary degree of platooning and speed control and the proposed and adjacent signals could constitute a progressive signal system.”

A signal at Proposed Main Entrance would not help traffic platooning since the signal located at Turner Road is not coordinated.

Warrant 6 is not satisfied.

Warrant 7 – Crash Experience

Warrant 7, Crash Experience, is intended for use at locations where “the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.” A traffic signal is warranted based on Warrant 7 if the following criteria are met:

a) Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
b) Five or more reported crashes, of types susceptible to correction by a traffic signal, have occurred within a 12-month period, each crash involving personal injury or property damage exceeding the applicable requirements for a reportable crash.

Due to the lack of crash data, we were unable to evaluate the severity and frequency of crashes at the intersection.

Warrant 7 is not satisfied.

Warrant 8 – Roadway Network

Warrant 8, Roadway Network, is intended when the proposed traffic signal will encourage concentration and traffic flow organization on a given roadway network. This Warrant is intended for location where two major routes meet or where traffic volumes exceed 1000 vehicles per hour.

Warrant 8 is not applicable because the minor street is an entrance into the development and is not a major roadway.

Warrant 8 is not satisfied.

Warrant 9 – Intersection Near a Grade Crossing

Warrant 9, Intersection Near a Grade Crossing, is intended for "use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal."

Warrant 9 is not applicable.

Warrant 9 is not satisfied.

Conclusions

Warrant Analysis Conclusions

This engineering study examined traffic signal warrants at the intersection of US 257/Rt 10 (Benns Church Boulevard) and the Proposed Main entrance. The analysis showed that the traffic volume warrants (Warrants 1, 2 and 3) are met at the 70% and 100% thresholds defined by the MUTCD. The warrant is based on projected traffic volumes as well as volumes generated by the development, calculated based on available traffic data from 10th edition of ITE Trip Generation Manual.

APPENDIX I

2026 Build Synchro Reports

1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

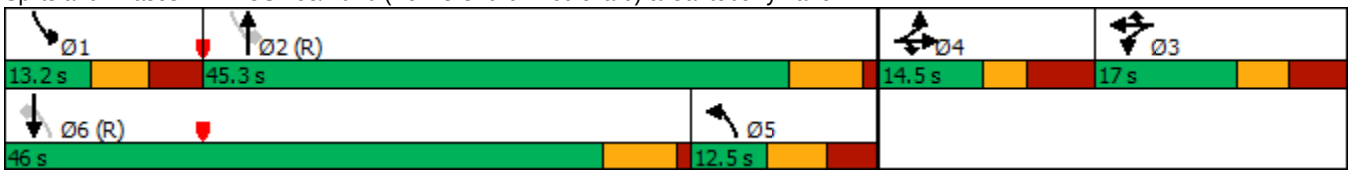
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	1	19	108	5	43	15	868	71	55	1201	36
Future Volume (vph)	26	1	19	108	5	43	15	868	71	55	1201	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Satd. Flow (prot)	0	1813	1615	0	1778	1553	1805	3539	1583	1687	3505	1615
Flt Permitted		0.954			0.954		0.120			0.223		
Satd. Flow (perm)	0	1813	1615	0	1778	1553	228	3539	1583	396	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			309			309			236			236
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	7%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	21	0	122	47	16	943	77	60	1305	39
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	14.5	14.5	14.5	17.0	17.0	17.0	12.5	45.3	45.3	13.2	46.0	46.0
Total Split (%)	16.1%	16.1%	16.1%	18.9%	18.9%	18.9%	13.9%	50.3%	50.3%	14.7%	51.1%	51.1%
Maximum Green (s)	7.0	7.0	7.0	9.5	9.5	9.5	5.0	39.3	39.3	5.7	40.0	40.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		7.0	7.0		9.1	9.1	59.5	48.3	48.3	51.2	56.2	56.2
Actuated g/C Ratio		0.08	0.08		0.10	0.10	0.66	0.54	0.54	0.57	0.62	0.62
v/c Ratio		0.21	0.05		0.69	0.11	0.07	0.50	0.08	0.20	0.60	0.04
Control Delay		42.7	0.3		59.3	0.5	6.7	11.3	0.2	10.2	14.2	0.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		42.7	0.3		59.3	0.5	6.7	11.3	0.2	10.2	14.2	0.1
LOS		D	A		E	A	A	B	A	B	B	A
Approach Delay		24.9			43.0			10.4			13.7	
Approach LOS		C			D			B			B	

1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		16	0		68	0	3	232	0	14	239	0
Queue Length 95th (ft)		43	0		#142	0	8	88	0	32	428	0
Internal Link Dist (ft)		255			1152			693			1857	
Turn Bay Length (ft)							200		350	275		325
Base Capacity (vph)		141	410		187	440	238	1900	959	308	2190	1097
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.21	0.05		0.65	0.11	0.07	0.50	0.08	0.19	0.60	0.04

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 50 (56%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.5		Intersection LOS: B	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

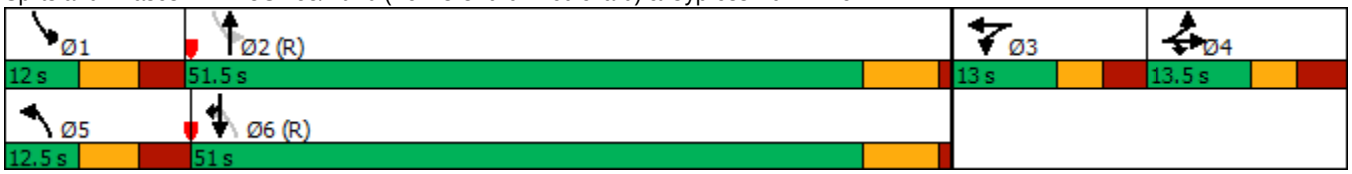


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	20	0	0	0	31	804	0	2	1459	32
Future Volume (vph)	5	0	20	0	0	0	31	804	0	2	1459	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Satd. Flow (prot)	0	1787	1599	0	1900	0	1805	3539	0	1805	3505	1615
Flt Permitted		0.950					0.118			0.315		
Satd. Flow (perm)	0	1787	1599	0	1900	0	224	3539	0	598	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194									200
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	22	0	0	0	34	874	0	2	1586	35
Turn Type	Split	NA	Prot				D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	51.5		12.0	51.0	51.0
Total Split (%)	15.0%	15.0%	15.0%	14.4%	14.4%		13.9%	57.2%		13.3%	56.7%	56.7%
Maximum Green (s)	7.0	7.0	7.0	7.0	7.0		5.0	45.5		5.0	45.0	45.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		7.0	7.0				72.6	79.8		76.2	73.5	73.5
Actuated g/C Ratio		0.08	0.08				0.81	0.89		0.85	0.82	0.82
v/c Ratio		0.04	0.07				0.13	0.28		0.00	0.55	0.03
Control Delay		39.2	0.5				2.8	1.9		0.5	2.0	0.0
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Delay		39.2	0.5				2.8	1.9		0.5	2.0	0.0
LOS		D	A				A	A		A	A	A
Approach Delay		7.6						1.9			1.9	
Approach LOS		A						A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		3	0				1	0		0	9	0
Queue Length 95th (ft)		14	0				m7	m47		m0	63	m0
Internal Link Dist (ft)		1825			1371			1906			693	
Turn Bay Length (ft)							250			150		235
Base Capacity (vph)		138	303				268	3138		573	2862	1355
Starvation Cap Reductn		0	0				0	0		0	0	0
Spillback Cap Reductn		0	0				0	0		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		0.04	0.07				0.13	0.28		0.00	0.55	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 2.0		Intersection LOS: A	
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive



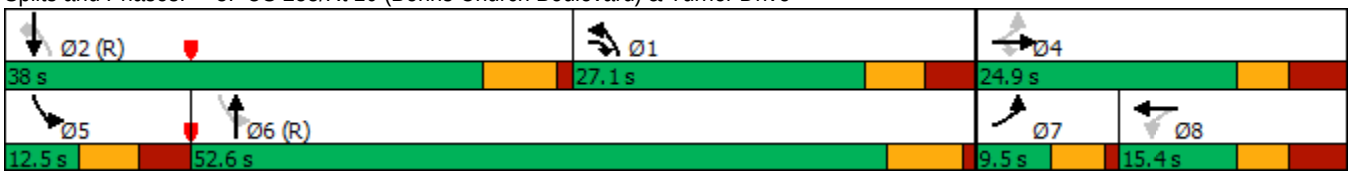
3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	1	302	1	72	1	276	725	70	7	993	324
Future Volume (vph)	193	1	302	1	72	1	276	725	70	7	993	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	125		0	125		275
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	200			25			100			100		
Satd. Flow (prot)	0	1793	1599	0	1894	0	1687	3499	0	1805	3505	1482
Flt Permitted		0.669			0.995		0.138			0.281		
Satd. Flow (perm)	0	1259	1599	0	1887	0	245	3499	0	534	3505	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127		1			17				352
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1499			695			1153			1986	
Travel Time (s)		25.6			19.0			17.5			30.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	7%	2%	0%	0%	3%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	211	328	0	80	0	300	864	0	8	1079	352
Turn Type	pm+pt	NA	pm+ov	Perm	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4	1		8		1	6		5	2	
Permitted Phases	4		4	8			2			6		2
Detector Phase	7	4	1	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	9.5	15.0	12.5	14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	9.5	24.9	27.1	15.4	15.4		27.1	52.6		12.5	38.0	38.0
Total Split (%)	10.6%	27.7%	30.1%	17.1%	17.1%		30.1%	58.4%		13.9%	42.2%	42.2%
Maximum Green (s)	5.0	17.4	19.6	7.9	7.9		19.6	46.6		5.0	32.0	32.0
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	1.0	4.0	3.5	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0	4.0	3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.0	3.5	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	20.0	0.0	0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	0.0	10.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		17.4	41.6		15.3		50.1	56.6		56.1	34.9	34.9
Actuated g/C Ratio		0.19	0.46		0.17		0.56	0.63		0.62	0.39	0.39
v/c Ratio		0.87	0.41		0.25		0.74	0.39		0.02	0.79	0.45
Control Delay		69.3	10.5		32.7		26.8	3.7		3.7	21.0	4.3
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		69.3	10.5		32.7		26.8	3.7		3.7	21.0	4.3
LOS		E	B		C		C	A		A	C	A
Approach Delay		33.5			32.7			9.7			16.8	
Approach LOS		C			C			A			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		117	65		38		101	7		2	297	39
Queue Length 95th (ft)		#244	123		78		160	80		m2	#324	44
Internal Link Dist (ft)		1419			615			1073			1906	
Turn Bay Length (ft)			300				125			125		275
Base Capacity (vph)		243	776		325		458	2206		403	1360	790
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.87	0.42		0.25		0.66	0.39		0.02	0.79	0.45

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 10 (11%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



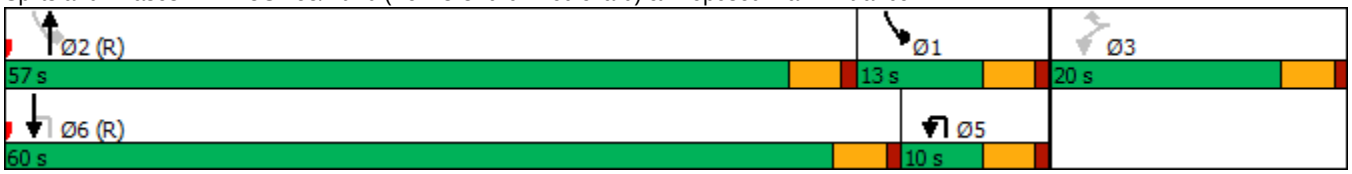


Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	267	132	16	1026	92	95	1245
Future Volume (vph)	267	132	16	1026	92	95	1245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125		300	300	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		25			200	
Satd. Flow (prot)	3502	1615	1805	3505	1615	1805	3539
Flt Permitted	0.950		0.155			0.200	
Satd. Flow (perm)	3502	1615	294	3505	1615	380	3539
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		143			100		
Link Speed (mph)	25			45			45
Link Distance (ft)	872			696			1153
Travel Time (s)	23.8			10.5			17.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	290	143	17	1115	100	103	1353
Turn Type	Perm	Perm	D.P+P	NA	Perm	D.P+P	NA
Protected Phases			5	2		1	6
Permitted Phases	3	3	6		2	2	
Detector Phase	3	3	5	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	20.0	20.0	10.0	57.0	57.0	13.0	60.0
Total Split (%)	22.2%	22.2%	11.1%	63.3%	63.3%	14.4%	66.7%
Maximum Green (s)	15.5	15.5	5.5	52.5	52.5	8.5	55.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min
Walk Time (s)				7.0	7.0		7.0
Flash Dont Walk (s)				11.0	11.0		11.0
Pedestrian Calls (#/hr)				0	0		0
Act Effct Green (s)	12.7	12.7	67.6	58.5	58.5	65.8	64.3
Actuated g/C Ratio	0.14	0.14	0.75	0.65	0.65	0.73	0.71
v/c Ratio	0.59	0.41	0.05	0.49	0.09	0.26	0.54
Control Delay	40.9	9.8	4.1	10.3	2.2	2.9	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	9.8	4.1	10.3	2.2	2.9	3.3
LOS	D	A	A	B	A	A	A
Approach Delay	30.6			9.5			3.3
Approach LOS	C			A			A

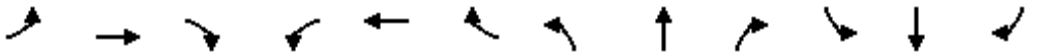
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	80	0	2	155	0	7	54
Queue Length 95th (ft)	115	49	7	261	21	m5	71
Internal Link Dist (ft)	792			616			1073
Turn Bay Length (ft)			125		300	300	
Base Capacity (vph)	608	398	313	2297	1092	428	2533
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.36	0.05	0.49	0.09	0.24	0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 12 (13%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 57.4%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance



5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)



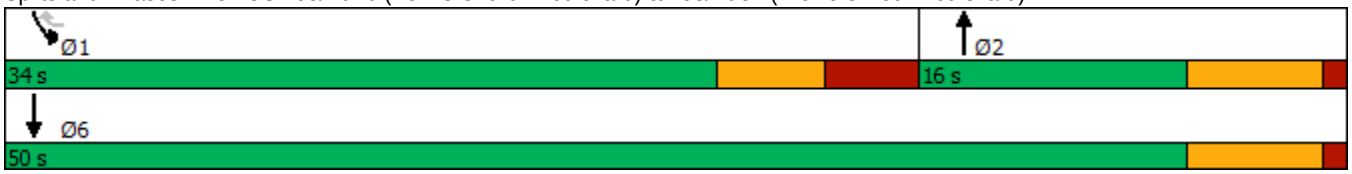
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	810	0	215	0	1192	313	0
Future Volume (vph)	0	0	0	0	0	810	0	215	0	1192	313	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Satd. Flow (prot)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						417						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3270	
Travel Time (s)		21.9			17.1			43.0			49.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	4%	0%	3%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	880	0	234	0	1296	340	0
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						34.0		16.0		34.0	50.0	
Total Split (%)						68.0%		32.0%		68.0%	100.0%	
Maximum Green (s)						26.5		10.0		26.5	44.0	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		Max		Min	Min	
Act Effct Green (s)						25.2		10.0		25.2	48.8	
Actuated g/C Ratio						0.52		0.20		0.52	1.00	
v/c Ratio						0.54		0.33		0.74	0.10	
Control Delay						5.2		18.6		12.2	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						5.2		18.6		12.2	0.1	
LOS						A		B		B	A	
Approach Delay					5.2			18.6			9.7	
Approach LOS					A			B			A	
Queue Length 50th (ft)						38		31		131	0	
Queue Length 95th (ft)						72		56		193	0	
Internal Link Dist (ft)		883			1046			2757			3190	

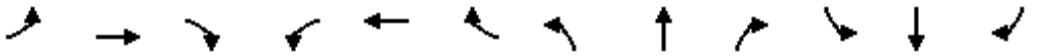
5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)										300		
Base Capacity (vph)						1693		713		1852	3471	
Starvation Cap Reductn						0		0		0	0	
Spillback Cap Reductn						0		0		0	0	
Storage Cap Reductn						0		0		0	0	
Reduced v/c Ratio						0.52		0.33		0.70	0.10	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 48.8			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1171	0	243	783	3	0	1	433	7	3	12
Future Volume (vph)	7	1171	0	243	783	3	0	1	433	7	3	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Satd. Flow (prot)	1805	3539	0	1787	3539	1380	0	1900	2787	0	1716	1380
Flt Permitted	0.950			0.950							0.965	
Satd. Flow (perm)	1805	3539	0	1787	3539	1380	0	1900	2787	0	1716	1380
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						175			471			214
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	1%	2%	17%	0%	0%	2%	0%	25%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	1273	0	264	851	3	0	1	471	0	11	13
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	19.0	57.9		30.1	69.0	69.0	26.0	26.0	30.1	26.0	26.0	26.0
Total Split (%)	13.6%	41.4%		21.5%	49.3%	49.3%	18.6%	18.6%	21.5%	18.6%	18.6%	18.6%
Maximum Green (s)	10.0	51.4		20.6	62.5	62.5	18.0	18.0	20.6	18.0	18.0	18.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.3	48.4		21.2	80.9	80.9		10.3	22.5		6.3	6.3
Actuated g/C Ratio	0.11	0.52		0.23	0.86	0.86		0.11	0.24		0.07	0.07
v/c Ratio	0.04	0.70		0.66	0.28	0.00		0.00	0.46		0.10	0.04
Control Delay	46.7	21.9		45.6	6.1	0.0		47.0	4.0		50.6	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	46.7	21.9		45.6	6.1	0.0		47.0	4.0		50.6	0.2
LOS	D	C		D	A	A		D	A		D	A
Approach Delay		22.1			15.4			4.0			23.3	
Approach LOS		C			B			A			C	
Queue Length 50th (ft)	4	222		132	0	0		1	0		6	0
Queue Length 95th (ft)	22	565		#354	271	0		7	32		28	0
Internal Link Dist (ft)		1046			766			834			543	

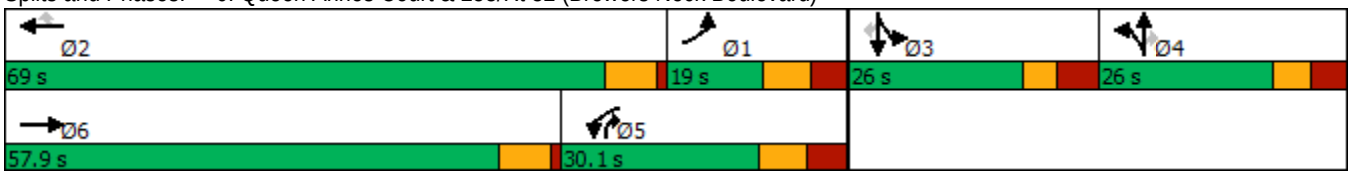
6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)	225			600		325			350			
Base Capacity (vph)	197	1993		403	3049	1213		374	1026		338	443
Starvation Cap Reductn	0	0		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.04	0.64		0.66	0.28	0.00		0.00	0.46		0.03	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 93.9			
Natural Cycle: 140			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



Intersection	
Int Delay, s/veh	0.2

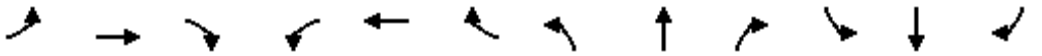
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	33	0	1101	37	0	1528	0
Future Vol, veh/h	0	0	0	0	0	33	0	1101	37	0	1528	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	300	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	36	0	1197	40	0	1661	0

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	-	-	599	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	445	0	-	-	0	-	0
Stage 1	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	-	-	0	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	445	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	445	-
HCM Lane V/C Ratio	-	-	0.081	-
HCM Control Delay (s)	-	-	13.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



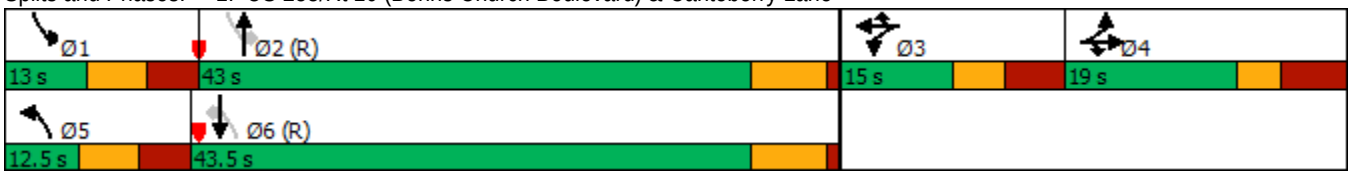
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	6	45	87	9	80	52	1312	134	133	1193	99
Future Volume (vph)	143	6	45	87	9	80	52	1312	134	133	1193	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Satd. Flow (prot)	0	1813	1615	0	1786	1553	1805	3539	1583	1687	3505	1615
Flt Permitted		0.954			0.957		0.102			0.106		
Satd. Flow (perm)	0	1813	1615	0	1786	1553	194	3539	1583	188	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218			218			236			236
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	7%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	162	49	0	105	87	57	1426	146	145	1297	108
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	19.0	19.0	19.0	15.0	15.0	15.0	12.5	43.0	43.0	13.0	43.5	43.5
Total Split (%)	21.1%	21.1%	21.1%	16.7%	16.7%	16.7%	13.9%	47.8%	47.8%	14.4%	48.3%	48.3%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		10.9	10.9		7.4	7.4	43.2	37.7	37.7	41.7	40.7	40.7
Actuated g/C Ratio		0.12	0.12		0.08	0.08	0.48	0.42	0.42	0.46	0.45	0.45
v/c Ratio		0.74	0.13		0.72	0.27	0.31	0.96	0.18	0.81	0.82	0.13
Control Delay		58.8	0.7		68.2	2.0	15.2	37.3	1.0	50.4	28.2	0.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		58.8	0.7		68.2	2.0	15.2	37.3	1.0	50.4	28.2	0.3
LOS		E	A		E	A	B	D	A	D	C	A
Approach Delay		45.3			38.2			33.3			28.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		90	0		59	0	11	418	0	39	350	0
Queue Length 95th (ft)		#178	0		#139	0	m23	#556	m3	#140	#487	0
Internal Link Dist (ft)		255			1152			693			1857	
Turn Bay Length (ft)							200		350	275		325
Base Capacity (vph)		231	396		148	329	182	1480	799	178	1583	858

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.70	0.12		0.71	0.26	0.31	0.96	0.18	0.81	0.82	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 55 (61%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 76.0%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



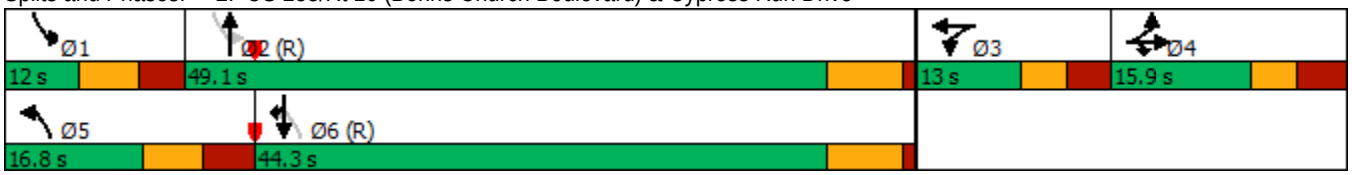
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	0	83	0	0	1	172	1381	0	0	1188	134
Future Volume (vph)	116	0	83	0	0	1	172	1381	0	0	1188	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Satd. Flow (prot)	0	1787	1599	0	1644	0	1805	3539	0	1900	3505	1615
Flt Permitted		0.950					0.114					
Satd. Flow (perm)	0	1787	1599	0	1644	0	217	3539	0	1900	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194		200							200
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	90	0	1	0	187	1501	0	0	1291	146
Turn Type	Split	NA	Prot		NA		D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	15.9	15.9	15.9	13.0	13.0		16.8	49.1		12.0	44.3	44.3
Total Split (%)	17.7%	17.7%	17.7%	14.4%	14.4%		18.7%	54.6%		13.3%	49.2%	49.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		9.0	9.0		7.0		56.9	65.9			50.0	50.0
Actuated g/C Ratio		0.10	0.10		0.08		0.63	0.73			0.56	0.56
v/c Ratio		0.71	0.27		0.00		0.66	0.58			0.66	0.15
Control Delay		61.3	2.0		0.0		24.1	7.6			5.6	0.2
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		61.3	2.0		0.0		24.1	7.6			5.6	0.2
LOS		E	A		A		C	A			A	A
Approach Delay		36.6						9.4			5.1	
Approach LOS		D						A			A	
Queue Length 50th (ft)		70	0		0		25	152			33	0
Queue Length 95th (ft)		#150	0		0		#134	351			#44	m0
Internal Link Dist (ft)		1825			1371			1906			693	
Turn Bay Length (ft)							250					235
Base Capacity (vph)		186	340		312		303	2590			1947	986

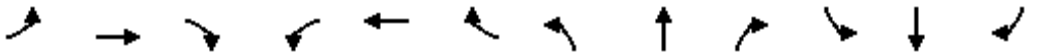
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0		0		0	0			0	0
Spillback Cap Reductn		0	0		0		0	0			0	0
Storage Cap Reductn		0	0		0		0	0			0	0
Reduced v/c Ratio		0.68	0.26		0.00		0.62	0.58			0.66	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 68 (76%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 72.1%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive



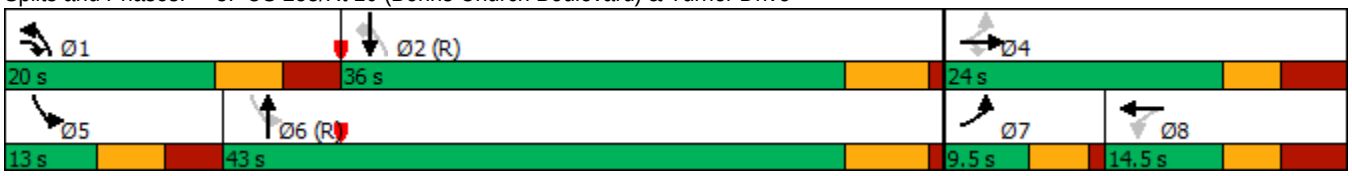


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	0	122	0	1	2	203	1453	1	33	1154	126
Future Volume (vph)	86	0	122	0	1	2	203	1453	1	33	1154	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	125		0	125		275
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	200			25			100			100		
Satd. Flow (prot)	0	1787	1599	0	1729	0	1687	3539	0	1805	3505	1482
Flt Permitted		0.756					0.111			0.092		
Satd. Flow (perm)	0	1422	1599	0	1729	0	197	3539	0	175	3505	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41		2							225
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1499			695			1153			1986	
Travel Time (s)		25.6			19.0			17.5			30.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	7%	2%	0%	0%	3%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	133	0	3	0	221	1580	0	36	1254	137
Turn Type	pm+pt	NA	pm+ov		NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4	1		8		1	6		5	2	
Permitted Phases	4		4	8			2			6		2
Detector Phase	7	4	1	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	9.5	14.5	12.5	14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	9.5	24.0	20.0	14.5	14.5		20.0	43.0		13.0	36.0	36.0
Total Split (%)	11.9%	30.0%	25.0%	18.1%	18.1%		25.0%	53.8%		16.3%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	1.0	4.0	3.5	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag	Lead		Lead	Lag	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		13.9	29.1		8.9		46.8	49.3		49.8	37.4	37.4
Actuated g/C Ratio		0.17	0.36		0.11		0.58	0.62		0.62	0.47	0.47
v/c Ratio		0.38	0.22		0.02		0.69	0.73		0.17	0.77	0.17
Control Delay		32.8	10.3		22.7		28.8	19.1		8.5	25.3	0.7
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		32.8	10.3		22.7		28.8	19.1		8.5	25.3	0.7
LOS		C	B		C		C	B		A	C	A
Approach Delay		19.6			22.7			20.3			22.5	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)		40	26		1		62	371		6	306	0
Queue Length 95th (ft)		82	57		7		#152	#555		17	#457	4
Internal Link Dist (ft)		1419			615			1073			1906	
Turn Bay Length (ft)			300				125			125		275
Base Capacity (vph)		293	639		194		351	2179		220	1637	812

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.32	0.21		0.02		0.63	0.73		0.16	0.77	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



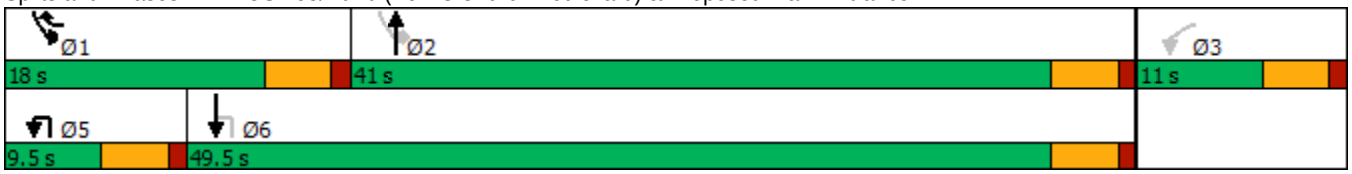
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	227	145	13	1503	208	231	1033
Future Volume (vph)	227	145	13	1503	208	231	1033
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125		300	300	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		25			200	
Satd. Flow (prot)	3502	1615	1805	3505	1615	1805	3539
Flt Permitted	0.950		0.223			0.103	
Satd. Flow (perm)	3502	1615	424	3505	1615	196	3539
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		158			226		
Link Speed (mph)	25			45			45
Link Distance (ft)	872			696			1153
Travel Time (s)	23.8			10.5			17.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	247	158	14	1634	226	251	1123
Turn Type	Perm	Over	D.P+P	NA	Perm	D.P+P	NA
Protected Phases		1	5	2		1	6
Permitted Phases	3		6		2	2	
Detector Phase	3	1	5	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	11.0	18.0	9.5	41.0	41.0	18.0	49.5
Total Split (%)	15.7%	25.7%	13.6%	58.6%	58.6%	25.7%	70.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?			Yes				Yes
Recall Mode	None	None	None	Min	Min	None	Min
Act Effct Green (s)	6.5	9.9	48.6	35.0	35.0	45.0	47.7
Actuated g/C Ratio	0.10	0.15	0.75	0.54	0.54	0.69	0.73
v/c Ratio	0.70	0.42	0.03	0.87	0.23	0.66	0.43
Control Delay	42.4	8.5	2.0	20.1	2.1	20.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	8.5	2.0	20.1	2.1	20.7	4.4
LOS	D	A	A	C	A	C	A
Approach Delay	29.2			17.8			7.4
Approach LOS	C			B			A
Queue Length 50th (ft)	51	0	1	269	0	45	57
Queue Length 95th (ft)	#107	44	4	#476	29	113	155
Internal Link Dist (ft)	792			616			1073
Turn Bay Length (ft)			125		300	300	
Base Capacity (vph)	352	462	423	1979	1010	480	2658

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.34	0.03	0.83	0.22	0.52	0.42

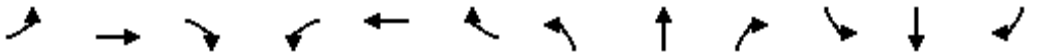
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 65.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 72.1%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance



5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

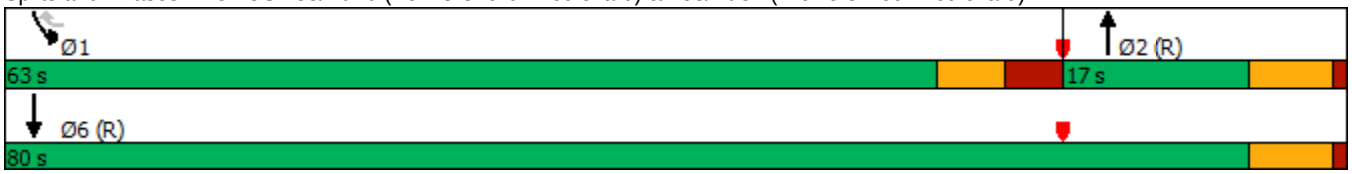


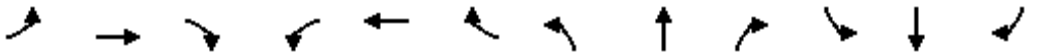
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1562	0	249	0	876	360	0
Future Volume (vph)	0	0	0	0	0	1562	0	249	0	876	360	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Satd. Flow (prot)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						139						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3270	
Travel Time (s)		21.9			17.1			43.0			49.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	4%	0%	3%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	1698	0	271	0	952	391	0
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						63.0		17.0		63.0	80.0	
Total Split (%)						78.8%		21.3%		78.8%	100.0%	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Recall Mode						Min		C-Max		Min	C-Min	
Act Effct Green (s)						55.0		11.5		55.0	80.0	
Actuated g/C Ratio						0.69		0.14		0.69	1.00	
v/c Ratio						0.87		0.55		0.41	0.11	
Control Delay						15.5		36.7		6.0	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						15.5		36.7		6.0	0.1	
LOS						B		D		A	A	
Approach Delay					15.5			36.7			4.2	
Approach LOS					B			D			A	
Queue Length 50th (ft)						286		67		87	0	
Queue Length 95th (ft)						430		106		117	0	
Internal Link Dist (ft)		883			1046			2757			3190	
Turn Bay Length (ft)										300		
Base Capacity (vph)						1957		497		2358	3471	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn						0		0		0	0	
Spillback Cap Reductn						0		0		0	0	
Storage Cap Reductn						0		0		0	0	
Reduced v/c Ratio						0.87		0.55		0.40	0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





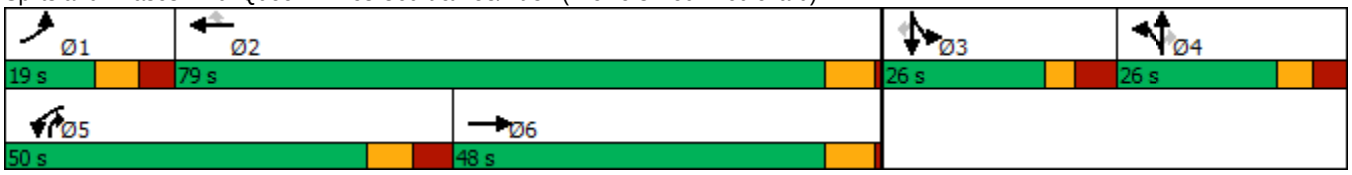
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	919	3	471	1530	14	1	3	250	2	5	7
Future Volume (vph)	9	919	3	471	1530	14	1	3	250	2	5	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Satd. Flow (prot)	1805	3539	0	1787	3539	1380	0	1877	2787	0	1590	1380
Flt Permitted	0.950			0.950				0.988			0.986	
Satd. Flow (perm)	1805	3539	0	1787	3539	1380	0	1877	2787	0	1590	1380
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						160			272			218
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	1%	2%	17%	0%	0%	2%	0%	25%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	1002	0	512	1663	15	0	4	272	0	7	8
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	19.0	48.0		50.0	79.0	79.0	26.0	26.0	50.0	26.0	26.0	26.0
Total Split (%)	12.7%	32.0%		33.3%	52.7%	52.7%	17.3%	17.3%	33.3%	17.3%	17.3%	17.3%
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.1	42.1		41.1	94.0	94.0		10.1	44.0		6.1	6.1
Actuated g/C Ratio	0.09	0.39		0.38	0.87	0.87		0.09	0.41		0.06	0.06
v/c Ratio	0.06	0.72		0.75	0.54	0.01		0.02	0.21		0.08	0.03
Control Delay	51.7	33.4		39.3	8.4	0.0		51.5	3.0		55.8	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	51.7	33.4		39.3	8.4	0.0		51.5	3.0		55.8	0.1
LOS	D	C		D	A	A		D	A		E	A
Approach Delay		33.6			15.5			3.7			26.1	
Approach LOS		C			B			A			C	
Queue Length 50th (ft)	6	258		257	0	0		2	0		4	0
Queue Length 95th (ft)	27	#548		#638	718	0		15	27		23	0
Internal Link Dist (ft)		1046			766			834			543	
Turn Bay Length (ft)	225			600		325			350			
Base Capacity (vph)	170	1383		681	3090	1225		318	1300		269	415

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.06	0.72		0.75	0.54	0.01		0.01	0.21		0.03	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 107.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	38	0	1681	116	0	1272	0
Future Vol, veh/h	0	0	0	0	0	38	0	1681	116	0	1272	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	300	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	41	0	1838	126	0	1383	0

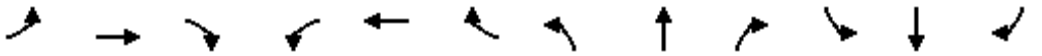
Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	-	-	919	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	273	0	-	-	0	-	0
Stage 1	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	-	-	0	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	273	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	273	-
HCM Lane V/C Ratio	-	-	0.151	-
HCM Control Delay (s)	-	-	20.5	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.5	-

APPENDIX J

2032 Build Synchro Reports

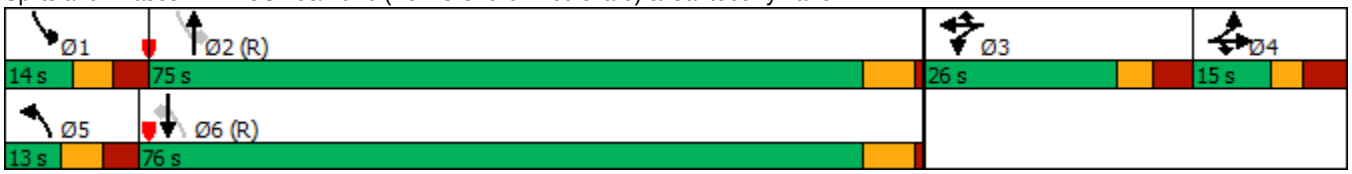


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	1	21	117	5	47	16	943	76	60	1309	39
Future Volume (vph)	28	1	21	117	5	47	16	943	76	60	1309	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	0			0			0			0		
Satd. Flow (prot)	0	1813	1615	0	1778	1553	1805	3539	1583	1687	3505	1615
Flt Permitted		0.954			0.954		0.115			0.217		
Satd. Flow (perm)	0	1813	1615	0	1778	1553	218	3539	1583	385	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151			151			164			164
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	7%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	23	0	132	51	17	1025	83	65	1423	42
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	15.0	15.0	15.0	26.0	26.0	26.0	13.0	75.0	75.0	14.0	76.0	76.0
Total Split (%)	11.5%	11.5%	11.5%	20.0%	20.0%	20.0%	10.0%	57.7%	57.7%	10.8%	58.5%	58.5%
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	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
Act Effct Green (s)		7.3	7.3		14.5	14.5	85.6	79.1	79.1	82.6	85.0	85.0
Actuated g/C Ratio		0.06	0.06		0.11	0.11	0.66	0.61	0.61	0.64	0.65	0.65
v/c Ratio		0.31	0.10		0.67	0.17	0.08	0.48	0.08	0.21	0.62	0.04
Control Delay		67.0	0.9		71.3	1.2	10.4	15.9	1.0	10.5	17.3	0.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		67.0	0.9		71.3	1.2	10.4	15.9	1.0	10.5	17.3	0.1
LOS		E	A		E	A	B	B	A	B	B	A
Approach Delay		38.8			51.7			14.7			16.6	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)		26	0		108	0	5	257	2	18	327	0
Queue Length 95th (ft)		60	0		173	0	14	340	11	39	565	0
Internal Link Dist (ft)		255			1152			693			1857	
Turn Bay Length (ft)							200		350	275		325
Base Capacity (vph)		104	235		253	350	210	2154	1027	310	2290	1112

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.30	0.10		0.52	0.15	0.08	0.48	0.08	0.21	0.62	0.04

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 112 (86%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



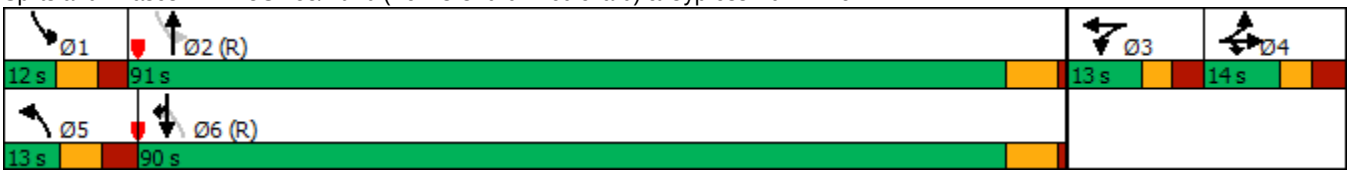
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	22	0	0	0	33	871	0	2	1591	34
Future Volume (vph)	5	0	22	0	0	0	33	871	0	2	1591	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	0			0			0			0		
Satd. Flow (prot)	0	1787	1599	0	1900	0	1805	3539	0	1805	3505	1615
Flt Permitted		0.950					0.108			0.292		
Satd. Flow (perm)	0	1787	1599	0	1900	0	205	3539	0	555	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134									138
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	24	0	0	0	36	947	0	2	1729	37
Turn Type	Split	NA	Prot				D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	14.0	14.0	14.0	13.0	13.0		13.0	91.0		12.0	90.0	90.0
Total Split (%)	10.8%	10.8%	10.8%	10.0%	10.0%		10.0%	70.0%		9.2%	69.2%	69.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		7.0	7.0				109.9	115.9		113.5	110.7	110.7
Actuated g/C Ratio		0.05	0.05				0.85	0.89		0.87	0.85	0.85
v/c Ratio		0.05	0.11				0.15	0.30		0.00	0.58	0.03
Control Delay		59.6	1.1				2.2	1.2		1.0	3.0	0.0
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Delay		59.6	1.1				2.2	1.2		1.0	3.0	0.0
LOS		E	A				A	A		A	A	A
Approach Delay		11.2						1.2			2.9	
Approach LOS		B						A			A	
Queue Length 50th (ft)		4	0				0	4		0	84	0
Queue Length 95th (ft)		18	0				m6	102		m0	92	m0
Internal Link Dist (ft)		1825			1371			1906			693	
Turn Bay Length (ft)							250			150		235
Base Capacity (vph)		103	218				241	3155		532	2984	1395

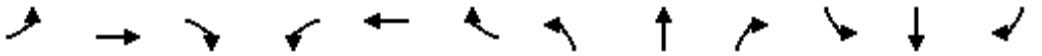
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0				0	0		0	42	0
Spillback Cap Reductn		0	0				0	0		0	0	0
Storage Cap Reductn		0	0				0	0		0	0	0
Reduced v/c Ratio		0.05	0.11				0.15	0.30		0.00	0.59	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 116 (89%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 2.4		Intersection LOS: A	
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive





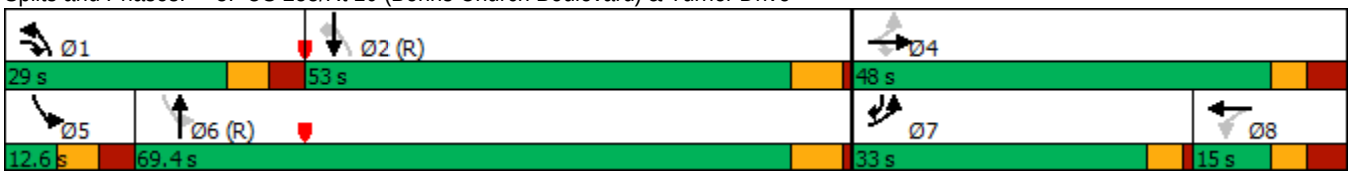
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	1	329	1	79	1	299	784	76	7	1081	355
Future Volume (vph)	211	1	329	1	79	1	299	784	76	7	1081	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	125		0	125		275
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	0			0			0			0		
Satd. Flow (prot)	0	1793	1599	0	1894	0	1687	3499	0	1805	3505	1482
Flt Permitted		0.597			0.997		0.081			0.232		
Satd. Flow (perm)	0	1123	1599	0	1891	0	144	3499	0	441	3505	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			25					11				164
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1499			695			1153			1986	
Travel Time (s)		25.6			19.0			17.5			30.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	7%	2%	0%	0%	3%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	230	358	0	88	0	325	935	0	8	1175	386
Turn Type	pm+pt	NA	pm+ov	Perm	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	1		8		1	6		5	2	7
Permitted Phases	4		4	8			2			6		2
Detector Phase	7	4	1	8	8		1	6		5	2	7
Switch Phase												
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0		5.0	15.0		5.0	15.0	5.0
Minimum Split (s)	9.5	14.5	12.5	14.5	14.5		12.5	21.0		12.5	21.0	9.5
Total Split (s)	33.0	48.0	29.0	15.0	15.0		29.0	69.4		12.6	53.0	33.0
Total Split (%)	25.4%	36.9%	22.3%	11.5%	11.5%		22.3%	53.4%		9.7%	40.8%	25.4%
Yellow Time (s)	3.5	3.5	4.0	3.5	3.5		4.0	5.0		4.0	5.0	3.5
All-Red Time (s)	1.0	4.0	3.5	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5		7.5	6.0		7.5	6.0	4.5
Lead/Lag	Lead		Lead	Lag	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Act Effct Green (s)		38.4	67.4		27.5		69.1	75.6		75.1	49.1	61.5
Actuated g/C Ratio		0.30	0.52		0.21		0.53	0.58		0.58	0.38	0.47
v/c Ratio		0.66	0.43		0.22		0.98	0.46		0.03	0.89	0.49
Control Delay		48.6	19.3		43.1		74.5	14.3		15.9	41.8	10.2
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		48.6	19.3		43.1		74.5	14.3		15.9	41.8	10.2
LOS		D	B		D		E	B		B	D	B
Approach Delay		30.7			43.1			29.8			33.9	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)		153	161		61		207	125		1	503	169
Queue Length 95th (ft)		230	237		109		#414	414		m6	#623	105
Internal Link Dist (ft)		1419			615			1073			1906	
Turn Bay Length (ft)			300				125			125		275
Base Capacity (vph)		367	841		400		331	2038		308	1323	1011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.63	0.43		0.22		0.98	0.46		0.03	0.89	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 6 (5%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



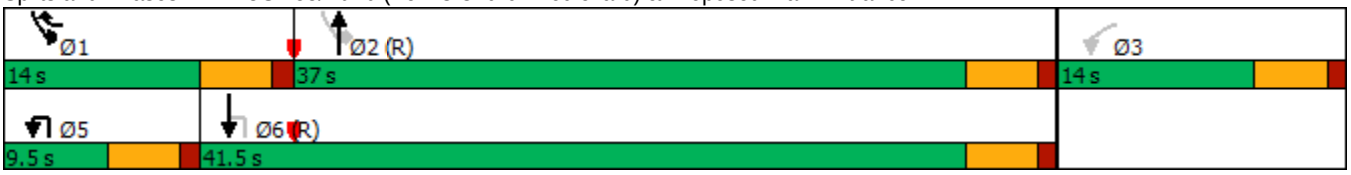
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	267	132	16	1122	92	95	1364
Future Volume (vph)	267	132	16	1122	92	95	1364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125		300	300	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	0		0			0	
Satd. Flow (prot)	3502	1615	1805	3505	1615	1805	3539
Flt Permitted	0.950		0.118			0.158	
Satd. Flow (perm)	3502	1615	224	3505	1615	300	3539
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		143			100		
Link Speed (mph)	25			45			45
Link Distance (ft)	872			696			1153
Travel Time (s)	23.8			10.5			17.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	290	143	17	1220	100	103	1483
Turn Type	Perm	Over	D.P+P	NA	Perm	D.P+P	NA
Protected Phases		1	5	2		1	6
Permitted Phases	3		6		2	2	
Detector Phase	3	1	5	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	9.5	22.5	22.5	9.5	22.5
Total Split (s)	14.0	14.0	9.5	37.0	37.0	14.0	41.5
Total Split (%)	21.5%	21.5%	14.6%	56.9%	56.9%	21.5%	63.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	9.3	7.0	45.8	37.1	37.1	43.1	44.8
Actuated g/C Ratio	0.14	0.11	0.70	0.57	0.57	0.66	0.69
v/c Ratio	0.58	0.47	0.06	0.61	0.10	0.29	0.61
Control Delay	30.9	11.1	3.9	14.5	3.1	6.2	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	11.1	3.9	14.5	3.1	6.2	6.6
LOS	C	B	A	B	A	A	A
Approach Delay	24.4			13.5			6.6
Approach LOS	C			B			A
Queue Length 50th (ft)	54	0	2	269	3	19	186
Queue Length 95th (ft)	91	43	m4	347	17	m23	265
Internal Link Dist (ft)	792			616			1073
Turn Bay Length (ft)			125		300	300	
Base Capacity (vph)	523	358	287	2002	965	426	2436

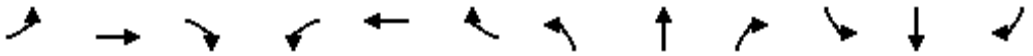
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.40	0.06	0.61	0.10	0.24	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 26 (40%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance



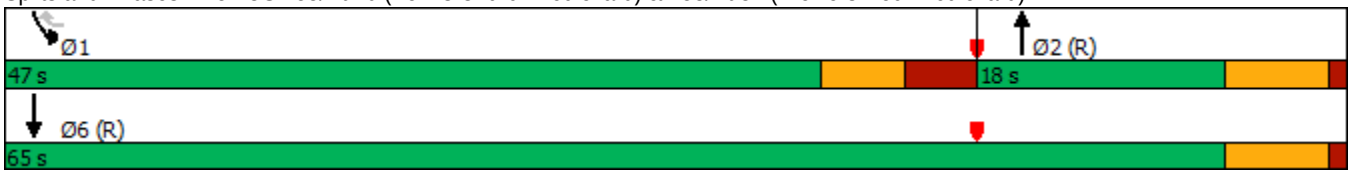


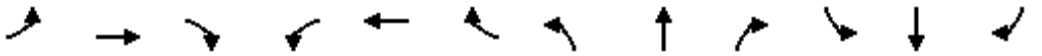
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	879	0	233	0	1287	336	0
Future Volume (vph)	0	0	0	0	0	879	0	233	0	1287	336	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	0			0			0			0		
Satd. Flow (prot)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						318						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3270	
Travel Time (s)		21.9			17.1			43.0			49.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	4%	0%	3%	4%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	955	0	253	0	1399	365	0
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						47.0		18.0		47.0	65.0	
Total Split (%)						72.3%		27.7%		72.3%	100.0%	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?						Yes		Yes		Yes		
Recall Mode						Min		C-Max		Min	C-Min	
Act Effct Green (s)						37.4		14.1		37.4	65.0	
Actuated g/C Ratio						0.58		0.22		0.58	1.00	
v/c Ratio						0.55		0.34		0.72	0.11	
Control Delay						8.1		24.0		10.3	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						8.1		24.0		10.3	0.1	
LOS						A		C		B	A	
Approach Delay					8.1			24.0			8.2	
Approach LOS					A			C			A	
Queue Length 50th (ft)						148		46		228	0	
Queue Length 95th (ft)						97		78		59	0	
Internal Link Dist (ft)		883			1046			2757			3190	
Turn Bay Length (ft)										300		
Base Capacity (vph)						1801		752		2066	3471	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn						0		0		0	0	
Spillback Cap Reductn						0		0		0	0	
Storage Cap Reductn						0		0		0	0	
Reduced v/c Ratio						0.53		0.34		0.68	0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 64 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 55.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1263	0	266	850	4	0	1	473	7	4	14
Future Volume (vph)	7	1263	0	266	850	4	0	1	473	7	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	0			0			0			0		
Satd. Flow (prot)	1805	3539	0	1787	3539	1380	0	1900	2787	0	1698	1380
Flt Permitted	0.950			0.950							0.968	
Satd. Flow (perm)	1805	3539	0	1787	3539	1380	0	1900	2787	0	1698	1380
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						189			514			231
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	1%	2%	17%	0%	0%	2%	0%	25%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	1373	0	289	924	4	0	1	514	0	12	15
Turn Type	Prot	NA		Prot	NA	Perm		NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	19.0	50.0		28.0	59.0	59.0	26.0	26.0	28.0	26.0	26.0	26.0
Total Split (%)	14.6%	38.5%		21.5%	45.4%	45.4%	20.0%	20.0%	21.5%	20.0%	20.0%	20.0%
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	10.0	82.8		18.5	109.6	109.6		10.0	20.2		6.5	6.5
Actuated g/C Ratio	0.08	0.64		0.14	0.84	0.84		0.08	0.16		0.05	0.05
v/c Ratio	0.06	0.61		1.14	0.31	0.00		0.01	0.59		0.14	0.05
Control Delay	70.3	9.7		148.1	6.2	0.0		56.0	5.8		62.2	0.4
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	70.3	9.7		148.1	6.2	0.0		56.0	5.8		62.2	0.4
LOS	E	A		F	A	A		E	A		E	A
Approach Delay		10.1			39.8			5.9			27.8	
Approach LOS		B			D			A			C	
Queue Length 50th (ft)	7	387		~283	67	0		1	0		10	0
Queue Length 95th (ft)	m11	407		#464	299	0		7	36		31	0
Internal Link Dist (ft)		1046			766			834			543	
Turn Bay Length (ft)	225			600		325			350			
Base Capacity (vph)	138	2253		254	2983	1193		263	867		235	390

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.06	0.61		1.14	0.31	0.00		0.00	0.59		0.05	0.04

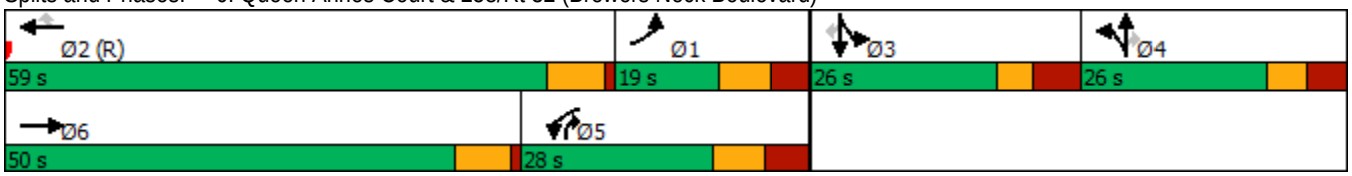
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 20 (15%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 78.0%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

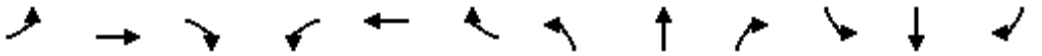
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	6	49	70	10	87	57	1366	117	145	1147	108
Future Volume (vph)	156	6	49	70	10	87	57	1366	117	145	1147	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		350	275		325
Storage Lanes	0		1	0		1	1		1	1		1
Taper Length (ft)	25			25			125			225		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.956			0.959		0.950			0.950		
Satd. Flow (prot)	0	1816	1615	0	1791	1553	1805	3539	1583	1687	3505	1615
Flt Permitted		0.956			0.959		0.103			0.076		
Satd. Flow (perm)	0	1816	1615	0	1791	1553	196	3539	1583	135	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			164			177			177
Link Speed (mph)		25			25			45			45	
Link Distance (ft)		335			1232			773			1937	
Travel Time (s)		9.1			33.6			11.7			29.3	
Peak Hour Factor	0.91	0.42	0.56	0.75	0.67	0.93	0.60	0.94	0.64	0.76	0.94	0.71
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	7%	3%	0%
Adj. Flow (vph)	171	14	88	93	15	94	95	1453	183	191	1220	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	88	0	108	94	95	1453	183	191	1220	152
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	4	4	4	3	3	3	5	2		1	6	

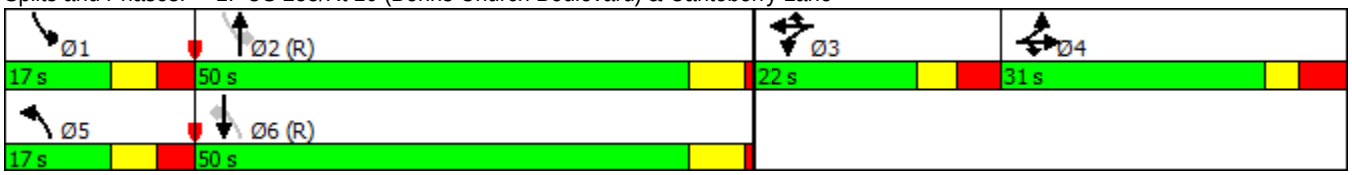
1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6		2	2		6
Detector Phase	4	4	4	3	3	3	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	12.5	21.0	21.0	12.5	21.0	21.0
Total Split (s)	31.0	31.0	31.0	22.0	22.0	22.0	17.0	50.0	50.0	17.0	50.0	50.0
Total Split (%)	25.8%	25.8%	25.8%	18.3%	18.3%	18.3%	14.2%	41.7%	41.7%	14.2%	41.7%	41.7%
Maximum Green (s)	23.5	23.5	23.5	14.5	14.5	14.5	9.5	44.0	44.0	9.5	44.0	44.0
Yellow Time (s)	3.0	3.0	3.0	3.5	3.5	3.5	4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	4.5	4.5	4.5	4.0	4.0	4.0	3.5	1.0	1.0	3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5		7.5	7.5	7.5	6.0	6.0	7.5	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.5	0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)		17.4	17.4		12.0	12.0	60.6	52.6	52.6	60.6	54.7	54.7
Actuated g/C Ratio		0.14	0.14		0.10	0.10	0.50	0.44	0.44	0.50	0.46	0.46
v/c Ratio		0.70	0.24		0.61	0.31	0.48	0.94	0.23	1.00	0.76	0.18
Control Delay		62.7	1.5		65.8	2.7	26.4	39.9	2.1	97.9	32.9	2.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		62.7	1.5		65.8	2.7	26.4	39.9	2.1	97.9	32.9	2.8
LOS		E	A		E	A	C	D	A	F	C	A
Approach Delay		43.0			36.4			35.2			37.9	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 36.9 Intersection LOS: D
Intersection Capacity Utilization 78.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	0	91	0	0	1	171	1412	0	0	1117	147
Future Volume (vph)	127	0	91	0	0	1	171	1412	0	0	1117	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	250		0	150		235
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			150			125		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.865							0.850
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1787	1599	0	1644	0	1805	3539	0	1900	3505	1615
Flt Permitted		0.950					0.145					
Satd. Flow (perm)	0	1787	1599	0	1644	0	276	3539	0	1900	3505	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214		218							218
Link Speed (mph)		15			25			45			45	
Link Distance (ft)		1905			1451			1986			773	
Travel Time (s)		86.6			39.6			30.1			11.7	
Peak Hour Factor	0.81	0.25	0.62	0.25	0.25	0.25	0.67	0.93	0.25	0.25	0.95	0.80
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	157	0	147	0	0	4	255	1518	0	0	1176	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	147	0	4	0	255	1518	0	0	1176	184
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot		NA		D.P+P	NA		D.P+P	NA	Prot
Protected Phases	4	4	4	3	3		5	2		1	6	6

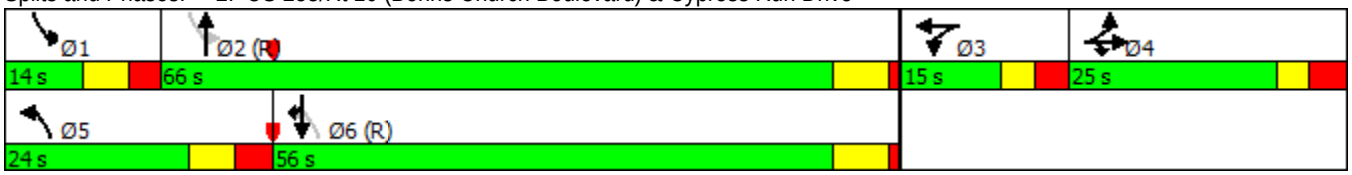
2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases							6			2		
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	14.0		5.0	14.0	14.0
Minimum Split (s)	13.5	13.5	13.5	13.0	13.0		12.5	20.0		12.0	20.0	20.0
Total Split (s)	25.0	25.0	25.0	15.0	15.0		24.0	66.0		14.0	56.0	56.0
Total Split (%)	20.8%	20.8%	20.8%	12.5%	12.5%		20.0%	55.0%		11.7%	46.7%	46.7%
Maximum Green (s)	18.5	18.5	18.5	9.0	9.0		16.5	60.0		7.0	50.0	50.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	3.5	3.5	3.5	3.0	3.0		3.5	1.0		3.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		6.5	6.5		6.0		7.5	6.0		7.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		2.0	5.0		2.0	5.0	5.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	18.0		0.0	18.0	18.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	C-Min
Act Effct Green (s)		15.2	15.2		7.0		80.7	89.7			66.7	66.7
Actuated g/C Ratio		0.13	0.13		0.06		0.67	0.75			0.56	0.56
v/c Ratio		0.69	0.38		0.01		0.67	0.57			0.60	0.19
Control Delay		65.8	3.8		0.0		22.8	8.9			6.7	0.3
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		65.8	3.8		0.0		22.8	8.9			6.7	0.3
LOS		E	A		A		C	A			A	A
Approach Delay		35.8						10.9			5.8	
Approach LOS		D						B			A	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 12 (10%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	0	106	0	1	2	188	1473	1	36	1080	138
Future Volume (vph)	94	0	106	0	1	2	188	1473	1	36	1080	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	100		0	125		0	125		275
Storage Lanes	0		1	1		0	1		0	1		1
Taper Length (ft)	200			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.925							0.850
Flt Protected		0.950					0.950			0.950		
Satd. Flow (prot)	0	1787	1599	1900	1758	0	1687	3539	0	1805	3505	1482
Flt Permitted		0.752					0.156			0.072		
Satd. Flow (perm)	0	1415	1599	1900	1758	0	277	3539	0	137	3505	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133		4							141
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		1493			695			1153			1986	
Travel Time (s)		25.4			19.0			17.5			30.1	
Peak Hour Factor	0.63	0.25	0.80	0.25	0.25	0.50	0.90	0.94	0.25	0.50	0.98	0.85
Heavy Vehicles (%)	1%	0%	1%	0%	0%	0%	7%	2%	0%	0%	3%	9%
Adj. Flow (vph)	149	0	133	0	4	4	209	1567	4	72	1102	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	149	133	0	8	0	209	1571	0	72	1102	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases		4			8		1	6		5	2	

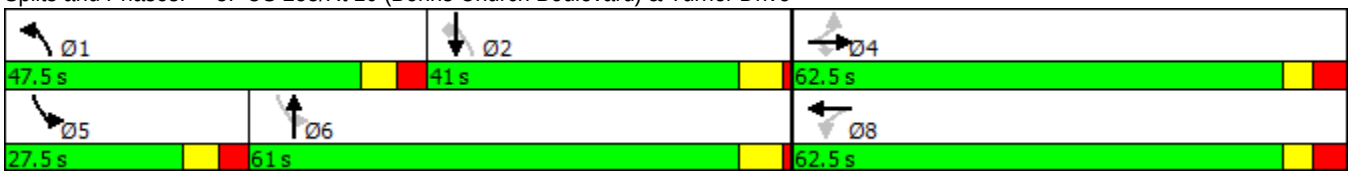
3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8			2			6		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5		12.5	21.0		12.5	21.0	21.0
Total Split (s)	62.5	62.5	62.5	62.5	62.5		47.5	61.0		27.5	41.0	41.0
Total Split (%)	41.4%	41.4%	41.4%	41.4%	41.4%		31.5%	40.4%		18.2%	27.2%	27.2%
Maximum Green (s)	55.0	55.0	55.0	55.0	55.0		40.0	55.0		20.0	35.0	35.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		4.0	5.0		4.0	5.0	5.0
All-Red Time (s)	4.0	4.0	4.0	4.0	4.0		3.5	1.0		3.5	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		7.5	7.5	7.5	7.5		7.5	6.0		7.5	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0	5.0	3.0	3.0		4.0	6.0		2.0	6.0	6.0
Minimum Gap (s)	3.5	3.5	3.5	0.2	0.2		0.2	3.5		0.2	3.5	3.5
Time Before Reduce (s)	20.0	20.0	20.0	0.0	0.0		0.0	20.0		0.0	20.0	20.0
Time To Reduce (s)	10.0	10.0	10.0	0.0	0.0		0.0	15.0		0.0	15.0	15.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)		17.8	17.8		10.3		57.1	55.6		58.9	45.3	45.3
Actuated g/C Ratio		0.18	0.18		0.11		0.59	0.57		0.60	0.46	0.46
v/c Ratio		0.58	0.33		0.04		0.59	0.78		0.39	0.68	0.21
Control Delay		46.8	8.6		29.7		18.6	21.8		15.5	24.5	5.4
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		46.8	8.6		29.7		18.6	21.8		15.5	24.5	5.4
LOS		D	A		C		B	C		B	C	A
Approach Delay		28.8			29.7			21.4			21.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 151
Actuated Cycle Length: 97.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 22.2 Intersection LOS: C
Intersection Capacity Utilization 74.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive



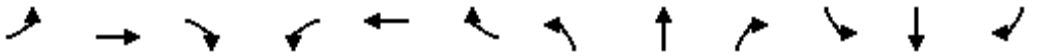
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	5	0	1652	0	0	0
Future Volume (vph)	0	0	0	0	0	0	5	0	1652	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		140
Storage Lanes	0		0	0		0		1		0		1
Taper Length (ft)	25			25				25				75
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Frt												
Flt Protected							0.950					
Satd. Flow (prot)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	0	0	1805	0	3505	0	1900	0
Link Speed (mph)		30			30				45			
Link Distance (ft)		810			872				3921			
Travel Time (s)		18.4			19.8				59.4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.25	0.25	0.97	0.25	0.50	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Adj. Flow (vph)	0	0	0	0	0	0	20	0	1703	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	20	0	1703	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1173	0
Future Volume (vph)	1173	0
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	3539	0
Flt Permitted		
Satd. Flow (perm)	3539	0
Link Speed (mph)	45	
Link Distance (ft)	1153	
Travel Time (s)	17.5	
Peak Hour Factor	0.95	0.25
Heavy Vehicles (%)	2%	0%
Adj. Flow (vph)	1235	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1235	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	

Intersection Summary

5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)



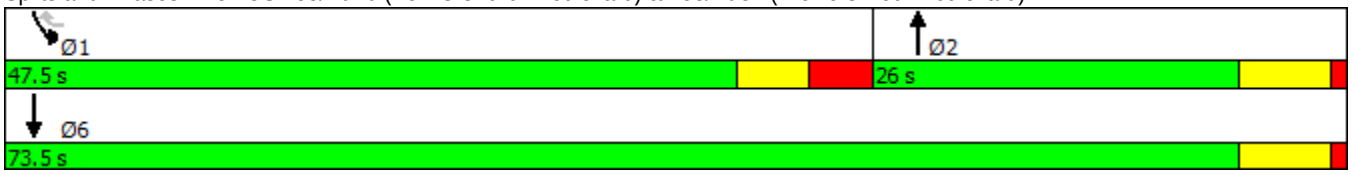
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	1421	0	246	0	797	340	0
Future Volume (vph)	0	0	0	0	0	1421	0	246	0	797	340	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	300		0
Storage Lanes	0		0	0		2	0		0	1		0
Taper Length (ft)	25			25			100			75		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.95	1.00	0.97	0.95	1.00
Frt						0.850						
Flt Protected										0.950		
Satd. Flow (prot)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	2760	0	3471	0	3400	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						514						
Link Speed (mph)		30			45			45			45	
Link Distance (ft)		963			1126			2837			3921	
Travel Time (s)		21.9			17.1			43.0			59.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.93	0.25	0.89	0.25	0.99	0.85	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	3%	0%	4%	0%	3%	4%	0%
Adj. Flow (vph)	0	0	0	0	0	1528	0	276	0	805	400	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	1528	0	276	0	805	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors						1		2		1	2	
Detector Template						Right		Thru		Left	Thru	
Leading Detector (ft)						20		100		20	100	
Trailing Detector (ft)						0		0		0	0	
Detector 1 Position(ft)						0		0		0	0	
Detector 1 Size(ft)						20		6		20	6	
Detector 1 Type						Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)						0.0		0.0		0.0	0.0	
Detector 1 Queue (s)						0.0		0.0		0.0	0.0	
Detector 1 Delay (s)						0.0		0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type						Perm		NA		Prot	NA	
Protected Phases								2		1	6	

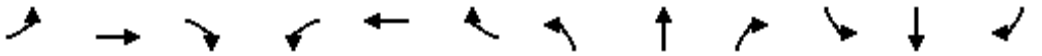
5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						1						
Detector Phase						1		2		1	6	
Switch Phase												
Minimum Initial (s)						15.0		10.0		15.0	15.0	
Minimum Split (s)						22.5		16.0		22.5	21.0	
Total Split (s)						47.5		26.0		47.5	73.5	
Total Split (%)						64.6%		35.4%		64.6%	100.0%	
Maximum Green (s)						40.0		20.0		40.0	67.5	
Yellow Time (s)						4.0		5.0		4.0	5.0	
All-Red Time (s)						3.5		1.0		3.5	1.0	
Lost Time Adjust (s)						0.0		0.0		0.0	0.0	
Total Lost Time (s)						7.5		6.0		7.5	6.0	
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)						3.5		2.5		3.5	5.0	
Recall Mode						Min		None		Min	Min	
Act Effct Green (s)						35.9		10.8		35.9	60.4	
Actuated g/C Ratio						0.59		0.18		0.59	1.00	
v/c Ratio						0.83		0.44		0.40	0.12	
Control Delay						10.9		25.8		7.1	0.1	
Queue Delay						0.0		0.0		0.0	0.0	
Total Delay						10.9		25.8		7.1	0.1	
LOS						B		C		A	A	
Approach Delay					10.9			25.8			4.7	
Approach LOS					B			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 73.5			
Actuated Cycle Length: 60.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 69.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	844	4	515	1387	15	1	4	273	2	5	7
Future Volume (vph)	10	844	4	515	1387	15	1	4	273	2	5	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	600		325	0		350	0		0
Storage Lanes	1		0	1		1	0		2	0		1
Taper Length (ft)	200			200			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Frt		0.999				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.987			0.978	
Satd. Flow (prot)	1805	3536	0	1787	3539	1380	0	1875	2787	0	1632	1380
Flt Permitted	0.950			0.950				0.987			0.978	
Satd. Flow (perm)	1805	3536	0	1787	3539	1380	0	1875	2787	0	1632	1380
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						171			350			160
Link Speed (mph)		45			45			45			25	
Link Distance (ft)		1126			846			914			623	
Travel Time (s)		17.1			12.8			13.8			17.0	
Peak Hour Factor	0.35	0.98	1.00	0.86	0.96	0.60	0.25	0.38	0.78	0.50	1.00	0.75
Heavy Vehicles (%)	0%	2%	0%	1%	2%	17%	0%	0%	2%	0%	25%	17%
Adj. Flow (vph)	29	861	4	599	1445	25	4	11	350	4	5	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	865	0	599	1445	25	0	15	350	0	9	9
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6		5	2		4	4	5	3	3	

6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2			4			3
Detector Phase	1	6		5	2	2	4	4	5	3	3	3
Switch Phase												
Minimum Initial (s)	10.0	15.0		10.0	15.0	15.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	19.0	24.5		19.5	24.5	24.5	26.0	26.0	19.5	26.0	26.0	26.0
Total Split (s)	34.0	41.5		39.5	47.0	47.0	26.0	26.0	39.5	33.0	33.0	33.0
Total Split (%)	24.3%	29.6%		28.2%	33.6%	33.6%	18.6%	18.6%	28.2%	23.6%	23.6%	23.6%
Maximum Green (s)	25.0	35.0		30.0	40.5	40.5	18.0	18.0	30.0	25.0	25.0	25.0
Yellow Time (s)	5.0	5.5		5.0	5.5	5.5	4.0	4.0	5.0	3.5	3.5	3.5
All-Red Time (s)	4.0	1.0		4.5	1.0	1.0	4.0	4.0	4.5	4.5	4.5	4.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	9.0	6.5		9.5	6.5	6.5		8.0	9.5		8.0	8.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	5.0		3.0	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.4	32.9		31.2	72.6	72.6		10.4	37.0		6.3	6.3
Actuated g/C Ratio	0.11	0.36		0.34	0.80	0.80		0.11	0.41		0.07	0.07
v/c Ratio	0.14	0.68		0.98	0.51	0.02		0.07	0.26		0.08	0.04
Control Delay	45.6	30.5		66.1	13.6	0.1		45.6	2.7		49.6	0.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	45.6	30.5		66.1	13.6	0.1		45.6	2.7		49.6	0.3
LOS	D	C		E	B	A		D	A		D	A
Approach Delay		31.0			28.6			4.5			24.9	
Approach LOS		C			C			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 91.3			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 26.6		Intersection LOS: C	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)



APPENDIX K

Queue Reports

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	64	51	144	70	42	217	230	54	74	222	221	25
Average Queue (ft)	18	14	68	25	9	76	75	10	22	105	105	6
95th Queue (ft)	49	39	125	59	31	160	168	36	52	187	190	22
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	18	47	48	86	104	1	79	86	19
Average Queue (ft)	2	7	11	11	14	0	13	18	1
95th Queue (ft)	10	29	35	49	59	1	47	62	10
Link Distance (ft)	1824	1824		1925	1925		663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			250			150			235
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	374	108	222	304	278	112	392	409	190
Average Queue (ft)	195	44	120	120	131	9	239	249	68
95th Queue (ft)	326	88	207	238	233	59	366	383	140
Link Distance (ft)	1442	648		1098	1098		1925	1925	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			125			125			275
Storage Blk Time (%)			9	5			34	8	
Queuing Penalty (veh)			24	12			2	24	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	NB	SB
Directions Served	U	U
Maximum Queue (ft)	21	2
Average Queue (ft)	2	0
95th Queue (ft)	12	2
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	140
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	L	L	T
Maximum Queue (ft)	135	140	78	78	160	182	4
Average Queue (ft)	46	43	35	34	89	111	0
95th Queue (ft)	109	109	67	70	149	175	4
Link Distance (ft)	1008	1008	2766	2766		3866	3866
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	34	274	298	181	264	237	10	14	192	140	33	39
Average Queue (ft)	5	135	159	82	123	96	0	0	96	34	7	9
95th Queue (ft)	21	246	261	145	236	205	4	9	162	99	26	30
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		1				0						
Queuing Penalty (veh)		0				0						

Zone Summary

Zone wide Queuing Penalty: 62

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	186	74	122	146	175	361	368	60	146	256	264	48
Average Queue (ft)	89	24	48	55	33	185	203	20	65	141	145	17
95th Queue (ft)	158	59	98	112	108	349	364	46	119	235	242	40
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						7	1			0		
Queuing Penalty (veh)						3	1			0		

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	T	T	R
Maximum Queue (ft)	171	126	12	139	189	200	132	150	67
Average Queue (ft)	68	41	1	56	54	64	35	44	13
95th Queue (ft)	131	93	8	111	143	159	90	108	44
Link Distance (ft)	1824	1824	1402		1925	1925	663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				250					235
Storage Blk Time (%)					0		0	0	
Queuing Penalty (veh)					0		0	0	

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	144	33	194	330	314	108	304	315	82
Average Queue (ft)	68	5	72	128	140	20	126	135	30
95th Queue (ft)	121	22	148	258	264	69	243	253	64
Link Distance (ft)	1442	648		1106	1106		1925	1925	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			125			125			275
Storage Blk Time (%)			1	6			8	1	
Queuing Penalty (veh)			5	9			2	1	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	NB
Directions Served	U
Maximum Queue (ft)	24
Average Queue (ft)	2
95th Queue (ft)	11
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	125
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	L	L	T
Maximum Queue (ft)	305	291	86	101	137	154	2
Average Queue (ft)	103	101	41	42	57	78	0
95th Queue (ft)	222	225	73	80	116	135	2
Link Distance (ft)	1008	1008	2766	2766		3866	3866
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	34	220	240	282	406	386	21	25	110	53	35	43
Average Queue (ft)	7	107	124	149	169	158	2	3	50	11	4	6
95th Queue (ft)	25	192	208	244	344	334	12	14	91	38	21	26
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		0				1						
Queuing Penalty (veh)		0				0						

Zone Summary

Zone wide Queuing Penalty: 21

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	70	54	168	87	46	229	241	47	72	227	239	28
Average Queue (ft)	21	15	79	28	11	89	87	11	25	120	126	6
95th Queue (ft)	51	42	145	67	35	181	186	35	59	209	220	22
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						0	0			0		
Queuing Penalty (veh)						0	0			0		

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	18	55	48	92	114	7	87	100	26
Average Queue (ft)	2	10	14	15	22	0	19	21	2
95th Queue (ft)	11	34	37	56	75	4	62	69	12
Link Distance (ft)	1824	1824		1925	1925		663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			250			150			235
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	228	179	110	216	263	201	67	333	344	174
Average Queue (ft)	113	82	53	120	91	94	6	186	194	73
95th Queue (ft)	195	149	97	205	199	178	39	302	311	137
Link Distance (ft)	1440		648		1093	1093		1925	1925	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)	0			10	2			19	2	0
Queuing Penalty (veh)	0			32	5			1	7	0

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	NB	SB
Directions Served	U	U
Maximum Queue (ft)	23	8
Average Queue (ft)	2	0
95th Queue (ft)	13	6
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	140
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	L	L	T
Maximum Queue (ft)	184	180	79	92	174	195	11
Average Queue (ft)	56	54	40	36	94	119	0
95th Queue (ft)	140	141	71	74	152	177	8
Link Distance (ft)	1008	1008	2766	2766		3866	3866
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	41	296	301	210	314	275	11	12	217	182	45	43
Average Queue (ft)	7	150	169	95	146	119	1	1	116	51	9	9
95th Queue (ft)	27	259	272	169	283	246	5	8	185	137	32	32
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		2				0						
Queuing Penalty (veh)		0				0						

Zone Summary

Zone wide Queuing Penalty: 45

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	211	74	118	141	278	457	464	59	176	318	328	44
Average Queue (ft)	101	28	53	58	47	265	277	24	77	171	177	19
95th Queue (ft)	179	63	104	113	167	439	445	51	144	275	288	39
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						12	3			1	0	
Queuing Penalty (veh)						6	3			1	0	

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	T	T	R
Maximum Queue (ft)	188	124	15	175	205	232	123	144	58
Average Queue (ft)	77	46	1	61	72	85	38	47	13
95th Queue (ft)	146	99	8	125	171	185	91	109	44
Link Distance (ft)	1824	1824	1402		1919	1919	663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				250				235	
Storage Blk Time (%)				0	0		0		
Queuing Penalty (veh)				2	0		0		

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	103	91	30	200	285	284	143	272	288	73
Average Queue (ft)	46	34	3	68	106	114	25	115	125	26
95th Queue (ft)	89	68	18	139	212	220	80	226	241	58
Link Distance (ft)	1444		648		1085	1085		1919	1919	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)				2	3			6	0	
Queuing Penalty (veh)				11	6			2	0	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	NB
Directions Served	U
Maximum Queue (ft)	27
Average Queue (ft)	3
95th Queue (ft)	15
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	125
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	L	L	T
Maximum Queue (ft)	354	348	93	105	159	165	1
Average Queue (ft)	136	138	45	47	67	89	0
95th Queue (ft)	286	291	81	86	128	150	1
Link Distance (ft)	1008	1008	2766	2766		3866	3866
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	47	291	305	331	469	460	33	23	128	64	44	57
Average Queue (ft)	8	132	144	182	182	177	3	3	60	12	6	8
95th Queue (ft)	29	240	249	296	406	408	16	15	108	43	26	34
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		1				3						
Queuing Penalty (veh)		0				0						

Zone Summary

Zone wide Queuing Penalty: 31

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	77	61	230	109	77	278	287	48	73	270	290	26
Average Queue (ft)	28	17	109	38	12	123	125	12	28	138	147	7
95th Queue (ft)	66	46	194	86	51	244	249	38	60	248	265	24
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						2				0	0	
Queuing Penalty (veh)						0				0	0	

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	15	57	54	94	115	4	158	175	28
Average Queue (ft)	2	10	15	18	29	0	31	40	2
95th Queue (ft)	9	35	43	63	86	2	103	123	13
Link Distance (ft)	1824	1824		1919	1919		663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			250			150			235
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	293	253	145	224	387	329	106	430	433	251
Average Queue (ft)	167	123	64	160	147	124	8	254	266	81
95th Queue (ft)	269	219	119	251	329	266	57	414	423	178
Link Distance (ft)	1440		648		1080	1080		1919	1919	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)	1	0	4	26	5			23	9	
Queuing Penalty (veh)	2	0	0	89	14			2	31	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	NB	SB
Directions Served	U	U
Maximum Queue (ft)	25	13
Average Queue (ft)	3	1
95th Queue (ft)	14	6
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	140
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB
Directions Served	R	R	T	T	L	L
Maximum Queue (ft)	220	240	87	86	196	208
Average Queue (ft)	76	69	33	36	115	140
95th Queue (ft)	172	172	64	72	169	193
Link Distance (ft)	1008	1008	2766	2766		3866
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					300	
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	34	328	326	254	359	351	8	16	265	222	43	59
Average Queue (ft)	6	175	194	126	158	134	0	1	144	85	9	11
95th Queue (ft)	23	294	302	215	318	297	4	12	224	191	31	39
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		3				0			0			
Queuing Penalty (veh)		0				0			0			

Zone Summary

Zone wide Queuing Penalty: 139

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	209	92	130	143	301	563	581	278	206	346	367	50
Average Queue (ft)	105	33	60	59	67	345	359	38	93	211	220	21
95th Queue (ft)	181	74	107	116	222	555	563	173	176	330	347	43
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						23	9		0	2	1	
Queuing Penalty (veh)						13	11		1	3	1	

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	T	T	R
Maximum Queue (ft)	169	151	18	159	250	263	131	146	70
Average Queue (ft)	77	52	1	71	97	110	39	50	15
95th Queue (ft)	141	116	9	130	214	231	92	112	46
Link Distance (ft)	1824	1824	1402		1919	1919	663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				250				235	
Storage Blk Time (%)					0		0	0	
Queuing Penalty (veh)					0		0	0	

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	129	80	34	216	348	369	144	376	383	129
Average Queue (ft)	53	38	4	92	146	161	25	167	180	33
95th Queue (ft)	100	71	20	180	280	295	81	319	328	91
Link Distance (ft)	1437		648		1084	1084		1919	1919	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)				3	7			13	3	
Queuing Penalty (veh)				22	13			5	4	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	NB
Directions Served	U
Maximum Queue (ft)	20
Average Queue (ft)	2
95th Queue (ft)	12
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	125
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	L	L	T
Maximum Queue (ft)	461	463	106	118	157	181	12
Average Queue (ft)	188	188	50	55	76	97	0
95th Queue (ft)	372	373	88	99	138	160	7
Link Distance (ft)	1008	1008	2766	2766		3866	3866
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	32	271	281	390	544	546	153	28	135	62	38	49
Average Queue (ft)	7	143	159	212	208	207	6	3	66	14	5	8
95th Queue (ft)	25	251	263	347	471	481	81	17	116	45	22	31
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		1			0	5						
Queuing Penalty (veh)		0			0	1						

Zone Summary

Zone wide Queuing Penalty: 75

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	58	48	164	85	50	163	165	42	72	262	283	31
Average Queue (ft)	19	13	72	29	12	71	75	12	29	115	123	8
95th Queue (ft)	49	37	134	68	38	136	145	36	62	210	230	26
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						0				0	0	
Queuing Penalty (veh)						0				0	0	

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	15	47	61	53	71	5	95	127	23
Average Queue (ft)	2	8	20	8	15	0	16	21	2
95th Queue (ft)	11	28	48	35	51	3	58	78	12
Link Distance (ft)	1824	1824		1925	1925		663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			250			150			235
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	275	195	125	223	268	202	28	282	291	178
Average Queue (ft)	139	89	56	135	80	73	4	156	161	66
95th Queue (ft)	242	158	102	222	200	157	19	252	257	131
Link Distance (ft)	1442		648		1065	1065		1925	1925	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)	1			13	1			11	0	
Queuing Penalty (veh)	2			49	2			1	1	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	185	158	98	89	260	257	46	131	257	251
Average Queue (ft)	107	59	42	13	105	101	18	50	79	100
95th Queue (ft)	167	132	78	50	206	202	42	98	181	204
Link Distance (ft)	816	816	816		636	636			1065	1065
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				125			300	300		
Storage Blk Time (%)					4	0			0	
Queuing Penalty (veh)					1	0			0	

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	L	L	T
Maximum Queue (ft)	148	147	77	93	170	184	5
Average Queue (ft)	51	44	35	41	106	129	0
95th Queue (ft)	104	101	66	77	150	173	5
Link Distance (ft)	1008	1008	2766	2766		3192	3192
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	38	298	319	212	235	208	9	19	223	190	45	61
Average Queue (ft)	6	173	192	110	36	30	0	1	129	64	8	11
95th Queue (ft)	24	267	277	188	135	121	4	9	204	163	31	40
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		2				0						
Queuing Penalty (veh)		0				0						

Intersection: 7: US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance

Movement	WB
Directions Served	R
Maximum Queue (ft)	63
Average Queue (ft)	18
95th Queue (ft)	43
Link Distance (ft)	1244
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 56

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	176	73	175	140	175	366	366	78	162	284	286	43
Average Queue (ft)	86	26	78	55	38	186	198	27	76	171	177	20
95th Queue (ft)	152	60	158	114	108	325	335	58	141	262	268	41
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						8	1		0	0	0	
Queuing Penalty (veh)						4	1		0	1	0	

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	T	T	R
Maximum Queue (ft)	142	116	21	147	160	180	121	138	52
Average Queue (ft)	66	40	1	71	65	84	40	45	15
95th Queue (ft)	126	91	9	122	142	163	90	100	42
Link Distance (ft)	1824	1824	1402		1925	1925	663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				250					235
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	126	106	32	206	293	292	139	325	328	77
Average Queue (ft)	57	42	4	86	105	116	24	134	140	25
95th Queue (ft)	105	84	20	161	239	251	88	274	283	60
Link Distance (ft)	1442		648		1065	1065		1925	1925	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)				2	5			9	1	
Queuing Penalty (veh)				17	10			3	1	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	184	150	148	103	375	370	110	202	140	142
Average Queue (ft)	111	62	68	14	209	207	44	96	38	57
95th Queue (ft)	170	138	121	61	340	336	83	167	99	120
Link Distance (ft)	816	816	816		636	636			1065	1065
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				125			300	300		
Storage Blk Time (%)					18	2				
Queuing Penalty (veh)					2	4				

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB
Directions Served	R	R	T	T	L	L
Maximum Queue (ft)	577	532	131	124	222	243
Average Queue (ft)	204	210	62	67	75	98
95th Queue (ft)	451	451	109	111	155	177
Link Distance (ft)	1008	1008	2766	2766		3192
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)					300	
Storage Blk Time (%)					0	0
Queuing Penalty (veh)					0	0

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	35	338	349	628	717	736	236	25	148	106	35	41
Average Queue (ft)	7	174	188	219	219	230	10	2	66	15	6	5
95th Queue (ft)	27	304	314	407	568	588	115	11	120	56	25	24
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)				0	0	0						
Queuing Penalty (veh)				0	0	0						
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		4			1	9						
Queuing Penalty (veh)		0			5	1						

Intersection: 7: US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance

Movement	WB	NB
Directions Served	R	T
Maximum Queue (ft)	92	1
Average Queue (ft)	27	0
95th Queue (ft)	71	1
Link Distance (ft)	1244	3192
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 50

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	73	68	201	106	71	292	313	86	105	271	296	64
Average Queue (ft)	25	19	97	33	11	133	141	18	35	143	155	8
95th Queue (ft)	60	50	173	77	53	243	258	62	75	247	267	45
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)					0	2	0	0		0	0	0
Queuing Penalty (veh)					0	0	0	0		0	0	0

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	28	48	63	99	114	5	148	184	24
Average Queue (ft)	3	8	21	16	29	0	31	40	2
95th Queue (ft)	15	28	50	62	89	2	95	119	12
Link Distance (ft)	1824	1824		1925	1925		663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			250			150			235
Storage Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	334	271	160	125	449	404	86	387	408	275
Average Queue (ft)	158	123	66	121	253	194	7	218	221	119
95th Queue (ft)	277	231	130	135	427	351	41	344	361	269
Link Distance (ft)	1442		648		1065	1065		1925	1925	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)	0	0		39	25		0	24	3	0
Queuing Penalty (veh)	2	1		155	75		0	2	9	2

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	176	142	144	98	224	217	54	104	185	207
Average Queue (ft)	101	50	67	16	130	119	22	45	78	99
95th Queue (ft)	154	114	120	63	197	184	49	87	155	177
Link Distance (ft)	816	816	816		636	636			1065	1065
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				125			300	300		
Storage Blk Time (%)				0	5	0				
Queuing Penalty (veh)				0	1	0				

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB
Directions Served	R	R	T	T	L	L
Maximum Queue (ft)	170	163	97	101	239	279
Average Queue (ft)	56	47	46	50	125	156
95th Queue (ft)	118	109	84	87	196	233
Link Distance (ft)	1008	1008	2766	2766		3192
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					300	
Storage Blk Time (%)					0	0
Queuing Penalty (veh)					0	0

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	76	346	351	238	237	217	4	14	230	197	47	48
Average Queue (ft)	8	172	193	116	38	31	0	1	139	77	10	12
95th Queue (ft)	44	308	318	191	147	129	4	7	208	174	34	37
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)	0	4				0						
Queuing Penalty (veh)	0	0				0						

Intersection: 7: US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance

Movement	WB	SB
Directions Served	R	T
Maximum Queue (ft)	50	3
Average Queue (ft)	16	0
95th Queue (ft)	39	3
Link Distance (ft)	1244	636
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 247

Intersection: 1: US 258/Rt 10 (Benns Church Boulevard) & Canteberry Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	T	R
Maximum Queue (ft)	226	85	156	139	277	532	552	294	201	525	364	52
Average Queue (ft)	108	29	70	57	62	292	304	41	88	219	218	22
95th Queue (ft)	200	64	131	110	190	500	509	176	164	425	341	42
Link Distance (ft)	277	277	1172	1172		663	663			1895	1895	
Upstream Blk Time (%)	0					0	0			0		
Queuing Penalty (veh)	0					0	1			0		
Storage Bay Dist (ft)					200			350	275			325
Storage Blk Time (%)						22	8		0	3	1	
Queuing Penalty (veh)						13	11		0	4	1	

Intersection: 2: US 258/Rt 10 (Benns Church Boulevard) & Cypress Run Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	T	T	R
Maximum Queue (ft)	211	134	24	187	142	152	153	170	86
Average Queue (ft)	104	47	2	89	38	53	51	57	22
95th Queue (ft)	212	101	13	156	97	110	128	134	61
Link Distance (ft)	1824	1824	1402		1925	1925	663	663	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				250				235	
Storage Blk Time (%)				0			0		
Queuing Penalty (veh)				0			0		

Intersection: 3: US 258/Rt 10 (Benns Church Boulevard) & Turner Drive

Movement	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	LTR	L	T	TR	L	T	T	R
Maximum Queue (ft)	132	107	35	217	242	239	84	210	213	78
Average Queue (ft)	60	49	4	109	123	121	25	80	81	21
95th Queue (ft)	111	93	22	192	234	230	62	159	162	57
Link Distance (ft)	1442		648		1065	1065		1925	1925	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		300		125			125			275
Storage Blk Time (%)				8	6		0	2	0	
Queuing Penalty (veh)				61	14		0	1	0	

Intersection: 4: US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	U	T	T	R	L	T	T
Maximum Queue (ft)	214	187	183	92	448	445	210	198	192	204
Average Queue (ft)	127	86	85	11	264	258	47	112	76	92
95th Queue (ft)	193	175	151	54	412	405	129	181	151	165
Link Distance (ft)	816	816	816		636	636			1065	1065
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				125			300	300		
Storage Blk Time (%)					23	5			0	
Queuing Penalty (veh)					3	10			0	

Intersection: 5: US 258/Rt 10 (Benns Church Boulevard) & 258/Rt 32 (Brewers Neck Boulevard)

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	T	L	L	T
Maximum Queue (ft)	575	610	122	142	142	159	8
Average Queue (ft)	265	272	59	71	74	96	0
95th Queue (ft)	531	551	104	119	124	146	6
Link Distance (ft)	1008	1008	2766	2766		3192	3192
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					300		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: Queen Annes Court & 258/Rt 32 (Brewers Neck Boulevard)

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	R	LT	R
Maximum Queue (ft)	43	352	356	516	722	768	242	34	164	105	46	50
Average Queue (ft)	9	189	201	247	245	262	17	5	75	18	8	7
95th Queue (ft)	31	315	319	406	630	673	152	21	134	64	30	30
Link Distance (ft)		1008	1008		785	785		858			565	565
Upstream Blk Time (%)				0	0	1						
Queuing Penalty (veh)				0	0	0						
Storage Bay Dist (ft)	225			600			325		350	350		
Storage Blk Time (%)		5			2	10						
Queuing Penalty (veh)		1			11	2						

Intersection: 7: US 258/Rt 10 (Benns Church Boulevard) & Proposed Secondary Entrance

Movement	WB
Directions Served	R
Maximum Queue (ft)	101
Average Queue (ft)	29
95th Queue (ft)	72
Link Distance (ft)	1244
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 132

APPENDIX L

Signal Justification Reports



VHB
Virginia Beach, VA
TRAFFIC ENGINEER

VDOT Signal Justification Report (SJR)
Hampton Roads District

Date: 12/16/2019

I. Study Intersection

Major Street Route # and Name: US 258/Rt 10 (Benns Church Boulevard) **Direction:** North/South
Minor Street Route # and Name: Sweet Grass Main Entrance **Direction:** East/West
County or Locality: Isle of Wight County
Intersection on Arterial Preservation Network (APN)? No
If on APN, type of APN Corridor? N/A
Sketch/Diagram/Aerial of the Intersection Geometry: See Attached.

Describe the Origin and Nature of Request. If this SJR is based on a recommendation from another study (e.g. Traffic Impact Analysis or Safety Study), then note the name/date of the study and attach the study to this SJR.
Sweetgrass is an undeveloped parcel located at 14096 Benns Church Boulevard in Isle of Wight County. The parcel is on the northeast side of Route 10 (Benns Church Boulevard) between Route 32 (Brewers Neck Boulevard) and Canteberry Lane. Ryan Homes is planning a development of single family and multi-family residential units as well as a public park, and shopping center, with a fast food restaurant, on this parcel.
Traffic Impact Analysis has been prepared by VHB, and a traffic signal is recommended at the proposed main entrance into the development. The SJR is required for the proposed signal. The Sweetgrass TIA is attached to this report.

If the origin of this SJR comes from another study, what were the key conclusions from that study that are related to this intersection?
The origin of this SJR came from the attached Sweetgrass TIA. The following conclusions came from the TIA:

- Construct northbound right turn lane (200’ storage plus 200’ taper) into right in/right out Proposed Secondary Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Construct northbound right turn lane (200’ storage plus 200’ taper) into Proposed Main Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Lengthen southbound left turn lane to provide 200’ storage plus 200’ taper into Proposed Main Entrance off of US 258/Rt 10 (Benns Church Boulevard).
- Install traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and Proposed Main Entrance.

II. Signal Warrant Analysis Summary

Intersection Approach Information:

Approach Direction	Road Name/Route Number	Approach Speed	Approach Speed Type	Approach Speed Notes[1]	Number of Through Lanes	Annual Average Daily Traffic (AADT)
Northbound	US 258/Rt 10 (Benns Church Boulveard)	45 MPH	Posted Speed Limit	none	2	25,000 vpd[2]
Southbound	US 258/Rt 10 (Benns Church Boulveard)	45 MPH	Posted Speed Limit	none	2	
Eastbound	N/A	N/A	N/A	N/A	N/A	N/A
Westbound	Proposed Main Entrance	25 mph	Proposed Posted Speed Limit	none	0	5,206 vpd[3]

[1] If approach speed type is not the posted/statutory speed limit, explain the reason why the posted/statutory speed limit was not used.
[2] Source: VDOT 2017 Daily Traffic Volume Estimates (AADT) Jurisdiction Report.
[3] Source: Sweetgrass t TIA trip generation.

Summary of Traffic Count Source:
Thirteen-hour turning movement counts (TMC), were collected from 6 AM to 7 PM using Miovision video on a typical, non-holiday weekday (Thursday, April 26th, 2018). These counts consisted of vehicular turning movements and pedestrian crossings at each approach. The 13-hour TMC is summarized in 15-minute intervals and is included in the attached signal warrant analysis.

Summary of MUTCD Signal Warrant Analysis:

MUTCD Signal Warrants	Warrant Satisfied?	Notes / Summary
Warrant 1: Eight-Hour Vehicular Volume	☐ Yes ☐ No ☐ N/A	
Warrant 1: VDOT ADT Option[1]	☒ Yes ☐ No ☐ N/A	Projected volumes: Mainline -32,315 vpd Minor Street (1-direction) – 5,206 vpd (see graphic on page 4 for site generated traffic that was added to existing mainline ADT). See information on following pages.
Warrant 2: Four-Hour Vehicular Volume	☒ Yes ☐ No ☐ N/A	Numerical requirements for Warrant 2 are met. See attached signal warrant analysis for details.
Warrant 3: Peak Hour[2]	☒ Yes ☐ No ☐ N/A	Numerical requirements for Warrant 3 are met. See attached signal warrant analysis for details.
Warrant 4: Pedestrian Volume	☐ Yes ☒ No ☐ N/A	Pedestrian activity is minimal at this study intersection.
Warrant 5: School Crossing	☐ Yes ☐ No ☒ N/A	Click or tap here to enter text.
Warrant 6: Coordinated Signal System	☐ Yes ☒ No ☐ N/A	Upstream signal has no coordination.
Warrant 7: Crash Experience	☐ Yes ☐ No ☒ N/A	Click or tap here to enter text.
Warrant 8: Roadway Network	☐ Yes ☐ No ☒ N/A	Click or tap here to enter text.
Warrant 9: Intersection Near a Grade Crossing	☐ Yes ☐ No ☒ N/A	Click or tap here to enter text.

Are the signal warrant analyses based on current volumes or anticipated future volumes?
☐ Current volumes ☒ Anticipated future volumes/conditions

If the signal warrant is only met under future conditions, provide a summary of trip generation assumptions and anticipated development thresholds that will trigger the signal being justified:
Signal warrants were met based on the forecasted volumes with the development being at full buildout in 2026. Traffic that may be generated by the proposed development was established using equations and rates available through the Institute of Transportation Engineer's (ITE) Trip Generation, 10th Edition.

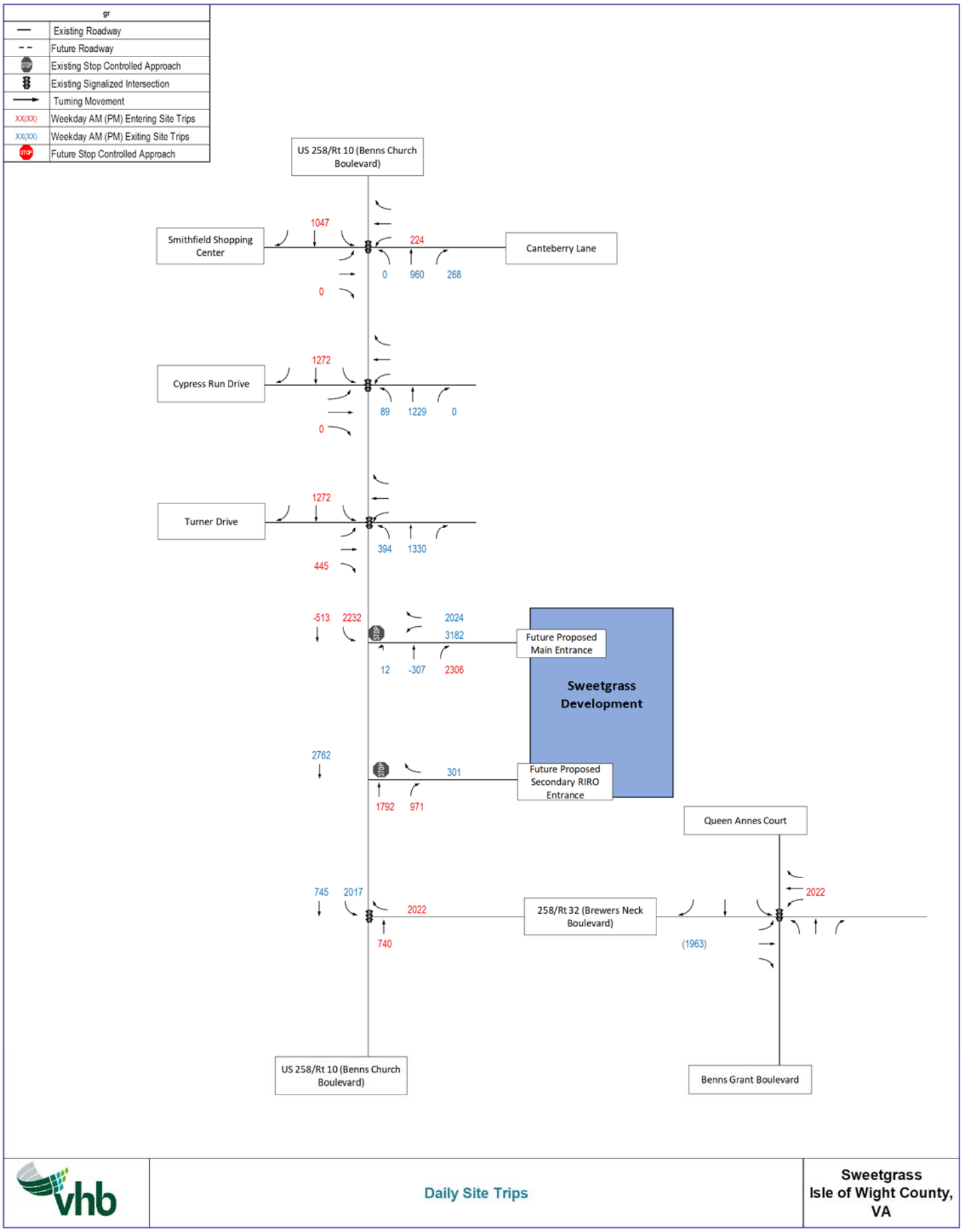
Trip generation for the site was prepared for each individual land use. ITE provides information for single-family detached housing (Land Use 210), low-rise multi-family housing (Land Use 220), public park (Land Use 411), shopping center (Land Use Code 820) and fast food with drive-through (Land Use 934).
The types of commercial development are unknown at this time, so shopping center was used. Pass-by trips to/from fast food restaurant were considered at 49% rate and pass-by trips to/from the shopping center were considered at 34% rate.
Summary of all future site trips are presented in the following tables and graphic.
Based on 70% reduction for speeds over 40 mph, a signal is warranted when the development is 43% complete.

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Conceptual Site Plan										
Single-Family Detached Housing	210	400	Dwelling Units	3,776	74	222	296	249	147	396
Multifamily Housing (Low-Rise)	220	285	Dwelling Units	2,144	30	101	131	101	59	160
Public Park	411	4	Acres	91	0	0	0	13	10	23
Shopping Center	820	30	1000 Sq. Ft. GLA	2,651	17	11	28	107	116	223
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	2,355	102	99	201	85	78	163
Subtotal				**11,017**	**223**	**433**	**656**	**555**	**410**	**965**
Pass-by Trips (Fast Food only)	49%		% Pass-by	1,154	50	49	98	42	38	80
Pass-by Trips (Shopping Center)	34%		% Pass-by	901	6	4	10	36	39	76
Total New Trips				**8,962**	**167**	**380**	**548**	**477**	**333**	**809**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between average rate and fitted curve unless R2<0.75

Land Use	ITE Code	Size	Units	Daily		
				Enter	Exit	Total
Conceptual Site Plan						
Single-Family Detached Housing	210	400	Dwelling Units	1888	1,888	3,776
Multifamily Housing (Low-Rise)	220	220	Dwelling Units	1072	1,072	2,144
Public Park	411	4	Acres	46	45	91
Shopping Center	820	30	1000 Sq. Ft. GLA	1326	1,325	2,651
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	1177	1,178	2,355
Subtotal				**5,509**	**5,508**	**11,017**
Pass-by Trips (Fast Food only)	49%		% Pass-by	577	577	1,154
Pass-by Trips (Shopping Center)	34%		% Pass-by	451	450	901
Total New Trips				**4,481**	**4,481**	**8,962**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between average rate and fitted curve unless R2<0.75



Daily Site Trips

Sweetgrass
Isle of Wight County, VA

III. VJuST Innovative Intersection Consideration

Summary of Potentially Feasible Innovative Intersections according to VJuST results:

Innovative Intersection Type	Feasibility Decision and Reason
Roundabout	Is a roundabout feasible? ☐ Yes ☒ No Explanation: The roundabout design was found to exceed capacity in both the AM and PM 2026 Build Condition. Additionally, the subject intersection is located on the major roadway (US 258/Rt 10 (Benns Church Boulevard) were the posted speed limit is 45 MPH. The mainline approach speeds would need to be slowed to 25-30mph to facilitate the roundabout. Slowing traffic down on northbound and southbound approaches, roundabout installation would be impractical and can potentially create a bottleneck on US 258/Rt 10.
All Innovative Intersection Designs Example: Median U-Turn	Is this Innovative Intersection type feasible? ☐ Yes ☒ No Explanation: The space needed for a continuous green tee is anticipated to exceed the available median storage width and would require the removal of the northbound U-turn. Additionally it is anticipated the west parcel will be developed soon and a green-t would restrict access to the parcel as well as pedestrian activity between Sweetgrass and the future development. The spacing between Turner Drive and the proposed signal is just over 1,000 feet. The signalized locations of the displaced lefts or median U-turn would be placed with the influence of the intersection at Turner Drive. In the case of the median u-turn the median opening for the displaced southbound lefts would fall within the vicinity of the secondary right in/right out access which would create undesirable weaving movement conflicts.

IV. Intersection Configuration and Control Recommendations and Signal Justification

Intersection Configuration and Control Recommendations:

This engineering study examined traffic signal warrants using existing volumes and Sweetgrass development trip generation at the intersection of US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance into the development in Isle of Wight County, VA. It is important to note that the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. Engineering judgement should also be used in the evaluation of the warrants to ensure that a traffic control signal will improve the overall safety and/or operation of the intersection. The analysis showed that the traffic volume warrants (Warrants 1, 2 and 3) are met at the 70% and 100% thresholds defined by the MUTCD.

Left turn lanes (200’ storage with 200’ taper) and right turn lanes (200’ storage with 200’ taper) are required on US 258/Rt 10 (Benns Church Boulevard). The Proposed Main Entrance should have a single-entry lane and three exit lanes (dual lefts and an exclusive right).

Signal Justification:

The signal is recommended in this location based on the projected volumes. US 258/Rt 10 (Benns Church Boulevard) has heavy through volumes with posted speed limit of 45 mph. Left-turns onto the roadway out of the proposed development will be almost impossible without the proposed signal. The capacity analysis has shown that the intersection will operate acceptably with a minimum impact on the adjacent transportation network with signal installation in this location.

V. Approvals

Signal Justification Report Approvals:

District Traffic Engineer (DTE): Required for all SJRs

☐ Concur ☐ Do Not Concur

_____	_____	_____
Name	Signature	Date

Comments:

_____

_____

_____

_____

District Engineer/Administrator (DE/DA): Only required if SJR recommends a proposed signal on the APN

☐ Concur ☐ Do Not Concur

_____	_____	_____
Name	Signature	Date

Comments:

_____

_____

_____

_____

State Traffic Engineer (STE): Only required if SJR recommends a proposed signal on the APN

☐ Approved ☐ Denied

_____	_____	_____
Name	Signature	Date

Comments:

_____

_____

_____

_____

If additional comments are necessary, please attach the comments on another sheet.

Appendix A:
Signal Warrant Analysis

Traffic Signal Warrant Analysis

This report details the findings of a traffic signal warrant analysis on the US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance intersection, to determine whether a signal would be warranted for the opening day build year, 2026, of the Sweetgrass Development.

Evaluation of the need for a traffic signal at an intersection requires the examination of various factors such as traffic volumes, traffic flow and progression, and overall safety of the intersection to determine if a traffic signal would be warranted. Each of these elements is described below.

Methodology

Signal warrant analyses were performed following the procedures outlined in the 2009 edition of the Manual of Uniform Traffic Control Devices (MUTCD). Existing peak hour turning movement counts were collected at the study intersection and were used for this warrant analysis.

The traffic conditions of the intersection in the build year, 2026, were derived from a composition of existing turning movement volumes and a distribution of site trips from the Sweetgrass Development. The extent of signal warrant of the future conditions is limited by the data derived from the traffic forecast which includes only morning and evening peak hours and two additional hours, that were selected based on land uses that generate the highest traffic volumes: single-family detached housing, multifamily housing (low-rise) and fast-food restaurant.

Warrant Analysis Results

Warrant 1 – Eight Hour Vehicular Volume

Warrant 1, Eight-Hour Vehicular Volume, consists of two separate warrants; Warrant 1A-Minimum Vehicular Volume and Warrant 1B-Interruption of Continuous Traffic. The Minimum Vehicular Volume warrant is intended for use at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal. The Interruption of Continuous Traffic warrant is intended for use at locations where Warrant A is not satisfied and where the volume of traffic on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay when attempting to cross or enter the major street. Warrant 1 is intended to be used as a single warrant; if Warrant A is met and Warrant B is not met, a traffic signal is warranted. Conversely, if Warrant A is not met and Warrant B is met, a traffic signal is still warranted.

Since this is a proposed entrance, VDOT's Traffic Signal Warrant Using Average Daily Traffic Estimate for the Virginia Supplement to the MUTCD was used. The future traffic projections at the US 258/Rt 10 (Benns Church Boulevard) & Proposed Main Entrance intersection were developed using the daily trip generation and distribution patterns shown in the TIA. The daily trip projections and associated site traffic are shown in the following table and figure respectively. For the signal warrant, the projected site trips on US 258/Rt 10 (Benns Church Boulevard) were added to the 2017 VDOT AADT of 25,000 vpd projected to Opening Day 2026 AADT of 28,585 vpd.

Land Use	ITE Code	Size	Units	Daily		
				Enter	Exit	Total
Conceptual Site Plan						
Single-Family Detached Housing	210	400	Dwelling Units	1888	1,888	3,776
Multifamily Housing (Low-Rise)	220	220	Dwelling Units	1072	1,072	2,144
Public Park	411	4	Acres	46	45	91
Shopping Center	820	30	1000 Sq. Ft. GLA	1326	1,325	2,651
Fast Food with Drive-Thru	934	5	1000 Sq. Ft. GLA	1177	1,178	2,355
Subtotal				**5,509**	**5,508**	**11,017**
Pass-by Trips (Fast Food only)	49%		% Pass-by	577	577	1,154
Pass-by Trips (Shopping Center)	34%		% Pass-by	451	450	901
Total New Trips				**4,481**	**4,481**	**8,962**

Reference: Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC. 2017.
Note: Used highest total between average rate and fitted curve unless R2<0.75

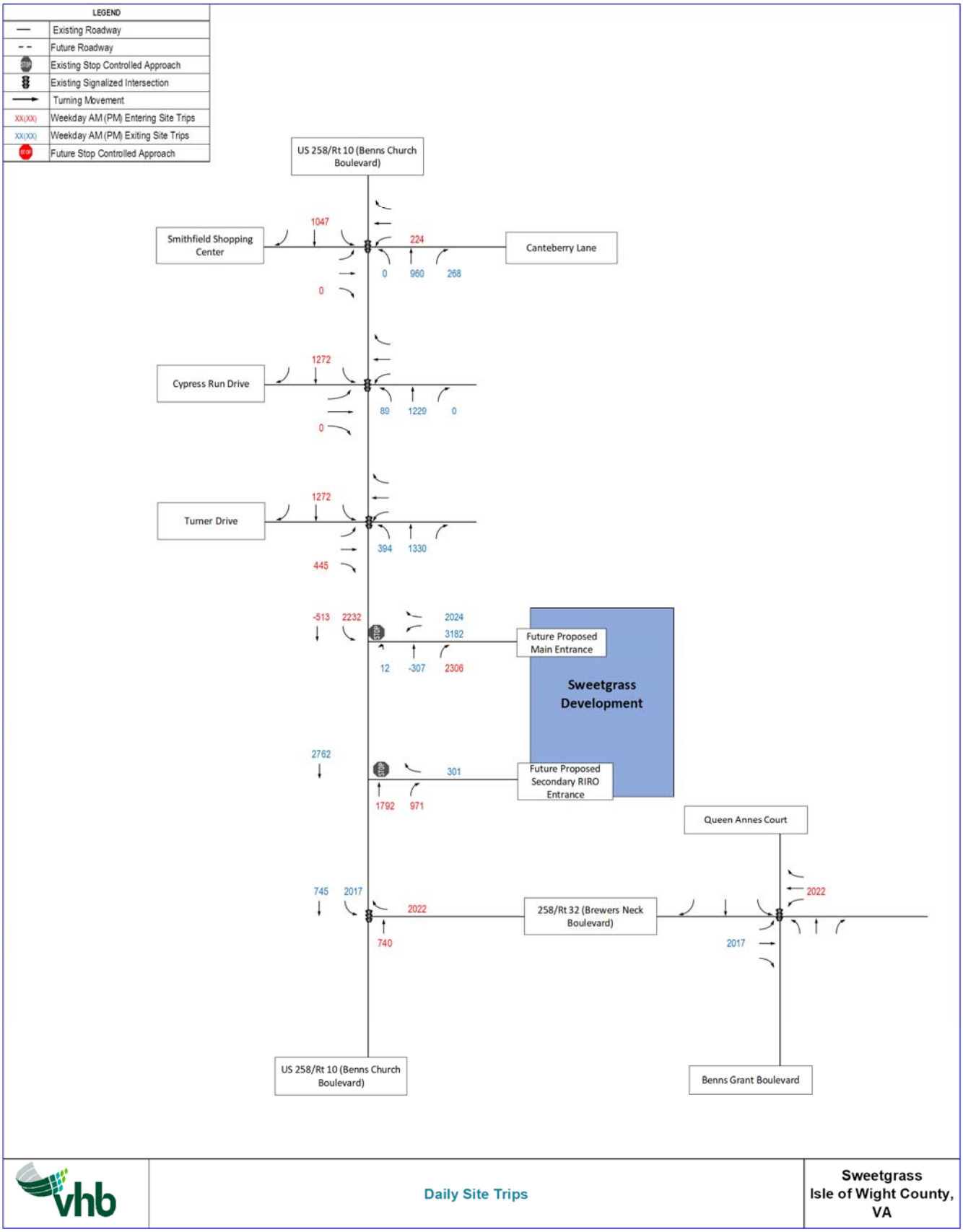

LEGEND
Existing Roadway
Future Roadway
Existing Stop Controlled Approach
Existing Signalized Intersection
Turning Movement
XX(XX) Weekday AM (PM) Entering Site Trips
XX(XX) Weekday AM (PM) Exiting Site Trips
Future Stop Controlled Approach
US 258/Rt 10 (Benns Church Boulevard)
Smithfield Shopping Center
Canteberry Lane
1047
224
0
960
268
0
Cypress Run Drive
1272
89
1229
0
0
Turner Drive
1272
394
1330
445
-513
2232
2024
3182
12
-307
2306
Future Proposed Main Entrance
Sweetgrass Development
2762
301
1792
971
Future Proposed Secondary RIRO Entrance
Queen Annes Court
745
2017
2022
2022
740
258/Rt 32 (Brewers Neck Boulevard)
2022
2017
US 258/Rt 10 (Benns Church Boulevard)
Benns Grant Boulevard
Daily Site Trips
Sweetgrass
Isle of Wight County, VA

Table 1: Future Conditions – Warrant 1 Condition A Summary

Number of Lanes		Vehicles per day on major street (total of both approaches)					Vehicles per day on minor street (total of both approaches)				
Major	Minor	100%	80%	70%	56%	Projected	100%	80%	70%	56%	Projected
2 or more	2 or more	9600	7680	6720	5376	32315	3200	2560	2240	1792	5206

Proposed signal warranted when development is: 43%

Warrant 1 is satisfied. The signal is projected to be warranted when the development is 43% built out with the 70% reduction due to the speed limit along the corridor.

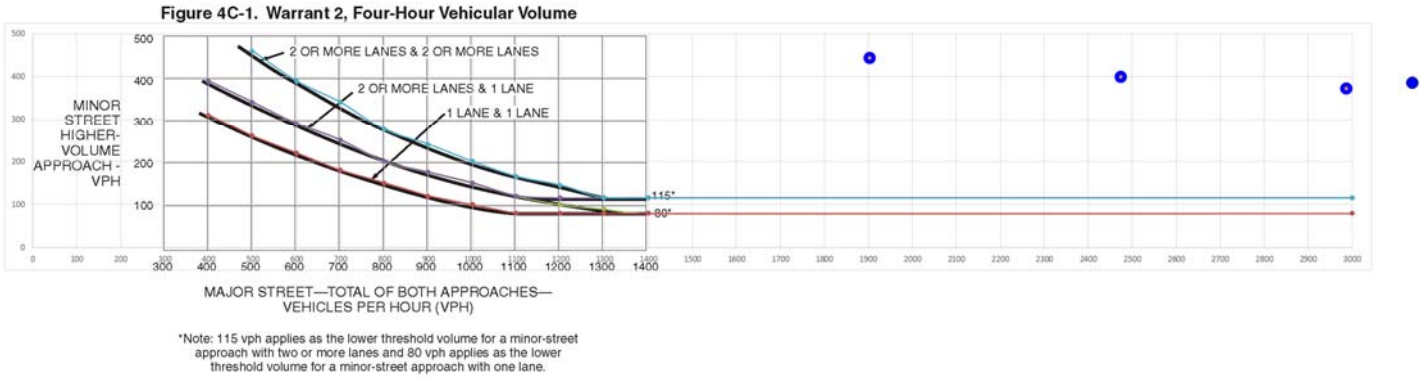
Warrant 2 – Four Hour Vehicular Volume

Warrant 2, Four-Hour Vehicular Volume, is intended for use at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal. A traffic signal is warranted based on Warrant 2 if "the plotted points representing the vehicles per hour on the major street and the minor street fall above the applicable curve."

Considering the two highest peak hours in terms of traffic volume at the study intersection the following figure shows that both, AM and PM peak hours, as well as additional two hours, would exceed the threshold of the Warrant. Based on the future land uses, it is expected that four hours would meet the minimum threshold volumes of the warrant.

Figure 1: 2026 Build Conditions Warrant 2

Time	Major Street (vph)	Minor Street (vph)
7:00 AM to 8:00 AM	2474	399
12:00 PM to 1:00 PM	1903	444
4:00 PM to 5:00 PM	3271	388
4:30 PM to 5:30 PM	2988	372



Warrant 2 is satisfied.

Warrant 3 – Peak Hour

Warrant 3, Peak Hour, "is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street." The Peak Hour warrant is met when "the plotted point representing the vehicles per hour on the major street and the minor street for one hour fall above the applicable curve" or based on the following conditions:

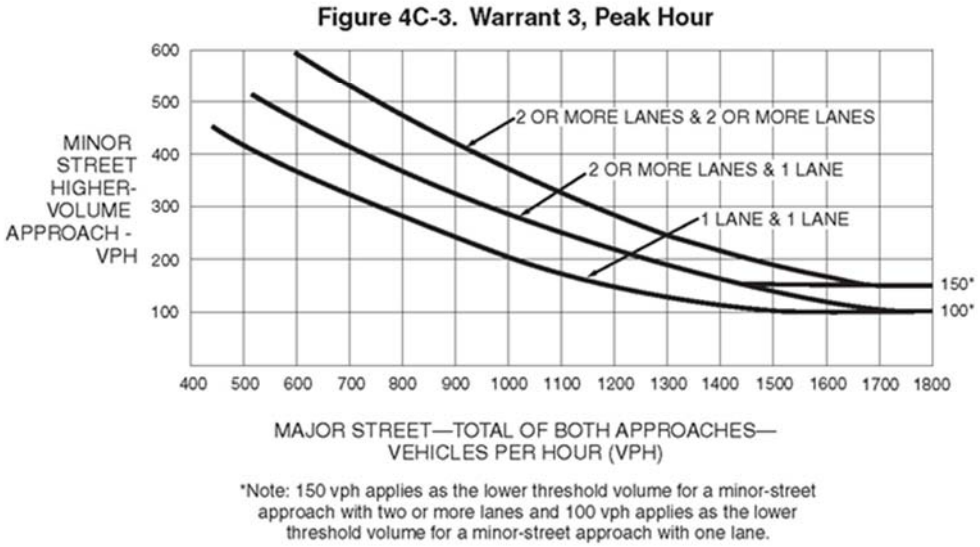
a) The total stopped time delay experienced by the traffic on one minor-street approach controlled by a stop sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and

b) The volume on the same minor-street approach equals or exceeds 100 vehicles per hour for one lane or 150 vehicles per hour for two lanes, and

c) The total entering volume during the hour meets or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

Figure 2: 2026 Build Conditions Warrant 3

Time	Major Street (vph)	Minor Street+ (vph)
7:00 AM to 8:00 AM	2474	336
4:30 PM to 8:00 AM	2988	352



As shown in Figure 2, both AM and PM peak hours fall above the curve for the geometric combination of 2 or more lanes on both the major and minor roadways.

Warrant 3 is satisfied.

Warrant 4 – Pedestrian Volume

Warrant 4, Pedestrian Volume, is intended for use at locations where the volume of traffic on the major street is so heavy that pedestrians experience significant delay or conflict when attempting to cross the major street. Warrant 4 is satisfied when "the pedestrian volume crossing the major street at an intersection during an average day is: 100 or more for each of any four hours; or 190 or more during any one hour."

Currently, there are no existing pedestrian sidewalks in the area of the study. It is not expected that the development will generate the pedestrian volumes levels required to satisfy the warrant due to the rural nature of the surrounding area.

Warrant 4 is not satisfied.

Warrant 5 – School Crossing

Warrant 5, School Crossing, is intended for use at locations “where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.” For the purposes of this warrant, the word "schoolchildren" includes elementary through high school students.

Warrant 5 is not applicable because there are no school crossings near the subject intersection.

Warrant 5 is not satisfied.

Warrant 6 – Coordinated Signal System

Warrant 6, Coordinated Signal System, is satisfied when “on a two-way street, adjacent signals do not provide the necessary degree of platooning and speed control and the proposed and adjacent signals could constitute a progressive signal system.”

A signal at Proposed Main Entrance would not help traffic platooning since the signal located at Turner Road is not coordinated.

Warrant 6 is not satisfied.

Warrant 7 – Crash Experience

Warrant 7, Crash Experience, is intended for use at locations where “the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.” A traffic signal is warranted based on Warrant 7 if the following criteria are met:

a) Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
b) Five or more reported crashes, of types susceptible to correction by a traffic signal, have occurred within a 12-month period, each crash involving personal injury or property damage exceeding the applicable requirements for a reportable crash.

Due to the lack of crash data, we were unable to evaluate the severity and frequency of crashes at the intersection.

Warrant 7 is not satisfied.

Warrant 8 – Roadway Network

Warrant 8, Roadway Network, is intended when the proposed traffic signal will encourage concentration and traffic flow organization on a given roadway network. This Warrant is intended for location where two major routes meet or where traffic volumes exceed 1000 vehicles per hour.

Warrant 8 is not applicable because the minor street is an entrance into the development and is not a major roadway.

Warrant 8 is not satisfied.

Warrant 9 – Intersection Near a Grade Crossing

Warrant 9, Intersection Near a Grade Crossing, is intended for "use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal."

Warrant 9 is not applicable.

Warrant 9 is not satisfied.

Conclusions

Warrant Analysis Conclusions

This engineering study examined traffic signal warrants at the intersection of US 257/Rt 10 (Benns Church Boulevard) and the Proposed Main entrance. The analysis showed that the traffic volume warrants (Warrants 1, 2 and 3) are met at the 70% and 100% thresholds defined by the MUTCD. The warrant is based on projected traffic volumes as well as volumes generated by the development, calculated based on available traffic data from 10th edition of ITE Trip Generation Manual.

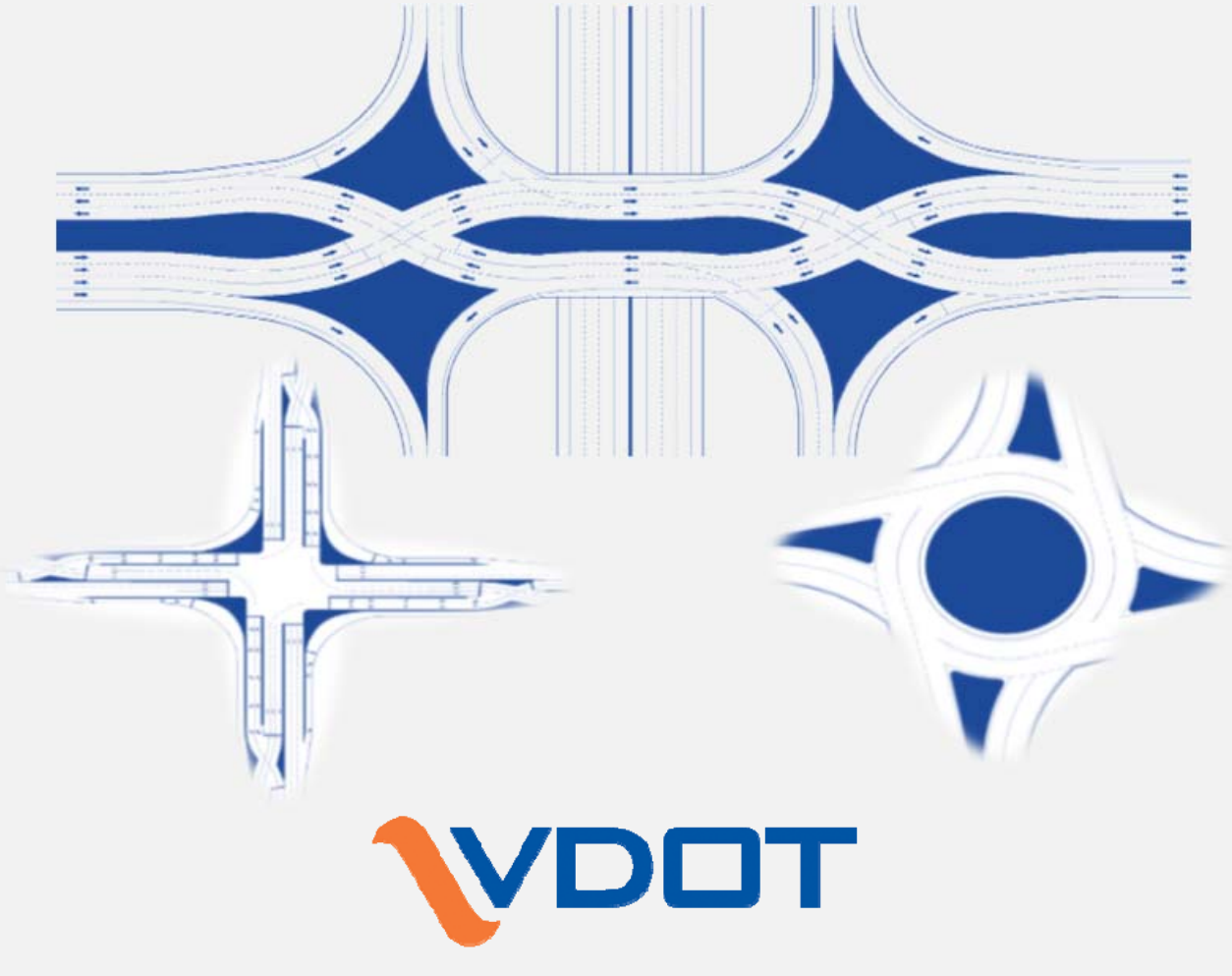
Appendix B:
VJuST Input and Results Worksheets

VJuST

VDOT Junction Screening Tool

Version 1.02
June 2018

View Disclaimer



VDOT

Modified from FHWA's Capacity Analysis for Junctions (CAP-X)

To Download the latest version of VJuST please go to: http://www.virginiadot.org/innovativeintersections
For Technical Support or Help please email: vjustsupport@vdot.virginia.gov

DISCLAIMER & ACKNOWLEDGMENTS

DISCLAIMER ACKNOWLEDGMENT

By indicating below, I acknowledge that I have obtained the most up-to-date version of this tool and that I have reviewed the Disclaimer.

Yes

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The VDOT Junction Screening Tool is a modified or altered version of the CAP-X Software developed by the Federal Highway Administration (FHWA). VDOT's alterations to the CAP-X Software include:

- Seven new intersection and four new interchange configurations
- Two additional metrics (other than congestion):
    1. safety - based on weighted vehicle conflict points and
    2. pedestrians - based on the potential to accommodate pedestrians in terms of safety, wayfinding, and delay
- Enhanced congestion metric that includes consideration of shared lanes and/or channelized right-turn lanes

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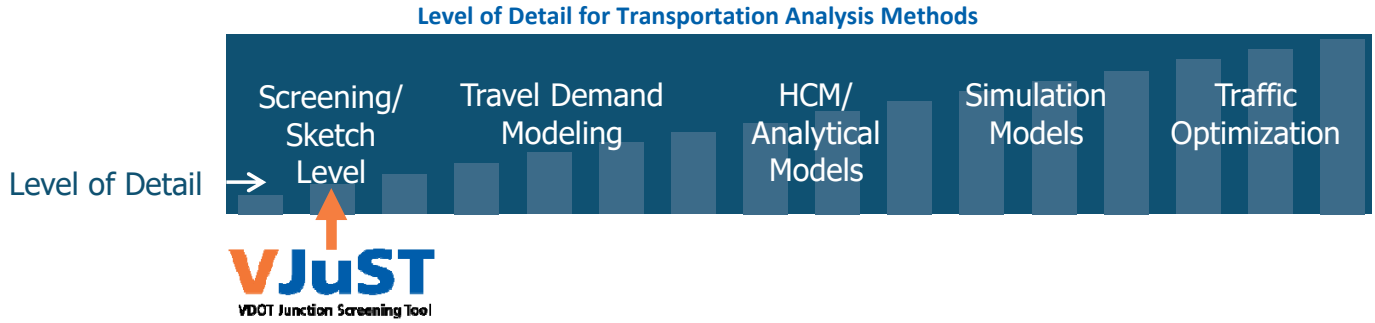
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VJuST
VDOT Junction Screening Tool

OVERVIEW OF THE TOOL

BACKGROUND

The Federal Highway Administration (FHWA) Office of Operations Research and Development developed the Capacity Analysis for Planning of Junctions (CAP-X) software to screen innovative intersection and interchange configurations. CAP-X is a sketch-level tool that was created to help users focus on more effective intersection and interchange configurations prior to conducting more demanding traffic simulations. The figure below illustrates the level of detail associated with sketch-level tools in relation to more robust methods.



CAP-X uses the Critical Lane Volume (CLV) method to provide sketch-level capacity assessments for innovative intersection and interchange configurations using peak hour volumes. The CLV method estimates an overall intersection volume-to-capacity ratio assuming the maximum capacity of the intersection is fixed (i.e., no variance in traffic signal timings).

In 2016, the Virginia Department of Transportation (VDOT) altered the CAP-X software for use in determining the congestion component in the SMART SCALE application scoring process. More information about the SMART SCALE process may be found at http://vasmartscale.org/. The VDOT innovative Intersection Committee requested that the CAP-X software tool be modified further for use in screening innovative intersection and interchange configurations in terms of congestion, pedestrians, and safety. Ultimately, the VDOT Innovative Intersection Committee envisions the tool to be useable by local jurisdictions as well as VDOT engineers and planners during the SMART SCALE application process. The tool was renamed to the VDOT Junction Screening Tool and now includes 26 unique intersection and interchange configurations, 15 of which were originally in CAP-X.

PURPOSE

The VDOT Junction Screening Tool is intended to aid transportation engineers and planners in Virginia with considering and screening innovative intersection and interchange configurations that address mobility and safety issues. This sketch-level tool can help identify and screen innovative intersection and interchange configurations to be evaluated for further study, analysis and design. Results are based on user inputs for turning movement volumes and lane configurations. This tool is only applicable to isolated intersections or interchanges; however, the results may be indicative of how an intersection or interchange within a corridor will operate.

The results provided in the VDOT Junction Screening Tool are not meant to replicate the results that would be obtained from more detailed traffic operations, safety, and design analyses. As such, the VDOT Junction Screening Tool is intended to provide information to users that will aid them in the planning, screening, and decision-making processes used to determine which innovative intersection and interchange configurations should move forward to a more detailed analysis.

SCORING SYSTEM

The VDOT Junction Screening Tool provides information to users in three categories: congestion, pedestrians, and safety. Further information on the development of each category is outlined below. This tool does not prioritize any category over another and congestion is the only category dependent on user inputs. It is the user's responsibility to decide how to apply and prioritize the results from this tool.

OVERVIEW OF THE TOOL

Congestion

Volume-to-capacity (V/C) ratio is the primary metric used to reflect congestion when comparing configurations. V/C ratio is calculated using the CLV method with the assumption that the maximum capacity of the intersection is fixed. This calculation is dynamic and is dependent on the volume and lane configuration inputs entered into the VDOT Junction Screening Tool. This calculation does not consider signal timing, geometric, or driver behavior parameters and is not intended to replicate the calculations produced by traffic analysis tools.

The user must verify the number of left-turn, through, and right-turn lanes entered for each innovative intersection or interchange configuration that is considered. Misleading results are possible if lane configurations are inconsistent across similar intersection or interchange configurations. This tool generally does not limit the number of lanes that are assigned to a particular movement. The user should also consider right-of-way (ROW) impacts and/or design requirements for an individual project when assigning lane configurations.

Some of the innovative intersection or interchange configurations are divided into multiple zones, with each zone representing a location with conflicting volumes, such as a signalized intersection or crossover. The CLV method is applied individually for each zone to calculate a V/C ratio. This method determines the maximum volume per lane that must be accommodated during each signal phase and sums the critical phase volumes to determine the overall critical volume that must be accommodated by the zone. A value of 1,600 passenger cars per lane is assumed for the maximum intersection CLV. The calculated CLV for a zone is then divided by the maximum intersection CLV to determine the V/C ratio for that zone. The maximum V/C ratio of all zones that make up an innovative intersection or interchange configuration is summarized in the Results Worksheet. This V/C ratio represents the worst bottleneck in the configuration. The following table from the Highway Capacity Manual (HCM) 2000 may be used to relate the maximum V/C ratio to a description of capacity.

Capacity Description Based on V/C Ratio

V/C Ratio	Description of Capacity
< 0.85	Under capacity
0.85 - 0.95	Near capacity
0.95 - 1.0	At capacity
> 1.0	Over capacity

Source: *Highway Capacity Manual 2010*

Pedestrian

Innovative intersection and interchange configurations were evaluated based on its potential to accommodate pedestrians considering relative impact on pedestrian safety, wayfinding, and delay. The metric developed is a static metric that is not dependent on vehicular volumes, pedestrian volumes, or the number of lanes. The potential to accommodate pedestrians is qualitatively defined as better (+), similar (blank cell), or worse (-) when compared to a conventional intersection or a traditional diamond interchange. The following components were considered in determining this rating:

Safety

- Direction of traffic flow
- Number of vehicle/pedestrian conflicts
- Relative crosswalk lengths

Wayfinding

- Crosswalk alignment

Delay

- Number of crossings for a single movement
- Traffic signal cycle length

OVERVIEW OF THE TOOL

Safety

The relative safety of each innovative intersection or interchange configuration was estimated using a risk analysis based on vehicle conflict points. The three types of conflict points (crossing, merging, and diverging) were weighted based on the calculated average crash cost associated with each conflict point type. The methodology for determining the weighting system is outlined in the Safety Information worksheet. The conflict point diagram, number of conflict points, and the weighted total conflict point metric can be found in the Safety - Conflict Point Diagram section of each lane configuration worksheet.

ASSUMPTIONS

The following assumptions apply to the entire tool. Assumptions for a specific innovative intersection or interchange configuration are listed on the lane configuration worksheet.

- This tool defines an intersection configuration as a junction of two interrupted roadways, regardless of grade separation. This tool defines an interchange configuration as a junction of two roadways where one roadway remains uninterrupted.
- This tool is to be used to screen configurations for isolated intersections only. This tool does not consider adjacent intersections or a series of intersections in a corridor.
- This tool does not assume a base or existing condition. It assumes innovative configurations to be proposed conditions and compares them against each other.

- With the exception of the unsignalized configurations (50 Mini Roundabout, 75 Mini Roundabout, Roundabout, TWSC, Single Roundabout, Double Roundabout), each zone in a configuration is assumed to be signalized.
- Signal timing is not considered as part of CLV methodology.

- The TWSC and roundabout lane configuration worksheets do not use the CLV methodology. These worksheets use the *Highway Capacity Manual* (*HCM*), 6th Edition methodology or methodology established in the article *Determination of Mini-Roundabout Capacity in the United States* to compute the congestion metrics.

- Vehicule volumes, pedestrian volumes, and number of lanes were not considered as part of the pedestrian metric.
- Pedestrian and bicycle conflicts were not considered in the development of the conflict point diagrams.
- The number of lanes was not considered in the development of the conflict point diagrams.
- A default value of 1,600 passenger cars per lane is assumed for the maximum intersection CLV.
- U-turn volumes from the TMCs are treated as left-turns. This tool only analyzes U-turns that are built into an innovative intersection or interchange configuration to remove left-turning traffic from an intersection (e.g., Restricted Crossing U-Turn).
- If a turning movement shares a lane with the through movement, the turning volume is factored by an adjustment factor to convert it to an equivalent through movement. For right turns or left turns with no opposing right-turn and through movements, the turning volume is divided by the left- or right-turn adjustment factor. For left turns with opposing right-turn and through movements, the left-turn volume is instead multiplied by a custom left-turn factor based on the opposing volume.

Custom Left-Turn Factors

Opposing Volume	Custom Factor
< 200	1.1
200 - 599	2
600 - 799	3
800 - 999	4
≥ 1,000	5

Sources: *Guidelines for the Analysis of the Traffic Impact of Development Proposals; City of Frederick - Traffic Impact Study Guidelines*

● If an approach has both a shared through-left lane and an exclusive left-turn lane, this approach and its opposing approach are assumed to operate with split phasing.

● If a movement has both a shared and an exclusive lane, the volume is distributed between the two lanes based on the number of lanes indicated. The proportion of the turning volume that is assigned to the shared lane is divided by the left- or right-turn adjustment factor to convert it to an equivalent through movement. For example, if the northbound movement has a left-turn lane and a shared left-through lane, 50% of the left-turn volume is assigned to each lane.
● If a right-turn movement is channelized with a receiving lane, the right-turn volume is not considered in the CLV calculations for that zone.

● Unless specified with the lane configuration worksheet, right-turn movements are not assumed to be channelized.
● For interchange configurations, it is assumed that no vehicles on the off-ramp make through movements.

LIST OF ABBREVIATIONS

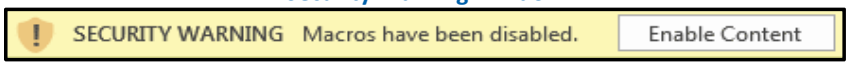
CAP-X	Capacity Analysis of Junctions
CLV	Critical Lane Volume
CGT	Continuous Green-T
DDI	Diverging Diamond Interchange
DLT	Displaced Left Turn
EB	Eastbound
E-W	East-West
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
Hr	Hour
ICD	Inscribed Circle Diameter
LTAF	Left-Turn Adjustment Factor
MUT	Median U-Turn
MUD	Michigan Urban Diamond
NB	Northbound
N-E	North-East
N-S	North-South
N-W	North-West
Parclo	Partial Cloverleaf
PC/Hr	Passenger Cars Per Hour
PCE	Passenger Car Equivalent
PCPH	Passenger Cars Per Hour
PCL	Partial Cloverleaf
PMUT	Partial Median U-Turn
QR	Quadrant Roadway
RCUT	Restricted Crossing U-Turn
ROW	Right-of-way
RTAF	Right-Turn Adjustment Factor
SB	Southbound
S-E	South-East
S-W	South-West
SPUI	Single Point Urban Interchange
TD	Traditional Diamond
TMC	Turning Movement Count
UTAF	U-Turn Adjustment Factor
V/C	Volume/Capacity
VDOT	Virginia Department of Transportation
Veh/Hr	Vehicles per hour
WB	Westbound

VJuST
VDOT Junction Screening Tool

INSTRUCTIONS

Upon opening the tool, click the Enable Content button as shown in the security warning window.

Security Warning Window



This tool contains the following worksheets to screen innovative intersection and interchange configurations and report results:

- **Input Worksheet** - the user inputs general project information, traffic volumes, and adjustment factors and to select which innovative intersection and interchange configurations should be considered
- **Lane Configuration Worksheets (29)** - the user inputs lane configurations and calculates the congestion metrics using the Critical Lane Volume (CLV) methodology
- **Results Worksheet** - summarizes the congestion, pedestrian, and safety metrics for the innovative intersection and interchange configurations selected for comparison

The following worksheets are also included for reference and guidance in screening innovative intersection and interchange configurations:

- **Overview** - describes the methodologies used to calculate the congestion, pedestrian, and safety metrics
- **Safety Information** - summarized the process used to develop the conflict point weighting factors used to develop the safety metric
- **Design Considerations** - provides a description of the innovative intersection and interchange configurations and provides guidance on when a configuration should be considered

This tool can be used to screen innovative intersection and interchange configurations following the four steps provided below.

Step 1: Enter Volume Inputs
Step 2: Review and Select Intersection and Interchange Configurations for Comparison
Step 3: Enter Lane Configurations (for each selected worksheet)
Step 4: View and Interpret Results

STEP 1: ENTER VOLUME INPUTS

Input the project title and the names of the east-west roadway facility and the north-south roadway facility. This information will be automatically populated on each subsequent worksheet.

This tool requires the user to input turning movement counts (TMCs) into the yellow cells on the **Input Worksheet** to compare innovative intersection and interchange configurations. The traffic counts may be for the current year or may be projected to a future year. If the TMC includes U-turn volumes separately, then add the U-turn volume to the left-turn volume. This tool does not analyze U-turns unless U-turns are built into an innovative intersection configuration to remove left-turning traffic from an intersection (e.g., Restricted Crossing U-Turn).

Traffic Volume Demand Inputs

Traffic Volume Demand				
Direction	Volume (veh/hr)			Truck Percent (%)
	U-Turn / Left	Thru	Right	
Eastbound	251	276	376	2.00%
Westbound	238	377	111	2.00%
Southbound	644	0	196	2.00%
Northbound	202	0	427	2.00%
Adjustment Factor	0.80 / 0.95		0.85	
Suggested	U - 0.8 / L - 0.95		0.85	
Truck to PCE Factor		Suggested = 2.00		2.00
Critical Lane Volume		1600		

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VDOT Junction Screening Tool

INSTRUCTIONS

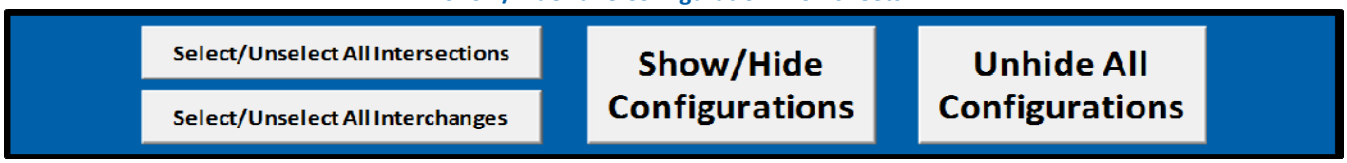
This tool uses adjustment factors to convert turning vehicles to equivalent through vehicles before calculating the CLV. Suggested values for these factors are provided in the tool; however, these values may be changed based on the typical traffic mix, driver behavior, and project location. Input the following factors into the yellow cells:

- Left-turn adjustment factor (LTAF): conversion of protected left- and U-turning vehicles to equivalent through vehicles
- Right-turn adjustment factor (RTAF): conversion of right-turning vehicles to equivalent through vehicles
- U-turn adjustment factor (UTAF): conversion of U-turning vehicles (rerouted through or left-turn movements) to equivalent through vehicles (this factor is only used if U-turns are built into an alternative configuration to remove left-turning traffic from an intersection)
- Truck to passenger car equivalent (PCE) factor: conversion of truck volume to an equivalent passenger car volume. This may be based on the *HCM, 6th Edition* .

STEP 2. REVIEW AND SELECT INTERSECTION AND INTERCHANGE CONFIGURATIONS FOR COMPARISON

Review the list of alternative intersection and interchange configurations included in this tool. Each configuration contains a link to an informational worksheet that provides guidance on when each configuration type should be considered. Indicate with a "Y" any configurations that should be considered. Indicate with an "N" any configurations that should be excluded. Use the **Show/Hide Configurations** button to hide the worksheets for all "N" configurations. The configurations selected for exclusion will also be hidden from the Results Worksheet. The **Unhide All Configurations** button may be used to unhide all worksheets. Additionally, three toggle buttons allow the user to select or unselect all intersections or interchanges. However, these toggle buttons will not hide the respective lane configuration worksheets; the user must still use the **Show/Hide Configurations** button.

Show/Hide Lane Configuration Worksheets



Provide justification by selecting an option in the drop down in the **Input Worksheet** for all alternative intersection and interchange configurations excluded for the screening comparison.

Justification Options

#	Intersections	Information	Consider?	Justification
	Signalized Intersections			
1	Conventional	-	Y	
2	Bowtie	Link	Y	
3	Center Turn Overpass	Link	N	
4	Continuous Green-T	Link	N	
5	Echelon	Link	Y	
6	Full Displaced Left Turn	Link	Y	
7	Median U-Turn	Link	Y	

Not feasible for roadway facility type
Insufficient intersection spacing
Financial constraints identified
Right-of-way restrictions identified
Unable to accommodate traffic patterns
Unable to accommodate magnitude of traffic volumes
Unable to accommodate heavy vehicles
Unable to accommodate alternative transportation modes

STEP 3: ENTER LANE CONFIGURATIONS

Complete the following steps for the intersection and interchange configurations selected for screening in the **Input Worksheet**.

Step 3.1: Answer the directional question (if applicable) **[Input Worksheet]**
Step 3.2: Enter the lane configurations **[Input Worksheet and Lane Configuration Worksheets]**

Step 3.1: Answer the Directional Questions

All asymmetrical configurations contain a question that will associate a direction with a geometric feature in the configuration to correctly reference the TMCs from the **Input Worksheet** to the lane configuration worksheets. These questions are located on the **Input Worksheet** as pictured below.

Example Directional Questions

VDOT Junction Screening Tool

Base Lane Configurations

Before entering a base number of through lanes for each direction, answer the directional question for each intersection or interchange configuration selected for consideration. Navigate to the lane configuration worksheet for example diagrams, if provided.

Intersections	Question	Selection
Bowtie	Select the roadway with the roundabouts from the drop-down list.	EB-WB / NB-SB
Continuous Green-T	Select the direction associated with the "stem" of the T-intersection from the drop-down list. See example diagrams.	
Echelon	Select the approach that shares a zone with the NB approach from the drop-down list. See example diagrams.	

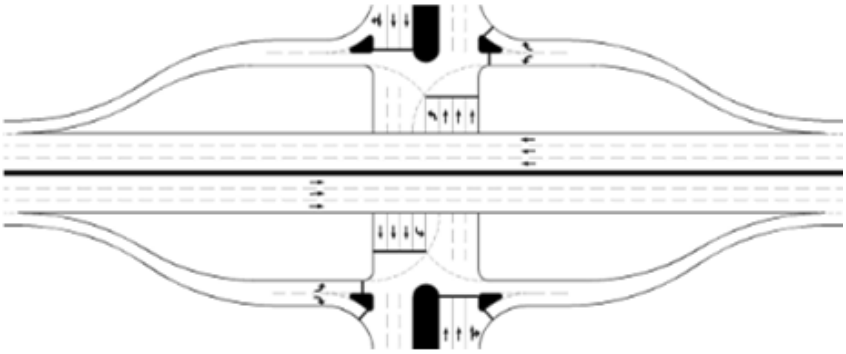
Directional Questions and Options:

- [All interchanges] Select the freeway direction from the drop-down list. EB-WB, NB-SB
- [Continuous Green-T] Select the direction associated with the "stem" of the T-intersection from the drop-down list. NB, SB, EB, WB
- [Partial Displaced Left Turn] Select the roadway with the displaced left turns. EB-WB, NB-SB
- [Multiple] Select the roadway with the U-turns from the drop-down list. EB-WB, NB-SB
- [Bowtie] Select the roadway with the roundabouts from the drop-down list. EB-WB, NB-SB
- [Split Intersection] Select the direction of the "split" roadway from the drop-down list. EB-WB, NB-SB
- [Echelon] Select the approach that shares a zone with the NB approach from the drop-down list. EB, WB
- [Single Loop] Select the quadrant that contains the loop from the drop-down list. N-E, N-W, S-E, S-W

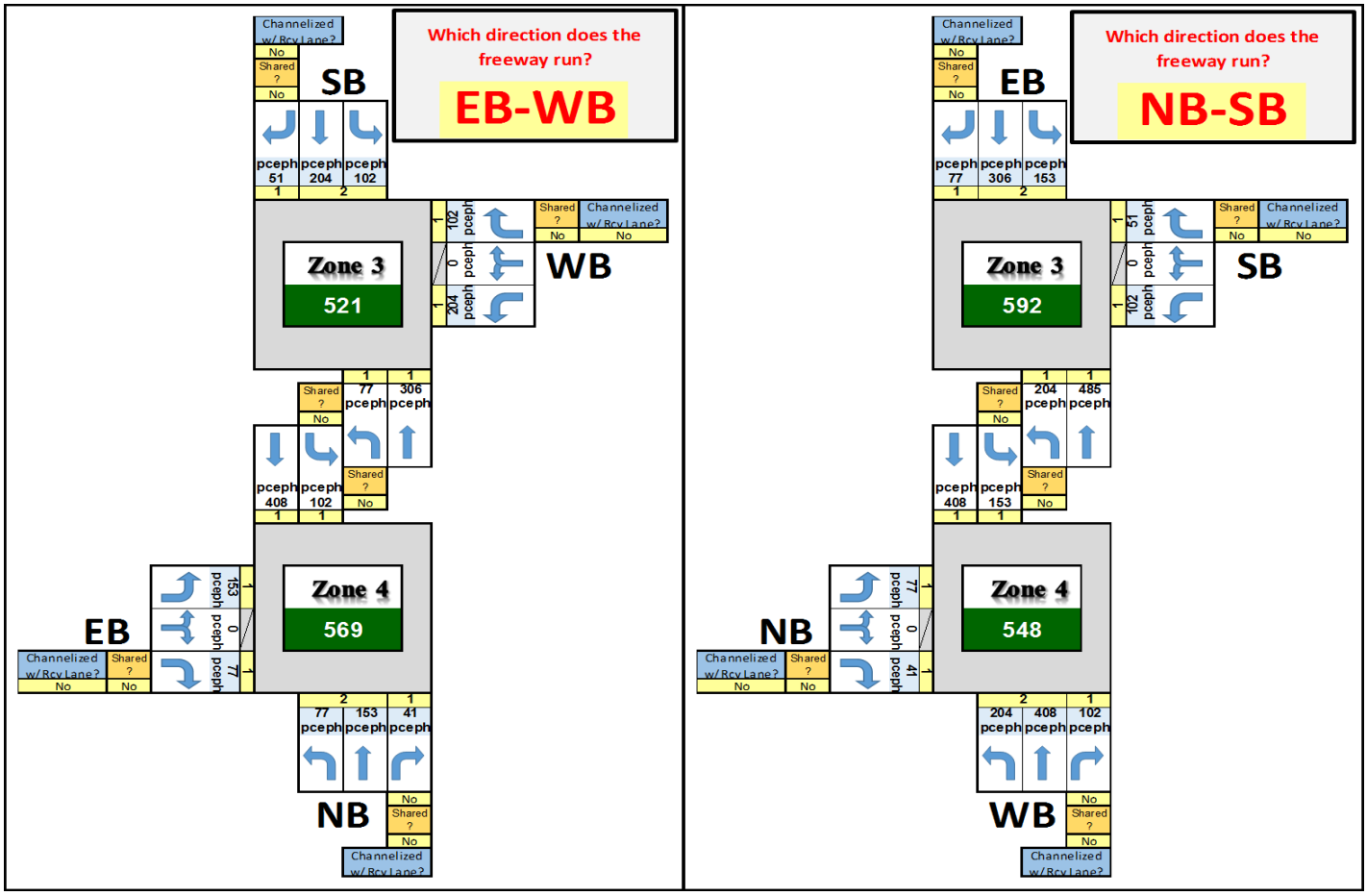
INSTRUCTIONS

Based on the answer provided in the directional question, the directional labels and volumes will update similar to the example figures shown below for a Traditional Diamond Interchange. The example figure and the layout of cells in the **Data Input and Configuration** section will not change.

Example Figure



Example Data Input and Configuration Layout



Step 3.2: Enter the Lane Configurations

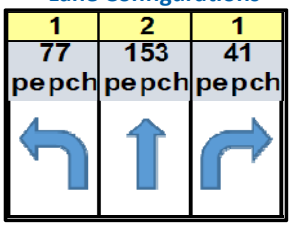
After answering the directional question for all applicable intersection and interchange configurations, enter a base number of through lanes for each travel direction on the **Input Worksheet** as pictured below. The number of through lanes entered here will be applied to each lane configuration worksheet. This base number may be overwritten on individual lane configuration worksheets. Turn lanes, shared lanes, and channelized lanes must still be entered in each lane configuration worksheet.

Base Number of Through Lanes

Base Number of Through Lanes	
If desired, enter a base number of through lanes for each direction. This number of through lanes will populate on each non-roundabout lane configuration worksheet. Although this tool allows the user to enter the number of through lanes for each lane configuration worksheet being compared on this worksheet, the user should still verify the lane configurations for each intersection or interchange configuration being compared.	
Eastbound	1
Westbound	1
Northbound	1
Southbound	1

Then, navigate to each lane configuration worksheet to verify the overall lane configuration for each approach direction. The lane configuration refers to the number of lanes for each left-turn, through, or right-turn movement. Inputs for lane configurations should be made into all yellow cells as shown in the figure below. This step should be followed on each worksheet selected for screening.

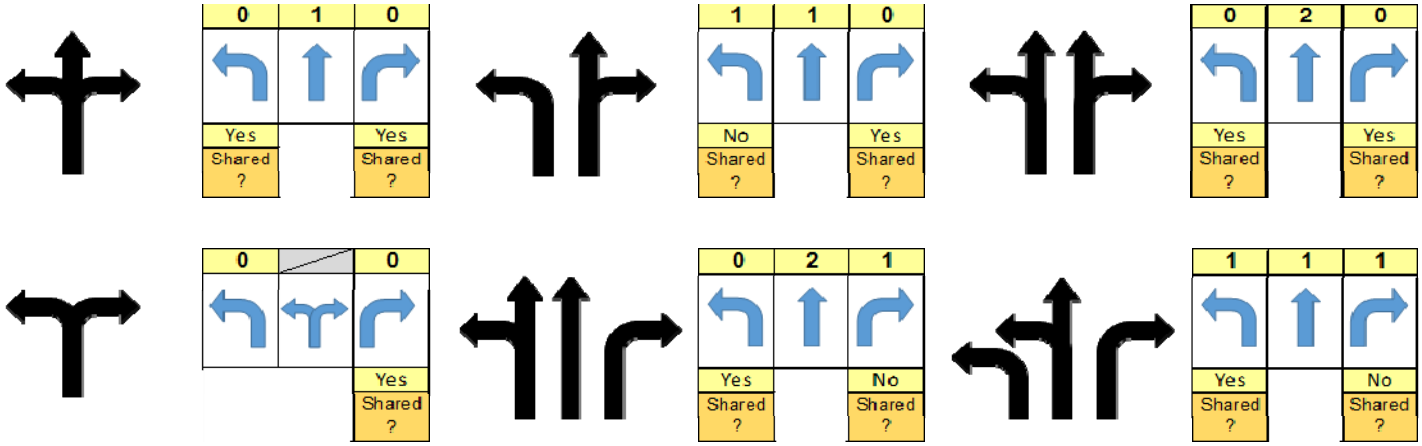
Lane Configurations



Note: This tool does not consider the geometric footprint, available right-of-way (ROW), or design requirements for an individual project. The tool generally does not limit the number of lanes that may be assigned to a particular movement. However, a pop-up box will appear asking the user to confirm the number of lanes if five or more through lanes or three or more turn lanes were entered.

Additionally, indicate if any shared lanes or channelized right-turn lanes are present. A right-turn lane should be identified as channelized only if a receiving lane is present and is at least 500 feet long. If a shared lane is present, count the lane only as a through lane and select "Yes" in the "Shared?" cell next to the appropriate turning movement. If an approach has one lane with a left-through-right movement, select one lane for the through movement and indicate that both the left- and right-turn movements are shared. If an exclusive turn lane is present in addition to the shared lane, enter one lane for the appropriate turning movement. Example shared-lane configurations and their respective inputs are shown below.

Example Shared-Lane Configurations



STEP 4: VIEW AND INTERPRET RESULTS

After completing Step 2, navigate to the **Results Worksheet**. This sheet compares the effectiveness of each alternative intersection and interchange configuration's potential to mitigate congestion, pedestrian, and safety concerns. Only the congestion metric is dependent on the inputs in Steps 1 and 2. The results shall not be interpreted until the user has performed Steps 1 and 2 on each lane configuration worksheet. The other metrics represent static values. Further descriptions of the congestion, pedestrian, and safety metrics are provided in the **Overview** and **Safety Information** tabs. These metrics do not consider signal timing parameters, geometric parameters, driver behavior parameters, available ROW, or design requirements for an individual project. It is the user's responsibility to determine how these factors may affect the results provided and decide how to apply and prioritize the results from this tool.

Descriptions of each alternative intersection and interchange configuration and guidance on when each configuration type should be considered are provided in the **Design Considerations** worksheet. Based on the results provided in the **Results Worksheet** and the information provided in the **Design Considerations** worksheet, the user may select which configurations should be selected for further study and evaluation.

SAFETY INFORMATION

The relative safety of an innovative intersection or interchange configuration was estimated by correlating crash data to assign a relative risk level associated with vehicle conflict points. The conflict points were weighted based on the calculated average crash cost associated with each conflict point type in Virginia. The methodology for determining the weighting system is outlined below. The conflict point diagram, number of conflict points, and the weighted total conflict point metric are included in the **Safety - Conflict Point Diagram** section of each lane configuration worksheet.

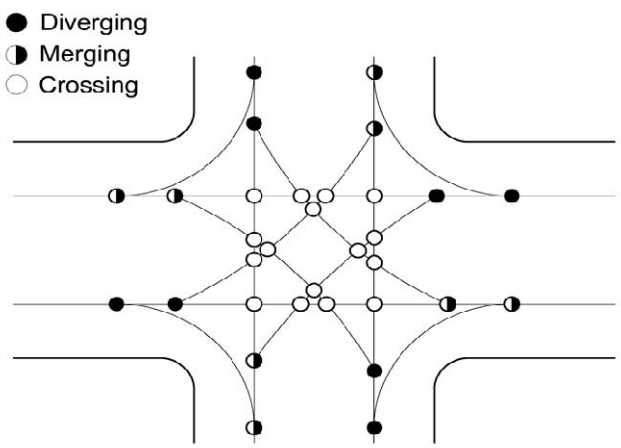
PART 1: CONFLICT POINT DIAGRAM METHODOLOGY

Conflict diagrams were developed for the innovative intersection and interchange configurations. Lines represent possible movements within the configuration. U-turns were only considered for innovative configurations that use U-turns to remove or relocate left-turning traffic from an intersection. Conflict points were defined as crossing, merging, or diverging conflicts at points of intersecting movements. A conflict point diagram is included in each lane configuration worksheet. An example diagram is shown below for a conventional intersection.

The conflict point diagrams and total number of conflict points are independent of the number of lanes, shared lanes, or channelization of movements. Additionally, the conflict point diagrams do not consider traffic signal phasing. Merge and diverge conflicts on the freeway are included for interchange configurations.

Example Conflict Diagram (Conventional Intersection)

Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	16
Merging	8
Diverging	8
Total	**32**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

48

PART 2: CONFLICT POINT WEIGHTING METHODOLOGY

The type, severities, and quantity of crashes that are likely to occur at each type of conflict point vary. Assumptions related to type and severity for the conflict point types were determined to allow for the comparison of configurations. A weighting system was then developed to produce a single safety metric. Four crash types were assigned to one or more conflict point types based on the likelihood of that crash type occurring. The crash types assigned to each conflict point type were as follows:

Crossing Conflict

- Head on
- Angle
- Sideswipe - opposite direction

Merging Conflict

- Sideswipe - same direction

Diverging Conflict

- Sideswipe - same direction

An average crash cost for an angle, head on, sideswipe - same direction, and sideswipe - opposite direction crash that occurred in Virginia between 2011 and 2015 was computed using the average crash cost by severity values from the Highway Safety Manual, 1st Edition.

Average Crash Cost By Severity

Severity	Crash Cost
Fatal (K)	$4,008,885
Disabling Injury (A)	$216,059
Evident Injury (B)	$79,777
Possible Injury (C)	$44,868
Property Damage (O)	$7,428

Source: *Highway Safety Manual, 1st Edition*

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SAFETY INFORMATION

Average Crash Cost in Virginia By Crash Type

Crash Type	Severity	Full Access Control		Partial Access		No Access Control		All Crashes	
		#	Avg Cost	#	Avg Cost	#	Avg Cost	#	Avg Cost
Angle	K	57	$72,195	28	$61,648	501	$55,276	618	$53,406
	A	542		240		6966		8689	
	B	1253		917		20917		26838	
	C	638		858		18433		23381	
	O	4546		2763		71505		94955	
	Total	7036		4806		118322		154481	
Head On	K	25	$242,784	5	$131,358	281	$162,816	331	$146,785
	A	84		33		1729		2075	
	B	91		54		2611		3286	
	C	41		38		1551		2037	
	O	293		130		4975		7135	
	Total	534		260		11147		14864	
Sideswipe - Same Direction	K	26	$34,673	3	$28,098	21	$24,967	51	$26,667
	A	390		23		556		1052	
	B	1320		75		1888		3632	
	C	635		124		2330		3562	
	O	8812		1075		19372		34309	
	Total	11183		1300		24167		42606	
Sideswipe - Opposite Direction	K	2	$108,807	0	$28,527	30	$55,669	32	$49,679
	A	11		1		413		483	
	B	32		11		1241		1450	
	C	7		16		798		1015	
	O	75		48		4273		5818	
	Total	127		76		6755		8798	

The average crash cost per conflict point type was calculated based on the average crash cost per crash type and the frequency of each crash type. These average crash costs per conflict point type were used to derive the weighting system used to assign relative risk to the conflict point types. It was determined that crashes occurring at crossing conflicts were roughly two times more costly, and therefore carry two times the risk, than crashes occurring at merging or diverging conflict points.

Average Crash Cost Per Conflict Point Type Per Facility Type

Conflict Point Type	Full Access Control		Partial Access		No Access Control		All Crashes	
	Avg Cost	Weight	Avg Cost	Weight	Avg Cost	Weight	Avg Cost	Weight
Crossing	$84,634	2.4	$64,683	2.3	$64,096	2.6	$61,014	2.3
Merging/Diverging	$34,673	1.0	$28,098	1.0	$24,967	1.0	$26,667	1.0

Weighting System Based on Risk Factor

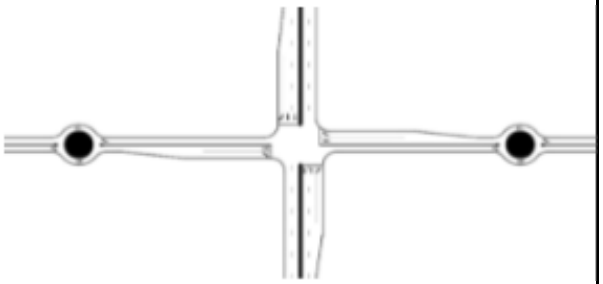
Conflict Point Type	Assigned Weight
Crossing	2
Merging	1
Diverging	1

VJuST
VDOT Junction Screening Tool

DESIGN CONSIDERATIONS

Intersection Designs

Bowtie



Back to Inputs

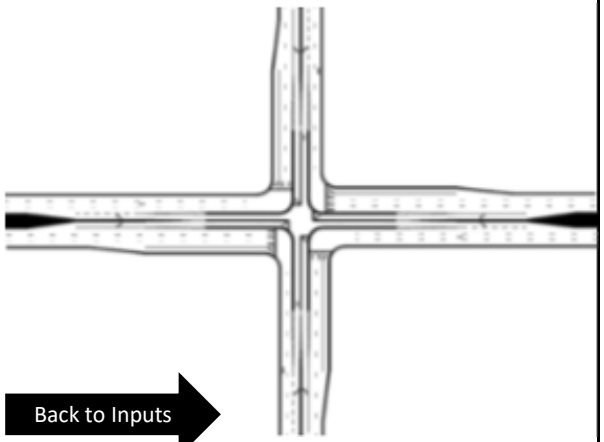
Description

The bowtie intersection is an alternative to the MUT intersection. Left-turn movements from both roadways are removed from the main intersection and are executed via a U-turn at a roundabout on the minor roadway downstream of the main intersection. Removing the left-turn movements allows for two-phase signal control.

When Should This Design Be Considered?

The bowtie intersection should be considered on roadways with high through volumes on the major roadway and low through and left-turn volumes on the minor roadway. Arterials with narrow medians and limited ROW should be considered.

Center Turn Overpass



Back to Inputs

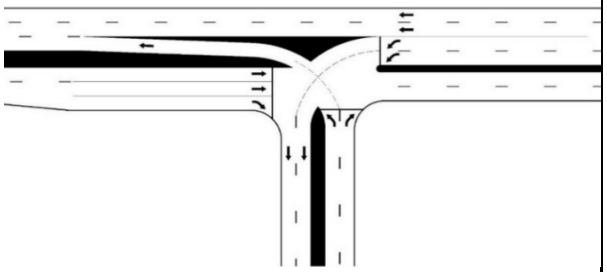
Description

All four left-turn movements are relocated to a grade-separated intersection using narrow ramps within the median. The left-turn traffic then descends back to ground level and merges into through traffic. Both intersections operate under two-phase signal control.

When Should This Design Be Considered?

The center turn overpass intersection should be considered at high-volume urban or suburban intersections where the major and minor roadways have similar left-turn volumes.

Continuous Green-T (CGT)



Back to Inputs

Description

Through traffic on the top side of a T-intersection is allowed to pass through the intersection without stopping. Left-turn volumes from the minor roadway must merge into the continuous lane of through traffic after completing the left turn. This design allows for three-phase signal control. The tool assumes the intersection is signalized. The intersection may be designed as unsignalized.

When Should This Design Be Considered?

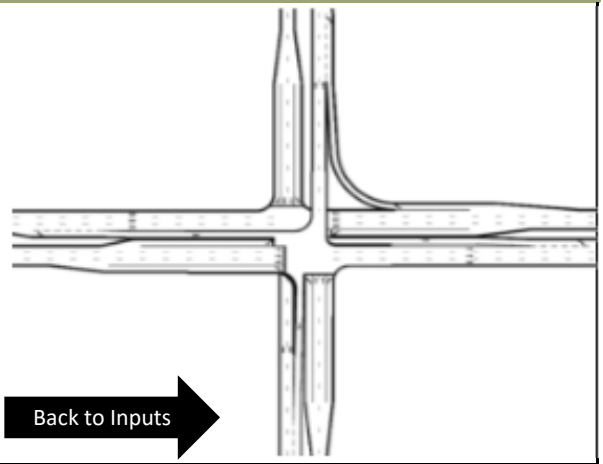
The continuous green-T intersection should be considered at three-leg intersections with moderate to low left-turn volumes on the minor roadway, high through volumes on the major roadway, and few pedestrian crossings.

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DESIGN CONSIDERATIONS

Intersection Designs

Echelon



Back to Inputs

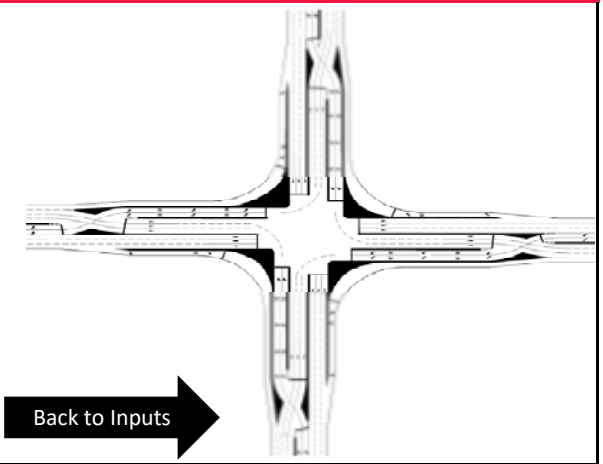
Description

One approach on both the major and minor roadways is elevated to create two grade-separated intersections of two one-way roads. Each intersection operates under two-phase signal control.

When Should This Design Be Considered?

The echelon intersection should be considered at high-volume urban or suburban intersections where the major and minor roadways have similar volumes.

Full/Partial Displaced Left Turn (DLT)



Back to Inputs

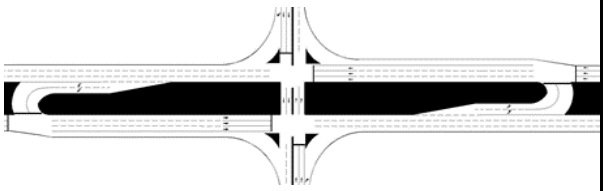
Description

Left-turning vehicles cross over to the other side of the roadway at a signalized intersection several hundred feet in advance of the main intersection. The protected left turns occur simultaneously with the opposing through movements at the main intersection, allowing for two- (full) or three-phase (partial) signal control. This design is also referred to as a Continuous Flow Intersection or Crossover Displaced Left Intersection.

When Should This Design Be Considered?

The displaced left turn intersection should be considered if opposing approaches have high and balanced through and left-turn volumes.

Full/Partial Median U-Turn (MUT)



Back to Inputs

Description

Left-turn movements from the major roadway (partial) or both roadways (full) are removed from the main intersection. These vehicles instead execute a U-turn at a median opening on the major roadway downstream of the main intersection. Removing the left-turn movements allows for two- (full) or three-phase (partial) signal control. This tool assumes all intersections are signalized. However, this intersection can be designed as partially unsignalized.

When Should This Design Be Considered?

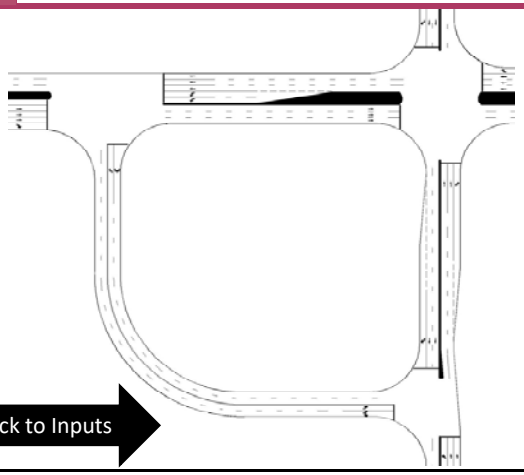
The median U-turn intersection should be considered on high-speed, median-divided highways with moderate left-turn volumes on the major roadway and minor left-turn volumes on the minor roadway.

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DESIGN CONSIDERATIONS

Intersection Designs

Quadrant Roadway (QR)



Back to Inputs

Description

All four left-turn movements are rerouted onto a connector road in one quadrant, allowing for two-phase signal control at the main intersection and three-phase signal control at the intersections with the connector road. This tool assumes all intersections are signalized. However, this intersection can be designed as partially unsignalized.

When Should This Design Be Considered?

The quadrant roadway intersection should be considered if an existing roadway can be used as a connection roadway or there are heavy left-turn and through volumes on the major and minor roadways. The ratio of minor road volume to total intersection volume is typically less than or equal to 0.35.

Restricted Crossing U-Turn (RCUT)



Back to Inputs

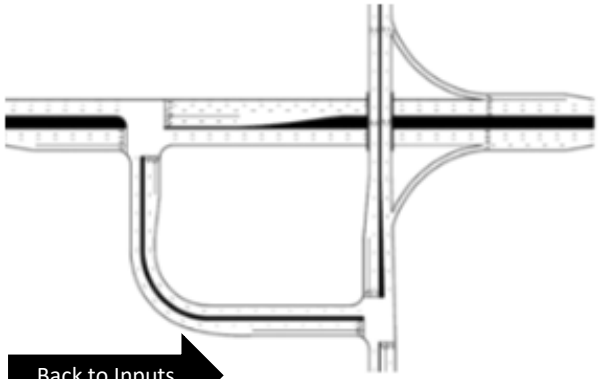
Description

Minor roadway left-turn and through movements are removed from the main intersection. These vehicles turn right onto the major roadway before making a U-turn at a downstream median opening. Removing these movements allows for two-phase signal control at the main intersection. This design is also referred to as a super street intersection. This tool assumes all intersections are signalized. However, this intersection can be designed as partially or fully unsignalized.

When Should This Design Be Considered?

The restricted crossing U-turn intersection should be considered on high-speed, median-divided highways with high through and left-turn volumes on the major roadway and low through volumes on the minor roadway.

Single Loop



Back to Inputs

Description

All four left-turn movements and some right-turn movements are rerouted onto a connector road in one quadrant, while the major and minor roadways are grade-separated. This design allows for three-phase signal control at the intersections with the connector road.This tool assumes all intersections are signalized. However, this intersection can be designed as fully unsignalized.

When Should This Design Be Considered?

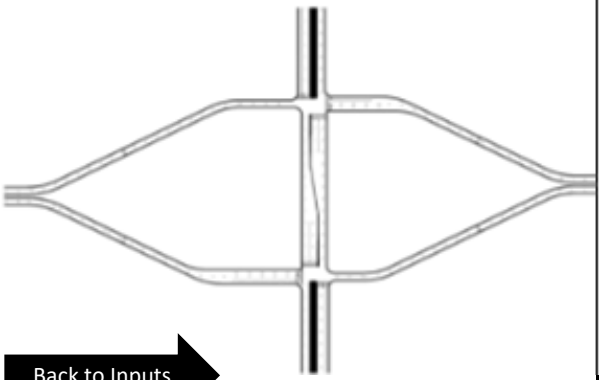
The single loop intersection should be considered for roadways with low to medium left-turn volumes.

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DESIGN CONSIDERATIONS

Intersection Designs

Split Intersection



Back to Inputs

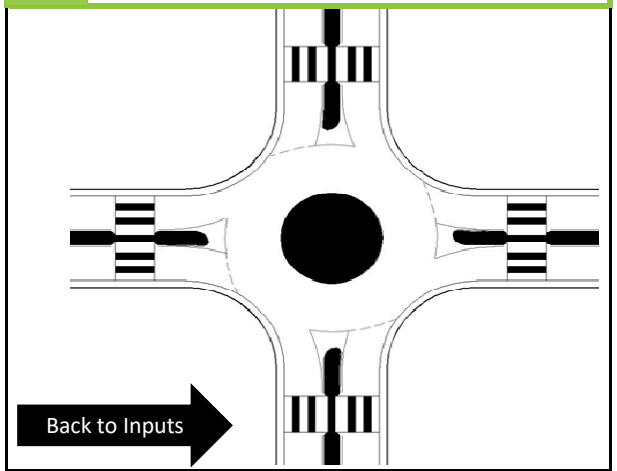
Description

The split intersection separates traffic flow on the major roadway into two one-way roads with separate intersections with the minor roadway. Each intersection may operate using three-phase signal control. This configuration is similar to a traditional diamond interchange without grade separation.

When Should This Design Be Considered?

The split intersection should be considered for isolated, suburban intersections with high left-turn volumes or in urban areas where two-way streets can be converted to one-way streets. The split intersection may also be considered if grade separation may be needed in the future.

Mini Roundabout



Back to Inputs

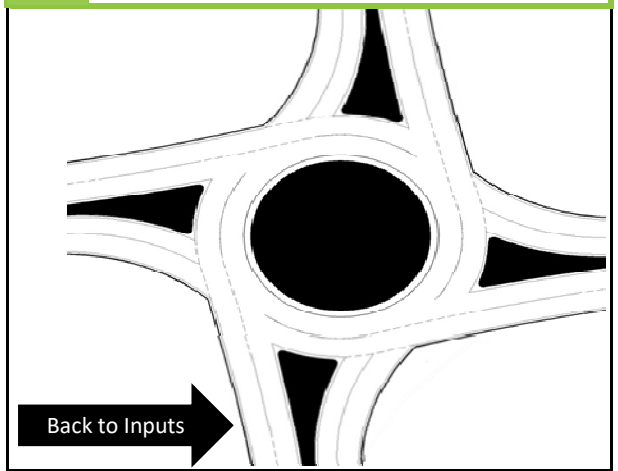
Description

A roundabout is a circular unsignalized intersection in which traffic flows in one direction around a central island. Traffic entering the roundabout must yield to traffic already inside the roundabout. This tool includes mini roundabouts with a 50 foot or 75 foot inscribed diameter.

When Should This Design Be Considered?

The mini roundabout should be considered if the posted speed limit on all four approaches is 30 mph or slower and the 85th percentile speed is 35 mph or slower.

Roundabout



Back to Inputs

Description

A roundabout is a circular unsignalized intersection in which traffic flows in one direction around a central island. Traffic entering the roundabout must yield to traffic already inside the roundabout. This tool can accommodate roundabouts with up to two lanes in each quadrant.

When Should This Design Be Considered?

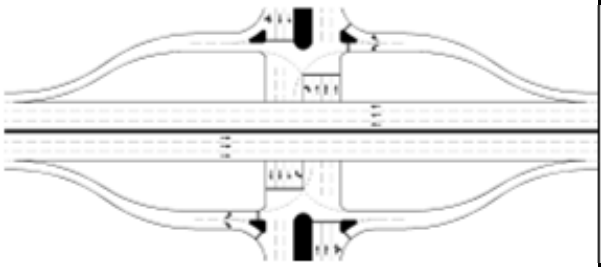
The roundabout should be considered on roadways with a high percentage of turning traffic. Additional information about when roundabouts should be considered may be found on VDOT's website.

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VDOT Junction Screening Tool

DESIGN CONSIDERATIONS

Interchange Designs

Traditional Diamond (TD)



Back to Inputs

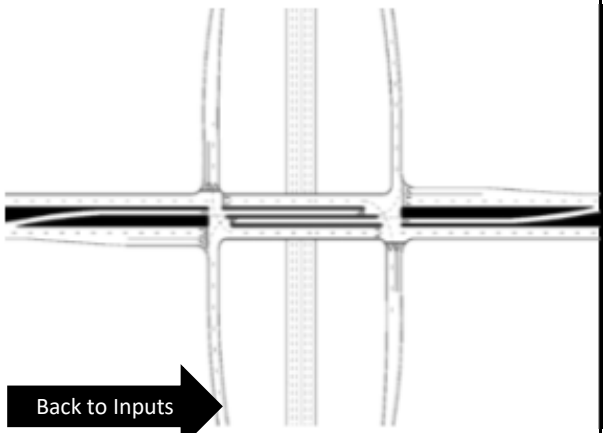
Description

The traditional diamond interchange is a grade-separated interchange with two intersections on the arterial. The intersections may be signalized or unsignalized. Each direction of travel on the freeway has one on-ramp and one off-ramp.

When Should This Design Be Considered?

The traditional diamond interchange should be considered in rural and suburban areas with moderate to low ramp volumes.

Contraflow Left



Back to Inputs

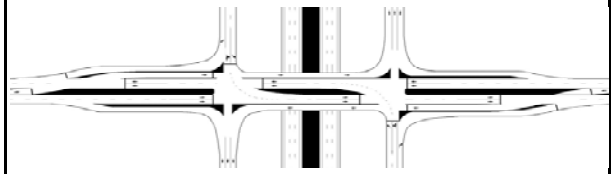
Description

The contraflow left interchange is an alternative to the traditional diamond interchange in which arterial left-turn movements cross over opposing left-turn movements into storage bays prior to the first ramp intersection. These storage bays run in the opposite direction from the adjacent through lanes. This design allows for three-phase signal control.

When Should This Design Be Considered?

The contraflow left interchange should be considered on arterials with high left-turn volumes onto the freeway ramps, especially if the left-turn demand exceeds the storage capacity between the ramps.

Displaced Left Turn (DLT)



Back to Inputs

Description

The arterial left-turning vehicles cross over to the other side of the roadway at a signalized intersection several hundred feet in advance of the first ramp intersection. At both of the ramp intersections, the protected left turns occur simultaneously with the opposing through movements, allowing for two-phase signal control. This design is also referred to as a Continuous Flow Interchange.

When Should This Design Be Considered?

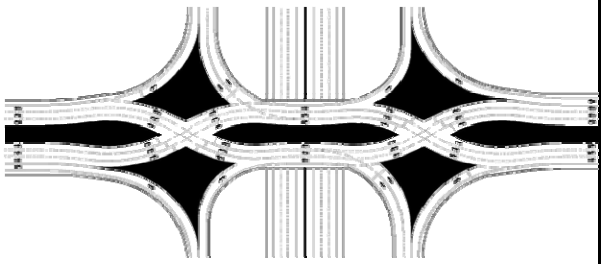
The displaced left turn intersection should be considered if there are high and balanced through volumes on the arterial, moderate to high left-turn volumes to the on-ramps, and low to moderate left-turn volumes from the off-ramps.

VJuST
VDOT Junction Screening Tool

DESIGN CONSIDERATIONS

Interchange Designs

Diverging Diamond (DDI)



Back to Inputs

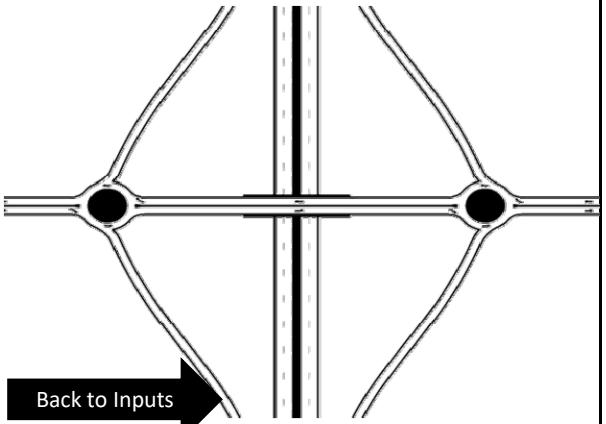
Description

The diverging diamond interchange is an alternative to the traditional diamond interchange where arterial traffic crosses over to the other side of the roadway in between the two ramps. This allows vehicles to turn left onto the on-ramps without crossing over opposing lanes of traffic. This design is also referred to as the double crossover diamond interchange.

When Should This Design Be Considered?

The diverging diamond interchange should be considered if there are high left-turn volumes onto and off of the freeway ramps and moderate but unbalanced arterial volumes.

Double Roundabout



Back to Inputs

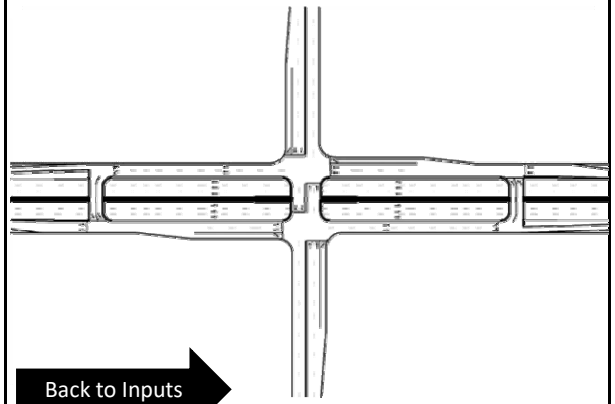
Description

The double roundabout interchange is a grade-separated interchange in which all ramps begin or end at one of two roundabouts on the arterial. This design typically allows for a narrower bridge width than the single roundabout interchange.

When Should This Design Be Considered?

The double roundabout interchange should be considered if there is a high proportion of left-turns onto the freeway ramps or where there is limited queue storage between the ramp intersections.

Michigan Urban Diamond (MUD)



Back to Inputs

Description

The Michigan urban diamond interchange is a variation of the traditional diamond interchange that removes left-turn movements from the arterial intersections. These vehicles instead make U-turns at directional crossovers on frontage roads. The intersections on the arterial operate under two-phase signal control. This design is also referred to as a Median U-Turn (MUT) Interchange. This tool assumes all intersections are signalized. However, this intersection can be designed as partially unsignalized.

When Should This Design Be Considered?

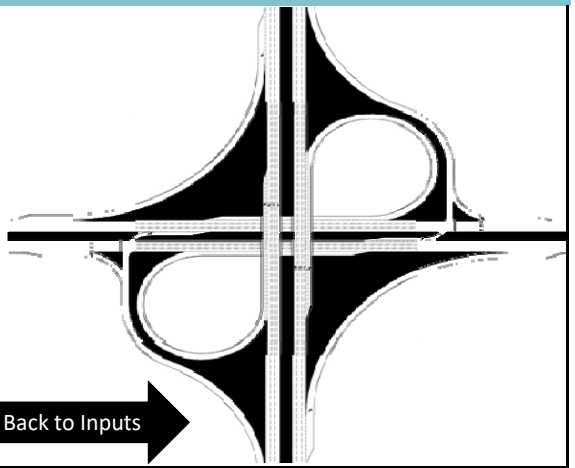
The Michigan urban diamond interchange should be considered for arterials with high through volumes and moderate to low left-turn volumes.

VJuST
VDOT Junction Screening Tool

DESIGN CONSIDERATIONS

Interchange Designs

Partial Cloverleaf (PCL or Parclo)



Back to Inputs

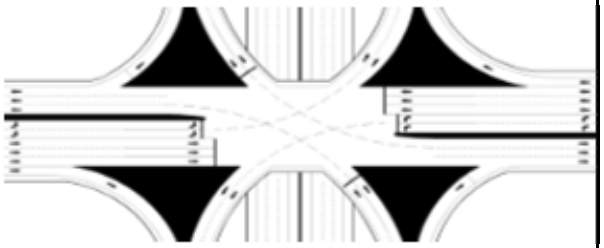
Description

The partial cloverleaf interchange is a grade-separated interchange with a combination of directional ramps and loop ramps. This configuration may include up to two intersections on the arterial. The intersections may be signalized or unsignalized.

When Should This Design Be Considered?

The partial cloverleaf interchange should be considered if a traditional diamond interchange would result in moderate to high left-turn volumes onto or off the ramps.

Single Point Urban (SPUI)



Back to Inputs

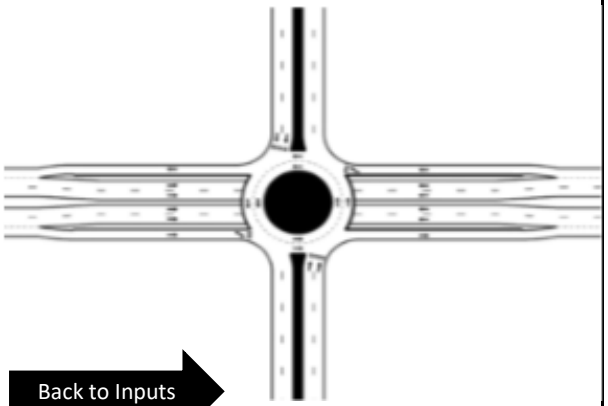
Description

The single point urban interchange is an alternative to the traditional diamond interchange in which all ramps begin or end at a single intersection on the arterial. This configuration allows for three-phase signal control.

When Should This Design Be Considered?

The single point urban interchange should be considered in urban areas with high left-turn volumes onto and off the freeway ramps or when right-of-way limitations are present.

Single Roundabout



Back to Inputs

Description

The single roundabout interchange is a grade-separated interchange in which all ramps begin or end at a single roundabout on the arterial.

When Should This Design Be Considered?

The roundabout interchange should be considered in urban areas with moderate capacity requirements or with right-of-way restrictions.

VDOT Junction Screening Tool

Input Worksheet

Project Title:	*Sweetgrasss*
E-W Facility:	*Primary Entrancd*
N-S Facility:	*Benn's Church Boulevard*
Date:	*December 17, 2019*

Traffic Volume Demand

Direction	Volume (veh/hr)				Truck Percent (%)
	U-Turn / Left		Through	Right	
Eastbound	0		0		0.00%
Westbound	227			145	0.00%
Northbound	13		1503	208	0.00%
Southbound	231		1033	0	0.00%
Adjustment Factor	0.80	0.95		0.85	
Suggested	**U - 0.8**	**L - 0.95**		**0.85**	
Truck to PCE Factor			**Suggested = 2.00**		2.00
Critical Lane Volume			1600		

Equivalent Passenger Car Volume

	Volume (pc/hr)			
	U-Turn / Left	Through	Right	Approach
Eastbound	0	0	0	0
Westbound	227	0	145	372
Northbound	13	1503	208	1724
Southbound	231	1033	0	1264

Notes:	
Left-turn Adjustment Factor	*Conversion of left-turning vehicles to equivalent through vehicles*
Right-turn Adjustment Factor	*Conversion of right-turning vehicles to equivalent through vehicles*
U-turn Adjustment Factor	*Conversion of U-turning vehicles to equivalent through vehicles*
Truck to PCE Factor	*1 truck = X Passenger Car Equivalents*
Critical Lane Volume Sum Limit	*Saturation value for critical lane volume sum at an intersection*

VDOT Junction Screening Tool

Possible Configurations

Indicate with a "Y" or "N" if each intersection or interchange configuration should or should not be considered. Use the information links for guidance. Then, click the "Show/Hide Configurations button" to hide the worksheets for the configurations that will not be considered.

#	Intersections	Information	Consider?	Justification
	Signalized Intersections			
1	Conventional	-	Y	
2	Bowtie	Link	Y	
3	Center Turn Overpass	Link	N	Not feasible for roadway facility type
4	Continuous Green-T	Link	Y	
5	Echelon	Link	N	Not feasible for roadway facility type
6	Full Displaced Left Turn	Link	N	Insufficient intersection spacing
7	Median U-Turn	Link	N	Insufficient intersection spacing
8	Partial Displaced Left Turn	Link	Y	
9	Partial Median U-Turn	Link	Y	
10	Quadrant Roadway N-E	Link	N	Not feasible for roadway facility type
11	Quadrant Roadway N-W	Link	N	Not feasible for roadway facility type
12	Quadrant Roadway S-E	Link	N	Not feasible for roadway facility type
13	Quadrant Roadway S-W	Link	N	Not feasible for roadway facility type
14	Restricted Crossing U-Turn	Link	N	Not feasible for roadway facility type
15	Single Loop	Link	N	Not feasible for roadway facility type
16	Split Intersection	Link	N	Not feasible for roadway facility type
	Unsignalized Intersections			
17	50 Mini Roundabout	Link	N	Not feasible for roadway facility type
18	75 Mini Roundabout	Link	N	Not feasible for roadway facility type
19	Roundabout	Link	Y	
20	Two-Way Stop Control	-	N	Not feasible for roadway facility type
#	**Interchanges**	**Information**	**Consider?**	**Justification**
21	Traditional Diamond	Link	N	Not feasible for roadway facility type
22	Contraflow Left	Link	N	Not feasible for roadway facility type
23	Displaced Left Turn	Link	N	Not feasible for roadway facility type
24	Diverging Diamond	Link	N	Not feasible for roadway facility type
25	Double Roundabout	Link	N	Not feasible for roadway facility type
26	Michigan Urban Diamond	Link	N	Not feasible for roadway facility type
27	Partial Cloverleaf	Link	N	Not feasible for roadway facility type
28	Single Point	Link	N	Not feasible for roadway facility type
29	Single Roundabout	Link	N	Not feasible for roadway facility type

VDOT Junction Screening Tool

Directional Questions and Base Lane Configurations

Before entering a base number of through lanes for each direction, answer all applicable directional question for each intersection or interchange configuration selected for consideration. Navigate to the lane configuration worksheet for example diagrams, if provided.

Intersections	Question	Direction
Bowtie	Select the roadway with the roundabouts from the drop-down list.	
Continuous Green-T	Select the direction associated with the "stem" of the T-intersection from the drop-down list. See example diagrams.	WB
Echelon	N/A	
Median U-Turn	N/A	
Partial Displaced Left Turn	Select the roadway with the displaced left turns from the drop-down list.	NB-SB
Partial Median U-Turn	Select the roadway with the U-turns from the drop-down list.	NB-SB
Restricted Crossing U-Turn	N/A	
Single Loop	N/A	
Split Intersection	N/A	
Interchanges	**Question**	**Direction**
All	N/A	

Base Number of Through Lanes

Enter a base number of through lanes for each direction. The number of through lanes entered will populate on each non-roundabout lane configuration worksheet. This tool also allows the user to enter the number of through lanes on the lane configuration worksheets directly. This base number may be overwritten on individual lane configuration worksheets. Turn lanes, shared lanes, and channelized lanes must still be entered in each lane configuration worksheet.

Eastbound	
Westbound	
Northbound	2
Southbound	2

VDOT Junction Screening Tool

Results Worksheet

VJuST
VDOT Junction Screening Tool

General Information	
Project Title:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Volumes (veh/hr)	U-Turn / Left	Through	Right
Eastbound	0	0	0
Westbound	227	0	145
Northbound	13	1503	208
Southbound	231	1033	0

General Instructions: All intersection and interchange configurations have a default assumption of one exclusive lane per movement. No results shall be interpreted until the user has verified the lane configurations on each worksheet.

Intersection Results

Type	Dir	Maximum V/C (Congestion)	Accommodation Compared to Conventional (Pedestrian)	Weighted Total Conflict Points (Safety)	Notes
Conventional	-	0.70		48	
Bowtie	-	1.92	+	24	
Center Turn Overpass	-	1.05	+	32	
Continuous Green-T	-	0.70	-	12*	
Echelon	-	1.09	+	28	
Full Displaced Left Turn	-	0.80	-	40	
Median U-Turn	-	1.11	+	20	
Partial Displaced Left Turn	-	0.62	-	44	
Partial Median U-Turn	-	0.72	+	28	
Quadrant Roadway	N-W	1.19		40	
	N-E	1.27		40	
	S-E	1.24		40	
	S-W	1.23		40	
Restricted Crossing U-Turn	-	2.14		20	
Single Loop	-	1.10	-	28	
Split Intersection	-	1.08		36	
50 Mini Roundabout	-	372.00		8	
75 Mini Roundabout	-	372.00		8	
Roundabout	-	1.32		8	
Two-Way Stop Control	-	N/A*		48	

*The continuous green-T is the only three-legged innovative intersection in this tool. To compare the continuous green-T to other innovative intersections, conflicts corresponding with the fourth leg must be removed. This has been done for the conventional intersection. Conflict point diagrams for three-legged and four-legged conventional intersections have been provided on the conventional intersection worksheet for reference.

Interchange Results					
		Congestion	Pedestrian	Safety	Notes
Type	Dir	Maximum V/C	Accommodation Compared to Traditional Diamond	Weighted Total Conflict Points	
Traditional Diamond	-	0.30		28	
Contraflow Left	-	1.09		32	
Displaced Left Turn	-	0.30	-	28	
Diverging Diamond	-	0.30	-	20	
Double Roundabout	-	0.27	+	16	
Michigan Urban Diamond	-	0.60	+	24	
Partial Cloverleaf	-	0.15		20	
Single Point	-	0.30	-	32	
Single Roundabout	-	0.27	+	12	

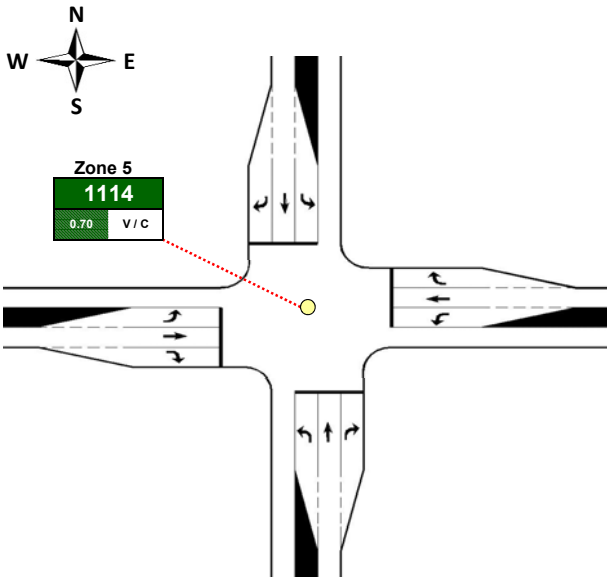
Information	
Congestion	The maximum v/c ratio represents the worst v/c of all zones that make up an intersection.
Pedestrian	Compares the potential of each design to accommodate pedestrians based on safety, wayfinding, and delay. Potential is qualitatively defined as better (+), similar (blank cell), or worse (-) than a conventional intersection or traditional diamond interchange.
Safety	Weighted Total = (2 x Crossing Conflicts) + Merging Conflicts + Diverging Conflicts

Conventional

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			0.70

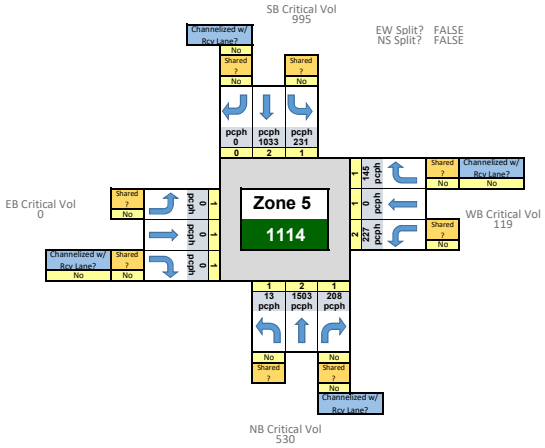


Note: This diagram does not reflect the actual lane configuration of the intersection

Conventional

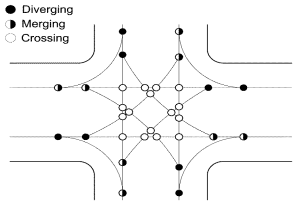
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram



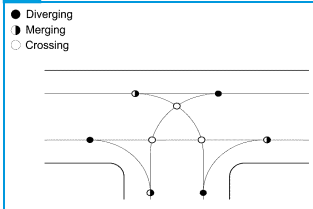
Conflict Type	Count
Crossing	16
Merging	8
Diverging	8
Total	**32**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

48

Safety - Conflict Point Diagram (Three Legs)



Conflict Type	Count
Crossing	3
Merging	3
Diverging	3
Total	**9**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

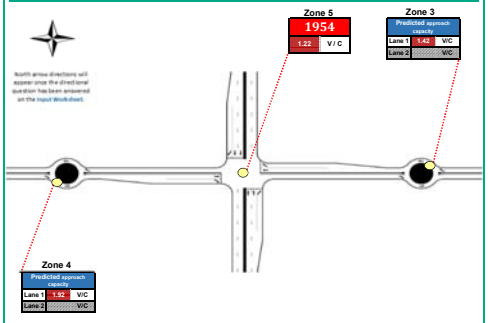
12

Bowtie Intersection

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
MAXIMUM VOLUME / CAPACITY RATIO:			1.92

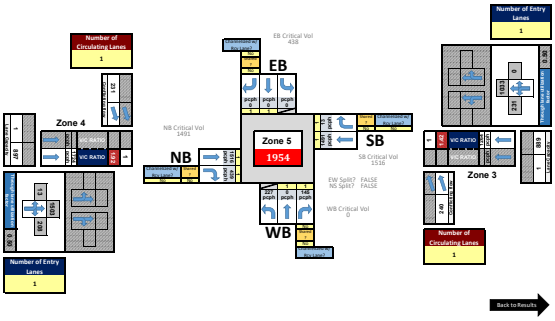


Note: This diagram does not reflect the actual lane configuration of the intersection

Bowtie Intersection

DATA INPUT AND CONFIGURATION

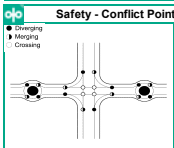
Enter the lane configurations in the yellow cells.



EQUATION: A x exp(-B x Q)

Number of Entry Lanes	Number of Circulating Lanes	Lane	A	B
1	1	--	1130	0.001
1	2	--	1130	0.0007
2	1	Left	1130	0.001
2	1	Right	1130	0.001
2	2	Left	1130	0.00075
2	2	Right	1130	0.0007

Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	4
Merging	8
Diverging	8
Total	20

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

24

Assumptions

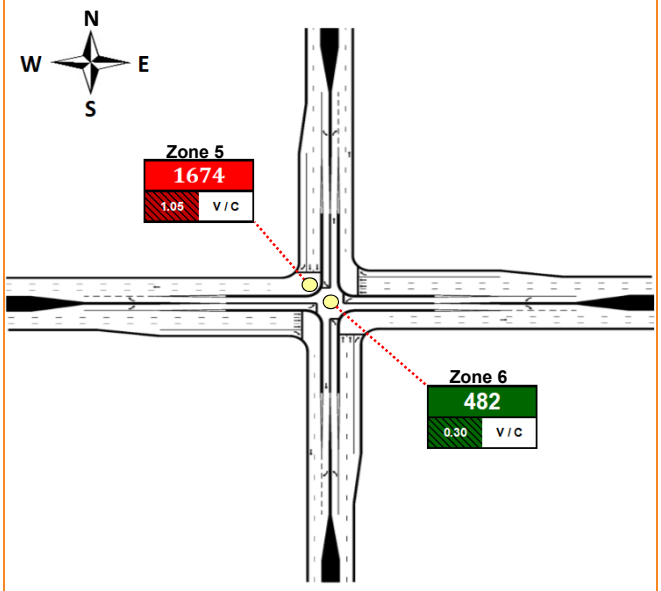
- The roundabouts have only two approaches and exits.
- Since U-turns are not considered, the CUV analysis considers only one location with conflicting volumes for each roundabout.
- The conflict point diagrams include conflict points created by U-turn movements.

Center Turn Overpass Intersection

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			1.05

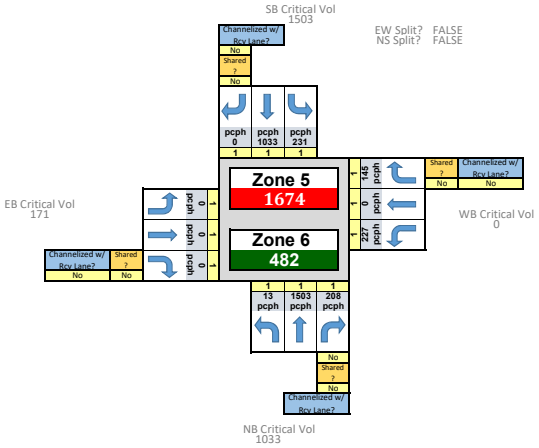


Note: This diagram does not reflect the actual lane configuration of the intersection

Center Turn Overpass Intersection

DATA INPUT AND CONFIGURATION

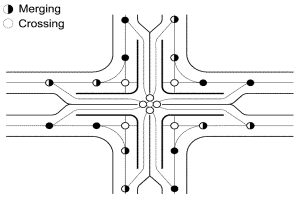
Step 1: Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram

Diverging
Merging
Crossing



Conflict Type	Count
Crossing	8
Merging	8
Diverging	8
Total	24

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

32

Continuous Green-T Intersection

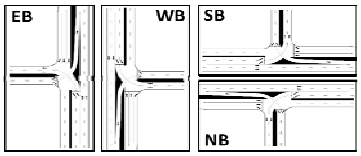
DESIGN AND RESULTS

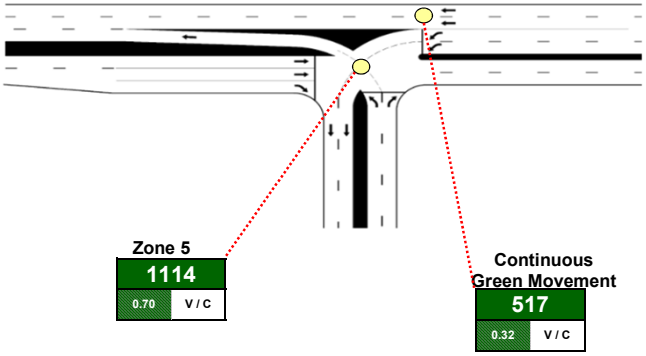
Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			0.70

W S N E

North arrow directions will appear once the directional question has been answered on the **Input Worksheet**.



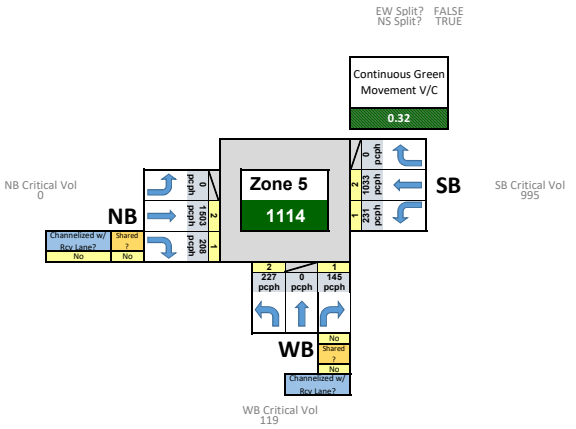


Note: This diagram does not reflect the actual lane configuration of the intersection

Continuous Green-T Intersection

DATA INPUT AND CONFIGURATION

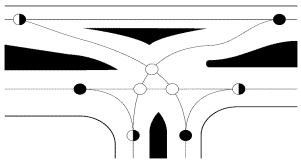
Step 1: Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram

Diverging
Merging
Crossing



Conflict Type	Count
Crossing	3
Merging	3
Diverging	3
Total	9

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

12

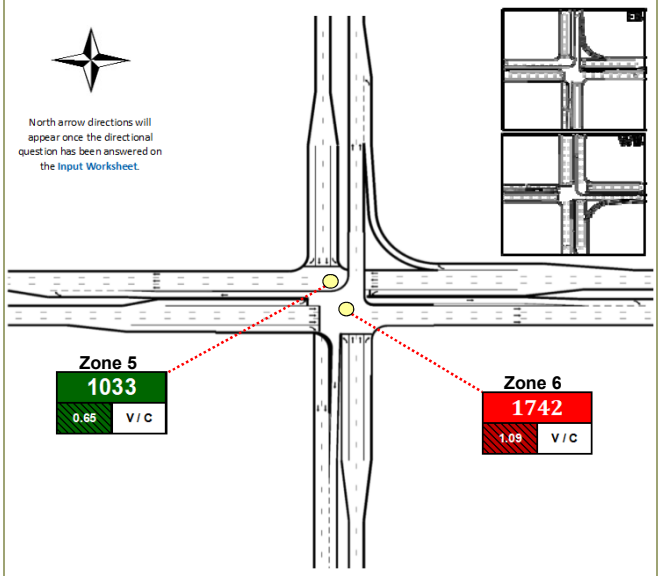
Echelon Intersection

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			1.09

North arrow directions will appear once the directional question has been answered on the Input Worksheet.

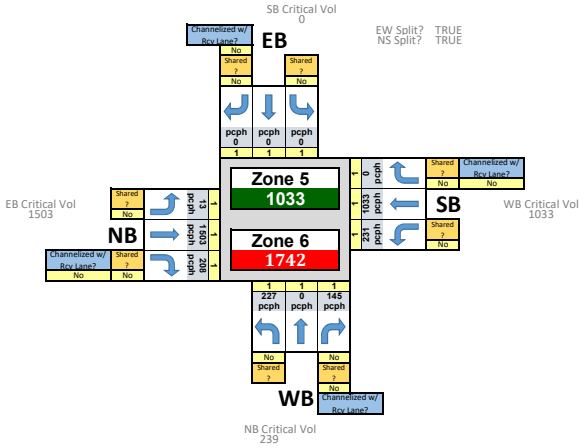


Note: This diagram does not reflect the actual lane configuration of the intersection

Echelon Intersection

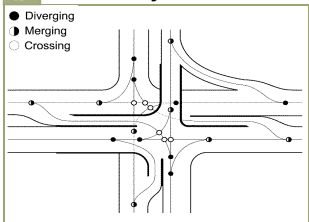
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	6
Merging	8
Diverging	8
Total	22

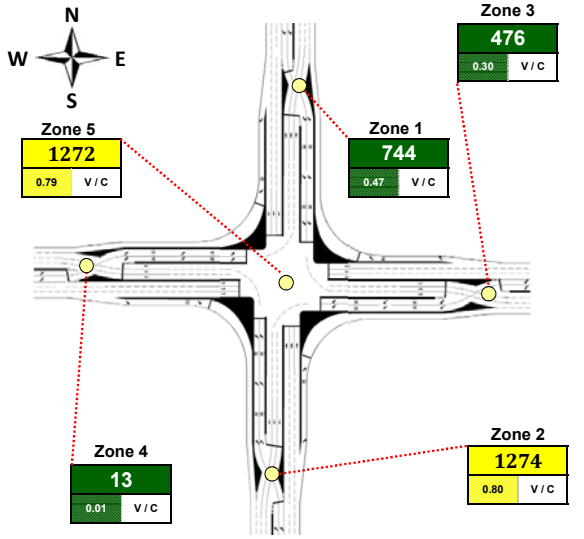
Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points
28

Full Displaced Left Turn Intersection

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:		0.80	
Date:	December 17, 2019				

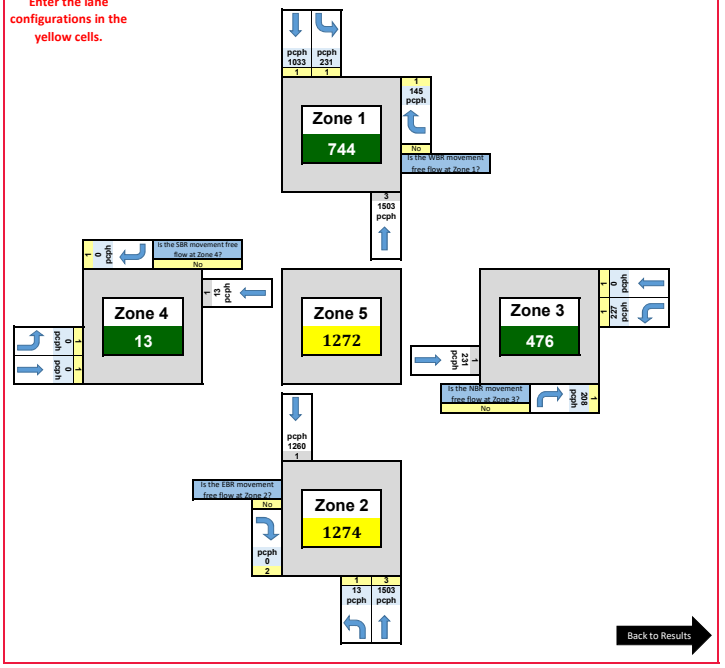


Note: This diagram does not reflect the actual lane configuration of the intersection

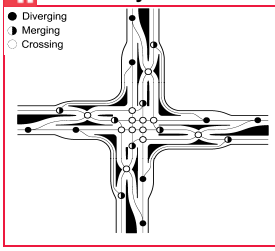
Full Displaced Left Turn Intersection

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	12
Merging	8
Diverging	8
Total	28

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

40

Assumptions

- CLV calculations at Zone 5 do not include right-turn movements.
- The number of through lanes entered in one zone is assumed to be equal to the number of through lanes in all zones that the movement passes through.

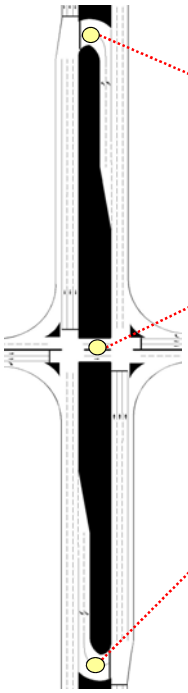
Median U-Turn Intersection

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			1.11

North arrow directions will appear once the directional question has been answered on the **Input Worksheet**.



Zone 1: 573 — 0.36 V / C

Zone 5: 1770 — 1.11 V / C

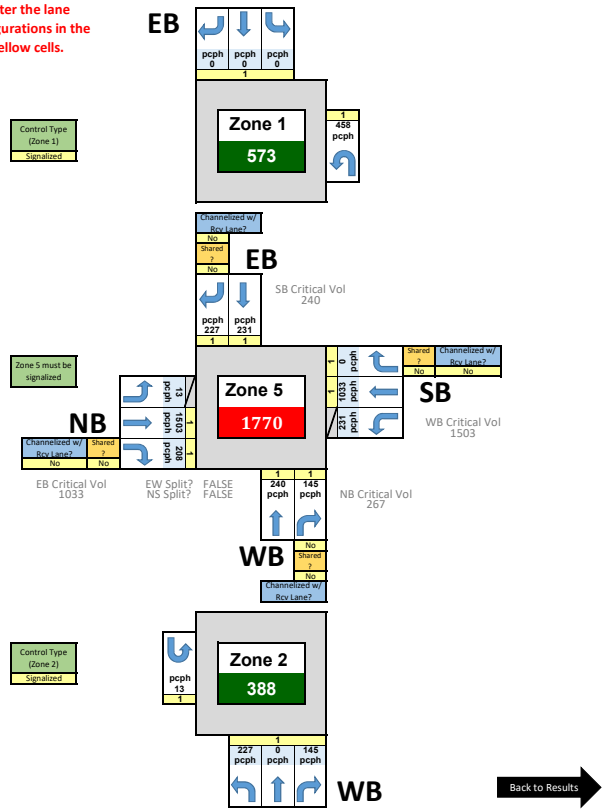
Zone 2: 388 — 0.24 V / C

Note: This diagram does not reflect the actual lane configuration of the intersection

Median U-Turn Intersection

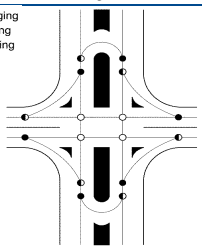
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	4
Merging	6
Diverging	6
Total	**16**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

20

Assumptions

- This worksheet uses the CLV methodology for calculations at signalized zones. These calculations are based on passenger cars per hour.
- This worksheet uses the *HCM, 6th Edition* methodology for calculations at unsignalized zones. These calculations are based on vehicles per hour.

Partial Displaced Left Turn Intersection

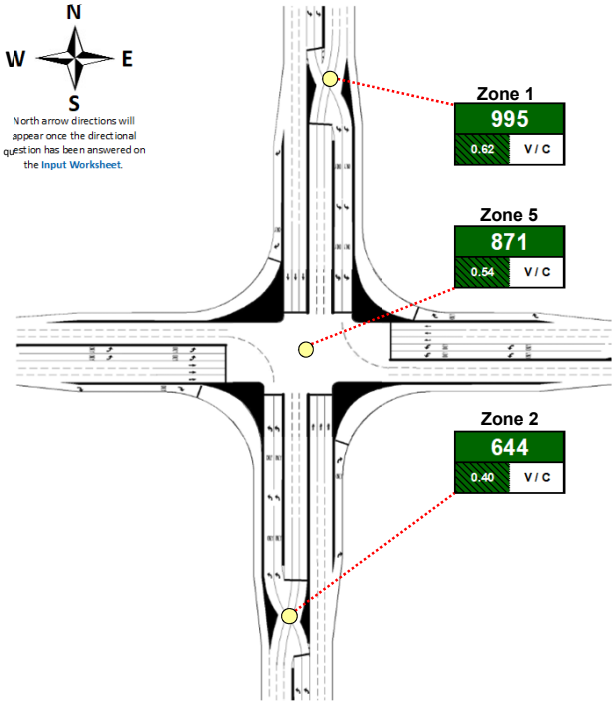
DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			0.62

N W E S

North arrow directions will appear once the directional question has been answered on the Input Worksheet.

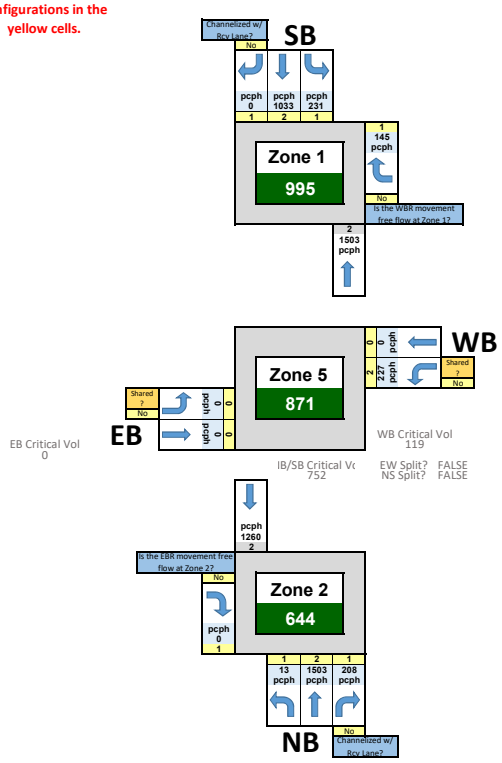


Note: This diagram does not reflect the actual lane configuration of the intersection

Partial Displaced Left Turn Intersection

DATA INPUT AND CONFIGURATION

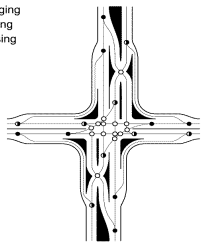
Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	14
Merging	8
Diverging	8
Total	**30**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

44

Assumptions

- CLV calculations at Zone 5 do not include the right-turn movements from the non-displaced-left approaches.
- The number of through lanes entered in one zone is assumed to be equal to the number of through lanes in all zones that the movement passes through.

Partial Median U-Turn Intersection

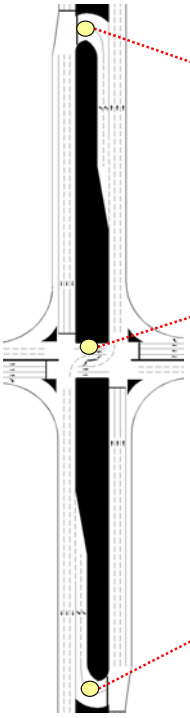
DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			0.72

N W E S

North arrow directions will appear once the directional question has been answered on the **Input Worksheet**.



Zone 1: 648 — 0.41 V / C

Zone 5: 929 — 0.58 V / C

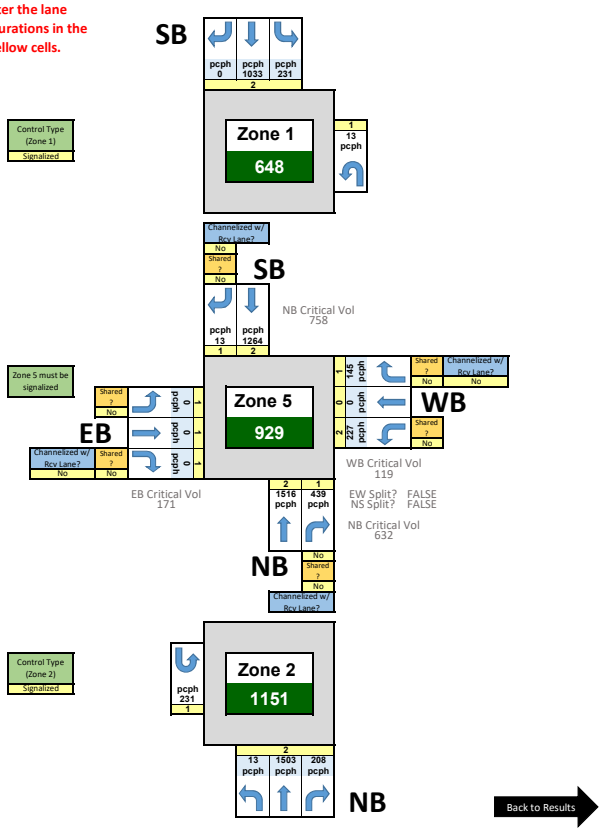
Zone 2: 1151 — 0.72 V / C

Note: This diagram does not reflect the actual lane configuration of the intersection

Patrial Median U-Turn Intersection

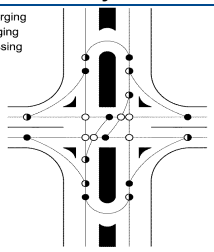
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	6
Merging	8
Diverging	8
Total	**22**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

28

Assumptions

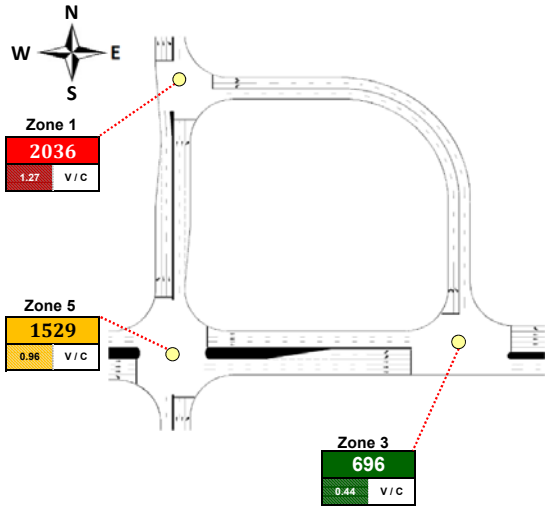
- This worksheet uses the CLV methodology for calculations at signalized zones. These calculations are based on passenger cars per hour.
- This worksheet uses the *HCM, 6th Edition* methodology for calculations at unsignalized zones. These calculations are based on vehicles per hour.

Quadrant Roadway Intersection (N-E)

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			1.27

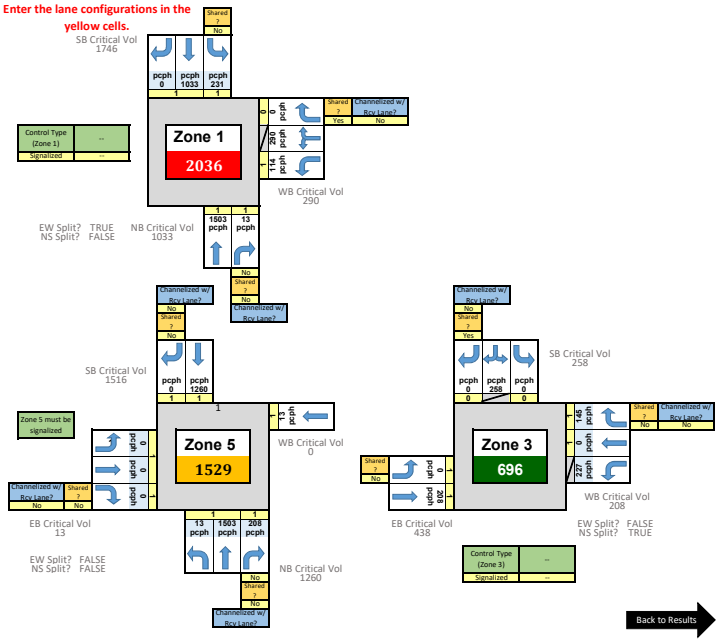


Note: This diagram does not reflect the actual lane configuration of the intersection

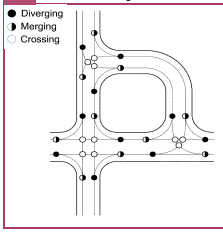
Quadrant Roadway Intersection (N-E)

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	10
Merging	10
Diverging	10
Total	30

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points
40

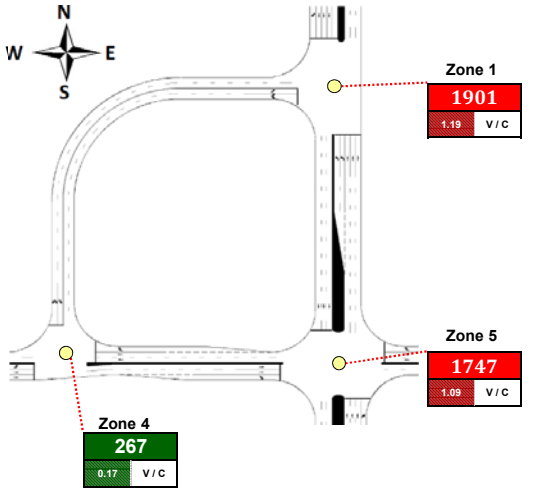
Assumptions

- All right-turning vehicles are assumed to turn right at the first opportunity.
- The northbound left-turning vehicles are assumed to go through Zone 5 and make two right turns before going through Zone 5 again to complete the left-turn movement.
- This worksheet uses the CLV methodology for calculations at signalized zones. These calculations are based on passenger cars per hour.
- This worksheet uses the *HCM, 6th Edition* methodology for calculations at unsignalized zones. These calculations are based on vehicles per hour.

Quadrant Roadway Intersection (N-W)

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:			1.19
Date:	December 17, 2019				

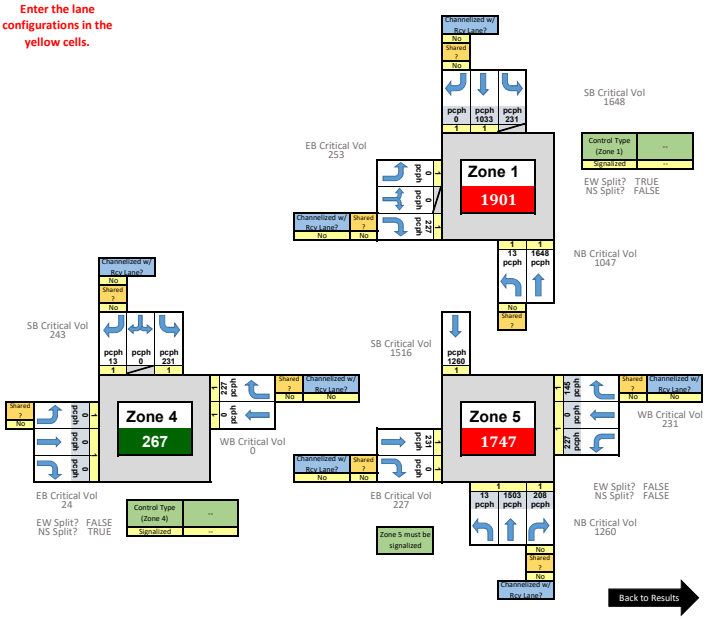


Note: This diagram does not reflect the actual lane configuration of the intersection

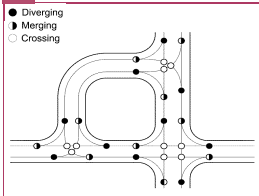
Quadrant Roadway Intersection (N-W)

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	10
Merging	10
Diverging	10
Total	30

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

40

Assumptions

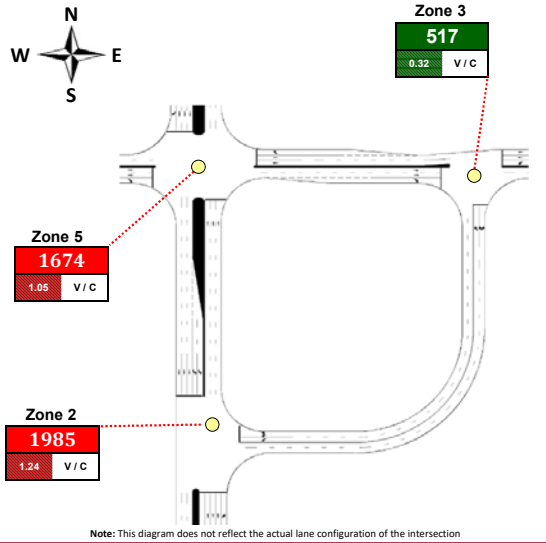
- All right-turning vehicles are assumed to turn right at the first opportunity.
- The westbound left-turning vehicles are assumed to go through Zone 5 and make two right turns before going through Zone 5 again to complete the left-turn movement.
- This worksheet uses the CLV methodology for calculations at signalized zones. These calculations are based on passenger cars per hour.
- This worksheet uses the *HCM, 6th Edition* methodology for calculations at unsignalized zones. These calculations are based on vehicles per hour.

Quadrant Roadway Intersection (S-E)

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			1.24

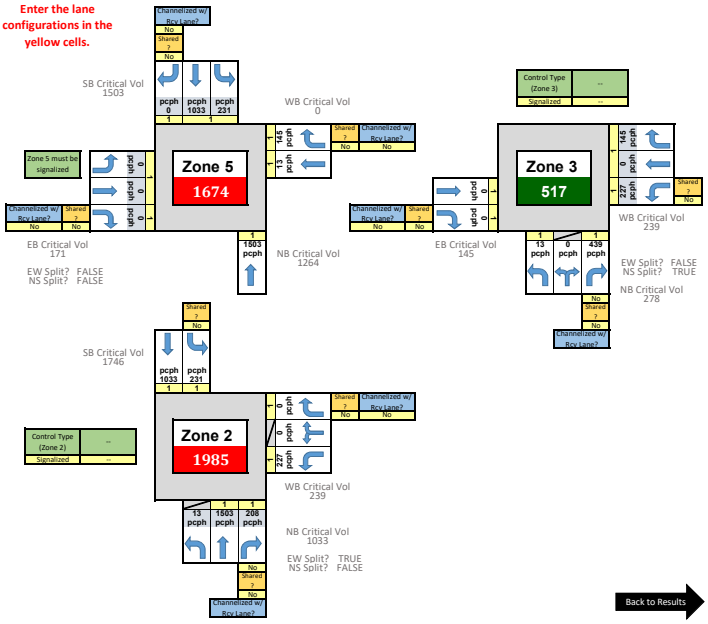


Note: This diagram does not reflect the actual lane configuration of the intersection

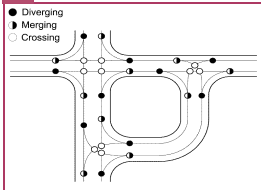
Quadrant Roadway Intersection (S-E)

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	10
Merging	10
Diverging	10
Total	30

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

40

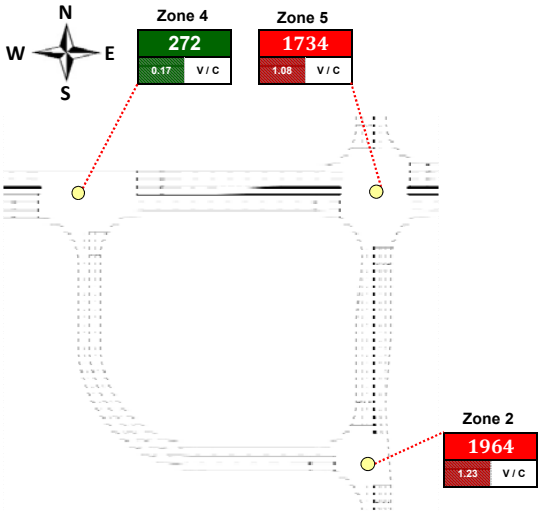
Assumptions

- All right-turning vehicles are assumed to turn right at the first opportunity.
- The eastbound left-turning vehicles are assumed to go through Zone 5 and make two right turns before going through Zone 5 again to complete the left-turn movement.
- This worksheet uses the CLV methodology for calculations at signalized zones. These calculations are based on passenger cars per hour.
- This worksheet uses the *HCM, 6th Edition* methodology for calculations at unsignalized zones. These calculations are based on vehicles per hour.

Quadrant Roadway Intersection (S-W)

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:			1.23
Date:	December 17, 2019				

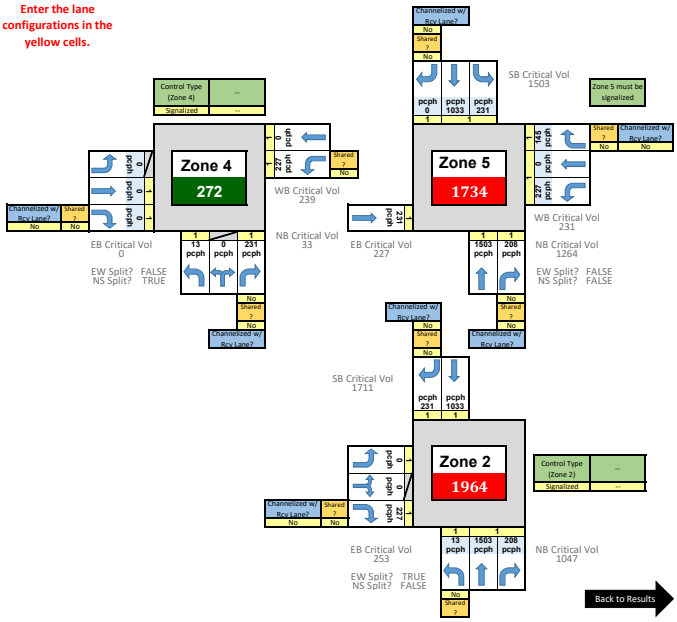


Note: This diagram does not reflect the actual lane configuration of the intersection

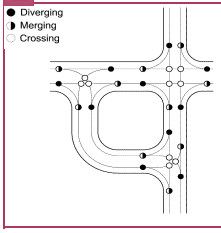
Quadrant Roadway Intersection (S-W)

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	10
Merging	10
Diverging	10
Total	30

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

40

Assumptions

- All right-turning vehicles are assumed to turn right at the first opportunity.
- The southbound left-turning vehicles are assumed to go through Zone 5 and make two right turns before going through Zone 5 again to complete the left-turn movement.
- This worksheet uses the CLV methodology for calculations at signalized zones. These calculations are based on passenger cars per hour.
- This worksheet uses the *HCM, 6th Edition* methodology for calculations at unsignalized zones. These calculations are based on vehicles per hour.

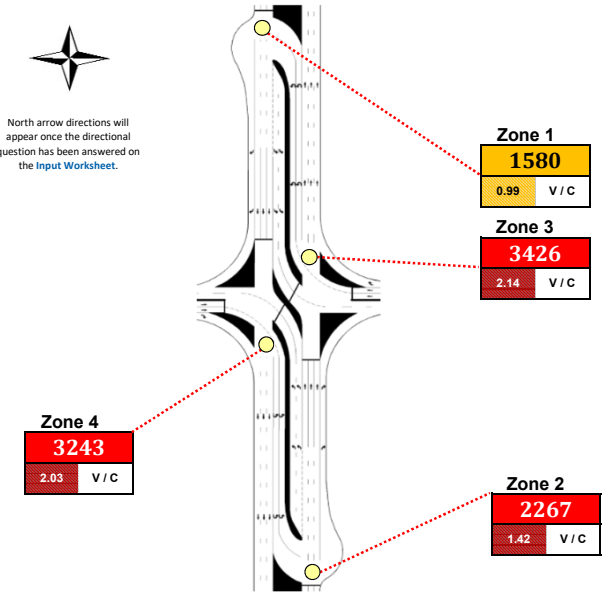
Restricted Crossing U-Turn (RCUT) Intersection

DESIGN AND RESULTS

Project Name:	*Sweetgrasss*
EW Facility:	*Primary Entrancd*
NS Facility:	*Benn's Church Boulevard*
Date:	*December 17, 2019*

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			**2.14**

North arrow directions will appear once the directional question has been answered on the **Input Worksheet**.

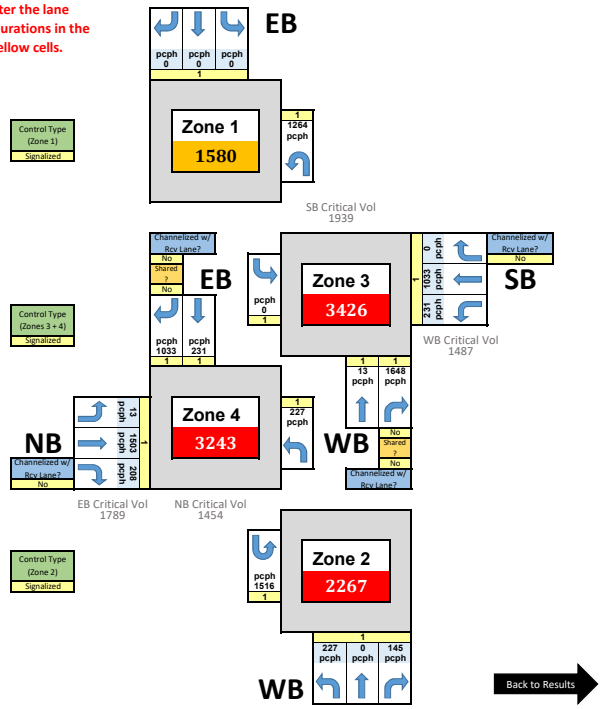


Note: This diagram does not reflect the actual lane configuration of the intersection

Restricted Crossing U-Turn (RCUT) Intersection

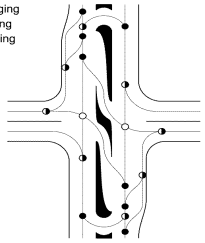
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram

- Diverging
- Merging
- Crossing



Conflict Type	Count
Crossing	2
Merging	8
Diverging	8
Total	**18**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

20

Assumptions

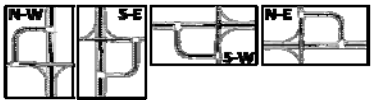
- This worksheet uses the CLV methodology for calculations at signalized zones. These calculations are based on passenger cars per hour.
- This worksheet uses the *HCM, 6th Edition* methodology for calculations at unsignalized zones. These calculations are based on vehicles per hour.

Single Loop Interchange

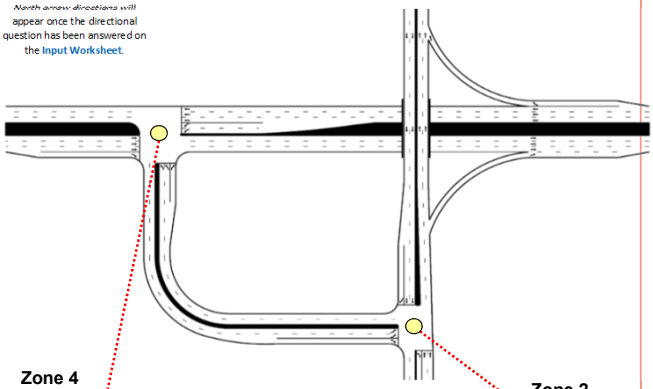
DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			1.10



North arrow directions will appear once the directional question has been answered on the **Input Worksheet**.



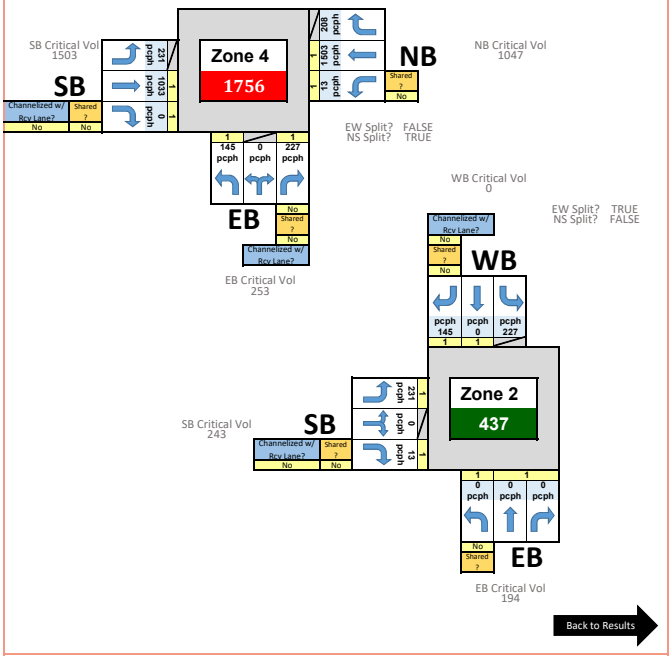
Zone 4
1756
1.10 V / C

Zone 2
437
0.27 V / C

Single Loop Interchange

DATA INPUT AND CONFIGURATION

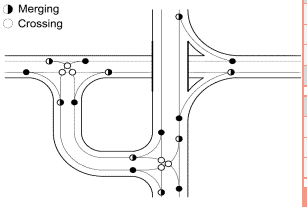
Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	6
Merging	8
Diverging	8
Total	22

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

28

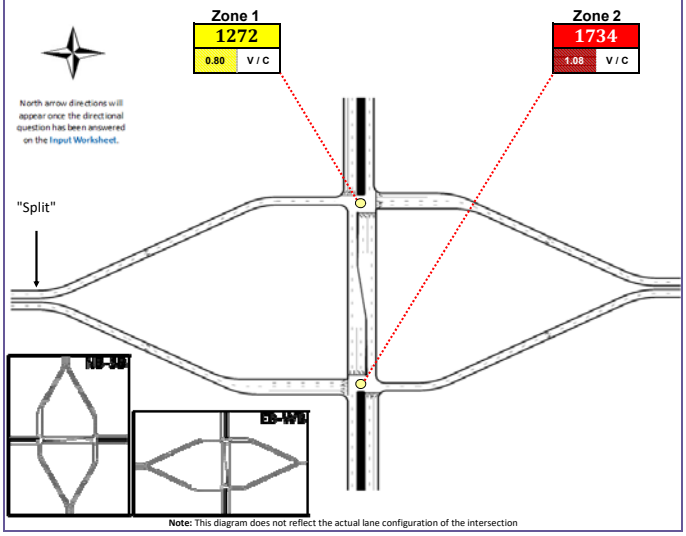
Assumptions

- The NBR movement is assumed to be free flow and is not included in any CLV calculations.

Split Intersection

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	MAXIMUM VOLUME / CAPACITY RATIO:			1.08
Date:	December 17, 2019				

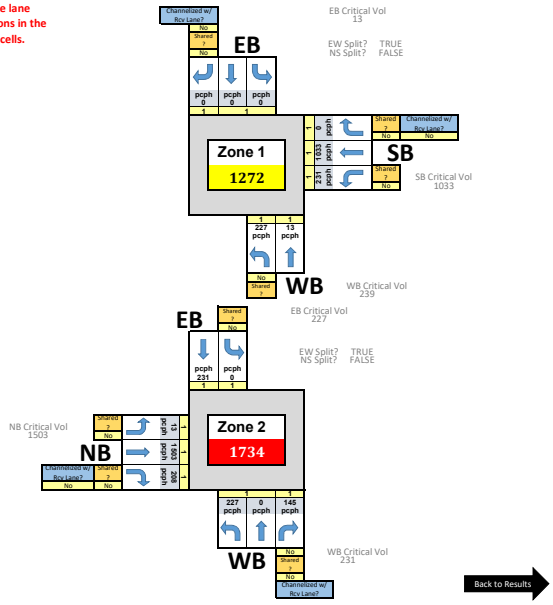


Note: This diagram does not reflect the actual lane configuration of the intersection

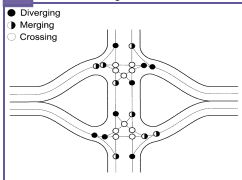
Split Intersection

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	10
Merging	8
Diverging	8
Total	26

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

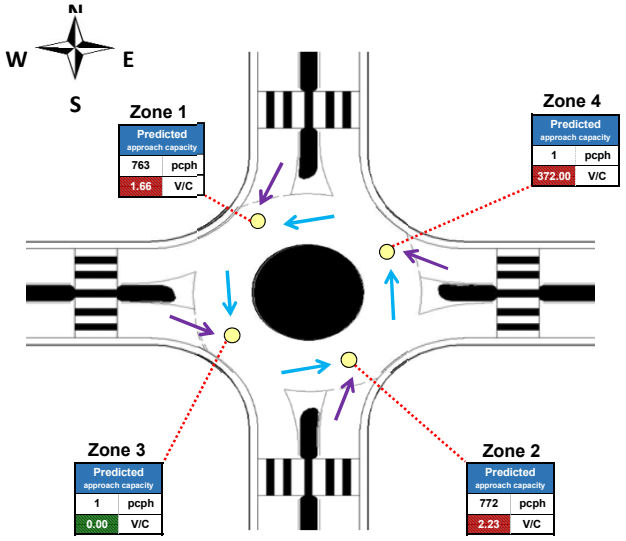
Weighted Total Conflict Points

36

50' ICD Mini-Roundabout

DESIGN AND RESULTS

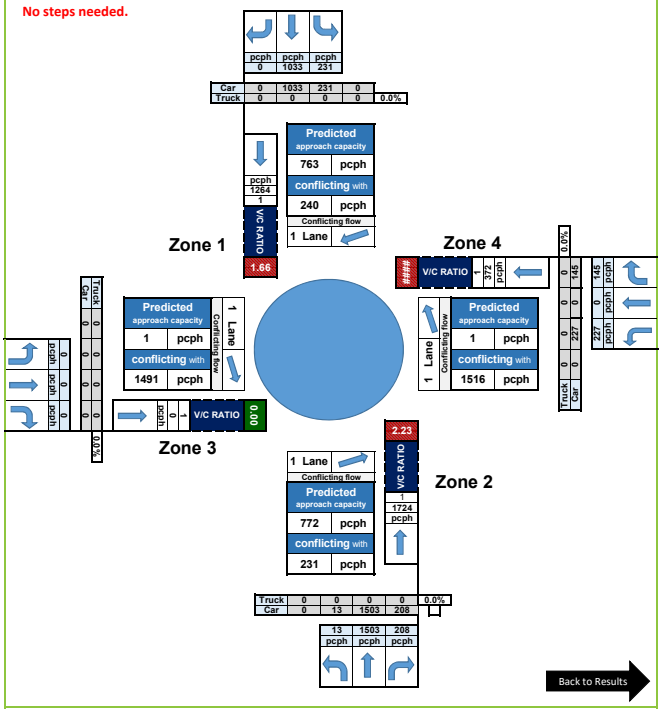
Project Name:	Sweetgrasss	Critical Lane Volume Sum			
EW Facility:	Primary Entrancd	< 1200	1200 - 1399	1400 - 1599	≥ 1600
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:	372.00		
Date:	December 17, 2019				



50' ICD Mini-Roundabout

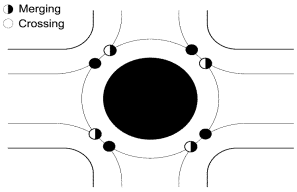
DATA INPUT AND CONFIGURATION

No steps needed.



Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	0
Merging	4
Diverging	4
Total	8

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

8

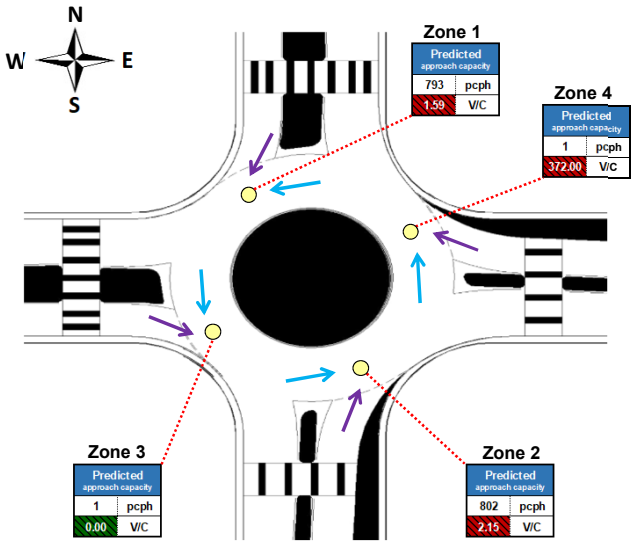
Assumptions

- This worksheet does not use the CLV methodology. The calculations are based on the article *Determination of Mini-Roundabout Capacity in the United States* , published in the *Journal of Transportation Engineering* .

75' ICD Mini-Roundabout

DESIGN AND RESULTS

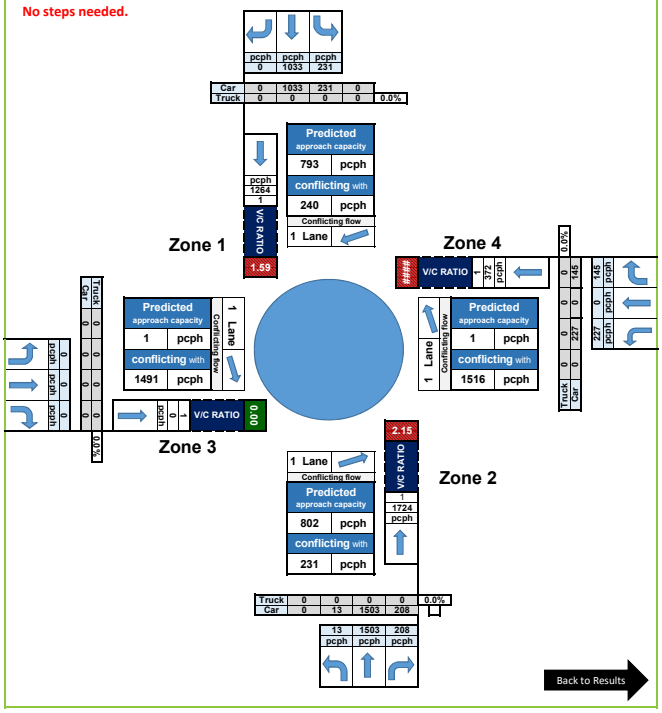
Project Name:	Sweetgrasss	Critical Lane Volume Sum			
EW Facility:	Primary Entrancd	< 1200	1200 - 1399	1400 - 1599	≥ 1600
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:	372.00		
Date:	December 17, 2019				



75' ICD Mini-Roundabout

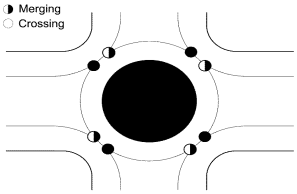
DATA INPUT AND CONFIGURATION

No steps needed.



Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	0
Merging	4
Diverging	4
Total	8

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

8

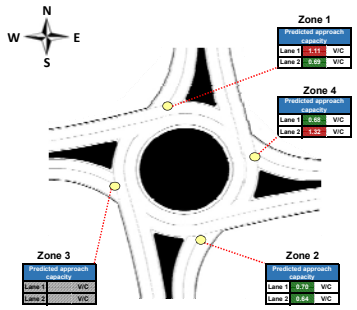
Assumptions

- This worksheet does not use the CLV methodology. The calculations are based on the article *Determination of Mini-Roundabout Capacity in the United States* , published in the *Journal of Transportation Engineering* .

Roundabout

DESIGN AND RESULTS

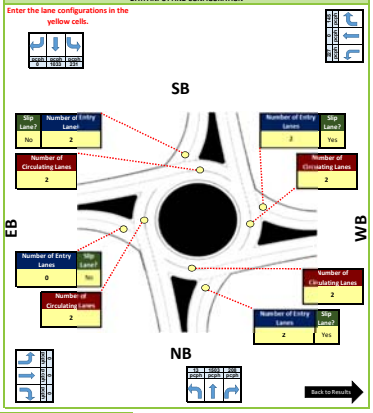
		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	≤ 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd	VOLUME / CAPACITY RATIO:			1.32
NS Facility:	Benn's Church Boulevard				
Date:	December 17, 2019				



Roundabout

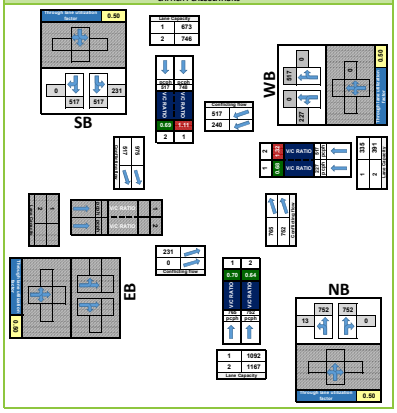
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Roundabout

CAPACITY CALCULATIONS



EQUATION: A x exp(-B x Q)

Number of Entry Lanes	Number of Circulating Lanes	Lane	A	B
1	1	-	1380	0.00102
1	2	-	1420	0.00085
2	1	Left	1420	0.00091
2	1	Right	1420	0.00091
2	2	Left	1350	0.00092
2	2	Right	1420	0.00085

Safety - Conflict Point Diagram

Conflict Type	Count
Crossing	0
Merging	4
Diverging	4
Total	8

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

8

Assumptions

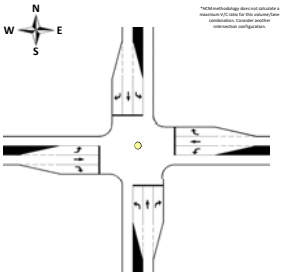
- The number of circulating lanes in one quadrant is assumed to be equal to the number of exiting lanes in the next quadrant.
- The roundabout is limited to a maximum of two entry lanes and two circulating lanes.
- All left-turning vehicles are assumed to stay in the innermost lane until exiting the roundabout.
- This worksheet does not use the CLV methodology. The calculations are based on the *HCM 6th Edition* .

Two-Way Stop Control (TWSC)

DESIGN AND RESULTS

Project Name	Sweetgrasss	Critical Lane Volume Sum
NW Facility	Primary Entrance	< 500 | 500 - 599 | 600 - 699 | ≥ 700
NE Facility	Beirn's Church Boulevard	VOLUME / CAPACITY RATIO: N/A*
Date	December 17, 2019	

*HCM methodology does not calculate a maximum V/C ratio for this volume/lane combination. Consider another intersection configuration.

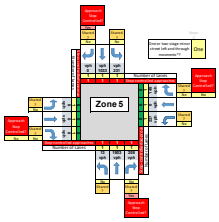


Note: This diagram does not reflect the actual lane configuration of the intersection

Two-Way Stop Control (TWSC)

DATA INPUT AND CONFIGURATION

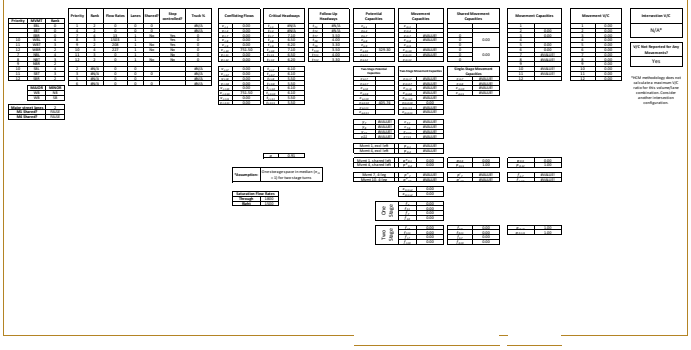
Step 1: Identify which approaches are stop-controlled by selecting "Yes" from the drop-down
Step 2: Enter the lane configurations in the yellow cells.



Back to Results

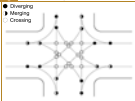
Two-Way Stop Control (TWSC)

HCM 6 CALCULATIONS



Safety - Conflict Point Diagram

- Diverging
- Merging
- Crossing



Conflict Type	Count
Crossing	16
Merging	8
Diverging	8
Total	32

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points: 48

Assumptions

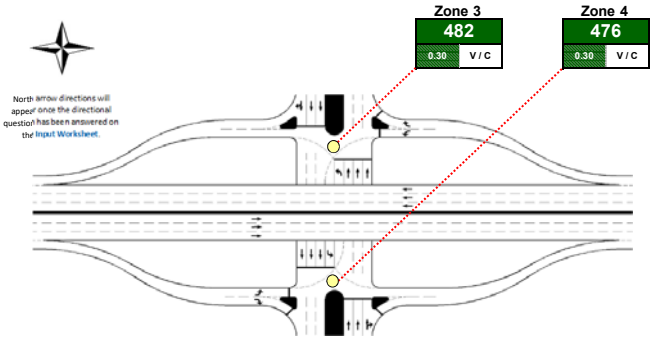
- This worksheet does not use the CLV methodology. The calculations are based on the *HCM, 6th Edition*. The calculations are based on vehicles per hour.

Traditional Diamond Interchange

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:			0.30

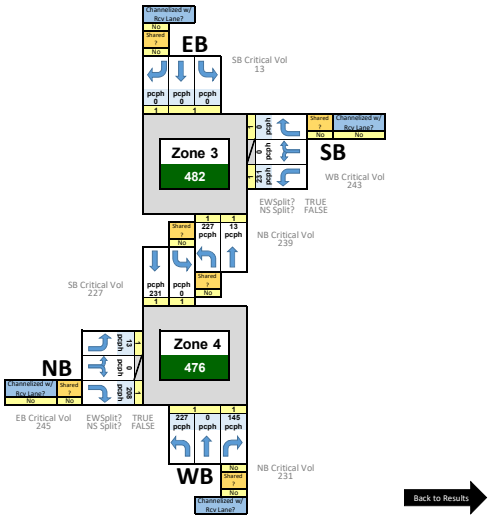


Note: This diagram does not reflect the actual lane configuration of the intersection

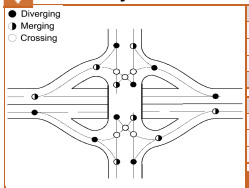
Traditional Diamond Interchange

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	6
Merging	8
Diverging	8
Total	22

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

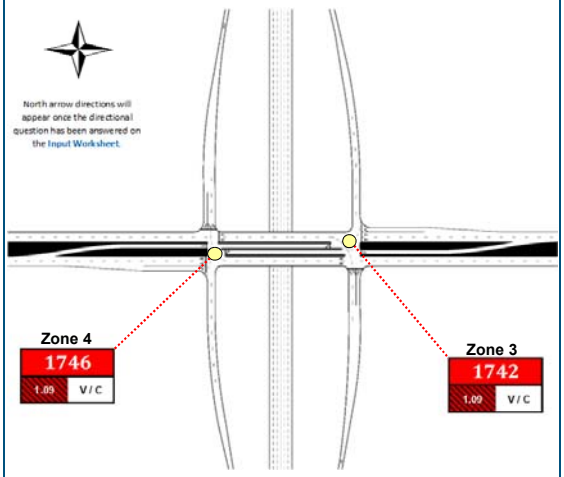
Weighted Total Conflict Points

28

Contraflow Left Interchange

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:			1.09
Date:	December 17, 2019				

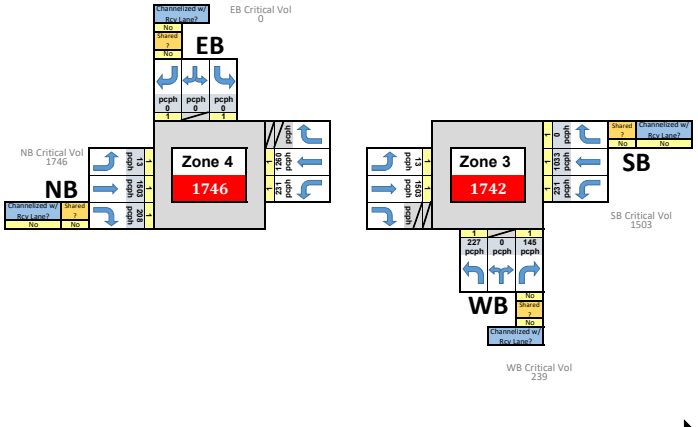


Note: This diagram does not reflect the actual lane configuration of the intersection

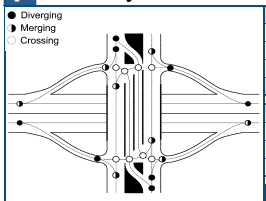
Contraflow Left Interchange

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	8
Merging	8
Diverging	8
Total	**24**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

32

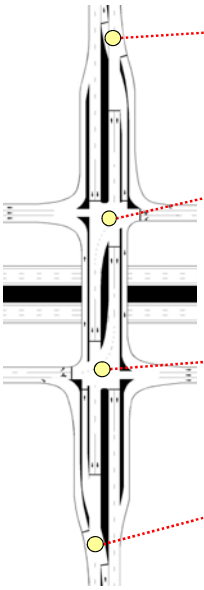
Displaced Left Turn Interchange

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:		0.30	

North arrow directions will appear once the directional question has been answered on the Input Worksheet.



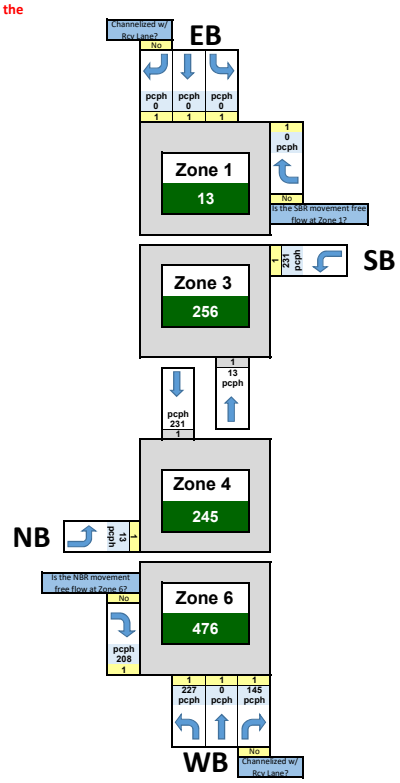
Zone 1	13	0.01 V / C
Zone 3	256	0.16 V / C
Zone 4	245	0.15 V / C
Zone 6	476	0.30 V / C

Note: This diagram does not reflect the actual lane configuration of the intersection

Displaced Left Turn Interchange

DATA INPUT AND CONFIGURATION

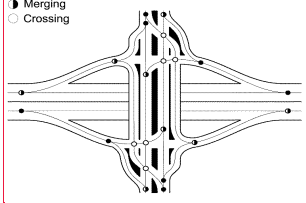
Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram

Diverging
Merging
Crossing



Conflict Type	Count
Crossing	6
Merging	8
Diverging	8
Total	**22**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

28

Assumptions

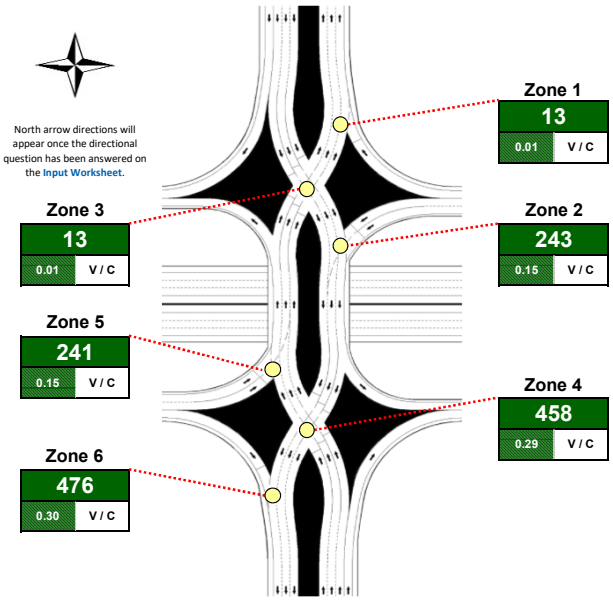
- The number of through lanes entered in one zone is assumed to be equal to the number of through lanes in all zones that the movement passes through.

Diverging Diamond Interchange (DDI)

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:			0.30
Date:	December 17, 2019				

North arrow directions will appear once the directional question has been answered on the Input Worksheet.

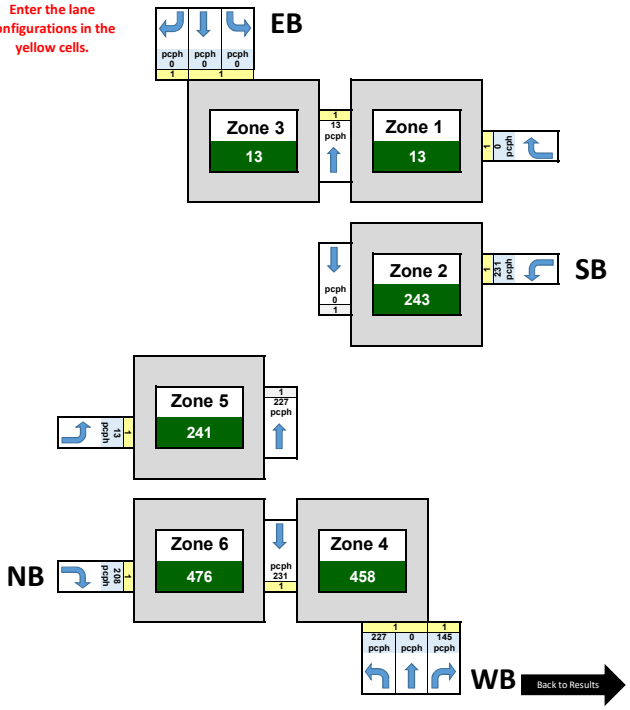


Note: This diagram does not reflect the actual lane configuration of the intersection

Diverging Diamond Interchange (DDI)

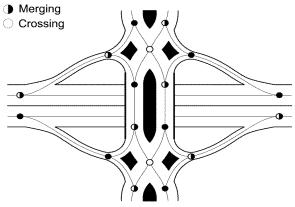
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	2
Merging	8
Diverging	8
Total	18

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

20

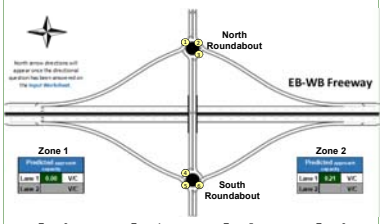
Assumptions

- The number of WB through lanes entered in Zone 4 is assumed to be equal to the number of through lanes in Zone 5. The number of EB through lanes entered in Zone 3 is assumed to be equal to the number of through lanes in Zone 2.

Double Roundabout Interchange

DESIGN AND RESULTS

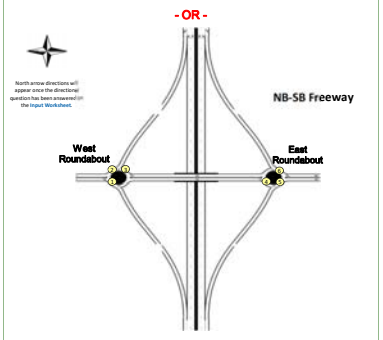
		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	≤ 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:			0.27
Date:	December 17, 2019				



Zone 1			Zone 2		
Predicted approach capacity			Predicted approach capacity		
Lane 1	0.00	V/C	Lane 1	0.21	V/C
Lane 2		V/C	Lane 2		V/C

Zone 3			Zone 4			Zone 5			Zone 6		
Predicted approach capacity			Predicted approach capacity			Predicted approach capacity			Predicted approach capacity		
Lane 1	0.17	V/C	Lane 1	0.17	V/C	Lane 1	0.29	V/C	Lane 1	0.27	V/C
Lane 2		V/C	Lane 2		V/C	Lane 2		V/C	Lane 2		V/C

- OR -

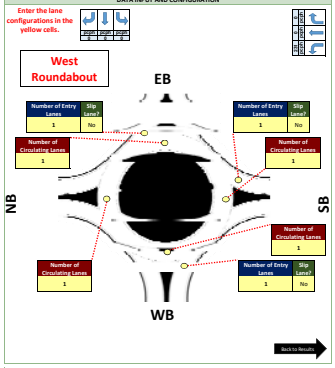


Note: This diagram does not reflect the actual lane configuration of the intersection

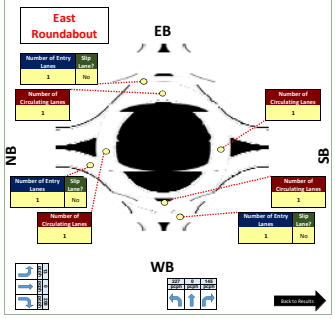
Double Roundabout Interchange

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.

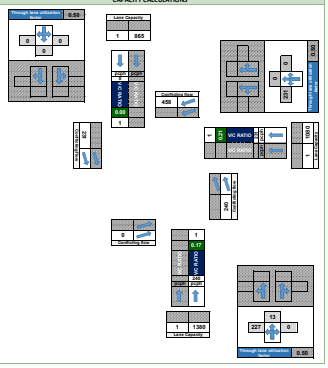


DATA INPUT AND CONFIGURATION

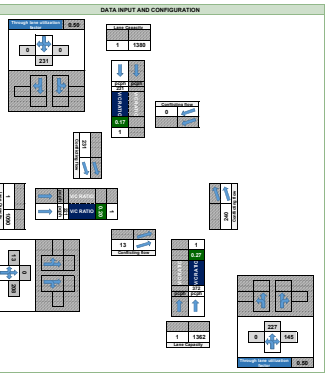


Double Roundabout Interchange

CAPACITY CALCULATIONS



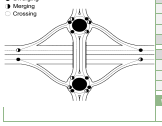
DATA INPUT AND CONFIGURATION



EQUATION: A x exp(-B x Q)

Number of Entry Lanes	Number of Circulating Lanes	Lane	A	B
1	1	-	1380	0.00102
1	2	-	1420	0.00085
2	1	Left	1420	0.00091
2	1	Right	1420	0.00091
2	2	Left	1350	0.00092
2	2	Right	1420	0.00085

Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	0
Merging	8
Diverging	8
Total	16

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points: **16**

Assumptions

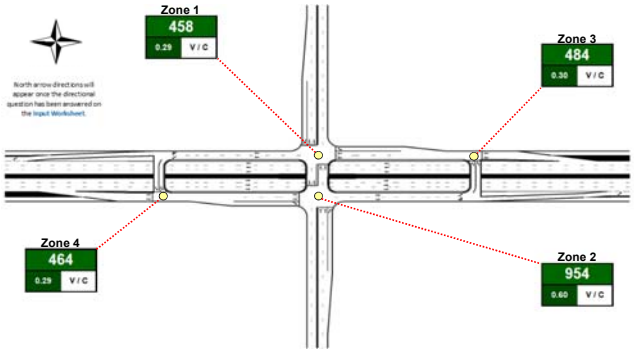
- The number of circulating lanes in one quadrant is assumed to be equal to the number of exiting lanes in the next quadrant.
- The roundabout is limited to a maximum of two entry lanes and two circulating lanes.
- All left-turning vehicles are assumed to stay in the innermost lane until exiting the roundabout.
- This worksheet does not use the CLV methodology. The calculations are based on the *HCM 6th Edition*.

Michigan Urban Diamond Intersection

DESIGN AND RESULTS

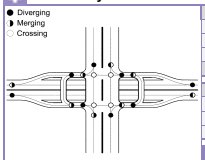
Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:	0.60		



Note: This diagram does not reflect the actual lane configuration of the intersection

Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	4
Merging	8
Diverging	8
Total	20

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

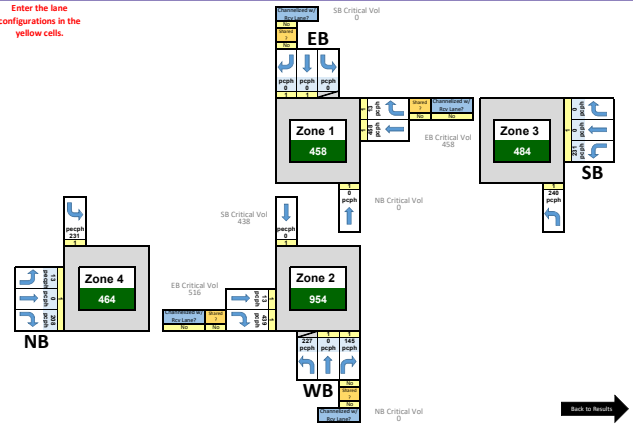
Weighted Total Conflict Points

24

Michigan Urban Diamond Intersection

DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.

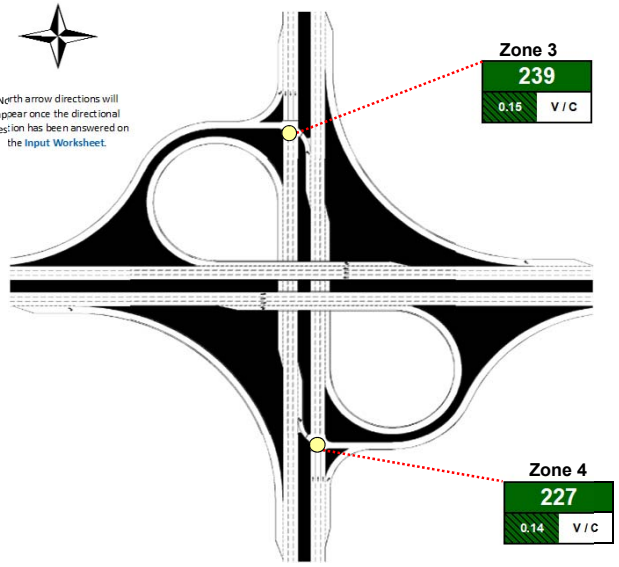


Partial Cloverleaf Interchange

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd				
NS Facility:	Benn's Church Boulevard	VOLUME / CAPACITY RATIO:			0.15
Date:	December 17, 2019				

North arrow directions will appear once the directional question has been answered on the Input Worksheet.

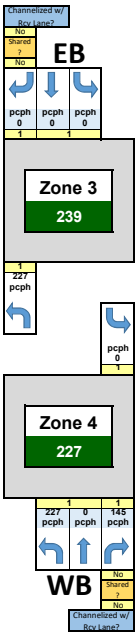


Note: This diagram does not reflect the actual lane configuration of the intersection

Partial Cloverleaf Interchange

DATA INPUT AND CONFIGURATION

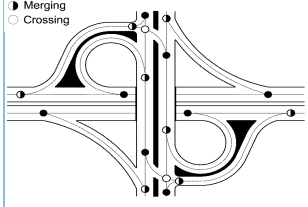
Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	2
Merging	8
Diverging	8
Total	18

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

20

Assumptions

- This configuration assumes the Partial cloverleaf has two loop ramps, both of which will be used by vehicles exiting the freeway.

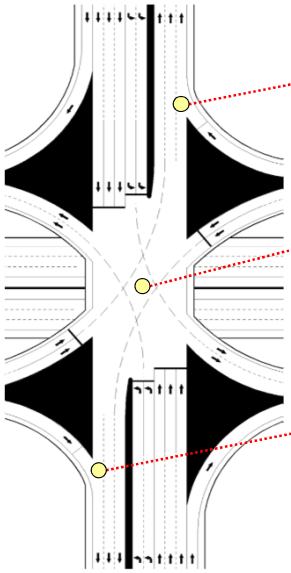
Single Point Urban Interchange (SPUI)

DESIGN AND RESULTS

Project Name:	Sweetgrasss
EW Facility:	Primary Entrancd
NS Facility:	Benn's Church Boulevard
Date:	December 17, 2019

Critical Lane Volume Sum			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
VOLUME / CAPACITY RATIO:		0.30	

North arrow directions will appear once the directional question has been answered on the **Input Worksheet**.



Zone 1
13
0.01 V / C

Zone 3
482
0.30 V / C

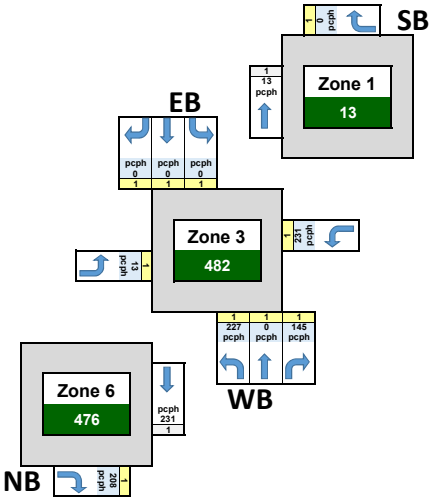
Zone 6
476
0.30 V / C

Note: This diagram does not reflect the actual lane configuration of the intersection

Single Point Urban Interchange (SPUI)

DATA INPUT AND CONFIGURATION

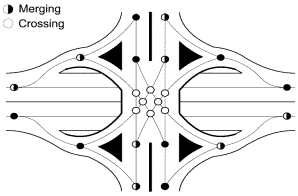
Enter the lane configurations in the yellow cells.



Back to Results

Safety - Conflict Point Diagram

● Diverging
◑ Merging
○ Crossing



Conflict Type	Count
Crossing	8
Merging	8
Diverging	8
Total	**24**

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

32

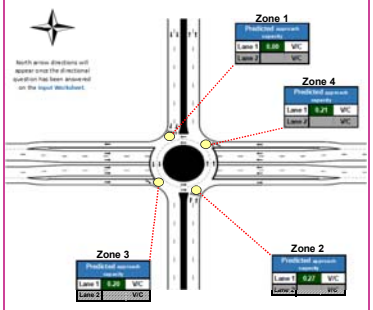
Assumptions

- The number of through lanes entered in one zone is assumed to be equal to the number of through lanes in all zones that the movement passes through.

Single Roundabout Interchange

DESIGN AND RESULTS

		Critical Lane Volume Sum			
Project Name:	Sweetgrasss	< 1200	1200 - 1399	1400 - 1599	≥ 1600
EW Facility:	Primary Entrancd	VOLUME / CAPACITY RATIO:			
NS Facility:	Benn's Church Boulevard				0.27
Date:	December 17, 2019				

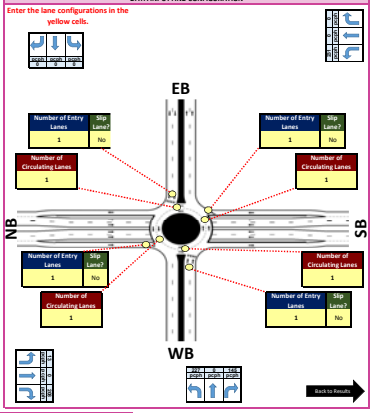


Note: This diagram does not reflect the actual lane configuration of the intersection

Single Roundabout Interchange

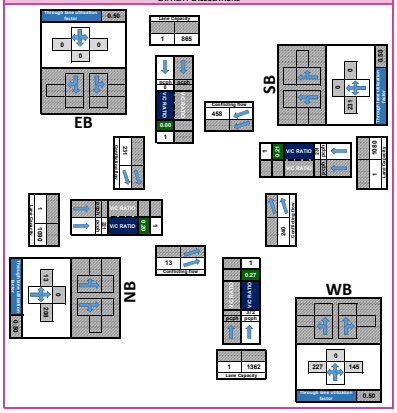
DATA INPUT AND CONFIGURATION

Enter the lane configurations in the yellow cells.



Single Roundabout Interchange

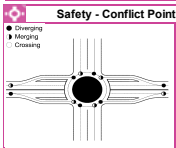
CAPACITY CALCULATIONS



EQUATION: A x exp(-B x Q)

Number of Entry Lanes	Number of Circulating Lanes	Lane	A	B
1	1	-	1380	0.00102
1	2	-	1420	0.00085
2	1	Left	1420	0.00091
2	1	Right	1420	0.00091
2	2	Left	1350	0.00092
2	2	Right	1420	0.00085

Safety - Conflict Point Diagram



Conflict Type	Count
Crossing	0
Merging	6
Diverging	6
Total	12

Conflict Type	Weight
Crossing	2
Merging	1
Diverging	1

Weighted Total Conflict Points

12

Assumptions

- The number of circulating lanes in one quadrant is assumed to be equal to the number of exiting lanes in the next quadrant.
- The roundabout is limited to a maximum of two entry lanes and two circulating lanes.
- All left-turning vehicles are assumed to stay in the innermost lane until exiting the roundabout.
- This worksheet does not use the CLV methodology. The calculations are based on the *HCM 6th Edition* .

Appendix C (optional):
TIA, Safety Study, and/or other Studies (if available)



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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

November 10, 2021

PRELIMINARY JURISDICTIONAL DETERMINATION

Eastern Virginia Regulatory Section
NAO-2021-1053 (Jones Creek)

Jamie Armentrout
Wetland Studies and Solutions, Inc.
1008 Old Virginia Beach Road, Suite 200
Virginia Beach, Virginia 23451

Dear Mr. Armentrout:

This letter is regarding your request for a preliminary jurisdictional determination of the aquatic resources (e.g., wetlands, streams, and ponds), on an approximately 249-acre parcel located at 14096 Benns Church Road, known as Sweetgrass, in Isle of Wight County, Virginia (tax map parcel #32-01-009) hereinafter referred to as project area.

The map entitled “Wetland Delineation Sweetgrass”, by WSSI dated March 8, 2021, received by the U.S. Army Corps of Engineers (Corps) on April 15, 2021 (copy enclosed) provides the locations of the aquatic resources within the project area referenced above. This letter is not confirming the Cowardin classifications of these aquatic resources.

These aquatic resources exhibit wetland criteria as defined in the 1987 Corps of Engineers Wetland Delineation Manual, and the Atlantic and Gulf Coastal Plain Regional Supplement. This site also contains aquatic resources with an ordinary high-water mark and a high tide line.

Please be aware that you may be required to obtain a Corps permit for any discharge of dredged and/or fill material, either temporary or permanent, into a water of the U.S. In addition, you may be required to obtain a Corps permit for certain activities occurring within, under, or over a navigable water of the U.S. subject to the Section 10 of the Rivers and Harbors Act. Furthermore, you may be required to obtain state and local authorizations, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC), and/or a permit from your local wetlands board.

This is a preliminary jurisdictional determination and is not a legally binding determination regarding whether Corps jurisdiction applies to the aquatic resources in

question. To determine Corps' jurisdiction, you may request and obtain an approved jurisdictional determination.

This delineation of aquatic resources can be relied upon for no more than five years from the date of this letter. New information may warrant revision. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to the Corps, either by email george.a.janek@usace.army.mil or by standard mail to U.S. Army Corps of Engineers, Norfolk District, CENAO-WR-R, Attn: George Janek, 803 Front Street, Norfolk, VA 23510-1011.

If you have any questions, please contact me by telephone at (757) 201-7135 or by email at george.a.janek@usace.army.mil.

Sincerely,



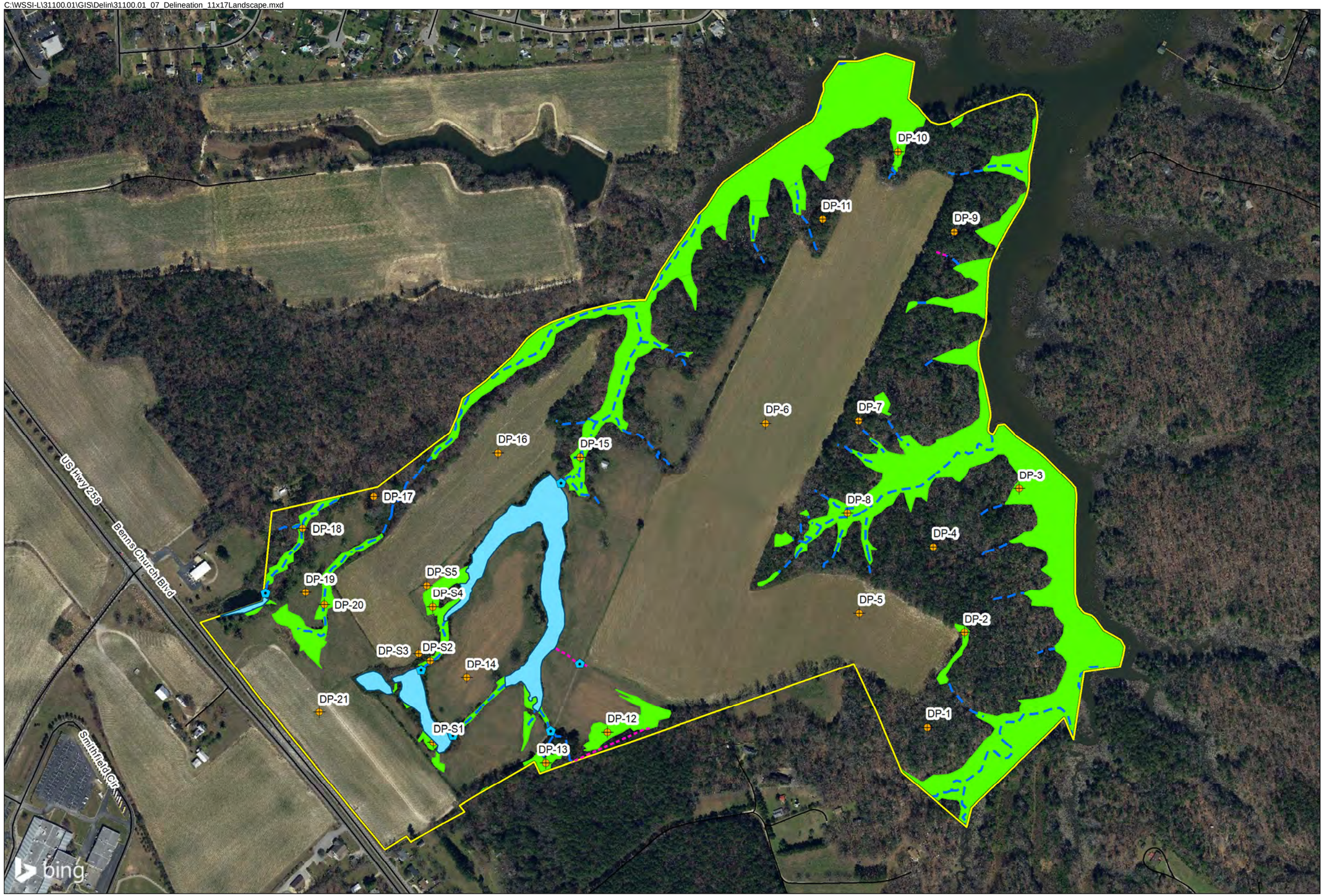
George Janek
Eastern Virginia
Regulatory Section

Enclosure(s):

cc: Henry Layden, Trustee
DEQ
Shaunee A. Beussink, Isle of Wight County

Received by USACE NAO by DGM April 15, 2021

C:\WSSI-L\31100.01\GIS\Delin\31100.01_07_Delineation_11x17Landscape.mxd



Wetland Delineation
Sweetgrass
WSSI #31100.01

NORTH

0 500

Feet

Original Scale:
1 " = 500 '

- Project Area (249.4 ac)
- Wetland Data Points
- Culvert or Outfall
- Wetland (38.75 ac)
- Farm Pond (6.05 ac)
- Stream (15,645 lf)
- Ditch (685 lf)

Delineation Notes:
In-field wetland delineation performed on December 15, 2020 through February 10, 2020 by Jamie Armentrout, PWD.

*Subject to confirmation by the USACE

Aerial Source: Bing

Figure Date: March 8, 2021

Wetland Studies and Solutions, Inc.
a DAVEY company

Figure 7

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD:

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: County/parish/borough: City:

Center coordinates of site (lat/long in degree decimal format):

Lat.: xx.xxx° Long.: yy.yyy°

Universal Transverse Mercator:

Name of nearest waterbody:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

☐ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _____.

☐ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____.

☐ Data sheets prepared by the Corps: _____.

☐ Corps navigable waters' study: _____.

☐ U.S. Geological Survey Hydrologic Atlas: _____.
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.

☐ U.S. Geological Survey map(s). Cite scale & quad name: _____.

☐ Natural Resources Conservation Service Soil Survey. Citation: _____.

☐ National wetlands inventory map(s). Cite name: _____.

☐ State/local wetland inventory map(s): _____.

☐ FEMA/FIRM maps: _____.

☐ 100-year Floodplain Elevation is: ____. (National Geodetic Vertical Datum of 1929)

☐ Photographs: ☐ Aerial (Name & Date): _____.
or ☐ Other (Name & Date): _____.

☐ Previous determination(s). File no. and date of response letter: _____.

☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____
Signature and date of
Regulatory staff member
completing PJD

_____
Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

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Water Quality Impact Assessment

Rezoning

For

Sweetgrass Development

Prepared For

NVR, INC
860 Greenbrier Circle, Suite 100
Chesapeake, Virginia 23320

April 29, 2019
Revised November 2021

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TABLE OF CONTENTS

II. EXISTING CONDITIONS 2
III. WATER QUALITY IMPACT ASSESSMENT 3
A. Proposed Conditions 3
B. Identification of Impacts and Required Information for Review 3
C. Hydrologic Impacts 4
IV. PROPOSED MITIGATION 6
V. CONCLUSION 6
VI. APPENDIX 7

APPENDIX

Exhibit A – Impact Map
Exhibit B – Clearing Exhibit

I. INTRODUCTION

On behalf of NVR, Inc. proposes to request Rezoning for a parcel within the Windsor District is to rezone a parcel containing 249.47 acres that is currently zoned (RAC Rural Conservation District) to PD/MX (Planned Development Mixed Use) at 14096 Benns Church Boulevard, Smithfield Virginia.

The site is currently mainly farmed land, with the perimeter and portions for the site furthest from Benns Church Blvd being forested. The site lies completely within the County of Isle of Wight boarding the Smithfield City limits to the North, Jones Creek to the East, Single family subdivision to the South and Benns Church Blvd. (Rt. 10) to the West. The site contains an existing lake and slopes to existing creek known as Jones Creek. The average soils slope 2% to 6%. The site is within the Peanut soils and Water district and has a hydrologic unit code of JL41 and reaches the Pagan River-Jones Creek drainage areas.

The purpose of this assessment is to summarize and organize information about the proposed impacts to the Chesapeake Bay Preservation Area(s) (CBPAs) which are reasonably necessary for the development of this property and to identify proposed mitigation that addresses such impacts. The anticipated duration of the project is five to eight years, with impacts to the RPA occurring during the first year. While the site isn't fully designed, we anticipate ten (10) specific areas of CBPA impacts in the project area. Section 4003 of the Isle of Wight County Chesapeake Bay Ordinance generally categorizes these impacts. Exhibit A, submitted with this report, identifies the relative location of the impacts. Upon approval of the formal exception, the proposed mitigation described in this assessment will be incorporated into the submitted subdivision plans, which are required as part of the development review process.

The total area impacted approximately amounts to 102,483 square feet, in which case this assessment shall be considered a Major Water Quality Impact.

II. EXISTING CONDITIONS

The site is currently mainly farmed land, with the perimeter and portions for the site furthest from Benns Church Blvd being forested. Forested area makes up ± 47% of the site, while cropland makes up ± 36%. The remaining ± 17% of the site is water (i.e. pond and wetlands). Stormwater runoff currently sheet flows to the existing ponds located in the middle of the site and perimeter wetlands. A majority of the site is currently crop land and is moderately sloped, averaging 0-3%, with smaller areas exceeding 10%. A majority of lands sloped greater than 3% are located in RPA buffers and with the exceptions of the impacts listed below shall not be disturbed. The hydrologic soil groups found to be in the areas of proposed development are primarily hydrologic group C that generally indicates a low infiltration rate. The remaining site is predominately hydrologic group D with these soils being located in areas of the RPA buffers and wetlands. Exhibit A and Master Plan sheet 4 more clearly delineates the various soils and their relative hydrological classification, erosive characteristics and typical slopes.

III. WATER QUALITY IMPACT ASSESSMENT

A. Proposed Conditions

This project proposes 400 single family detached lots, 285 townhomes and ±5 acres of commercial area. This development will have two connections to Benns Church Boulevard. This project proposes to clear 20.28 acres of forested area and proposes ±50.40 acres of impervious (21%). The existing pond located on site will be upgrade to meet current DEQ specifications to act as a BMP. This shall include modifications to the embankment, outfall structure, and providing adequate benches.

B. Identification of Impacts and Required Information for Review

RPA Buffer Impact No. 1 (Roadway)
Impact No. 1 is for the construction associated with the road accessing the rear of the property. This impact is required to access the largest developable portion of the property. The area of this impact associated with the roadway is 9,783 square feet or 0.22 acres. ***All impacts are outside the wooded portion of the site.***

RPA Buffer Impact No. 2/8 (BMP and Outfall)
Impact No. 2 is for the construction of the stormwater pond outfall into the existing BMP. Impact No. 8 is for the regrading of the small upstream pond to incorporate it into the larger facility. This upstream pond is not considered perennial and does not have an RPA buffer associated with it. However, it falls within the buffer of the adjacent facility. These impacts are necessary to safely discharge runoff from the development into the stormwater management facilities. The combined area of these impacts is 15,660 square feet or 0.36 acres; 8,699 sf of these impacts will require clearing in the RPA buffer. 1,242 square feet of the required area of clearing within the RPA buffer overlaps the clearing area for RPA Buffer Impact No. 9.

RPA Buffer Impact No. 3/4 (Roadway)
Impact Nos. 3 and 4 are for the construction associated with the road accessing the south side of the property. This road location was aligned to minimize impacts to the RPA and wetlands on the property by crossing the buffers perpendicularly. This impact is necessary in order to access the largest portion of the property; there is a wetland channel that drains across the property from the neighboring site, which feeds into the large existing stormwater lake on the property. The combined area of these impacts is 38,172 square feet or 0.88 acres. ***This impact does not propose clearing in the RPA buffer.***

RPA Buffer Impact No. 5 (BMP Outfall)
Impact No. 5 is for the construction of a BMP outfall across existing farmed areas into the large existing lake. This impact is necessary in order to safely discharge from the BMP into the adjacent lake. The area of this impact is 5,330 square feet or 0.12 acres. ***This impact does not propose clearing in the RPA buffer.***

RPA Buffer Impact No. 6 (BMP Outfall)
Impact No. 6 is for the construction of a BMP outfall across steeply sloped areas into the adjacent wetlands area. This impact is necessary to safely discharge from the BMP and avoid future erosion of the steeper slops adjacent to the pond and existing wetlands. The area of this impact is 4,870 square feet or 0.11 acres; this impact requires clearing in the RPA buffer.

RPA Buffer Impact No. 7 (BMP Outfall)
Impact No. 7 is for the construction of a BMP outfall across steeply sloped areas into the adjacent wetlands area. This impact is necessary to safely discharge from the BMP and avoid future erosion of the steeper slops adjacent to the pond and existing wetlands. The area of this impact is 6,734 square feet or 0.15 acres; this impact requires clearing in the RPA buffer.

RPA Buffer Impact No. 9/10 (Utility Crossing)
Impact Nos. 9 and 10 are for the construction of a sanitary sewer main running between the existing ponds on the property. These impacts are necessary to provide gravity sewer to both halves of the property and eliminate the need for two separate County sanitary sewer lift stations to service the property. Portions of the impacts coincide with impacts associated with stormwater grading, and the remaining portions are designed to avoid wetland impacts. The combined area of these impacts is 8,415 square feet or 0.20 acres; 2,639 sf of these impacts will require clearing in the RPA buffer. 1,242 square feet of the required area of clearing within the RPA buffer overlaps the clearing area for RPA Buffer Impact No. 2.

Careful consideration has been taken to minimize the impacts for the proposed development. Exhibit A, submitted with this report, identifies the location of these impacts. The proposed mitigation described in this assessment will be incorporated into the construction plans for the subdivision, which are required as part of the development review process.

Although not dependent on the review and approval of this assessment, required permits necessary to develop this project include: General Virginia Stormwater Management Program (VSMP) Permit, Corps of Engineers Wetland Disturbance Permit, Virginia Department of Environmental Quality's Virginia Water Protection General Permit, Land-Disturbing Permit and Siltation Agreement. These and any other permits that may be required shall be (if not already) applied for at the appropriate time.

C. Hydrologic Impacts

It should be noted that most of the RPA impacts are currently located within farmed land and do not propose significantly changing the grading of the land or adding impervious cover to the land creating additional runoff. We have looked at each specific impact area and noted any changes to existing land cover and how those changes may impact the hydrology of the system. Any areas of steep slope will be put back with flatter site grades and matting used to stabilize the slopes.

RPA Buffer Impact No. 1 (Roadway)
Impact No. 1 is for the construction associated with the road accessing the south side of the property. This portion of the site is currently farm land, which is a B soil with less than 5% slopes. The existing soil condition likely produces little surface runoff to the adjacent wetlands. The proposed improvements for the roadway would capture the associated runoff and direct it to a stormwater BMP facility to treat and control the runoff before releasing it into the downstream existing lake. This change in the hydrology should have minimal impact on the downstream wetlands in this area and is designed to protect the natural drainage way.

RPA Buffer Impact No. 2/8 (BMP and Outfall)
Impact Nos. 2 and 8 are adjacent to the three existing ponds/lakes on the property. These areas are located along the banks of those facilities, and runoff from the impact areas currently drain directly into those facilities. Portions of the impact areas will be used to create a larger stormwater facility while maintaining existing drainage patterns to the greatest extend possible. This will improve the quality and quantity of the stormwater entering the downstream lake and will protect the natural drainage way.

RPA Buffer Impact No. 3/4 (Roadway)
Impact Nos. 3 and 4 are for the construction associated with the road accessing the south side of the property. This portion of the site is currently farm land, which is a D soil with less than 5% slopes. These soils exist in a natural low area of the site and feed into the downstream pond/lake. The drainage improvements associated with the roadway would redirect the water through a proposed BMP and treat and control the runoff before releasing it into the downstream existing lake. This change in the hydrology should present an improved situation, adding additional treatment and flood controls over the existing drainage patterns.

RPA Buffer Impact No. 5 (BMP Outfall)
Impact No. 5 is for the construction of a BMP outfall. This area is within a flat portion of the site that is currently farmed. These improvements would not significantly impact the natural hydrology, as the area of impact will match the existing drainage patterns and discharge into the downstream existing lake.

RPA Buffer Impact No. 6 (BMP Outfall)
Impact No. 6 is for the construction of a BMP outfall. This area is within a steeply sloped portion of the site. These improvements would not significantly impact the natural hydrology, as the area of impact will match the existing drainage patterns to the greatest extent possible and the slopes will be stabilized to prevent erosion and protect the natural drainage way.

RPA Buffer Impact No. 7 (BMP Outfall)
Impact No. 7 is for the construction of a BMP outfall. This area is within a steeply sloped portion of the site. These improvements should not significantly impact the natural hydrology, as the area of impact will match the existing drainage patterns to the greatest extent possible and the slopes will be stabilized to prevent erosion and protect the natural drainage way.

RPA Buffer Impact No. 9/10 (Utility Crossing)

Impact Nos. 9 and 10 are for the construction of a sanitary sewer main running between the existing ponds on the property. These impacts will not present any permanent change to the existing drainage patterns. Portions of the impacts coincide with impacts associated with stormwater grading, and the remaining portions are designed to avoid wetland impacts. These improvements should not significantly impact the natural hydrology, as the area of impact will match the existing drainage patterns to the greatest extent possible and the slopes will be stabilized to prevent erosion and protect the natural drainage way.

IV. PROPOSED MITIGATION

Mitigation to the grading and impacts noted above shall include setting aside developable open space and revegetation of current crop land within the RPA buffer. Initial mitigation efforts for these impacts shall include E&S measures as described in the Virginia Erosion & Sediment Control Handbook, such as permanent seeding that will incorporate a conservation seed mix applicable to the special requirements of the RPA, super silt fencing, and ECSC-3 straw/coconut turf reinforcement matting (manufactured by East Coast Erosion Control or equal). Final mitigation will involve a detailed landscape restoration plan. Every 400 s.f. of restoration area shall, at a minimum, include 1 canopy tree, 2 understory trees and 3 shrubs; based upon our current anticipated impacts and required buffer restoration the site will require ± 2,137 canopy trees, ± 4,274 understory trees, and ± 6,411 shrubs. Areas between the rear of the lots and the RPA buffers will be set aside in open space equaling no less than 4 acres or two time the RPA impacts, whichever is greater.

V. CONCLUSION

In summary, the findings of this Water Quality Impact Analysis indicate that:

- All measures or methods have been explored to limit any impact to the CBPA. When unavoidable, the impacted area has been minimized to the greatest extent possible.

- Extensive E&SC measures will be employed to minimize the effects of the subsequent discharge of stormwater to the receiving channel and wetlands.

- A Landscape Restoration Plan, conservation seeding and additional natural open space will be provided in order to mitigate for the impacts noted.

- Additional open space of developable land will be set aside to offset impacted areas at a ratio of 2:1.

APPENDIX

EXHIBIT A – IMPACT MAP
EXHIBIT B – CLEARING EXHIBIT

SOIL CHARACTERISTICS - ISLE OF WIGHT COUNTY, VA

SOILS NO.	SOIL NAME	HYDROLOGIC SOIL GROUP	TYPICAL SLOPES	EROSION FACTOR (K_w) WHOLE SOIL	EROSION FACTOR (T)	WATER TABLE UPPER LIMIT (FT)
2	BOHICKET SILTY CLAY LOAM	D	0–1%	0.24–0.28	5	0.0
3	CHICHAHOMINY SILT LOAM	D	0–2%	0.24–0.37	4	0.0–0.5
7	KINSTON LOAM	B/D	0–4%	0.32–0.37	5	0.0–1.0
11E	NEVARC SOILS	C	15–35%	0.20–0.37	3	1.5–3.0
11E	REMLIK SOILS	A	15–35%	0.10–0.20	5	4.0–>6.0
12A	PEAWICK SILT LOAM	D	0–2%	0.24–0.37	4	1.5–3.0
12B	PEAWICK SILT LOAM	D	2–6%	0.24–0.37	4	1.5–3.0
16	RUMFORD LOAMY SAND	B	0–4%	0.17	4	–
18B	SLAGLE FINE SANDY LOAM	C	2–6%	0.24–0.28	3	1.5–3.0
W	WATER	–	–	–	–	–

INFORMATION TAKEN FROM USDA NATURAL RESOURCES CONSERVATION SERVICE, SURVEY AREA VERSION: 10, SURVEY AREA VERSION DATED: 01/25/2010.

SOIL SUSCEPTIBILITY TO EROSION CLASSIFICATION (K)
0.23 AND LOWER – LOW ERODIBILITY
0.23 TO 0.36 – MODERATE ERODIBILITY
0.36 AND UP – HIGH ERODIBILITY

THE MAP SHOWN IS A "BEST FIT MODEL" OF THE SCS MAPS WITH EXISTING BASE INFORMATION.

RPA BUFFER IMPACT TABULATIONS

ROAD IMPACTS:
47,955 S.F.± ; 1.10 AC.±

SANITARY SEWER IMPACTS:
6,876 S.F.± ; 0.16 AC.±

BMP OUTFALL & EMBANKMENT IMPACTS:
32,594 S.F.± ; 0.75 AC.±

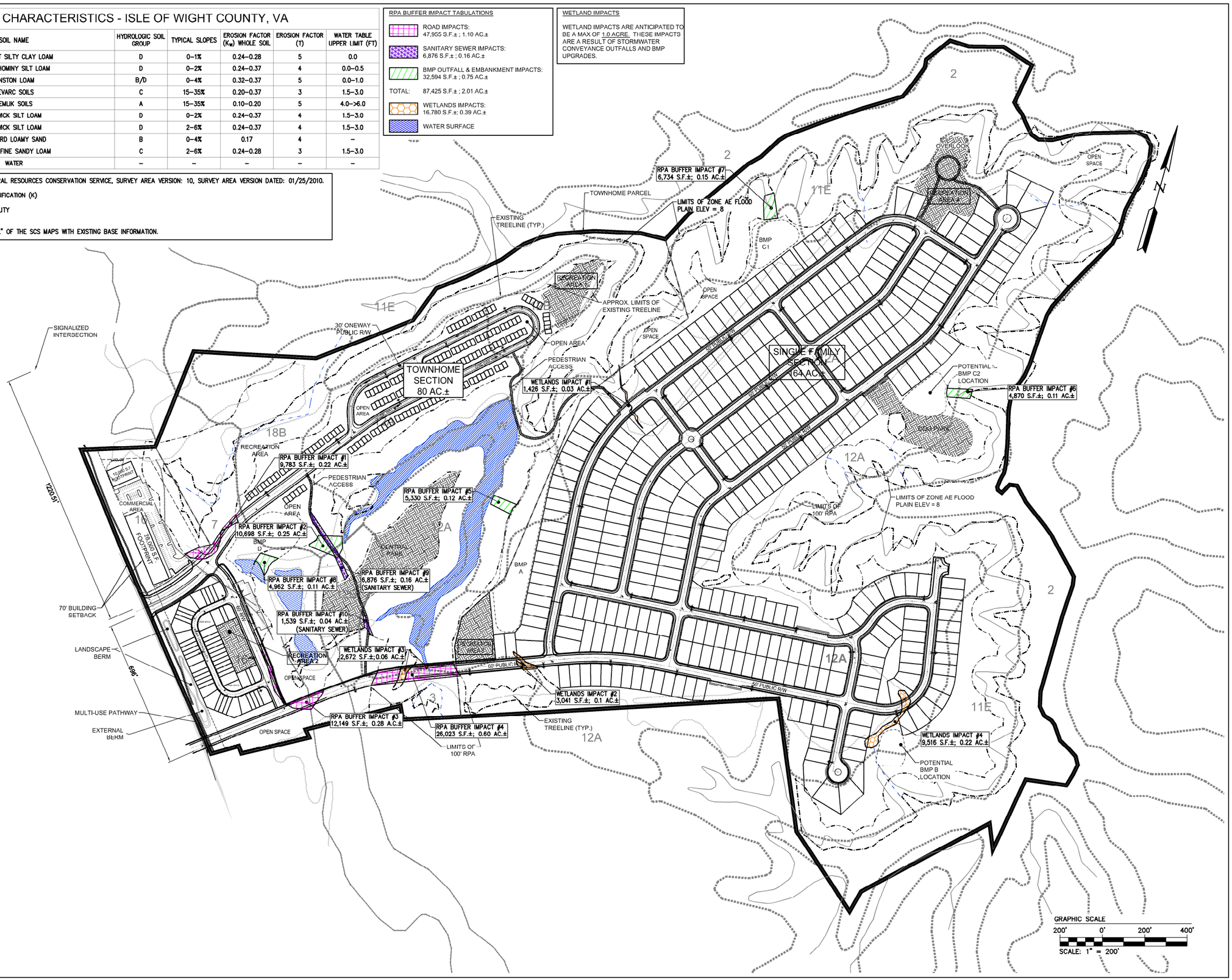
TOTAL: 87,425 S.F.± ; 2.01 AC.±

WETLANDS IMPACTS:
16,780 S.F.±; 0.39 AC.±

WATER SURFACE

WETLAND IMPACTS

WETLAND IMPACTS ARE ANTICIPATED TO BE A MAX OF 1.0 ACRE. THESE IMPACTS ARE A RESULT OF STORMWATER CONVEYANCE OUTFALLS AND BMP UPGRADES.



Remved By	Description	Date	Rev.

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WATER QUALITY IMPACT ASSESSMENT
SWEETGRASS
REZONING
VIRGINIA
ISLE OF WIGHT COUNTY

Project Contacts:	JAC
Project Number:	W10516-00
Scale: 1"=200'	Date: 04/29/2019
Sheet Title:	WQIA EXHIBIT A

Sheet Number
1 OF 2

EXISTING	
WATER	44.65 AC.
FORESTED	115.88 AC.
CROPLAND	88.94 AC.
TOTAL	249.47 AC.
PROPOSED	
WATER	50.77 AC.
FORESTED	97.85 AC.
IMPERVIOUS	50.40 AC.
MANAGED TURF	50.45 AC.
TOTAL	249.47 AC.

HATCH LEGEND

- LIMITS OF CLEARING = 18.03 ACRES
- IMPACTS TO WOODED RPA BUFFER = 0.22 ACRES
- RPA/WETLAND AREA = 106.05 ACRES

N/F
THOMAS DARDARA T
910 CANTEBERRY LN
PARCEL ID: 22J-02-150
ZONING: SMITHFIELD: N-R

N/F
HENDRIX THOMAS
912 CANTEBERRY LN
PARCEL ID: 22J-02-149
ZONING: SMITHFIELD: N-R

N/F
EVANS ANTHONY
906 CANTEBERRY LN
PARCEL ID: 22J-02-152
ZONING: SMITHFIELD: N-R

N/F
BERLAND EDNA R
916 CANTEBERRY LN
PARCEL ID: 22J-02-147
ZONING: SMITHFIELD: N-R

N/F
DIPPO LAWRENCE A & ELIZABETH A
TRS L A & E A DIPPO LIVING TRUST
908 CANTEBERRY LN
PARCEL ID: 22J-02-151
ZONING: SMITHFIELD: N-R

N/F
FORSYTHE TIMOTHY A & DEBRA K
TRS T A & D K FORSYTHE FAMILY REV TRUST
914 CANTEBERRY LN
PARCEL ID: 22J-02-148
ZONING: SMITHFIELD: N-R

OVERLOOK

LIMITS OF ZONE AE FLOOD PLAIN ELEV = 8

APPROX. LIMITS OF EXISTING TREELINE

TOWNHOME PARCEL

N/F
EDWARDS PHILLIP F JR & CONNIE A
BENNS CHURCH BLVD
PARCEL ID: 32-01-096
ZONING: SMITHFIELD: C-C

N/F
CROWN CASTLE GI COMPANY LLC
14005 BENNS CHURCH BLVD
PARCEL ID: 32-01-096B
ZONING: RAC

N/F
ISLE OF WIGHT COUNTY SCHOOL BOARD
14171 SMITHFIELD CIR, SMITHFIELD
PARCEL ID: 32-01-010A
ZONING: RAC

N/F
WILSON ANGELA B & WILSON JAMES G JR
TRS A B WILCON REVOC LIVING TRUST
14041 BENNS CHURCH BLVD
PARCEL ID: 32-01-095
ZONING: LI

N/F
YEOMAN WILLIAM G
WILLIAM G YEOMAN III TRUST
BENNS CHURCH BLVD
PARCEL ID: 32-01-007
ZONING: RAC

N/F
CORNETT GEORGE C
14106 BENNS CHURCH BLVD
PARCEL ID: 32-01-008
ZONING: RAC

N/F
WILLIAM G. YEOMAN, TRUSTEE
14096 BENNS CURCH BOULEVARD
PARCEL ID: 32-01-009
ZONING: RAC

N/F
EDWARDS RYLAND B JR &
MARY ANN D &
EDWARDS RYLAND B & ETALS
14202 BENNS CHURCH BLVD
PARCEL ID: 32-01-067
ZONING: RAC

N/F
GIRARD PATRICIA A
14225 BENNS CHURCH BOULEVARD
PARCEL ID: 32A-02-012
ZONING: RAC

SIGNALIZED INTERSECTION

BENNS CHURCH BLVD

1236.30'

528.74'

70.00' BUILDING SETBACK

LANDSCAPE BERM

LANDSCAPE BERM

LANDSCAPE BERM

MULTI-USE PATHWAY

COMMERCIAL AREA

RECREATION AREA 1

RECREATION AREA

RECREATION AREA 2

RECREATION AREA 3

RECREATION AREA 4

PEDESTRIAN ACCESS

PEDESTRIAN ACCESS

PUBLIC PARK

DOG PARK

BMP A

BMP D

POTENTIAL BMP C1 LOCATION

POTENTIAL BMP C2 LOCATION

POTENTIAL BMP B2 LOCATION

LIMITS OF 100' RPA

LIMITS OF ZONE AE FLOOD PLAIN ELEV = 8

100'RPA

BEECHWOOD LANE

N/F
TOTTEN CHARLES D
BEECHWOOD LN
PARCEL ID: 32-01-094,094C,094D
ZONING: RAC

N/F
BELL LINWOOD E & BARBARA G
19341 BEECHWOOD LN
PARCEL ID: 31-01-094B
ZONING: RAC

N/F
WALLACE JIMMY J & MYRTLE T
14108 HAYLOFT LN
PARCEL ID: 32-01-094A
ZONING: RAC

N/F
WALLACE JIMMY J & MYRTLE T
14111 HAYLOFT LN
PARCEL ID: 32B-01-005
ZONING: RAC

N/F
CARNEY PAMELA D
14125 HAYLOFT LN
PARCEL ID: 32B-01-006
ZONING: RAC

N/F
CARNEY PAMELA D
14125 HAYLOFT LN
PARCEL ID: 32B-01-006
ZONING: RAC

N/F
ST LUKES VILLAGES LLC
C/O MCCALE DEV COR
20081 BREWERS NECK BLVD
PARCEL ID: 33-01-012B
ZONING: PD-MX

N/F
BOWDEN RONALD
BREWERS NECK BLVD
PARCEL ID: 33-01-005
ZONING: RAC

N/F
GRAY ROBERTA
C/O GARY LAWRENCE N
CHAPMANS LN
PARCEL ID: 33-03-006
ZONING: RAC

N

GRAPHIC SCALE
200' 0' 200' 400'
SCALE: 1" = 200'

Rev.	Date	Description	Revised By
1	9/23/19	REVISED PER COUNTY COMMENTS	JAG

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HamptonRoads | Centrl Virginia | Middle Peninsula

REZONING MASTER PLAN
FOR
SWEETGRASS

ISLE OF WIGHT COUNTY | WINDSOR DISTRICT | VIRGINIA

Project Contacts:	JAG
Project Number:	W10516-00
Scale: 1"=200'	Date: 06/14/2019

Sheet Title:
CLEARING LIMITS
EXHIBIT B

Sheet Number
2 OF 2

Fiscal Impact Analysis of Sweetgrass

Located in Isle of Wight County, Virginia

Prepared for:

Ryan Homes/NVR

June 21, 2021

TischlerBise
FISCAL | ECONOMIC | PLANNING

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June 2021

CONTENTS

Background 2

Proposed Development Program 3

Summary of Fiscal Impact Analysis Findings 4

Summary of Approach and Major Assumptions 5

Levels of Service 5
Inflation Rate 6
Non-Fiscal Evaluations 7
Projection Factors 7

Fiscal Impact Results 8

Annual Net Fiscal Impacts 8
Cumulative Net Fiscal Impacts 11
Average Annual Net Fiscal Impacts 12

Revenue and Expenditure Projections 13

Revenues 13
Revenue Projection Methodologies 13
Revenue Projections 14
Expenditures 16
Expenditure Projection Methodologies 16
Expenditure Projections 17
Approach to Modeling Capital Impacts 19

Appendix: Demographic & Data Assumptions 22

Base Year Data 22
Household Size 23
Public School Students per Housing Unit 24
Vehicle Trips 24
Public Safety Cost Allocation Approach 26
Sheriff Calls for Service 26
Fire and EMS Calls for Service 28

TABLE OF FIGURES

Figure 1. Sweetgrass Development Program 3
Figure 2. Sweetgrass Development Growth Projection....3
Figure 3. Cumulative Net Fiscal Impact Results –Sweetgrass Development: All Revenues and Costs 4
Figure 4. Annual Net Fiscal Impact Results: Combined Results....9
Figure 5. Annual Net Fiscal Impact Results: Revenues Compared to Operating and Capital Costs....10
Figure 6. Cumulative Net Fiscal Impact Results....11
Figure 7. Average Annual Net Fiscal Impact Results....12
Figure 8. Revenue Projection Methodologies 13
Figure 9. Cumulative County Revenues (Years 1-20)....15
Figure 10. Expenditure Projection Methodologies....17
Figure 11. Cumulative County Operating Expenditures 18
Figure 12. Cumulative County Capital Expenditures 18
Figure 13. Summary of Capital Needs and Cost....19
Figure 14. Isle of Wight Public Schools 20
Figure 15. Base Year Input Data 22
Figure 16. Household Size....23
Figure 17. Isle of Wight County Public Schools Pupil Yields per Housing Unit 24
Figure 18. Vehicle Trips....25
Figure 19. Proportionate Share Factors....26
Figure 20. Isle of Wight County Sheriff Calls for Service Projection Methodology....27
Figure 21. Isle of Wight County Fire and EMS Calls for Service Projection Methodology 28
Figure 22. Detailed Demand Projections 29

TischlerBise
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MEMORANDUM

To: Eric Shirey, General Manager, Land, NVR Inc.

From: Julie Herlands, AICP, Vice President, TischlerBise

Date: June 18, 2021

RE: Fiscal Impact Analysis for Sweetgrass in Isle of Wight County, Virginia

TischlerBise is under contract with NVR Inc/Ryan Homes, to conduct a Fiscal Impact Analysis of the proposed Sweetgrass development in Isle of Wight County, Virginia, for submission to Isle of Wight County as part of the applicant's rezoning request. This report provides findings and detail on the Fiscal Impact Analysis.

The overall finding is that the proposed development is fiscally positive to the County in total. The analysis factors in all variable revenues generated by the proposed development. All operating and capital costs attributable to the development are included in the analysis. Comparing available resources to projected costs reveals sufficient revenues to cover the projected expenditures. Operating and capital costs are projected separately to identify specific capital costs attributed to the development.

The twenty-year cumulative net fiscal impact is a surplus of approximately $20.9 million and an annual net surplus of approximately $1.2 million at the project's buildout.

BACKGROUND

TischlerBise is under contract with NVR, Inc. to conduct a fiscal impact analysis of the Sweetgrass development in Isle of Wight County, VA. This report reflects TischlerBise's fiscal impact analysis of the impact of the proposed development.

A fiscal impact evaluation analyzes revenue generation and operating and capital costs to a jurisdiction associated with the provision of public services and facilities to serve new development—residential, commercial, office, or industrial. It includes all direct revenues and costs associated with a specific development proposal. Unlike an economic impact analysis, it does not include spin-off, or indirect, impacts from development but rather identifies whether sufficient revenues will be generated from the new development to cover all related direct costs. For the Sweetgrass Development fiscal impact analysis, all General Fund services and facilities are included in the analysis.

This report intends to provide information to NVR, Inc. related to the fiscal impact of development of the project to identify appropriate values of potential proffers to Isle of Wight County. Any potential proffer would offset a negative fiscal impact on the County—specifically on capital facilities—thereby allowing the County to maintain current levels of service.

PROPOSED DEVELOPMENT PROGRAM

The fiscal impact analysis uses 2021 as the base year with projections over a 20-year period, with years shown throughout the study as "Years 1-20." The development assumptions and absorption were provided by NVR, Inc.

The development is anticipated to include 615 residential units with 390 age-restricted, single family detached units and 225 townhouses. An annual absorption of 65 age-restricted single family units per year and 38 townhouses is assumed in the analysis. This results in completion of the project in Year 6.

Figure 1. Sweetgrass Development Program

Land Use	Housing Units	Market Value	Annual Absorption (Housing Units per Year)
Age-Restricted Single Family Detached	390	$305,200	65
Townhome	225	$258,875	38
Total	**615**	**N/A**	**103**

Source: NVR/Ryan Homes

The above development program projects a growth of 1,458 persons and 52 public school students. A summary of the growth projections is provided below in Figure 2. Demand factors are detailed in the Appendix.

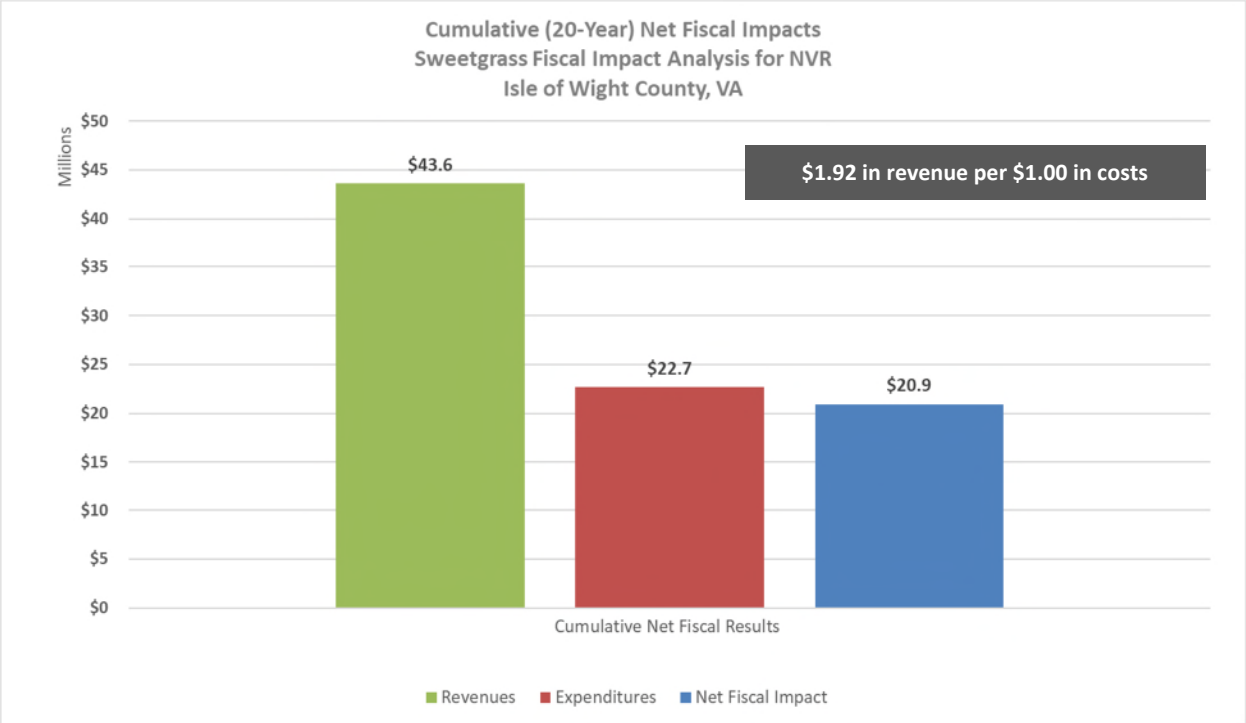
Figure 2. Sweetgrass Development Growth Projection

	Yeoman Tract (NVR)
Residential Units	
AGE-RESTRICTED, SINGLE-FAMILY DETACHED	390
TOWNHOUSE	225
TOTAL UNITS	**615**
POPULATION	**1,458**
TOTAL ENROLLMENT	**52**

SUMMARY OF FISCAL IMPACT ANALYSIS FINDINGS

The fiscal impact analysis determines that the Sweetgrass development generates sufficient revenues to offset projected costs—$1.92 in revenue for every $1.00 of costs. General Fund revenues are projected along with operating and capital impacts from the proposed development program.

Figure 3. Cumulative Net Fiscal Impact Results –Sweetgrass Development: All Revenues and Costs



In early years, lower net surpluses are generated by the Sweetgrass development due to higher ongoing capital expenditures (including debt service) and ongoing operating costs relative to revenues. However, cumulatively development results in fiscally sustainable conditions.

Capital improvements to serve new development are funded from the General Fund. The County has no dedicated capital revenues for non-utility capital improvements. Capital improvements are modeled primarily on an incremental basis and triggered when capacity is needed. A few capital facility categories are based on current or short-term planned improvements from which the proposed development will benefit. All combined, projected revenues are sufficient to cover operating and capital impacts from the development project.

SUMMARY OF APPROACH AND MAJOR ASSUMPTIONS

A fiscal impact analysis determines whether revenues generated by new growth are sufficient to cover the resulting costs for service and facility demands placed on the County. It is based on cost and revenue assumptions that reflect a community's current level of service. TischlerBise analyzed the fiscal impacts of the Sweetgrass Development scenario based on current countywide levels of service and any known infrastructure or service needs. A projection timeline of 20 years is used to show long-term trends.

The fiscal impact analysis conducted by TischlerBise incorporates a hybrid average/marginal cost approach wherever possible. The case study-marginal methodology is used in some instances; however, for smaller areas with discrete land use changes, impacts are often better analyzed using an average cost approach. This is different from a countywide fiscal analysis where facilities and other infrastructure needs are triggered and "built" once a threshold is reached, resulting in "lumpier" fiscal impact results. There are a few exceptions in this analysis, namely for current or planned improvements that are known to be needed due to capacity needs and will serve the growth from the Sweetgrass Development.

The assumptions outlined below are utilized along with the development projections to determine the potential fiscal impact to the County over the 20-year projection period. Calculations are performed using a customized fiscal impact model designed specifically for this assignment.

For this analysis, only costs to serve new growth are included. Both operating and capital costs are modeled. Some costs are not expected to be impacted by demographic changes, and may be fixed in this analysis. For example, this is true for some functions included under the Board of Supervisors budget. Other general items to note in the analysis:

- Operating costs are generally projected on an average basis with demand factors specific to the service being modeled. Personnel costs are modeled to reflect the fact that some types of positions (e.g., directors) are fixed and would not increase regardless of growth.
- Capital costs are projected on an incremental basis for most categories where capacity is needed with the exception of facilities currently being constructed or planned in the short-term. TischlerBise's experience conducting previous cash proffer studies for Isle of Wight County was helpful in this effort.
- Debt financing is assumed for capital improvements that are projected to serve growth.

LEVELS OF SERVICE

Cost projections are based on the "snapshot approach" in which it is assumed the current level of service, as funded in the County's FY2021-2022 budget, will continue through the projection period. Current

demand base data was used to calculate unit costs and service level thresholds. Examples of demand base data include population, dwelling units, employment by industry type, and jobs. In summary, the "snapshot" approach does not attempt to speculate about how levels of service, costs, revenues, and other factors will change over 20 years. Instead, it evaluates the fiscal impact to the County as it currently conducts business under the present budget.

Revenues are projected assuming that the current revenue structure and tax rates, as defined by the FY21-22 budget, will not change during the analysis period. Of particular note are the following:

- County property tax is modeled based on the cumulative assessed value of the planned residential development. The County's FY21-22 adopted tax rate of $.85 per $100 in property value.
- Personal property taxes are projected on a per capita and per job basis (and adjusted for Isle of Wight collections).

Enterprise operations such as the County's water and wastewater utilities are included in this analysis reflecting the portion of utility operating costs that are funded through the General Fund. The fiscal impact analysis assumes the level of operating subsidy continues into the future. Utility capital expenditures are assumed to be covered by private developers and therefore not included as a cost to the County.

Specific assumptions pertaining to any unique treatment of revenue and cost factors are discussed wherever relevant throughout the body of this report.

INFLATION RATE

The rate of inflation is assumed to be zero throughout the projection period, and cost and revenue projections are in constant 2021 dollars. This assumption is in accord with current budget data and avoids the difficulty of forecasting as well as interpreting results expressed in inflated dollars. In general, including inflation is complicated and unpredictable. This is particularly the case given that some costs, such as salaries, increase at different rates than other operating and capital costs such as contractual and building construction costs. And these costs, in turn, almost always increase in variation to the appreciation of real estate. Using constant 2021 dollars reinforces the snapshot approach and avoids these problems.

NON-FISCAL EVALUATIONS

It should be noted that while a fiscal impact analysis is an important consideration in planning decisions, it is only one of several issues that should be considered. Environmental and social issues, for example, should also be considered when making planning and policy decisions. In addition, economic development goals such as the ability to provide suitable locations for future employment growth should be taken into consideration when making land use decisions. The above notwithstanding, this analysis will enable interested parties to understand the fiscal implications of future development and particularly the proposed Sweetgrass development.

PROJECTION FACTORS

Projection methodologies and factors are based on our previous fiscal studies for the County and discussed where applicable in the body of this report. All variable operating costs and revenues are projected. Detail is provided in the Appendix.

FISCAL IMPACT RESULTS

Results of the fiscal impact analysis are provided in this chapter. It should be reiterated that the fiscal results include revenues and costs to serve the proposed development only.

Our results are summarized in several ways:

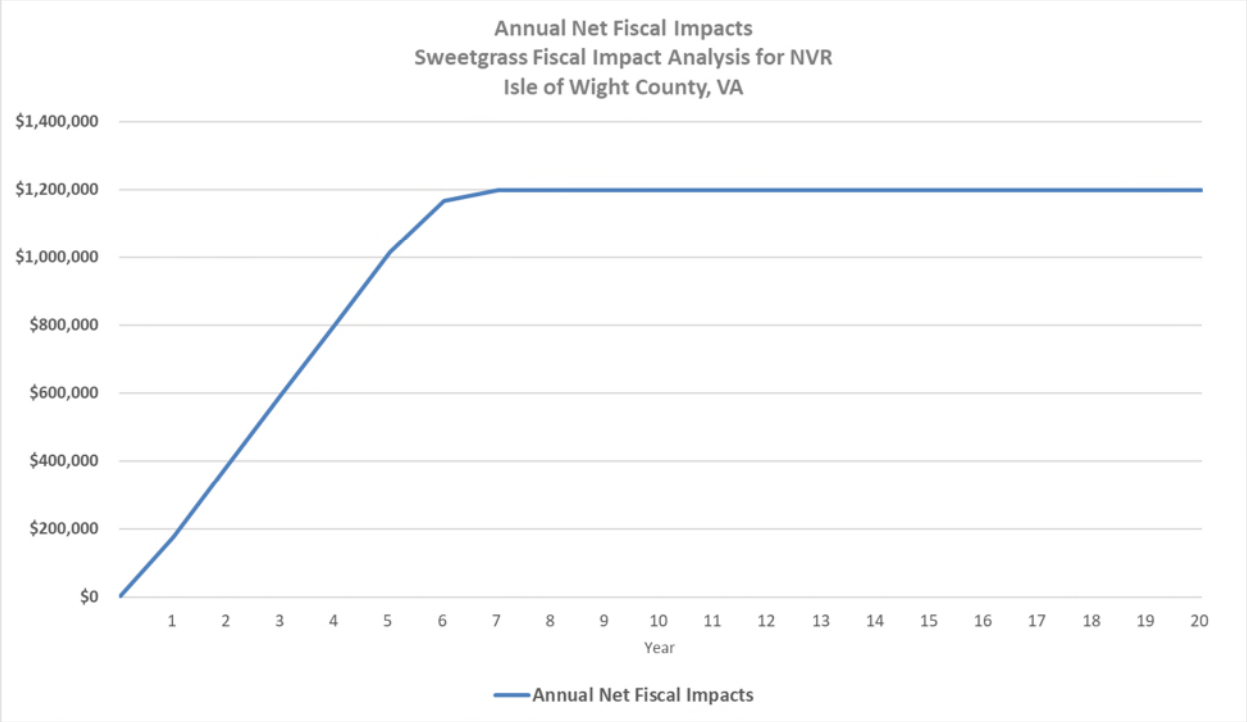
- **Annual** net fiscal results are shown first that include all revenues and costs in the funds included in the analysis in each year. Two charts are provided:
  - Combined operating and capital from the proposed development
  - Revenue compared to operating and capital impacts
- Results are then shown in a series of bar charts depicting **cumulative** net fiscal impact results
  - Cumulative net fiscal impact results convey the projected grand total revenues minus grand total expenditures over the 20-year period from the proposed development.
- The third section provides **average annual** fiscal impact results.
  - The average annual net result conveys an average impact over three time periods (Years 1-10, Years 11-20, and over the entire 20-year period).

ANNUAL NET FISCAL IMPACTS

The charts below show the annual net fiscal results to the County for the two scenarios over the 20-year development period. By showing the annual results, the magnitude, rate of change, and timeline of deficits and revenues can be observed over time. The "bumpy" nature of the annual results during particular years represents the opening of capital facilities and/or major operating costs being incurred.

Net fiscal results are **revenues minus costs in each year**, including operating and capital costs. Data points above the $0 line represent annual surpluses; points below the $0 line represent annual deficits. Surpluses in any one year are not carried forward to the next year.

Figure 4. Annual Net Fiscal Impact Results: Combined Results

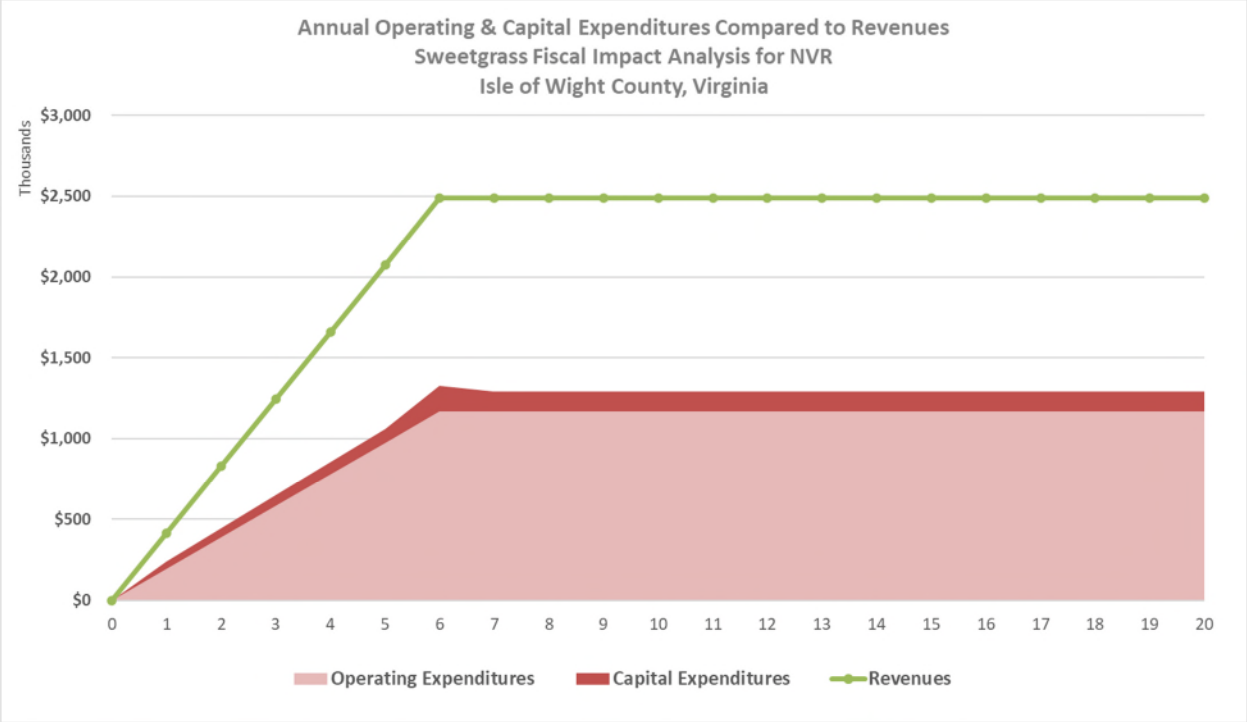


- Revenues are sufficient to cover operating and capital impacts from the proposed development.
- Each year includes the revenues generated from the proposed development minus the operating and capital costs in that same year.
- Capital improvements are assumed to be debt financed with several that are incurred in each year. Those yearly capital expenditures include:
    - Education: New Elementary School, School Administration Facility, School Fleet Bus Garage Addition
    - Sheriff Vehicles; E-911 Communication System
    - Transportation projects
- Some capital impacts are projected at the time of buildout. Year 6 reflects the projected buildout of the project. The capital expenditure triggered at that time are:
    - Parks and Recreational facilities

For further detail, the analysis segregates operating and capital impacts compared to projected revenue generation. The following figure illustrates the comparison between revenues and operating and capital expenditures.

As shown, sufficient revenues are generated in each year to cover operating and capital costs.

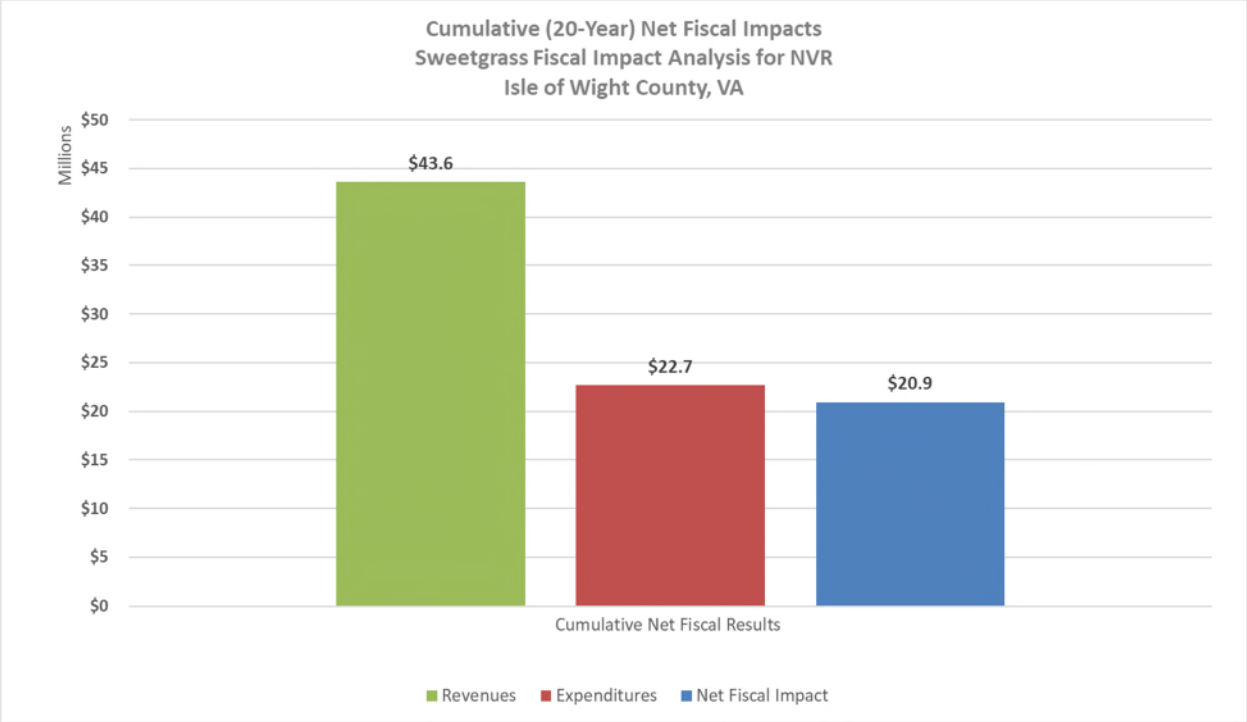
Figure 5. Annual Net Fiscal Impact Results: Revenues Compared to Operating and Capital Costs



CUMULATIVE NET FISCAL IMPACTS

Results are presented on a **cumulative** basis reflecting grand total revenues over the 20-year period minus grand total expenditures over the 20-year period.

Figure 6. Cumulative Net Fiscal Impact Results

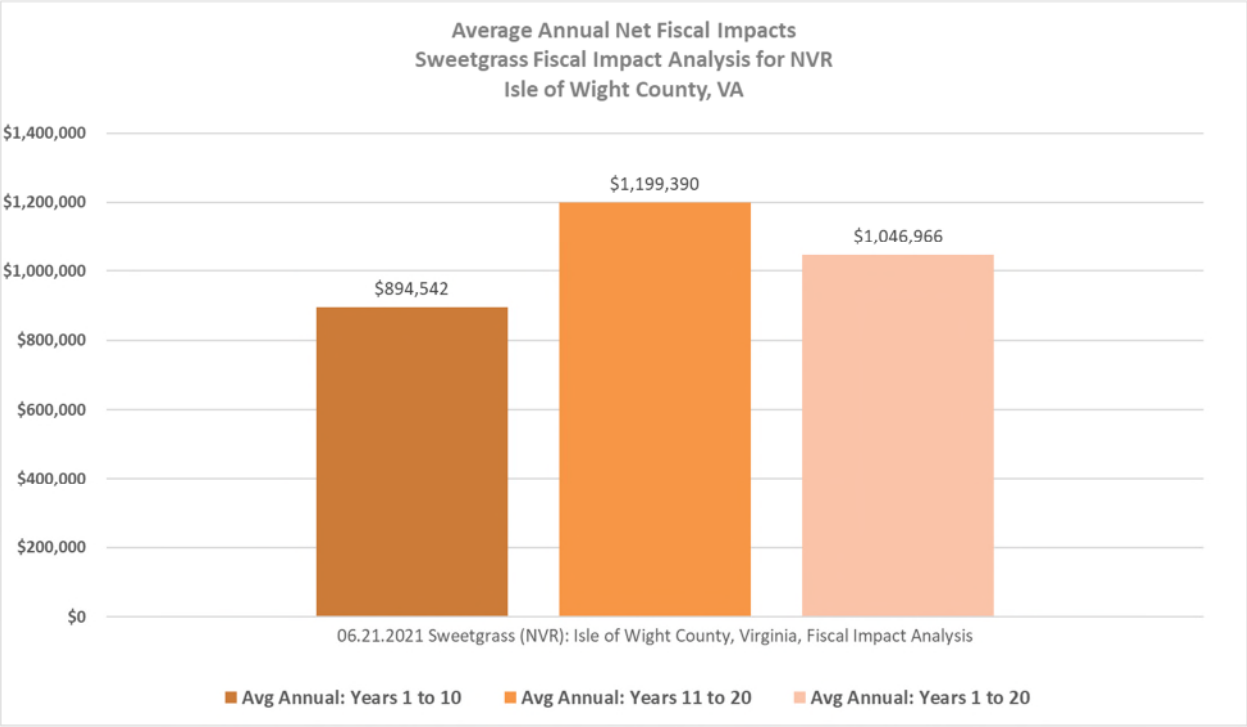


- As shown, $43.6 million in revenue is projected compared to $22.7 million in expenditures over the 20-year projection period. This generates a $20.9 million net surplus.
- Costs include ongoing annual operating expenditures and capital costs that include debt financing with payments that continue beyond the last year in the model projection period.

AVERAGE ANNUAL NET FISCAL IMPACTS

For further information, results are also presented on an **average annual** basis—in three time-period increments (First ten years, second ten years, and then over the total projection period, Years 1-20.)

Figure 7. Average Annual Net Fiscal Impact Results



- As shown in Figure 7, average annual fiscal results average approximately $1.05 million per year over the projection period with the second half of the period generating slightly better fiscal results.
- The first half of the projection period generates lower average annual fiscal results due to higher operating and capital expenditures relative to revenues during this period.

REVENUE AND EXPENDITURE PROJECTIONS

A summary of projected revenues and costs from the proposed Sweetgrass Development to the County are provided below. These figures are based on the development projections as summarized above along with the revenue and cost factors described elsewhere in this report.

Revenues

REVENUE PROJECTION METHODOLOGIES

County General Fund revenues are projected from the proposed development program. A summary of projection methodologies is shown below in Figure 8. Other items to note regarding revenue projections are:

- Property taxes are projected based on average assessed values per housing unit shown below:

Land Use	Housing Units	Market Value	Annual Absorption (Housing Units per Year)
Age-Restricted Single Family Detached	390	$305,200	65
Townhome	225	$258,875	38
Total	**615**	**N/A**	**103**

- Other revenues from the proposed residential development are projected on a per capita or per job basis.(Exceptions and/or adjustments are noted.)
- Some revenues are not affected by growth and are considered "fixed" in this analysis as shown in Figure 8.

Figure 8. Revenue Projection Methodologies

				ALLOCATION APPROACH			
Revenue Category	*Revenue Name*	*FY22 Budget $*	*% of Total*	RESIDENTIAL (Per Capita)	NONRESIDENTIAL (Per Job)	CUSTOM	FIXED
Property Taxes	Real property	$41,170,000	50%			X (Assessed Value)	
	Public service property	$1,759,000	2%				X
	Personal property - vehicles	$11,240,000	14%	X (90% from resid.)			
	Personal property - mobile homes	$167,000	0%				X
	Personal property - boats & airplanes	$108,000	0%				X
	Personal property - machinery & tools	$5,000,000	6%		X		
	Personal property - equipment	$1,905,000	2%		X		
	Penalty & interest on taxes	$570,000	1%			X (Assessed Value)	
Other Local Taxes	Local sales & use	$3,250,000	4%	X	X		
	Communications sales & use tax	$635,000	1%	X (Non-Town)	X (Non-Town)		
	Consumer utility tax	$985,000	1%	X (Non-Town)	X (Non-Town)		
	Consumption tax	$120,000	0%	X (Non-Town)	X (Non-Town)		
	Business license tax	$832,000	1%		X		
	Lodging tax	$64,000	0%				X
	Meals tax	$530,000	1%	X	X		
	Motor vehicles license tax/fee	$1,061,000	1%	X (Non-Town)			
	Cable franchise fees	$0	0%				X
	Bank stock tax	$11,000	0%				X
	Recordation & probate tax	$0	0%	X	X		
	Penalty & interest on taxes	$10,000	0%				X

Licenses, Permits & Fees	Animal license	$40,000	0%	X			
	Land use application fee	$0	0%	X	X		
	Zoning use & subdiv. Ord. fee	$75,000	0%	X	X		
	Building permits & fees	$500,000	1%	X	X		
	Concealed weapon permit fee	$40,000	0%	X			
	Land transfer fees	$1,000	0%	X	X		
	Inspections technology fee	$18,000	0%	X	X		
	Solid waste franchise fee	$30,000	0%	X	X		
Fines & Forfeitures	Court fines & forfeitures	$115,000	0%	X			
	Interest - court fine & forft.	$4,000	0%				X
	County code violations	$10,000	0%	X	X		
Use of Money & Property	Interest revenue	$300,000	0%				X
	Property rental	$185,000	0%				X
	Gain/loss on investments (PACE)	$0	0%				X
Charges for Services	Set off collection feeds	$75,000	0%	X	X		
	Finance administration fee	$1,000	0%	X	X		
	Court security fee	$65,000	0%	X	X		
	Sheriff's fee	$2,000	0%	X	X		
	Sheriff extradition revenue	$7,000	0%	X	X		
	Law library fees	$8,000	0%	X	X		
	Building const. court fees	$15,000	0%	X	X		
	Courthouse constrution fees	$20,000	0%	X	X		
	Reimb. For court appointed atty.	$2,000	0%	X	X		
	Commonwealth attorney's fees	$3,000	0%	X	X		
	Criminal check & incident report	$1,000	0%	X	X		
	Fingerprinting	$1,000	0%	X	X		
	Animal adoption fees	$30,000	0%	X			
	Miscellaneous charges for srvc.	$0	0%	X	X		
	EMS revenue recovery	$900,000	1%			X (Fire and EMS Calls)	
	Walking tours income	$0	0%				X
	Recreation and special event fees	$319,885	0%	X			
	Treasurer admin. Fees	$160,000	0%	X	X		
	Tourism	$9,080	0%	X	X		
Recovered Cost	Insurance reimbursements	$50,000	0%				X
	DSS indirect cost allocation	$387,576	0%				X
	Smithfield tourism recovered cost	$279,892	0%				X
	Smithfield debt service	$51,453	0%				X
	PU indirect cost	$230,722	0%				X
	SW indirect cost	$67,382	0%				X
	Miscellaneous	$0	0%				X
Recovered Cost	Borrow pit contribution	$50,000	0%				X
	Treasurer admin. Fees	$0	0%				X
	RAD-Emergency program	$0	0%				X
	Gifts and donations	$500	0%				X
	Animal control donations	$0	0%				X
	Sale of photocopies/maps	$10,000	0%				X
	P-card rebate	$30,000	0%				X
	Miscellaneous	$10,000	0%				X
	Sale of recyclables	$45,000	0%				X
	E-payables rebate	$11,000	0%				X
	Farmer's market fees + sponsors	$38,475	0%				X
	Vintage Market	$40,775	0%				X
	Build America Subsidy 2010C	$0	0%				X
	2011 QSCB Subsidy	$337,000	0%				X
Noncategorical Aid	Auto rental tax	$35,000	0%	X	X		
	Rolling stock tax	$42,000	0%	X	X		
	Mobile home tilting tax	$45,000	0%				X
	Grantor's tax	$135,000	0%	X	X		
	State PPTR	$5,115,890	6%	X			
Shared Expenses	Commonwealth attorney shared expenses	$421,529	1%				X
	Sheriff shared expenses	$1,332,259	2%				X
	Commissioner shared expenses	$158,295	0%				X
	Treasurer shared expenses	$140,162	0%				X
	Registrar/electoral board shared expenses	$58,290	0%				X
	Clerk of Circuit Court shared expenses	$291,573	0%				X
	Technology trust funds	$40,284	0%				X
State Aid	LOVEworks VTC grant	$0	0%				X
	Crush Friday VTC grent	$0	0%				X
	Fire Programs Fund	$93,000	0%				X
	Four for Life	$47,000	0%				X
	Local Government Challenge grant	$0	0%				X
Federal Aid	Federal grant revenue (Hurricane Matthew)	$0	0%				X
	Homeland Security grant	$0	0%				X
TOTAL		**$81,949,022**	**100%**				

REVENUE PROJECTIONS

Cumulative revenues to the County generated by the project are shown for a twenty-year cumulative period. The revenues shown in Figure 9 reflect all revenues (for operating and capital purposes) projected from the development.

Figure 9. Cumulative County Revenues (Years 1-20)

Cumulative General Fund Revenue Detail (Years 1-20) **06.21.2021 Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis**		
	SCENARIO	
Category	**Sweetgrass (NVR)**	**%**
Property Taxes	$33,550,312	77%
Other Local Taxes	$5,125,424	12%
Licenses, Permits & Fees	$387,892	1%
Fines & Forfeitures	$82,659	0%
Use of Money & Property	$0	0%
Charges for Services	$900,006	2%
Recovered Cost	$0	0%
Miscellaneous Services	$0	0%
Noncategorical Aid	$3,552,482	8%
Shared Expenses	$0	0%
State Aid	$0	0%
Federal Aid	$0	0%
TOTAL	**$43,598,775**	**100%**

Expenditures

EXPENDITURE PROJECTION METHODOLOGIES

County operating and capital expenditures are projected from the proposed development program. Projection methodologies are shown below in Figure 10 . Other items to note regarding expenditure projections are:

- School operating expenditures are projected in **Transfers (Schools)** and based on an increase in enrollment from the proposed development. The Appendix includes student generation rate assumptions.

- School costs reflect the **funding provided by Isle of Wight County to the Isle of Wight Public Schools only and does not include state or federal funding** that comprises the full amount of the Public Schools' budget. Funding from the County equals approximately 42 percent of the School District's Operating expenditures.

- Public Safety expenditures are projected based on a projection of calls for service from new development. See the Appendix for further detail.

- Some expenditures are not affected by growth and are considered "fixed" in this analysis as shown in Figure 10.

Figure 10. Expenditure Projection Methodologies

				ALLOCATION APPROACH			
Expenditure Category	*Expenditure Name*	*FY22 Budget $*	*% of Total*	RESIDENTIAL (Per Capita)	NONRESIDENTIAL (Per Job)	CUSTOM	FIXED
General Administration	Board of Supervisors	$329,600	0.4%				X
	County Administrator	$483,251	0.6%	X	X		X
	County Attorney	$575,348	0.7%	X	X		X
	Human Resources	$394,837	0.5%				X
	Registrar	$391,778	0.5%	X			X
Financial Administration	Commissioner of Revenue	$765,696	0.9%	X	X		
	Real Estate Assessment	$288,900	0.3%	X	X		X
	Treasurer	$891,035	1.1%	X	X		X
	Budget and Finance	$802,014	1.0%	X	X		X
	Purchasing	$171,368	0.2%				X
Judicial	Circuit Court	$89,388	0.1%	X			X
	General District Court	$26,066	0.0%	X			
	Western Tidewater Community Corrections	$18,926	0.0%	X			
	Juvenile Accountability Program	$2,500	0.0%	X			
	Juvenile Domestic Relations Court	$12,575	0.0%	X			
	Clerk of Circuit Court	$598,133	0.7%	X			X
	Fifth District Court Services	$200,100	0.2%	X	X		
	Commonwealth Attorney	$840,042	1.0%	X	X		
Public Safety	Sheriff	$5,203,463	6.2%			X (Sheriff Calls for Service)	
	Emergency Services	$516,222	0.6%			X (Fire & EMS Calls for Service)	
	Fire & Rescue	$4,717,530	5.6%			X (Fire & EMS Calls for Service)	
	Western Tidewater Jail	$1,293,333	1.5%	X			
	Inspections	$739,804	0.9%	X	X		
	Animal Control	$594,840	0.7%	X			
Public Works	Public Works Administration	$318,110	0.4%	X	X		
	Public Works Transportation	$283,365	0.3%	X	X		
	Public Works Refuse	$2,902,214	3.5%	X	X		
	Public Works Buildings & Grounds	$1,478,908	1.8%	X	X		
	Public Works Capital Program Inspection	$76,613	0.1%				X
Parks, Recreation, Grounds	Parks & Recreation Administration	$265,736	0.3%	X			
& Cultural	Parks & Recreation Gateways & Grounds	$1,001,054	1.2%	X			
	Parks & Recreation Programs	$750,285	0.9%	X			
	Library	$891,490	1.1%	X			
Community Development	Planning & Zoning	$830,146	1.0%	X	X		
	Economic Development	$1,044,087	1.2%		X		
	Tourism	$577,222	0.7%	X	X		X
	Farmers Market	$42,220	0.1%				X
	Communications	$78,648	0.1%	X	X		
	Cooperative Extension Service	$73,823	0.1%				X
Non-Departmental	Non-Departmental	$3,667,903	4.4%				X
	Transfers (Non-Schools)	$7,056,445	8.4%	X	X		
	Transfers (Schools)	$26,422,734	31.6%	X (Enrollment)			
Debt Service	Debt Service	$13,346,056	16.0%				X^
Other Public Services	Other Public Services	$2,500,400	3.0%	X	X		X
	TOTAL	**$83,554,208**	**100.0%**				

** If "FIXED" marked along with other columns, a portion of the departmental expenditure is assumed to not be affected by the development; this is typically personnel costs.*
^ Capital expenditures projected separately.

EXPENDITURE PROJECTIONS

Cumulative County expenditures generated by the project are shown below cumulatively for Years 1-20. Operating expenditures are shown in Figure 11; capital expenditures are shown in Figure 12.

Figure 11. Cumulative County Operating Expenditures

Cumulative Operating Expenditures (Years 1-20) **06.21.2021 Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis**		
	SCENARIO	
Category	**Sweetgrass (NVR)**	**%**
General Administration	$86,865	0.4%
Financial Administration	$307,015	1.5%
Judicial	$468,925	2.3%
Public Safety	$6,134,561	30.0%
Public Works	$2,781,896	13.6%
Education	$4,250,282	20.8%
Parks, Recreation, Grounds & Cultural	$1,860,367	9.1%
Community Development	$514,634	2.5%
Other Public Services	$489,840	2.4%
Debt Service*	$0	0.0%
Non-Departmental^	$3,559,651	17.4%
TOTAL	**$20,454,036**	**100%**

** Capital expenses projected separately*

^ Includes transfer to Public Utilities

Figure 12. Cumulative County Capital Expenditures

20-Year Cumulative Total Capital Expenditures **06.21.2021 Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis**		
	SCENARIO	
Category	**Sweetgrass (NVR)**	**%**
Education	$1,135,478	51%
General Government	$0	0%
Parks and Recreation	$757,131	34%
Sheriff	$284,139	13%
Fire	$0	0%
Transportation	$28,675	1%
TOTAL	**$2,205,422**	**100%**

Approach to Modeling Capital Impacts

Capital expenditures are modeled using the following criteria:

- The demand from the development project create a new demand for additional capacity.
- The County does not currently have capacity to accommodate the additional demand.
- There are current/future plans by the County to build or purchase the capital need to provide additional capacity.
- The current or planned capital expenditure is anticipated to be funded by the County (as opposed to being provided by private development or funded from other sources).

A summary of the projected capital improvements and costs are shown below in Figure 13. Additional detail is provided below the figure.

Figure 13. Summary of Capital Needs and Cost

	20-Year Cumulative Total Capital Needs and Costs **06.21.2021 Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis**				
	Category	**SCENARIO** **Sweetgrass (NVR)**			
		Unit of Measure	*Demand*	*Capacity Needed*	*Cost ($000s)**
EDUCATION	Elementary School	Seat	30.2	19.4	$1,119,384
	Middle School	Seat	7.0	0.0	$0
	High School	Seat	14.6	0.0	$0
	School Buses	$			$0
	School Admin Facilities	$			$0
	School Fleet Bus Garage Addition	$			$16,094
GEN GOVT	General Government	Sq. Ft.	n/a	0.0	$0
	Court Facility	Sq. Ft.	n/a	0.0	$0
	Capital Maintenance (Growth Share)	$			$0
PARKS & REC / CULTURAL	Improved Park Land	Acre	7.4	7.3	$71,552
	Improved Park Improvements	Acre	7.4	7.3	$580,838
	Recreation Facilities	Sq. Ft.	178.8	178.8	$104,740
	Trails	$			$0
	Vehicles/Equipment	Vehicle	n/a	0.0	$0
SHERIFF	Sheriff Buildings	Sq. Ft.	n/a	0.0	$0
	Animal Control	Sq. Ft.	0.0	0.0	$0
	Sheriff Vehicles/Equipment	Vehicle	1.5	1.5	$106,317
	E-911 Comm System	$			$177,821
FIRE & RESCUE	Fire Stations & Rescue Stations	Sq. Ft.	n/a	0.0	$0
	Fire Apparatus/Equipment	Vehicle	n/a	0.0	$0
	Rescue Apparatus/Equipment	Vehicle	n/a	0.0	$0
TRANSPO.	Transportation Projects	$			$28,675
				TOTAL	**$2,205,422**

** Reflects cumulative capital costs from the project over the 20-year projection period, including principal and interest.*

Education

Additional school capacity needed to serve the Sweetgrass Development is projected based on the above criteria. The schools serving the proposed development are highlighted below. (Note: Enrollment data from the 2020-21 school year is not used because of the likely effects on public school enrollment from COVID-19.)

Figure 14. Isle of Wight Public Schools

	in All Schools[1]	*County School Capacity [2]*	*School Util %*	*Seats Avail*	*PROJ. by Scen*	*$ per Seat [3]*	*Seats Needed by Scen*
ELEM (K-6)	*2,811*	*3,165*	*89%*	*354*			
Carrollton Elem (PreK-3)	710	682	104%	-28	19.4	$43,005	19.4
Carrsville Elem (PreK-5)	247	310	80%	63			
Hardy Elem (PreK-5)	517	657	79%	140			
Westside Elem (4-6)	760	849	90%	89	10.8	$43,005	0
Windsor Elem (PreK-5)	577	667	87%	90			
MS	*1,030*	*1,169*	*88%*	*139*			
Georgie Tyler Middle (6-8)	434	535	81%	101			
Smithfield Middle (7-8)	596	634	94%	38	7.0		0
HS	*1,789*	*2,463*	*73%*	*674*			
Smithfield High (9-12)	1,267	1,588	80%	321	14.6	$45,206	0
Windsor High (9-12)	522	875	60%	353			
Total	***5,630***	***6,797***	***83%***	1,167	**51.8**		**19**

[1] Virginia Dept of Education, Fall Membership Report of Isle of Wight County Schools, 2019-20 (enrollment as of Sept. 30, 2019).
[2] Isle of Wight County Schools Facility Capacity, 02/08/19
[3] Isle of Wight current cost estimates ($2021)

- Isle of Wight in FY 2025-26 plans to construct a new elementary school, valued at approximately $38.8 million
- One support facility for Isle of Wight Public Schools is included in the County FY2020-2029 CIP – Fleet/Bus Garage addition. Costs to serve the proposed Sweetgrass project are based on the cost per student for the County's contribution for the capital project.
    - Fleet Bus Garage: $2,500,000 divided by divided by planned capacity of the system over the life of the CIP 8,0476 (current capacity of 6,797 plus 1,250 additional seats) = $311 per student

General Government

No current or future capacity expansions are anticipated by the County for General Government facilities.

Parks and Recreation

Additional park and recreation improvements are projected to serve the proposed development. The projection is based on the County's current levels of service as follows:

- 5.1 acres per 1,000 persons of active parks (192 acres active parks / 37,945population x 1,000) at $77,500 per acre for land and improvements
- 123 square feet per 1,000 persons of recreation facility space (4,656 / 37,333 population x 1,000) at $508 per square foot for recreational facility expansion.

- Trails expansions are not included as a County cost as projects in the latest County Capital Improvement Program (FY2020-2029) are identified as being funded from private entities.

Sheriff

- Additional sheriff vehicles are projected based on current levels of service of 5.3 vehicles per 1,000 calls for service (48 sheriff vehicles / 9,393 Sheriff calls x 1,000). The cost per vehicle is $60,500 (inflated to 2021 dollars from Isle of Wight Cash Proffer Study, 2012).

Fire and Rescue

No current or future *capacity* expansions are anticipated by the County for Fire and/or Rescue facilities. (Other capital expenditures for replacement (non-growth related) vehicles are listed in the CIP.)

Transportation

The County FY2020-2029 CIP identifies anticipated local expenditures of $900,000 on future system level capacity transportation improvements. To determine the Sweetgrass Development's share of the costs, TischlerBise analyzed future Countywide growth (based on our 2012 Cash Proffer Study) and identified that 50 percent of the costs are due to growth, or $450,000. This cost is allocated to future increase in vehicle trips throughout the County (base year trips are 101,790; a 50 percent increase equals 50,895). The cost per trip allocated to new development is $8.00 (truncated) ($450,000 / 59,344).

The Sweetgrass Project is projected to generate 2,664 trips. Costs are projected based on $8.00 per trip. With debt financing, total 20-year costs equal $21,314.

APPENDIX: DEMOGRAPHIC & DATA ASSUMPTIONS

BASE YEAR DATA

The table below summarizes estimates of the base year population, housing units, employment, nonresidential space, and facility factors in Isle of Wight County. These estimated values serve as the basis for the fiscal impact analysis and are used to determine the cost and revenue factors used in the analysis.

Figure 15. Base Year Input Data

		Base Year->	2021
Population [1]	POPULATION		37,945
	POP AND JOBS		47,638
	NON-TOWN POPULATION		26,758
	NON-TOWN POP AND JOBS		27,926
Housing Units by Type [2]	SINGLE FAMILY		12,507
	TOWNHOUSE		730
	APARTMENTS		1,272
	MOBILE HOME		1,847
	TOTAL HOUSING		16,356
	SF UNITS		15,083
Jobs by Type [3]	OFFICE JOBS		2,577
	RETAIL JOBS		1,908
	INDUSTRIAL JOBS		3,930
	INSTITUTIONAL JOBS		1,125
	HOTEL JOBS		94
	SELF-EMPLOYED JOBS		59
	TOTAL JOBS		9,693
	RETAIL, OFFICE, IND JOBS		8,568
Nonresidential Floor Area [2]	OFFICE SF		775,666
	RETAIL SF		954,000
	INDUSTRIAL SF		1,702,812
	INSTITUTIONAL SF		1,472,197
	HOTEL SF		82,907
	TOTAL NR KSF		4,987,582
Vehicle Trips [4]	RESIDENTIAL TRIPS		73,880
	NONRES TRIPS		27,910
	VEHICLE TRIPS		101,790

Facility Factors	[5]	PARK ACRES	3,068
	[5]	FACILITY SF	321,287
Public Safety Factors	[5]	TOTAL SHERIFF CALLS	9,099
	[5]	TOTAL FIRE CALLS	5,608
		TOTAL EMS CALLS	0
	[5]	TOTAL FIRE AND EMS CALLS	5,608
School Factors [9]		ELEM ENROLLMENT	2,811
		MS ENROLLMENT	1,030
		HS ENROLLMENT	1,789
		TOTAL ENROLLMENT	5,630
Fiscal Factors	[6]	CUMUL AV	$4,646,536,085
		SMITHFIELD JOBS	6358
		WINDSOR JOBS	2,167
	[7]	COUNTY ENROLLMENT	5,630
		COUNTY EMPLOYEES	210

[1] Weldon Cooper Center, July 1, 2020 estimate.
[2] Weldon Cooper Center, July 1, 2020 estimate; percentage distribution from US Census ACS, 2015-2019
[3] QCEW - Bureau of Labor Statistics, 2020 Annual Averages, All establishment sizes.
[4] TischlerBise; ITE.
[5] Isle of Wight County
[6] Isle of Wight County, CAFR FY17
[7] Isle of Wight County Public Schools

HOUSEHOLD SIZE

Household size is used to project population over the planning horizon. Figure 16 shows household size assumptions by type of unit, categorized by type of unit included in the analysis.

Figure 16. Household Size

Household Size
Persons per Housing Unit

Type of Unit	*Persons [3]*	*Housing Units [3]*	*PPHU*	*Households [3]*	*PPHH*	
Single Family [1]	29,698	12,551	2.37	11,676	2.54	80%
Multifamily [2]	3,059	1,358	2.25	1,341	2.28	9%
Mobile Homes	3,613	1,769	2.04	1,570	2.30	11%
Total	**36,370**	**15,678**	**2.32**	**14,587**	**2.49**	100%

[1] Includes Single Family Detached, Attached, and Mobile Homes.
[2] Includes Structures with 2+ Units.
[3] U.S. Census Bureau 2015-2019 American Community Survey 5-Yr Estimates

PUBLIC SCHOOL STUDENTS PER HOUSING UNIT

Student generation rates for Isle of Wight Public Schools are from the study "Isle of Wight County Schools Student Yield & Subdivision Analysis" conducted for the school district by Cooperative Strategies in April 2018. It is assumed that age-restricted single family housing will not generate new students. Rates are shown in Figure 17.

Figure 17. Isle of Wight County Public Schools Pupil Yields per Housing Unit

Student Yields

	Elem (PK-3)	*Elem (4-6)*	*Mid (7-8)*	*High (9-12)*	***TOTAL***
Single Family	0.104	0.080	0.059	0.125	**0.368**
Age-Restricted Single Family	0.000	0.000	0.000	0.000	**0.000**
Town Home	0.086	0.048	0.031	0.065	**0.230**
Multifamily (Apartment)	0.156	0.090	0.037	0.105	**0.388**

Note: Figures may not sum to totals shown due to rounding.
Source: Cooperative Strategies, "Isle of Wight County Schools Student Yield & Subdivision Analysis," April 2018.

VEHICLE TRIPS

Vehicle trips are used to project some operating and capital expenditures in the fiscal impact analysis. Average Weekday Vehicle Trip Ends by type of development (or trip generation rates) are from the reference book, *Trip Generation, 10TH Edition*, published by the Institute of Transportation Engineers (ITE), in 2017. A "trip end" represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip rates have been adjusted to avoid overestimating the number of actual trips because one vehicle trip is counted in the trip rates of both the origination and destination points. A simple factor of 50 percent has been applied to Residential and the Office and Industrial categories. The Retail category has a trip factor of less than 50 percent because this type of development attracts vehicles as they pass-by on arterial and collector roads. For example, when someone stops at a convenience store on their way home from work, the convenience store is not their primary destination.

Trip rates and adjustment factors are shown in the figure. Using trips generated from single family units as an example, the formula is as follows: 12,507 units x 9.44 vehicle trips per unit x 50% adjustment = 59,032. As shown in Figure 18, residential development accounts for an estimated 73 percent of total daily trips and nonresidential development accounts for an additional 27 percent.

Figure 18. Vehicle Trips

Residential Vehicle Trips on an Average Weekday			
Residential Units	*Assumptions*		
Single Family	12,507		
Townhouse	730		
Apartments	1,272		
Mobile Home	1,847		
Average Weekday Vehicles Trip Ends Per Unit [1]			*Trip Factor*
Single Family	9.44		50%
Townhouse	7.32		50%
Apartments	5.44		50%
Mobile Home	9.44		50%
Residential Vehicle Trip Ends on an Average Weekday			
Single Family	59,032		
Townhouse	2,671		
Apartments	3,461		
Mobile Home	8,716		
TOTAL RESIDENTIAL TRIPS	***73,880***		*73%*
Nonresidential Vehicle Trips on an Average Weekday			
Nonresidential Gross Floor Area (1,000 sq. ft.) [2]	*Assumptions*		
Office	776		
Retail	954		
Industrial	1,703		
Institutional	1,472		
Hotel	83		
Average Weekday Vehicle Trip Ends per 1,000 Sq. Ft. [1]		*Trip Factors*	
Office	9.74		50%
Retail	37.75		34%
Industrial	4.96		50%
Institutional	9.74		50%
Hotel	11.94		50%
Nonresidential Vehicle Trips on an Average Weekday			
Office	3,777		
Retail	12,245		
Industrial	4,223		
Institutional	7,170		
Hotel	495		
TOTAL NONRESIDENTIAL TRIPS	***27,910***		*27%*
TOTAL TRIPS	**101,790**		*100%*

[1] Trip rates are from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 2017.

PUBLIC SAFETY COST ALLOCATION APPROACH

Public safety costs are allocated to residential and nonresidential development using a proportionate share methodology.

Proportionate Share Calculation

A proportionate share calculation allocates demand from residential and nonresidential development based on characteristics of population, labor force, and jobs in the County. Based on this analysis and shown in Figure 19, 77 percent demand is from residential development and 23 percent from nonresidential development.

Figure 19. Proportionate Share Factors

Demand Units						
Residential					***Demand Hours/Day***	***Person Hours***
	Population	37,945				
	Residents Not Working		20,693		20	413,860
	Employed Residents		17,252			
	Employed in Isle of Wight County			3,243	14	45,402
	Employed outside Isle of Wight County			14,009	14	196,126
					Residential Subtotal	655,388
					Residential Share	**77%**
Nonresidential						
	Non-working Residents		20,693		4	82,772
	Jobs Located in Isle of Wight County		10,786			
	Residents Employed in Isle of Wight County			3,243	10	32,430
	Non-Resident Workers (inflow commuters)			7,543	10	75,430
					Nonresidential Subtotal	190,632
					Nonresidential Share	**23%**
					Total	846,020

Source: US Census, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2018

SHERIFF CALLS FOR SERVICE

Using the above proportionate share methodology, Sheriff calls for service per capita and per nonresidential trip are derived. For Sheriff calls for service, self-initiated calls are netted out of the total number both to derive the cost per call for service and to project future calls for service from the development program.

To project future Sheriff calls for service from new development, the data are used to determine a call per person and call per nonresidential trip. *Note: the development program only includes residential development; therefore, only the call per capita is used in the analysis.*

These factors are then applied to projected population from the development program to project demand for Sheriff services using calls for service. (E.g., for every new person in the County, it is estimated that .1906 Sheriff calls for service are generated.)

Figure 20. Isle of Wight County Sheriff Calls for Service Projection Methodology

SHERIFF DATA INPUT AREA

Sheriff Calls for Service Data [1]

		2018	*2021 (estimated)*	
TOTAL CALLS FOR SERVICE		**9,099**	**9,393**	
	% [2]		*pop/nonres trips*	*Call per capita/nonres trip*
Residential	77%	**7,232**	37,945	0.1906
Nonresidential	23%	**2,160**	27,910	0.0774

Calls per Capita	0.1906
Calls per Nonres. Trip	0.0774

[1] Based on information provided by the Isle of Wight Public Safety; Non-self initiated calls. 2021 estimate obtained by dividing 2018 calls by 2018 housing units, then multiplying by 2021 estimated housing units.
[2] Proportionate share calculation; TischlerBise

FIRE AND EMS CALLS FOR SERVICE

Using the above proportionate share methodology, Fire and EMS calls for service per capita and per nonresidential trip are derived.

To project future Fire and EMS calls for service from new development, the data are used to determine a call per person and call per nonresidential trip. *Note: the development program only includes residential development; therefore, only the call per capita is used in the analysis.*

These factors are then applied to projected population from the development program to project demand for Fire and EMS services using calls for service. (E.g., for every new person in the County, it is estimated that .1138 Fire and EMS calls for service are generated.)

Figure 21. Isle of Wight County Fire and EMS Calls for Service Projection Methodology

FIRE/RESCUE DATA INPUT AREA

Fire/Rescue Calls for Service Data [1]

		2020		
TOTAL CALLS FOR SERVICE		**5,608**		
	% [2]		*pop/nonres trips*	*Call per capita/nonres trip*
Residential	77%	**4,318**	37,945	0.1138
Nonresidential	23%	**1,290**	27,910	0.0462

Calls per Capita	0.1138
Calls per Nonres. Trip	0.0462

[1] Based on information provided by the Isle of Wight Public Safety

[2] Proportionate share calculation; TischlerBise

Figure 22. Detailed Demand Projections

Sweetgrass (NVR) SCENARIO ANNUAL DEMAND BASE

		Base Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Fiscal Year->	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
	POPULATION	0	243	486	729	972	1,215	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458
	POP AND JOBS	0	243	486	729	972	1,215	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458
	AGE-RESTRICTED, SINGLE-FAMILY DETACHED	0	65	130	195	260	325	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390
	TOWNHOUSE	0	38	75	113	150	188	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
	HOUSING UNIT TYPE 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HOUSING UNIT TYPE 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HOUSING UNIT TYPE 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HOUSING UNIT TYPE 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HOUSING UNIT TYPE 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HOUSING UNIT TYPE 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL UNITS	0	103	205	308	410	513	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615
$0 Sales Per Sq. Ft.	NONRESIDENTIAL TYPE 1 SF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$0 Sales Per Sq. Ft.	NONRESIDENTIAL TYPE 2 SF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$0 Sales Per Sq. Ft.	NONRESIDENTIAL TYPE 3 SF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$0 Sales Per Sq. Ft.	NONRESIDENTIAL TYPE 4 SF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$0 Sales Per Sq. Ft.	NONRESIDENTIAL TYPE 5 SF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$0 Sales Per Sq. Ft.	NONRESIDENTIAL TYPE 6 SF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL SF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NONRESIDENTIAL TYPE 1 JOBS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NONRESIDENTIAL TYPE 2 JOBS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NONRESIDENTIAL TYPE 3 JOBS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NONRESIDENTIAL TYPE 4 JOBS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NONRESIDENTIAL TYPE 5 JOBS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NONRESIDENTIAL TYPE 6 JOBS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL JOBS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RESIDENTIAL TRIPS	0	444	888	1,332	1,776	2,220	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664
	NONRES TRIPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VEHICLE TRIPS	0	444	888	1,332	1,776	2,220	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664	2,664
0.191	RES SHERIFF CALLS	0	46	93	139	185	232	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
0.077	NONRES SHERIFF CALLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL SHERIFF CALLS	0	46	93	139	185	232	278	278	278	278	278	278	278	278	278	278	278	278	278	278	278
0.114	RES FIRE AND RESCUE CALLS	0	28	55	83	111	138	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
0.046	NONRES FIRE AND RESCUE CALLS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL FIRE AND EMS CALLS	0	28	55	83	111	138	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
	ELEM ENROLLMENT	0	5	10	15	20	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	MS ENROLLMENT	0	1	2	3	5	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	HS ENROLLMENT	0	2	5	7	10	12	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	TOTAL ENROLLMENT	0	9	17	26	35	43	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
	ELEM ENROLLMENT (PRE K-3)	0	3	6	10	13	16	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
	ELEM ENROLLMENT (GR 4-6)	0	2	4	5	7	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
			5.03	10.05	15.08	20.10	25.13	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15	30.15
	ANNUAL MV	$0	$29,545,813	$29,545,813	$29,545,813	$29,545,813	$29,545,813	$29,545,813	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	CUMUL RES AV	$0	$29,545,813	$59,091,625	$88,637,438	$118,183,250	$147,729,063	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875
	CUMUL NONRES AV	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	CUMUL AV	$0	$29,545,813	$59,091,625	$88,637,438	$118,183,250	$147,729,063	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875	$177,274,875
	NET CUMUL AV	$0	$29,545,813	$29,545,813	$29,545,813	$29,545,813	$29,545,813	$29,545,813	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	NON-TOWN POPULATION		243	486	729	972	1,215	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458
	NON-TOWN POP AND JOBS		243	486	729	972	1,215	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458

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4701 Sangamore Road | Suite S240 | Bethesda, MD 20816
301.320.6900
www.tischlerbise.com

MEMORANDUM

To: Eric Shirey, General Manager, Land, NVR Inc.

From: Julie Herlands, AICP, Vice President, TischlerBise

Date: February 10, 2023

RE: Fiscal Impact Analysis for Sweetgrass in Isle of Wight County, Virginia//Response to Isle of Wight Capital Impacts Finding

TischlerBise conducted a Fiscal Impact Analysis of the proposed Sweetgrass development in Isle of Wight County, Virginia, for NVR Inc/Ryan Homes for submission to Isle of Wight County as part of the applicant's rezoning request. TischlerBise provided a report dated June 21, 2021, to NVR Inc./Ryan Homes.

The overall finding of the Fiscal Impact Analysis is that the proposed development is fiscally positive to the County in total.[1] TischlerBise's analysis factors in all variable revenues generated by the proposed development compared to all operating and capital costs attributable to the development.

Isle of Wight County has a *Capital Impacts Model* that was developed by TischlerBise.[2] The Model was developed specifically for the County to identify capital impacts eligible for mitigation by cash proffers. Isle of Wight County has recently provided NVR with a summary of the Model's capital impact findings for the Sweetgrass development,[3] which total approximately $2.3 million in capital impacts of which $785,285 is cash proffer eligible.

TischlerBise's fiscal impact analysis also identifies capital cost impacts attributed to the development totaling approximately $2.2 million. However, unlike the *Capital Impacts Model*, which does not include revenue offsets,[4] the TischlerBise **Fiscal Impact Analysis** (as requested by the County as part of the rezoning application) captures all revenues attributable to Sweetgrass and is projected to generate sufficient revenues in total to cover projected operating and capital costs.

[1] The twenty-year cumulative net fiscal impact is a surplus of approximately $20.9 million and an annual net surplus of approximately $1.2 million at the project's buildout.
[2] Model transmitted October 28, 2020.
[3] Printout dated 12/14/2022.
[4] Virginia localities fund most locally funded services (including schools) with property tax revenues, which is a general revenue source (i.e., a discretionary revenue that is appropriated by elected officials during the budget process). Property tax revenues are not typically earmarked for specific purposes (other than a locality's full faith and credit obligation to retire debt where applicable or when levied for special tax districts).

Sweetgrass
Product Selection and Market Analysis

The Sweetgrass Community is setup to serve two different buyer profiles, both of which require an active lifestyle and demand a high quality product.

The "Lifestyle" Ranch section provides first floor owner bedrooms and baths that tailor to the "55 and greater" customer. The new construction supply for this product is restrained which continues to drive up prices. Sweetgrass' customers will primarily come from Isle of Wight, however secondary buyers are expected from the Peninsula and City of Suffolk.

Census data reveals those areas having 215,412 people that is age 55 or older. Migration data tells us that 14,219 of those will desire to move this year.

Last year, there was 2,175 first floor owner bedroom homes sold within those areas. Today there is only 505 first floor owner bedroom homes for sale across the broader market and Isle of Wight County specifically has only 54 active listings today (the majority being new construction).

The Sweetgrass Community will sell over 60 ranch homes each year and that is considering the absorption levels of other communities that serve this buyer such as South Harbor in Isle of Wight County and Church Square in the Town of Smithfield.

The "Towns" section provides a tremendous value for families who have been priced out of the market due to inflation, rising interest rates and increased new home sales prices. Sweetgrass will offer townhomes that come equipped with a garage and 3-4 bedrooms. The renters of Isle of Wight will finally have an option to obtain home ownership. Isle of Wight's average price for a home built after the year 2000 and at least 1500 square feet was $465,533. Sweetgrass Towns will provide relief to such pricing pressure by offering elegant and high quality homes from the upper $200's and lower $300's.

Both products at Sweetgrass have tremendous demand in the marketplace, which will equate to a very busy jobsite and fast buildout.



Sweetgrass Elevations - June 15, 2023


Facing North
LEGACY
AT
SWEETGRASS
Sweetgrass Elevations - June 15, 2023


Facing South
TOWNHOMES
Sweetgrass Elevations - June 15, 2023


Facing South
Sweetgrass Elevations - June 15, 2023


Facing West
View over Park
Sweetgrass Elevations - June 15, 2023



Sweetgrass Elevations - June 15, 2023


Facing East
AES
CONSULTING ENGINEERS
Sweetgrass Elevations - June 15, 2023


Sweetgrass Elevations - June 15, 2023


AES
CONSULTING ENGINEERS
Sweetgrass Elevations - June 15, 2023


Facing West
View of Amenity



Sweetgrass Elevations - June 15, 2023


Sweetgrass Elevations - June 15, 2023


Sweetgrass Elevations - June 15, 2023


Sweetgrass Elevations - June 15, 2023


Sweetgrass Elevations - June 15, 2023



Sweetgrass Elevations - June 15, 2023


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LTING ENGINEERS
Sweetgrass Elevations - June 15, 2023



Sweetgrass Elevations - June 15, 2023


Sweetgrass Elevations - June 15, 2023



Sweetgrass Elevations - June 15, 2023

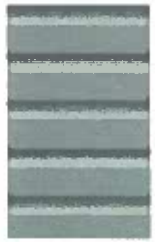

Sweetgrass Elevations - June 15, 2023

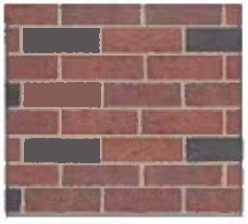


Sweetgrass Elevations - June 15, 2023

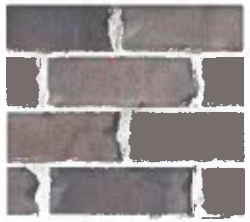
Lake Single Family Detached Color Schemes - Prime, Premium, Premium Plus

Scheme #	Primary Siding (Variform)	Accent Siding (Variform)	Shutter Color	Front Door Paint Color	Brick (GS Salisbury or Equivalent)	Stone (Environmental or Equivalent)	
Lake 1	Dover White	Dover White	Plygem	Sherwin Williams	Savannah Gray	Gray	Prime, Premium, Premium Plus
ESCLB01A - Reflect			Black 	Tricorn Black 			
ESCLB01B - Inspire			Black 	Sundried Tomato 			
Lake 2	Flint	Flint	Plygem	Sherwin Williams	Cordoba	Gray	Prime, Premium, Premium Plus
ESLB02A - Reflect			Black 	Seaworthy 			
ESLB02B - Inspire			Black 	Rain 			

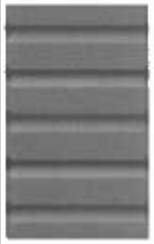
Scheme #	Primary Siding (Variform)	Accent Siding (Variform)	Shutter Color	Front Door Paint Color	Brick (GS Salisbury or Equivalent)	Stone (Environmental or Equivalent)	
Lake 3	Georgian Gray	Dover White	Plygem	Sherwin Williams	Charred Oak	PA Lime	Prime, Premium, Premium Plus
ESLB03A - Reflect			Blue 	Web Gray 			
ESLB03B - Inspire			Blue 	Sequin			
Lake 4	Silver Mist	Silver Mist	Plygem	Sherwin Williams	LaCava	PA Sierra	Prime, Premium, Premium Plus
ESLV04A - Reflect			Blue 	Grizzle Gray 			
ESLV04B - Inspire			Blue 	Salty Dog 			
Lake 5	Irish Thistle	Irish Thistle	Plygem	Sherwin Williams	Savannah Gray	PA Sierra	Prime, Premium, Premium Plus
ELSV05A - Reflect			Dark Navy 	Naval 			
ELSV05B - Inspire			Dark Navy 	Cupola Yellow			

Scheme #	Primary Siding (Variform)	Accent Siding (Variform)	Shutter Color	Front Door Paint Color	Brick (GS Salisbury or Equivalent)	Stone (Environmental or Equivalent)	
Lake 6	Spanish Olive	Silver Mist	Plygem	Sherwin Williams	LaCava	Appalachian	Prime, Premium, Premium Plus
ESLV06A - Reflect			Black 	Rock Bottom 			
ESLV06B - Inspire			Black 	Pewter Green 			
Lake 7	Stone Mountain Clay	Island Pearl	Plygem	Sherwin Williams	Berkshire	Manor	Prime, Premium, Premium Plus
ESLB07A - Reflect			Peppercorn 	Urbane Bronze 			
ESLB07B - Inspire			Peppercorn 	Still Water 			
Lake 8	Sandy Tan	Sandy Tan	Plygem	Sherwin Williams	Olde Columbia	Manor	Prime, Premium, Premium Plus
ESLB08A - Reflect			Gray 	Homburg Gray 			
ESLB08B - Inspire			Gray 	Riverway 			

Sweetgrass Elevations - June 15, 2023

Scheme #	Primary Siding (Variform)	Accent Siding (Variform)	Shutter Color	Front Door Paint Color	Brick (GS Salisbury or Equivalent)	Stone (Environmental or Equivalent)	
Lake 9	Natural Almond	Natural Almond	Plygem	Sherwin Williams	Turner Ridge	Dakota	Prime, Premium, Premium Plus
ESLB09A - Reflect			Gray 	Oyster Bay 			
ESLB09B - Inspire			Gray 	Bunglehouse Blue 			
Lake 10	Island Pearl	Island Pearl	Plygem	Sherwin Williams	Charred Oak	Appalachian	Prime, Premium, Premium Plus
ESLB10A - Reflect			Black 	Slate Tile 			
ESLB10B - Inspire			Black 	Samovar Silver 			
Lake 11	Pewter	Pewter	Plygem	Sherwin Williams	Cordoba	PA Lime	Premium, Premium Plus
ESLB11A - Reflect			Black 	Tricorn Black 			
ESLB11B - Inspire			Black 	Bravado Red 			

Scheme #	Primary Siding (Variform)	Accent Siding (Variform)	Shutter Color	Front Door Paint Color	Brick (GS Salisbury or Equivalent)	Stone (Environmental or Equivalent)	
Lake 12	Wedgewood	Wedgewood			Turner Ridge	Carolina	Premium, Premium Plus
ESLB12A - Reflect			Dark Navy 	In the Navy 			
ESLB12B - Inspire			Dark Navy 	Hubbard Squash			
Lake 13	Sagebrook	Silver Mist			Walnut Grove	Carolina	Premium, Premium Plus
ESLB13A - Reflect			Black 	Tricorn Black 			
ESLB13B - Inspire			Black 	Peppercorn 			
Lake 14	Twilight Shadow	Twilight Shadow			Walnut Grove	Carolina	Premium, Premium Plus
			Black 	Tricorn Black 			
			Black 	Rainwashed			

Scheme #	Primary Siding (Variform)	Accent Siding (Variform)	Shutter Color	Front Door Paint Color	Brick (GS Salisbury or Equivalent)	Stone (Environmental or Equivalent)	
Lake 15	Bayou	Bayou			Cordoba	PA Lime	
ESLB15A - Reflect			Black 	Tricorn Black 			Premium, Premium Plus
ESLB15B - Inspire			Black 	Mineral Deposit 			
Lake 16	Deep Brunswick	Deep Brunswick			LaCava	Appalachian	
ESLB16A - Reflect			Pebblestone Clay 	Chocolate Powder 			Premium Plus
ESLB16B - Inspire			Pebblestone Clay 	Tradewind			
Lake 17	Teak	Dover White			Savannah Gray	Dakota	
ESLB17A - Reflect			Black 	Evergreen Fog 			Premium Plus
ESLB17B - Inspire			Black 	Teal Stencil 			
Lake 18	Sedona Red	Sedona Red			Savannah Gray	Appalachian	

Scheme #	Primary Siding (Variform)	Accent Siding (Variform)	Shutter Color	Front Door Paint Color	Brick (GS Salisbury or Equivalent)	Stone (Environmental or Equivalent)
ESLB18A - Reflect			Black 	Tricorn Black 		
ESLB18B - Inspire			Black 	Anonymous 		

Premium Plus


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WE
Welcome

June 17, 2022

Isle of Wight County Planning and Zoning
17140 Monument Circle, Suite 101
Isle of Wight VA 23397

Via e-mail:

Re: Sweetgrass Cultural Resources Assessment
Parcel Number 32-01-009 (14096 Benns Church Road) (±294.4 acres)
Isle of Wight County, VA

Dear Sir or Madam:

Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc. (WSSI) has completed a desk-based Cultural Resources Assessment on behalf of NVR, Inc. for the Sweetgrass site located in Isle of Wight County, Virginia (see Attachment). The project area includes +/- 249.4 acres of, generally located northeast of Benns Church Blvd and north of Beechwood Lane.

Our research showed that the project area has not been previously subject to cultural resources investigation and no cultural resources have been previously recorded on the property. We feel that the project area has at least a moderate potential to include historic and/or prehistoric period archeological resources. Additionally, one or more standing buildings on the site may be historic (i.e., 50-years or older). Our research found no evidence or other indications that a cemetery or human burials are present on the property.

In our opinion, any prehistoric period archeological sites that may be identified on the property will not likely be significant (i.e., eligible for listing in the National Register of Historic Places) due to the property's history of agricultural use and the likelihood that such sites have been disturbed by plowing. Although significant historic period archeological sites could be identified within the project area and the historic standing buildings thereon could be deemed significant, we anticipate that any such resources could be avoided or mitigated.

If you have any questions or want to discuss the attached report, feel free to contact me at 703.307.6951 or bsipe@wetlands.com.

Sincerely,

WETLAND STUDIES AND SOLUTIONS, INC.

Boyd Sipe, MA, RPA
Manager – Archeology

Enclosures : Attachment

DRAFT

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Cultural Resources Site Assessment
Sweetgrass (±249.4 acres)
Isle of Wight County, Virginia
WSSI #31100.01

INTRODUCTION

This transmittal presents an evaluation of the potential for locating cultural resources on the ±249.4-acre Sweetgrass project area, located at 14096 Benns Church Boulevard, Smithfield, VA (Exhibit 1). The study area is situated on a low-lying terrace bordering Jones Creek on its north-eastern side (Exhibit 2). The project area appears to be generally low in topographic relief, sloping gradually towards and draining into unnamed tributary streams of the Creek to the northwest and the southeast.

The most recent aerial photography of the project area shows most of the project area under cultivation, with forests in the north-eastern section accounting for roughly 20% of the vegetation cover (Exhibit 3). A sheet-metal-roof square structure is visible near the center of the property. Parcel records indicate two improvements on the property, both categorized "Miscellaneous," one constructed in 1960 and the other in 2010. A review of online historic aerial photography suggests that the central structure predates 1972. The historic aerials also indicate at least two other structures, about 450 ft to the north and north-east of the central building, existed on the property until about 2004. The layout and use of the fields has remained consistent since at least 1972. The 1919 United States Geological Survey (USGS) quadrangle covering the project area indicates that buildings stood in the same location as the ones visible in the 1972 photo. It also shows that another structure, demolished before 1972, was once located between 800 and 1000 ft. east of the currently standing building (Exhibit 4).

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KNOWN CULTURAL RESOURCES IN OR NEAR THE PROJECT AREA

The following inventory of previously recorded cultural resources within and near the project area was established by using the Virginia Department of Historic Resources' (DHR) online Virginia Cultural Resource Information System (V-CRIS), as well as examining cultural resource files and reports at the Thunderbird Archeology office in Gainesville, Virginia.

No previous cultural resources investigations have been conducted of the study area, and no archeological or architectural resources have been recorded within the study area. In total, three archeological site and eight architectural resources have been recorded within an approximate one-mile radius of the study area (Tables 1 and 2). One of the archeological sites, 44IW0242, represents a Middle Woodland period campsite, and has been deemed not eligible for inclusion on the National Register of Historic Places (NRHP). The other two archeological sites have not been formally evaluated. 44IW0113 represents another Woodland period Native American artifact scatter, and 44IW0271 represents the St. Luke's Church and Grounds, where prehistoric Native American artifact scatters were found

mixed with deposits associated with the historic Euro-American and African American church and cemetery. It is cross listed as architectural resource 046-0024, which is described in further detail below.

Table 1: Previously Recorded Archeological Sites within a One-Mile Radius of the Project Area

DHR SITE NUMBER	SITE TYPE	TEMPORAL AFFILIATION	NRHP ELIGIBILITY
44IW0271	Artifact scatter, Artifact scatter, Artifact scatter, Cemetery, Church, Lithic scatter	Antebellum Period, Colony to Nation, Early National Period, Middle Archaic Period, Pre-Contact, Early Woodland, Late Woodland, Antebellum Period, Civil War, Colony to Nation, Contact Period, Early National Period, Reconstruction and Growth, The New Dominion, World War I to World War II	Not Evaluated
44IW0242	Camp	Middle Woodland	DHR Staff: Not Eligible
44IW0113	No Data	Early Woodland, Late Woodland, Middle Woodland	Not Evaluated

Table 2: Previously Recorded Architectural Resources within a One-Mile Radius of the Project Area

DHR RESOURCE NUMBER	RESOURCE NAME	TYPE	TEMPORAL AFFILIATION	NRHP ELIGIBILITY
300-0115	Angel on Gravestone Gravestone, 14477 Benns Church Boulevard	Sculpture/Statue	World War I to World War II (1917 - 1945)	Not Evaluated
046-0024	Newport Parish Church Old Brick Church Saint Luke's Church Saint Luke's Smithfield	Church/Chapel	Contact Period (1607 - 1750)	VLR Listing NRHP Listing NHL Listing This property is subject to an easement held by the Board of Historic Resources
046-5250	Farmhouse, 20041 Brewers Neck Boulevard B. J. Hogue Homeplace	Single Dwelling	Early National Period (1790 - 1829)	DHR Staff: Not Eligible
046-5246	Benns Church	Church/Chapel	World War I to World War II (1917 - 1945)	Not Evaluated

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Table 3: Previously Recorded Architectural Resources within a One-Mile Radius of the Project Area

DHR RESOURCE NUMBER	RESOURCE NAME	TYPE	TEMPORAL AFFILIATION	NRHP ELIGIBILITY
046-5276	House, 19514 Casper Circle	Single Dwelling	World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible
046-5274	House, 14564 Benns Church Blvd W.P. Jordan House	Single Dwelling	Reconstruction and Growth (1866 - 1916)	DHR Staff: Eligible
046-5275	House, 14580 Benns Church Boulevard	Single Dwelling	World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible
046-5054	House, 15150 Benns Church Boulevard (Route 10) Jordan Home #1 Margaret Davis House Charles Driver Jordan House	Single Dwelling	Antebellum Period (1830 - 1860)	The Primary Resource is no longer extant.

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Of the eight previously recorded architectural resources located within a mile of the center of the project area, three have been deemed not eligible for NRHP listing (046-5250, 046-5276, 046-5275) and another has already been demolished (046-054) (Table 2); all represent 20th century farms and houses. Two resources have not been evaluated: 046-5246 (Benns Church) and 300-0115 (Angel on Gravestone). The first of these has as its primary resource the building currently housing Benns United Methodist Church, a brick structure erected in 1926 and added to in 1957 and 1967. Its secondary resource is the Benns Church Cemetery. Resource 300-0115 represents a sculpture of an angel on a gravestone dated to c.1921. The text description on file with DHR gives its location as the Benns Church Cemetery, however, its mapped location in VCRIS places it within Saint Luke's Church and Cemetery (046-0024).

DHR Resource 046-0024 (Saint Luke's Church) is listed on the NRHP, Virginia Landmark Registry (VLR), and as a National Historic Landmark (NHL). It represents a colonial period church building constructed between 1632 and 1657. It has been operated as a museum and a non-profit since 1953. The description of the resource in VCRIS indicates that it has maintained its historic character and feel; this increases the chances that nearby development plans would face greater scrutiny from regulators and the public. However, while the current project area is within less than half a mile of this site, it is separated by intervening forested areas, which diminish the possibility of a detrimental visual effect on the resource. Finally, one architectural resource within a mile of the project area, DHR ID#046-5274 (W.P. Jordan House) has been deemed eligible for NRHP listing. It represents a c.1888 Italianate-style Single Family Dwelling and its outbuildings. It was the home of W.P. Jordan, a member of a prominent family who owned most of the land south

of Benns Church to Suffolk in the 19th century. However, the VCRIS file regarding the resource states that W.P. Jordan himself was not associated with any significant historical events.

ARCHEOLOGICAL SITE PROBABILITY

The following presents an assessment of the probability that archeological sites will occur within the study area; this has not been field verified.

The probability for locating prehistoric sites generally depends on the variables of topography, proximity to water, and internal drainage. Sites are more likely on well-drained landforms of low relief near water. The study area has at least a moderate probability for containing prehistoric resources due to its areas of low-relief topography near water sources. If prehistoric sites are present in plowed upland settings, they are not likely to require work beyond the recordation done at the Phase I level as plowing disturbs the context of the Native American sites and reduces the information potential of a particular site. Prehistoric sites found outside of an upland setting (e.g., floodplain) or in unplowed contexts could require additional work if preserved deposits are identified.

The probability for the occurrence of historic period sites largely depends upon the history of settlement in the area, the topography and the proximity of a particular property to historic roads. Historic maps offer insight into habitation of the vicinity; however, the absence of structures on historic maps does not eliminate the possibility of an archeological site being present within the property, as it was common for properties occupied by tenants, enslaved laborers, and freed African Americans to be excluded from these maps. As previously stated, the USGS map from 1919 shows several no-longer-extant buildings within the project area. The project area also borders US Route 258 (Benns Church Boulevard), which has served as the main road between Smithfield and Benns Church for several centuries. These factors increase the overall likelihood for the occurrence of historic period archeological resources within the study area. In our opinion, these maps, and the presence of known archeological sites near the project area indicate a moderate to high likelihood for the occurrence of historic period archeological sites within the study area.

Archeological sites dating from the 17th -19th century, if present within the study area, will likely require archeological work above the Phase I (Identification)-level; this is particularly true of dwellings that were occupied by enslaved African Americans or tenants, as these site types have been less intensively studied. As noted above, sites of these types are not typically represented on historic maps and are typically only identifiable through field investigations. Twentieth-century sites are not likely to be considered significant or require additional archeological work unless they contain unique, intact cultural materials that would contribute new research information.

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CONCLUSIONS AND RECOMMENDATIONS

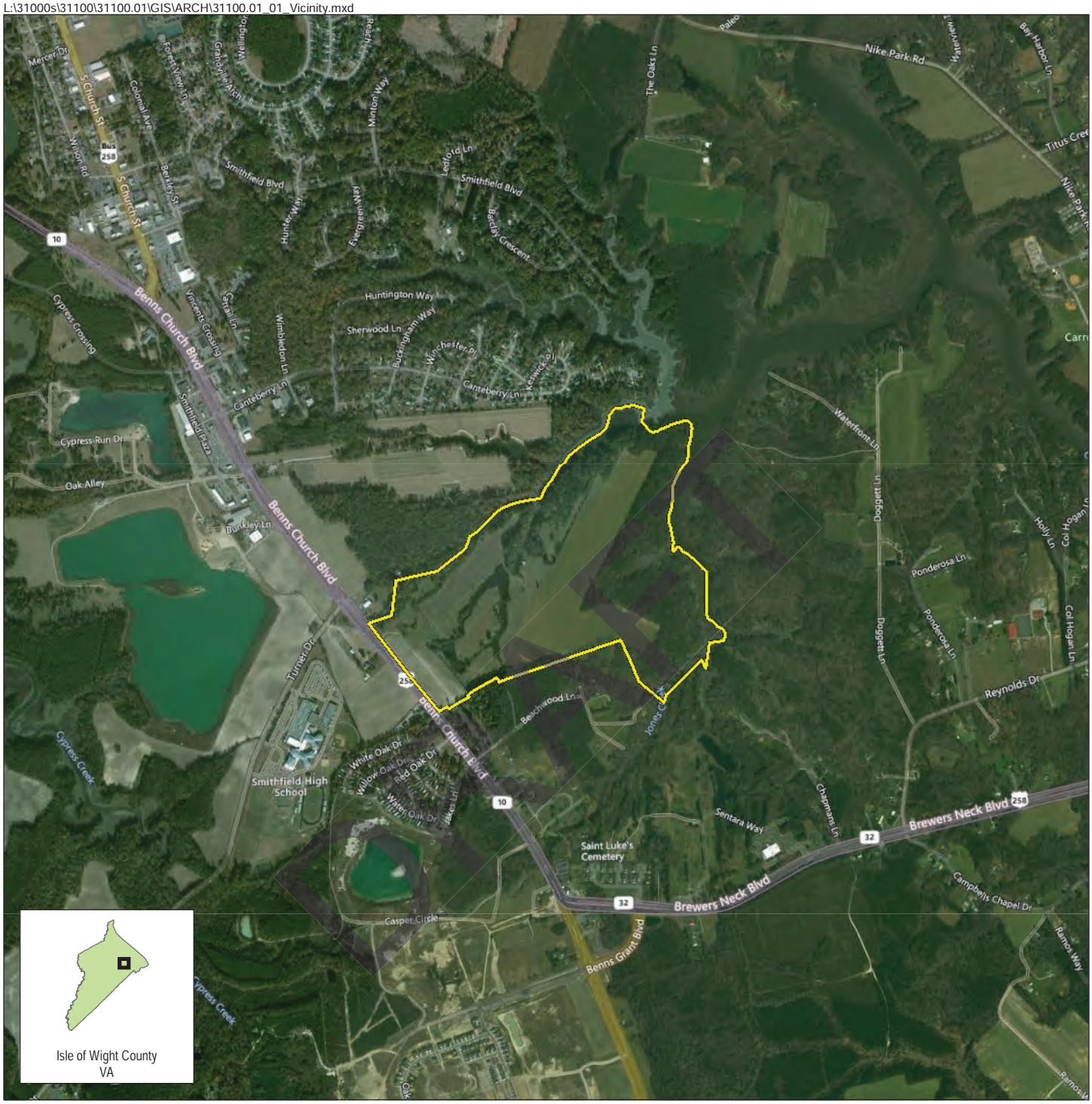
If impacts to Waters of the United States are planned in association with the development of the study area, the U.S. Army Corps of Engineers (USACE) may require that a Phase I cultural resources investigation be completed and reviewed by the DHR to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) in conjunction with obtaining a Clean Water Act Permit. In this scenario, the DHR would review and provide comments to assist the USACE in fulfilling its obligations under the NHPA but will typically defer to the federal agency regarding definition of APEs, eligibility determinations, and requirements for additional investigations.

Finally, as two previously recorded architectural resources are within an approximate one-mile radius of the project area are either eligible for listing, or already listed in the NRHP, an assessment of the direct adverse effects the development of the project area could have on the viewsheds on these resources (i.e., a Viewshed Study) could also be required if the project is subject to review by local, state, or federal agencies; however, if the project is not subject to review by any local, state, or federal agencies, then an assessment of adverse effects on the viewsheds of these resources would not need to be conducted. Isle of Wight County does not uniformly require cultural resources investigations as part of local land-use review. However, if development of the site requires rezoning or other local government review or approval, cultural resources investigations could be requested or potentially required as a condition of approval. Any cultural resources studies conducted for Section 106 review would almost certainly be adequate for local government review should such studies be requested by the county.

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L:\31000s\31100\31100.01\GIS\ARCH\31100.01_01_Vicinity.mxd



Project Area: ± 249.5 acres

Vicinity Map
Sweetgrass
WSSI #31100.01

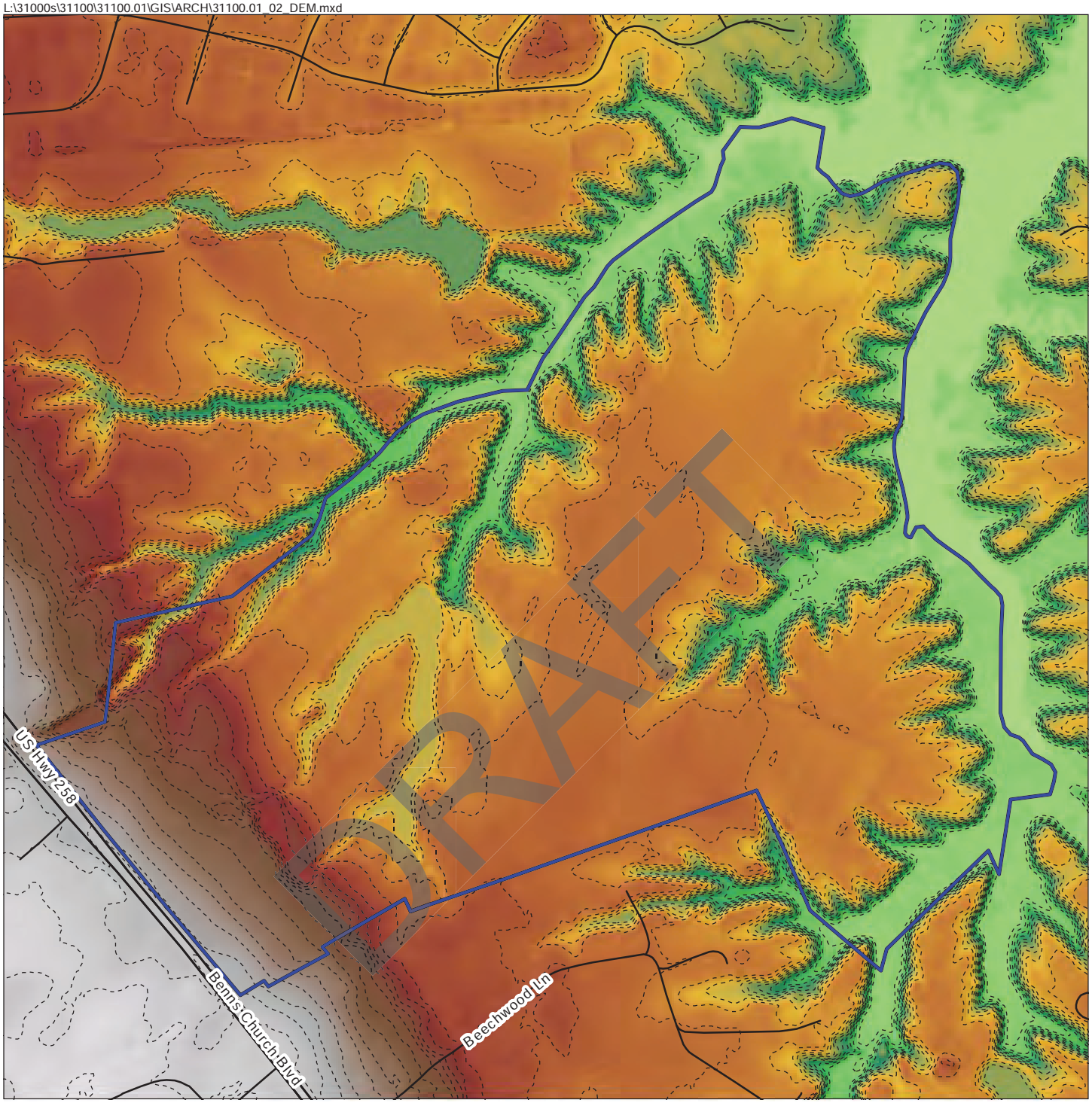
NORTH
0 2,000
Feet
Original Scale:
1 " = 2,000 '

Source: Bing Aerial Hybrid

Wetland Studies and Solutions, Inc.
a DAVEY company

Exhibit 1

L:\31000s\31100\31100.01\GIS\ARCH\31100.01_02_DEM.mxd



Project Area

2-ft Contours

Elevation (meters)

Value

High : 16.7476

Low : 1.17549e-38

Digital Elevation Model (DEM)
Sweetgrass
WSSI #31100.01

NORTH

0 700

Feet

Original Scale:
1 " = 700 '

Vertical Datum: NAVD88
Source: 2010; USGS

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Exhibit 2

L:\31000s\31100\31100.01\GIS\ARCH\31100.01_03_AErial.mxd



Project Area

Spring 2021 Natural Color Imagery
Sweetgrass
WSSI #31100.01

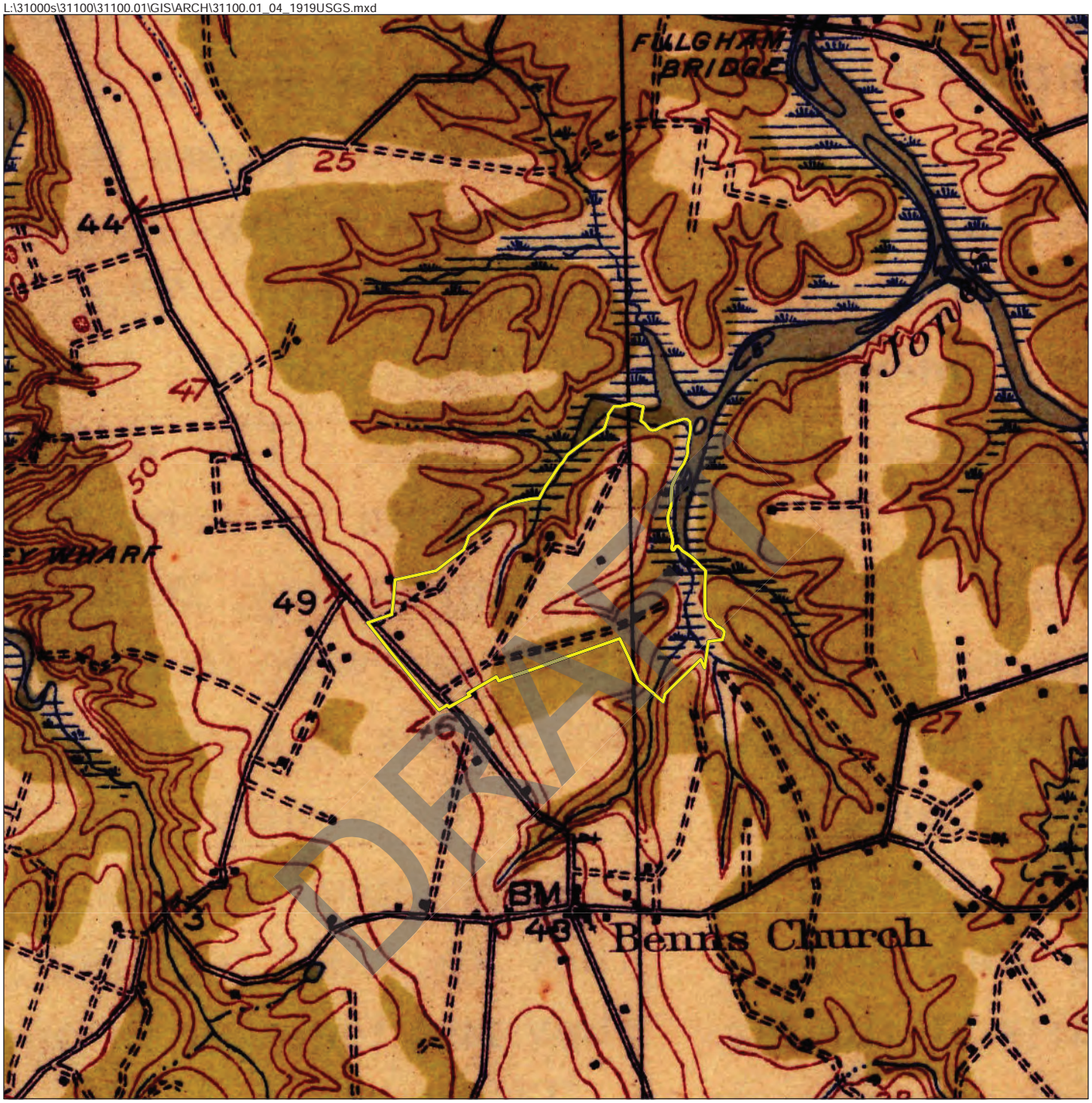
NORTH
0 700
Feet
Original Scale:
1 " = 700 '

Source: VBMP. 2021

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Exhibit 3

L:\31000s\31100\31100.01\GIS\ARCH\31100.01_04_1919USGS.mxd



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Project Area

1919 USGS Quad
Sweetgrass
WSSI #31100.01

NORTH
0 2,000
Feet
Original Scale:
1 " = 2,000 '

Benns Church, VA 1919
Latitude: 36°57'1"N
Longitude: 76°35'10"W
Hydrologic Unit Code (HUC): 020802060904
HUC12 Name: Jones Creek-Pagan River
COE Region: Atlantic and Gulf Coastal Plain

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Exhibit 4

Cultural Resource Forms

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Snapshot

Date Generated: June 02, 2022

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): 1200 B.C.E - 1606 C.E
Site Type(s): No Data
Other DHR ID: No Data
Temporary Designation: No Data

Site Evaluation Status
Not Evaluated

Locational Information

USGS Quad: BENNS CHURCH
County/Independent City: Isle of Wight (County)
Physiographic Province: No Data
Elevation: No Data
Aspect: No Data
Drainage: No Data
Slope: No Data
Acreage: No Data
Landform: Other
Ownership Status: No Data
Government Entity Name: No Data

Site Components

Component 1

Category: No Data
Site Type: No Data
Cultural Affiliation: Native American
Cultural Affiliation Details: No Data
DHR Time Period: Early Woodland, Late Woodland, Middle Woodland
Start Year: -1200
End Year: 1606
Comments: No Data

DRAFT

Bibliographic Information

Bibliography:
No Data
Informant Data:
No Data

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Staff/Notes:
No Data

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Unknown (DSS)
Investigator: MacCord, Howard A.
Survey Date: 6/21/1972
Survey Description:
No Data

Current Land Use	Date of Use	Comments
Other	*No Data*	Wide terrace adjoining spring branch. Large dug away for sand pit.

Threats to Resource: No Data
Site Conditions: Unknown Portion of Site Destroyed
Survey Strategies: Surface Testing
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
Pottery and points (VSL #422).
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: No Data
Survey Reports: No Data
Survey Report Information:
No Data
Survey Report Repository: No Data
DHR Library Reference Number: No Data
Significance Statement: No Data
Surveyor's Eligibility Recommendations: No Data
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

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Snapshot

Date Generated: June 02, 2022

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): 300 - 999 C.E
Site Type(s): Camp
Other DHR ID: No Data
Temporary Designation: 44CRI731-5

Site Evaluation Status

DHR Staff: Not Eligible

Locational Information

USGS Quad: BENNS CHURCH
County/Independent City: Isle of Wight (County)
Physiographic Province: Coastal Plain
Elevation: 40
Aspect: No Data
Drainage: James River
Slope: No Data
Acreage: 0.014
Landform: Knoll
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Camp
Cultural Affiliation: Native American
Cultural Affiliation Details: No Data
DHR Time Period: Middle Woodland
Start Year: 300
End Year: 999
Comments: No Data

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Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 44IW0242
Staff Name: Kirchen, Roger
Event Date: 10/20/2006
Staff Comment No Data

Event Type: Survey:Phase I/Reconnaissance

Project Staff/Notes:
No Data
Project Review File Number: 2006-0234
Sponsoring Organization: No Data
Organization/Company: Unknown (DSS)
Investigator: Cultural Resources, Invc., Ellen Brady
Survey Date: 9/1/2005
Survey Description:
Phase I- 50 foot interval shovel tests with radials dug at 25 feet intervals around positive shovel tests.

Current Land Use	Date of Use	Comments
Dwelling, single	9/1/2005 12:00:00 AM	*No Data*

Threats to Resource: No Data
Site Conditions: 50-74% of Site Destroyed
Survey Strategies: Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
Mockley Ceramics, primary and secondary chert, quartz and quartzite flakes, quartzite FCR, and plastic
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: CRI-Fredericksburg
Permanent Curation Repository: No Data
Field Notes: Yes
Field Notes Repository: CRI-Fredericksburg
Photographic Media: No Data
Survey Reports: Yes
Survey Report Information:
A Phase I Cultural Resources Survey of Approximately 600 Acres at Benns Church Isle of Wight County, Virginia
Survey Report Repository: CRI-Fredericksburg
DHR Library Reference Number: No Data
Significance Statement: No Data
Surveyor's Eligibility Recommendations: No Data
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

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Snapshot

Date Generated: June 02, 2022

Site Name: St. Luke's Church and Grounds
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Artifact scatter, Artifact scatter, Artifact scatter, Cemetery, Church, Lithic scatter
Other DHR ID: 046-0024
Temporary Designation: St. Luke's

Site Evaluation Status

Not Evaluated
This property is subject to an easement held by the Board of Historic Resources

Locational Information

USGS Quad: BENNS CHURCH
County/Independent City: Isle of Wight (County)
Physiographic Province: Coastal Plain
Elevation: 40
Aspect: Facing East
Drainage: James River
Slope: 2 - 6
Acreage: 18.500
Landform: Terrace
Ownership Status: Private
Government Entity Name: No Data

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Site Components

Component 1

Category: Funerary
Site Type: Cemetery
Cultural Affiliation: African American, Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Antebellum Period, Colony to Nation, Early National Period
Start Year: No Data
End Year: No Data
Comments: [2011 Smith]

August 2008: At least one section of the cemetery showed an individual who exhibited some African ancestry.

Component 2

Category: Indeterminate
Site Type: Artifact scatter
Cultural Affiliation: Native American
Cultural Affiliation Details: No Data
DHR Time Period: Middle Archaic Period
Start Year: No Data
End Year: No Data
Comments: August 2008: Native American finds were in disturbed contexts (grave shafts and pipe trenches). A Morrow Mountain projectile point was found.

Component 3

Category: Industry/Processing/Extraction
Site Type: Lithic scatter
Cultural Affiliation: Native American

Cultural Affiliation Details: No Data
DHR Time Period: Pre-Contact
Start Year: No Data
End Year: No Data
Comments: August 2008: Native American finds were in disturbed contexts (grave shafts and pipe trenches). Many undateable artifacts were found but they show that stone tools were being manufactured on site: chunks; initial edging, primary and secondary thinning flakes; a preform; scrapers; fire-cracked rocks.

Component 4

Category: Indeterminate
Site Type: Artifact scatter
Cultural Affiliation: Native American
Cultural Affiliation Details: No Data
DHR Time Period: Early Woodland
Start Year: No Data
End Year: No Data
Comments: August 2008: Native American finds were in disturbed contexts (grave shafts and pipe trenches). Dateable artifacts include Early Woodland pottery from the following periods: Marcey Creek (c. 1,000 B.C. to c. 750 B.C.), Accokeek (c. 900 B.C. to c. 300 B.C.), Popes Creek (c. 500 B.C. to A.D. 300)

Component 5

Category: Indeterminate
Site Type: Artifact scatter
Cultural Affiliation: Native American
Cultural Affiliation Details: No Data
DHR Time Period: Late Woodland
Start Year: No Data
End Year: No Data
Comments: August 2008: Native American finds were in disturbed contexts (grave shafts and pipe trenches). Townsend (A.D. 950 to Contact) pottery found.

Component 6

Category: Religion
Site Type: Church
Cultural Affiliation: Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Antebellum Period, Civil War, Colony to Nation, Contact Period, Early National Period, Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: [2011 Smith] St. Luke's Episcopal Church

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Bibliographic Information

Bibliography:

No Data

Informant Data:

Name: Unknown
Company 1: Historic St. Luke's Restoration, Inc.
Address 1: 14477 Benn's Church Blvd.
City: Smithfield
State: Virginia
ZIP: 23430
Phone 1: 757-357-3367
Owner Relationship: Owner of property

CRM Events

Event Type: Easement: DHR

DHR ID: 44IW0271
Staff Name: Smith, Anthony
Event Date: 3/15/2011
Staff Comment Archaeological work triggered by VDHR historic easement. Excavation of three test units in locations of soil bore tests revealed three intact archaeological features in two units. Excavation of two test units abutting the church foundations revealed disturbed fill (modern) to base of foundation in these locations.

Event Type: Archaeological Monitoring

Project Staff/Notes:

[Record enriched from CRM report "Archaeological Mitigation for a Drainage Trench at St. Luke's Church, Isle of Wight County, Virginia" on 19 June 2014]

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: DHR Archives Reading Room
Investigator: Alain Outlaw
Survey Date: 7/1/2007
Survey Description:

In July 2007, archaeologists monitored the excavation of a 60' long x 5' wide trench for a new stormwater drainage system which extends from the northwest corner of St. Luke's Church to a nearby pond. The 2' deep trench revealed eleven features. Ten were unmarked graves, and one was a planting hole.

The bones, coffin remains , and personal effects were re-interred in mapped locations, in archaeologically excavated burial shafts and as near as possible to their original graves, but outside the trench corridor. Selected artifacts from the trench were retained for a study collection to be archivally stored and/or exhibited at St. Luke's Church.

Data on burial practices and human osteology were recorded. Unexpectedly, however, archaeological contexts also revealed important architectural information on the building, repair and restoration episodes of the church, as well as a glimpse at the prehistory of these environs.

Current Land Use	Date of Use	Comments
Cemetery	8/1/2008 12:00:00 AM	Church cemetery

Threats to Resource: Development, Other
Site Conditions: Unknown Portion of Site Destroyed
Survey Strategies: Observation, Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: Yes
Artifacts Summary and Diagnostics:

Selected artifacts retained for a study collection to be archivally stored and/or exhibited at St. Luke's Church.

Summary of Specimens Observed, Not Collected:

Human remains, coffin remains, and personal effects were reinterred.

Current Curation Repository: St. Luke's Church
Permanent Curation Repository: St. Luke's Church
Field Notes: No
Field Notes Repository: No Data
Photographic Media: No Data
Survey Reports: Yes
Survey Report Information:

CRM report IW-48
DHR File No. 2007-0936

Survey Report Repository: VDHR (Richmond)
DHR Library Reference Number: No Data
Significance Statement: Area immediately surrounding church building already listed on NRHP (1966), expansion of this to include all of church property seems prudent.

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Surveyor's Eligibility Recommendations: No Data
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

Event Type: Other

Project Staff/Notes:
No Data
Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Unknown (DSS)
Investigator: No Data
Survey Date: No Data
Survey Description:

[2011 Smith] JRIA excavated 1' square test units at three potential soil test bore locations off three corners of St. Luke's Church. The test units off the northeast and northwest corners revealed the edges of apparently linear features oriented east-west and presumably are unmarked burials.

In addition, JRIA excavated a 1' x 4.75' trench against the south wall of the church and a 3.3' x 5' trench against the north wall of the church tower. The trenches were excavated to allow architects to examine the church foundations. The trench against the north church tower wall uncovered the west half of a cellar entrance to a basement under the church tower. Historical records indicate that the basement was added to the church in the late 19th century. The trench againt the south wall of the church discovered a 3'+ wide trench that paralleled the church foundation that was excavated during the 1950's restoration project that enabled brick to be extracted from the face of the below ground foundation and replaced with modern brick while the original salvaged brick was reused elsewhere in the church restoration.

The only artifact recovered during the JRIA testing were modern artifacts and there were not collected.

Current Land Use	Date of Use	Comments
Cemetery	3/15/2011 12:00:00 AM	Expansive active graveyard surrounding church building.
Church	3/15/2011 12:00:00 AM	Active place of worship.

Threats to Resource: Public Utility Expansion
Site Conditions: Intact Cultural Level, Subsurface Integrity, Unknown Portion of Site Destroyed
Survey Strategies: Informant, Subsurface Testing
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
No Data
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: Yes
Field Notes Repository: JRIA
Photographic Media: No Data
Survey Reports: Yes
Survey Report Information:

2012
Matthew Laird, Anthony Smith
Archaeological Testing Associated with a Drainage Installation Project at St. Luke's Church (046-0024/44IW0271), Isle of Wight County, Virginia
---
2011, Matthew Laird, Nicholas Luccketti, Anthony Smith
Archaeological Testing at St. Luke's Church, Isle of Wight County, Virginia

Survey Report Repository: JRIA, DHR
DHR Library Reference Number: IW-062, IW-063
Significance Statement: Area immediately surrounding church building already listed on NRHP (1966), expansion of this to include all of church property seems prudent.
Surveyor's Eligibility Recommendations: Legacy
Surveyor's NR Criteria Recommendations, : A, B, C
Surveyor's NR Criteria Considerations: Birth Place or Grave, Commemorative Property, Moved Property, Reconstructed Property, Significance of less than Fifty Years

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Property Information

Property Names

Name Explanation	Name
Historic	Newport Parish Church
Historic	Old Brick Church
NRHP Listing	Saint Luke's Church
Current	Saint Luke's Smithfield

Property Addresses

Current - 14477 Benn's Church Boulevard Route 10

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23314, 23430
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BENNS CHURCH

Property Evaluation Status

VLR Listing
NRHP Listing
NHL Listing
This property is subject to an easement held by the Board of Historic Resources

Additional Property Information

Architecture Setting: Village
Acreage: 5
Site Description:

1974 Nomination:
The Newport Parish Church is located in the township of Benn's Church, Virginia, not far from Smithfield in Isle of Wight County, and in fact, is often referred to simply as "Saint Luke's Smithfield". Surrounded by a graveyard and a golf course, only part of the former is owned by the Historic Saint Luke's Foundation, and none of the latter. A rather complicated boundary winds through the churchyard, dividing land owned by the church and land owned by the Benn's Church Cemetery, confusingly called Saint Luke's Cemetery.

Land immediately east of the church boundary is used as a golf course and the Foundation has recently purchased 2 acres of land directly behind the church and planted there a stand of pine trees which now contributes significantly to the visual integrity of the site. To the north of the church are a pair of small ponds, and a stream running east-west, a tributary of Jones Creek. A visitors-center building sits to the south and west of Saint Luke's at a distance of perhaps 75 yards. The land between the two is a tree-covered slope falling off towards the church, divided by a dirt road running north-south. Further south is private land used as pasture.

The boundary will include the visitors-center, which is not part of the Landmark of course, but no other buildings than Saint Luke's. Although this will be a site of only about 5 acres, it is laid out in such a way as to present a serene and somewhat bucolic setting for a church whose associations, after all should hearken us back to an era of quiet, rustic charm. From the church, the slope of the hill towards the west and south safeguards our view. To the north, we see the ponds in the near distance, and to the east, a stand of pine trees planted as a screen by the Foundation. All of these features contribute significantly to the integrity of Saint Luke's surroundings.

The grounds are well-maintained near the church by the Foundation, even though a number of the grave lots are in private hands and would otherwise be overgrown.

2010: The church building sits on a level lot covered by grassy lawn as well as mature trees, planting beds, and shrubs. A historic cemetery with a variety of gravestones, tablets, and markers surrounds the church. Although Historic St. Luke’s Restoration, Inc. owns additional acreage in the vicinity, the easement boundaries encompass 1.0 acre and include the historic church and surrounding cemetery. A visitor center with gift shop is situated to the southwest of the church, but outside of the easement property boundaries. Access to the property is made via a brick walkway that leads from the visitor center and parking area to the west elevation of the church building. Three light poles line the brick walkway within the easement boundaries. A formal brick entry area with brick steps, pavers, and metal handrails is located at the west tower entrance. Several garden beds are also located in this area.

Surveyor Assessment:

1936: St. Luke's, or as it was called prior to the Revolution: "The Old Brick Church", was built under the care of Joseph Bridger (died 1686) sometime between 1632 and 1682, in what was then Warrescoyack Parish, later divided in 1642 into Newport and Warrescoyack.

The church is remarkable as the only remaining example of a buttressed Gothic Church of the seventeenth century in America.

The church remained in constant use until about the first quarter of the 18th century when it fell Into disrepair. In 1887 the roof fell in carrying down part of the walls. The building remained in a state of disuse until a restoration was begun in 1890 under the direction of the Rev. David Barr, then rector of the Church. The work was completed about 1897. The present stained glass was set in at this time.

1974 nomination: The Newport Parish Church, more familiarly known as Saint Luke's, is the oldest remaining church of English foundation in the United States. Although there is still some question about the date of the building, research indicates 1632 to be the most likely date of its construction. Its interior appointments are in a later, more Jacobean spirit, now restored, but the fabric of the church places it firmly in the late-medieval English small parish church style. While Saint Luke's is not stylistically coherent, it instead provides examples of various periods of English Gothic architecture. Its entrance for instance, with heavy round arch, is practically

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Romanesque; its brick-traceried lancet window in the east wall suggests high English Gothic, while the crow-stepped gables at either end are suggestive of the Late-Gothic period. In the third storey of the tower, added several decades after the first two, we have a suggestion of the classical style of the English architecture of the late seventeenth century. Saint Luke's belongs as much to the history of Western Architecture as it does to that of early colonial America.

The dating of Saint Luke's has been a challenging task for researchers for some time. Best evidence however places the date at about 1632, with the interior completed only over the course of the next three decades. Colonel Joseph Bridger, who was definitely in the vicinity by 1657, commissioned the Driver brothers to complete the interior after that. The third storey was added to the tower at the west end of Saint Luke's in the late seventeenth century.

With the disestablishment of the Anglican Church in Virginia during the 1780's, Newport Parish Church sank into a decline from which it recovered only in the twentieth century. Its use became intermittent only, over those years.

In 1828, a young deacon renamed the "Old Brick" Saint Luke's, but as Morrison points out, the new name was never validated by consecration or action of the vestry and the most appropriate name remains The Newport Parish Church. The building was again closed four years later.

By the late nineteenth century, the Old Brick had been long-neglected, and during a violent storm in the 1880ts, the roof collapsed and bricks were dislodged from the walls. Several bricks were supposedly found then with the date 1632 incised, settling once and for all the date of the first construction. It didn't.

The roof was rebuilt, but Saint Luke's was neglected again and by 1950 ominous bulges had appeared in the basement walls and the building seemed to be in danger of collapse. A dramatic nationwide appeal was mounted, and sufficient funds were raised to research and restore Saint Luke's to a respectable condition. Headed by James Grote Vanderpool, then Avery Architectural Librarian at Columbia University, an intensive and extended (1953-1957) historical and archeological program was developed to reconstruct much of the interior which had been altered during Georgian and Victorian periods, as well as to stabilize and restore the exterior. The March 1958 issue of the Journal of the Society of Architectural Historians contains an account of the particulars of the work done.

The church and a small amount of land around it is still owned and administered by The Historic Saint Luke's Foundation, which maintains it in excellent condition. The third storey of the tower has recently been filled with de-humidification equipment for the church.

2010 dendrochronology report summary:
Given that the door head and the door lintel have dated to shortly after 1677, and these timbers have been built into the primary brick structure, these dates clearly demonstrate that the church could not have been constructed before this date. Furthermore, there are two additional pieces of supporting evidence which the tree-ring dates support. The first is a date brick of which a poor photograph was published in The American Magazine, Vol. VII, in February 1888. The date is on the side of the brick and was probably scratched in the wet clay by the brickmakers, but not positioned as a publicly visible date. The date had been traditionally interpreted as reading 1632, but a more careful study of the image shows it to be more likely 1682. The brick was removed during a restoration at this time, and was kept in the church, but is now lost.

The other piece of evidence are a number of lead window cames excavated from adjacent to the church in the 1950s restoration. These were unrolled and were found to have a date stamp of 1685, which is consistent with the architectural detailing of the brickwork.

These independent dates are entirely consistent with the dendrochronological dates, when one takes into account between 5 and 10 rings of sapwood missing to the bark edge.

The two dated balusters had no sapwood surviving, and had much earlier last measured ring dates. This does not mean that they are in fact earlier than the rest of the church, but just means that they originated further within the tree when cut out for turning blanks.

The first baluster was taken from the church in May 1845 by a New England visitor and given to the Connecticut Historical Society. The antiquarian John W Barber put a label on it which says: “The banister from the chancel of an ancient church near Smithfield Isle of Wight Co., Virginia, made in England in 1631…” The dendrochronology has here shown that the tree from which the baluster was cut was still growing in at least 1634, and most probably 50 years beyond, and dendro-provenancing has shown that the timber matches with Virginian chronologies, not with English material. The baluster is now in the Museum of Southern Decorative Arts in Winston-Salem.

The second baluster (stc4) is shorter than the first one and was originally a stair baluster. It has been reused upside down in the present communion rail. This had a last measured ring date of 1619, but again it had no sapwood, and clearly about 50 heartwood rings were also lost when converted and turned. There is no reason to think that either balusters could not date to the early 1680s.

All this fits stylistically very well with two other local Virginian churches which date to the 1680s, including the first Bruton Parish Church and the church at Jamestown.

2010 DHR BDR:
Located in Smithfield, Isle of Wight County, Historic St. Luke’s Church has been maintained and operated as a museum/non-profit organization by Historic St. Luke’s Restoration, Inc. since 1953. Historic St. Luke’s Restoration, Inc received a 2005 Save America’s Treasures grant for rehabilitation of the building and donation of an easement is a condition of the grant agreement. Planned rehabilitation work includes repointing and replacement of damaged bricks, repair of interior and exterior woodwork, roof repair, lichen removal, plaster repair, and updates to electrical and security systems.

Designated a National Historic Landmark by the Secretary of the Interior in 1960, St. Luke’s Church stills retains its integrity and form. The property was also individually listed on the Virginia Landmarks Register (1969) and the National Register of Historic Places (1966) for its architectural significance. The architectural evolution of St. Luke’s Church is a distinct and rare example of 17th Century Gothic style architecture in the United States. It is also representative of the religious and political foundations of early America. The property is regularly open to the public for lectures, weddings, tours, and other similar events.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity

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Private	*No Data*

Primary Resource Information

Resource Category: Religion
Resource Type: Church/Chapel
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1682
Date Source: Dendrochronology
Historic Time Period: Contact Period (1607 - 1750)
Historic Context(s): Architecture/Community Planning, Religion
Other ID Number: *No Data*
Architectural Style: Colonial
Form: *No Data*
Number of Stories: 1.0
Condition: Excellent
Interior Plan: Nave
Threats to Resource: None
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

Architecture Summary, 1974 nomination: The Newport Parish Church, or Saint Luke's as it is more familiarly but unofficially known, is the most convincingly Gothic church in America. Erected possibly as early as 1632, this is a small church of the English late-medieval period, with considerable Gothic detailing.

Basically, Saint Luke's is a simple nave plan (29'4 and 3/4" X 65'& 3/4") with a twenty foot square tower at the west end. Its two-foot-thick walls are laid in a rough Flemish bond, including crude tracery in brick, forming pointed lancet windows. The large lancet east wall is a striking exercise in brick tracery. Deep wall buttresses project prominently from three bays of the north and south walls. They have sloping set-offs.

At both the east and west end of the church are crow-stepped gables, while unadorned turrets, corbelled slightly at their bases, decorate the corners of the building.

The tower at the west end of Saint Luke's is one of its most interesting features, with a suggestion on first sight that there may be a suggestion of classical awareness in late 17th century America. The triangular feature over the doorway is a particularly intriguing one which one might think to be a crude example of the forever-used renaissance pediment. However, not only does its heaviness argue against the spirit of the renaissance, but the use of this feature may easily be traced to similar usage in English high-style architecture of the very late sixteenth century.

The shape and depth of the round arch below that triangle, also argues against anything but a traditional outlook by the builders. It is heavy and very three-dimensional (an effect created by cleverly turning the outside wall towards the inside of the arch with moulded bricks) giving the effect more of a Romanesque archivolt than anything classical.

The Newport Parish Church was doubtless planned with a tower but with one of only two storeys, which almost certainly terminated in Gothic crenellation. The quoining of those two storeys, which again could be interpreted as a classical reference, in fact is a feature to be found mixed together with medieval elements in English Architecture as early as the mid-sixteenth century.

Despite these few rebuttals to the arguments of a classical mixture in the tower of Saint Luke's however, it is certainly in fact that. In the third storey of that tower, added in the late seventeenth century, we have something that William Pierson calls ".....precocious.....forming a prophetic prelude of things to come . . . ." A remarkable visual change from the earlier
heavy quoining to much more delicate pilaster strips marks a new awareness of architectural trends acquired by men of increasing cultural pre-occupation. Based upon extensive research compiled by The Historic Saint Luke's Foundation in the 1950's, it seems safe to say that the building program there may be divided into work done before 1657, and work done after that. When compared with the nearby work of the 1660's at Bacon's Castle, which also shows a sense of social ambitiousness, we can see the same cultural self-consciousness in the post-1657 work at Newport Parish Church. The classical pilasters are a limited but definite piece of evidence of that striving.

The interior appointments of Saint Luke's were not added until a number of years after completion of the fabric of the building, and after 1657 Colonel Joseph Bridger commissioned Charles and Thomas Driver to complete the work and add the third storey to the tower. The roof has been rebuilt a number of times and doubtless originally had a steeper, more Gothic, pitch. The tie-beam timber-truss, closed above the collar beam, has also been rebuilt but is based upon the original scheme as verified by research.

Originally, a gallery existed at the west end of the nave, supported by a massive hewn oak beam, and this has been rebuilt, as has been the rood screen in the chancel and the square brick tiles in the floor of the church. The original stained-glass windows were replaced in the nineteenth century and those Victorian windows remain in place today.

While there has been an extensive refitting of the interior, the work has been based upon meticulous research over a period of years and must be considered as 'correct' as humanly possible. This conjectural restoration has not affected the external appearance of the church except for some

DRAFT

change to the pitch of the roof.

2010 Dendrochronology report: Only two oak timbers remained within the structure at St Luke's Church: the moulded door frame head and lintel above the west door. Although neither of the timbers retained bark edge, both had some sapwood, suggesting that very few rings were lost in the conversion. As such, the dates were entirely consistent with the brick inscribed '1682' (now lost). It is also consistent with the 1685 date found inscribed in lead cames found on the site. Two ex situ balusters, one in the collection of MESDA at Winston-Salem, and the other reused in the present communion rail, were photographed and the sequences dated. Although neither retained any sapwood, the last measured ring dates of 1619 and 1633 were entirely consistent with the presumed early 1680s construction date.

2010 DHR BDR:
Situated in the community of Benn's Church near Smithfield, St. Luke's is a parish church of the late-medieval period with significant gothic detailing. Among its Gothic features are buttresses, quoins, stepped gables, brick-traceried windows, and the medieval tie-beam timber interior roof structure. The church has a simple nave plan with a twenty-foot square three-tiered tower at the west end. Its two-foot thick walls are laid in Flemish and English bond, with brick tracery forming pointed lancet windows. It is thought that a number of years lapsed between construction of the church and completion of its interior architecture. The original temporary forms were replaced with more permanent Jacobean fittings by Colonel Bridger some time in the late 17th Century. Some of these Jacobean interior finishes included Tuscan columns formed from the trunk of a tree and turned balusters of the rood screen and kneeling rail. The design and joinery of the interior architecture is precise and represents highly skilled craftsmanship. Original amber and clear glass windows were replaced in the late 1800's with nineteenth century stained glass. This glass remains today. The building was thoroughly restored in the 1950s, which incorporated replacement of a number of interior features and woodwork.

See BDR for component descriptions.

August 2010

May 2015

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Gable, Front	Slate	Shingle
Foundation	Solid/Continuous	Brick	Other
Structural System and Exterior Treatment	Masonry	Brick	Bond, Flemish
Windows	Other	Wood	Paired
Windows	Fixed	Stone	Other
Structural System and Exterior Treatment	Other	Brick	Other

Secondary Resource Information

Secondary Resource #1

Resource Category: Funerary
Resource Type: Cemetery
Date of Construction: 1680Ca
Date Source: Date Stone/Cornerstone
Historic Time Period: Contact Period (1607 - 1750)
Historic Context(s): Funerary, Religion
Architectural Style: *No Data*
Form: *No Data*
Condition: Good
Threats to Resource: None
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

Architecture Summary, 1974: In yard surrounding church.

August 2010

May 2015

Current Use: Church/Religious
Historic Religious Affilitation: Other
Ethnic Affiliation: English
Has Marked Graves: True

DRAFT

Has Unmarked Graves: False
Enclosure Type: None
Number Of Gravestones: 26 - 50
Earliest Marked Death Year: *No Data*
Latest Marked Death Year: *No Data*

Significant Burials

Marked Type	First Name	Last Name	Birth Year	Death Year
Other	Jospeh	Bridger	*No Data*	1686

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff Site Visit

Project Review File Number: *No Data*
Investigator: Michael J. Pulice
Organization/Company: DHR
Photographic Media: Digital
Survey Date: 11/1/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:

Exterior photographs taken during brief site visits by DHR's Western Region Preservation Office architectural historian Mike Pulice.
10/30/2019 to Virginia Beach properties
11/1/2019 to St. Luke's Church

Event Type: DHR Staff Site Visit

Project Review File Number: *No Data*
Investigator: Megan Melinat
Organization/Company: DHR
Photographic Media: Digital
Survey Date: 5/28/2015
Dhr Library Report Number: *No Data*
Project Staff/Notes:

Easement staff stewardship visit; complete report available in the easement property file.

Event Type: Easement: DHR

DHR ID: 046-0024
Staff Name: Wendy Musumeci
Event Date: 9/16/2010
Staff Comment

Historic St. Luke's Restoration, Inc. has conveyed an easement over a 1.0-acre portion of the Historic St. Luke's Church property in Isle of Wight County (DHR Easement File No. 046-0024). The easement, recorded on September 16, 2010, was conveyed as a condition of a Save America's Treasures grant.

Located in Smithfield, Isle of Wight County, Historic St. Luke's Church has been maintained and operated as a museum/non-profit organization by Historic St. Luke's Restoration, Inc. since 1953. The building sits on a level lot covered by grassy lawn as well as mature trees, planting beds, and shrubs. A historic cemetery with a variety of gravestones, tablets, and markers surrounds the church. Although the exact date of construction in unknown, Historic Saint Luke's Church, also known as the Newport Parish Church and the Old Brick Church, is one the oldest remaining churches of English foundation in the United States. Situated in the community of Benn's Church near Smithfield, St. Luke's is a parish church of the late-medieval period with significant gothic detailing. Among its Gothic features are buttresses, quoins, stepped gables,

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brick-traceried windows, and the medieval tie-beam timber interior roof structure. The church has a simple nave plan with a twenty-foot square three-tiered tower at the west end. Its two-foot thick walls are laid in Flemish and English bond, with brick tracery forming pointed lancet windows. It is thought that a number of years lapsed between construction of the church and completion of its interior architecture. The original temporary forms were replaced with more permanent Jacobean fittings by Colonel Bridger some time in the late 17th Century. Some of these Jacobean interior finishes included Tuscan columns formed from the trunk of a tree and turned balusters of the rood screen and kneeling rail. The design and joinery of the interior architecture was precise and represented highly skilled craftsmanship. Original amber and clear glass windows were replaced in the late 1800's with nineteenth century stained glass. This glass remains today.

The building was thoroughly restored in the 1950s, which incorporated replacement of a number of interior features and woodwork elements. Designated a National Historic Landmark by the Secretary of the Interior in 1960, St. Luke's Church stills retains its integrity and form. The property was also individually listed on the Virginia Landmarks Register (1969) and the National Register of Historic Places (1966) for its architectural significance. The architectural evolution of St. Luke's Church is a distinct and rare example of 17th Century Gothic style architecture in the United States. It is also representative of the religious and political foundations of early America. The property is regularly open to the public for lectures, weddings, tours, and other similar events.

Event Type: DHR Staff Site Visit

Project Review File Number: *No Data*
Investigator: Wendy Musumeci
Organization/Company: DHR
Photographic Media: Digital
Survey Date: 8/18/2010
Dhr Library Report Number: *No Data*
Project Staff/Notes:
DHR Easement Staff site visit - Baseline Documentation Report

Event Type: NRHP Nomination

DHR ID: 046-0024
Staff Name: James Dillon
Event Date: 10/23/1974
Staff Comment
No Data

Event Type: VLR Listing

DHR ID: 046-0024
Staff Name: VHLC
Event Date: 9/9/1969
Staff Comment
No Data

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Andrew D. Logan
Organization/Company: VA Dept. of Historic Resources
Photographic Media: Film
Survey Date: 7/27/1967
Dhr Library Report Number: *No Data*
Project Staff/Notes:
Update of HABSI survey

Event Type: NRHP Listing

DHR ID: 046-0024
Staff Name: NPS
Event Date: 10/15/1966
Staff Comment
No Data

Event Type: NHL Listing

DHR ID: 046-0024

DRAFT

Staff Name: NPS
Event Date: 10/9/1960
Staff Comment
No Data

Event Type: Survey:HABS Inventory

Project Review File Number: *No Data*
Investigator: Robert Wiggins
Organization/Company: National Park Service
Photographic Media: Other
Survey Date: 10/1/1958
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data

Event Type: HABS/HALS/HAER Documentation

Project Review File Number: *No Data*
Investigator: Finlay F. Ferguson, Jr.
Organization/Company: National Park Service
Photographic Media: Film
Survey Date: 4/26/1934
Dhr Library Report Number: *No Data*
Project Staff/Notes:
HABS No 11-20

Bibliographic Information

Bibliography:

Name: James River Instit for Archaeology
DHR CRM Report Number: IW-063
Record Type: Report
Bibliographic Notes: Archaeological Testing Associated with Drainage Installation Project at St. Luke's Church, Isle of Wight, VA. February 2012. DHR File No. 2007-0278

Record Type: Report
Bibliographic Notes: Oxford Dendrochronology Laboratory Report 2010/28

The Tree-Ring Dating of Timbers from Newport Parish Church (St Luke's or Old Brick Church), Smithfield, Isle of Wight County, Virginia. Dr. D.W.H. Miles, FSA, and M.J. Worthington

Property Notes:
No Data

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Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
- DHR Easements
- USGS GIS Place names
- County Boundaries



N

Feet

0 200 400 600 800

1:9,028 / 1"=752 Feet

Title: Architecture Labels **Date: 6/2/2022**

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 15150 Benns Church Boulevard (Route 10)
Historic	Jordan Home #1
Historic	Margaret Davis House
Historic/Current	Charles Driver Jordan House

Property Evaluation Status

The Primary Resource is no longer extant.

Property Addresses

Current - 15150 Benns Church Boulevard Route 10

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): 32-01-082
USGS Quad(s): BENNS CHURCH

Additional Property Information

Architecture Setting: Rural
Acreage: 103
Site Description:

1937 survey: This property is located 1/2 mile south of Benns Church, 150 yards west of Route 10.

2005 Intensive Survey:
This resource is located on a 103-acre site situated on the west side of Benns Church Boulevard (Route 10/32) south of the village of Benns Church. The area is characterized by farmsteads dating to the 19th century and small mid-20th century dwellings. The site is open with a treestand to the immediate south of the dwelling. A driveway extends west from Benns Church Boulevard toward the dwelling. The driveway is situated to the dwelling's north and bisects the dwelling and shed. It continues to the west beyond the house site. There is a one-and-one-half story shed located to the northwest of the dwelling.

Property Event Type:

Destroyed

Surveyor Assessment:

Start Year: 1857
End Year: 1859
Date Source: Site Visit/Written Data
Type: Original Construction
Notes: This dwelling was erected between 1857 and 1859.

1937 survey:
This tract of land consisted of about 500 acres and was inherited by Margaret Davis from her father. In 1840 she married Charles Driver Jordan. This land was all in virgin timber and they planned to clear up a place and build a nice home. A place was cleared up and two kitchens were built for the workmen and slaves. During this time Charles Jordan and his wife lived with his father near Smithfield. After four years Mrs. Charles Jordan died, leaving one daughter. Mr. Jordan lived in one of the kitchens as a widower, for sixteen years. In 1857 he started a nice home, to be built out of the best materials to be had, in a grove of oak and hickory trees.

In 1858 Charles Jordan married Sophie Ann Cate, a school teacher from New Hampshire, who came to this county as a governess. After the Ware Between the States, Mrs. Jordan had a private school in her yard in one of the old kitchens, this being the first private school in the neighrborhood. After public schools were established she taught one of the first public schools in this section. She first taught in her own yard and received a salary of $30.00 per month; later the county built her a two-room school near Benns Church. Mrs. Jordan was considered a fine teacher and boys and girls from four or five miles came to her school. She also gave lessons on the piano.

From time to time some of this land has been sold, and there is now about 180 acres of land in the present tract, which belongs to the estate of C. S. Jordan. C. S. Jordan was the son of C. D. Jordan. They also had two other children, a boy and a girl. The girl, Mrs. E. A. Morrison, in Suffolk, is the only survivor.

2005 Intensive Survey:
This dwelling is a typical center-passage, single-pile I-house will ell. The I-house has a center-passage plan that gains access to the dwelling through a central hallway flanked by rooms. This building type dates to the period between the eighteenth century and the early twentieth century. The central hallway contains the stair to the upper story or stories and for those dwellings with a basement a stair to this area would be situated under the main stair to the upper story or stories. The plan of the dwelling is one-room deep with most often a parlor and dining room flanking the hall. The upper story or stories comprise a similar configuration with bedrooms above the rooms below. In some cases the area above the main entry has been enclosed containing a small room that served as a small bedroom or was converted in the twentieth-century to an indoor lavatory. The facades of these buildings are symmetrical and are

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usually three- to five-bay, and the building is topped most often by a side gable or hipped roof. Chimneys are situated on the center of the side elevations and fireplaces would be found within each room flanking the hall. Chimneys could be interior or exterior on the side elevations and rise above the common roof. The construction materials used for these buildings range from wood frame, brick, or locally mined stone. Most often they are simple vernacular buildings constructed of wood with wood framing and clad in weatherboard siding. Articulation is minimal and most often comprises a simple boxed cornice on the façade and rear elevation, and cornice returns and a raking cornice on the gable ends. Often found on these dwelling is an ell erected to the rear of the I-house plan containing a service wing for additional space including an indoor kitchen. Most often the ell is wood frame construction topped with a perpendicular gable roof with a gable end chimney or hipped roof with a chimney at the end.

This dwelling was erected by Charles Driver Jordan who had inherited the lands from his wife, Margaret Davis Jordan after her death in 1844. Margaret Davis Jordan had inherited the land from her family in 1836. In 1840 Margaret Davis married Charles Driver Jordan and the couple lived in Smithfield with his father. The lands were comprised of 500 acres and were virgin timber forest. Noted were the erection of two kitchens built for slaves and workman on the lands prior to the construction of the dwelling. Charles Driver Jordan is noted as living in one kitchen after the death of his wife for sixteen years. He began erection of the dwelling in 1857 and used the best material he could obtain on the site of a grove of oak and hickory trees. The plan of the dwelling is similar to other houses owned by the Jordan family in the vicinity of this dwelling. A similar, if not identical dwelling, was situated to the south of this dwelling occupied by another Charles Jordan. In 1858 Charles Driver Jordan married Sophia Ann Cates, a schoolteacher from New Hampshire who had come to Isle of Wight County as a governess. The dwelling was completed in 1859, which included the ell appended to the west. Additional family history notes that Mrs. Sophia Ann Cates Jordan taught private school in one of the kitchens on the house site and after public schools were created in Isle of Wight County, operated a public school in one of the kitchens until a school was built nearby.

The kitchens have since been demolished and the only outbuilding associated with the dwelling is a shed to the northwest. The Jordan, Charles Driver House is eligible for listing in the National Register of Historic Places under Criterion C for its architectural style from the period 1857-1859.

August 2018: This house was torn down in July 2018.

Surveyor Recommendation: Recommended Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Associate

Property Associate Name	Property Associate Role
Jordan, Charles Driver	Owner

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1857
Date Source: Written Data
Historic Time Period: Antebellum Period (1830 - 1860)
Historic Context(s): Architecture/Landscape, Domestic
Other ID Number: *No Data*
Architectural Style: No Discernable Style
Form: L-Plan
Number of Stories: 2.0
Condition: Demolished
Interior Plan: Central Passage, Single Pile
Threats to Resource: Demolition, Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

1937 survey: This two-story, L-shaped, frame single dwelling features a hipped roof constructed of shingles. There are three brick chimneys; one on each end and one in the rear. There are 30 windows; 12 panes 12 x 18" downstairs and 12 panes 12 x 18" upstairs. The shutters have slats and are constructed of wooden pegs. The one-story front porch is approximately 10' x 12' and features square columns. There are six rooms in the house and the approximate ceiling height is 9' 3". The open string stairway features round balusters, handrail, and newel. The four-panel doors are constructed of heart pine. The walls are plastered with baseboards at the bottom.

2005 Intensive Survey:
This dwelling is two-story with a five bay façade topped by a hipped roof. The foundation is a solid brick wall and the structural system is

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frame clad in weatherboard siding. The roof is clad in standing-seam metal and features wide eaves. There are exterior end chimneys on the side elevations of 5-course American bond brick and corbelled bases and shoulders. The windows are 6/6 wood double-hung sash with metal storm windows. The main centrally placed entrance on the façade is double-leaf with two panels. The door is surmounted by a nine-light transom and flanked by sidelights with four lights and a panel. Sheltering the entrance is a one-story one-bay porch with a hipped roof clad in standing-seam metal. The porch roof features a dentiled cornice and is supported by square columns. Appended to the west elevation is a service ell. The ell is two-stories with a solid brick foundation and is wood frame construction clad in weatherboard. The roof is hipped clad in standing-seam metal. There is an exterior end brick chimney on the west elevation of 5-course American bond brick. There is a four panel door on the north elevation and west elevation. Windows punctuate the north, south and west elevations on both stories. Appended to the south elevation of the ell and west elevation of the dwelling is a one-story addition circa 1960. It has a concrete block foundation and is wood frame construction clad in vinyl siding. The roof has a shed form clad in asphalt shingles. There is a metal sliding door on the south elevation off a wood ramp that ascends toward the door from the south. There are metal windows on the west elevation.

The interior of the building is a typical central passage, single pile form. It comprises 2488 square feet of living space. The hall features a half-turn stair with slender balusters and a turned newel, which is situated at the west end of the hall. The rooms flanking the hall are rectangular in shape with fireplace openings on the walls opposite access to the hall. The mantels within the dwelling have been removed and the fireplaces have been filled and converted for stove use. Doors accessing the rooms from the hall are wood with four panels, iron locksets and porcelain door handles. The door and window surrounds are fluted with roundel corner blocks. The flooring is oak covered with wall-to-wall carpeting. The baseboards within the rooms are wide with a bead and the windows in the main rooms on the first story feature wood panels below. The walls are covered with plaster on lathe. There is a double-leaf door under the stair landing accessing the addition. The doors have two panels. There is a door under the stair to a closet with two panels. The ell features a hall from the north wall to the addition. This hall accesses the kitchen situated at the west end of the dwelling. The kitchen floor is covered with early 20th century linoleum with a braided rug pattern. The plaster in this room is missing and the flooring is deteriorated.

The addition appended to the building in the mid-20th century features modern wallboard walls and wall-to-wall carpeting. The space is divided into two areas for a main room and lavatory at the west end. The lavatory fixtures have been removed as well as part of the partition wall. The windows and doors have minimal surrounds.

The second story features a similar plan. An angled stair off the main stair landing accesses the hall within the ell on the second story. Each room has similar features to the first story rooms. There is a lavatory off the ell hallway with early 20th century porcelain fixtures. The walls have been clad in modern wallboard and the flooring has been clad in modern vinyl sheeting.

August 2018: This house was torn down in July 2018.

Exterior Components

Component	Component Type	Material	Material Treatment
Windows	Sash, Double-Hung	Wood	6/6
Porch	1-story, 1-bay	Wood	Columns, Square
Roof	Hipped	Metal	Standing Seam
Chimneys	Exterior End	Brick	Bond, American, 5-course
Foundation	Solid/Continuous	Brick	Bond, Common
Structural System and Exterior Treatment	Frame	Wood	Weatherboard

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Secondary Resource Information

Secondary Resource #1

Resource Category: DSS Legacy
Resource Type: Shed
Date of Construction: 1860Ca
Date Source: Site Visit
Historic Time Period: Antebellum Period (1830 - 1860)
Historic Context(s): Domestic
Architectural Style: No discernible style
Form: Rectangular
Condition: Demolished
Threats to Resource: Demolition, Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2005 Intensive Survey:
This shed dates to the mid-19th century and features a brick pier foundation. The building is mortise and tenon construction with pegged joints. The wood frame building is clad in wide horizontal boards that are not lapped. The roof has a catslide from clad in standing-seam metal. There is a vertical board door on the south elevation. The interior features a divided space with a wood frame wall clad in horizontal boards. The flooring is wide plank and the interior walls are not adorned.

Interior Plan: Undivided Space (non-domestic)

Number of Stories: 1.5

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Board-and-Batten
Foundation	Piers	Brick	*No Data*

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Evaluation Committee: Not Eligible

DHR ID: 046-5054
Staff Name: DHR Evaluation Committee
Event Date: 7/21/2016
Staff Comment

M. Holma presenting:
Charles Driver Jordan House, Isle of Wight County, DHR File Number 046-5054, DHR Project Review File No. 2016-3598
In 2006, the Charles Driver Jordan House was identified as a two-story, five bay I-house with a hipped roof and a rear two-story ell, ca. 1857, situated on approximately 103 acres. The structural system is frame weatherboard, with brick foundation. Windows are 6/6 double-hung sash, though several are not in the window openings, but on floors below the openings. There are two exterior end brick chimneys of five-course American bond on the main house, and one on the rear ell. A one-story, one-bay porch with a hipped roof of standing-seam metal covers the entrance, featuring a dentiled cornice and square columns. The south elevation of the ell was given a one-story addition in 1960, with a concrete block foundation and wood frame construction clad in vinyl siding. A 19th-century, one-and-a-half story shed of wood frame construction stood northwest of the house, on a brick pier foundation. Its catslide roof was covered in standing-seam metal. Two former kitchens for enslaved workers are known to have been demolished on the property; however the property was thought to retain archaeological potential as no disturbance had taken place since then. Mrs. Sophia Ann Cates Jordan, wife of Charles Driver Jordan, taught public school in one of the kitchens until a school was built nearby. The property was evaluated at the local level of significance under Criterion C (Architecture) with a period of significance of 1857-1859. The committee recommended it eligible with 30 points.

Since 2006, much of the property's 103 acres have been subject to gravel and sand mining. Although the dwelling is extant, the historic setting has been lost, as well as the property's archaeology potential. Due to the loss of integrity, the committee recommended that the property is no longer eligible for listing.

Event Type: DHR Evaluation Committee: Deferred

DHR ID: 046-5054
Staff Name: DHR Evaluation Committee
Event Date: 5/18/2006
Staff Comment

Kristin Hill presenting:
Charles Driver Jordan House, Isle of Wight County
The Charles Driver Jordan House is a two-story, five bay I-house with a hipped roof and a rear two-story ell, ca. 1857, situated on approximately 103 acres. The structural system is frame weatherboard, with brick foundation. Windows are 6/6 double-hung sash, though several are not in the window openings, but on floors below the openings. There are two exterior end brick chimneys of five course American bond on the main house, and one on the rear ell. A one-story, one bay porch with a hipped roof of standing seam metal covers the entrance, featuring a dentiled cornice and square columns. The south elevation of the ell was given a one-story addition in 1960, with a concrete block foundation and wood frame construction clad in vinyl siding. A 19th century one-and-a-half story shed of wood frame construction sits northwest of the house, on a brick pier foundation. The catslide roof is covered in standing seam metal. Two former kitchens for slaves and workmen are known to have been demolished on the property. Mrs. Sophia Ann Cates Jordan, wife of Charles Driver Jordan, taught public school in one of the kitchens until a school was built nearby. The property was considered locally significant under Criterion C with a period of significance of 1857-1859. The committee recommended it eligible with 30 points.

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2006-0234
Investigator: Kimble David
Organization/Company: Stantec 2034

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Photographic Media: Film
Survey Date: 10/3/2005
Dhr Library Report Number: IW-042
Project Staff/Notes:

for Cultural Resources, Inc.

Aimee Leithoff, Ellen Brady
A Phase I Cultural Resources Survey of Approximately 600 Acres at Benns Church, Isle of Wight County, Virginia
2005
CRI
IW-042

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction

Phase II Intensive Survey Integrity Recommendations: Design, Feeling, Location, Materials, Setting, Workmanship

Event Type: HABS/HALS/HAER Documentation

Project Review File Number: *No Data*
Investigator: Florence M. Jordan
Organization/Company: National Park Service
Photographic Media: Film
Survey Date: 1/18/1937
Dhr Library Report Number: *No Data*
Project Staff/Notes:

WPA Virginia Historic Inventory Survey #141

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction

Phase II Intensive Survey Integrity Recommendations: Design, Feeling, Location, Materials, Setting, Workmanship

Bibliographic Information

Bibliography:

Name: Jordan, Annie A.
Record Type: Oral History/Interview
Bibliographic Notes: Benns Church, Virginia.

Record Type: Personal Papers
Bibliographic Notes: Diary of Charles Driver Jordan.

Stuck, Ken, VDOT Environmental, Hampton Roads District
Wednesday 29 August 2018 email correspondence with DHR Archives
[reporting demolition of the house in July 2018]

Property Notes:

Company 1: Benns Church Properties
Address 1: P O Box 500
City: Carrollton
State: Virginia
ZIP: 23314
2005: Owner of property

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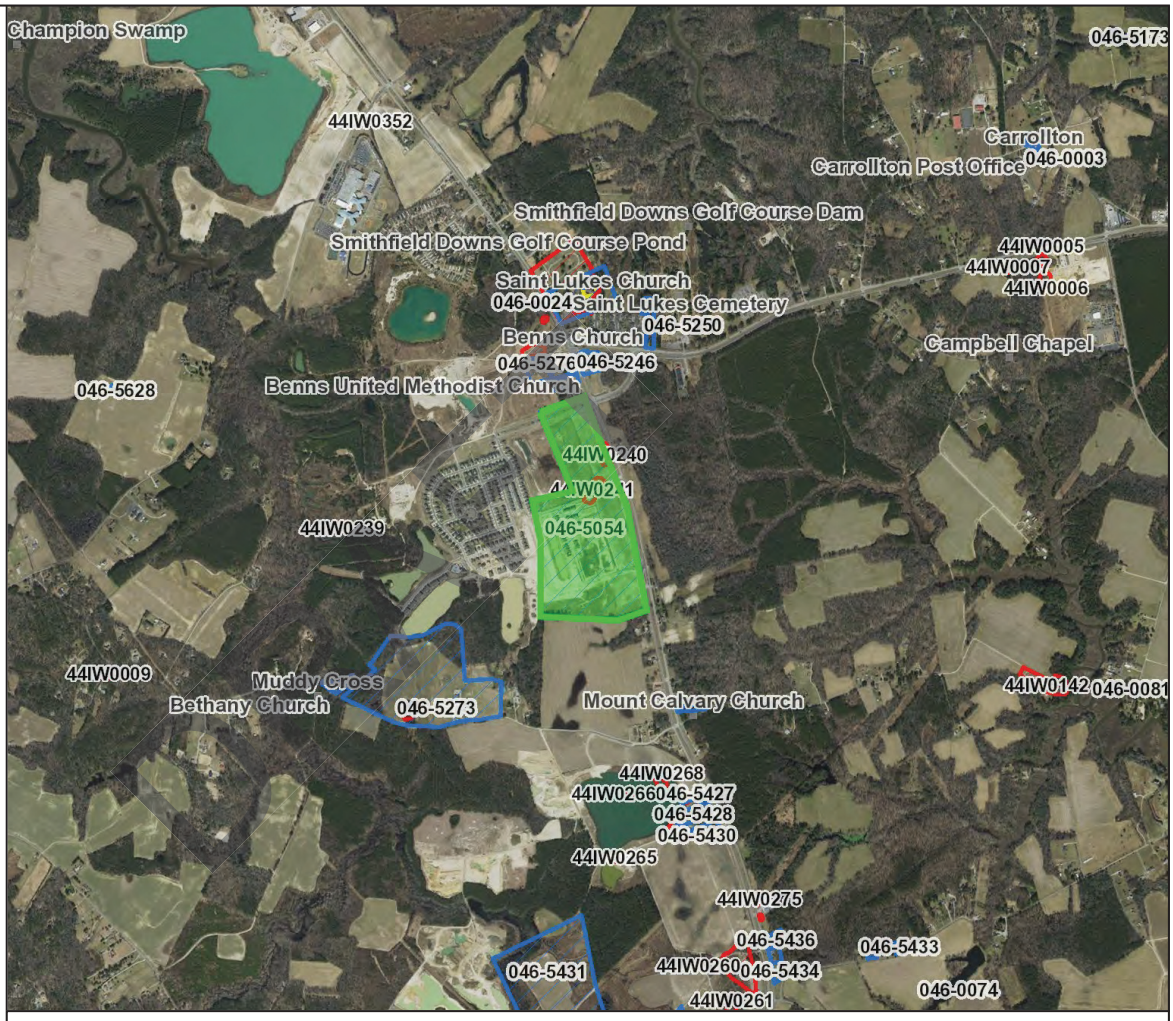
Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
- DHR Easements
- USGS GIS Place names
- County Boundaries



N

Feet

0 600 1200 1800 2400

1:36,112 / 1"=3,009 Feet

Title: Architecture Labels **Date: 6/2/2022**

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Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Property Information

Property Names

Name Explanation	Name
Historic/Current	Benns Church

Property Evaluation Status

Not Evaluated

Property Addresses

Alternate - State Road 10/32
Current - 14571 Benns Church Boulevard

County/Independent City(s):	Isle of Wight (County)
Incorporated Town(s):	*No Data*
Zip Code(s):	23430
Magisterial District(s):	*No Data*
Tax Parcel(s):	32-01-084
USGS Quad(s):	BENNS CHURCH

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Additional Property Information

Architecture Setting: Village

Acreage: 1

Site Description:

2005:
This building is situated on the southeast corner of the intersection of Benns Church Boulevard (10/32) and Brewers Neck Road (32). The building faces west to Benns Church Boulevard (10/32). The area is characterized by residential properties to the west and commercial properties to the north. The lands to the south are primarily agircutlural. The area has changed over time to accommodate the widening of Benns Church Boulevard (10/32) and Brewers Neck Road (32). The site is generally flat and there are parking lots to the west, north and east.

2005:
To the west of the church is a grave marker. It is a stone slab resting on the ground.

Surveyor Assessment:

2005:
In 1813 George Benn willed the land on which the church stood to the Methodist Convention. This tomb was moved to a spot in the front of the church where the tombstone lies. The brick church was constructed in 1924 and remodeled in 1957 and 1967. This is the oldest Methodist congregation in the area, begun in 1789.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category:	Religion
Resource Type:	Church/Chapel
NR Resource Type:	Building
Historic District Status:	*No Data*
Date of Construction:	1924
Date Source:	Site Visit/Written Data
Historic Time Period:	World War I to World War II (1917 - 1945)
Historic Context(s):	Architecture/Community Planning, Religion
Other ID Number:	*No Data*
Architectural Style:	Vernacular
Form:	*No Data*
Number of Stories:	1.0
Condition:	Good

Threats to Resource: None Known

Cultural Affiliations: *No Data*

Cultural Affiliation Details:

No Data

Architectural Description:

2005:
This building is a brick church laid in 6-course American bond. The roof has a gable form with gabled end walls. There is a projecting vestibule on the west elevation. It is also brick construction topped by a gable roof with a gabled brick end wall. The end wall features stretcher bond brick coping. The entrance comprises a double-leaf wood vertical board door with strap hinges. The door is enframed in a rowlock brick blank arch with a rowlock brick surround. The stairs leading to the doors and stoop are brick flanked by brick cheek walls with limestone coping. At the vestibule ends are brick buttresses with limestone caps. There is a date stone situated on the south buttress. The north and south walls have a ribbon window fenestration pattern. The windows are casement wood with stained glass. On the west façade of the main building there is an oculus with stained glass within the gable. The gable end wall is coped in brick stretcher bond. There are stepped buttresses at the building edges. The north and south elevations feature bays divided by stepped brick buttresses. An addition was made in 1957 and additional modifications were made in 1967, which obscure the original east end of the building. The addition retains the general proportion and massing of the original building. The materials are similar and the roof form is also similar. The addition is two stories with a gable roof. The windows on the addition are 6/6 wood double-hung sash.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Gable	Slate	Shingle
Structural System and Exterior Treatment	Masonry	Brick	Bond, American, 6-course
Windows	Fixed	Wood	1-light
Foundation	Solid/Continuous	Brick	Bond, American

Secondary Resource Information

Secondary Resource #1

Resource Category: Funerary

Resource Type: Cemetery

Date of Construction: 1924

Date Source: Site Visit/Written Data

Historic Time Period: World War I to World War II (1917 - 1945)

Historic Context(s): Architecture/Community Planning, Religion

Architectural Style: Vernacular

Form: *No Data*

Condition: Good

Threats to Resource: None Known

Cultural Affiliations: *No Data*

Cultural Affiliation Details:

No Data

Architectural Description:

2005:
The grave marker is a stone slab resting on the ground. It reads, “Sacred to the memory of George Benn, Esq. who departed this life on the 9th day of November 1815, Aged 51 years.”

Current Use: *No Data*

Historic Religious Affilitation: *No Data*

Ethnic Affiliation: *No Data*

Has Marked Graves: *No Data*

Has Unmarked Graves: *No Data*

Enclosure Type: *No Data*

Number Of Gravestones: *No Data*

Earliest Marked Death Year: *No Data*

Latest Marked Death Year: *No Data*

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Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: David, Kimble
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 3/1/2005
Dhr Library Report Number: *No Data*
Project Staff/Notes:

2004-2005-0001

Project Bibliographic Information:

Name: King, Helen Haverty
Record Type: Book
Bibliographic Notes: Historical Notes on Isle of Wight County, Virginia, 1993.

Name: Virginia, Isle of Wight County
Record Type: Tax Records

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Unknown
Company 1: Treasurers Benns Church
Address 1: 14571 Benns Church Boulevard
City: Smithfield
State: Virginia
ZIP: 23430
Owner Relationship: Owner of property

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N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Architecture Labels **Date: 6/2/2022**

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Property Information

Property Names

Name Explanation	Name
Function/Location	Farmhouse, 20041 Brewers Neck Boulevard
Current	B. J. Hogue Homeplace

Property Evaluation Status

DHR Staff: Not Eligible

Property Addresses

Current - 20041 Brewers Neck Boulevard

County/Independent City(s): Isle of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23314
Magisterial District(s): *No Data*
Tax Parcel(s): 33-01-012C
USGS Quad(s): BENNS CHURCH

Additional Property Information

Architecture Setting: Suburban
Acreage: 4.4

Site Description:

2005:
This farmstead is located on the north side of Brewers Neck Boulevard (US Route 10/32) near the intersection with Benns Church Boulevard (US Route 10). The property comprises 4.41 acres. The dwelling faces south to Brewers Neck Boulevard. The area is characterized by late 20th century suburban developments and a golf course. The property is generally flat and is bound by mature trees on the east and west sides.

October 2006:
This farmstead is located on the north side of Brewers Neck Boulevard (US Route 10/32) near the intersection with Benns Church Boulevard (US Route 10). The property comprises 4.41 acres. The dwelling faces south to Brewers Neck Boulevard. The area is characterized by late 20th century suburban developments and a golf course. The property is generally flat and is bound by mature trees on the east and west sides. There is a tidewater marsh situated at the east and north boundary of the property. The area on the east side of the property has been landscaped with low growth and bridges crossing the tidewater marshes. There is an asphalt-paved driveway leading north toward the dwelling from the main roadway, which terminates in a circle. The driveway continues along the west side of the dwelling toward the barn.

2005:
There were no visible secondary resources viewed on the site visit. It is noted that there is a swimming pool and barn on the property.

October 2006:
There is a barn situated north of the dwelling. There is a swimming pool situated immediately north of the dwelling. The barn served as a garage and now serves as a secondary dwelling.

Surveyor Assessment:

2005:
This dwelling is known as Mrs. Hoggie's Homeplace or the B. J. Houge Homeplace. Constructed circa 1800, it is one of the earlier dwellings located within the immediate area. The general surroundings have been adapted for use as a golf course and small suburban housing developments. The dwelling is an example of a center-passage plan common to Isle of Wight County and the 19th century. It was part of a larger tract of land and only the house site remains.

Center-passage plans appeared in Virginia during the first part of the 18th century. The plan comprises a central hall flanked rooms. Most often this form is one-and-one-half stories or two-stories. In some cases the area under the roof served as additional sleeping or storage space. The dwelling plan most often was one or two rooms deep. The façade of the building was symmetrical and comprised three or five bays. The interior rooms on the first story served as living space while upper stories served as bedchambers. In single-pile dwellings of one room deep the rooms flanking the hall served as the dining room and parlor. In earlier examples the interior finishes varied depending on which room served as the best room or parlor. The hall contained the stair to the upper stories and basement, if constructed with an underground space. The upper stories featured the same floor plan as the first story. In some examples a small room would have been added in the hallway on the second story above the entrance. It served as a small unheated space for storage. Chimneys were situated at the ends of the dwelling. The center-passage single-pile plan was popular during the 1800s. The center-passage double-pile plan is seen as early as the Revolutionary War period. The front rooms off the first story hall served as the parlor and dining room, while the rear rooms served as workrooms and a first story chamber. Most often the kitchen was located in the basement, in an ell off the rear or in a separate building. Most often chimneys were situated on the side elevation at the center of each equally planned room’s wall. In a few cases, the chimneys were erected on the interior of the dwelling and one chimney served two fireplaces that were back-to-back. By the mid-19th century the center-passage double-pile dwelling was erected as a symbol of prosperity among the agricultural society.

October 2006:
This dwelling is known as Mrs. Hoggie's Homeplace of the B. J. Hogue Homeplace. Constructed circa 1800 it is one of the earlier dwellings located within the immediate area. The general surroundings have been adapted for use as a golf course and small suburban

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housing developments. The dwelling is an example of a center-passage plan common to Isle of Wight County and the 19th century. It was part of a larger tract of land and only the house site remains.

The property originally comprised approximately 200 acres in the mid-19th century. The original farm parcel was situated immediately east of St. Luke's Church, the oldest continually used church in the United States. The property had a series of owners through the last half of the 19th century including, Groce, Whitehead, Bunkley, Nock, and Jordan. The Jordan and Bunkleys owned numerous acres in the surrounding area. Upon the property's acquisition by W. G. Bunkley, Jr. in 1899, the property had faced bankruptcy and court ordered sale at least twice in the last half of the 19th century. Between the years 1846 and 1899, the property had six owners. W. G. Bunkley, Jr. owned the property from 1899 to 1944. The Hogue family purchased the property in 1944 and it is often called the B. J. Hogue Homeplace for its association with the Hogue family. The Hogue family sold the property in 1966 for development. Prior to the sale of the property, they subdivided the parcel into three tracts: the farm tract, a smaller tract on the west side of the house, and the house tract (which is the current acreage associated with this submission). The largest farm tract was converted for use as a golf course and the smaller tract on the west side of the house was converted for use as a residential subdivision. The Hogue family erected the pool to the north of the dwelling and erected the barn or garage at the north end of the property. The house tract was sold in 1986 to the Smithfield Hotel Corporation and plans were made for the construction of a hotel. The hotel was never constructed and the parcel was sold in 1991 and then again in 1994 to the current owners, Carlton O'Neal. The site is proposed for development, which includes the demolition of the house and associated outbuilding and pool.

The house is an example of a center-passage house, but was most likely a smaller house at one time that was expanded to the current configuration in the mid-19th century. The difference in the appearance of the chimney on the west elevation and the slight asymmetry of the house reflect that the house may have been a smaller building that was enlarged. This is reinforced by the lack of a fireplace on the second story of the room on the west side of the building. Unfortunately, the foundation is so low that an inspection of the underside of the building was unable to be made, which would potentially yield additional information on the building's construction methods.

Throughout American architectural history the enlargement of permanent dwellings has been common practice. The addition of rooms or wings to smaller houses is a tradition that carries forward to the present day. Early sources of additive construction are mostly found adjacent to the existing building's façade or to the rear. In many cases the early additions are made to the rear maintaining the building's façade and general appearance. The addition made to the side of the building in many cases maintained the scale and massing of the earlier building, serving as an added room or rooms and maintaining a unified façade appearance. Many regions of Virginia have varying characteristics of additions that are common to the region and are not featured in other areas of the Commonwealth. For instance, additive construction common in the Eastern Shore of Virginia is unique to that area most likely due to the remote nature of its location. In the case of Isle of Wight County, there are varying types of additive construction that enlarged earlier dwellings. Most common in the 19th century is the addition of a large building adjacent to the earlier dwelling that does not maintain a consistent façade. In some cases the addition is placed so it projects from the earlier building's façade. The newer building usually has a side-passage plan and is linked to the earlier building by an added hallway with stair to the upper story or stories. The newer portion of the dwelling becomes the formal public space within the dwelling, while the older portion is used as chamber or private spaces. Another type of additive construction found in the county is the addition of a building adjacent to the early building where the newer portion could be a separate dwelling. The newer building may have a hall with adjoining rooms and will abut the earlier dwelling connected by doorways to rooms or hallways in the earlier building. In effect the dwelling becomes two joined independent yet attached dwellings in some cases with two halls, two stairs, and in some cases two separate levels, where one must step up or down into the adjacent building. Efforts to combine these types of buildings in a unified dwelling are in many cases not made, where two doors will be found on the façade.

This type of additive construction is common primarily in the 19th century. From most historical accounts of these dwellings, once a property owner achieved a certain financial status or if a property ownership changed, an addition was made. In these cases the addition becomes the primarily living space and the earlier building becomes secondary providing workspaces. In cases of the addition of rooms to the dwelling, the new portion became the formal living space with ornate mantels and wainscoting, for example. For those additions made where a dwelling with its own hall and stair were added, the newer addition became the formal reception area with ornate mantles. In many cases, the earlier building finishes were updated to the style of the later building construction. In effect the house was updated to the current fashion of the time. The interior configuration of the earlier portion was retained in almost all cases. The only changes noted are those with corner stairs adjacent to the fireplace in a one-room plan, which would have been removed in favor of a new hall and stair, added in the new portion.

Most of these modifications and additions occurred from the period of the early to late 19th century. In some cases additions were made within a twenty- to thirty-year period from the earlier building's construction. In those additions made in the post-Civil War period, more of an effort was made to create a unified façade appearance with the updating of the façade with a common roof, articulation and style. Even with the unification of the façade and style, it is still visually evident that an addition was made from asymmetrical facades and the retention of earlier chimneys. The evolution of the dwelling in the additive construction process seems to be an important element of the making of additions in Isle of Wight County. Though there is no established typology for additive construction, it may be rooted in long and important history of the county and the awareness of the age and history of its residents. Many communities share these methods of additive construction and in most cases the retention of the earlier built environment is quite common.

The house retains a general center-passage single-pile form. Center-passage plans appeared in Virginia during the first part of the 18th century. The plan comprises a central hall flanked rooms. Most often this form is one-and-one-half stories or two-stories. In some cases the area under the roof served as additional sleeping or storage space. The dwelling plan most often was one or two rooms deep. The façade of the building was symmetrical and comprised three or five bays. The interior rooms on the first story served as living space while upper stories served as bedchambers. In single-pile dwellings of one room deep the rooms flanking the hall served as the dining room and parlor. In earlier examples the interior finishes varied depending on which room served as the best room or parlor. The hall contained the stair to the upper stories and basement, if constructed with an underground space. The upper stories featured the same floor plan as the first story. In some examples a small room would have been added in the hallway on the second story above the entrance. It served as a small unheated space for storage. Chimneys were situated at the ends of the dwelling. The center-passage single-pile plan was popular during the 1800s. The center-passage double-pile plan is seen as early as the Revolutionary War period. The front rooms off the first story hall served as the parlor and dining room, while the rear rooms served as workrooms and a first story chamber. Most often the kitchen was located in the basement, in an ell off the rear or in a separate building. Most often chimneys were situated on the side elevation at the center of each equally planned room's wall. In a few cases, the chimneys were erected on the interior of the dwelling and one chimney served two fireplaces that were back-to-back. By the mid-19th century the center-passage double-pile dwelling was erected as a symbol of prosperity among the agricultural society.

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This building was evaluated for its eligibility in the National Register of Historic Places. It was considered under the National Register of Historic Places Criteria and Criteria Exceptions. The evaluation included researching the history of the property and an architectural analysis of the current building form. The property does not meet Criteria A (Event) as there is no historical evidence that there was a historic event that occurred on the property. The property does not meet Criteria B (Person) as it is not associated with a person important in history. The property does not meet Criteria C (Architecture) because it is an example of a common domestic building that has been altered over time. The property does not meet Criteria D (Information Potential) since there is no historic evidence that it would yield information that would be potentially important in history. The property also does not meet the Criteria Exceptions. Based upon the documented research and architectural analysis, the property is not recommended eligible for listing in the National Register of Historic Places.

Surveyor Recommendation: Legacy

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1800
Date Source: Site Visit/Written Data
Historic Time Period: Early National Period (1790 - 1829)
Historic Context(s): Architecture/Community Planning, Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: Federal/Adamesque
Form: *No Data*
Number of Stories: 2.0
Condition: Good
Interior Plan: Central Passage, Single Pile
Threats to Resource: Demolition, Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2005:
This single-family dwelling was constructed circa 1800. It has a solid brick foundation and is wood frame clad in aluminum siding. The dwelling is topped by a cross-gable roof clad in asphalt shingles. The foundation is generally low and it appears that the building rests upon the ground. The general ground print is cross-shaped. The façade has five bays with a central entrance. There is a three-bay two-story porch dominating the south façade. The porch is topped by a gable roof with a raking cornice and cornice returns. The porch columns are square with minimal capitals. There is a balustrade on the second story that appears to be a replacement. The porch floor is brick on the first story. The windows on the dwelling are 6/6 double-hung sash with storm windows. Shutters flank the end bay windows. The main entrance on the first story is comprised of a wood single-leaf door with six panels. There are four-light and one-panel sidelights flanking the door. On the second story there is a fifteen-light single-leaf door accessing the second story of the porch. The doors have storm doors. The gable end elevations are marked by massive exterior side brick chimneys with single shoulders. The chimneys have corbelled caps. Additions have been made to the rear. They are two-stories and one-story with open decks.

October 2006:
This single-family dwelling was constructed circa 1800 and is an example of a dwelling that has undergone an expansion dating to the 19th century. It has a solid brick foundation that has been parged and is wood frame clad in vinyl siding. The dwelling is topped by a side-gable roof clad in asphalt shingles. The foundation is generally low and it appears that the building rests upon the ground. The general ground print is cross-shaped. The façade has five bays with a central entrance, but the façade is not symmetrical. It initially appears symmetrical, but the door placement is not central and the windows on the west end of the façade are set slightly farther apart than those on the east end of the facade. There is a three-bay two-story porch dominating the south façade, which was likely added in the 20th century. The porch is topped by a gable roof with a raking cornice and cornice returns. The porch columns are square with minimal capitals. There is a balustrade on the second story that appears to be a replacement. The porch floor is brick framed poured concrete on the first story. The windows on the dwelling are 6/6 double-hung sash with storm windows. Shutters flank the end bay windows. The main entrance on the first story is comprised of a wood single-leaf door with six panels. There are four-light and one-panel sidelights flanking the door. The door and sidelights are framed by a Classical surround comprised a cornice supported by fluted pilasters. On the second story there is a fifteen-light single-leaf door accessing the second story of the porch. The doors have storm doors. The gable end elevations are marked by massive exterior side brick chimneys with single shoulders. The chimneys have corbelled caps. The east chimney is 5-course American bond brick and the west chimney has replacement brick laid 8-course American bond consistent with brick found on the addition chimney on the north elevation. Additions have been made to the rear. There is a two story addition abutting the north elevation. There are one-story additions abutting the west elevation and north elevation of the two story addition. There is a chimney situated at west corner of the north elevation. The one story addition on the west elevation of the ell has a shed roof and the roof of the north one-story addition is gabled. The porch on the one-story addition has a shed roof and plain wood posts. The poured

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concrete porch floor continues the apron around the pool. There is a deck applied to the porch on the east end.

The interior comprises a center passage, single-pile plan. The central passage features a steep stair with a plain wood newel and plain wood balusters. The stairs have wood treads and risers and the stairs are steep. The hall features beaded-board wainscoting. There is a small closet under the stair. The living room was inaccessible and currently serves as storage space. The dining room has a wood chair rail and a mid-19th century fireplace surround. The doors within the dwelling are six panel single-leaf and wood. The flooring is pine tongue-and-groove narrow boards. There are baseboards and plain surrounds on the doors and windows. The walls in the main dwelling have been plastered. The ell contains a bedroom, lavatory, kitchen, and breakfast room. The floor is vinyl sheet in the kitchen and the cabinetry dates to the 1970s. The lavatory has porcelain fixtures and a tile floor. The fixtures and tile date to the 1960s. The bedroom has a wall-to-wall carpeted floor and built in closets at the north end. The breakfast room has similar treatment to the kitchen and there is a closet on the west side with a double-leaf wood louvered door. The den or family room is slightly lower than the ell and main dwelling. The family room features wallboard walls, acoustic tile ceiling, and wall-to-wall carpeted floor. There is a corner fireplace at the northwest corner. The second story is situated within the main dwelling and ell. The bedrooms are situated above the living room and dining room. There are closets situated at the north end rooms of the ell and a lavatory on the east side of the hallway leading to the closets. The flooring is similar to the first story flooring. The walls are plastered and features similar baseboards and window and door surrounds. The door to the west bedroom has three panels and is wood and single-leaf. This door has been pegged together unlike other doors within the dwelling. The east bedroom has wall-to-wall carpeting and a similar mantel to the one found in the dining room. The west bedroom does not have a fireplace. The hall features an open stairwell surrounded by similar newels and balusters found the main stair.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Gable	Asphalt	Shingle
Chimneys	Exterior side	Brick	Bond, American
Porch	2-story, 3-bay	Wood	Columns, Square
Windows	Sash, Double-Hung	Wood	6/6
Chimneys	Exterior side	Brick	Bond, American, 5-course
Structural System and Exterior Treatment	Frame	Wood	Siding, Vinyl
Foundation	Solid/Continuous	Brick	Bond, American

Secondary Resource Information

Secondary Resource #1

Resource Category: Social/Recreational
Resource Type: Pool/Swimming Pool
Date of Construction: 1980Ca
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Architecture/Community Planning, Domestic, Subsistence/Agriculture
Architectural Style: Post Modern
Form: *No Data*
Condition: Fair
Threats to Resource: Demolition, Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2005:
There is a pool to the north of the dwelling.

October 2006:
The swimming pool is situated north of the dwelling. It is a concrete pit surrounded by a concrete apron.

Secondary Resource #2

Resource Category: Agriculture/Subsistence
Resource Type: Barn
Date of Construction: 1970Ca
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Architecture/Community Planning, Domestic, Subsistence/Agriculture
Architectural Style: Post Modern

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Form: *No Data*
Condition: Fair
Threats to Resource: Demolition, Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

2005:
There is a barn situated at the north end of the property.

October 2006:
The barn has been converted for use a dwelling. The barn is one-and-one-half stories with wings on the east and west elevations. There is a one-story addition on the north side of the barn. The building has a concrete foundation and is wood frame clad in weatherboard. The roof is gable clad in standing-seam metal. The windows in the dwelling are comprised of 1/1 and 6/6 wood double-hung sash. Fifteen-light doors have also been placed within window openings and serve as fixed windows. The interior is comprised of numerous rooms connected by wood single-leaf doors. The main room on the south end of the main building is a kitchen and living space. The flooring is clad in vinyl sheets and the walls are modern wood paneling. The west wing has a dirt floor and is unimproved. The east wing comprises a room with a concrete floor covered in wall-to-wall carpeting. The walls are wood paneled. The windows comprise 15-light doors. The north one-story addition comprises a modern lavatory and a room with a carpeted floor. The attic story is unfinished and the roof rafters are visible. The stair to the attic is situated within the main first story and is accessed from the north end. The stairs are enclosed with wood treads and risers.

Interior Plan: Other
Number of Stories: 1.5

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 046-5250
Staff Name: DHR
Event Date: 5/3/2007
Staff Comment

Project also reviewed by DHR staff archaeologist Joanna Wilson.

Kristin Kirchen presenting:
B.J. Hogue Homeplace, Isle of Wight County, DHR File Number 046-5250, Project Review Number 2002-1728
The resource is a circa 1800, 2 story, 5 bay frame dwelling covered in vinyl siding, with a central passage, single pile plan. It has a side gable roof covered in asphalt shingles. A 2-story frame addition was built on the rear, with 1-story frame additions on the rear addition's north and west elevations. The rear addition has two interior brick chimneys, and the addition on the north elevation of the rear addition has an exterior brick chimney. Secondary resources include a 1970 frame barn and a 1980 swimming pool. It was evaluated as locally significant under Criterion C (Architecture) with a period of significance of ca. 1800. The committee recommended not eligible with 20 points.

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: David, Kimble
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 10/29/2006
Dhr Library Report Number: *No Data*
Project Staff/Notes:

for CRI, Inc.

Project Bibliographic Information:

Record Type: Deed

DRAFT

Bibliographic Notes: Isle of Wight County Deed Records

Name: King, Helen Haverty
Record Type: Book
Bibliographic Notes: Historical Notes on Isle of Wight County, Virginia, 1993.

Record Type: Tax Records
Bibliographic Notes: Isle of Wight County, Virginia

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction

Phase II Intensive Survey Integrity Recommendations: Location, Workmanship

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*

Investigator: David, Kimble

Organization/Company: Unknown (DSS)

Photographic Media: *No Data*

Survey Date: 3/1/2005

Dhr Library Report Number: *No Data*

Project Staff/Notes:

2004-2005-0001

Project Bibliographic Information:

Record Type: Deed
Bibliographic Notes: Isle of Wight County Deed Records

Name: King, Helen Haverty
Record Type: Book
Bibliographic Notes: Historical Notes on Isle of Wight County, Virginia, 1993.

Record Type: Tax Records
Bibliographic Notes: Isle of Wight County, Virginia

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction

Phase II Intensive Survey Integrity Recommendations: Location, Workmanship

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Carlton Oneal
Company 1: Bank of Southside VA
City: Smithfield
State: Virginia
ZIP: 23430
Owner Relationship: Owner of property

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Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
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- County Boundaries



N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Architecture Labels **Date: 6/2/2022**

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Property Information

Property Names

Name Explanation	Name
Function/Location	House, 14564 Benns Church Blvd
Historic	W.P. Jordan House

Property Evaluation Status

DHR Staff: Eligible

Property Addresses

Alternate - State Route 10/32
Current - 14564 Benns Church Blvd

County/Independent City(s): Isle of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23314
Magisterial District(s): *No Data*
Tax Parcel(s): 32-01-075A
USGS Quad(s): BENNS CHURCH

DRAFT

Additional Property Information

Architecture Setting: Rural
Acreage: 1

Site Description:

This dwelling is situated on the west side of Benns Church Blvd (SR 10/32) south of the intersection with Brewers Neck Blvd (SR 32). It is set back approximately 150-feet from the roadway. There is a grass driveway that leads to the north of the dwelling. The site is flat with deciduous trees planted around the site. The dwelling faces east.

There is a garage located northwest of the dwelling. There is a workshop located west of the dwelling. There is a well-situated southeast of the workshop. There is a collapsed shed north of the workshop.

Surveyor Assessment:

Start Year: 1880 ca
End Year: 1880 ca
Date Source: Site Visit
Type: Original Construction

This dwelling features an Italianate style common to the mid-19th century. The Italianate style became popular from 1850 to 1880 and was based upon Italian rural architecture. It was one of the romantic styles of the Picturesque movement. The hallmarks of the Italianate style are bracketed cornices, wide eaves, and a vertical emphasis. Additional articulation was added to window surrounds, the addition of entrance towers, articulated rounded-topped doors, and quoins. Like other styles of the 19th century, the Italianate was adaptable to various settings. It was well suited to narrow urban lots, and could be expanded in open rural settings. Modest Italianate houses such as this dwelling can be found among more prominent farmers of the mid- to late-19th century. The style exhibits the patron's knowledge of architectural style and fashion and is not commonly seen in the rural landscape of Isle of Wight County.

This dwelling was part of the Jordan family land holdings near the village of Benns Church. The Jordan family owned most of the lands south of Benns Church extending from Benns Church to the City of Suffolk boundary. The Jordan family owned numerous houses along Benns Church Boulevard and farmed the lands on either side of the road. The lands to the south of this property are mostly still farmed. There is a small cluster of mid-20th century dwellings in the vicinity of Benns Church.

The village of Benns Church was obliterated when Benns Church Boulevard and Brewer's Neck Boulevard were widened in the mid-20th century. There is a gas station and store located at the intersection of Benns Church Boulevard and Brewer's Neck Boulevard, though these were added in the mid- to late-20th century. The village developed at the Brewer's Neck and Benns Church Boulevards intersection around Benns Church and St. Luke's Church in the 19th century. The area is just south of the Town of Smithfield along roadways that connected Isle of Wight County with the City of Suffolk.

This house and surrounding 132 acres was owned by W. P. Jordan in the late 19th century. He mostly likely received the lands from his family in the 19th century as a part of the subdivision of the family's larger landholdings. He died intestate in 1905 and had numerous debts. To pay the debts the family sold the property to George Thomas. Thomas owned the property until his death in 1917. The property was sold through the 20th century and comprised between 125 and 132 acres at one time. The property was subdivided in the late 20th century and only a one acre site remains surrounding the house.

The property is an example of an Italianate-style house of the late 19th century. It retains architectural features of the period, but is not an exemplary example of the house type. The property does not retain its original acreage as a farmstead. Though owned by a member of the Jordan family, W. P. Jordan is not associated with a historic event in Isle of Wight County. Therefore, the house is not recommended as eligible for listing in the National Register of Historic Places.

Surveyor Recommendation: Legacy

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Associate

Property Associate Name	Property Associate Role
Jordan, W. P.	Owner

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1880
Date Source: Site Visit/Written Data
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic
Other ID Number: *No Data*
Architectural Style: Italianate
Form: *No Data*
Number of Stories: 2.0
Condition: Good
Interior Plan: Side Passage, Double Pile
Threats to Resource: Deterioration
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

This is a circa 1880 Italianate-style single-family dwelling. It rests on a brick foundation and comprises a wood frame structural system clad in weatherboard. The roof has a low-pitched hipped form clad in standing-seam metal. The roof features a wide cornice with a wide frieze and scrolled brackets. The façade of the dwelling is three-bay with a side-passage plan. The windows on the dwelling are 2/2 wood double hung sash with storm windows. Some windows feature wood louvered shutters, but most shutters are missing. The door is single-leaf wood with four panels. The door is flanked by sidelights and topped by a transom. There is a wrap-around porch on the façade that wraps the north elevation. It features chamfered posts with bracketed capitals and a hipped roof clad in standing-seam metal. There is an interior brick chimney on the south elevation near the east façade. It has a square plan and is brick. The cap features decorative brickwork and is coped in metal. Appended to the west elevation is a one-story addition. It is wood frame clad in weatherboard. A second story addition is mounted on the roof of the one-story addition.

The interior of the dwelling reflects a side-passage double-pile plan. The hall comprises one bay of the three bay façade. The hall is oriented east-west and contains the stair. The stair rises to the second story. The stair features turned newels and balusters. There is decorative scrollwork along the stair. The hallway features two entrances; the east façade and the north elevation. The entrances are the same. There is a living room on the southeast end of the building and has a wide opening and wood fireplace mantel. There is a 15-lgiht door between the living and dining room, situated west of the living room. There is a 15-light single-leaf door at the base of the stair accessing the dining room. The dining room has similar features to the living room, including a similar mantel. There is a door in the dining room on the west wall to the addition. At the west end of the hall is the kitchen. The kitchen has modern wood paneling and a vinyl floor. The cabinetry is mid-20th century. The addition has similar modern wood paneling and the flooring is wall-to-wall carpeting. The ceiling is wood boarded. The walls on the first story are plaster in most areas. Some plaster has been replaced with modern painted wall board. The ceilings have been re-clad in drywall. The baseboards and door surrounds are simple and the flooring is tongue-and-groove oak. The second story comprises bedrooms above the living and dining room, and a small room above the hall. The bedrooms above the living and dining room feature wood mantels. All rooms have simplified door and window surrounds. There is some damage to the plaster on the second story from water intrusion. The walls are plastered on the second story mostly with some replacement drywall in areas. The flooring is tongue-and-groove pine board. The lavatory is situated on the west end of the hall and is contained within the addition above the kitchen. The lavatory features mid-20th century fixtures and vinyl tile flooring.

Exterior Components

Component	Component Type	Material	Material Treatment
Windows	Sash, Double-Hung	Wood	2/2
Roof	Hipped	Metal	Standing Seam
Chimneys	Interior	Brick	Bond, American
Porch	1-story	Wood	Other
Foundation	Solid/Continuous	Brick	Bond, American
Structural System and Exterior Treatment	Frame	Wood	Weatherboard

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Secondary Resource Information

Secondary Resource #1

Resource Category: DSS Legacy
Resource Type: Shed
Date of Construction: 1900Ca
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic
Architectural Style: Vernacular
Form: *No Data*
Condition: Deteriorated
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

To the north of the workshop is a small shed. It is wood frame clad in vertical board. It has a shed roof clad in standing-seam metal. It is in deteriorated condition and is overgrown with foliage.

Number of Stories: 1

Secondary Resource #2

Resource Category: Domestic
Resource Type: Garage
Date of Construction: 1990Ca
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic
Architectural Style: Post Modern
Form: *No Data*
Condition: Fair
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

To the north of the shed is a garage. Constructed circa 1990, it has a wood frame structural system clad in plywood. It features a gable roof clad in asphalt shingles. There is a double-leaf door on the east façade.

Number of Stories: 1

Secondary Resource #3

Resource Category: Agriculture/Subsistence
Resource Type: Workshop
Date of Construction: 1900Ca
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic
Architectural Style: Vernacular
Form: *No Data*
Condition: Fair
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

DRAFT

No Data

Architectural Description:

There is a workshop west of the dwelling with a rectangular plan. It features a brick foundation and is wood frame construction clad in wood novelty siding. There is a single leaf door on the east elevation flanked by wood 2-light casement windows. The roof has a catslide form clad in asphalt shingles.

Number of Stories: 1

Secondary Resource #4

Resource Category: Domestic
Resource Type: Well/Well House
Date of Construction: 1890Ca
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic
Architectural Style: Vernacular
Form: *No Data*
Condition: Fair
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

There is a brick circular well to the southeast of the workshop. The well is laid in common bond brick and has a concrete cap.

Number of Stories: .5

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Eligible

DHR ID: 046-5274
Staff Name: DHR
Event Date: 10/19/2006
Staff Comment

Kristin Kirchen presenting:
W.P. Jordan House, Isle of Wight County, DHR File Number 046-5274
The house is a circa 1880 2-story, 3-bay Italianate style, side passage, double-pile dwelling. It rests on a brick foundation, and has a frame structure clad in weatherboard. The hipped roof is covered in standing seam metal, and features a wide cornice and frieze with scrolled brackets. The house has 2/2 double-hung windows, some with louvered shutters. A wrap-around 1-story porch covers the north and east sides of the house. It was built by the Jordan family near Benns Church village, part of the extensive Jordan land holdings in this part of Isle of Wight County. The property's original 132 acres were sold piecemeal throughout the 20th century, such that the house now sits on 1 acre. It was evaluated as locally significant under Criterion C with a period of significance of circa 1880, and the committee recommended eligible with 30 points.

DHR strongly encouraged the County to retain this resource in its original location and offer the resource to interested individuals or groups for preservation.

Event Type: Survey:Phase II/Intensive

Project Review File Number: 2006-0234
Investigator: David, Kimble
Organization/Company: Unknown (DSS)

DRAFT

Photographic Media: *No Data*
Survey Date: 8/14/2006
Dhr Library Report Number: IW-42
Project Staff/Notes:

Intensive level survey conducted for Cultural Resources, Inc.

Project Bibliographic Information:

Name: CRI, Inc.
DHR CRM Report Number: IW-42
Record Type: Report
Bibliographic Notes: "A Phase I Cultural Resources Survey of appoximately 600 acres at Benns Church, Isle of Wight County, Virginia."

Prepared by: Aimee J. Leithoff and Ellen M. Bray (PI)

Dated: October 2005

Name: King, Helen Haverty
Record Type: Book
Bibliographic Notes: Historical Notes on Isle of Wight.

Record Type: Deed

Record Type: Tax Records

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction

Phase II Intensive Survey Integrity Recommendations: Design, Location, Materials, Workmanship

Event Type: DHR Staff: Potentially Eligible

DHR ID: 046-5274
Staff Name: DHR
Event Date: 6/1/2006
Staff Comment

DHR believes that a Phase II evaluation of this property is warranted; the information presented in the Phase I is not sufficient to make a determination of eligibility.

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2006-0234
Investigator: David, Kimble
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 10/3/2005
Dhr Library Report Number: IW-42
Project Staff/Notes:

Survey conducted for Cultural Resources, Inc.

Project Bibliographic Information:

Name: CRI, Inc.
DHR CRM Report Number: IW-42
Record Type: Report
Bibliographic Notes: "A Phase I Cultural Resources Survey of appoximately 600 acres at Benns Church, Isle of Wight County, Virginia."

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Record Type: Deed

Record Type: Tax Records

Surveyor's NR Criteria Recommendations: C - Distinctive Characteristics of Architecture/Construction

Phase II Intensive Survey Integrity Recommendations: Design, Location, Materials, Workmanship

DRAFT

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Unknown
Company 1: Benns Church Properties
Address 1: P O Box 500
City: Carrollton
State: Virginia
ZIP: 23314
Owner Relationship: Owner of property

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Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
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- County Boundaries



N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Architecture Labels **Date: 6/2/2022**

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Property Information

Property Names

Name Explanation	Name
Function/Location	House, 14580 Benns Church Boulevard

Property Evaluation Status

DHR Staff: Not Eligible

Property Addresses

Current - 14580 Benns Church Blvd
Alternate - 14580 State Road 10/32

County/Independent City(s): Isle of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23314
Magisterial District(s): *No Data*
Tax Parcel(s): 32-01-075A
USGS Quad(s): BENNS CHURCH

DRAFT

Additional Property Information

Architecture Setting: Rural
Acreage: 1.5

Site Description:

This dwelling is situated on the west side of Benns Church Blvd (SR 10/32) south of the intersection with Brewers Neck Blvd (SR 32). It is set back approximately 150-feet from the roadway. There is a grass driveway that leads to the north of the dwelling. The site is flat with deciduous trees planted around the site. The dwelling faces east.

A secondary dwelling was erected near the street in front of the earlier dwelling.

Surveyor Assessment:

This is an example of a modest house constructed circa 1930. Located a Benns Church a small village south of Smithfield at the intersection of two roadways, the dwelling was added to this area during a growth period. Earlier dwellings dating to the antebellum period lined the roadways. During the post Civil War period, larger farmsteads were subdivided and newly erected houses were interspersed between the earlier farmhouses. In the early 20th century, the area of Benns Church grew with the addition of schools and small businesses. The intersection had been an important location in Colonial Virginia as the St. Paul's Church and Benns Church located here date to the 17th and 18th centuries respectively.

The style is vernacular Colonial Revival, which gained popularity in the late 19th and early 20th century. It is a simple style that employs minimal articulation and can be adapted to modest houses. The style and form of the dwelling are typical of the period in Isle of Wight County. This building is not recommended as eligible for listing in the National Register of Historic Places.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1930
Date Source: Site Visit/Written Data
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Vernacular
Form: *No Data*
Number of Stories: 1.0

Condition: Fair
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

This dwelling is a one-story building with a concrete block foundation. It is wood frame construction clad in wood novelty siding topped with a side-gable roof clad in standing-seam metal. There is a one-bay, gabled-roof porch on the façade supported by plain wood posts. The roof is clad in standing-seam metal and the porch features cornice returns. The porch shelters the main entrance comprise of a single-leaf wood door with a panel and light. There is a wood frame screened door mounted to the main entrance doorframe. To the south of the entrance is a paired 6/6 wood double-hung sash window. To the north of the entrance is a 2/2 wood double-hung sash window. Wood shutters flank the windows. The north window has a pedimented hood. The roof cornice features cornice returns. To the west of the dwelling is an ell with a gable roof clad in standing–seam metal. The windows on the side elevations are similar to the north window on the façade. On the west elevation, there is a hipped-roof porch with wrought-iron posts. The porch shelters a single-leaf entrance. The porch floor is poured concrete and the porch roof is clad in standing-seam metal.

Exterior Components

Component	Component Type	Material	Material Treatment
Windows	Sash, Double-Hung	Wood	2/2
Foundation	Solid/Continuous	Concrete	Block
Windows	Sash, Double-Hung	Wood	6/6
Roof	Gable, Side	Metal	Standing Seam
Porch	1-story, 1-bay	Wood	Other
Structural System and Exterior Treatment	Frame	Wood	Weatherboard

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Secondary Dwelling
Date of Construction: 1978Ca
Date Source: Site Visit/Written Data
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Architectural Style: Post Modern
Form: *No Data*
Condition: Good
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

Constructed in 1978, this dwelling is concrete block construction clad in brick veneer. It features a side-gable roof clad in asphalt shingles. he façade is asymmetrical with a projecting shed-roofed porch supported by turned posts. The entrance on the façade is single-leaf flanked by window openings. The windows to the south are comprised of paired wood double-hung windows with 12/12 sashes. The windows to the north are also 8/8 wood sash with a panel below the lower sash. The windows feature rowlock brick sills. An overhead garage door dominates the south end of the façade.

Number of Stories: 1

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

DRAFT

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 046-5275
Staff Name: Kirchen, Roger
Event Date: 6/1/2006
Staff Comment

No Data

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2006-0234
Investigator: David, Kimble
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 10/3/2005
Dhr Library Report Number: IW-42
Project Staff/Notes:

for Cultural Resources, Inc.

Project Bibliographic Information:

Name: CRI, Inc.
DHR CRM Report Number: IW-42
Record Type: Report
Bibliographic Notes: "A Phase I Cultural Resources Survey of appoximately 600 acres at Benns Church, Isle of Wight County, Virginia."

Prepared by: Aimee J. Leithoff and Ellen M. Bray (PI)

Dated: October 2005

Record Type: Tax Records

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Unknown
Company 1: Benns Church Properties
Address 1: P O Box 500
City: Carrollton
State: Virginia
ZIP: 23314
Owner Relationship: Owner of property

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0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Architecture Labels **Date: 6/2/2022**

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Property Information

Property Names

Name Explanation	Name
Function/Location	House, 19514 Casper Circle

Property Addresses

Current - 19514 Casper Circle

County/Independent City(s): Isle of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23314
Magisterial District(s): *No Data*
Tax Parcel(s): 32-01-075B
USGS Quad(s): BENNS CHURCH

Property Evaluation Status

DHR Staff: Not Eligible

DRAFT

Additional Property Information

Architecture Setting: Rural
Acreage: 2.5
Site Description:

This dwelling is situated on the west side of Benns Church Blvd (SR 10/32) south of the intersection with Brewers Neck Blvd (SR 32). It is set back approximately 300-feet from the roadway. There is a dirt driveway (named Casper Circle) that leads to the north of the dwelling. The site is flat and open with sandy soil. The dwelling faces east.

A large metal warehouse is located west of the dwelling. There are two trailers also situated west of the dwelling and east of the warehouse.

Surveyor Assessment:

This is an example of a modest house constructed circa 1930. Located a Benns Church a small village south of Smithfield at the intersection of two roadways, the dwelling was added to this area during a growth period. Earlier dwellings dating to the antebellum period lined the roadways. During the post Civil War period, larger farmsteads were subdivided and newly erected houses were interspersed between the earlier farmhouses. In the early 20th century, the area of Benns Church grew with the addition of schools and small businesses. The intersection had been an important location in Colonial Virginia as the St. Paul's Church and Benns Church located here date to the 17th and 18th centuries respectively.

The style is vernacular Colonial Revival, which gained popularity in the late 19th and early 20th century. It is a simple style that employs minimal articulation and can be adapted to modest houses. The style and form of the dwelling are typical of the period in Isle of Wight County. The dwelling has been converted to an office. This building is not recommended as eligible for listing in the National Register of Historic Places.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: 1931
Date Source: Site Visit/Written Data
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Vernacular
Form: *No Data*

Number of Stories: 1.0
Condition: Good
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

This is a one-story wood frame dwelling clad in weatherboard siding. The foundation is brick and the roof is side-gable clad in standing-seam metal. The façade is asymmetrical with a central entrance flanked by window openings. The entrance is comprised of a single-leaf door with storm door. The window opening to the south of the entrance is comprised of paired 6/6 wood double-hung sash windows flanked by shutters. The window to the north of the entrance is comprised of a single 6/6 wood double-hung sash window flanked by shutters. A porch shelters the east façade and is comprised of a shed roof clad in standing-seam metal supported by wrought-iron posts and a concrete floor. Ells were appended to the north and south side elevations. The ell to the south is wood frame construction clad in weatherboard and has a side-gable roof at a lower height than the main dwelling roof. There is a 6/6 wood double-hung sash window on the east façade and a similar window to the south facade. There is a single-leaf entrance on the south elevation containing a three-panel, one-light door. Appended to the west elevation of this ell is a shed-roofed addition. There is a 2/2 window on the south elevation. The north ell comprises a concrete block foundation and is wood frame clad in weatherboard siding. It features 6/6 metal double-hung sash windows and a sliding window. There is a door leading from the west elevation to a wood ramp. Append to the west elevation is an addition with a shed roof extending from the eave of the main roof. It features 6/6 wood double-hung sash windows and an incorporated porch supported by a wood post.

Exterior Components

Component	Component Type	Material	Material Treatment
Windows	Sash, Double-Hung	Wood	6/6
Windows	Sash, Double-Hung	Wood	2/2
Porch	1-story, 1-bay	Wood	Other
Roof	Gable, Side	Metal	Standing Seam
Foundation	Solid/Continuous	Brick	Bond, American
Structural System and Exterior Treatment	Frame	Wood	Weatherboard

Secondary Resource Information

Secondary Resource #1

Resource Category: Industry/Processing/Extraction
Resource Type: Warehouse
Date of Construction: 1990
Date Source: Site Visit
Historic Time Period: *No Data*
Historic Context(s): Domestic
Architectural Style: Post Modern
Form: *No Data*
Condition: Good
Threats to Resource: Development
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

To the west of the dwelling is a large metal warehouse with a rectangular plan. The warehouse is topped by a low-pitched metal clad gable roof. There is a single –leaf door on the north elevation and an oversized double-leaf sliding door on the south elevation. There is an overhead garage doors are located on the east elevation. Situated between the warehouse and dwelling are two mobile trailers.

Number of Stories: 1

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

DRAFT

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 046-5276
Staff Name: Kirchen, Roger
Event Date: 6/1/2006
Staff Comment

No Data

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2006-0234
Investigator: David, Kimble
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 10/3/2005
Dhr Library Report Number: IW-42
Project Staff/Notes:

for Cultural Resources, Inc.

Project Bibliographic Information:

Name: CRI, Inc.
DHR CRM Report Number: IW-42
Record Type: Report
Bibliographic Notes: "A Phase I Cultural Resources Survey of appoximately 600 acres at Benns Church, Isle of Wight County, Virginia."

Prepared by: Aimee J. Leithoff and Ellen M. Bray (PI)

Dated: October 2005

Record Type: Tax Records

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Unknown
Company 1: Benns Church Properties
Address 1: P O Box 500
City: Carrollton
State: Virginia
ZIP: 23314
Owner Relationship: Owner of property

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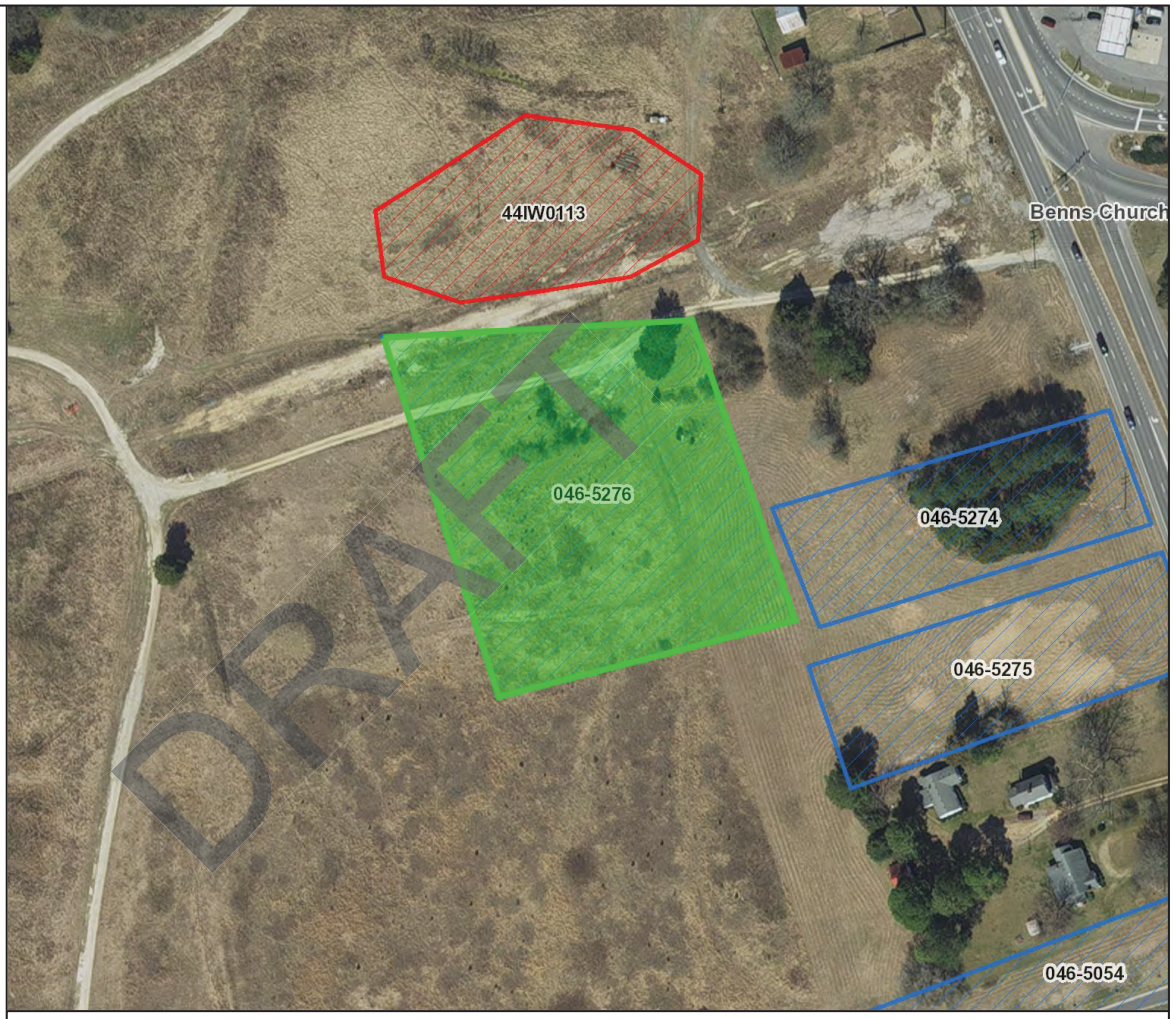
Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
- DHR Easements
- USGS GIS Place names
- County Boundaries



N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Architecture Labels **Date: 6/2/2022**

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Property Information

Property Names

Name Explanation	Name
Descriptive	Angel on Gravestone
Function/Location	Gravestone, 14477 Benns Church Boulevard

Property Evaluation Status

Not Evaluated

Property Addresses

Current - 14477 Benns Church Boulevard Route 258

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23314
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BENNS CHURCH

Additional Property Information

Architecture Setting: Town
Acreage: *No Data*
Site Description:

Located in the Benns Church cemetery, near a golf club, with overhanging trees or branches nearby.

Surveyor Assessment:

Start Year: 1921 ca
End Year: 1921
Date Source: Site Visit
Type: Original Construction

Surveyor Recommendation: *No Data*

Primary Resource Information

Resource Category: Social/Recreational
Resource Type: Sculpture/Statue
NR Resource Type: Object
Historic District Status: *No Data*
Date of Construction: Ca 1921
Date Source: Site Visit
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Funerary
Other ID Number: *No Data*
Architectural Style: *No Data*
Form: *No Data*
Number of Stories: *No Data*
Condition: Poor
Threats to Resource: Deterioration
Cultural Affiliations: *No Data*
Cultural Affiliation Details:

No Data

Architectural Description:

Inscriptions: On Gravestone Front: "Marion E. Briggs Daughter of WlJl & Florence Briggs Sept.25, 1911 Sept.28, 1921." Back of Gravestone: "Our darling one has gone before. To greet us on the blissful shore"
Dimensions: Base: H:3' W:1.5' Depth:1.5'
Sculpture: H:1.5' W:6" Depth:8"
The sculpture depicts a small angel standing, head bowed, arms down, holding a swag below her waist. The angel stands PL leg straight, PR leg

DRAFT

bent and back.

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Other

Project Review File Number: *No Data*
Investigator: Gwaltney, Heather
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 10/18/1995
Dhr Library Report Number: *No Data*
Project Staff/Notes:
SOS! Survey

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Heather Gwaltney
Address 1: 6067 Beechland Road
City: Elberon
State: Virginia
ZIP: 23846
Phone 1: 804-294-3235
Surveyor Notes: SOS! Survey Volunteer
Owner Relationship: Informant

Name: Richard Austin
Title: Curator
Address 1: 14477 Benns Church Boulevard
City: Smithfield
State: Virginia
ZIP: 23430
Phone 1: 804-357-3367
Surveyor Notes: Richard Austin s the contact person, Benns Church is the owner/administrator.
Owner Relationship: Owner of property

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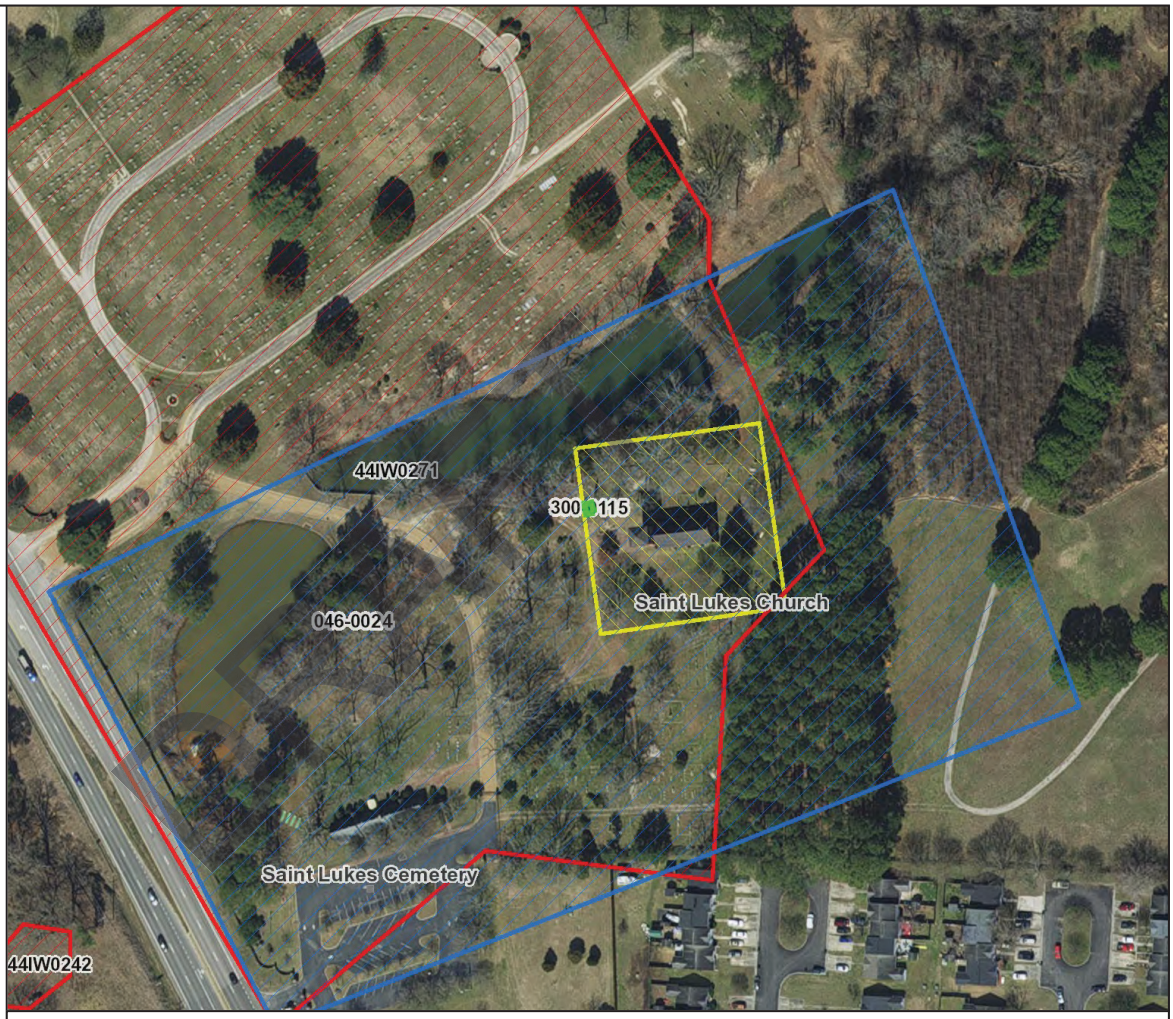
Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
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- Archaeology Labels
- DHR Easements
- USGS GIS Place names
- County Boundaries



N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Architecture Labels **Date: 6/2/2022**

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
23116 Meherrin Road
COURTLAND, VIRGINIA 23837

July 19, 2023

Amy Ring
Planning and Zoning Department
Isle of Wight County
P. O. Box 80
Isle of Wight, VA 23397

RE: Sweetgrass (formerly Yeoman Farm) – Chapter 527
Benn's Church Boulevard (Route 10/258)
Isle of Wight County

In accordance with §15.2-2222.1 of the Code of Virginia and the Virginia Traffic Impact Analysis Regulations, 24 VAC 30-155 (also known as Chapter 527), the Traffic Impact Study prepared by Vanasse Hangen Brustlin, Inc. (VHB) dated December 17, 2019, along with a supplemental memorandum dated March 25, 2023 and other modified application materials was submitted to the Virginia Department of Transportation (VDOT) for review on June 23, 2023.

Our Evaluation Report is attached to assist the County in their decision making process regarding this rezoning application. The Evaluation Report summarizes the key findings and includes our comments on the accuracy of the methodologies, assumptions, and conclusions presented in the analysis.

It is requested that VDOT's comments be included in the official public records, and to have both this letter and the VDOT Evaluation Report placed in the official file for the subject case. VDOT will make these documents available to the public through various means, including posting them to the VDOT website.

If you have any questions, please contact me at (757) 346-3084 or Jason Fowler@vdot.virginia.gov.

Sincerely,

Jason Fowler, P.E.
Area Land Use Engineer
Virginia Department of Transportation
Franklin Residency

EVALUATION REPORT
Of
Chapter 527 Traffic Impact Analysis

1) We concur with the proposed trip generation rates as provided in the submitted study based on the following development schedule:

Phase 1 Use	No. of Units	Units
Single Family Detached Housing	390	dwelling units
Multi-Family Housing (Low-Rise)	225	dwelling units
Strip Retail Plaza < 40k	18	1000 sq. ft. GLA
General office	55	1000 sq. ft. GLA

The proposed uses have the potential to generate 7,021 daily, 535 AM peak hour, and 732 PM peak hour trips on the roadway network. As outlined in the study, these trips are reduced by allowable pass-by and internal capture rates to represent new trips on the roadway network (6,685 daily, 521 AM peak, and 692 PM peak).

2) The trip generation has been reduced from the original 2019 study. There is no proffer that restricts traffic to the numbers used in the study, or otherwise limits the higher traffic generating uses that are allowed by-right with the zoning. Therefore the potential exists for the development to generate substantially more traffic than what is used in the analysis.

3) This is the 2nd TIA memorandum submitted (June 2021), in which trip generation and models have been adjusted. The original TIA has not been amended to incorporate the changes as submitted. The models are still based upon the original 2018 traffic counts, with 2026 and 2032 still used as the Build and Build +6 scenario. Additionally, the Synchro & SimTraffic models were not submitted for review.

4) The proposed 40’ public right of way serving the front residential may be insufficient to incorporate all of the required street design elements (pedestrian facilities, drainage structures, etc.).

5) The provided stubs in the concept plan are required per the SSAR regulations to be built to the property line.

6) Final design will be in accordance with the VDOT Road Design Manual. While it is understood that the development plan sheets submitted are not for construction, the following comments have been provided as a result of a preliminary review of the conceptual plans:

    - Pavement Markings and Sign details need to be submitted on a separate sheet for review in the site plan assembly.

- Construction site plans need to be submitted and include but are not limited to; intersection geometrics, lane configurations, transitions, turn lane warrants, corner radii, intersection site distances, right of way etc.

- AutoTurn analyses of study intersections need to be submitted to this office for review. The AutoTurn analysis will need to include a design vehicle of the largest type to be utilized for this site. This will ensure vehicle clearance as well as curb/median clearances are met.

- Sight distance for entrances and intersections must be evaluated for compliance in accordance with Appendix F of the VDOT Road Design Manual. Refer to Table 2-7.

- VDOT will have final approval of the design and construction of traffic signals, timings, and all equipment used for signal modifications. Intersection modifications and traffic signal design and phasing plans will need to be submitted for review and meet or exceed Eastern Region Operations standards and specifications. All design and construction costs will be the sole responsibility of the developer. A final traffic signal inspection will be completed by Department personnel. All punch list items resulting from this inspection will need to be corrected and re-inspected before the Department will assume responsibility of the traffic signal.

- Any right-of-way acquisition, as well as signal relocation or upgrades that are required for the recommended improvements shall be obtained, designed, and paid for by the developer.

Residential Pipeline Projects as of 10/14/22*

Projects listed below are either currently under construction or have not yet started.

SUBDIVISION NAME & DWELLING TYPE	NUMBER OF UNITS	DATE APPROVED	STATUS
Red Oaks MHP Phase II	191	1978	Dormant
Timber Preserve (aka Crown Creek) SFD	340	1986	Dormant
Cypress Creek PH 6 & 7 (Smithfield) SFD	194	1988	Under Construction
Mallory Point/Scott's Farm (Smithfield) SFD/SFA	812	2021	Dormant
Benns Grant Apartments	240	2009	Under Construction
St. Luke's Village SFD/SFA	179	2005	Dormant
Bridge Point Commons Apartments & Condos	350	2008	Dormant
Brewer's Station Apartments	162	2014	Under Construction
Brewers Station SFD & SFA	88	2014	Dormant
The Crossings Condos	210	2002	Under Construction
Archer's Meade SFD	63	2014	Dormant
South Harbor (Age Restricted) SFD & SFA	340	2020	Under Construction
The Park at Battery (Smithfield) Condos	150	2020	Dormant
Cambridge Villas (Windsor) SFD	212	2010	Dormant
The Heritage Apartments	12	2019	Under Construction
Windsor Station (Windsor)	60	2022	Dormant
James River Crossing (Bartlett Estates)	52	2022	Dormant
TOTAL UNITS	**3655**		
Units Under Construction	**1158**		
Remaining Units Approved but Dormant	**2497**		
2017-21 Avg. Building Permit/Year for Houses**	**230**		

*List includes major subdivisions only & not infill

**All new dwelling units incl. infill lots & family member lots comprising approx. 25% of permits

Isle of Wight County Schools
PREPARING STUDENTS FOR COLLEGE, CAREER AND LIFE

TO: Amy Ring, Director, Community Development
FROM: Dr. Theo Cramer, Superintendent
DATE: September 25, 2023
RE: Sweetgrass Project Revision: Conditional Zoning Request ZA-6-19; 14096 Benns Church Blvd., Smithfield, VA 23430, Tax Parcel # 32-01-009

Isle of Wight County Schools will see a significant impact from the proposed Sweetgrass development. Using the Tischler Bise Capital Impacts Model from the county, the residential units will generate additional students in the northern end of the county. The division recently rezoned the Sweetgrass area to Hardy Elementary School. Fortunately, Hardy Elementary, along with Westside Elementary, Smithfield Middle and Smithfield High have building space for the additional students.

However, there will be impacts on Isle of Wight County Schools from the enrollment increase. While the buildings may have space for the added students, the current staffing configuration does not. The projected elementary student increase will necessitate hiring at least 1 general education teacher for Hardy Elementary. An additional dedicated bus and driver is also required as the current transportation situation will not accommodate more elementary students.

Our current special education population is approximately 15% of our overall student population. Projecting with those figures, Smithfield High School will need an additional special education teacher and instructional assistant. We also expect to add a special needs bus, driver and assistant for the development.

Other impacts the division will realize include purchasing:

- Teaching resources needed for additional classrooms, teachers and students including but not limited to textbooks, instructional resources and technology resources.
- Furniture to accommodate increased enrollment.

There is the potential for other impacts, as well. IWCS must adhere to the Virginia Standards of Quality regarding class size:

"(i) 24 to one in kindergarten with no class being larger than 29 students; if the average daily membership in any kindergarten class exceeds 24 pupils, a full-time teacher's aide shall be assigned to the class; (ii) 24 to one in grades one, two, and three with no class being larger than 30 students; (iii) 25 to one in grades four through six with no class being larger than 35 students; and (iv) 24 to one in English classes in grades six through 12." § 22.1-253.13:2.

Depending on the grade levels of the new students and their course of study, there may be further staffing needs throughout the division.

In conclusion, Isle of Wight County Schools anticipates a significant financial impact from the proposed development.

Amy Ring

From: Tammie Clary <tclary@smithfieldva.gov>
Sent: Monday, October 16, 2023 10:51 AM
To: Amy Ring
Subject: RE: Sweetgrass PD-MX Conditional Zoning application

Caution: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning,

Below please find comments from the TOS Planning Commission on the proposed Sweetgrass project:

1. They believe it is a better plan than before; however, they would like to see more green space in the front of the development, removing the rear load dwellings near Recreational Area 2.
2. They would prefer greater side yard setbacks, and greater widths for the lots.
3. They are not in favor of the three house repeat.
4. They would like to see consideration to the roadways, accounting for on street parking on both sides of the street, while still allowing for two-way travel lanes.
5. They would like the opportunity to provide additional comments as the plan progresses.

Please let me know if you have any questions or concerns.

Thank you.

Best,

TAMMIE CLARY
Community Development & Planning Director
Town of Smithfield, Virginia
310 Institute St, Smithfield, VA 23430
1-(757)-365-4200

From: Amy Ring <aring@isleofwightus.net>
Sent: Wednesday, September 13, 2023 11:46 AM
To: Tammie Clary <tclary@smithfieldva.gov>
Subject: Sweetgrass PD-MX Conditional Zoning application

Caution: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning, Tammy,

You may have received a letter from us recently in regard to the upcoming public hearing for the proposed Sweetgrass conditional Planned Development-Mixed Use project on Route 10 adjacent to the Sherwin Williams paint store. As you recall, you all submitted comments on it previously, and it has since gone through several iterations since 2019. I'll be sending you the narrative, proffer statement, FIA, and TIA for your information via the Wetransfer site due to file size, should you choose to make comment. The staff report will be posted with the agenda next Wednesday evening. Have a good rest of the week, Amy

Amy M. Ring, AICP
Community Development Director
PO BOX 80, Isle of Wight, VA 23397
(757) 365-6210

Amy Ring

From: Christopher A. Morello
Sent: Monday, October 16, 2023 2:23 PM
To: Amy Ring
Cc: Kristi Sutphin
Subject: Comments: ZA-06-19 Conditional Rezoning request

Good afternoon, Amy –

Economic Development supports this conditional rezoning request and Sweetgrass' introduction of new housing that includes more affordable ownership options, hopefully many priced at less than $300,000 when completed. Up to 615 total units represents a potentially strong boost to small businesses in the county, as well. Ideally, the commercial space will be leased to tenants with services important to residents of the Sweetgrass community.

We note the concept plan's positive land use approach of placing commercial buildings close to Benns Church and most parking out of street view. In the Retail Center Design guidelines, an interesting façade is submitted as a sample for the retail. The office building sample, however, is architecturally incongruent with the retail aesthetic, monolithically brick & glass, and looks "dated." We'd recommend change consistent with the retail design and the spirit of the guidelines/standards, as written.

Please let us know if you have any questions about these comments.

- **Chris**

Christopher A. Morello (Chris) | Isle Biz Rocks !
Director, Isle of Wight County Economic Development
Cell: (757) 345-1048 | *Desk:* (757) 356-1969
Chris on LinkedIn | Email Chris

Local Roots, Global Reach

COOPERATIVE STRATEGIES

COMPLETE FINANCIAL & DEMOGRAPHIC PLANNING FOR EDUCATION



ISLE OF WIGHT COUNTY SCHOOLS
2022-23 HOUSING STUDY
OCTOBER, 2023

▶ SUBDIVISION YIELD ANALYSIS

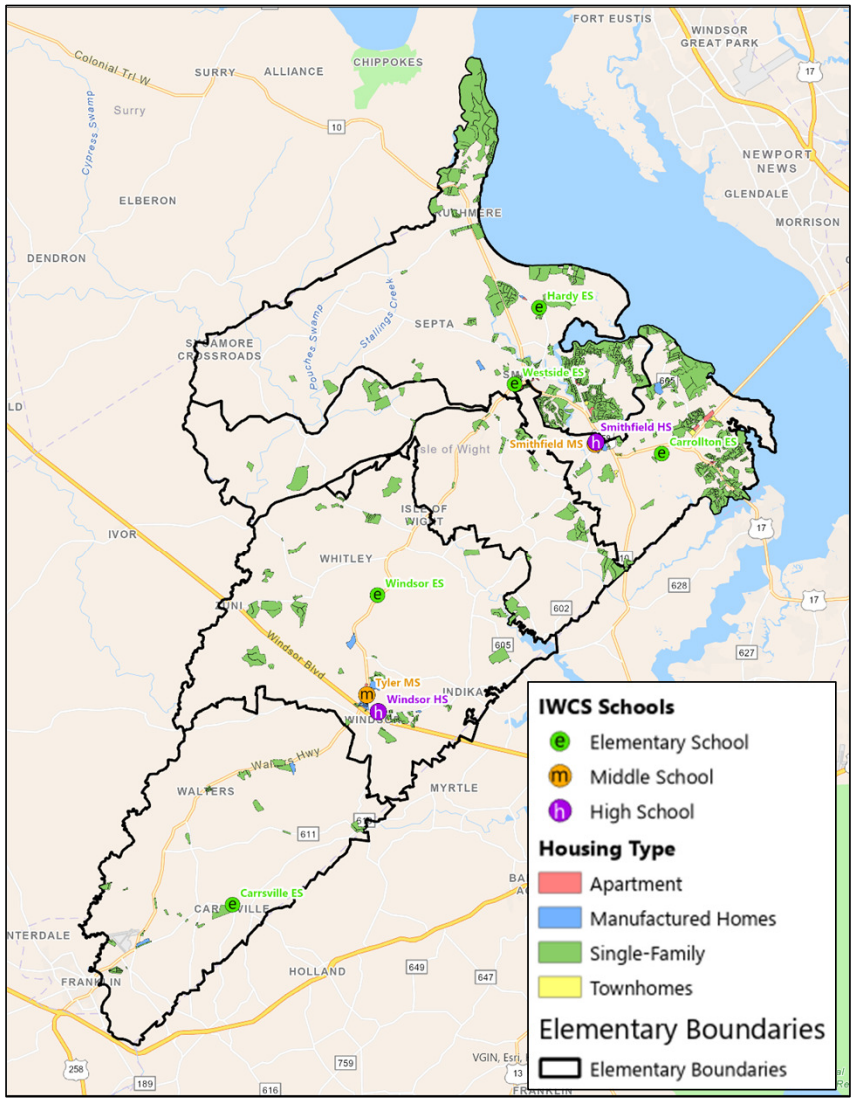
INTRODUCTION

Measures the impact that housing has on student enrollment



Study is based on student yields

- Ratio of students divided by housing units
- 5 students / 10 homes = 0.5 students/unit



▶ SUBDIVISION YIELD ANALYSIS

EXISTING HOUSING

Housing Type	Units	22-23 Students	22-23 Yield
Apartment	1,121	379	0.338
Manufactured Home	1,174	427	0.364
Single Family Home	8,380	2,888	0.345
Townhome	577	172	0.298
Total	**11,252**	**3,866**	**0.344**

▶ SUBDIVISION YIELD ANALYSIS

K-3 Yield by Boundary	Apartment	Manufactured Home	Single Family Home	Townhome
Carrollton/Westside 4-6	0.09	0.12	0.13	0.09
Carrsville ES	-	0.07	0.12	-
Hardy ES/Westside 4-5	-	-	0.04	-
Hardy ES/Westside 4-6	0.15	0.06	0.07	0.16
Windsor ES	0.09	0.12	0.10	-
Windsor ES/Westside 6	-	-	0.05	-
K-3 Subtotal	**0.11**	**0.10**	**0.09**	**0.09**

5-6 Yield by Boundary	Apartment	Manufactured Home	Single Family Home	Townhome
Carrollton/Westside 4-6	0.03	0.04	0.07	0.05
Carrsville ES	-	0.03	0.03	-
Hardy ES/Westside 4-5	-	-	0.01	-
Hardy ES/Westside 4-6	0.03	0.04	0.04	0.04
Windsor ES*	0.05	0.03	0.04	-
Windsor ES/Westside 6	-	-	0.04	-
5-6 Subtotal	**0.04**	**0.03**	**0.05**	**0.05**

*5th only

4th Grade Yield by Boundary	Apartment	Manufactured Home	Single Family Home	Townhome
Carrollton/Westside 4-6	0.02	0.04	0.04	0.02
Carrsville ES	-	0.02	0.02	-
Hardy ES/Westside 4-5	-	-	0.01	-
Hardy ES/Westside 4-6	0.03	0.03	0.02	0.05
Windsor ES	0.05	0.03	0.03	-
Windsor ES/Westside 6	-	-	0.01	-
4th Subtotal	**0.02**	**0.03**	**0.03**	**0.03**

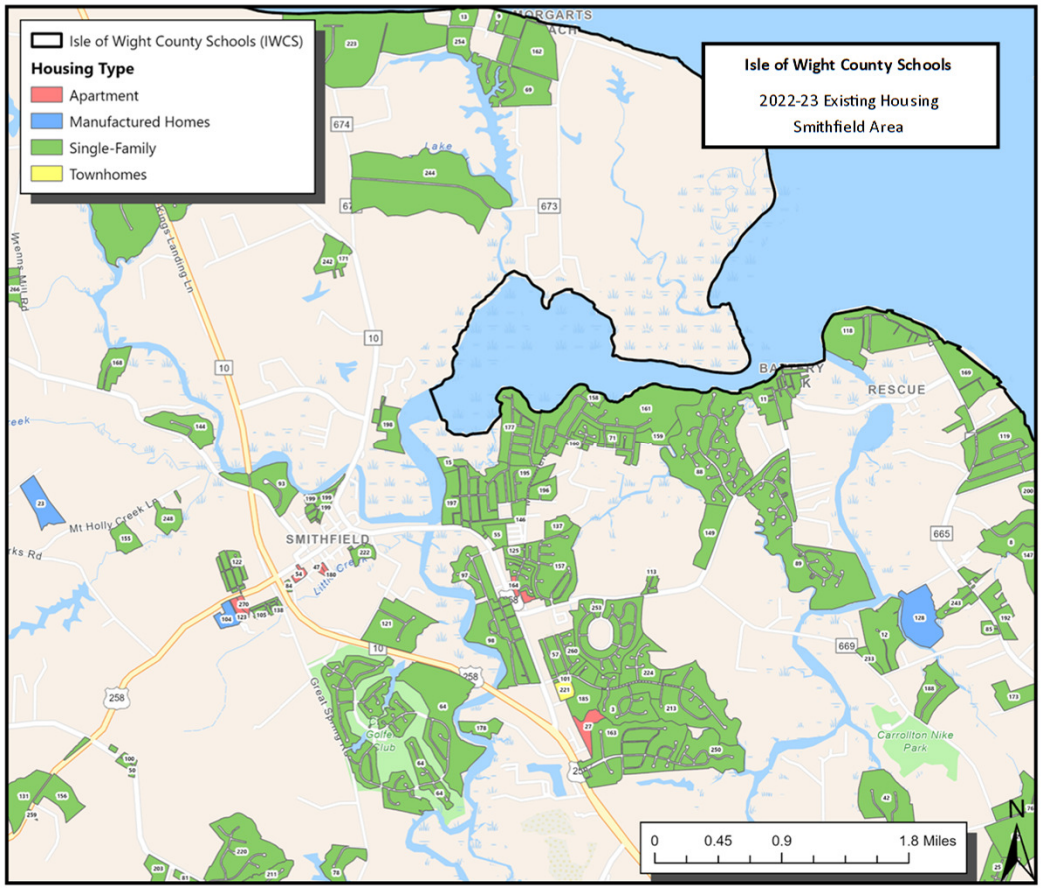
Middle & High School Yield by Boundary	Apartment	Manufactured Home	Single Family Home	Townhome
Optional MS**	-	-	0.05	-
Smithfield MS**	0.06	0.06	0.05	0.04
Tyler MS***	0.06	0.10	0.07	-
Middle Subtotal	**0.06**	**0.08**	**0.06**	**0.04**
Optional HS	-	-	0.09	-
Smithfield HS	0.10	0.12	0.12	0.09
Windsor HS	0.14	0.11	0.10	-
High Subtotal	**0.10**	**0.11**	**0.12**	**0.09**

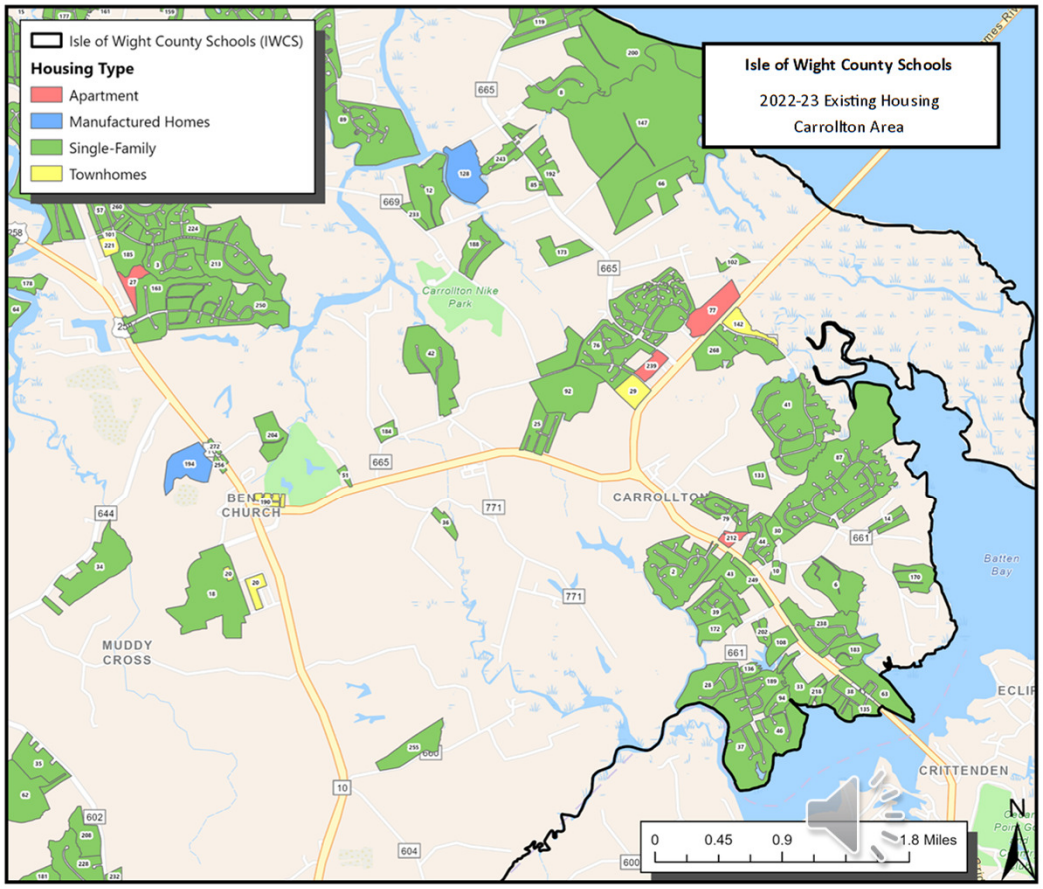
**7th-8th only

***6th-8th

▶ SUBDIVISION YIELD ANALYSIS

EXISTING HOUSING

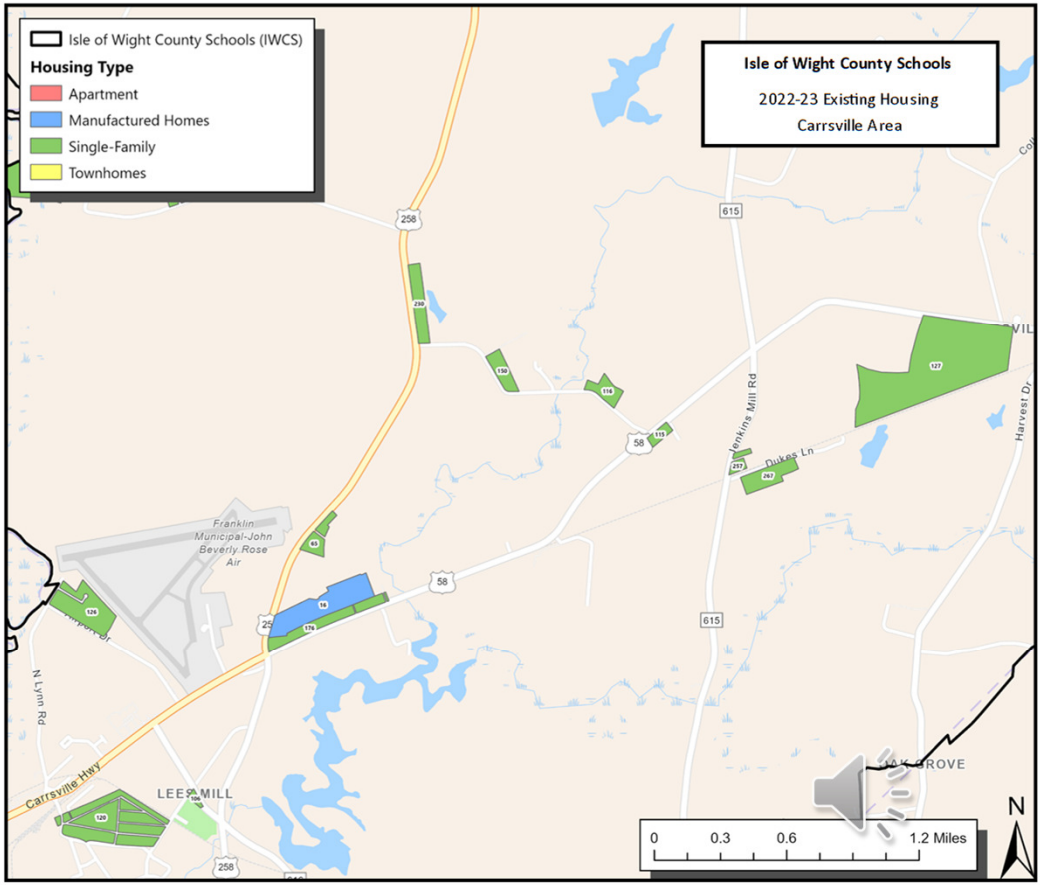




▶ SUBDIVISION YIELD ANALYSIS

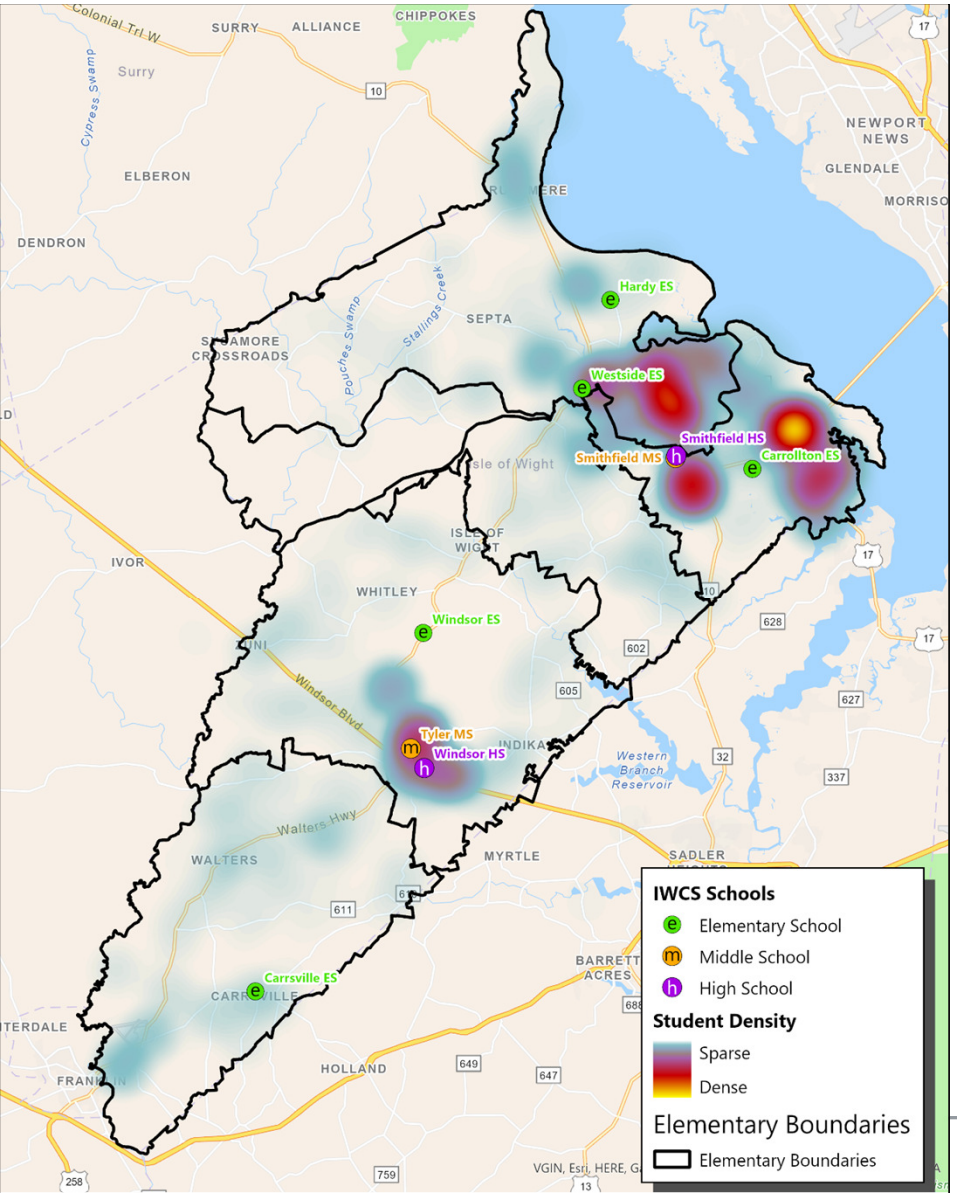
EXISTING HOUSING

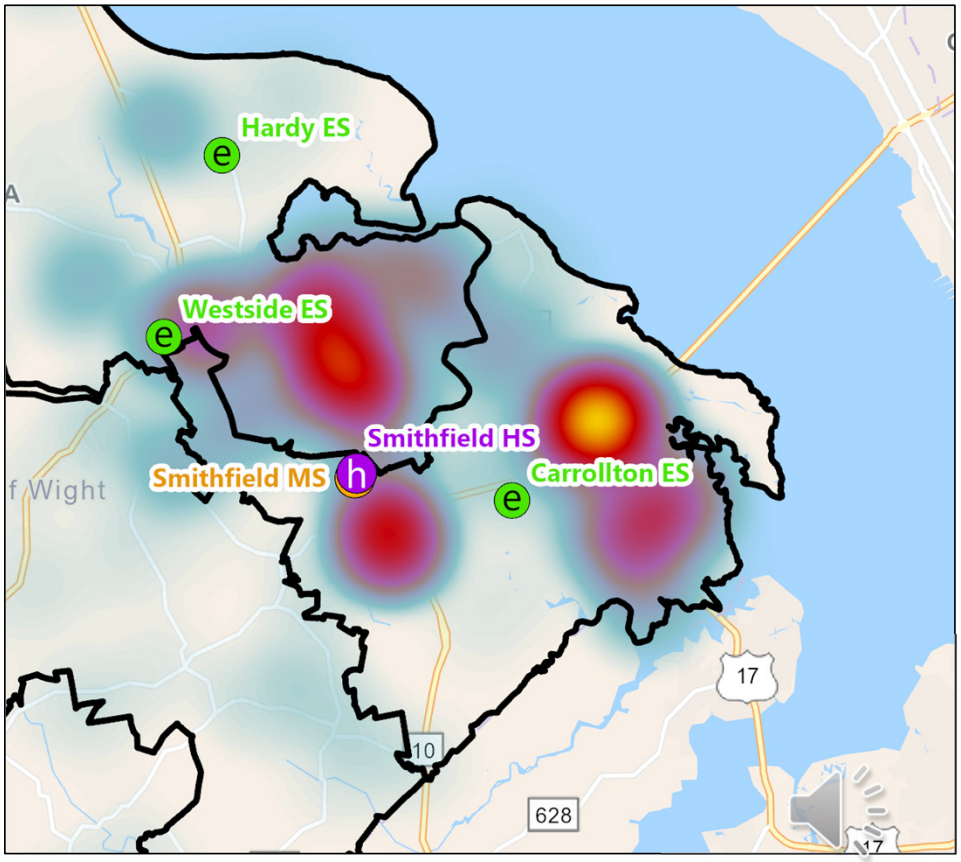




▶ SUBDIVISION YIELD ANALYSIS

STUDENT DENSITY





▶ SUBDIVISION YIELD ANALYSIS

HOUSING DEVELOPMENTS

	Development Information					Student Potential							
	Map ID	Name	Type	Status	Units	ES Boundary	MS/HS Boundary	K-3	4	5-6	7-8	9-12	K-12
Active & Planned Developments	1	The Park at Battery	Condo/Townhome	Approved	150	Hardy ES/Westside 4-6	Smithfield MS/HS	14	4	8	6	13	45
	2	Mallory Point/Scott's Farm	Single-Family	Under Design	614	Hardy ES/Westside 4-6	Smithfield MS/HS	58	17	30	34	71	210
			Duplex		198	Hardy ES/Westside 4-6	Smithfield MS/HS	22	5	8	12	20	67
	3	Timber Preserve	Single-Family	Approved	340	Carrollton/Westside 4-6	Smithfield MS/HS	32	9	17	19	39	116
	4	Benn's Grant	Apartments	Under Construction	240	Carrollton/Westside 4-6	Smithfield MS/HS	27	6	10	14	24	81
	5	St. Luke's Village	Single-Family	Approved	179	Carrollton/Westside 4-6	Smithfield MS/HS	17	5	9	10	21	62
	6	Brewer's Station	Single-Family	Under Construction	99	Carrollton/Westside 4-6	Smithfield MS/HS	9	3	5	6	11	34
	7	The Crossings	Single-Family	Under Construction	262	Carrollton/Westside 4-6	Smithfield MS/HS	25	7	13	15	30	90
	8	Archer's Meade	Single-Family	Under Design	63	Carrollton/Westside 4-6	Smithfield MS/HS	6	2	3	4	7	22
	9	Cypress Creek Phase 6	Single-Family	Under Construction	61	Hardy ES/Westside 4-6	Smithfield MS/HS	6	2	3	3	7	21
	10	Bridge Point Commons	Apartments	Under Design	350	Carrollton/Westside 4-6	Smithfield MS/HS	39	9	14	21	35	118
	Active & Planned Subtotal				**2,556**	-		**255**	**69**	**120**	**144**	**278**	**866**
Proposed	11	The Grange at 10Main	Single-Family	Future	58	Hardy ES/Westside 4-6	Smithfield MS/HS	5	2	3	3	7	20
		The Grange at 10Main	Apartments/Duplex		246	Hardy ES/Westside 4-6	Smithfield MS/HS	28	6	10	15	25	84
	12	Sweetgrass	Single Family	Future	225	Hardy ES/Westside 4-6	Smithfield MS/HS	21	6	11	13	26	77
	13	Kemp's Village East at Carrollton	Condo/Townhome	Future	35	Carrollton/Westside 4-6	Smithfield MS/HS	3	1	2	1	3	10
	Proposed Subtotal				**564**	-		**57**	**15**	**26**	**32**	**61**	**191**

As of Spring 2023:

Active & Planned:

+ 255 K-3
+ 69 4th
+ 120 5-6
+ 144 7-8
+ 278 9-12

Proposed:

+ 57 K-3
+ 15 4th
+ 26 5-6
+ 32 7-8
+ 61 9-12

▶ SUBDIVISION YIELD ANALYSIS

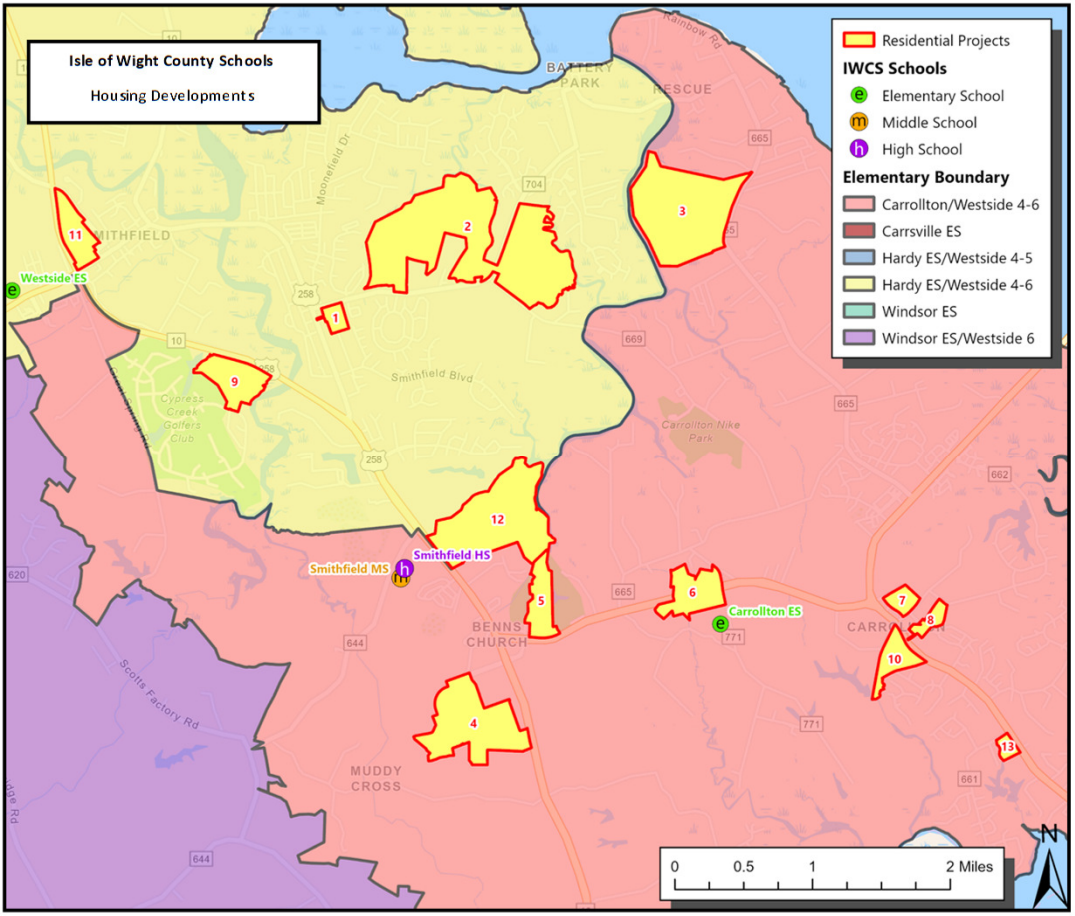
IMPACT TO SCHOOLS

School	Oct 31 Enrollment*	Capacity	Utilization	+ Housing Development	Future Utilization
Carrollton Elementary (PreK-3)	563	674	84%	158	107%
Carrsville Elementary (PreK-5)	246	310	79%		79%
Hardy Elementary (PreK-4)	639	1,011	63%	196	83%
Westside Elementary (4-6)	742	849	87%	188	110%
Windsor Elementary (PreK-5)	610	735	83%		83%
Georgie Tyler Middle (6-8)	366	535	68%		68%
Smithfield Middle (7, 8)	602	634	95%	176	123%
Smithfield High (9-12)	1,305	1,560	84%	339	105%
Windsor High (9-12)	524	875	60%		60%
TOTAL	**5,597**	**7,183**	**78%**	**1,057**	**93%**

*PK enrollment includes VPI, PK SPED, SPED intensive support, & PK Peer Models

▶ SUBDIVISION YIELD ANALYSIS

HOUSING DEVELOPMENTS



Development Concentration:

- Northern Carrollton boundary
- South to mid Hardy boundary

Heavily Impacted Schools:

- Carrollton ES
- Hardy ES
- Westside 4-6
- Smithfield MS
- Smithfield HS

Student Potential by Boundary & Grade Configuration	
Carrollton/Westside 4-6	158
Carrsville ES	0
Hardy ES/Westside 4-5	0
Hardy ES/Westside 4-6	154
Windsor ES	0
Windsor ES/Westside 6	0
K-3 Subtotal	**312**
Carrollton/Westside 4-6	42
Carrsville ES	0
Hardy ES/Westside 4-5	0
Hardy ES/Westside 4-6	42
Windsor ES	0
Windsor ES/Westside 6	0
4th Subtotal	**84**
Carrollton/Westside 4-6	73
Carrsville ES	0
Hardy ES/Westside 4-5	0
Hardy ES/Westside 4-6	73
Windsor ES*	0
Windsor ES/Westside 6	0
5-6 Subtotal	**146**
Optional MS	0
Smithfield MS	176
Tyler MS	0
Middle Subtotal	**176**
Optional HS	0
Smithfield HS	339
Windsor HS	0
High Subtotal	**339**
Total	**1,057**

▶ SUBDIVISION YIELD ANALYSIS

FACILITIES IDEAS

K-6/7-8 Option (requires redistricting)						
School	**23-24 Enrollment**	**Capacity**	**Utilization**	**+ Housing Development**	**Future Utilization**	**Facilities Considerations**
Carrollton Elementary (PreK-6)	2,926	3,579	82%	542	97%	Additions, or construct Westside ES larger than current, or construct new North side elementary
Carrsville Elementary (PreK-6)						
Hardy Elementary (PreK-6)						
Windsor Elementary (PreK-6)						
Westside Elementary (PreK-6)						
Georgie Tyler Middle (7-8)	840	1,169	72%	176	87%	Continue to track enrollment trends
Smithfield Middle (7-8)						
Smithfield High (9-12)	1,824	2,435	75%	339	89%	Continue to track enrollment trends
Windsor High (9-12)						
TOTAL	**5,590**	**7,183**	**78%**	**1,057**	**93%**	-



▶ SUBDIVISION YIELD ANALYSIS

FACILITIES IDEAS

K-5/6-8 Option (requires redistricting)						
School	**23-24 Enrollment**	**Capacity**	**Utilization**	**+ Housing Development**	**Future Utilization**	**Facilities Considerations**
Carrollton Elementary (PreK-5)	2,523	2,730	92%	469	110%	Construct new North side elementary
Carrsville Elementary (PreK-5)						
Hardy Elementary (PreK-5)						
Windsor Elementary (PreK-5)						
Westside Elementary (6-8)	1,243	2,018	62%	249	74%	-
Georgie Tyler Middle (6-8)						
Smithfield Middle (6-8)						
Smithfield High (9-12)	1,824	2,435	75%	339	89%	Continue to track enrollment trends
Windsor High (9-12)						
TOTAL	**5,590**	**7,183**	**78%**	**1,057**	**93%**	-

▶ SUBDIVISION YIELD ANALYSIS

FACILITIES IDEAS

K-3/4-6/7-8 Option (requires redistricting)						
School	**23-24 Enrollment**	**Capacity**	**Utilization**	**+ Housing Development**	**Future Utilization**	**Facilities Considerations**
Carrollton Elementary (PreK-3)	1,681	1,995	84%	312	100%	Addition(s), or construct new North side elementary
Carrsville Elementary (PreK-3)						
Hardy Elementary (PreK-3)						
Windsor Elementary (4-6)	1,245	1,584	79%	230	93%	Addition, or construct Westside ES larger than current
Westside Elementary (4-6)						
Georgie Tyler Middle (7-8)	840	1,169	72%	176	87%	Continue to track enrollment trends
Smithfield Middle (7-8)						
Smithfield High (9-12)	1,824	2,435	75%	339	89%	Continue to track enrollment trends
Windsor High (9-12)						
TOTAL	**5,590**	**7,183**	**78%**	**1,057**	**93%**	-



▶ SUBDIVISION YIELD ANALYSIS

FACILITIES IDEAS

K-4/5-7/8-9/10-12 Option (requires redistricting)						
School	**23-24 Enrollment**	**Capacity**	**Utilization**	**+ Housing Development**	**Future Utilization**	**Facilities Considerations**
Carrollton Elementary (PreK-4)	2,107	1,995	106%	396	125%	Construct new elementary
Carrsville Elementary (PreK-4)						
Hardy Elementary (PreK-4)						
Windsor Elementary (5-7)	1,228	1,584	78%	234	92%	Addition, or construct Westside ES larger than current
Westside Elementary (5-7)						
Georgie Tyler Middle (8-9)	941	1,169	80%	173	95%	Addition(s)
Smithfield Middle (8-9)						
Smithfield High (10-12)	1,314	2,435	54%	254	64%	-
Windsor High (10-12)						
TOTAL	**5,590**	**7,183**	**78%**	**1,057**	**93%**	-

COOPERATIVE STRATEGIES

COMPLETE FINANCIAL & DEMOGRAPHIC PLANNING FOR EDUCATION



THANK YOU

WE APPRECIATE YOUR TIME

MEMORANDUM

TO: Isle of Wight County Planning Commission

CC: Amy Ring and Bobby Jones

FROM: NVR, Inc.

DATE: October 20, 2023

SUBJECT: Sweetgrass Application – Responses to Questions and Comments Received at the September 26, 2023 Planning Commission Meeting

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Thank you for your thoughtful approach to the review of our application. We very much appreciate the time and attention you dedicated to our proposal and feedback we received. We have prepared this memorandum and its attachments in response to your questions and comments, which are listed below with our responses:

Fiscal Impact Analysis

Attached for your review is an updated version of our Fiscal Impact Analysis which reflects the price for the townhomes as $277,000.00 and the price for the age-restricted single-family dwellings as $374,000.00. The project's projected net positive revenue to the County at buildout is expected to be $850,000.00 annually.

Proffers

Attached for your review are updated proffers containing the following changes:

-The addition of a proffer prohibiting short term rentals within the community.
-The deletion of the sentence qualifying the prohibition on residents under the age of 19.
-The addition of a proffer requiring that the landscaping and buffer along the Commercial Area adjoining Rt. 10 be installed prior to issuance of the fiftieth residential certificate of occupancy.

Rt. 10 Viewshed

Attached is an elevation of the townhomes at the front of the Project, which was included in our last submission. Also attached are the following street view renderings:

-Views from Rt. 10 of Recreation Area 2 (the focal green space at the front of the Project).
-Views from Rt. 10 of the end units of the sections of townhomes at the front of the Project.
-A view from Rt. 10 of the Commercial Area landscaping and buffer (prior to commercial development).

The foregoing street view renderings have been added to the respective Design Guidelines for the Project (which are proffered) so that it is clear that consistency with these renderings is a requirement of the Project. We have also added enhanced architectural treatment of the units closest to Rt. 10 to the Residential Design Guidelines. Lastly, we have provided an updated image of an example office building responsive to the Economic Development Director's recent comments.

Master Plan Update

Attached for you review is an updated version of the Master Plan which includes screening of the properties to the south of the front portion of Project along Beechwood Lane.

Phasing and School Children

The below table shows the number of homes anticipated to be built each year and the corresponding projection of the number of school children projected to be generated each year through build out:

Year	Date	Townhomes	Age Restricted Single Family Detached Homes	Total Number of Homes	Elementary School Children	Middle School Children	High School Children	Total School Children	Running Total
1	2026	38	65	103	5	2	2	9	9
2	2027	38	65	103	5	1	3	9	18
3	2028	38	65	103	5	1	2	8	26
4	2029	38	65	103	5	2	2	9	35
5	2030	38	65	103	5	1	3	9	44
6	2031	35	65	100	5	1	2	8	52
Totals		225	390	615	30	8	14	52	

Based upon the most recent school capacity analysis provided to us by the County, it is reported to us by the County that there is adequate capacity to serve the students generated by the Project at the schools for which the Project is zoned in addition to approved and unbuilt projects in the same school zone. This conclusion is supported by a recent analysis of Isle of Wight school enrollment data reported by the Smithfield Times indicating that Isle of Wight schools have been experiencing a decline in enrollment in recent years. Accordingly, under state law, we are not able to offer cash proffers for school impacts. However, the incremental operational expenses of the school system in accommodating the students from our Project (e.g., hiring a new teacher, etc.) are accounted for in the Fiscal Impact Analysis as incremental expenses associated with the Project, and net revenue from the Project at build out is projected to be $850,000.00 annually even after accounting for such expenses (please see specific commentary on this issue in the updated Fiscal Impact Analysis).

Fire & EMS Impacts

We are advised by the County that the County's Fire and EMS services have adequate physical capacity (e.g., stations, trucks, etc.) to serve the increased demand for services generated by the Project. Accordingly, under state law, we are not able to offer cash proffers for Fire and EMS impacts. However, the incremental operational expenses for the County's Fire and EMS services in accommodating the students from our Project (e.g., hiring more paid staff) are accounted for in the Fiscal Impact Analysis as incremental expenses associated with the Project, and net revenue from the Project at build out is projected to be $850,000.00 annually even after accounting for such expenses (please see specific commentary on this issue in the updated Fiscal Impact Analysis).

Attachments:
-Updated Fiscal Impact Analysis
-Updated Proffers
-Street view renderings of the Project from Rt. 10
-Updated Design Guidelines
-Updated Master Plan

PROFFERED CONDITIONS

~~August 18~~October 20, 2023

Conditional Zoning Request ZA-6-19 (the "Application") has been filed by Henry Layden, as Special Trustee of The William G. Yeoman III Trust ("Owner"), the owner of certain real property located within the territorial confines of the County of Isle of Wight, Virginia (the "County") being a portion of that property located at 14096 Benns Church Blvd., Smithfield, VA 23430, Tax Parcel # 32-01-009 (the "Property") more particularly described on **Exhibit A** attached hereto and made part hereof. NVR, INC. ("NVR") is the contract purchaser of the Property. Yeoman and NVR (collectively, the "Owner") filed the Application requesting that the zoning of the Property be changed from RAC to C-PD-MX with proffers in order to permit the development of a mixed use planned development consisting of single-family dwellings, townhouses, and a commercial ~~outparcel~~ area (the "Project").

The Owner and the County have carefully evaluated, among other things, a traffic impact analysis, community impact analysis, and fiscal impact analysis (copies of which are on file with the County's Community Development Department, hereinafter referred to as the "Department") and the on and off site impacts of the Project and have determined (i) the impacts specifically attributable to the Project (the "Impacts"), (ii) certain Impacts create a need (or identifiable portion of a need) for the expansion of existing capacity of public transportation facilities (the "Expansion of Existing Capacity"), (iii) the Project will receive a direct and material benefit from the Expansion of Existing Capacity and Proffer 6 below, and (iv) the provisions of the County's zoning ordinance ("Zoning Ordinance") are inadequate for addressing various of the Impacts and necessitate supplementation by these Proffers.

In furtherance of the Application, the Owner, for itself and its successors and/or assigns, hereby voluntarily proffers the conditions specifically set forth below, in addition to the regulations provided for by the Zoning Ordinance, which proffered conditions are determined by the Owner and, upon acceptance by the Board of Supervisors in connection with the approval of the Application, the County: (i) to be reasonable, (ii) to address impacts specifically attributable to the Project, (iii) to address the need (or identifiable portion of a need) for the Expansion of Existing Capacity, (iv) to directly and materially benefit the Project, (v) to have a reasonable relation to the proposed change in zoning, (vi) to be in conformity with County's adopted comprehensive plan, and (vii) to be in accordance with the provisions of Section 15.2-2296, et seq. of the Code of Virginia (1950), as amended (the "Virginia Code"), Sections 15.2-2303.2 through 15.2-2303.4 of the Virginia Code, and the County Zoning Ordinance. The following proffered conditions apply only to the Property.

1. Plan of Development. A conceptual development plan of the Project entitled "MASTER PLAN FOR SWEETGRASS", dated June 14, 2019, and last revised ~~August 18~~October 17, 2023, prepared by AES Consulting Engineers (the "Master Plan"), has been submitted to the County Planning Division for review by the County in connection with the Application. The Master Plan is on file with the Department. Development of the Property shall be in substantial conformance, as determined by the Community Development Director (the "Director") with the Master Plan.

2. Residential Units. There shall be no more than 615 residential dwellings (the "Residential Units") constructed on the Property, of which no more than 390 of the Residential Units shall be single-family (detached) dwellings, and no more than 225 of the Residential Units shall be townhouses.

3. Non-Residential Use Restrictions. The use of the portion of the Property designated as "COMMERCIAL SECTION 5 AC +/-" on the Mater Plan (the "Commercial Area") shall be limited to (a) inline retail and commercial uses (including accessory uses) comprising no more than 18,000 square feet of floor area, and (b) office uses (including accessory uses) comprising no more than 55,000 square feet of floor area. Notwithstanding the foregoing, the Owner shall not be permitted to develop an amount of non-residential floor area on the Commercial Area that would be projected to exceed 220 p.m. peak hour trips (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) until the Owner submits for review and approval by the County and the Virginia Department of Transportation ("VDOT") an updated traffic impact analysis including such proposed additional square footage and includes in its site plan for such additional commercial square footage any traffic improvements recommended by the updated traffic impact analysis and not already contained in these Proffers. If not previously installed in connection with the development of the Commercial Area, the landscaping and buffer located on the Commercial Area adjacent to Rt 10 (Benns Church Boulevard) shall be installed prior to issuance of the 50th certificate of occupancy ("CO") for Residential Units on the Property.

4. Design. The Residential Units and clubhouse on the Property shall be constructed by the Owner in substantial conformance with the architectural elevations entitled "Sweetgrass Elevations", dated ~~June 15~~October 20, 2023 (the "Elevations") and the design guidelines entitled "Residential Design Guidelines for Sweetgrass Development", dated ~~June 16~~October 20, 2023 (the "Residential Guidelines"), as determined by the Director. The development within the Commercial Area shall be constructed by the Owner in substantial conformance with the design guidelines entitled "Commercial Center Design Guidelines for Sweetgrass Development", dated August 18, 2023 (the "Commercial Guidelines"), as determined by the Director. A copy of the Elevations, the Residential Guidelines, and the Commercial Guidelines are on file in the Department. The Elevations, Residential Guidelines, and Commercial Guidelines may be modified from time to time provided that such modifications do not alter the basic concept or character of the Elevations, Residential Guidelines, and Commercial Guidelines and provided that such amendments are approved by the Director for consistency with the terms of this proffer.

5. Age Restriction. All of the single-family (detached) dwellings Residential Units shall be occupied solely as "housing for older persons" as such term is defined in Virginia Code Section 36-96.7(A), provided no person under 19 years of age shall be housed or domiciled or shall reside in any Residential Unit. ~~For purposes of the foregoing, a person shall be deemed to be housed, domiciled or to reside in a Residential Unit if he or she stays overnight for more than 75 days in any 90-day period or for more than 90 days in any 12-month period.~~ Such restriction shall be set forth in the Declaration and enforced by the Association (as such terms are defined in Proffer 9 below). Unless otherwise approved by the Director, each age-restricted Residential Unit shall have a first-floor bedroom and full bath.

6. Traffic Improvements.

a. Prior to the issuance of the first certificate of occupancy for Residential Units on the Property (not including model homes), the construction, installation, and/or implementation of the following improvements shall be completed or guaranteed by the Owner in accordance with Virginia Code Section 15.2-2299 or such successor provision (a "Guarantee"):

i. Westbound right turn lane (200-foot storage plus 200-foot taper) into right in/right out proposed secondary Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

ii. Westbound right turn lane (200-foot storage plus 200-foot taper) into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

iii. Lengthen the existing eastbound left turn lane to provide 200-foot storage plus 200-foot taper into proposed main Project entrance off of US 258/Rt 10 (Benns Church Boulevard);

iv. Lengthen the existing westbound left turn lane on US 258/Rt 10 to provide 250-foot storage plus 100-foot taper at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive (the "Rt. 10/Turner Drive Turn Lane Improvement");

v. Replace the existing 3 section signal head serving the dedicated right turn lane on eastbound Turner Drive at US 258/Rt 10 (Benns Church Boulevard) with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 1"); and

vi. Install flashing yellow arrows for the eastbound and westbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) and Canterberry Lane, Cypress Run Drive, and Turner Drive.

b. At such time as deemed warranted by VDOT, but in no event prior to issuance of the 50th ~~certificate of occupancy ("CO")~~ CO for Residential Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first), the Owner shall replace the existing 3 section signal head serving the dedicated right turn lane on eastbound US 258/Rt 10 (Benns Church Boulevard) at Turner Drive with a 5 section signal head to provide a protected eastbound right-turn overlap (the "Rt. 10/Turner Drive Signal Improvement 2"). In the event that the Rt. 10/Turner Drive Signal Improvement 2 is not warranted by VDOT prior to the issuance of the final CO for Residential Units on the Property, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of Rt. 10/Turner Drive Signal Improvement 2 (including design, construction, labor, and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(b).

c. Notwithstanding the preceding subsections a(iv), a(v), and b, if the County, prior to implementation of the Rt. 10/Turner Drive Turn Lane Improvement, Rt. 10/Turner Drive Signal Improvement 1, and/or the Rt. 10/Turner Drive Signal Improvement 2 (collectively, the "Rt. 10/Turner Drive Proffered Improvements") (i) approves or adopts plans for modification of the intersection of US 258/Rt 10 (Benns Church Boulevard) and Turner Drive that conflict with or supersede one or more of the Rt. 10/Turner Drive Proffered Improvements, or (ii) accepts proffers from or imposes conditions upon another developer(s) for substantially the same obligations as one or more of the Rt. 10/Turner Drive Proffered Improvements (each of such affected Rt. 10 Turner Drive Proffered Improvements being an "Affected Improvement"), then the Owner shall contribute to the County an amount of cash equal to the then estimated cost to complete the Affected Improvement(s) (including design, construction, labor, and materials) as approved by the County multiplied by the Project's proportionate share (assuming the

Project's full buildout) of the vehicle trips associated with such Affected Improvements (as determined by the then current edition of the Institute of Transportation Engineers Trip Generation Manual) (the "Cash in Lieu Payment") no later than ninety (90) days after (1) the award of the construction contract for the construction of such conflicting, superseding, or substantially similar improvement(s), and (2) issuance a written request from the County to the Owner for such Cash in Lieu Payment; provided, however, under no circumstances shall the Cash in Lieu Payment be due prior to issuance of the 50th CO for Residential Units on the Property (or the commencement of construction of improvements on the Commercial Area, whichever occurs first). The payment by the Owner to the County of such Cash in Lieu Payment shall be deemed satisfaction in full of the corresponding portion of the Rt. 10/Turner Drive Proffered Improvements.

d. At such time as deemed warranted by the VDOT, the Owner shall install a traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. Prior to the issuance of the 150th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal (including flashing yellow arrows for the eastbound and westbound left turn lanes and any planned pedestrian accommodations at the signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

i. In the event that such traffic signal is not warranted by VDOT in connection with the first traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 300th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

ii. In the event that such traffic signal is not warranted by VDOT in connection with the second traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 450th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of certificates of occupancy for more than 50 additional

residences after the date upon which VDOT issues to Owner written confirmation that the signal is warranted.

iii. In the event that such traffic signal is not warranted by VDOT in connection with the third traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed above the foregoing thresholds; however, prior to the issuance of the 600th CO for Residential Units on the Property, Owner shall submit to VDOT a traffic signal warrant analysis for the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance. In the event the analysis concludes, and VDOT concurs, that a traffic signal is warranted at this intersection, then the Owner shall Guarantee a traffic signal at the intersection of US 258/Rt 10 (Benns Church Boulevard) and the Project's main entrance and shall complete the installation of such signal prior to the issuance of the final certificate of occupancy for the Residential Units on the Property.

iv. In the event that such traffic signal is not warranted by VDOT in connection with the fourth traffic signal warrant analysis, then Owner's development of the Property (and permits and approvals therefor) may proceed through to the issuance of the final CO for Residential Units on the Property; however, unless waived by the Director based on an agreed upon alternative, the Owner shall pay to the County the then estimated cost of the traffic signal (including design and construction labor and materials) as approved by the County, and upon such payment shall be deemed to have satisfied all of its obligations under this Proffer 6(d).

7. Timing of Recreational Amenities. The clubhouse and pool described on the Master Plan shall be completed prior to issuance of the 150th CO for Residential Units constructed on the Property. If not sooner constructed, the pedestrian amenities shown on the Master Plan shall be constructed sequentially by phase when the corresponding phase of the development in when such amenities are shown is constructed.

8. Archaeology. A Phase I Archaeological Site Assessment for the Property shall be submitted to the Director for their review and approval prior to preliminary site plan or subdivision plan submittal. A treatment plan or Phase II Archaeological Site Assessment shall be submitted to, and approved by, the Director for all sites in the Phase I study that are recommended for a Phase II evaluation, and/or identified as being eligible for inclusion on the National Register of Historic Places. If a Phase II study is undertaken, such a study shall be approved by the Director and a treatment plan or Phase III Archaeological Site Assessment for said sites shall be submitted to, and approved by, the Director for sites that are determined to be eligible for inclusion on the National Register of Historic Places and/or those sites that require a Phase III study. If in the Phase II study, a site is determined eligible for nomination to the National Register of Historic Places and said site is to be preserved in place, the treatment plan shall include nomination of the site to the National Register of Historic Places. If a Phase III study is undertaken for said sites, such studies shall be approved by the Director prior to land disturbance within the study area. All Phase I, Phase II and Phase III studies shall meet the Virginia Department of Historic Resources' Guidelines for Preparing Archaeological Resource Management Reports and the Secretary of the Interior's Standard and Guidelines for Archaeological Documentation, as applicable, and shall be conducted under the supervision of a qualified archaeologist who meets the qualifications set forth in the Secretary of the Interior's Professional Qualification Standards. All approved treatment plans shall be incorporated into the

plan of development for the site and shall be adhered to during the clearing, grading and construction activities thereon.

9. Property Owners Association. The Owner shall form one or more Property Owners' Associations and/or a Condominium Unit Owners Associations (each an "Association"), which may include separate or sub-associations for the age restricted and non-age restricted Residential Units, in accordance with Virginia law, with the preparation and execution of a Declaration of Covenants, Conditions and Restrictions or Declaration of Condominium, as applicable (a "Declaration") with the members thereof being the owners of the portions of the Property designated for residential use (the "Residential Property"). The Declaration shall provide for, among other things, the qualifying age restrictions in Proffer 5 above, design review by a design review board, and the conveyance from the Owner to an Association of all of the common areas, open spaces, green areas, recreation areas and facilities and the stormwater management system associated with the Residential Property (collectively, the "Common Elements"). The Owner agrees that it shall retain sole responsibility for the maintenance of the Common Elements until such time as the same are conveyed to an Association, at which time the obligation shall be assigned to an Association. Each Residential Unit owner within the Residential Property shall be a voting member of an Association and be subject to assessments as set forth in the Declaration. The Declaration shall be subject to the approval of the County Attorney for consistency with this proffer and upon approval shall be duly recorded in the Clerk's Office for the Circuit Court of Isle of Wight County. The Declaration shall be recorded in connection with the recordation of the first subdivision (or condominium) plat for the Residential Units on the Property.

10. Short Term Rental Prohibition. No Residential Unit shall be leased for a term of less than one year except as may be necessary to comply with applicable law (e.g., Servicemembers Civil Relief Act). No leases or other temporary occupancy agreements on a daily, weekly or monthly basis shall be permitted for any Residential Unit. No lease of less than all of a Residential Unit shall be permitted.

~~10.~~11. Successors and Assigns. These Proffers shall run with the title to the Property and shall be binding on the parties hereto and their respective successors and assigns; provided, however once a party ceases to own any portion of the Property, such party shall have no continuing liability hereunder.

~~11.~~12. Severability. In the event that (i) the County's approval of the Application and/or acceptance of these Proffers is appealed within 30 days after the date of the Board of Supervisors' action on same, and (ii) any clause, sentence, paragraph, subparagraph, section or subsection of these Proffers shall be judged by any court of competent jurisdiction to be invalid or unenforceable for any reason, including a declaration that it is contrary to the Constitution of the Commonwealth of Virginia or the United States, or if the application thereof to any owner of any portion of the Property or to any government agency is held invalid, then the change in zoning intended to be accomplished by the County's approval of the Application and acceptance of these Proffers shall be deemed void and the zoning of the Property shall automatically revert to that which existed immediately prior to the date of such approval.

~~12.~~13. Headings. All paragraph and subparagraph headings of the Proffers herein are for convenience only and are not part of these Proffers.

~~13.~~14. Conflicts. In the event that there is any conflict between these Proffers and the Zoning Ordinance, the conflict shall be resolved by the County's Director subject to the appeal process to the Board of Zoning Appeals and the Courts as otherwise provided by law.

~~14.~~15. Void if Application not Approved. In the event that the Application is not approved by the County or is overturned by subsequent judicial determination, these Proffers and the Master Plan shall be null and void.

[SIGNATURES LOCATED ON FOLLOWING PAGES]

[SIGNATURE PAGE TO PROFFERS]

WITNESS the following signatures, thereunto duly authorized:

NVR, INC.

By: _____

Print Name: _____

Title: _____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 2023 by _____ as _____ of NVR, Inc.

_____
NOTARY PUBLIC

My commission expires: _____
Registration No.: _____

[SIGNATURE PAGE TO PROFFERS]

THE WILLIAM G. YEOMAN III TRUST :

_____

Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF _____, to wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 2023 by Henry Layden, special Trustee of the William Grover Yeoman III Trust, dated December 14, 2007, as amended.

_____

NOTARY PUBLIC

My commission expires: _____
Registration No.: _____

EXHIBIT A

All that certain tract, piece or parcel of land containing approximately 249.47 acres, situate, lying and being near Benns Church, in Newport Magisterial District, Isle of Wight County, Virginia; lying on the East side of State Highway No. 10, and bounded by said Highway, the lands now or formerly of Daisy M. Bunkley, Phillip F. Edwards, Jones' Creek, the lands now or formerly owned by George Yeoman, Christie Jordan, C.E. Johnson, J.F. Minton and others and being a portion of the same land of which E.K. Batten and Maggie E. Batten, his wife, died seized and possessed.

RESIDENTIAL

DESIGN GUIDELINES

FOR

SWEETGRASS DEVELOPMENT

DATED

October 20, 2023

BUILDING design guidelines seek to create a distinct yet coherent architecture that will foster a unique identity for Sweetgrass and form the backdrop to a rich street level experience. These guidelines will significantly help distinguish the community, help define its character and eventually raise its value in the marketplace. The following set of principles will be applied to each of the buildings, irrespective of its use or location.

1. Build in the tradition of simple yet elegant designs. Building architecture and elevations promote a more contemporary nature through use of simple unifying roof and window lines and careful selection of materials. The building aesthetic should emerge from elevation components and building details rather than from mere ornamentation.

2. Variety- Single family homes immediately adjacent to or across from one another shall have distinct and different elevations. No identical color schemes for single family detached houses shall be repeated within three consecutive lots.

3. Use traditional, high quality and durable materials throughout the community. When walls are constructed of more than one material, changes in material shall be permitted along a horizontal or vertical line and should reinforce a base, middle and top for the building. Building walls shall be of one or more of the following materials:

- Brick- A variety of traditional brick colors and modules and bonding variations are encouraged
- Stone- Natural stone and stone veneer are permitted and shall be laid predominantly rectilinear stones in a horizontal pattern. Cast stone shall be permitted as sills, headers and accents.
- Siding- Cement or fiber board siding or high-quality vinyl or its equivalent is the prescribed siding material where brick or stone is not utilized. Aluminum siding is not permitted. A variance in color and texture is encouraged.

4. Emphasize main entries of each home regardless of elevation. The main entrance to each home should be easily identifiable from the main travel ways through use of materials and forms.

Single Family Detached Lots Guidelines

"The architecture shown herein is a representation of builders' architecture that may be built in Sweetgrass, but does not represent the full sampling of architecture or builders that may be provided
within the community."

In a development like Sweetgrass it is important to capture a broad buyer group including new buyers, upgrade buyers, move-down buyers, etc. Sweetgrass is offering 3 different minimum lot sizes within the community. The minimum lot size of a single family detached lot is 50' wide (measured at the front BSL) x 100'deep.

Minimum Building Setback Line (BSL)

20' front
15' rear
5' side

Architecture Treatments and Materials

Single Family Detached Highly Visible Lots (HV)

Lots on prominent corners will be designated as High Vis or "HV" lots. These prominent corners will be defined as those fronting on multiple public rights of way, or those that directly border any of the defined recreation areas. These lots will be required to have upgraded architectural features on the visible facades.

HV Features required:

- Masonry water table
- Storm shutters or Trimmed windows
- Gable vent or other similar trim

High Visibility "HV" lots must have landscaping placed along the side foundation that faces the street. The corner lot side setback will be 10 from public right of way'.

Elevations and Materials

Creating a unique and diverse streetscape throughout Sweetgrass is a high priority; to continue pursuing this there will be limitations placed on the frequency and location of elevations that can be used on adjacent lots. The following guidelines shall be followed:

- Builder elevations will be reviewed and approved by the developer prior to construction to ensure a cohesive theme throughout the community.
- Lots next to or across the street from each other cannot be the same elevation/model.
- Accent materials shall be varied to create more differentiation between lots.

Traditional, high-quality and durable building materials shall be used throughout the community. Building materials shall meet all current Local, State, and Federal building codes and regulations. Materials include:

- Brick; includes painted brick
- Natural stone
- Stone veneer
- High quality vinyl siding
- Cement or fiber board siding

Fencing, Landscaping, HVAC Equipment, and Height Restrictions

Fences

Fences will be permitted within the Sweetgrass community but must follow the guidelines below and in accordance with County Code:

- Fence material shall be vinyl.
- Vinyl fencing must be white and non-glossy; including vinyl covered picket fencing.
- Maximum fence height shall be six (6) feet.
- No front yard fencing shall be allowed.
- Fencing shall not be used to satisfy upgraded architectural requirements.

Landscaping

Lot landscaping and screening can add a lot of value and create and aesthetically pleasing streetscape throughout the community. The follow guidelines shall be considered:

- Foundation plantings must be included on every house prior to occupancy.
- Corner lots or high vis lots shall have landscape buffers to screen sides of houses from the street.
- Lots that back to other lots shall include landscaping at the rear of the property to create a visual screen between adjacent lots. Buffer shall be located outside drainage or utility easements.

Utility Equipment

- HV lots shall ensure the HVAC equipment is screened from view of the street with a fence or other opaque screen.
- No equipment shall be placed on the side of the house that abuts two public streets.

Height

- No single family detached dwellings median roof height will be taller than 45 feet in height.

Single Family Attached (SFA) Lots Guidelines

"The architecture shown herein is a representation of builders' architecture that may be built in Sweetgrass but does not represent the full sampling of architecture or builders that may be provided within the community."

In a development like Sweetgrass, it is important to capture a broad buyer group including new buyers, upgrade buyers, move-down buyers, etc. Sweetgrass is offering 2 single-family attached Products.

Minimum Lot Size:	Maximum Stories:
Interior Lot: 1400 square feet	3 levels
Exterior Lot: 1800 square feet	

Setbacks

SFA Fee Simple:

Rear Loading Town Home Building Restriction Line (BSL)

Front yard:	5 feet minimum (front door to front property line).
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)

Front Loading Town Home Building Restriction Line (BSL)

Front yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	10 feet minimum (From rear of unit to property line)

SFA Condominium Ownership:

Rear Loading Town Home Building Restriction Line (BSL)

Front yard:	5 feet minimum; 20' minimum building separation between buildings
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)

Front Loading Town Home Building Restriction Line (BSL)

Front yard:	Sufficient to accommodate an 18.5 ft parking space (Not to include, right of way or sidewalk)
Side yard:	10 feet minimum; 20' minimum building separation between buildings
Rear yard:	10 feet minimum; 20' minimum building separation between buildings

Setback guidelines:

- Every other lot shall be staggered by two (2) feet for each lot located
- The two (2) alternate setback lots must be separated by a Typical front yard setback lot.
- Front porches will be allowed to encroach over the front yard BSL by 3'.

Architecture Treatments and Materials

Single Family Attached (SFA) Highly Visible Lots (HV)

Lots on prominent corners will be designated as High Vis or “HV” lots. These prominent corners will be defined as those fronting on multiple public rights of way, the subdivision entrance road or those that directly border any of the defined recreation areas. These lots will be required to have upgraded architectural features on the visible facades. Features to be included on these lots are outlined below:

Single Family Attached High Vis 1 Lots (HV1)

Features required:

- Masonry water table
- Storm shutters
- Trimmed windows
- Gable vent
- Gable trim
- Siding located in reverse gable shall be architecturally different from main portion of the house. Options include:
    - Tighter spaced siding
    - Shake siding
    - Vertical siding

*Rt 10 HV1 Single Family Attached units

On HV1 lots that face Route 10, all the above HV1 guidelines apply plus the following:

- Garage Entry Door
- Sidewalk from Door to driveway
- Awning above side entry door
- Landscaping buffer between unit and route 10 to shield view. Must match the length of the side elevation. See attached Rt. 10 street view renderings.

Elevations and Materials

Creating a unique and diverse streetscape throughout Sweetgrass is a high priority; to continue pursuing this there will be limitations placed on the frequency and location of elevations that can be used on adjacent lots. The following guidelines shall be followed:

- Builder elevations will be reviewed and approved by the developer prior to construction to ensure a cohesive theme throughout the community.
- Accent materials shall be varied to create more differentiation between elevations.

Traditional, high-quality and durable building materials shall be used throughout the community. Building materials shall meet all current Local, State, and Federal building codes and regulations.

- Materials include:
    - Brick; includes painted brick
    - Natural stone
    - Stone veneer
    - High quality vinyl siding
    - Cement or fiber board siding

Fencing, Landscaping and HVAC Equipment

Fences

Fences will be permitted within the Sweetgrass community but must follow the guidelines below and be in accordance with County Code.

- Fence material shall be vinyl.
- Vinyl fencing must be white and non-glossy
- Maximum fence height shall be six (6) feet.
- For end units side yard fencing shall not extend beyond the middle point of the house.
- Corner lot fencing layout shall be reviewed on a case by case basis, and must meet the minimum County ordinance requirements, to determine the appropriate fence location
- No front yard fencing shall be allowed.
- Fencing shall not be used to satisfy upgraded architectural

requirements. Landscaping

Lot landscaping and screening can add a lot of value and create and aesthetically pleasing streetscape through-out the community. The follow guidelines shall be considered:

- Foundation plantings must be included on every house once constructed.
- Lots with walk-out basements or exposed foundations shall include landscaping to break up large architecture planes.
    - Columnar or taller evergreens shall be used to “soften” the architecture.
- Corner lots or high vis lots shall have landscape buffers to screen rear or sides of houses from the street.
- Lots that back to other lots shall include landscaping at the rear of the property to create a visual screen between adjacent lots. Buffers shall be located outside of drainage and utility easements.

HVAC Equipment

- HVAC units shall be placed in the rear yard.
- High Vis 1 lots shall ensure the HVAC equipment is screened from view of the street with a fence or other opaque screen.
- No equipment shall be placed on the side of end

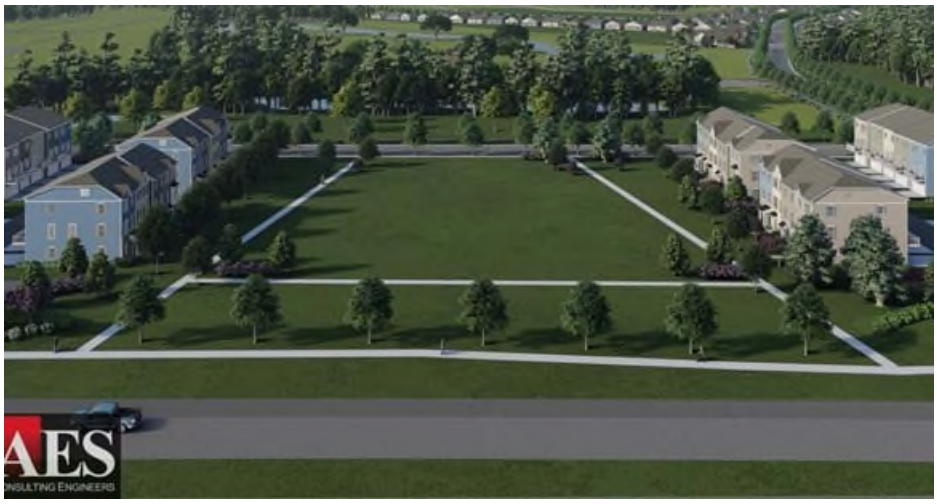
units. Height Restrictions

- No single family attached dwellings median roof height will be taller than 48 feet in height.

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Rt. 10 Streetview

These renderings are merely an illustration of the concept and quality of the buffer at maturity.






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COMMERCIAL CENTER

DESIGN GUIDELINES

FOR

SWEETGRASS DEVELOPMENT

DATED ~~JUNE 16~~October 20,
2023

COMMERCIAL CENTER STANDARDS (Sweetgrass)

1. Introduction

The commercial center within Sweetgrass is located along the frontage of Route 10 on the Town limits of Smithfield. This commercial center establishes the first image and impression of the Sweetgrass Community and the Town of Smithfield to those who pass by or visit from other areas in the region. Architectural character, landscape requirements, parking and service areas, pedestrian interaction, vehicular movement, signage and lighting are all major factors which should be considered in the design of any commercial center.

2. Building Placement & Massing

2.1. Building Orientation

The orientation and massing of a group of buildings or single building within the commercial center should create a positive spatial ensemble rather than occur as free standing random elements. Buildings should be located so that they form an ordered relationship with one another, ideally through the creation of public open space.

2.2. Building Shape and Footprint

Buildings should be predominantly rectangular in shape or composed of simple rectangular pieces.

Where building footprints are larger than 10,000 sf the buildings should be broken up with alternating materials or architectural elements that give the appearance of multiple buildings. Additionally building depths may not be greater than 100' without being divided into what appears to be multiple buildings.

2.3. Building Height

An appropriate building height is desirable to establish a scale to the mixed-use Community and will not exceed the maximum or minimum heights as set forth in the County PDMX ordinance.

2.4. Building Setback Lines/Frontage Zone

- Benn's Church Boulevard BSL: 70' from Right of Way
- Main Entrance Road BSL: 25' from Right of Way
- All other BSL: 50' from Property Line.

3. Visual Character

3.1. Edge Definition and Screening

1. General Provisions

Walls, fences and planting are to be employed to improve the visual environment as well as to reinforce a streetwall condition. These elements are not intended to block views of the fronts of the buildings but to serve two functions: to define street edges and parking areas and to conceal undesirable views into service areas.

Parking lots and landscaped areas of the site should be defined with a continuous hedge, low walls or fences, combined with planting where appropriate, along the property line or established setback line. The walls and fences should be architecturally consistent with the adjacent buildings and should be limited to 60" in height. The canopy of trees planted within the parking areas or other positive features should dominate the view over such walls and fences to soften the effect of parking area along street rights-of-way.

Loading, service and trash areas, as well as mechanical equipment, are to be screened with high walls or fences, a minimum of 5' in height, combined with planting where appropriate, and consistent in character with the buildings or may be screened by the buildings themselves. Walls or fences should have a minimum opacity of 75%.

If not previously installed in connection with the development of the Commercial Area, the landscaping and buffer located on the Commercial Area adjacent to Rt 10 (Benns Church Boulevard) shall be installed prior to the issuance of the 50th C.O.
*Refer to Landscaping Buffer Rendering as example of buffer to be comparable with residential landscaping buffer along route 10.

2. Mechanical Equipment

All roof mounted mechanical equipment, including ductwork, is to be screened from all public view and access.

3.2. Plantings

Planting is encouraged in all setback areas and throughout the parking areas. Within large areas of parking, planting should be designed to break down large parking lots into smaller parking areas. The preservation of existing mature trees within planting and parking areas is encouraged.

3.3. Scale and Articulation

Buildings in the commercial center should not appear monolithic, but should appear consistent with a village character. The use of articulation should be employed to help reduce the overall size of large buildings. Articulation may be expressed through two devices: building massing and architectural elements. Buildings with large profiles may be designed to appear smaller if the overall massing is articulated as a collection of component masses. The use of architectural elements such as bays, balconies, porches, loggias and arcades can add interest to building facades and aid in relating the scale of any building to human dimensions. Roofs may be articulated through the use of dormers, lanterns,

monitors, windows watches and other roof-top elements. Each of these

devices adds character and interest to the buildings of the town which, in turn, reinforces the village character intended by these guidelines.

The building height limitations will be determined by the applicable County ordinance and should utilize simple geometric shapes in plan and elevation, subject to required treatment of 1 story buildings set forth in Chapter 3, Section 3.3 above. The overall massing of any building should be a collection of small and medium simple volumes. Buildings are encouraged to have pitched roofs, especially if they contain residential uses, with attic stories and dormers. Wings and additions should be simple rectangles in plan and oriented parallel or perpendicular to the main body of the building or toward a street frontage.

3.4. Site Lighting

All site lighting should prevent light from shining directly up and should be full cut-off fixtures with the light source fully shielded, except for low wattage and fossil fuel sources, temporary emergency lighting, seasonal lighting, sports field lighting and other special situations. Pedestrian luminaries that permit the limited and controlled visibility of indirect light from the source as an aid to way finding and spatial definition are permitted.

Acceptable light sources include incandescent, fluorescent and metal halide lamps, and should produce a color temperature close to daylight. Mercury vapor sources are not permitted.

The maximum height for on-site fixture poles is 20’.

3.5. Architectural Expression

1. Walls

- Recommended Materials

  - Building walls: brick, with limited use of stucco or synthetic stucco, wood or fiber cement shingle, wood or fiber cement clapboard, board and batten
  - Exposed Foundation Walls: Brick or brick facing, or stucco finished poured concrete block or cast-in-place concrete.

2. Building Elements

- Recommended Materials

  - Chimneys: brick, stucco or synthetic stucco.
  - Arcades and colonnades: brick, stucco, synthetic stucco, wood, or high grade synthetic wood alternative.
  - Porches, columns: painted wood, painted metal
  - Posts, spindles, balusters: painted wood, painted metal- Stoops, exterior stairs: brick, concrete
- Decks: wood
- Signs: wood, painted metal
- Awning and canopies: canvas-covered metal structure, designed to be compatible in configuration and color with the architecture of the buildings.

4. <u>Roofs</u>

- Recommended Materials

- Roofs: Wood shingles, metal standing seam, copper, lead-coated copper, slate, synthetic slate, 40-year architectural asphalt shingle

-Gutters and downspouts: painted metal, copper

-Flashing: copper, lead coated copper, anodized aluminum

- Configurational Standards

Buildings should have a varied character of traditionally shaped

roofs. Items to be considered are:

- Principal Roofs: Gabled, hipped, hipped gables, gabled hips or gambrel in a symmetrical fashion with a slope of 4:12 to 8:12; Buildings with roof areas greater than 12,000 sf may have portions which are flat if concealed from view by sloped roofs of the character described above.
- Secondary Roofs: Shed with minimum slope of 3:12.
- Flat Roofs: Flat roofs are to have parapets or railings.
- Parapets: Horizontal or gabled in elevation
- Dormers: Pitched or eyebrow
- Special roof-top elements: Symmetrically situated or aligned with the rhythm of structural bays and fenestration.
- Roof-top mechanical enclosures: Concealed from view by sloped roofs of the character described above.

5. Openings

- Recommended Materials

- Windows: wood, painted metal
- Bay windows: wood, painted metal, with metal tops
- Doors: painted wood, painted metal
- Storefronts: painted wood, painted metal
- Shutters: wood
- Security doors and grilles: metal

The following photographs are not intended to represent actual users or layouts but merely illustrate



the quality of materials and design that is intended to be required by these guidelines.





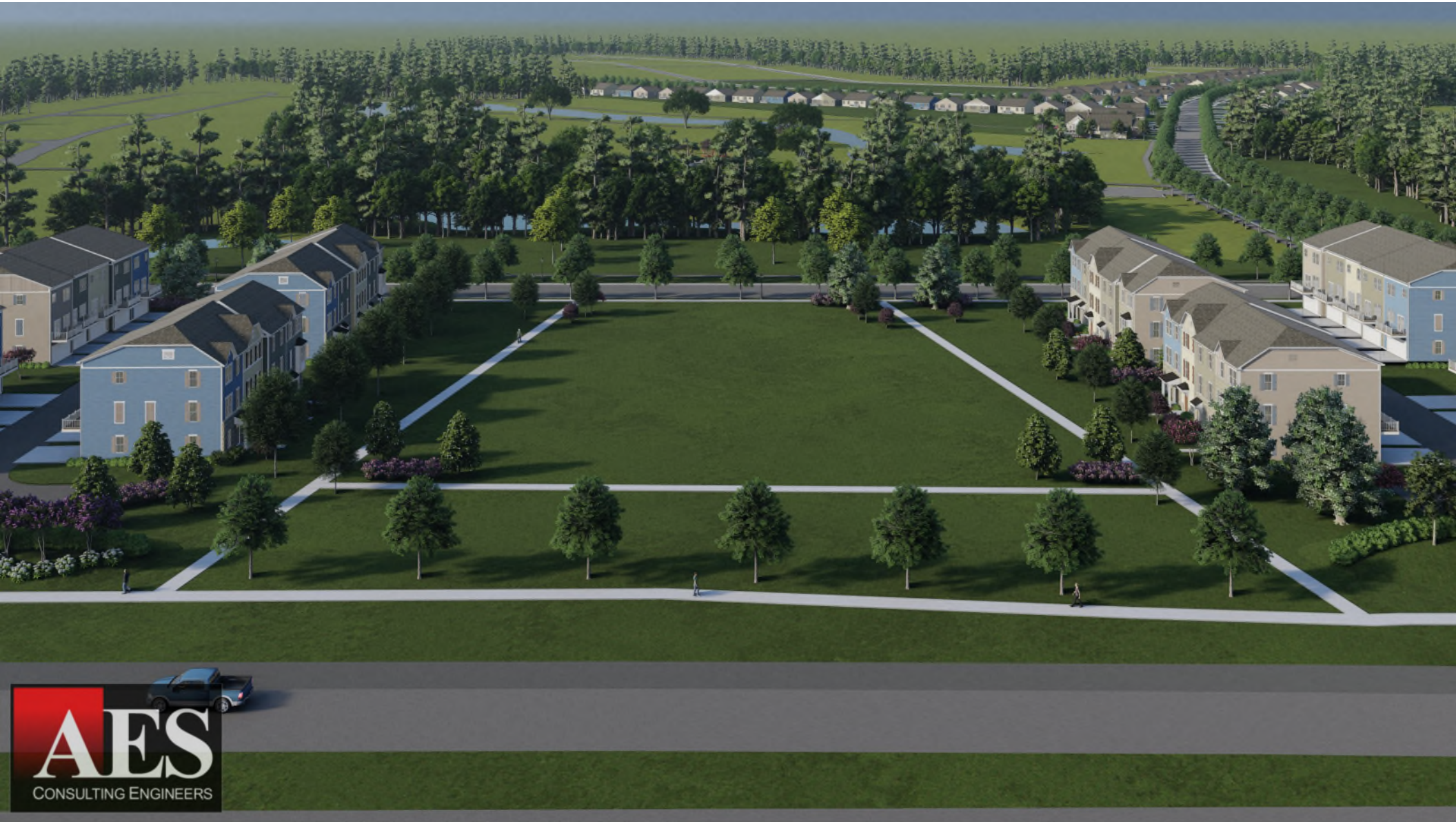


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Landscaping Buffer Rendering:

This rendering is merely an illustration of the concept and quality of the buffer to be installed along Rt. 10 at maturity and represents how it should compare and complement the residential buffer.




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MEMORANDUM

To: Adam Edbauer, General Manager, Land, Ryan Homes

From: Julie Herlands, AICP, Vice President, TischlerBise

Date: October 17, 2023

RE: Fiscal Impact Analysis for Sweetgrass in Isle of Wight County, Virginia: (A) Response to Isle of Wight Planning Commission Remarks; (B) Water Impact Discussion

(A) RESPONSE TO ISLE OF WIGHT PLANNING COMMISSION REMARKS

TischlerBise conducted a Fiscal Impact Analysis of the proposed Sweetgrass development in Isle of Wight County, Virginia, for NVR Inc./Ryan Homes for submission to Isle of Wight County as part of the applicant's rezoning request. TischlerBise provided a report dated June 21, 2021, to NVR Inc./Ryan Homes on the fiscal impact of the proposed Sweetgrass development based on conditions in the county as of 2021 using the adopted Isle of Wight County Fiscal Year 2022 Budget.[1] The analysis is on services and capital improvements funded through the General Fund.

NVR, Inc./Ryan Homes asked TischlerBise to respond to recent comments the applicant has received during the September 26, 2023, Isle of Wight Planning Commission meeting regarding the Fiscal Impact Analysis. Specific items identified are as follows:

- Change to the real property tax rate as of FY24.
- Changes to expenditures in the FY24 Budget.
- Confirmation of the operating expenditures included in the Fiscal Impact Analysis.
- Update to the Fiscal Impact Analysis findings given the above.

This memo provides a response to the above items. It should be noted that this effort did not entail updating the fiscal model with the County's FY2024 budget or other data. Rather, adjustments are made to real property tax revenue projections along with inflationary/budgetary adjustments to other revenue as well as expense outputs.

As was found in 2021, the Sweetgrass development is expected to generate more revenues than costs under the updated assumptions. The updated figures project more revenues than costs at a total of $17 million, or $850,000 per year.

[1] TischlerBise has also provided ongoing support regarding the fiscal impact element including providing a memo to NVR dated February 10, 2023, responding to Isle of Wight County's evaluation of the project's capital impacts.

Real Property Tax Rate and Revenue Adjustments

The FY2024 Isle of Wight County adopted real property tax rate is $.71 per $100 in assessed value. This is a reduction from the FY2022 rate of $.85 per $100 modeled in the 2021 study.

Adjusting the property tax rate for this response also requires an update to the assumed assessed values for the proposed development. See Figure 1.

Figure 1. Sweetgrass Market Value Assumption

Land Use	Housing Units	2021 Market Values	2023 Market Values
Age-Restricted Single Family Detached	390	$305,200	$374,000
Townhome	225	$258,875	$277,000

Source: NVR / Ryan Homes

In addition to the real property tax rate changing, other non-property tax revenues have changed from FY22 to FY24. A summary of budgeted revenues and percent changes is shown in Figure 2.

Figure 2. Isle of Wight County Budgeted Revenues: Change from FY2022 and FY2024

	2022 BUDGET	2024 BUDGET	Change	% Change
Property Taxes	$61,919,000	$71,286,592	$9,367,592	15%
Other Local Taxes	$8,247,000	$9,781,000	$1,534,000	19%
Licenses, Permits & Fees	$704,000	$611,000	($93,000)	-13%
Fines & Forfeitures	$129,000	$84,000	($45,000)	-35%
Use of Money & Property	$485,000	$685,000	$200,000	41%
Charges for Services	$1,620,965	$1,878,064	$257,099	16%
Recovered Cost	$481,345	$699,505	$218,160	45%
Miscellaneous Services	$1,163,930	$1,215,003	$51,073	4%
Noncategorical Aid	$5,372,890	$5,487,890	$115,000	2%
Shared Expenses	$2,442,392	$2,740,577	$298,185	12%
State Aid	$145,500	$145,766	$266	0%
Federal Aid	$0	$0	$0	0%
Other Financing Sources	$1,509,416	$921,717	($587,699)	-39%
Total	**$84,220,438**	**$95,536,114**	**$11,315,676**	**13%**

Source: Isle of Wight County Adopted Budgets, FY2022 and FY2024.

The Fiscal Impact Analysis does not assume all County revenues will be affected by the proposed development. A summary of revenue projections from the 2021 study are shown below in Figure 3 along with the adjusted 2023 amounts, applying the percent changes from above.

Figure 3. 2023 Revenue Update

Cumulative General Fund Revenue Detail (Years 1-20) Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis					
	JUNE 21, 2021, REPORT		OCT. 16, 2023, UPDATE [1]		2023 Update Notes
Category	$	% of Total	$	% of Total	
Property Taxes	$33,550,312	77.0%	$33,114,017	74.8%	Modeled with new tax rate and current market values
Other Local Taxes	$5,125,424	11.8%	$6,078,789	13.7%	Adjusted with budgeted change from FY22 to FY24
Licenses, Permits & Fees	$387,892	0.9%	$336,651	0.8%	
Fines & Forfeitures	$82,659	0.2%	$53,824	0.1%	
Use of Money & Property	$0	0.0%	$0	0.0%	
Charges for Services	$900,006	2.1%	$1,042,755	2.4%	
Recovered Cost	$0	0.0%	$0	0.0%	
Miscellaneous Services	$0	0.0%	$0	0.0%	
Noncategorical Aid	$3,552,482	8.1%	$3,628,518	8.2%	
Shared Expenses	$0	0.0%	$0	0.0%	
State Aid	$0	0.0%	$0	0.0%	
Federal Aid	$0	0.0%	$0	0.0%	
TOTAL	**$43,598,775**	**100.0%**	**$44,254,554**	**100.0%**	

[1] *Adjusted based on change from FY2022 to FY2024 Budget (see accompanying figure).*

Expenditure Adjustments

County costs have changed from FY2022 to FY2024 as well. TischlerBise compared line item expenditures from both budgets to derive percent changes to apply to the Sweetgrass Fiscal Impact Analysis expenditure findings.

Figure 4. Isle of Wight County Budgeted Expenditures: Change from FY2022 and FY2024

Expenditure Category	Expenditure Name	2022 BUDGET	2024 BUDGET	Change	% Change
General Administration	Board of Supervisors	$329,600	$372,373	$42,773	13%
	County Administrator	$483,251	$531,119	$47,868	10%
	County Attorney	$575,348	$496,743	($78,605)	-14%
	Human Resources	$394,837	$524,396	$129,559	33%
	Registrar	$391,778	$545,968	$154,190	39%
Financial Administration	Commissioner of Revenue	$765,696	$868,607	$102,911	13%
	Real Estate Assessment	$288,900	$178,500	($110,400)	-38%
	Treasurer	$891,035	$1,135,479	$244,444	27%
	Budget and Finance	$802,014	$895,930	$93,916	12%
	Purchasing	$171,368	$177,831	$6,463	4%
Judicial	Circuit Court	$89,388	$99,400	$10,012	11%
	General District Court	$26,066	$29,612	$3,546	14%
	Western Tidewater Community Correctior	$18,926	$20,316	$1,390	7%
	Juvenile Accountability Program	$2,500	$2,500	$0	0%
	Juvenile Domestic Relations Court	$12,575	$12,902	$327	3%
	Clerk of Circuit Court	$598,133	$735,867	$137,734	23%
	Fifth District Court Services	$200,100	$200,965	$865	0%
	Commonwealth Attorney	$840,042	$1,003,854	$163,812	20%
Public Safety	Sheriff	$5,203,463	$7,917,696	$2,714,233	52%
	Emergency Services	$516,222		$1,583,198	30%
	Fire & Rescue	$4,717,530			
	Fire and Rescue Response		$4,439,527		
	Fire and Rescue Station Services		$1,707,295		
	Fire and Rescue Emerg Mgt and Billing		$670,128		
	Western Tidewater Jail	$1,293,333	$1,259,298	($34,035)	-3%
	Inspections	$739,804	$829,428	$89,624	12%
	Animal Control	$594,840	$745,124	$150,284	25%
Public Works	Public Works Administration	$318,110	$337,251	$19,141	6%
	Public Works Transportation	$283,365	$473,978	$190,613	67%
	Public Works Refuse	$2,902,214	$3,341,499	$439,285	15%
	Public Works Buildings & Grounds	$1,478,908	$1,718,525	$239,617	16%
	Public Works Capital Program Inspection	$76,613	$97,080	$20,467	27%
Parks, Recreation, Ground	Parks & Recreation Administration	$265,736	$278,936	$13,200	5%
	Parks & Recreation Gateways & Grounds	$1,001,054	$1,102,287	$101,233	10%
	Parks & Recreation Programs	$750,285	$904,208	$153,923	21%
	Library	$891,490	$1,046,756	$155,266	17%
Community Development	Planning & Zoning	$830,146	$1,086,051	$255,905	31%
	Economic Development	$1,044,087	$808,393	($235,694)	-23%
	Tourism	$577,222	$649,509	$72,287	13%
	Farmers Market	$42,220	$79,000	$36,780	87%
	Communications	$78,648	$140,639	$61,991	79%
	Cooperative Extension Service	$73,823	$78,934	$5,111	7%
Non-Departmental	Non-Departmental	$3,667,903	$4,636,143	$968,240	26%
	Transfers (Non-Schools)	$7,056,445	$8,232,903	$1,176,458	17%
	Transfers (Schools)	$26,422,734	$30,459,069	$4,036,335	15%
Debt Service	Debt Service	$13,346,056	$12,158,396	($1,187,660)	-9%
Other Public Services	Other Public Services	$2,500,400		$5,299	0%
	Health and Welfare(West Tidewater)		$877,890		
	Local and Regional Orgs		$1,627,809		
	TOTAL	**$83,554,208**	**$95,536,114**	**$11,981,906**	**14%**

Source: Isle of Wight County Adopted Budgets, FY2022 and FY2024.

Note: The pink shaded area is Fire and Emergency Services and reflects changed budget categories from 2022 to 2024 and the difference between the years.

Note: The blue shaded area reflects changed budget categories from 2022 to 2024 and the difference between the years.

The Fiscal Impact Analysis **assumes most County operating expenditures will be affected by the proposed development—including Fire and Emergency Services and Schools.** A detailed list of expenditure projections from the 2021 study are shown below in Figure 5 along with the adjusted 2023 amounts, applying the percent changes from above. As shown, updated operating expenditures are projected at approximately $24.8 million over 20 years, or $1.2 million per year.

Figure 5. Operating Expenditure Update: Detailed Listing

Cumulative Operating Expenditures (Years 1-20): Detail Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis					
		JUNE 21, 2021, REPORT		OCT. 16, 2023, UPDATE [1]	
Expenditure Category	Expenditure Name	$	% of Total	$	% of Total
General Administration	Board of Supervisors	$0	0.0%	$0	0.0%
	County Administrator	$8,580	0.0%	$9,430	0.0%
	County Attorney	$30,415	0.1%	$26,260	0.1%
	Human Resources	$0	0.0%	$0	0.0%
	Registrar	$47,870	0.2%	$66,709	0.3%
Financial Administration	Commissioner of Revenue	$163,994	0.8%	$186,035	0.8%
	Real Estate Assessment	$4,048	0.0%	$2,501	0.0%
	Treasurer	$98,213	0.5%	$125,156	0.5%
	Budget and Finance	$40,760	0.2%	$45,533	0.2%
	Purchasing	$0	0.0%	$0	0.0%
Judicial	Circuit Court	$1,142	0.0%	$1,270	0.0%
	General District Court	$15,055	0.1%	$17,103	0.1%
	Western Tidewater Community Corrections	$12,722	0.1%	$13,657	0.1%
	Juvenile Accountability Program	$1,681	0.0%	$1,681	0.0%
	Juvenile Domestic Relations Court	$7,015	0.0%	$7,197	0.0%
	Clerk of Circuit Court	$54,293	0.3%	$66,796	0.3%
	Fifth District Court Services	$107,142	0.5%	$107,605	0.4%
	Commonwealth Attorney	$269,876	1.3%	$322,503	1.3%
Public Safety	Sheriff	$2,294,535	11.2%	$3,491,411	14.1%
	Emergency Services	$219,006	1.1%	$285,255	1.2%
	Fire & Rescue	$2,159,679	10.6%	$2,812,976	11.4%
	Western Tidewater Jail	$869,395	4.3%	$846,517	3.4%
	Inspections	$252,308	1.2%	$282,874	1.1%
	Animal Control	$339,638	1.7%	$425,446	1.7%
Public Works	Public Works Administration	$106,753	0.5%	$113,177	0.5%
	Public Works Transportation	$115,177	0.6%	$192,654	0.8%
	Public Works Refuse	$1,950,906	9.5%	$2,246,199	9.1%
	Public Works Buildings & Grounds	$609,059	3.0%	$707,741	2.9%
	Public Works Capital Program Inspection	$0	0.0%	$0	0.0%
Parks, Recreation, Groun	Parks & Recreation Administration	$113,652	0.6%	$119,297	0.5%
	Parks & Recreation Gateways & Grounds	$672,922	3.3%	$740,972	3.0%
	Parks & Recreation Programs	$476,202	2.3%	$573,897	2.3%
	Library	$597,591	2.9%	$701,670	2.8%
Community Developmer	Planning & Zoning	$404,993	2.0%	$529,838	2.1%
	Economic Development	$0	0.0%	$0	0.0%
	Tourism	$67,530	0.3%	$75,987	0.3%
	Farmers Market	$0	0.0%	$0	0.0%
	Communications	$42,111	0.2%	$75,304	0.3%
	Cooperative Extension Service	$0	0.0%	$0	0.0%
Non-Departmental	Non-Departmental	$0	0.0%	$0	0.0%
	Transfers (Non-Schools)	$3,559,651	17.4%	$4,153,120	16.8%
	Transfers (Schools)	$4,250,282	20.8%	$4,899,555	19.8%
Debt Service	Debt Service	$0	0.0%	$0	0.0%
Other Public Services	Other Public Services	$489,840	2.4%	$490,878	2.0%
	TOTAL	**$20,454,036**	**100.0%**	**$24,764,203**	**100.0%**

[1] *Adjusted based on change from FY2022 to FY2024 Budget (see accompanying figure)*

Fire and Emergency Services

- For **Fire and Emergency Services**, an updated operating impact of $3.1 million over 20 years is projected, or $155,000 per year. This reflects 2.3 percent of the current Fire and Emergency Services budget.

Schools/Education

- For **County-funded Schools operations**, updated costs are projected at $4.9 million, or $245,000 per year, to serve 52 students projected from the development.

- Per Isle of Wight County Schools comment on the Sweetgrass Development Project (see "Schools Review Revised Comments" dated September 25, 2023, attachment to Planning Report), operating impacts are identified as:
  - 1 General Education Teacher
  - 1 Bus Driver
  - 1 Special Education Teacher
  - 1 Special Education Instructional Assistant
  - 1 Special Needs Bus Driver and Assistant

- Estimating costs for the above positions yields a cost of approximately $270,000 to $300,000—slightly higher than the Fiscal Impact finding.

- **However, Isle of Wight County Schools receives funding from sources other than the County. The County provides *40 percent* of Isle of Wight County Schools funding for General Fund operations:**

Schools Budget	General Fund	%
State Funds and Sales Tax	$42,852,755	58%
Local/County Funds	$29,607,666	40%
Federal Funds	$2,048,478	3%
Other Funds	$10,000	0%
Total	**$74,518,899**	**100%**

Source: FY2024 Isle of Wight County Schools Final Budget Book.

- Therefore, the school's identification of operating impacts at an estimated upper range of $300,000 per year could reasonably be assumed to be covered by both County and non-County funding.
  - The non-County cost impact (at 60 percent) totals $180,000.
  - ***The County-funded cost impact can therefore be estimated at $120,000—about half of the $245,000 in County-funded operating costs projected by the Fiscal Impact Analysis.***

A rolled up summary is provided in Figure 6. (This replicates Figure 11 in the 2021 study.) Updated total operating expenditures are projected at $4.3 million more in 2023 than 2021.

Figure 6. Operating Expenditure Update: Summary

Cumulative Operating Expenditures (Years 1-20): Summary by Functional Category Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis				
	JUNE 21, 2021, REPORT		OCT. 16, 2023, UPDATE [1]	
Category	$	% of Total	$	% of Total
General Administration	$86,865	0.4%	$102,400	0.4%
Financial Administration	$307,015	1.5%	$359,225	1.5%
Judicial	$468,925	2.3%	$537,811	2.2%
Public Safety	$6,134,561	30.0%	$8,144,479	32.9%
Public Works	$2,781,896	13.6%	$3,259,771	13.2%
Education	$4,250,282	20.8%	$4,899,555	19.8%
Parks, Recreation, Grounds & Cultural	$1,860,367	9.1%	$2,135,836	8.6%
Community Development	$514,634	2.5%	$681,128	2.8%
Other Public Services	$489,840	2.4%	$490,878	2.0%
Debt Service*	$0	0.0%	$0	0.0%
Non-Departmental and Non-Schools Transfers	$3,559,651	17.4%	$4,153,120	16.8%
TOTAL	**$20,454,036**	**100.0%**	**$24,764,203**	**100.0%**

[1] *Adjusted based on change from FY2022 to FY2024 Budget (see accompanying figure)*

Capital costs are also adjusted. A 10 percent factor is applied to capital costs from 2021 based on the Engineering News Record (ENR) Construction Cost Index from July 1, 2021, to July 1, 2023.

- Costs for additional School capacity and buses are projected. Isle of Wight County Schools noted in their September 25, 2023, memo that while building capacity is not needed, buses are. Projected costs reflect those costs.
- Other capital costs for parks and recreation, sheriff, and transportation are projected as well.

Figure 7. Capital Expenditure Update

20-Year Cumulative Total Capital Expenditures Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis				
	JUNE 21, 2021, REPORT		OCT. 16, 2023, UPDATE [1]	
Category	$	% of Total	$	% of Total
Education	$1,135,478	51.5%	$1,249,026	51.5%
General Government	$0	0.0%	$0	0.0%
Parks and Recreation	$757,131	34.3%	$832,844	34.3%
Sheriff	$284,139	12.9%	$312,552	12.9%
Fire	$0	0.0%	$0	0.0%
Transportation	$28,675	1.3%	$31,542	1.3%
TOTAL	**$2,205,422**	**100.0%**	**$2,425,964**	**100.0%**

[1] *Adjusted based on Engineering News Record (ENR) Construction Cost Index from 2021 to 2023 (as of July 1), an increase of 10 percent.*

Summary Findings

As was found in 2021, the development is expected to generate more revenues than costs under the updated assumptions. See Figure 8.

Figure 8. Cumulative Fiscal Impact Update

20-Year Total Net Fiscal Impact Sweetgrass (NVR): Isle of Wight County, Virginia, Fiscal Impact Analysis		
	JUNE 21, 2021, REPORT	OCT. 16, 2023, UPDATE
Category	$	$
TOTAL REVENUES	$43,598,775	$44,254,554
TOTAL EXPENDITURES	$22,659,458	$27,190,168
NET FISCAL IMPACT	***$20,939,316***	***$17,064,386***

The updated Fiscal Impact Analysis projects more revenues than costs at a total of $17 million, or $850,000 per year. Furthermore, because the project is expected to generate more revenues than needed to cover cost impacts from the project, any costs in excess of what has been projected by the Fiscal Impact Analysis could be covered by those surplus revenues.

(B) WATER IMPACT DISCUSSION

While utility impacts are not explicitly part of the Fiscal Impact Analysis because utilities operate as enterprise funds (i.e., revenues generated through rates and fees should equal costs incurred), the situation in Isle of Wight County is worth noting.

First, the Public Utility Fund is currently subsidized by the General Fund, with approximately 25 percent of the Public Utilities Fund funded from a transfer from the General Fund. This is reflected as a "cost" in the General Fund (and is captured in the above Fiscal Impact Analysis findings under "Non-Departmental and Non-Schools Transfers" expenditures).

In addition, Isle of Wight County receives a water allocation through a contract between Western Tidewater Water Authority (WTWA) and Norfolk Water. Isle of Wight County receives 2 million gallons per day of the allocation (as of FY2024) for which the County is obligated to either use or pay. Currently, the County is using 680,000 gallons per day of the 2 million gallons per day allocation—and therefore is obligated to pay for the unused portion (at an estimated cost of approximately $750,000 in FY2024 per the Newport Development Service District). Development of the Sweetgrass development would increase water usage in the County, thereby increasing the user-paid portion of the contract and lessening the County's obligation to pay for the unused portion.

MASTER PLAN

FOR

SWEETGRASS

WINDSOR DISTRICT

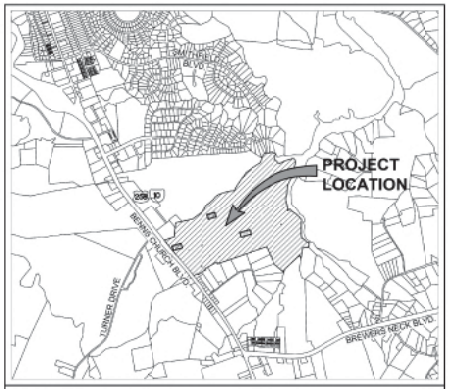
ISLE OF WIGHT, VIRGINIA

APPLICANT INFORMATION:

NVR, INC.
CONTACT: MR. ERIC SHIREY
860 GREENBRIER CIRCLE
CHESAPEAKE, VIRGINIA 23320
PHONE NO.: (757) 603-0802

SITE DATA:

PARCEL ID:	32-01-009
PROPERTY OWNER:	WILLIAM G. YEOMAN III TRUSTEE
PROPERTY ADDRESS:	14096 BENNS CHURCH BOULEVARD
CURRENT ZONING:	RAC, RURAL AGRICULTURAL CONSERVATION DISTRICT
PROPOSED ZONING:	C-PD-MX, CONDITIONAL PLANNED DEVELOPMENT MIXED USE DISTRICT
PROPERTY ACREAGE:	250 AC. ±
OVERLAY DISTRICTS:	NEWPORT DEVELOPMENT SERVICE OVERLAY DISTRICT (DSD) & CHESAPEAKE BAY PRESERVATION AREA OVERLAY DISTRICT



VICINITY MAP
(Approximate Scale: 1"=2,000')

County Project No.: ZA-06-19
Original Submittal Date: JUNE 14, 2019

INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	MASTER PLAN
3	ENVIRONMENTAL INVENTORY

Rev.	Date	Description	Revised By
5	8/18/20	REVISED PER COUNTY COMMENTS	JAG
4	2/13/20	REVISED PER COUNTY COMMENTS	JAG
3	7/2/19	REVISED PER COUNTY COMMENTS	JAG
2	6/21/19	REVISED PER COUNTY COMMENTS	JAG
1	6/14/19	REVISED PER COUNTY COMMENTS	JAG

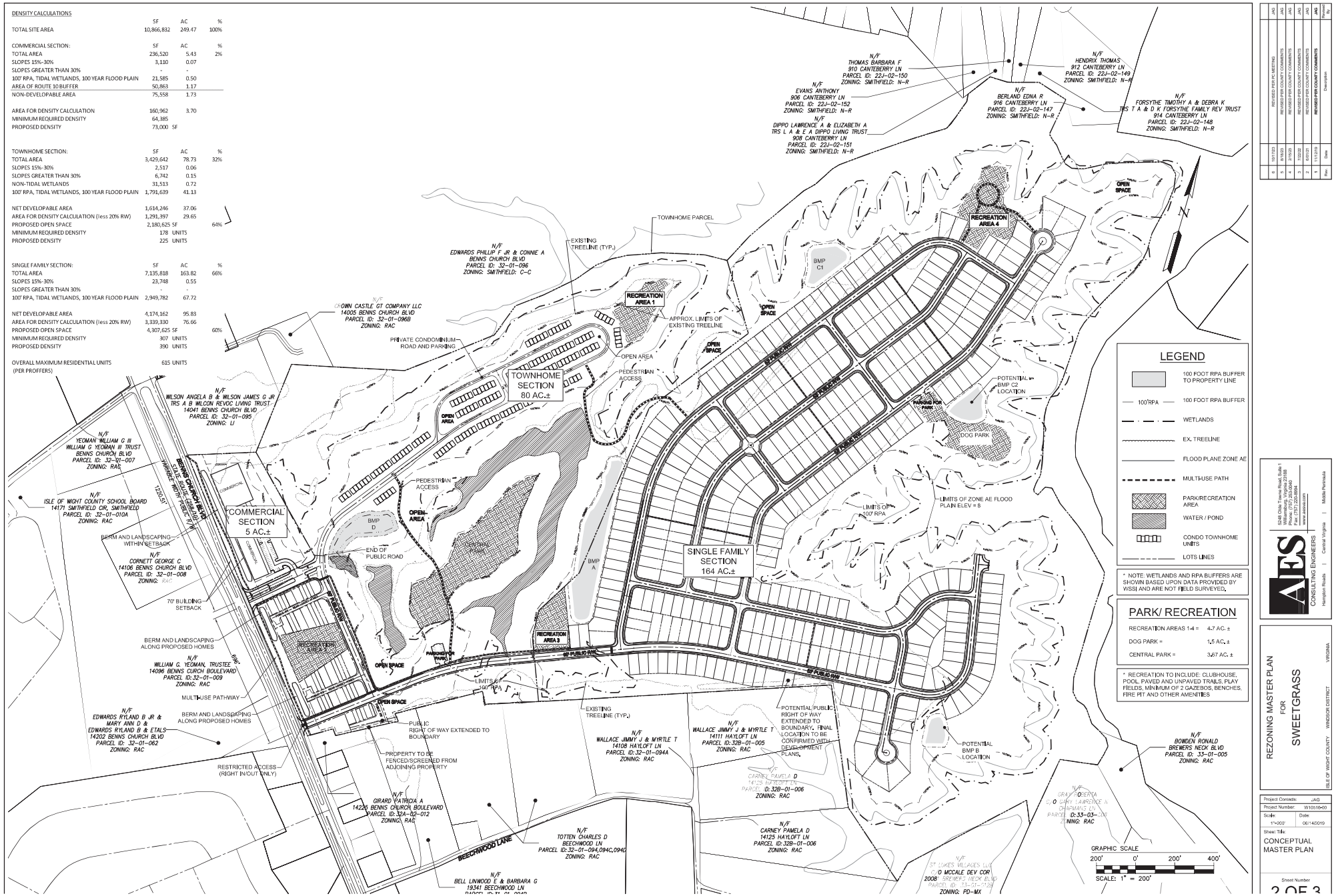
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REZONING MASTER PLAN
FOR
SWEETGRASS
ISLE OF WIGHT COUNTY WINDSOR DISTRICT VIRGINIA

Project Contacts:	JAG
Project Number:	WI1010-00
Scale: AS NOTED	Date: 6/14/19

Sheet Title:
COVER SHEET

Sheet Number:
1 OF 3



No.	Date	Description	By
6	03/17/20	REVISED PER PC MEETING	JAG
5	01/16/20	REVISED PER COUNTY COMMENTS	JAG
4	11/14/19	REVISED PER COUNTY COMMENTS	JAG
3	09/09/19	REVISED PER COUNTY COMMENTS	JAG
2	06/03/19	REVISED PER COUNTY COMMENTS	JAG
1	11/12/18	REVISED PER COUNTY COMMENTS	JAG

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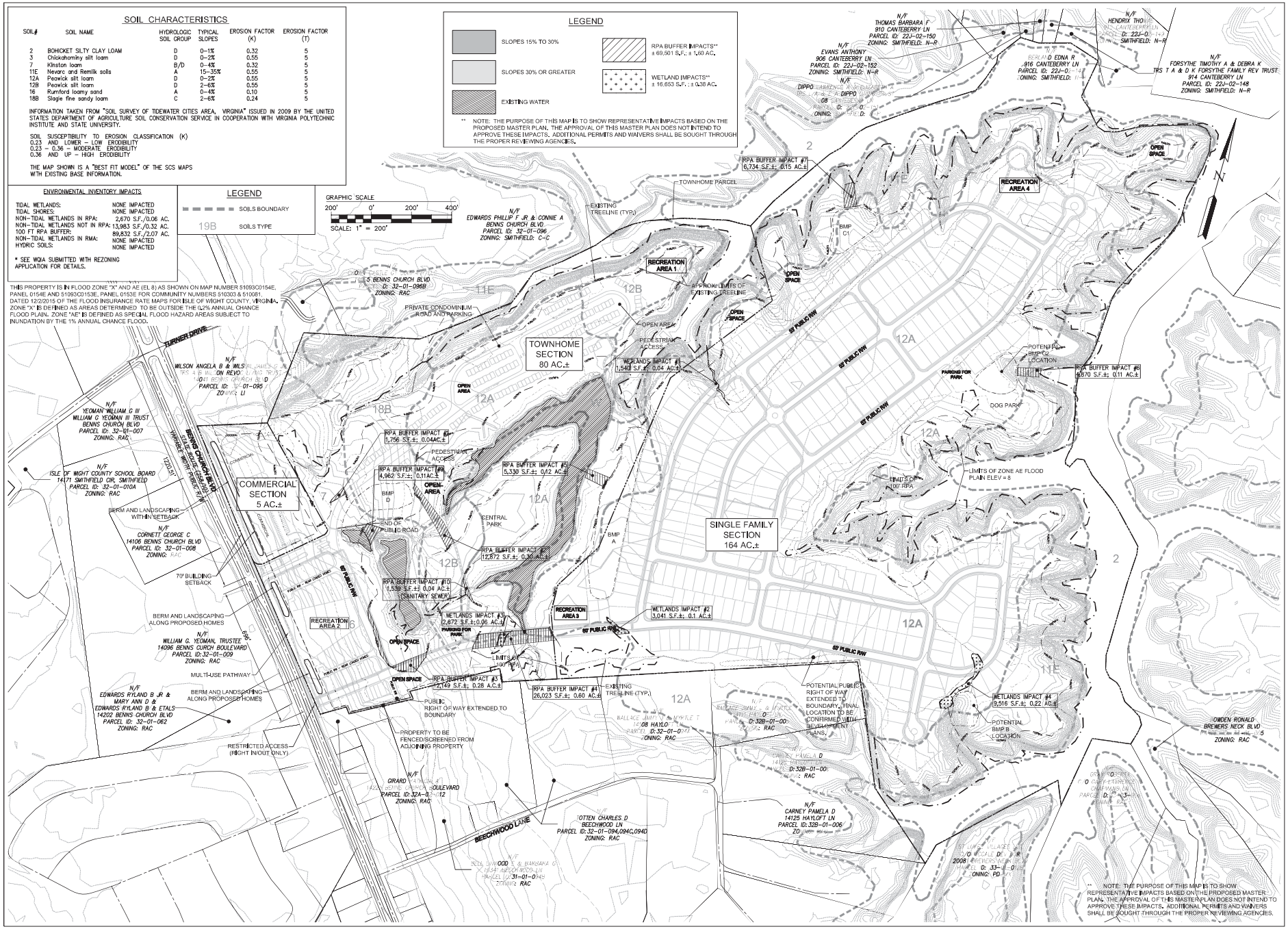
REZONING MASTER PLAN FOR SWEETGRASS

ISLE OF WIGHT COUNTY | WINDSOR DISTRICT | VIRGINIA

Project Contacts:	JAG
Project Number:	W10516-00
Scale: 1"=200'	Date: 06/14/2019

Sheet Title:
CONCEPTUAL MASTER PLAN

Sheet Number
2 OF 3



Rev.	Date	Description	Revised By
6	07/17/20	REVISED PER PC MEETING	JAG
5	6/18/20	REVISED PER COUNTY COMMENTS	JAG
4	5/18/20	REVISED PER COUNTY COMMENTS	JAG
3	2/12/20	REVISED PER COUNTY COMMENTS	JAG
2	8/01/20	REVISED PER COUNTY COMMENTS	JAG
1	1/13/19	REVISED PER COUNTY COMMENTS	JAG

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REZONING MASTER PLAN FOR SWEETGRASS
ISLE OF WIGHT COUNTY WINDSOR DISTRICT VIRGINIA

Project Contacts:	JAG
Project Number:	W10516-00
Scale: 1"=200'	Date: 08/14/2019

Sheet Title: ENVIRONMENTAL INVENTORY

Sheet Number: 3 OF 3

PLANNING REPORT

APPLICATION:

Application of NVR, Inc., applicant, and, Henry Layden, special trustee for the William Grover Yeoman, III Trust, property owner, for a Conditional Rezoning (ZA-06-19) of approximately 250 acres of property with tax map number 32-01-009 located on Benns Grant Boulevard (Rte. 10) from the Rural Agricultural Conservation (RAC) zoning district to the Conditional - Planned Development - Mixed Use (C-PD-MX) zoning district

ELECTION DISTRICT:

District 1

LOCATION:

The proposed project is located on an approximately 249.47 acre portion of the property with tax map number 32-01-009, also known as the Yeoman tract. The property is bounded to the north by the Town of Smithfield jurisdictional boundary as well as a residential property in the RAC zoning district, and a property in the Conditional-Limited Industrial zoning district which is currently used by the Sherwin Williams Paint Store. The project site is bounded to the west by Benns Church Boulevard (Rte.10), and the remainder of tax map number 32-01-009 is directly across the Rte. 10. The property is bounded to the east by Jones Creek, residential and agricultural property in the RAC zoning district. To the south, it is adjacent residential and agricultural property in the RAC zoning district as well as one property, known as St. Luke's Village, in the C-PD-MX zoning district.

BACKGROUND:

The portion of the property on which the proposed project is located is currently in agricultural and silvicultural use. There is an approximately twenty acre remaining portion on the west side of Route 10 that is also currently in agricultural use. However, a conditional use permit is currently under review for a convenience store and gasoline station on approximately 3.8 acres of the property at the southwest corner of the Turner Drive and Benns Grant Boulevard intersection. The property has historically been used for agricultural and silvicultural uses.

The Planning Commission held a public hearing on the proposed application at their September 26, 2023, regular meeting. Following the public hearing, the Planning Commission discussed the application and moved to continue their discussion to their next regular meeting in order to allow staff time to provide additional information to the Commission. Staff subsequently sent the list of questions from the Commission to Dr. Chris Coleman at Isle of Wight County Schools. Dr. Coleman responded that additional time was needed to provide responses to the questions.

Staff also met with Fire and Rescue staff to further discuss the operational impact of the projected 349 additional fire and rescue calls from the proposed development. Based on current call volume, staff determined that the additional calls can be absorbed without degradation of service. Staff analysis shows that the development could generate approximately one additional EMS call per day and one additional fire call per week for the northern service area.

In addition, staff also received additional review comments from the Town of Smithfield and the Economic Development Department which are attached to this staff report. Because additional time is needed to provide the requested school information, staff recommended no action for the Planning Commission at their October 24, 2023, regular meeting. Following additional discussion, the Planning Commission voted to continue their discussion of the application to their November 28, 2023, regular meeting in order to allow school staff additional time to provide responses to the list of questions.

Staff updated its assessment of the impact of the proposed development on public facilities based on new information presented since the September 26, 2023, Planning Commission public hearing. Since the Planning

Commission's October meeting, Dr. Chris Coleman of Isle of Wight County Schools provided a copy of the new student generation and growth report to the Planning Commission that he presented to the School Board on November 8, 2023. A copy of the report was sent to the Planning Commission via email and is also attached to this staff report.

Staff prepared responses to most of the questions based on information provided by School staff and the November 8, 2023, School Board presentation for the November 28, 2023, Planning Commission meeting. Please find the list of questions followed by staff responses below:

1. **Has schools had any issues with school children coming from the age-restricted neighborhoods? During the meeting, you mentioned that you could pull a report to see if there were any school buses picking up or dropping off children in these neighborhoods.**

   Dr. Coleman will be providing this information.

   2. The build-out for the Sweetgrass is six years with a projected 38 non-age restricted townhomes being built each year. How will this impact schools?

   The students generated by Sweetgrass would add on average five elementary school students, one middle school student, and two high school students per year for the six year build-out period. According to the County impact model, the development is projected to generate a total of 30 elementary school students, 7 middle schools students and 15 high school students. These students would go to Hardy Elementary, Westside Elementary, Smithfield Middle School, and Smithfield High School. Although there is currently capacity for the students in each school, we have to look at the potential to add incremental operational costs these students may create such as the need for supplies, additional classes to meet demand (i.e., pre-k, CTE, SPED, etc.) because of class size limits and waiting lists, teachers for these additional classes, aids for larger class sizes, fuel, additional bus routes, and drivers, to name a few.

   3. What is the actual number of school children generated by Benns Grant? Can you also give numbers for the Crossings condos and the Brewers Station apartments?

   The current number of school children generated by Benn's Grant is 363 students. The 240 apartments in Benns Grant are currently under construction. We use four buses to serve the Benn's Grant development. Dr. Coleman will provide the information on Bartlett Station condos and Brewers Station apartments.

   4. During the meeting, you mentioned that you were preparing an area plan for the school board that you could also share with the Planning Commission. Do you have a copy of this report available that I could share with the Planning Commission?

   A link to the powerpoint presentation from the November 8, 2023, School Board meeting was previously sent to the Planning Commission County email accounts. In addition, a copy of the presentation is attached to this staff report.

   5. What are the per capita operational and capital expenses per student? This may require some stakeholder coordination (legal, school, etc.) to distinguish what can reasonably be attributed to a capital expense and may vary from our budgetary definitions. For example, is a student-issued electronic device, chair, desk, etc. capital? Obviously a bus addition would be, so the scope of this answer should include bus capacity and constraints. Also, please specifically address the increased transportation demand the proposed Sweetgrass project would bring.

   The operational cost per student is $10,000 of which $5,600 consist of local funds. The County is fully utilizing all of its available buses and is waiting on the delivery of two new buses in April. In addition, staff will be recommending the purchase of 5-6 additional buses in the forthcoming budget. There is time lag of 10-12 months between when an order is placed and when a bus is delivered. Sweetgrass is projected to generate 52 students according to the County's capital impact model which would require additional bus

routes to accommodate. The biggest transportation issues we have is vehicle shortage, maintenance issues, and staff shortages.

6. Is there a reasonable projection of added SPED students per added student population (percentage) that require some added capital need? Also consider STEM, CTE, etc.

Currently the school system uses 15% as a projection of added SPED student needs for new student population. Schools currently has a waiting list for CTE classes. CTE classes fall under OSHA oversight, so these programs are limited to 20 students per class, and there aren't enough classes to meet demand.

7. Is it possible to define a student per capita capital/operational expense projection considering all variables? If so, should this be established and updated at some frequency?

For each new student, we could project an additional operational cost of $10,000 per student with another $1,500 to meet additional SPED needs. The school system updates the average cost per student on annual basis. Average capital cost per student can be found in the County's Capital Impact Model.

8. Request the school provide data of current student load, capacity, and projections based on county projected growth. Also, the school is requested to comment on any recent (last 5 years) mitigation efforts required to maintain adequate classroom occupancy levels (e.g. redistricting, grade level adjustments per school, etc.).

Please refer to the powerpoint presentation on the updated student yield study for current student load, capacity and projections based on current County projected growth. The County is experiencing increased growth in certain areas of the County which has potential impacts on certain schools and grade levels. Total school enrollment is 5,597 as of October 31, 2023. There is a total system-wide school capacity of 7,183 students which represents a 78% utilization rate. If we add the 1,057 projected new students from projects currently under construction as well as those proposed, the utilization rate increases system wide to 93%. However, different schools have different utilization rates. Smithfield Middle School, for example, has a current utilization rate of 95%. The School Board redistricted elementary schools this summer and sent more students to Hardy to provide more room at Carrollton. Even with this measure, there is still not enough room at Carrollton to keep the fourth grade there. We are experiencing increased demand for pre-k, but pre-k classes are capped at 18 students. To go above this number, there needs to be an aid in the classroom which increases operational costs. The school system strives to limit classroom size to 23 students in high school.

9. Request legal opinion on how much school "maneuvering" (redistricting, school grade level service adjustments, etc.) is necessary before a capacity limit requires a significant capital investment in expansion.

The school enrollment projection consultant does not recommend more than a 90% utilization rate. The school system established a 95% utilization rate as a trigger to begin the planning and budgeting process for a capacity expansion.

Current Project Status:

The Planning Commission voted to continue their consideration of the project at their November 28, 2023, regular meeting. School staff will attend the December 12, 2023, meeting to provide additional information to the Planning Commission.

DESCRIPTION:

The purpose of the application is to allow for up to 390 age-restricted single family detached residential units, 225 residential townhomes, and approximately five acres of commercial uses to include up to 18,000 square feet of retail and commercial uses and up to 55,000 square feet of office uses.

The elevations and materials for the residential units are attached to the staff report as Sweetgrass Elevations. Although there are no examples of the single family detached models constructed in the County, there are examples of the townhome models located in the Benn's Grant community. Pictures are attached to the staff report. The proffer statement commits to a master bedroom on the first floor of the age-restricted single family homes. The fiscal impact analysis projects the average sales price of an age-restricted unit to be $305,200 and townhomes to be $258,875.

Retail uses are defined separately in the Zoning Ordinance and are considered a commercial use type. In addition to the proffered retail use, other permitted commercial uses in the PD-MX zoning district could include the following:

- Antique shop;
- Business support service;
- Construction office, temporary;
- Event center;
- Garden center;
- Golf course;
- Itinerant merchant;
- Micro-brewery, distillery, cidery;
- Motor vehicle parts/supply, retail;
- Peddler;
- Personal improvement service;
- Personal service;
- Real estate office, temporary;
- Restaurant, drive-in fast food;
- Restaurant, general;
- Retail sales;
- Studio, fine arts;
- Veterinary hospital/clinic; and
- Wholesale sales.

A copy of the proffered conditions, illustrative concept plan, and other supporting documents are attached to this staff report for your information. Among the proffered conditions are a set of residential and commercial design guidelines as well as a proffer that the age-restricted units will have a master bedroom and bathroom on the first floor. Enforcement of the age-restriction condition and the maintenance for all open space, recreational amenities, stormwater facilities, and landscaping shall be the responsibility of the property owner's association.

Staff assessed the application for its consistency with the County's plans and ordinances as well as potential impacts to natural and cultural resources, public facilities and services. The following is a summary of the projected benefits, potential impacts and any mitigation measures proposed by the applicant.

Environmental Assessment:

The project site lies within the Chesapeake Bay watershed area and has several wetland areas and tributary streams to Jones Creek within it which have been confirmed by the US Army Corps of Engineers. In addition, the

Resource Protection Area (RPA) buffer has been confirmed by the Virginia Department of Environmental Quality. There is also a large farm pond created many years ago by a dam that still provides connectivity to the tributary stream.

The Department of Conservation and Recreation has classified the areas containing the streams, wetlands, and Jones Creek as having a "high" (C3) ecological core area score. Ecological core areas are classified into five categories of ecological integrity: C1 - Outstanding; C2 - Very High; C3 - High; C4 - Moderate; and C5 - General. Scores are enhanced if the core or habitat fragment is part of a larger complex of natural lands. Scores also increase for those cores and habitat fragments that contribute to water quality enhancement. In general, larger, more biologically diverse areas are given higher scores.

A review of information from the National Fish and Wildlife Service shows the possibility of several endangered and rare species and species of concern in the general including the Bald Eagle, the northern long-eared bat, tri-colored bat, red-headed woodpecker, and several other migratory species. Although it is not known whether there are any of these species present on the property, the USFWS information does not identify the property as critical habitat for any of these species.

The Sweetgrass project proposes to retain and restore the full extent of the RPA and floodplain areas that are within the ecological core area except for several access road crossings. The lot area as shown on the concept plan do not contain RPA buffer areas. Future construction on the property may be subject to time-of-year restrictions based on the breeding and migratory needs of critical species.

A review of the USDA soils information shows that the areas proposed for development will occur on soils designated either soils of statewide importance or prime farmland soils. Poorly drained soils occur in and near the wetland, stream and floodplain areas of the property. Prior to construction, all habitable structures will require a shrink/swell soils assessment for foundation design.

Even though the concept plan and water quality impact assessment (WQIA) submitted with the project propose impacts for road crossing and stormwater management impacts, these impacts are subject to a separate review and approval process. Although the concept plan notes these impacts are subject to additional review and approval, staff does not include the WQIA as part of the rezoning approval request, because it will be submitted as part of a future RPA Buffer modification application.

Historic Resources Assessment:

The property falls within the high probability area for archeological resources according to County records. The applicant provide a Phase 1A Cultural Resources Analysis study with their initial application. A copy of the report is attached, however, the staff request for a final report without the word "draft" on it has gone unheeded as of the date of this report. The report states that there are no known archeological resources on the site, however, several of the existing out buildings may be of an historic nature and recommends that a Phase I be conducted. The applicant commits to a Phase I study with further Phase II and Phase III studies as appropriate in the proffer statement. These studies shall be submitted prior to subdivision or site plan submittal and shall be subject to review by the Virginia Department of Historic Resources. County Historic Resources staff concerns are satisfied with the proffered condition.

Transportation Facility Impacts:

All of the streets within the proposed project will be public streets, except for the private drive aisles within the townhome phase which are proposed for a condominium style of ownership. All public roads will be required to be built to the Virginia Department of Transportation (VDOT) standards in order to be accepted into the state secondary street system maintenance program. The project proposes two entrances to serve the development from Benn's Church Boulevard (Rte. 10).

The main entrance will be closest to the Smithfield Town boundary and will utilize an existing median cut. The Traffic Impact Analysis (TIA) recommends and the applicant proffers to a signal at this intersection. The second

southern entrance will be a right in/right out entrance only with no signal.

The TIA shows the new development would add an average of 6,685 new vehicle trips per day. The average number of new peak hour morning (6 AM to 8 AM) trips would be 521 trips and new peak hour evening (2:30 PM to 5:30 PM) trips would average 692.

The TIA projects that traffic generated by the development will exceed current turn lane storage length at Turner Drive and Benns Church Boulevard as well as create a need for a new traffic signal and increased turn lane storage at the main entrance of Sweetgrass. The TIA recommends the following traffic improvements be made to mitigate for the projected negative traffic impacts:

1. Construct northbound right turn lane (200' storage plus 200' taper) into right in/right out development entrance off of US 258/Rt 10 (Benns Church Boulevard).
2. Construct northbound right turn lane (200' storage plus 200' taper) into main entrance off of US 258/Rt 10 (Benns Church Boulevard).
3. Lengthen southbound left turn lane to provide 200' storage plus 200' taper into main entrance off of US 258/Rt 10 (Benns Church Boulevard).
4. Install traffic signal at intersection of US 258/Rt 10 (Benns Church Boulevard) and main entrance.
5. Install signal infrastructure to provide a protected eastbound right-turn overlap at US 258/Rt 10 (Benns Church Boulevard) and Turner Drive.
6. Install flashing yellow arrows for the northbound and southbound left turn lanes at the intersection of US 258/Rt 10 (Benns Church Boulevard) at Canterberry Lane, Cypress Run Drive, Turner Drive and the main entrance to allow lead/lag operation.
7. Optimize signal timings along the corridor.

The applicant has committed to making the recommended road improvements in the proffer statement. The proffered conditions address earlier concerns from VDOT and the County Transportation Manager.

As a matter for informational purposes, the County is currently coordinating a master TIA project for the Benn's Church Boulevard and Turner Drive intersection area that will assess needed road improvements to accommodate future commercial, residential and school development planned in both the County and Town of Smithfield. The Sweetgrass applicants are currently not participating in this project.

Emergency Services, Fire and Public Safety Facility Impacts:

The County Capital Impact Model does not show that the proposed development will generate a need for additional capacity at existing fire and rescue or public safety facilities in the northern service area where the project site is located. However, the capital impact model does not show operational impacts, such as additional staff, equipment or supply needs, to these services.

The County's Department of Fire and Rescue reviewed the proposed development as currently proffered and found that the department will see a significate increase in calls for service. The projected annual increase is 349 calls for service with 296 additional EMS calls and 53 additional Fire calls. Since the public hearing at the September Planning Commission meeting, Community Development staff met with Fire and Rescue staff to analyze operational impacts more closely. Fire and Rescue staff concluded the projected increase in call volume would not be detrimental to the County's current level of service.

School Facility Impacts:

The County Capital Impact Model shows that the proposed development will generate approximately 52 new school students with thirty new elementary school students, seven new middle school students, and fifteen high school students. Although the model shows Sweetgrass generating a need for capacity expansion at the middle school, Dr. Chris Coleman with the Isle of Wight School System stated that there is remaining capacity at the middle school to accommodate the projected number of new students. The new Westside, planned to function as a new middle school, remains in the CIP with an estimated total cost of $38 million.

Please note the capital impact model does not show operational impacts, such as additional staff, equipment or supply needs, to these services.

Parks and Recreation Facility Impacts

The County Capital Impact Model shows that the proposed development will generate approximately 1,297 new people which will create a need for additional regional park, neighborhood park, recreational center, community center, and event center recreational facility space. However, the proposed development will include 9.87 acres of pocket park and central park space as well as a community clubhouse facility, pool, play equipment and pedestrian trails throughout the community to help meet this need. The development will also be required to install its portion of the multipurpose trail along its road frontage with Benn's Church Boulevard. The applicant also proposes to preserve the RPA buffer and floodplain to the maximum extent possible which greatly increases the amount of open space in the neighborhood.

Economic Impact Assessment:

While the County's Capital Impact Model reviews impacts to public facilities only, a fiscal impact analysis compares revenues generated from the project with both the operating and capital costs to a jurisdiction associated with the provision of public services and facilities to serve the new development. It includes all direct revenues and costs associated with the development proposal.

The June 2021 Fiscal Impact Analysis submitted with the application assumes an annual absorption of 65 age-restricted single family units per year and 38 townhouses is assumed in the analysis with a six year build-out. The report states that the average projected price of an age-restricted unit will be $305,200 and townhomes will be $258,875. The FIA concludes that the proposed development, to include both the residential and commercial uses, will generate $43.6 million in revenue compared to $22.7 million in expenditures over a 20-year period, generating a $20.9 million net surplus. Costs include ongoing annual operating expenditures and capital costs that include debt financing with payments that continue beyond the last year in the model projection period. The average annual revenues are estimated at $1.05 million per year. No job creation data was included in either the FIA or community impact statement.

To address staff's concern in regard to market saturation of age-restricted housing units in the County, the applicant submitted a market analysis report. The County currently has several age-restricted communities, including the 340 unit South Harbor development in Carrollton and Church Square in the Town of Smithfield. The 2021 market report states Sweetgrass will draw interest from a broad geographic area, and census data shows 61,234 persons over the age of 55 in that market area. An average of 13% of this population will desire a living or lifestyle change every year. That produces 6,665 potential buyers per year. The applicant’s experience suggests that it will capture a minimum of 10% of this market equating to 67 units per year just for the age-restricted housing.

Viewshed Analysis:

The applicant provided several viewshed renderings showing the perspective from Route 10 as to what the proposed residential buildings will look like after project completion. According to the applicant, many of the residential buildings will be similar to the styles Ryan Homes built in Benn's Grant. Examples of a commercial facade are included in the commercial design guidelines. The renderings are included as an attachment to the staff report. The conceptual site plan also includes a recreational greenspace along Route 10 which will preserve a terminal vista down to the pond and woodland at the rear of the property, preserving a portion of the historical landscape within the proposed development.

Staff Findings

After assessing the project's consistency with the County's Plans, Ordinances and current level of service of public facilities available to current County residents, staff found the application generally consistent with the future

recommended land use found in the 2020 Comprehensive Plan and was capable of meeting ordinance requirements. However, staff found that the proposed residential uses may negatively impact existing public facilities and services, such as fire and rescue services and school facilities until such time as public expenditures are made to increase facility and operational capacity.

The Comprehensive Plan projects the County population to reach 45,200 people by 2040. To meet the housing needs of the County's growing population, there will be a need for an additional 2,567 residential units based on the 2022 average of 2.3 people per household.

According to the US Census Bureau, the County had 17,085 existing housing units in 2022 . County records that same year show approximately 2,497 additional units approved but not yet constructed. The County's 2022 total population is estimated to be 40,151 people, representing a 2% average growth rate since the 2020 Census. This rate is double the initial projected rate of 1% a year. Although the number of approved units appears to meet the currently projected future need, a reassessment of the number of housing units needed may be in order, if the future growth trend exceeds expectations, barring any economic downshifts similar to 2008. A table showing current residential projects is attached to the report.

COMPREHENSIVE LAND USE PLAN:

The subject property is located in the Newport Development Service District (DSD), an area described in the Comprehensive Plan as a focus area for future growth in the County. The Land Use Plan ("Envision the Isle" chapter) designates the property for future Mixed Use (MU) as part of the larger mixed-use activity center surrounding the intersection of Carrollton Boulevard and Benns Church Boulevard. Mixed use areas are described generally in the plan as comprised of "housing mixed with office, commercial, and other uses…located on major transportation routes and at major intersections." The plan describes future residential development anticipated in these areas as "a mix of detached and attached single family residences, multiplexes, townhomes, and apartment style residences, [having] community amenities and preserved natural features" up to density of 14 dwelling units per acre or higher.

The project as conceptually designed accomplishes several Comprehensive Plan policies regarding the preservation of natural resources. The Plan states that mixed-use areas should include abundant open spaces which preserve natural features (e.g., mature forest cover, wetlands, etc.) and create active- and passive-use recreational amenities such as walking and multi-use trails, playgrounds, open spaces, and natural areas for residents of the community.

The proposed development and its proximity to commercial areas help implement policy statements and accomplish the purposes of the Plan's Newport DSD and Urban Development Area (UDA) designations with respect to housing. The Plan's housing policies and actions aim to provide opportunities for a variety of housing types for people of all incomes, backgrounds, and ages, and to increase opportunities within DSDs for residences to be in close proximity to retail, employment, and public facilities such as schools and parks. The proposed rezoning, therefore, is considered consistent with the Comprehensive Plan.

ORDINANCE REVIEW:

The applicant requests a conditional zoning to the Planned Development-Mixed Use zoning district. In addition, the development also lies within the Newport Development Service and Chesapeake Bay Preservation Area Overlay Districts which require additional performance criteria over and above the underlying zoning district regulations. According to the Zoning Ordinance, all PD-MX areas are also designated urban development areas (UDA) which must meet minimum UDA and Traditional Neighborhood Design requirements in the Zoning and Subdivision Ordinances, such as minimum densities, floor area ratio, open space area, and pedestrian access facilities.

Staff reviewed the proffered residential and commercial design guidelines as well as the conceptual master plan for consistency with the County's Zoning and Subdivision Ordinances. Should the the zoning request be

approved, the applicant will be required to submit subdivision plats, construction plans, signage plans, RPA buffer modification applications, and building plans in accordance with the proffered conditions, Zoning, and Subdivision Ordinances.

AGENCY REVIEW:

The application was forwarded to the following departments for their review:

- Economic Development: No concerns.
- Emergency Services: Comments have been incorporated in the project description above. A copy of the comments are also attached to this staff report.
- Utility Services: No concerns.
- Isle of Wight County Museum: No concerns with the application, provided that the proffered archeology condition is followed.
- Virginia Department of Transportation (VDOT): No concerns with the application, provided that the proffered transportation conditions are followed.

Please note that, should the conditional zoning request be approved, the project will be subject to subdivision and site plan review from all applicable agencies.

STAFF CONCLUSIONS:

Strengths:

1. The application is generally consistent with the Comprehensive Plan and can meet all ordinance requirements.
2. The project proposes to preserve the RPA buffer area and floodplain to the greatest extent possible.
3. The proposed development will provide over 9.89 acres of park, trails, community center, pool and play areas to provide parks and recreation services.
4. The applicant proffers that all age-restricted units will have a first floor master bedroom and bathroom which will help facilitate age-friendly housing.
5. The development will include up to 18,000 square feet of retail and commercial uses as well as 55,000 square feet of office which will create employment opportunities and additional revenues to meet public facility and service needs.
6. The conceptual site plan also includes a recreational greenspace along Route 10 which will preserve a terminal vista down to the pond and woodland at the rear of the property, preserving a portion of the historical landscape within the proposed development.

Weaknesses:

1. The proposed residential uses may negatively impact school operations and facilities, such transportation, until such time as public expenditures are made to increase facility and operational capacity.
2. It is unclear what existing historical and cultural resources exist on the project site which may impact the final layout and design of the community.

STAFF RECOMMENDATION:

Based on the weaknesses listed above, staff recommends denial of the rezoning request.

ATTACHMENTS:

Description	Type	Upload Date
Application	Backup Material	9/6/2023
Land Use Narrative	Backup Material	9/6/2023
Community Impact Statement	Backup Material	9/6/2023
Sweetgrass Proffer Statement exec 090823	Backup Material	9/8/2023
Residential Design Guidelines Aug 18 2023	Backup Material	9/8/2023

Commercial Design Guidelines	Backup Material	9/8/2023
Sweetgrass Concept Plan Aug 2023	Backup Material	9/8/2023
Sweetgrass Traffic Impact Analysis 2023 Update	Backup Material	9/6/2023
Sweetgrass TIA 2021 Supplemental	Backup Material	9/6/2023
Sweetgrass TIA 2019	Backup Material	9/6/2023
Wetland Confirmation	Cover Memo	9/6/2023
Water Quality Impact Assessment	Backup Material	9/6/2023
Fiscal Impact Analysis	Backup Material	9/6/2023
Fiscal Impact Analysis Update	Backup Material	9/6/2023
Market Analysis	Backup Material	9/6/2023
Sweetgrass VIsual Impact Analysis June 15, 2023	Backup Material	9/19/2023
Sweetgrass Elevations	Backup Material	9/19/2023
Townhome model 1	Backup Material	9/19/2023
Townhome model 2	Backup Material	9/19/2023
Cultural Resources Assessment 2022	Backup Material	9/6/2023
VDOT Final Comments Aug 2023	Backup Material	9/6/2023
Residential Development Project list	Backup Material	9/19/2023
PC Resolution	Resolution	9/26/2023
Schools Revised Review Comments 092623	Backup Material	9/26/2023
Smithfield Review Comments	Backup Material	10/18/2023
Economic Development Review Comments	Backup Material	11/21/2023
Schools Enrollment Info	Backup Material	11/15/2023
Memo to Planning Commission Oct 23	Cover Memo	11/27/2023
Revised Proffer statement received Oct 23	Backup Material	11/27/2023
Revised Residential Guidelines received Oct 23	Backup Material	11/27/2023
Revised Commercial Guidelines Recd Oct 23	Backup Material	11/27/2023
Rte 10 Visual Impact Oct 23	Backup Material	11/27/2023
Updated FIA memo Oct 23	Backup Material	11/27/2023
Updated Master Plan Oct 23	Backup Material	11/27/2023

ORDINANCE NUMBER: _____

AN ORDINANCE TO CHANGE THE ZONING DISTRICT FROM RURAL AGRICULTURAL CONSERVATION TO CONDITIONAL PLANNED DEVELOPMENT MIXED USE FOR APPROXIMATELY 250 ACRES OF TAX MAP NUMBER 32-01-009 ON BENNS CHURCH BOULEVARD (RTE. 10) TO ALLOW UP TO 390 AGE-RESTRICTED SINGLE FAMILY DETACHED RESIDENCES, 225 UNRESTRICTED TOWNHOME RESIDENCES, AND FIVE ACRES OF COMMERCIAL USES

WHEREAS, NVR, Inc., applicant, and Henry Layden, special trustee for the William Grover Yeoman, III Trust, property owner have submitted a request (ZA-06-19) for a change in the zoning district for approximately 250 acres of tax map number 32-01-009 located on Benns Grant Boulevard (Rte. 10) from the Rural Agricultural Conservation zoning district to the Conditional - Planned Development - Mixed Use zoning district to allow up to 390 age-restricted single family detached residential units, 225 residential townhomes, and approximately five acres of commercial uses to include up to 18,000 square feet of retail and commercial uses and up to 55,000 square feet of office uses,and said property is depicted in Exhibit B;

WHEREAS, the proposed zoning map amendment application (ZA-6-19) has been advertised and reviewed by the Planning Commission in compliance with the requirements of state law; and,

WHEREAS, the Planning Commission has made a recommendation as stated in Exhibit "A"; and,

WHEREAS, a public hearing before the Isle of Wight County Board of Supervisors was duly advertised as required by law and held on May 16, 2024, at which public hearing the public was presented with the opportunity to comment on the proposed rezoning.

NOW, THEREFORE, BE IT ORDAINED by the Isle of Wight County Board of Supervisors of Isle of Wight County, Virginia, that:

Section 1. Exhibits.

Exhibit “A”, “Planning Commission Recommendation” and Exhibit “B”, “Property Map”, and Exhibit “C” “Proffer Statement” are attached hereto, are hereby incorporated as part of this ordinance.

Section 2. Findings.

The Board of Supervisors finds that the change in zoning district application, ZA-6-19, as submitted or modified with conditions herein, for the expressed purpose to allow the proposed uses as listed in the proffered conditions is in harmony with the standards of the Isle of Wight County Zoning Ordinance, and that it will have no more adverse effects on the health, safety or comfort of persons living or working in or driving through the neighborhood, and will be no more injurious to property or improvements in the neighborhood than would any other uses generally permitted in the same district, taking into consideration the location, type and height of buildings or structures, the type and extent of landscaping and screening on site and whether the use is consistent with any theme, action, policy or map of the Comprehensive Plan with the conditions set forth below.

These findings are based upon the consideration for the existing use and character of the property, the Comprehensive Plan, the suitability of the property for various uses, the trends of growth or change, the current and future requirements of the community as to land for various purposes as determined by population and economic studies and other studies, the transportation requirements of the community, the requirements of airports, housing, schools, parks, playgrounds, recreation areas and other public services, the conservation of natural resources, the preservation floodplains, the preservation of agricultural and forestal land, the conservation of properties and their values, and the encouragement of the most appropriate use of land throughout the County.

Section 3. Rezoning.

A. The property as shown on the attached Exhibit "B" is hereby rezoned and the official zoning map be, and is hereby, amended to limit the uses to only include uses as listed in the proffered conditions shown on Exhibit "C".

B. The foregoing rezoning and amendment to the official zoning map shall remain in effect until a subsequent amendment changes the zoning of the property.

Section 4. Severability.

It is the intention of the Board of Supervisors that the provisions, sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable; and if any phrase, clause, sentence, paragraph, section, and provision of this ordinance hereby adopted shall be declared unconstitutional or otherwise invalid by the valid judgement or decree of a court of competent jurisdiction, such unconstitutionality or invalidity shall not affect any of the remaining phrase, clauses, sentences, paragraphs, sections, and provisions of this ordinance, to the extent that they can be enforced notwithstanding such determination

Section 5. Effective Date

This ordinance shall be effective upon passage and shall not be published or codified.

DATE: _____

READ AND PASSED: _____
Chairman, Board of Supervisors

TESTE: _____
Clerk, Board of Supervisors

Approved as to Form:

_____
Robert W. Jones Jr, County Attorney

ISSUE:

Consideration of Sale of County Property Located at 107 Obrey Drive, Carrollton

BACKGROUND:

The County currently owns a tract of land identified as Isle of Wight County Tax Map Parcel 43A-07-010, being approximately 0.41 acres, and designated as 107 Obrey Drive, Carrollton, Virginia. The property is the site of an abandoned well lot. The County has no need for a well at this site. The adjoining property owner has offered to purchase the property for the assessed value of $2,500. A public hearing to consider the approval of the transfer of property to has been advertised.

In this regard authorization to execute such necessary documents is sought in order to effectuate closing on tract of land.

BUDGETARY IMPACT:

An increase of $2,500 in revenue and the return of the property to the tax rolls.

RECOMMENDATION:

Hold a public hearing and authorize the Chairman to execute all appropriate documents necessary to transfer said property.

ATTACHMENTS:

Description	Type	Upload Date
Deed of Bargain and Sale	Deed	5/9/2024

This deed is exempt from the recordation taxes imposed by §§ 58.1-801 and 58.1-803 of the Code of Virginia (1950), as amended, pursuant to § 58.1-811.

CONSIDERATION: $2,500.00

ASSESSED VALUE: $2,500.00

GRANTEE'S ADDRESS: 107 Obrey Drive, Carrollton, VA 23314

THIS INSTRUMENT PREPARED BY: Robert W. Jones, Jr.
County Attorney
P. O. Box 80
Isle of Wight, VA 23397
VSB #31025

THE EXISTENCE OF TITLE INSURANCE IS UNKNOWN TO THE PREPARER

THIS DEED PREPARED WITHOUT THE BENEFIT OF A TITLE EXAMINATION

Tax Map # 43A-07-010

This Deed made and entered into this _____ day of May, 2024 by and between **Board of Supervisors of Isle of Wight County, Virginia,** party of the first part, Grantor and Dennis J. **Donato**, Jr. and Alexandria L. **Collins**, parties of the second part, Grantees.

WITNESSETH:

WHEREAS**,** by motion duly adopted by the Isle of Wight County Board of Supervisors at a duly advertised public meeting held on May 16, 2024, the Board of Supervisors of the Isle of Wight County did approve the transfer of the hereinafter described land to the Grantees.

NOW, THEREFORE**,** for and in consideration of the sum of Two Thousand Five Hundred Dollars ($2,500.00) cash in hand paid, the receipt of which is hereby acknowledged by the Grantor, the Grantor does hereby grant, bargain, sell, and convey, in fee simple, with SPECIAL WARRANTY unto the Grantees, Dennis J. Donato, Jr. and Alexandria L. Collins, as tenants in common, any and all right, title and interest it may possess in and to the following described real estate, to-wit:

> All that certain lot, piece or parcel of land, situate, lying, and being in Newport Magisterial District, Isle of Wight County, Virginia, which is bounded and described with reference to a plat of survey styled "PHYSICAL SURVEY OF LOT 10 SUBDIVISION OF A PORTION OF THE PROPERTY OWNED BY C. L. OBREY ISLE OF WIGHT COUNTY VIRGINIA FOR TIDEWATER WATER COMPANY SCALE 1"=30' BALL-HASELL & FOLKES

SURVEYORS & ENGINEERS, PORTSMOUTH, VA. SUFFOLK, VA.", a plat of which is recorded in the Office of the Clerk of the Circuit Court of Isle of Wight County, Virginia in Deed Book 179, page 189, as follows: Beginning at a point at the Northeast corner of the said lot, on the Western side of the street or road known as Obrey Drive, the said point being 220 feet from the Southwest corner of the intersection of Obrey Drive and Anna Drive, and running thence down and along the Western side of Obrey Drive along a curve having a radius of 225.62 feet a distance of 92.22 feet to a point; thence continuing along Obrey Drive, S. 12° 00' W. 63.00 feet to a point, a corner; thence running N. 78° 00' W. 176.90 feet to a point in the edge of the water on a lake, a corner; thence following the edge of the water on the said lake in a general Northerly direction to a point which is situate S. 73° 30' W. 191.15 feet from the point of beginning on Obrey Drive, a corner; and thence leaving the edge of the water on the said lake and running N. 73° 30' E. a total distance of 191.15 feet to the point of beginning on Obrey Drive,

It being a portion of the property conveyed unto the Grantors herein by Deed from Isle of wight County Public Service Authority and recorded in the Clerk's Office of the County of Isle of Wight as Instrument Number 970000068, dated December 19, 1996.

Together with all and singular the buildings and improvements, thereon, the rights and privileges, tenements, hereditaments, easements and appurtenances unto the said land belonging or in anywise appertaining.

This conveyance is made subject to any easements, restrictions, and reservations contained in duly recorded deeds, plats and other instruments constituting constructive notice in the chain of title, which have not expired by a time limitation contained therein or have otherwise become ineffective, and to matters visible upon inspection.

Witness the following signatures and seals:

{Signature Page to Follow}

Board of Supervisors of
Isle of Wight County, Virginia

By:_____
Joel C. Acree, Chairman

STATE OF VIRGINIA,
COUNTY OF ISLE OF WIGHT, to-wit:

The foregoing instrument was acknowledged before me this _____ day of _____, 2024 by Joel C. Acree, Chairman, on behalf of the Board of Supervisors of Isle of Wight County, Virginia.
.

My commission expires: _____.

_____
Notary Public

Attest:

_____
Carey Mills Storm, Clerk

Approved as to Form:

_____
Robert W. Jones, Jr.
County Attorney for
Isle of Wight County, Virginia

ISSUE:

Resolution to Approve the VDOT FY2025-2030 Secondary Six Year Improvement Plan.

BACKGROUND:

The Secondary Six Year Improvement Plan for FY25 shows an overall increase of about $205,000 total through FY30. No projects have been removed from the plan. The next projects in the plan are Woody Acres and Blairs Creek. For efficiencies these will be VDOT administered and are currently scheduled to begin in August 2024. Construction updates will be provided to residents closer to notice to proceed.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

Adopt a Resolution approving the FY2025-2030 SSYIP.

ATTACHMENTS:

Description	Type	Upload Date
Resolution	Cover Memo	5/9/2024
VDOT FY25-30 SSYIP Improvement Plan	Cover Memo	5/9/2024

RESOLUTION OF THE BOARD OF SUPERVISORS OF ISLE OF WIGHT COUNTY TO APPROVE PRIORITIES FOR THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S SECONDARY SIX-YEAR IMPROVEMENT PROGRAM FOR FY 2025 THROUGH FY 2030

WHEREAS, Sections 33.2-331 of the Code of Virginia (1950, as amended) provide the opportunity for each county to work with the Virginia Department of Transportation (VDOT) in developing a Secondary Six-Year Improvement Program (SSYIP); and,

WHEREAS, this Board has held a public hearing on the proposed Plan (FY 2025-FY 2030), in accordance with VDOT policies and procedures, on May 16, 2024 and all citizens of the County had the opportunity to make comments and recommendations concerning the proposed Program; and,

WHEREAS, VDOT Local Program and Residency staff have reviewed and concurred with the proposed SSYIP (FY 2025-FY 2030).

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of Isle of Wight Virginia that the Secondary Six-Year Improvement Program for FY 2025-2030 is hereby approved, as presented at the public hearing.

BE IT FURTHER RESOLVED that the County Administrator of Isle of Wight County, Virginia is authorized to execute all Program documents and make such accounting adjustments and execute such agreements and contracts for projects as necessary to proceed with the Program as approved.

Adopted this 16th day of May 2024.

_____
Joel C. Acree, Chairman

_____
Carey Mills-Storm, Clerk

Approved as to Form:

_____
Robert W. Jones, Jr., County Attorney

SECONDARY SYSTEM CONSTRUCTION PROGRAM (in dollars)

District: Hampton Roads

County: Isle of Wight County

Board Approval Date: 2025-26 through 2029-30

Route	Road Name	Estimated Cost		Traffic Count
PPMS ID	Project #			Scope of Work
Accomplishment	Description			FHWA #
Type of Funds	FROM			Comments
Type of Project	TO			
Priority #	Length	Ad Date		
	Regular Construction			
0646	Rattlesnake Trail	*PE*	$2,509	
104809	0646046649	*RW*	$0	Resurfacing
STATE FORCES/HIRED EQUIPMENT	Rural Rustic Paving Project (Rattlesnake Trail)	*CN*	$395,368	47005
	Jones Town Drive (Route 637)	*Total*	**$397,877**	
S	Dead End			COMPLETE
State forces/Hired equip PE CN Only	4.4		2/22/2022	
9999.01				
0673	Morgarts Beach Road	*PE*	$10,000	
-25170	0673046735	*RW*	$0	Reconstruction w/o Added Capacity
STATE FORCES/HIRED EQUIPMENT	Route 673 Reconstruct & Surface Treat Non-Hard Surface	*CN*	$576,500	47004
	Route 672 Blounts Corner Road	*Total*	**$586,500**	
State forces/Hired equip PE CN Only	Route 10 Bus-Old Stage Hwy		5/22/2029	
9999.05	1.3			
EN08	S. Church Street	*PE*	$0	
101793	EN08046115	*RW*	$268,710	Facilities for Pedestrians and Bicycles
NON VDOT	Construction of a pedestrian/bicycle trail - Segment 1	*CN*	$1,143,381	25028
STP	South Church Street	*Total*	**$1,412,091**	$71,000 transfer from #T4970 as per CTB (6/11).
Migration	Nike Park Road			
9999.99	1.3		3/3/2017	
EN08	S. Church Street	*PE*	$0	
101794	EN08046115	*RW*	$230,838	Facilities for Pedestrians and Bicycles
NON VDOT	Construction of a pedestrian/bicycle trail	*CN*	$4,829,578	25028
STP	Battery Park Road	*Total*	**$5,060,416**	$71,000 transfer from #T4970 as per CTB (6/11).
Migration	Nike District Park			
9999.99	1.8		3/3/2017	
0258	Main Street	*PE*	$150,181	
102951	0258046626	*RW*	$5,000	Facilities for Pedestrians and Bicycles
NON VDOT	Main Street Pedestrian Improvements	*CN*	$1,478,437	23128
CM	Route 10	*Total*	**$1,633,618**	
LAP Tier 1 PE, RW, CN (PH, RFP)	Route 10 (Intersection)		4/15/2024	
9999.99				
0681	Strawberry Plains	*PE*	$5,000	
-28050	0681046751	*RW*	$0	Reconstruction w/o Added Capacity
STATE FORCES/HIRED EQUIPMENT	ROUTE 681 RECONSTRUCT & SURFACE TREAT NON-HARD SURFACED ROAD	*CN*	$670,000	17004
	Route 620 Broadwater Rd	*Total*	**$675,000**	
State forces/Hired equip PE CN Only	Route 637 Racetrack Rd			
9999.99	2.1			

Date: 4/29/2024

SECONDARY SYSTEM CONSTRUCTION PROGRAM (in dollars)

District: Hampton Roads

County: Isle of Wight County

Board Approval Date: 2025-26 through 2029-30

Route	Road Name	Estimated Cost		Traffic Count
PPMS ID	Project #			Scope of Work
Accomplishment	Description			FHWA #
Type of Funds	FROM			Comments
Type of Project	TO			
Priority #	Length	Ad Date		
0699	Woody Acres Way	*PE*	$10,000	
115872	0699046722	*RW*	$0	Reconstruction w/o Added Capacity
STATE FORCES/HIRED EQUIPMENT	Route 699 Reconstruct & Surface Treat Non-Hard Surfaced Road	*CN*	$360,000	17004
MAINT	Route 679 Bethel Church Lane	*Total*	**$370,000**	
State forces/Hired equip PE CN Only	Dead End	2/9/2026		Priority 1
9999.99	0.8			
0713	Blairs Creek Way	*PE*	$10,000	
119506	0713046734	*RW*	$0	Reconstruction w/o Added Capacity
STATE FORCES/HIRED EQUIPMENT	ROUTE 713 RECONSTRUCT & SURFACE TREAT NON-HARD SURFACE ROAD	*CN*	$275,000	47004
	Route 699 Woody Acres Way	*Total*	**$285,000**	
State forces/Hired equip PE CN Only	Dead End	6/6/2028		Priority 1
9999.99	0.4			

Date: 4/29/2024

Secondary System
Isle of Wight County
Construction Program
Estimated Allocations

Fund	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	Total
CTB Formula - Unpaved State	$0	$0	$0	$0	$0	$0	$0
Formula Secondary State	$0	$0	$0	$0	$0	$0	$0
Secondary Unpaved Roads	$0	$0	$0	$0	$0	$0	$0
TeleFee	$100,526	$100,526	$100,526	$100,526	$100,526	$100,526	$603,156
Formula STP	$0	$0	$0	$0	$0	$0	$0
State Funds	$0	$0	$0	$0	$0	$0	$0
Federal STP	$0	$0	$0	$0	$0	$0	$0
District Grant - Unpaved	$130,473	$173,106	$173,106	$173,106	$173,106	$146,894	$969,791
Total	$230,999	$273,632	$273,632	$273,632	$273,632	$247,420	$1,572,947

Board Approval Date:

Residency Administrator Date

County Administrator Date

ISSUE:

VACo Achievement Award Application for the Isle of Wight RISE Program

BACKGROUND:

Staff recently submitted an application for a VACo Achievement Award to recognize the County's RISE (Resilient - Independent - Social - Empowerment) Program in Parks and Recreation. The RISE Program is the County's first ever Therapeutic Recreation day program. The goal of this program is to promote socialization and independent living skills, and provide opportunities for participating in recreation activities for people with disabilities.

Program activities include group activities, arts & crafts, pop-up field trips, physical activities, outdoor activities, workshops, and much more.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

For the Board's information.

ATTACHMENTS:

Description	Type	Upload Date
Submission Form	Backup Material	4/24/2024
Achievement Award Application	Backup Material	4/24/2024

SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2024.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact Gage Harter.

PROGRAM INFORMATION

County: _____

Program Title: _____

Program Category: _____

CONTACT INFORMATION

Name: _____

Title: _____

Department: _____

Telephone: _____ **Website:** _____

Email: _____

SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: _____

Title: _____

Signature: _____

Contents

Executive Summary 1
Full Description 2
R.I.S.E. PHOTOS 5
R.I.S.E. VIDEO 6
Website: 6
YouTube 6

Executive Summary

R.I.S.E. (Resilient-Independent-Social-Empowerment) is a therapeutic recreation day program for adults with disabilities. Community input and a review of existing programs helped Isle of Wight County Parks and Recreation Department realize a need for year-round adult with disabilities programming. As a result, R.I.S.E., which operates every Friday at Nike Park in Carrollton, Virginia was developed. The program's goal is to promote socialization, increase independent living skills, and participate in recreational activities. It is a group setting that offers an excellent opportunity to join a community with common goals and abilities. R.I.S.E. includes group activities, arts and crafts, pop-up field trips, physical activities, outdoor exploration, and a wide variety of workshops. The success of R.I.S.E. has made it an integral part of the Parks and Recreation Department's inclusion programming. Adult inclusion programming serves two primary goals. First is to provide the opportunity for adults of Parks and Recreation programs, who exhibit the need for therapeutic intervention, the opportunity to overcome any program barriers and continue participation. Second is to educate Department staff on how to effectively work with participants who have varying disabilities. These goals assist residents of Isle of Wight County and neighboring localities with safe and effective adults with disabilities program participation. R.I.S.E. has become a successful addition to the department's inclusion programming plan.

Full Description

Prior to 2023, Isle of Wight County Parks and Recreation Department lacked a therapeutic recreation program. Consequently, the county had very little in the way of programs for adults with disabilities. In 2023, the county hired its first-ever Therapeutic Recreation Specialist to support the needs of people with disabilities in the community. The Therapeutic Recreation Specialist immediately recognized a demand for a year-round, consistent program that would provide opportunities specifically for adults with disabilities. Thus, the R.I.S.E. (Resilient-Independent-Social-Empowerment) Program was born. R.I.S.E.'s goals are designed to promote socialization, increase independent living skills, provide leisure education, increase participation in recreation and leisure activities, and allow participants to be part of a group that shares similar skills and abilities. It is a comprehensive program aimed at enhancing the quality of life and overall health and well-being of adults with disabilities in the community. The program's goals are achieved through various learning opportunities as well as recreation activities like sports, outdoor exploration, games, arts and crafts, music, and dance. All the participants develop social skills, build friendships, and gain confidence in their abilities. Each activity is designed to cater to the unique goals and abilities of participants. Because participants congregate every Friday, consistency promotes continued growth toward their individualized goals and activity objectives.

The R.I.S.E. Program is facilitated by an experienced and qualified Certified Therapeutic Recreation Specialist (CTRS) who is passionate about helping adults with disabilities. But because Isle of Wight County Parks and Recreation has only one CTRS, the entire Parks and Recreation Department programming team works together to make R.I.S.E. a success. This also allows staff without a background and experience in disability education the chance to gain knowledge and familiarity with therapeutic recreation. They work closely with R.I.S.E.

participants to ensure that their needs are met, and they receive the support necessary to achieve their goals. As a result, staff knowledge transfers into the service of other programs like sports and camps. Now we can better serve individuals with disabilities in many aspects of parks and recreation programming.

Isle of Wight County Parks and Recreation Department has a limited operating budget that must cover a wide variety of youth and adult programs. Consequently, only a small share is designated for therapeutic recreation programs. So, to support R.I.S.E. with limited resources, the Therapeutic Recreation Specialist collaborates with many community organizations. Outside speakers and guests are invited to work with the participants, such as the Isle of Wight County Museum, local libraries, the Sheriff's Office, a nutrition expert, and a music therapist. The Isle of Wight County Museum teaches the participants about community history using hands-on activities. Library visits are also very popular. R.I.S.E. participants look forward to their diverse range of engaging group activities. These activities include creating book and magazine collages, participating in book clubs, adult story times, playing brain games, and discussing paranormal investigations. The Sheriff's Office also visits the program to discuss safety around the home and community. Their K9 division brings dogs for the participants to interact with and learn about their law enforcement duties. In addition, the group has the privilege of receiving routine visits from a nutritionist who teaches them about healthy eating habits, which goes hand in hand with independent living skills. The nutritionist offers recipes and works hands-on with the group to prepare meals so that each participant can learn how to make delicious and healthy foods. To facilitate music therapy for R.I.S.E. participants, the music therapist teaches the basics for a wide variety of instruments. Then, each participant chooses a song, and the group plays along with their newly learned instruments. She encourages them to try out different instruments for each song. If any participant is feeling the beat, they are encouraged to get up and dance and sing.

The R.I.S.E. Program has also formed a partnership with the local YMCA. During filed trips to the YMCA, staff educate R.I.S.E. participants on program information. The first YMCA field trip was an eventful day that included a guided tour of the facility, meeting with all the staff members, open gym playtime, a fun-filled Zumba class, and a group discussion where participants shared their aspirations and goals. Future YMCA visits are scheduled to include yoga, aquatics programs, and fitness center equipment orientations. The R.I.S.E Program also occasional field trips throughout the year, such as visiting an indoor glow-in-the-dark mini-golf course and lunch at Chick-fil-A. During these trips, each participant orders and pays for their meal independently or with a little prompting and encouragement from the Therapeutic Recreation Specialist.

Feedback on the program has been overwhelmingly positive. Attendance throughout the years has remained strong and the program is at full capacity. R.I.S.E. will be continuously evaluated as part of the Department's program lifecycle review. But it is evident that R.I.S.E. will remain a staple of our programming portfolio for a very long time. This one-of-a-kind Isle of Wight County program is enriched with a range of various educational and fun-filled activities that benefit all participants. Overall, it is an excellent, well-rounded, and fulfilling experience for everyone involved. So, the R.I.S.E. Program is a strong contender for the Virginia Association of Counties Achievement Award.

R.I.S.E. PHOTOS











R.I.S.E. VIDEO

Website:
https://www.co.isle-of-wight.va.us/departments/parks_and_recreation/therapeutic_recreation.php

YouTube
https://youtu.be/k-8oL4J4x3Q?si=X7ewil9PeWO_VxlO

BACKGROUND:

The matters attached to this Board report are included as a means of providing information to the Board relative to matters of interest. These items do not require any action by the Board.

BUDGETARY IMPACT:

None

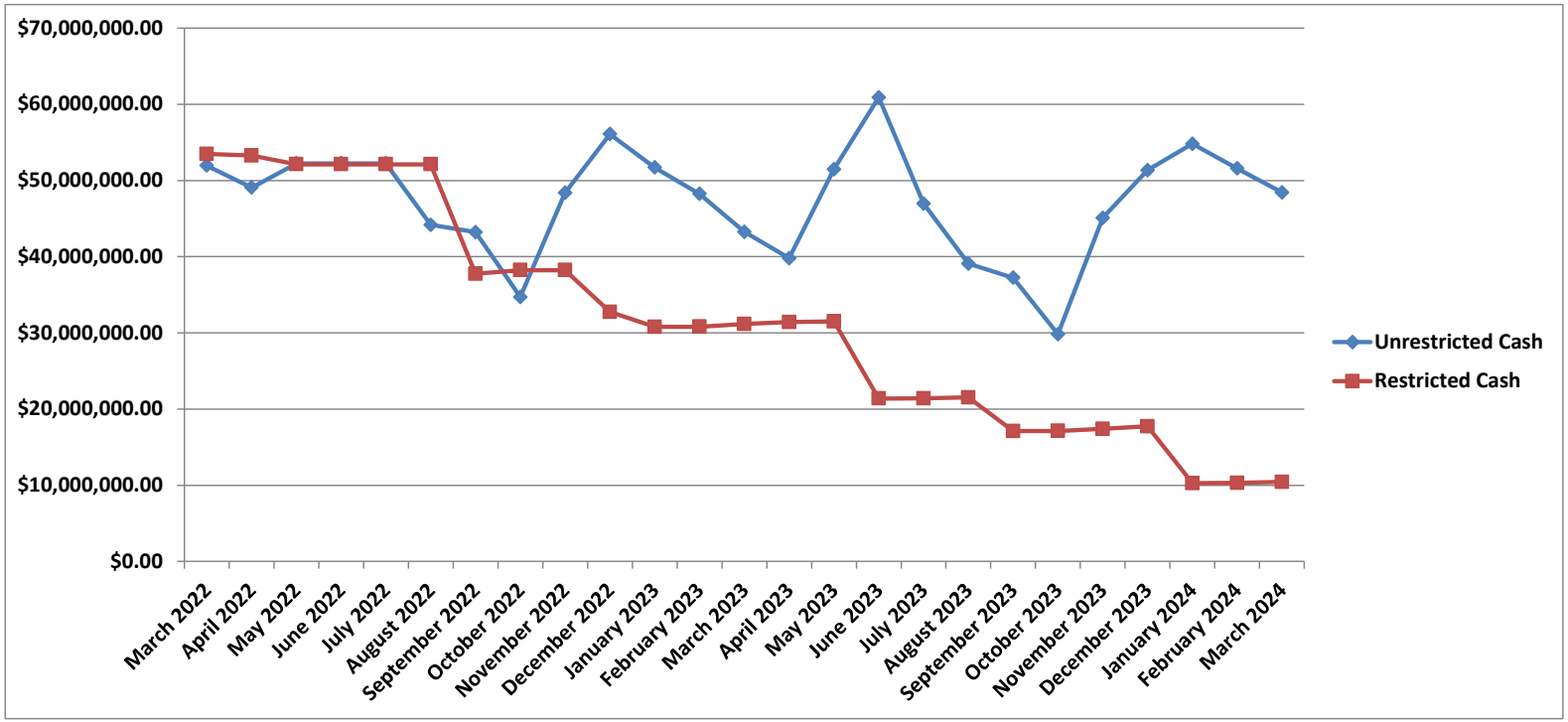
RECOMMENDATION:

For the Board's information.

ATTACHMENTS:

Description	Type	Upload Date
Cash Position - March 2024	Backup Material	4/25/2024
Statement of Treasurer's Activity - March 2024	Backup Material	4/25/2024
Incidents by Zone Map - April 2024	Backup Material	5/8/2024
Incidents by Zone Data - April 2024	Backup Material	5/8/2024
Station Activity Report - April 2024	Backup Material	5/8/2024
Museum Report - April 2024	Backup Material	5/8/2024

CASH POSITION



COUNTY OF ISLE OF WIGHT



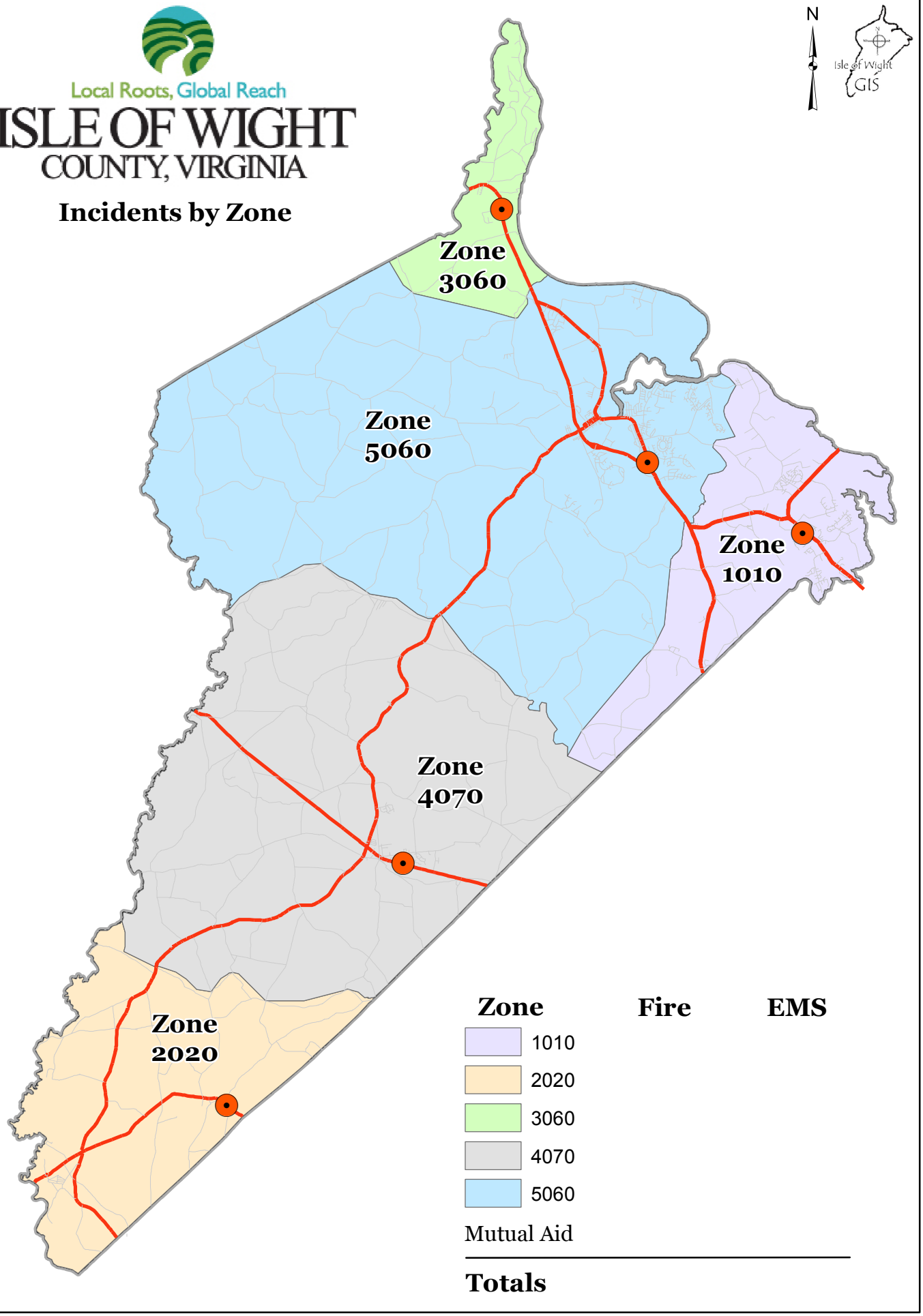
STATEMENT OF THE CASH ACCOUNTABILITY
March 2024

Institution	Instrument	Rate	Balance	Previous Year Balance
	Cash			
	Petty Cash		$2,350.00	$1,950.00
SUB TOTAL				
	Checking Accounts			
Bank of America	General Fund Checking	2.28%	$2,570,022.46	$1,869,751.22
Bank of America	School General Fund Checking	2.28%	$8,926,864.90	$5,502,384.50
Bank of America	DSS General Fund Checking	2.28%	$2,569,560.72	$2,290,385.44
Bank of America	County Payroll Account	2.38%	$155,988.87	$98,711.61
Bank of America	School Payroll Account	2.38%	$1,269.81	$262.67
Bank of America	DSS Payroll Account	2.38%	$32.47	$29.41
SUB TOTAL			**$14,223,739.23**	**$9,761,524.85**
	Investments			
Bank of America	Emergency Fund Checking	2.38%	$2,691.43	$2,629.98
LGIP	General Fund Investment	5.60%	$17,766,007.05	$19,754,708.58
VIP	VIP Long Term	5.49%	$81,587.80	$79,212.76
VIP	VIP Short Term	5.49%	$16,361,973.08	$13,671,837.02
SUB TOTAL			**$34,212,259.36**	**$33,508,388.34**
	Restricted Funds			
Bank of America	School Escrow Fund	0.00%	$0.00	$0.00
Bank of America	General Recoupment Funds	0.00%	$12,144.58	$13,786.14
Bank of America	Special Welfare Funds	0.60%	$30,051.19	$0.00
Bank of America	Special Welfare Donated Funds	2.38%	$18,618.22	$21,614.14
Bank of America	Special Welfare Child Support	0.60%	$0.18	$2,417.54
Bank of America	School's Camp Foundation	2.38%	$25,766.65	$25,178.26
Towne Bank	School Food Service Funds	0.10%	$1,887,942.15	$1,631,236.32
BNY Mellon	Pace Funds		$2,140,073.91	$2,282,432.21
Bank of America	County Escrow Fund	2.38%	$4,487.93	$10,730.96
Bank of America	Opioid Funds	0.20%	$106,244.58	$0.00
SUB TOTAL			**$4,225,329.39**	**$3,987,395.57**
	Bond Proceeds--Invested in SNAP			
	2016 Bond	5.51%	$165,038.42	$334,009.58
	2016 Bond Interest	5.51%	$242,106.88	$216,518.24
	2020A Bond	0.00%	$0.00	$7,150,884.58
	2020A Bond Interest	0.00%	$0.00	$427,264.81
	2022 GO Bond	5.51%	$4,572,097.44	$18,509,158.87
	2022 GO Bond Interest	5.51%	$1,246,006.77	$555,113.70
SUB TOTAL			**$6,225,249.51**	**$27,192,949.78**
TOTAL OF ALL FUNDS			**$58,888,927.49**	**$74,452,208.54**

Local Roots, Global Reach

ISLE OF WIGHT COUNTY, VIRGINIA

Incidents by Zone



ISLE OF WIGHT

Incidents by Zone - April 2024

Agency: IWFR, Event date/Time range: 04/01/2024 00:00:00 - 04/30/2024 23:59:59

Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
1010	ABDOMINAL PAIN	0	3	3	3%	0:01:19	0:08:09	1:05:36	3:45:14	1:15:05
	ABRASIONS BRUISES ETC	1	3	4	4%	0:00:15	0:09:16	0:56:11	3:23:27	0:50:52
	ACCIDENT UNKNOWN INJURIES	1	7	8	8%	0:01:15	0:07:13	0:46:09	7:16:52	0:54:37
	ACCIDENT WITH INJURIES	0	2	2	2%	0:00:34	0:05:09	1:15:29	2:42:23	1:21:12
	ALARM - MEDICAL	0	3	3	3%	0:01:50	0:08:29	0:10:15	0:53:47	0:17:56
	ALLERGIC REACTIONS	0	2	2	2%	0:01:54	0:03:53	0:20:32	0:30:28	0:15:14
	ASSAULT WITH INJURIES	0	1	1	1%	0:00:04	0:09:24	1:22:14	1:31:42	1:31:42
	CHEST PAIN	0	2	2	2%	0:01:30	0:05:48	1:04:46	2:24:08	1:12:04
	DIABETIC PROBLEMS	0	1	1	1%	0:01:27	0:12:42	2:10:19	2:24:28	2:24:28
	DIFFICULTY BREATHING	0	12	12	12%	0:01:29	0:07:59	1:03:59	14:41:19	1:13:27
	FALLS AND RELATED INJURIES	0	7	7	7%	0:01:17	0:07:58	0:30:45	4:40:05	0:40:01
	FRACTURES OR BROKEN BONES	0	2	2	2%	0:01:54	0:07:28	1:29:06	3:16:54	1:38:27
	HEADACHE	0	1	1	1%	0:00:06	0:10:35	1:07:28	1:18:09	1:18:09
	HEART PROBLEMS	0	1	1	1%	0:02:52	0:11:14	0:40:50	0:54:56	0:54:56
	LIFT ASSIST	0	12	12	12%	0:01:43	0:08:52	0:13:37	4:50:25	0:24:12
	PAIN	0	2	2	2%	0:02:01	0:06:24	1:23:16	3:03:22	1:31:41
	SEIZURE	0	1	1	1%	0:01:46	0:05:21	2:06:20	2:13:27	2:13:27
	SICK / ILL OR RESCUE	0	11	11	11%	0:01:28	0:09:49	1:02:01	13:26:23	1:13:18
	STROKE	0	1	1	1%	0:00:59	0:05:18	0:52:57	0:59:14	0:59:14
	UNCONSCIOUS OR FAINTING	0	4	4	4%	0:01:27	0:04:14	0:35:16	2:05:29	0:31:22
	Subtotals for EMS	**2**	**78**	**80**	**81%**	**0:01:22**	**0:07:46**	**1:00:51**	**76:22:12**	**1:08:04**
	ARCING WIRES DOWN POWER LINES	0	1	1	1%	0:01:29	0:04:08	0:23:40	0:29:17	0:29:17
	ASSIST BOATER	0	1	1	1%	0:00:36	0:08:46	0:48:02	0:57:24	0:57:24
	BACKFILL STATION	0	1	1	1%	0:01:11	0:28:41	0:02:36	0:32:28	0:32:28

Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
	BOMB/BOMB THREAT	1	0	1	1%	0:01:07	1:03:03	0:38:16	1:42:26	1:42:26
	BRUSH FIRE	0	4	4	4%	0:01:14	0:04:26	0:29:38	2:21:09	0:35:17
	BURNING COMPLAINT	0	1	1	1%	0:01:31	0:08:51	0:15:16	0:25:38	0:25:38
	FIRE ALARM	0	2	2	2%	0:00:56	0:06:54	0:21:57	0:33:51	0:16:56
	FIRE OTHER NOT LISTED	0	3	3	3%	0:01:15	0:06:16	0:19:16	1:14:05	0:24:42
	SMELL OF GAS INSIDE/OUTSIDE	0	1	1	1%	0:02:04	0:05:06	0:08:45	0:15:55	0:15:55
	SMELL OR ODOR OF SMOKE	0	1	1	1%	0:01:52	0:06:09	0:16:50	0:24:51	0:24:51
	STRUCTURE FIRE	0	3	3	3%	0:01:39	0:06:42	0:53:21	3:05:08	1:01:43
	Subtotals for FIRE	**1**	**18**	**19**	**19%**	**0:01:21**	**0:13:33**	**0:25:14**	**12:02:12**	**0:38:47**
	Totals for 1010	**3**	**96**	**99**	**100%**	**0:01:21**	**0:09:49**	**0:48:13**	**88:24:24**	**0:57:41**
2020	ABDOMINAL PAIN	0	1	1	4%	0:02:08	0:13:08	2:00:41	2:15:57	2:15:57
	ABRASIONS BRUISES ETC	0	1	1	4%	0:00:20	0:08:50	1:06:58	1:16:08	1:16:08
	ACCIDENT UNKNOWN INJURIES	0	1	1	4%	0:00:06	0:07:21	4:19:12	4:26:39	4:26:39
	BLEEDING/HEMORRHAGING	0	1	1	4%	0:01:27	0:09:29	0:53:03	1:03:59	1:03:59
	CHEST PAIN	0	1	1	4%	0:02:27	0:10:34	1:05:03	1:18:04	1:18:04
	FALLS AND RELATED INJURIES	0	5	5	19%	0:01:20	0:09:12	0:44:47	4:36:37	0:55:19
	PAIN	0	2	2	7%	0:01:17	0:11:11	0:37:53	1:40:41	0:50:21
	SICK / ILL OR RESCUE	0	7	7	26%	0:02:14	0:09:31	0:50:59	7:19:08	1:02:44
	STROKE	0	1	1	4%	0:01:23	0:10:34	1:36:42	1:48:39	1:48:39
	UNCONSCIOUS OR FAINTING	0	1	1	4%	0:02:54	0:09:25	1:26:53	1:39:12	1:39:12
	WELFARE CHECK	0	1	1	4%	0:01:33	0:04:23	0:58:19	1:04:15	1:04:15
	Subtotals for EMS	**0**	**22**	**22**	**81%**	**0:01:34**	**0:09:25**	**1:25:30**	**28:29:19**	**1:36:29**
	BACKFILL STATION	0	1	1	4%	0:00:59	0:17:02	3:22:04	3:40:05	3:40:05
	BRUSH FIRE	0	1	1	4%	0:03:28	0:09:09	0:03:02	0:15:39	0:15:39

Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
	FIRE ALARM	0	2	2	7%	0:00:52	0:07:48	0:01:10	0:22:33	0:11:17
	STRUCTURE FIRE	0	1	1	4%	0:00:49	0:03:46	0:32:20	0:36:55	0:36:55
	Subtotals for FIRE	**0**	**5**	**5**	**19%**	**0:01:32**	**0:09:26**	**0:59:39**	**4:55:12**	**1:10:59**
	Totals for 2020	**0**	**27**	**27**	**100%**	**0:01:33**	**0:09:26**	**1:18:36**	**33:24:31**	**1:29:41**
3060	ACCIDENT UNKNOWN INJURIES	0	1	1	10%	0:00:22	0:04:11	0:44:50	0:49:23	0:49:23
	ACCIDENT WITH ENTRAPMENT	0	1	1	10%	0:01:03	0:06:48	3:07:06	3:14:57	3:14:57
	ALARM - MEDICAL	0	1	1	10%	0:01:41	0:07:10	0:00:57	0:09:48	0:09:48
	BLEEDING/HEMORRHAGING	0	1	1	10%	0:01:07	0:05:03	1:05:30	1:11:40	1:11:40
	CHEST PAIN	0	1	1	10%	0:00:26	0:04:48	1:30:59	1:36:13	1:36:13
	FALLS AND RELATED INJURIES	0	1	1	10%	0:01:14	0:13:27	1:21:39	1:36:20	1:36:20
	SICK / ILL OR RESCUE	0	4	4	40%	0:01:01	0:08:24	0:56:25	3:50:10	0:57:33
	Subtotals for EMS	**0**	**10**	**10**	**100%**	**0:00:59**	**0:07:07**	**1:15:21**	**12:28:31**	**1:22:16**
	Totals for 3060	**0**	**10**	**10**	**100%**	**0:00:59**	**0:07:07**	**1:15:21**	**12:28:31**	**1:22:16**
4070	ABDOMINAL PAIN	0	7	7	6%	0:01:37	0:07:22	1:00:29	8:06:11	1:09:27
	ACCIDENT UNKNOWN INJURIES	0	2	2	2%	0:00:58	0:07:21	0:10:01	0:36:40	0:18:20
	ACCIDENT WITH ENTRAPMENT	0	2	2	2%	0:03:03	0:04:06	1:26:15	3:06:48	1:33:24
	ALARM - MEDICAL	0	2	2	2%	0:02:14	0:10:17	0:38:30	1:42:01	0:51:01
	ALLERGIC REACTIONS	1	1	2	2%	0:01:17	0:08:40	0:13:32	0:37:02	0:18:31
	BACK PAIN (NON TRAUMATIC)	0	2	2	2%	0:02:08	0:07:03	0:51:24	2:01:09	1:00:35
	BLEEDING/HEMORRHAGING	0	3	3	2%	0:01:38	0:09:06	0:46:03	2:50:21	0:56:47
	CHEST PAIN	0	3	3	2%	0:01:44	0:08:50	1:06:07	3:50:05	1:16:42
	CHILD OR ANIMAL LOCKED IN CAR	0	1	1	1%	0:01:08	0:07:04	0:12:11	0:20:23	0:20:23
	DIABETIC PROBLEMS	1	3	4	3%	0:01:19	0:09:34	0:59:23	2:56:29	0:44:07
	DIFFICULTY BREATHING	0	16	16	13%	0:01:38	0:13:11	1:28:15	27:29:12	1:43:05
	FALLS AND RELATED INJURIES	0	6	6	5%	0:01:44	0:09:31	0:35:34	4:40:52	0:46:49

Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
	FRACTURES OR BROKEN BONES	0	2	2	2%	0:00:48	0:09:22	0:39:42	1:39:43	0:49:52
	HEART PROBLEMS	1	2	3	2%	0:01:27	0:03:19	1:23:12	4:19:07	1:26:22
	HEAT AND COLD EXPOSURE	1	0	1	1%	0:00:00	0:00:00	0:23:56	0:23:56	0:23:56
	LIFT ASSIST	0	7	7	6%	0:01:53	0:09:18	0:12:45	2:47:41	0:23:57
	MEDIC STANDBY	7	2	9	7%	0:00:19	0:00:00	4:40:10	42:02:52	4:40:19
	PAIN	0	3	3	2%	0:01:46	0:11:07	0:58:23	3:33:51	1:11:17
	PSYCHIATRIC PROBLEMS	0	2	2	2%	0:00:32	0:02:46	1:06:17	2:19:10	1:09:35
	SEIZURE	0	2	2	2%	0:01:32	0:04:21	1:02:03	2:15:52	1:07:56
	SICK / ILL OR RESCUE	2	24	26	21%	0:01:52	0:10:04	0:56:52	28:23:05	1:05:30
	STROKE	0	2	2	2%	0:02:34	0:08:15	0:47:21	1:56:20	0:58:10
	UNCONSCIOUS OR FAINTING	0	5	5	4%	0:00:43	0:08:37	0:54:47	5:20:34	1:04:07
	Subtotals for EMS	**13**	**99**	**112**	**90%**	**0:01:32**	**0:08:04**	**0:58:50**	**153:19:24**	**1:06:06**
	ARCING WIRES DOWN POWER LINES	0	1	1	1%	0:01:35	0:17:03	0:04:58	0:23:36	0:23:36
	BRUSH FIRE	0	2	2	2%	0:02:46	0:08:59	0:45:43	1:54:56	0:57:28
	CARBON MONOXIDE ALARM	0	1	1	1%	0:02:53	0:14:09	0:04:50	0:21:52	0:21:52
	FIRE ALARM	0	3	3	2%	0:02:01	0:05:42	0:08:32	0:36:31	0:12:10
	FIRE DEPT COMMUNITY RELATIONS	1	0	1	1%	0:00:06	0:00:00	6:58:57	6:59:03	6:59:03
	FIRE OTHER NOT LISTED	0	2	2	2%	0:02:27	0:23:11	0:20:05	1:31:24	0:45:42
	STRUCTURE FIRE	0	3	3	2%	0:01:07	0:06:20	1:04:06	3:34:39	1:11:33
	Subtotals for FIRE	**1**	**12**	**13**	**10%**	**0:01:51**	**0:12:34**	**1:21:02**	**15:22:01**	**1:33:03**
	Totals for 4070	**14**	**111**	**125**	**100%**	**0:01:37**	**0:09:04**	**1:04:01**	**168:41:25**	**1:12:23**
5060	ABDOMINAL PAIN	0	6	6	3%	0:01:47	0:13:01	1:09:46	8:27:27	1:24:35
	ABRASIONS BRUISES ETC	0	8	8	3%	0:00:37	0:10:24	0:26:38	4:33:53	0:34:14
	ACCIDENT UNKNOWN INJURIES	0	3	3	1%	0:01:43	0:07:22	0:47:55	2:51:02	0:57:01
	ACCIDENT WITH ENTRAPMENT	0	1	1	0%	0:00:27	0:10:14	0:04:34	0:15:15	0:15:15
	ACCIDENT WITH INJURIES	0	2	2	1%	0:01:17	0:05:59	0:42:55	1:40:21	0:50:11

Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
	ALARM - MEDICAL	0	2	2	1%	0:01:40	0:06:49	0:06:48	0:19:52	0:09:56
	ALLERGIC REACTIONS	0	1	1	0%	0:02:13	0:14:26	0:18:44	0:35:23	0:35:23
	ASSAULT WITH INJURIES	0	1	1	0%	0:04:08	0:07:58	1:28:18	1:40:24	1:40:24
	BACK PAIN (NON TRAUMATIC)	0	4	4	2%	0:01:38	0:11:23	0:48:15	4:05:04	1:01:16
	BLEEDING/HEMORRHAGING	0	1	1	0%	0:01:19	0:10:52	1:19:46	1:31:57	1:31:57
	CARDIAC ARREST	0	2	2	1%	0:00:57	0:04:23	0:21:30	0:53:41	0:26:51
	CHEST PAIN	1	8	9	4%	0:01:03	0:10:27	1:26:43	14:33:35	1:37:04
	DIABETIC PROBLEMS	1	3	4	2%	0:00:48	0:09:32	0:58:57	4:37:08	1:09:17
	DIFFICULTY BREATHING	0	25	25	11%	0:01:24	0:09:46	1:12:24	33:34:18	1:20:34
	FALLS AND RELATED INJURIES	0	33	33	14%	0:01:32	0:10:49	1:04:00	41:59:50	1:16:22
	FRACTURES OR BROKEN BONES	0	1	1	0%	0:00:50	0:07:47	1:19:57	1:28:34	1:28:34
	HEADACHE	0	3	3	1%	0:00:08	0:10:27	0:11:12	1:05:21	0:21:47
	HEART PROBLEMS	0	6	6	3%	0:01:12	0:10:26	1:14:39	8:37:47	1:26:18
	LIFT ASSIST	0	7	7	3%	0:01:42	0:11:30	0:07:41	2:26:11	0:20:53
	MEDIC STANDBY	1	0	1	0%	0:00:00	0:00:00	8:05:38	8:05:38	8:05:38
	OBSTETRICS	0	1	1	0%	0:00:37	0:07:47	0:20:38	0:29:02	0:29:02
	OVERDOSE	0	1	1	0%	0:00:54	0:06:57	0:13:49	0:21:40	0:21:40
	PAIN	0	14	14	6%	0:01:37	0:09:51	0:57:53	17:18:34	1:14:11
	PSYCHIATRIC PROBLEMS	1	4	5	2%	0:00:11	0:11:28	0:55:12	5:34:16	1:06:51
	SEIZURE	0	3	3	1%	0:01:03	0:10:41	0:40:41	2:37:14	0:52:25
	SICK / ILL OR RESCUE	1	45	46	20%	0:01:33	0:11:00	0:59:56	54:11:12	1:10:41
	STROKE	0	3	3	1%	0:01:22	0:18:06	0:32:20	2:35:25	0:51:48
	SUICIDE	0	1	1	0%	0:01:29	0:07:06	0:21:01	0:29:36	0:29:36
	UNCONSCIOUS OR FAINTING	0	9	9	4%	0:01:12	0:07:02	1:26:06	12:39:20	1:24:22
	Subtotals for EMS	**5**	**198**	**203**	**89%**	**0:01:18**	**0:09:46**	**1:01:31**	**239:39:00**	**1:11:31**
	ARCING WIRES DOWN POWER LINES	0	2	2	1%	0:03:28	0:08:29	0:06:41	0:37:16	0:18:38
	BRUSH FIRE	0	3	3	1%	0:01:14	0:09:56	0:16:55	1:24:15	0:28:05

Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
	BURNING COMPLAINT	0	2	2	1%	0:01:42	0:08:38	0:07:49	0:36:19	0:18:10
	FIRE ALARM	0	5	5	2%	0:01:08	0:10:24	0:12:33	1:39:34	0:19:55
	FIRE DEPT COMMUNITY RELATIONS	2	0	2	1%	0:00:01	0:00:00	1:45:40	3:31:22	1:45:41
	FIRE OTHER NOT LISTED	0	6	6	3%	0:01:05	0:12:20	0:14:58	2:38:05	0:26:21
	RUPTURE GAS LINE	1	0	1	0%	0:00:00	0:04:30	0:08:33	0:13:03	0:13:03
	SMELL OR ODOR OF SMOKE	0	1	1	0%	0:01:57	0:00:00	0:00:00	0:11:25	0:11:25
	STANDBY	1	1	2	1%	0:01:42	0:00:00	6:28:39	12:59:00	6:29:30
	STRUCTURE FIRE	0	1	1	0%	0:03:21	0:04:05	0:27:36	0:35:02	0:35:02
	TRANSFORMER FIRE OR POWER LINE	0	1	1	0%	0:00:54	0:13:43	5:49:08	6:03:45	6:03:45
	Subtotals for FIRE	**4**	**22**	**26**	**11%**	**0:01:39**	**0:09:01**	**1:33:51**	**30:29:06**	**1:33:36**
	Totals for 5060	**9**	**220**	**229**	**100%**	**0:01:24**	**0:09:36**	**1:09:48**	**270:08:06**	**1:17:36**
FRA	BACKFILL STATION	2	0	2	67%	0:00:00	0:48:12	0:47:22	2:22:57	1:11:29
	Subtotals for FIRE	**2**	**0**	**2**	**67%**	**0:00:00**	**0:48:12**	**0:47:22**	**2:22:57**	**1:11:29**
	RESCUE MUTUAL AID	0	1	1	33%	0:01:05	0:13:36	0:34:22	0:49:03	0:49:03
	Subtotals for MUTA	**0**	**1**	**1**	**33%**	**0:01:05**	**0:13:36**	**0:34:22**	**0:49:03**	**0:49:03**
	Totals for FRA	**2**	**1**	**3**	**100%**	**0:01:05**	**0:30:54**	**0:40:52**	**3:12:00**	**1:00:16**
SOU	ARCING WIRES DOWN POWER LINES	0	1	1	25%	0:01:34	0:18:01	0:02:42	0:22:17	0:22:17
	Subtotals for FIRE	**0**	**1**	**1**	**25%**	**0:01:34**	**0:18:01**	**0:02:42**	**0:22:17**	**0:22:17**
	FIRE MUTUAL AID	0	2	2	50%	0:01:19	0:16:23	4:36:40	9:48:44	4:54:22
	RESCUE MUTUAL AID	0	1	1	25%	0:00:55	0:12:06	0:27:00	0:40:01	0:40:01
	Subtotals for MUTA	**0**	**3**	**3**	**75%**	**0:01:07**	**0:14:14**	**2:31:50**	**10:28:45**	**2:47:12**

Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
Totals for SOU		**0**	**4**	**4**	**100%**	**0:01:16**	**0:15:30**	**1:42:07**	**10:51:02**	**1:58:53**
SRY	FIRE MUTUAL AID	0	2	2	100%	0:01:47	0:00:00	0:00:00	0:34:19	0:17:10
Subtotals for MUTA		**0**	**2**	**2**	**100%**	**0:01:47**	**0:00:00**	**0:00:00**	**0:34:19**	**0:17:10**
Totals for SRY		**0**	**2**	**2**	**100%**	**0:01:47**	**0:00:00**	**0:00:00**	**0:34:19**	**0:17:10**
SUF	ACCIDENT UNKNOWN INJURIES	0	1	1	50%	0:01:27	0:03:55	0:32:58	0:38:20	0:38:20
Subtotals for EMS		**0**	**1**	**1**	**50%**	**0:01:27**	**0:03:55**	**0:32:58**	**0:38:20**	**0:38:20**
	BACKFILL STATION	0	1	1	50%	0:00:49	0:22:01	3:27:11	3:50:01	3:50:01
Subtotals for FIRE		**0**	**1**	**1**	**50%**	**0:00:49**	**0:22:01**	**3:27:11**	**3:50:01**	**3:50:01**
Totals for SUF		**0**	**2**	**2**	**100%**	**0:01:08**	**0:12:58**	**2:00:04**	**4:28:21**	**2:14:10**

ISLE OF WIGHT COUNTY

FIRE-EMS ACTIVITY REPORT 2024

STATION RESPONSES	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YTD
CARROLLTON	133	97	126	114									470
CARRSVILLE	42	33	53	46									174
RUSHMERE	33	21	26	18									98
WINDSOR FIRE	25	29	33	37									124
SMITHFIELD FIRE	85	58	64	57									264
IOW RESCUE	279	219	266	242									1006
WINDSOR RESCUE	107	98	110	113									428
TOTAL STATION RESPONSES													**2564**

VOL. ACTIVITY HOURS	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	YTD
CARROLLTON					0
CARRSVILLE					
RUSHMERE					0
WINDSOR FIRE					0
SMITHFIELD FIRE					
IOW RESCUE					
WINDSOR RESCUE					0
TOTAL VOL. HOURS REPORTED					**0**

Note: *1. Station Responses- Data pulled from E911 Computer Aided Dispatch (CAD) system* *n/r not reported*

2. VOL. Activity Hours- Information as reported by Volunteer Agencies

Isle of Wight County Museum &
Isle of Wight County Historic Resources



April 2024 Report

J.L. England, Museum Director & Isle of Wight County Historic Resources Manager

Isle of Wight County Museum 103 Main Street, Smithfield

- **VISITATION**: 811
- **SPECIAL EVENTS**
  - **April 7-13. National Library Week.** During National Library Week, your admission to the museum is free if you show us your library card. No library card? The Blackwater Regional Library will be on hand Wednesday, April 10, to issue them. Visit us AND your local library because we both foster learning and work to preserve and share our community connectivity.
  - **April 15. LUNCH & LEARN: A Riveting Talk of Steamboats.** On this 112th anniversary of the world's most famous ship disaster, join us as we highlight our historic steamer chest collection while riveter "Big Tom" provides insight into how faulty steel rivets may have contributed to the RMS *Titanic*'s demise. We will also explore the crucial role of steamboats in Smithfield's history as the world's then busiest peanut exporting port. 32 guests.
  - **April 19. HAMWARMING: Smithfield Foods Donates the Last Genuine Smithfield Ham.** Smithfield Foods has stopped producing the brand-name Genuine Smithfield Hams that have become synonymous with the company's namesake town. The reason for this change? Consumer preferences have shifted, and other Smithfield hams are in much higher demand. Smithfield Foods is donating the LAST ham to the Isle of Wight County Museum. It will be placed in the case alongside the World's Oldest Ham, the World's Largest Ham and a 1930s branded ham. Guests are encouraged to bring traditional housewarming gifts to this reception such as bread, salt and pineapples.















- **LIVESTREAMING EVENTS.** We continue to connect with visitors, supporters, fans and the community via social media. Our livestreaming tours and programs on Facebook are driving traffic and enhancing interaction on our sites. Events this month, still viewable in the videos section of our Facebook page, include:
    - **April 2. LIVE at 12:05: Rural Cemetery Movement.** We are continuing our Tuesday LIVE at 12:05 Stories in Stone episodes! Join Kathy Mountjoy each Tuesday for a new cemetery story featuring historic Ivy Hill Cemetery. Today's LIVE explores the origins of the Rural Cemetery Movement.
    - **April 4. LIVE at 12:05: Parcel Postal Egg Crate.** An EGGS-cellent artifact! This parcel postal egg crate, manufactured around 1920, was designed to protect eggs as they traveled through the mail. With removable cardboard sleeves to protect the eggs, it was designed with four stackable shelves and sections on the window for an address and stamps. Farmers used such crates to send fresh eggs via parcel post to consumers in cities.
    - **April 9. LIVE at 12:05: Charles Beverly Turner**. Today's episode of STORIES IN STONE at Ivy Hill Cemetery highlights Charles Beverly Turner, who was murdered by his daughter's sweetheart just after Christmas in 1899.
    - **April 11. LIVE at 12:05: Leather Postcard History from Our Pig Bench**. Live from our new pig bench, Director Jennifer England highlights leather postcards in our collection. Leather postcards were a popular fad from 1903 to 1907. Around 1907, the U.S. Postal Service complained that the leather got caught in their sorting machines and that postage stamps didn't stick to the leather very well.
    - **April 16. LIVE at 12:05: Joseph Luter Sr.** Today's episode of STORIES IN STONE at Ivy Hill Cemetery highlights Joseph Luter Sr. who founded Smithfield Packing Company in 1936.
    - **April 18. LIVE at 12:05: Welcoming the Last Genuine Ham Home.** Tomorrow, April 19, the Isle of Wight County Museum will be receiving the last genuine Smithfield ham made by Smithfield Foods into the collection. We hope you'll join us at 2 PM for this "hamwarming" via our HamCam or by watching the livestream on the Town of Smithfield's Facebook page. Our hams are excitedly awaiting their new roommate, and several updates have been completed in the Main Gallery space in preparation for the new arrival. Be sure to check those out soon!
    - **April 19. Hamwarming Livestream.** Today's HAMWARMING welcomed the LAST Genuine Smithfield Ham from Smithfield Foods into the museum's collection. Our event, livestreamed by the Town of Smithfield Virginia, featured a few comments, the donation and a performance of "Save the Last Ham for Me" by the The Gentlemen of the College.
    - **April 23. LIVE at 12:05: Stories in Stone: Hardy Cross.** Join us for another episode of Stories in Stone at Ivy Hill Cemetery. This time, we are focusing on Hardy Cross, a structural engineer



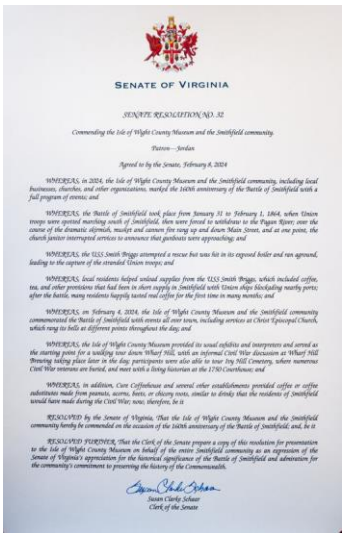






known for developing the Moment distribution method. Learn more about this important figure in engineering history!

- **April 25. LIVE at 12:05: Commendation from the Senate of Virginia.** We are so pleased to share that the Senate of Virginia presented us with a resolution recognizing the BATTLE OF SMITHFIELD: 160TH COMMEMORATION event we hosted in February. Many thanks to Senator Emily Jordan for this honor. The event on February 4 featured living historians and events at the Isle of Wight County Museum, Christ Episcopal Church, Ivy Hill Cemetery, 1750 Isle of Wight Courthouse, Cure Coffeehouse and Wharf Hill Brewing Co.
- **April 30. LIVE at 12:05: George Chapman's Story in Stone.** Kathy Mountjoy explores the life of George Dallas Chapman, a Civil War veteran remembered by his family as quite the character who enjoyed big Sunday dinners with the family and music.



SENATE OF VIRGINIA

SENATE RESOLUTION NO. 32

Commending the Isle of Wight County Museum and the Smithfield community.

Patron—Jordan

Agreed to by the Senate, February 8, 2024

WHEREAS, in 2024, the Isle of Wight County Museum and the Smithfield community, including local businesses, churches, and other organizations, marked the 160th anniversary of the Battle of Smithfield with a full program of events; and

WHEREAS, the Battle of Smithfield took place from January 31 to February 1, 1864, when Union troops were spotted marching south of Smithfield, then were forced to withdraw to the Pagan River; over the course of the dramatic skirmish, musket and cannon fire rang up and down Main Street, and at one point, the church janitor interrupted services to announce that gunboats were approaching; and

WHEREAS, the USS Smith Briggs attempted a rescue but was hit in its exposed boiler and ran aground, leading to the capture of the stranded Union troops; and

WHEREAS, local residents helped unload supplies from the USS Smith Briggs, which included coffee, tea, and other provisions that had been in short supply in Smithfield with Union ships blockading nearby ports; after the battle, many residents happily tasted real coffee for the first time in many months; and

WHEREAS, on February 4, 2024, the Isle of Wight County Museum and the Smithfield community commemorated the Battle of Smithfield with events all over town, including services at Christ Episcopal Church, which rang its bells at different points throughout the day; and

WHEREAS, the Isle of Wight County Museum provided its usual stellar and interpreters and served as the starting point for a walking tour down Wharf Hill, with an informal Civil War discussion at Wharf Hill Brewing taking place later in the day, participants were also able to tour Ivy Hill Cemetery, where numerous Civil War veterans are buried, and meet with a living historian at the 1750's Courthouse; and

WHEREAS, in addition, Cure Coffeehouse and several other establishments provided coffee or coffee substitutes made from peanuts, acorns, beets, or chicory roots, similar to drinks that the residents of Smithfield would have made during the Civil War, now, therefore, be it

RESOLVED by the Senate of Virginia, That the Isle of Wight County Museum and the Smithfield community hereby be commended on the occasion of the 160th anniversary of the Battle of Smithfield; and, be it

RESOLVED FURTHER, That the Clerk of the Senate prepare a copy of this resolution for presentation to the Isle of Wight County Museum on behalf of the entire Smithfield community as an expression of the Senate of Virginia's appreciation for the historical significance of the Battle of Smithfield and admiration for the community's commitment to preserving the history of the Commonwealth.

Susan Clarke Schaar
Clerk of the Senate

- **MY ISLE: MEMORIES & RECOLLECTIONS**
  - This video series, launched in 2023, features residents and family members sharing stories of Isle of Wight County. Airing on **April 30** was a feature on **Sam W. Edwards III** and his memories and experiences in the ham business beginning with the family farm in Isle of Wight County in the early 20th century to the changes brought about by industrialized pork production. View all episodes in this series on our YouTube Channel or Facebook page.

MY ISLE
Memories & Recollections
Isle Of Wight County Museum
SMITHFIELD, VIRGINIA

- **BEHIND THESE WALLS**
  - This video series, launched in 2020, allows some of the county's most interesting structures to share their stories. View all episodes in this series on our YouTube Channel, Facebook page or website: www.historicisleofwight.com/behind-these-walls.html. An episode featuring the Smithfield Inn is in production.

Behind These Walls

- **GROUPS/TOURS/PROGRAMS**
  - **April 15. Destined Pathways, Chesapeake.** 4 guests.
  - **April 16. Everyday Angels, Portsmouth**. 15 guests.
  - **April 16. Group Home, Portsmouth**. 5 guests.
  - **April 18. Country Travel, Wisconsin**. Guided tour and lecture. 45 guests.
  - **April 18. Britt Travel, Virginia Beach**. Guided tour and lecture. 29 guests.
  - **April 19. Country Travel, Wisconsin**. Guided tour and lecture. 39 guests.
  - **April 25. South Hill United Methodist Church, South Hill**. Guided tour and lecture. 9 guests.
  - **April 26. Destined Pathways, Chesapeake.** 7 guests
  - **April 30. Suffolk Christian Academy, Suffolk**. Fifth grade. Guided tour and hands-on learning activity. 19 students.



- **GIFT SHOP**
  - No updates.

- **EXHIBIT/PROJECT UPDATE**
  - **Country Store.** The exhibit was cleaned thoroughly.
  - **Ham History.** In preparation for the last Genuine Brand Smithfield Ham being donated to the museum by Smithfield Foods, exhibit updates were completed for the ham case and the surrounding exhibit panels.
  - **Historic Smithfield.** Awaiting installation of the Sinclair sign – to be located on South Church Street.
  - **Sprigg Wing, Phase II: Crops, Trade & Merchants.** The new timeline has been designed and requires editing. The wall has been repaired and painted.



  - **First Residents.** Awaiting mounting of longleaf pine tree branches.
  - **Civil War Trails.** A new sign at Fort Boykin is in production.
  - **Local Treasures**. Currently on display is the collection of **Robert Cox** showcasing artifacts recovered from one of Isle of Wight County's early courthouses, the **Mount Holly Courthouse**. This exhibit concept displays the private collections of Isle of Wight County residents and/or those with a local connection. For more information and applications: www.historicisleofwight.com/local-treasures.html.
  - **English Telephone Box**. Dishman Fabrications LLC of Yorktown is working to schedule the return of the door and glass. Once complete and exhibits are installed, a reception and/or ribbon-cutting will be organized in conjunction with the pub opening in the location of the former Chamber of Commerce.
  - **Steamboats & Life on the Water; Unusual Objects; Vietnam War Veterans in Isle of Wight County: Online Exhibit; Unsung Heroes of Isle of Wight County: Online Exhibit.** Under development.
  - **ISLE Be Home for Christmas.** This book project is collecting photographs, postcards, stories, mementos, songbooks, recipes and more that detail the holiday season in Isle of Wight County. To be published in November 2024.
  - **Nike-Ajax N-75.** A book about the former missile battery in Carrollton is in production. To be published in 2024.
  - **Magnolia**. Our outdoor porcine statue's cracked back was repaired, and she was repainted, sealed and wrapped. We await her reinstallation in front of the museum.
- **ARTIFACTS**
  - Donations included the Last Genuine Smithfield Ham from Smithfield Foods as well as two cheese boxes, a 1970s pricing kit, photographs and pottery.
  - Town of Smithfield Records. Digitization has begun. The first of eight books is complete. Book 2 is in progress.
- **STAFF TRAINING AND REQUIREMENTS**
  - None.

Financials

- Gift Shop Sales: $ 1,469.60
- Gift Shop Tax: $ 88.35
- Donations: $ 0.00
- Admission: $ 1,066.00
- Program/Lecture Fees: $ 467.00

Total Monthly Deposit: $ 3,090.95

Social Media/Online Presence

- Visit our website at www.historicisleofwight or www.hamcamva.com.
- **LIVE at 12:05.** Each Tuesday and Thursday, we host pop-up broadcasts on the museum's Facebook page. Our segments which are shot in the museum or at any of our historic sites highlight events at the museum, announcements or artifacts from our collection. Tune in each Tuesday and Thursday at 12:05 p.m. on the museum's Facebook page to learn a bit about local history.
- **Facebook:** Isle of Wight County Museum: 3.7K likes and 4.6K followers. Daily posts.
- **Facebook:** World's Oldest Ham: 323/344 likes/followers. Semi-weekly posts.
- **Facebook:** Town of Smithfield. Periodic posts, responses and maintenance.
- **Twitter.** @WorldsOldestHam. The world's oldest ham has his own account. 1,427 followers.
- **Instagram.** @Isleofwightcountymuseum. 1,145 followers.
- **YouTube.** Isle of Wight County Museum. 171 subscribers.
- **Google Reviews.** 4.7/5 overall rating.
- **TripAdvisor.** 4.5/5 star overall rating.
- **Yelp.** 4.5/5 star overall rating.
- **Foursquare/Swarm.** 7.3/10 rating.

Media Coverage/Promotion/Advertising/Lobbying

- Various pieces in area publications to include calendars and events.
- **April 3. *Smithfield Times***. Article: Remembering Vietnam: Smithfield Navy veteran recalls wartime service - https://www.smithfieldtimes.com/2024/04/02/remembering-vietnam-smithfield-navy-veteran-recalls-wartime-service; Article: Commemorating 250 years of freedom: Through the eyes of Captain John Smith.
- **April 6. *Tidewater News***. Article: Windsor celebrates 122nd birthday - https://www.thetidewaternews.com/2024/04/06/windsor-celebrates-122nd-birthday/
- **April 19. *Smithfield Times***. Website: Last Genuine Smithfield Ham arrives at IW Museum - https://www.smithfieldtimes.com/2024/04/19/last-genuine-smithfield-ham-arrives-at-iw-museum/

- **April 24. *Smithfield Times***. Feature: Destination Staycation; Article: Last Genuine Smithfield Ham arrives at IW Museum.
- **April 25: WTKR-3.** Segment: Isle of Wight Museum adds new historic ham to collection - https://www.wtkr.com/news/hometown-history/isle-of-wight-museum-adds-a-new-historic-ham-to-the-collection.

Outreach Lectures & Events







- **April 1. Isle of Wight County Parks and Recreation Spring Break Camp at Windsor Town Center.** Theme: Frogs. Held in conjunction with the Blackwater Regional Library. 30 students.
- **April 2. Isle of Wight County Parks and Recreation Spring Break Camp at Carrollton-Nike Park.** Theme: Missiles. Held in conjunction with the Blackwater Regional Library. 30 students.
- **April 2. Isle of Wight County Parks and Recreation Spring Break Camp at Windsor Town Center.** Theme: Salt. 30 students.
- **April 3. Isle of Wight County Parks and Recreation Spring Break Camp at Carrollton-Nike Park.** Theme: Salt. 30 students.
- **April 21. Hardy Elementary School, The Learning Center**, Smithfield. Topic: Mother's Day. 38 students and 6 teachers.
- **April 22. Main Street Baptist Preschool, Smithfield**. Topic: Mother's Day. 20 students and 23 teachers.
- **April 24. Carrollton Elementary School, The Learning Center**, Carrollton. Topic: Mother's Day. 15 students and 2 teachers.
- **April 26. Memorial Tree Planting Ceremony for Grace Keen**. Hosted by the Carrollton Civic League and Isle of Wight County.

Windsor Castle 705 Cedar Street, Smithfield



- The outdoor exhibits were cleaned.
- **April 7. Walking Tour.** From the site's pre-colonial existence to present day, Windsor Castle tells the fascinating history of the development of Smithfield. Join us for this walking tour through history as we explore the house and several of the outbuildings. Meet on the front steps of Windsor Castle, 301 Jericho Road, Smithfield. $5 per person. 8 guests.

Fort Boykin 7410 Fort Boykin Trail, Isle of Wight County

- No updates.

Fort Huger 15080 Talcott Terrace, Isle of Wight County

- **April 6. Walking Tour.** Visit this Civil War fort and learn the significance of this gateway to the Confederate capital. Tour meets at Fort Huger, 15080 Talcott Terrace, Smithfield. 16 guests.

Nike-Carrollton Park 13036 Nike Park Road, Carrollton

- **Nike-Ajax Missile Restoration.** Isle of Wight County Public Utilities is at work on the site plan for the missile. ECS Mid-Atlantic LLC completed the subsurface exploration, laboratory testing and geotechnical engineering analyses.
- **April 20. Cold War Defense: Carrollton-Nike Park Walking Tour.** Visit Nike-Ajax Missile Site N-75L, one of the Cold War's few surviving Army Air-Defense Posts. Local historian Albert Burckard along with former missile mechanic Ira Abbott host a short presentation and walking tour of this site which contains the original barracks, mess hall, administration and recreation building, officer/non-commissioned officer family housing, fueling area and underground missile magazines. Event begins in the Recreation Hall (former soldier barracks) at Nike Park, 13036 Nike Park Road, Carrollton. 4 guests.
- **April 25. Eagle Scout Project.** Meeting with Boy Scout to discuss an Eagle Scout project regarding a public art project atop Missile Magazine B in conjunction with the Historic Resources interpretive plan for Carrollton-Nike Park.

Boykin's Tavern, 1820 Clerk's Office & Isle of Wight County Court House Complex 17146 Monument Circle, Isle of Wight County



- Boykin's Tavern Visitors: 6

Meetings

- April 3. Peninsula Museums Forum.
- April 11. Sail 250 Virginia, Norfolk.
- April 16. Town of Smithfield staff meeting.
- April 19. Coffee Connections, Town of Smithfield all-staff meeting.
- April 23. Served on the panel for the Blackwater Regional Library to assist with interviews for the position of *Outreach Services and Marketing Coordinator.*

Other Events & Notable Information



- **April 1. Ham Cam launch on EarthCam.** The museum's Ham Cam, visible on our website as well as the County's website and the Town's website, needed upgrading as DropCam was no longer providing functionality for the service. A contract was signed with EarthCam, the leading network of live streaming webcams for tourism and entertainment, and thanks to Isle of Wight County IT and Isle of Wight County Public Works, the launch was official by the April 1 deadline. The HamCam was trending on EarthCam on April 1, April Fool's Day. In the first month of service, here were 62,732 stream views with an average watch time of 8.27 minutes.
- **April 26-28. Isle of Wight County Springfest.** Museum staff members, as part of the Isle of Wight County Fair Committee, provided all voiceover announcements for the event.
- **April 9. Storage Updates.** Space Saver installed storage items in our archival space courtesy of Isle of Wight County Museum Foundation.
- **Battle of Smithfield Resolution from the Virginia Senate.** The Senate of Virginia presented us with a resolution recognizing the BATTLE OF SMITHFIELD: 160TH COMMEMORATION event we hosted in February. Many thanks to Senator Emily Jordan for this honor. The event on February 4 featured living historians





and events at the Isle of Wight County Museum, Christ Episcopal Church, Ivy Hill Cemetery, 1750 Isle of Wight Courthouse, Cure Coffeehouse and Wharf Hill Brewing Co.

- **Volunteer Hours**: 137
- **Isle of Wight County Museum Economic Impact Survey for March 2024:**
  19.8% made a gift shop purchase
  46.8% indicated that they had lunch/dinner plans in Smithfield/Isle of Wight County
  51.0% indicated that they were planning to or had already shopped in Smithfield/Isle of Wight County
- **Isle of Wight County Department of Community Development & Planning**
  - April 10. Meeting with the Virginia Department of Historic Resources.
  - April 17. Site visit to Sycamore Cross with The AES Corporation.
- **Virginia American Revolution 250 Commission**
  - Smithfield Times Article Series: 2024-2026. Published on April 3 was ***Commemorating 250 Years of Freedom:*** *Through the eyes of Captain John Smith.*
  - April 24. Quarterly meeting.
- **The Schoolhouse Museum**
  - No updates.
- **Ivy Hill Cemetery**
  - No updates.
- **Town of Smithfield Department of Community Development & Planning**
  - No updates.
- **Special Thanks to our Co-Workers**
  - Isle of Wight County Public Works is amazing with exhibit assistance, exhibit construction, advice and logistics.



Safety & Repairs

- April 10. Town of Smithfield Safety Committee meeting.
- Bi-annual jobsite safety inspection was provided to Town of Smithfield.



Selections from Our Website and Social Media



April 6

The Schenuelbergs of Yorktown spent their honeymoon in Smithfield with the World's Oldest Ham! #newlyweds #love



April 26

It's always a period of adjustment when you get a new roommate.

ISSUE:

Proposed Operating and Capital Budgets for Fiscal Year 2024-25, Related Ordinances, and the FY2025-34 Capital Improvements Program

BACKGROUND:

In accordance with the Code of Virginia, the Board of Supervisors is required to hold a public hearing to receive public comment regarding the proposed operating and capital budget, related ordinances, and the Capital Improvements Program.

The proposed FY2024-25 Operating and Capital Budget, as revised, includes a General Fund Operating Budget of $107,640,493 and a Capital Budget of $11,900,000. The proposed FY2024-25 Operating Budget for Isle of Wight County Schools is $95,980,636.

The proposed real estate tax rate to fund the budget is $0.73/$100 value.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

Adopt the ordinances and resolutions for the Operating and Capital Budgets for Fiscal Year 2024-25 and the FY2025-34 Capital Improvements Program.

ATTACHMENTS:

Description	Type	Upload Date
Ordinance - Budget Approval	Ordinance	5/10/2024
Proposed FY2024-25 Fee Schedule	Backup Material	5/14/2024
Resolution - CIP	Resolution	5/6/2024
Draft FY2024-25 Budget	Backup Material	5/14/2024
Resolution - Pay and Classification Plan	Resolution	5/10/2024
FY24-25 Pay and Classification Plan - General	Backup Material	5/9/2024
FY24-25 Pay and Classification Plan - Public Safety	Backup Material	5/9/2024
FY24-25 Pay and Classification Plan - Part-time	Backup Material	5/9/2024

AN ORDINANCE APPROVING THE COUNTY OPERATING AND CAPITAL BUDGET AND APPROPRIATING FUNDS FOR EXPENDITURES CONTEMPLATED DURING THE FISCAL YEAR BEGINNING JULY 1, 2024 AND ENDING JUNE 30, 2025, AND REGULATING THE PAYMENT OF MONEY OUT OF THE COUNTY TREASURY

BE IT AND IT IS HEREBY ORDAINED by the Board of Supervisors of Isle of Wight County, Virginia, to-wit:

Section 1: Except as provided in Section 2 of this Ordinance, the County of Isle of Wight, Virginia, Proposed Annual Operating and Capital Budget, Fiscal Year 2024-2025 dated April 1, 2024, along with the associated Uniform Fee Schedule attached hereto as Exhibit A (hereinafter referred to as the "County Budget"), and submitted by the County Administrator, as amended by the Isle of Wight County Board of Supervisors, is approved as the County Budget for the fiscal year beginning July 1, 2024, and ending June 30, 2025.

Section 2: The County Budget shall be subject to transfers authorized by law and to such further amendments by ordinance, pursuant to Section 15.2-2507 of the Code of Virginia (1950, as amended), as the Board of Supervisors may deem appropriate.

Section 3: The amount named in the County Budget, as amended, for County operations for the fiscal year beginning July 1, 2024, and ending June 30, 2025, in the following fund amounts are hereby appropriated from the revenues of the County for use by the various funds of the County Government referenced in said budget for the said fiscal year. Any appropriation to a specific fund but identified as a revenue source in another fund is specifically designated and restricted for accounting and transfer purposes only and not for any other expenditure from the source fund.

Fund	2024-2025
General Fund	$ 108,987,352
Debt Service Fund	945,608
Governmental Capital Projects Fund	13,000,000
Grants Fund	574,522
E911 Fund	3,100,946
County Fair Fund	517,950
Social Services Fund	5,341,330
Children's Services Act Fund	577,440
Technology Services Fund	1,819,838
Risk Management Fund	979,528
Public Utility Fund	12,531,546
Stormwater Fund	1,492,485
Stormwater Capital Fund	600,000

Section 4: Except as it may be amended from time to time in accordance with applicable law by the Isle of Wight County Board of Supervisors, at the request of the Isle of Wight County School Board, the Isle of Wight County School Operating and Capital Budget, Fiscal Year 2024-2025, dated March 22, 2024, and submitted to the Isle of Wight County Administrator by the School Superintendent for consideration by the Isle of

Wight County Board of Supervisors, is approved, as amended, as the annual budget for educational purposes for the Fiscal Year beginning July 1, 2024 and ending June 30, 2025.

Section 5: Pursuant to Section 22.1-94 of the Code of Virginia, the following categorical appropriations are hereby made for Isle of Wight County Public Schools ("Public Schools") for the fiscal year beginning July 1, 2024, and ending June 30, 2025:

Educational Category		**2024-2025**
Instruction	$	58,584,734
Administration, Attendance and Health		3,826,739
Pupil Transportation		7,095,757
Operation and Maintenance		8,704,419
Technology		3,047,544
School Food Services		2,783,560
Facilities		3,980,241
Debt and Fund Transfers		7,957642
Total Funds Budget	**$**	**95,980,636**

Section 6: All payments from funds shall be made in accordance with general law and applicable ordinances and resolutions of the County, except as otherwise specifically provided herein; *provided, however,* that payments from the funds appropriated for the support, maintenance and operation of the Public Schools of the County shall be made by the County Treasurer upon warrants drawn by the proper officer or officers of the School Board of the County; *and provided further* that payments from the funds appropriated for expenditures of the Department of Social Services shall be made by the County Treasurer upon presentation of warrants drawn by the Social Services Director and approved by the Isle of Wight County Board of Social Services.

Section 7: The Board of Supervisors hereby authorizes the issuance and sale of the County's revenue anticipation note or notes (the "Note" or "Notes"), pursuant to Section 15.2-2629 of the Code of Virginia (1950, as amended) (the "Virginia Code"), in the aggregate principal amount of up to $25,000,000 in anticipation of the collection of the taxes and revenues of the County for the fiscal year ending June 30, 2025. If either the County Administrator or County Treasurer deems that the cash flow needs and the financial condition of the County warrant the issuance of a Note or Notes, the County Administrator or the County Treasurer (each hereinafter referred to as the "County Representative") is authorized and directed to accept a proposal or proposals for the purchase of the Note or Notes and to approve the terms of the Note or Notes, provided that the aggregate principal amount of the Notes shall not exceed $25,000,000, none of the Notes shall mature later than June 30, 2025, and no interest rate on any of the Notes shall exceed 7%. The County Representative and the Clerk of the Board of Supervisors (the "Clerk") are hereby authorized and directed to execute an appropriate negotiable Note or Notes and to affix the seal of the County thereto and such County Representative is authorized and directed to deliver the Note or Notes to the purchaser thereof. The County Representative, and such officers and agents of the County as the County Representative may designate, are hereby authorized and directed to take such further action as they deem necessary regarding the issuance and sale of the Note or

Notes and all actions taken by such officers and agents in connection with the issuance and sale of the Note or Notes are ratified and confirmed.

Section 8: The Board of Supervisors hereby authorizes the lease financing of various County vehicles and equipment essential to the performance of governmental functions as provided for in the adopted Fiscal Year 2024-2025 County Budget. The funds made available under the lease will be deposited with a banking institution pursuant to an Escrow Agreement following procurement of a financial institution in accordance with the Virginia Public Procurement Act. The County Administrator is authorized to execute the lease agreement and financing documents on behalf of the County and the County Clerk shall affix the official seal of the County to the Financing Documents and attest the same.

Section 9: The amounts appropriated by this Ordinance shall be expended for the purpose of operating the County government during the 2024-2025 Fiscal Year; and, with the exception of the items the payment of which is fixed by law, shall be expended in such proportions as may be authorized by the County Administrator from time to time.

Section 10: All outstanding encumbrances, by contract or fully executed purchase order, as of June 30, 2024, shall be offset by an equal amount of assigned Fund Balance for expenditure in the subsequent fiscal year; *provided, however,* that if performance of a contract or purchase order has been substantially completed, an expenditure and estimated liability shall be recorded in lieu of an encumbrance. All restricted or assigned fund balance project or program balances standing on the books of the County at the close of business for the fiscal year ending June 30, 2024 in the amount of $50,000,000 or less that have not been expended or lawfully obligated or encumbered are hereby reappropriated to be used to fund the purposes, programs, or projects for which the funds were appropriated.

Section 11: Notwithstanding the provisions of Section 10, all funds appropriated for Public Schools which are unexpended at year-end shall revert back to the County's General Fund pursuant to Section 22.1-100 of the Code of Virginia.

Section 12: The payment and settlement, made during the 2024-2025 Fiscal Year, of any claim of any kind against the County; and final judgments, with interest and costs, obtained against the County during the 2023-2024 Fiscal Year, shall be paid upon the certification of the County Attorney and the order of the County Administrator from funds appropriated to the Risk Management Fund; or from the funds appropriated for the expenditures of the Fund involved in the subject matter of the claim or judgment; or from the General Fund; as the County Administrator shall find necessary.

Section 13: Except as otherwise specifically required by law or approved by the Board of Supervisors by resolution, any salary or wage expenditure, and any expenditure of any kind or description having the effect of a salary or wage payment, shall be made only for a position, the description of which is identified in the County Pay and Compensation Plan or which has received prior approval of the Board of Supervisors. Any other expenditure shall be calculated to result in total expenditures within the plan stated in a specific County Budget account, except that transfers of unexpended and unencumbered balances or portions thereof, initiated by a department director and approved by the County Administrator, are permitted between accounts.

Section 14: The County Administrator is authorized and directed to do all lawful things necessary to implement and administer the County Budget for Fiscal Year 2024-2025.

Section 15: All ordinances and resolutions, or parts thereof, in conflict with the provisions of this Ordinance, to the extent of such conflict, are repealed.

Section 16: This Ordinance shall be in effect on and after July 1, 2024, and it shall not be published.

Adopted this _____ day of _____, 2024.

_____
Joel C. Acree, Chairman
Isle of Wight County, Virginia,
Board of Supervisors

Attest:

_____
Carey Mills Storm, Clerk

Approved as to form:

_____
Robert W. Jones, Jr.
County Attorney

EXHIBIT A

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE FOR
FISCAL YEAR 2023-2024

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
ANIMAL CONTROL		
Animal License:		
~~Spayed/Neutered Dog or Cat (1 year tag)~~	~~7.00~~	
~~Spayed/Neutered Dog or Cat (3 year tag)~~	~~20.00~~	
~~Unspayed Neutered Dog or Cat (1 year tag)~~	~~10.00~~	
~~Unspayed Neutered Dog or Cat (3 year tag)~~	~~30.00~~	
Pet License (1 year)		10.00
Pet License (Lifetime)		50.00
~~Kennel (1-19 dogs) (1 year tag)~~	~~35.00~~	
~~Kennel (20-29 dogs) (1 year tag)~~	~~40.00~~	
~~Kennel (30 - 39 dogs) (1 year tag)~~	~~45.00~~	
~~Kennel (40 - 50 dogs) (1 year tag)~~	~~50.00~~	
Kennel I (5-19 dogs)		35.00
Kennel II (20+)		$5 per each additional 10 dogs (not to exceed 50 dogs)
Impound Fee	20.00	20.00
Daily Kennel Fee	10.00	10.00
Adoption Fees:		
Canines	90.00	90.00
Felines	75.00	75.00
Felines (FELV/FIV tested)	95.00	95.00
Microchip	35.00	35.00
Quarantine Fee	100.00	100.00
Dangerous Dog Registration Fee	150.00	150.00
Hybrid Canine Permit Fee	50.00	50.00
Feral Cat Caregiver Fee	5.00	5.00
Pet Shop Operation/Dealer Fee	50.00	50.00
CLERK OF THE CIRCUIT COURT		
Commonwealth's Attorney (misdemeanor)	7.50	7.50
Commonwealth's Attorney (felony)	20.00	20.00
Sheriff's Service	12.00	12.00
Transfer of Real Estate (per parcel)	1.00	1.00
Transfer/Entry Fee - Real Estate - Partition Deeds	1.75	1.75
County Grantee	1/3 of state	1/3 of state
County Wills and Administration	1/3 of state	1/3 of state
Law Library	4.00	4.00
Grantor Recording (per $500 value)	0.25	0.25
Courthouse Maintenance (Criminal Cases)	2.00	2.00
Courthouse Maintenance (Civil Cases)	2.00	2.00
Courhouse Construction Fee (Criminal Cases)	3.00	3.00
Courhouse Construction Fee (Civil Cases) Suit Amt over $500	3.00	3.00
Jail Admission Fee	25.00	25.00
Courthouse Security Fee	20.00	20.00
E-Summons	5.00 per traffic/criminal case	5.00 per traffic/criminal case
Blood Test/DNA	15.00	15.00
Local Interest	varies	varies
Local Fines	varies	varies
Court Appointed Attorney Fees	varies	varies
List of Heirs or Affidavit	25.00	25.00
Local Health Care Fund	25.00	25.00
COMMISSIONER OF THE REVENUE		
Custom Query, Tape, CD-ROM (material plus programmers time)	35.00	35.00
Land Use Application	50.00	50.00
Rehabilitated Structure Application Fee	25.00	25.00
Application for Tax Exempt Status for Real & Personal Property Taxes	Cost of advertisement for Public Hearing (requires a $500 deposit)	Cost of advertisement for Public Hearing (requires a $500 deposit)
COURT SERVICES UNIT		
Parental contribution toward cost of local group home placement	1/2 of child support guidelines amount	1/2 of child support guidelines amount
FINANCE		
Child Support Processing Fees	5.00/per Child Support Order (per pay)	5.00/per Child Support Order (per pay)
Garnishment Processing Fees	5.00/per Garnishment Order (per pay)	5.00/per Garnishment Order (per pay)

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
EMERGENCY MEDICAL SERVICES		
Basic Life Support (BLS)	450.00	550.00
Advanced Life Support (ALS1)	650.00	650.00
Advanced Life Support (ALS2)	800.00	925.00
Loaded Patient Mileage	11.25	11.25
Medical Records Request	35.00	35.00
Subpeona Copies	10.00 + 0.50 (per page)	10.00 + 0.50 (per page)
False Alarm Fee		
First False Alarm	0.00	0.00
Second False Alarm	0.00	0.00
Third False Alarm	100.00	100.00
Fourth False Alarm	250.00	250.00
Fifth and Subesquent False Alarms	500.00	500.00
GENERAL		
Annual Operating Budget	Cost for reproducing	Cost for reproducing
Capital Improvement Budget and Plan	Cost for reproducing	Cost for reproducing
Comprehensive Annual Financial Report	Cost for reproducing	Cost for reproducing
Copies	0.50 per page	0.50 per page
FOIA Requests	0.50 per copy plus Hourly Rate of Staff Time	0.50 per copy plus Hourly Rate of Staff Time
Printed Materials	Cost	Cost
Request for Street Name Change	250.00	250.00
GENERAL DISTRICT COURT		
Fines & Forfeitures	varies	varies
Sheriff's Fees	12.00	12.00
Court Appointed Attorneys	120.00 per case ($445 Max)	120.00 per case ($445 Max)
Courthouse Construction	3.00	3.00
Courthouse Security	20.00	20.00
E-Summons	5.00 per traffic/criminal case	5.00 per traffic/criminal case
Jail Admission Fee	25.00	25.00
GEOGRAPHIC INFORMATION SYSTEM		
Custom Services	40.00 per hr.	40.00 per hr.
Map Printing Up to Legal Size	2.00	2.00
Map Printing 11 x 17	2.00	2.00
Map Printing 24 x 36	7.00	7.00
Map Printing 36 x 48	10.00	10.00
Map Printing Larger than 36 x 48	10.00 plus .25 per linear inch over 48'	10.00 plus .25 per linear inch over 48'
Local Produced Digital GIS Data	15.00 per item	15.00 per item
Virginia Base Mapping Program Data	Per State Rate	Per State Rate
High-Resolution Imagery (0.25 ft) 2009 STH Intermodal Park	25.00 per 2500 x 2500 tile	25.00 per 2500 x 2500 tile
High-Resolution Imagery (0.25 ft) 2009 STH Intermodal Park	500.00 for all	500.00 for all
INSPECTIONS		
Minimum Permit Fee	85.00	85.00
Re-Insepction Fee	125.00	125.00
Permit Extension Fee (1st time)	100.00	100.00
Permit Extension Fee (after 1st time)	$125 + $25 each additional	$125 + $25 each additional
Technology Fee	5% of Permit Fee	5% of Permit Fee
New Construction:		
Up to 40,000 sq feet	0.16/ sq ft (mimimum $85)	0.20/ sq ft (mimimum $85)
40,000 sq feet and above	0.12/ sq ft	0.15/ sq ft
Piers	85.00	85.00
Pools:		
In-ground	125.00	125.00
Above ground	85.00	85.00
Retaining Wall	85.00	85.00
Towers	85.00	85.00
Alterations	.12/ sq ft (minimum $85)	.15/ sq ft (minimum $85)

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
INSPECTIONS		
Mobile Homes:		
Blocking	85.00	85.00
Plumbing	85.00	85.00
Electrical	85.00	85.00
Mechanical	see mechanical fee schedule	see mechanical fee schedule
Demolition		
Main Buildings or structure	85.00	85.00
Accessory building or structures	85.00	85.00
Signs	85.00 per sign	85.00 per sign
Tents and other temporary structures	85.00 (900+ sq feet)	85.00 (900+ sq feet)
Chimneys, Fireplace, etc	85.00	85.00
Plans Examination		
Commercial	250.00	250.00
Residential	150.00	150.00
Appeals	175.00	175.00
Plumbing:		
Basic permit fee	85.00	85.00
Residential	85.00 + 10.00/bath or 1/2 bath	85.00 + 10.00/bath or 1/2 bath
Commercial	85.00 + 10.00/per fixture	85.00 + 10.00/per fixture
Sewers, manholes, storm drains, area drains or devices	25.00 each (minimum $85)	25.00 each (minimum $85)
Electrical		
New service equipment		
0-200 amps	85.00	85.00
201-400 amps	100.00	100.00
401-600 amps	125.00	125.00
601+ amps	125.00 + 20.00 per 50 amps above 600	125.00 + 20.00 per 50 amps above 600
Service upgrades and relocation of service equipment	85.00	85.00
Temporary Service Poles	85.00 (at the beginning of construction)	85.00 (at the beginning of construction)
Service connection prior to final inspection	85.00	85.00
Reconnection fee	85.00	85.00
Connections and outlets	85.00	85.00
Mechanical and Gas		
Basic permit fee for New Construction and Equipment replacement/repair		
Up to $1,000 contract value	85.00	85.00
Over $1,000 contract value	85.00 + 8.00/per $1000 or fraction	85.00 + 8.00/per $1000 or fraction
Fuel piping minimum permit fee	85.00	85.00
Each outlet	10.00 (miniumum 85.00)	10.00 (miniumum 85.00)
Fuel storage tanks and piping	85.00/tank	85.00/tank
Removal of fuel storage tanks	85.00/tank	85.00/tank
Fire suppressions systems	see basic mechanical permit fee	see basic mechanical permit fee
Elevators, dumbwaiters, etc	85.00/unit	85.00/unit
Amusement Rides and Devices:		
Circular	35.00 (State Rate)	35.00 (State Rate)
Kiddie	25.00 (State Rate)	25.00 (State Rate)
Major	30.00 (State Rate)	30.00 (State Rate)
Spectacular	55.00 (State Rate)	55.00 (State Rate)
Temporary Certificate of Occupancy:		
Residential	150.00/ 30 day period	150.00/ 30 day period
Commercial	300.00/30 day period	300.00/30 day period
JUVENILE AND DOMESTIC RELATIONS COURT		
Fines and Forfeitures	Varies	Varies
Sheriff's Fees	12.00	12.00
Court Appointed Attorney	120.00	120.00
Couthouse Construction Fee	3.00 per traffic/criminal case	3.00 per traffic/criminal case
E-Summons	5.00 per traffic/criminal case	5.00 per traffic/criminal case
Jail Admission Fee	25.00	25.00
Interest	Varies	Varies
Courthouse Security Fee	10.00 per traffic/criminal case	20.00 per traffic/criminal case

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
PARKS AND RECREATION		
Adult Kickball	50.00	50.00
Fall Co-ed Softball	400.00	400.00
Spring Co-ed Softball	400.00	400.00
Fall Men's Softball	400.00	400.00
Spring Men's Softball	400.00	400.00
Basketball	65.00	75.00
Basketball Early Registration Discount	10.00	10.00
Basketball multi child discount (2nd child /3rd child)	4.00/2.00	4.00/2.00
Cheer	38.00 plus cost of uniform	38.00 plus cost of uniform
Fall soccer	65.00	75.00
Fall Soccer Early Registration Discount	10.00	10.00
Fall Soccer multi child discount (2nd child /3rd child)	4.00/2.00	4.00/2.00
Spring Soccer	65.00	75.00
Spring Soccer Early Registration Discount	10.00	10.00
Spring Soccer multi child discount (2nd child /3rd child)	4.00/2.00	4.00/2.00
Summer Camp Early Registration	10.00	10.00
Summer Camp Registration	20.00	20.00
Summer Camp Weekly	60.00	60.00
Summer Camp Extended- Fridays	25.00	25.00
Summer Camp - Windsor		85.00
Before and After School Registration	10.00	10.00
Before and After School (Morning Only) Weekly	30.00	30.00
Before and After School (Afternoon Only) Weekly	30.00	30.00
Before and After School (Both) Weekly	50.00	50.00
Spring Break Camp	65.00	65.00
Senior Day Trips Apple /Peach Orchard	45.00	45.00
Senior Trip	Cost	Cost
Nike Park Shelter A		
Shelter A only (50 people or less)	50.00	50.00
Shelter A and surrounding tables (51 - 200 people)	90.00	90.00
Shelter A and Area B (200-250)	130.00	130.00
Park Event Fee if over 251 (251-325) In addition to rental fee	35.00	35.00
Park Event Fee if over 251 (326-400) In addition to rental fee	55.00	55.00
Park Event Fee if over 251 (401-599) In addition to rental fee	100.00	100.00
Park Event Fee if over 251 (600++) In addition to rental fee	150.00	150.00
Electricity fee	15.00	15.00
Nike Park Shelter B		
Wooded Picnic Area (max 65)	25.00	25.00
Camptown Park		
Shelter (max 100)	50.00	50.00
Electricity fee	15.00	15.00
Park Event (more than the shelter) 100-250	20.00	20.00
Park Event (more than the shelter) 250 +	40.00	40.00

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
PARKS AND RECREATION		
Fort Boykin Park		
Shelter Rental Only (50 or less)	50.00	50.00
Park Event (more than the shelter) 4 hours	75.00	75.00
Park Event (more than the shelter) Full Day	125.00	125.00
Heritage Park		
Park Only (outside of fenced-in Fairgrounds)	3,500.00	3,500.00
Shelters Only	500.00	500.00
Joel C. Bradshaw Fairgrounds w/Shelters	4,000.00	4,000.00
Park and Fairgrounds w/ Shelters	4,500.00	4,500.00
Rodeo Arena	500.00	500.00
Demolition Derby Arena/Tractor Pull Track	500.00	500.00
Electricity Fee	15.00	15.00
Security Deposit (Refundable)	250.00	250.00
Nike Park REC HALL (max 80)		
Meeting Civic Groups - Residents (2 HRS)	15.00	15.00
Meeting Civic Groups - NON Residents (2 HRS)	30.00	30.00
Meeting Civic Groups - Additional hours	10.00	10.00
Program/ Banquet - Residents (3HRS)	50.00	50.00
Program/ Banquet - Residents Additional hours	15.00	15.00
Program/ Banquet - NON Residents (3HRS)	85.00	85.00
Nike Park Senior Center Building B (max 35)		
Meeting Civic Groups - Residents (2 HRS)	15.00	15.00
Meeting Civic Groups - NON Residents (2 HRS)	30.00	30.00
Meeting Civic Groups - Additional hours	10.00	10.00
Program/ Banquet - Residents (3HRS)	50.00	50.00
Program/ Banquet - Residents Additional hours	15.00	15.00
Program/ Banquet - NON Residents (3HRS)	85.00	85.00
Otelia J. Rainey Center (max 40)		
Meeting Civic Groups - Residents (2 HRS)	15.00	15.00
Meeting Civic Groups - NON Residents (2 HRS)	30.00	30.00
Meeting Civic Groups - Additional hours	10.00	10.00
Program/ Banquet - Residents (3HRS)	50.00	50.00
Program/ Banquet - Residents Additional hours	15.00	15.00
Program/ Banquet - NON Residents (3HRS)	85.00	85.00
Facility Rental - Athletic Fields		
Residents (Full Day / Half Day)	50/30.00	50/30.00
Lights Residents per 2 HRS (Full Day / Half Day)	35/35.00	35/35.00
NON Residents (Full Day / Half Day)	80/50.00	80/50.00
Lights NON Residents per 2 HRS (Full Day / Half Day)	45/45.00	45/45.00
Athletic field Preparation		
Dragging no lines	15.00	15.00
Dragging with lines	25.00	25.00
Softball Field Tournament Use		
Half Day (under 4 HRS)	75.00	75.00
Full Day (Over 4 HRS)	150.00	150.00
Additional Motorized Drags (each time)	10.00	10.00
Additional Lines by P&R (each time)	10.00	10.00
Additional Materials Fee (Rain Event)	25.00	25.00
Install and Remove temporary outfield fencing (per field)	100.00	100.00
Extended Hours beyond 8am to 8pm per hour	25.00	25.00
Soccer Fields General Use		
Single field up to 2 hours (Residents/Non Residents)	25/40.00	25/40.00
Single field Half Day 2-4 hours (Residents/Non Residents)	35/50.00	35/50.00
Single field Full Day Over 4 hours (Residents/Non Residents)	50/80.00	50/80.00
Paint per field	30.00	30.00
Fee Waivers / Discounts		
IWC Employees with ID Badge : P& R programs	5.00	5.00
IWC Employees with ID Badge : Rentals 10%	10.00%	10.00%
Tyler's Beach Docking Fee per Vessel	250.00	250.00
Isle of Wight County Fair		
Commercial Vendor (Outside Space 20 x 20)	300.00	375.00
Commercial Vendor (outside pay before July)	270.00	350.00
Commercial Vendor (Inside Space 10 x 10)	200.00	275.00
Commercial Vendor (inside pay before July)	180.00	250.00
NonProfit Vendor (outside and inside space 10 x 10)	25.00	50.00
NonProfit Vendor (fundraiser)	75.00	75.00

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
PARKS AND RECREATION		
Isle of Wight County Fair		
Food Vendor 25 x 25 (full menu)	800.00	825.00
Food Vendor 25 x 25 (full menu) (pay before May 1)		800.00
Food Vendor 25 x 25 (novelty)	500.00	525.00
Food Vendor 25 x 25 (novelty) (pay before May 1)		500.00
Craft Vendor (10 x 10)	150.00	175.00
Craft Vendor (10 x 10) (pay before July 1)		150.00
Craft Vendor (10 x 20)	225.00	250.00
Craft Vendor (10 x 20) (pay before July 1)		225.00
Craft Vendor (10 x 20) Additional Outside Tent Space	85.00	85.00
Craft Vendor (10 x 10) Additional Outside Tent Space	50.00	50.00
Tables	5.00	5.00
~~One Day ONLINE ONLY 1/2 off Fair Tickets Fri., Sat., Sun.~~	~~5.00~~	~~5.00~~
Employee Discount		5.00 (online only)
Sunday Veterans Discount	10.00	5.00 off regular admission with ID
Chairs	1.00	1.00
Senior Citizens	1.00 admission for 3 HRS on one day at the Fair for ages 55 and up	1.00 admission for 3 HRS on one day at the Fair for ages 55 and up
Elementary Age Admission (Ages???)		1.00 admission 10am - 2pm on Friday
Vendor One Day Passes	10.00	10.00
Daily Admissions	15.00 (ages 13 and up), 10.00 (ages 5-12), 4 and under are free	10.00 online, 15.00 gate (ages 13 and up), 8.00 online, 10.00 gate (ages 6-12), 5 and under are free
Car Load Night	55.00 per car (8 people car limit and includes admission and midway rides, 15.00 single entry each guest is age 6 or older	50.00 online, 55.00 per car gate (8 people car limit and includes admission and midway rides, 15.00 single entry each guest is age 6 or older
Seafood Fest	40.00 online sales per person, 45.00 per person at gate, 1 ticket includes all you can eat seafood and beverages	40.00 online sales per person, 45.00 per person at gate, 1 ticket includes all you can eat seafood and beverages
Truck & Tractor Pull	35.00 for Truck VIP Spots; 20.00 Admission Price (ages 11 and up), 10.00 (ages 10 and under)	35.00 online, 45.00 gate for Truck VIP Spots;15.00 online, 20.00 Admission Price (ages 12 and up), 8.00 online, 10.00 (ages 6-11) free for ages 5 and under
Pageant	Registration 75.00	Registration 75.00
Demolition Derby	20.00 admission (ages 12+) 10.00 (ages 6-11)	15.00 online, 20.00 gate (ages 12+); 8.00 online, 10.00 gate (ages 6-11)
Car Show	20.00 early registration; 25.00 registration at gate	20.00 early registration; 25.00 registration at gate
PLANNING AND ZONING		
Zoning Permit	35.00	35.00
Rezoning		
Regular Rezoning	1,200.00	1,500.00
Conditional Zoning Amendment w/ Public Hearing	1,200.00	1,500.00
Conditional Zoning Amendment w/ No Public Hearing	250.00	250.00
Conditional Use Permit	1,200.00	1,500.00
Special Use Permit	1,200.00	1,500.00
Amend Conditional Use or Special Use Permit	1,200.00	1,500.00
Chesapeake Bay Exception	1,200.00	1,500.00
RPA Modification Request	35.00	35.00
Continuance fee for public hearings at applicant's request	600.00	750.00
Commission and Board Exceptions, Appeals and Miscellaneous Approvals	250.00	250.00
Commission and Board Exceptions, Appeals and Miscellaneous Approvals with Public Hearing	750.00	900.00
Comprehensive Plan Amendment	1,200.00	1,500.00
Site Development Plan Review		
Simplified Site Plan	150.00	150.00
Preliminary & Final Site Plan (one-time)	500.00	500.00
Resubmittal fee for Preliminary and Final Site Plans after two (2) reviews	350.00 for each occurrence	350.00 for each occurrence
Amendment to an approved Site Plan	150.00	150.00
Board of Zoning Appeals	750.00	750.00
Historical Architectural Review Board	250.00	250.00
Zoning Confirmation/Interpretation Letter	100.00	100.00
Wetlands	750.00	750.00
Subdivison Plat - one-time fee per project		
1-9 lots	150.00	150.00
10+ lots	200.00 plus 50.00 per lot	200.00 plus 50.00 per lot
Construction/Development Plan	500.00	500.00
Resubmittal fee for Subdivision/Construction Plans after two (2) reviews	350.00 for each occurrence	350.00 for each occurrence
Street Sign (public) per intersection	175.00	175.00
Street Sign (private) per intersection	175.00	175.00
Resource Protection Area Sign	10.00	13.00
Zoning Notice Sign		First 5 signs are included in application fee; additional signs are $7 each
Surety Administrative Fee - Renewal	250.00	250.00
Codes Enforcement Administrative Fee	150.00	150.00
Special Entertainment Permit Fee	100.00	100.00

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
PUBLIC UTILITIES		
Delinquency Fees		
Disconnect/Reconnect of Water Service	75.00	75.00
Administration Fee	25.00	25.00
Late Fee	1.5% or 3.00, whichever is greater	1.5% or 3.00, whichever is greater
Insufficient Funds	50.00	50.00
DMV Stop	20.00	20.00
Tampering Fee to include Illegal Connect/Reconnection of Service	70.00	70.00
Theft, per day in addition to estimated fees	150.00	150.00
New Account Fees	30.00	30.00
Water Deposit	120.00	120.00
Sewer Deposit	90.00	90.00
Fire Hydrant Meter Deposit	1,000.00	1,000.00
Utility Infrastructure Inspection Fees:		
Multi-Family/Commercial/Industrial	Disturbed Area x 400.00/Acre (2,800.00 min/20,000.00 max - also encompasses stormwater inspections)	Disturbed Area x 420.00/Acre (2,800.00 min/20,000.00 max - also encompasses stormwater inspections)
Subdivisions	2.5% of total utility construction costs with $2,800 minimum fee	2.5% of total utility construction costs with $2,800 minimum fee
Water:		
Meter Charge:		
5/8-3/4 inch	33.14	33.14
1 inch	109.15	109.15
1 1/2 inch	123.44	123.44
2 inch	167.61	167.61
Fire Hydrant Meter Deposit	167.61	167.61
Consumption Charges (Rate per 1,000 Gallons):		
0-50,000 gal.	12.35	13.15
Over 50,000 gal.	7.25	7.25
Un-metered (Bi-monthly)	75.00	75.00
Residential Connection Fees		
5/8-3/4 inch	4,500.00	4,500.00
1 inch	10,000.00	10,000.00
1 1/2 inch	20,000.00	20,000.00
2 inch	32,000.00	32,000.00
Multi-Residential Facilities (Apartment, Condo, Duplex, etc.)		
Per EDU	4,500.00	4,500.00
Hotel, Motel, Hospital, etc.		
Per EDU	4,500.00	4,500.00
Commercial Connection Fees		
5/8-3/4 inch	6,000.00	6,000.00
1 inch	15,000.00	15,000.00
1 1/2 inch	30,000.00	30,000.00
2 inch	48,000.00	48,000.00
3 inch	90,000.00	90,000.00
4 inch	150,000.00	150,000.00
Fire Hydrant Meter Fee	64.00 plus usage	64.00 plus usage
PUBLIC UTILITIES		
Sewer:		
Residential Sewer Rate per 1,000 Gallons		
mi	7.00	7.00
15,001 and above	No Charge	No Charge
Un-metered (Bi-monthly)	67.00	67.00
Commercial Sewer Rate per 1,000 Gallons		
Hotel, Hospital, Restaurants, Shopping Centers, etc.	7.00	7.00
Industrial Facility Rate per 1,000 Gallons		
0-20,000 gals	7.00	7.00
20,001 and above	5.55	5.55
Residential Connection Fees		
5/8-3/4 inch	4,000.00	4,000.00
1 inch	9,300.00	9,300.00
1 1/2 inch	18,600.00	18,600.00
2 inch	29,800.00	29,800.00
Multi-Residential Facilities (Apartment, Condo, Duplex, etc.)		
Per EDU Plus Meter Fee	4,000.00	4,000.00
Hotel, Motel, Hospital, etc.		
Units divided by 5 then multiplied by the fee Plus Meter Fee.	4,000.00	4,000.00
Commercial Connection Fees		
Same as above plus a charge per gross square foot of floor area ($150,000 max)	0.00	0.00
5/8-3/4 inch	5,600.00	5,600.00

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
PUBLIC UTILITIES		
1 inch	14,000.00	14,000.00
1 1/2 inch	28,000.00	28,000.00
2 inch	44,800.00	44,800.00
3 inch	84,000.00	84,000.00
4 inch	140,000.00	140,000.00
Food Service Establishment (FSE) Registration Fee	100.00	100.00
Food Service Reinspection Fee	70.00	70.00
PUBLIC WORKS		
Refuse Collector License Fee	100.00	100.00
SHERIFF		
Concealed Handgun Permit Background Investigation	35.00 each	35.00 each
Fingerprinting	10.00	10.00
Incident Reports	5.00	5.00
False Alarm Fee		
First False Alarm	0.00	0.00
Second False Alarm	0.00	0.00
Third False Alarm	50.00	50.00
Fourth False Alarm	75.00	75.00
Fifth and Subsequent False Alarms	150.00	150.00
STORMWATER		
Stormwater Management Fee * ERU Impervious Area = 3,200 sq. ft.	4.50 per month/ERU*	4.50 per month/ERU*
Erosion & Sediment Control Fees for Single Family Residential:		
Disturbed Areas (2,500 sq.ft. - 0.99 Acre (Agreement in lieu of E&SC Plan Permit)	150.00	150.00
Single Family Residential Inspections	300.00	300.00
Residential Erosion & Sediment Control and Stormwater Management Surety Bonds		
Disturbed Areas 2,500 - 10,000 sq. ft.	1,000.00	1,000.00
Disturbed Areas (10,000 sq. ft. - 0.49 Acres)	2,000.00	2,000.00
Disturbed Areas (0.50 Acres - 0.99 Acres)	3,000.00	3,000.00
Disturbed Areas greater than 1 acre	surety estimate worksheet required	surety estimate worksheet required
Commercial Erosion & Sediment Control and Stormwater Surety Bonds		
All cases ($2000 min.)	surety estimate worksheet required	surety estimate worksheet required
Erosion & Sediment Control Inspection Fees for Commercial/Non-Residential:		
Disturbed Areas (2,500 - 9,999 sq. ft.)	400.00	400.00
Disturbed Areas (10,000 sq. ft. - 0.49 Acres)	600.00	600.00
Disturbed Areas (0.50 Acres - 0.99 Acres)	800.00	800.00
Stormwater Infrastructure Inspection Fees:		
Multi-Family/Commercial/Industrial	Disturbed Area x 400.00/Acre (2,800.00 min/20,000.00 max - also encompasses public water and sewer inspections)	Disturbed Area x 420.00/Acre (2,800.00 min/20,000.00 max - also encompasses public water and sewer inspections)
Subdivisions (Including Linear Projects)	2.5% of total utility construction costs with $2,800 minimum fee	2.5% of total utility construction costs with $2,800 minimum fee
STORMWATER		
VSMP Authority Permit Fees (Includes Plan Review, Admin., Stormwater Inspections, and State GP coverage, if applicable):		
General/Stormwater Management - Small Construction Activity/CBPA Land Disturbing Activity (not subject to GP coverage)/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land disturbance acreage less than 5 acres)	209.00	209.00
Chesapeake Bay Preservation Act Land Disturbing Activities greater than 2,500 sq. ft. and less than 1 Acre (not part of Common Plan, not subject to GP coverage)	290.00	290.00
Small Construction/Land Clearing (Areas within common plans of development or sale with land disturbances less than one acre, except for single family detached residential structures)	290.00	290.00
Small Construction/Land Clearing Activities (1.0 - 5.0 Acres)	2,700.00	2,700.00
Large Construction/Land Clearing Activities (5.0 - 10 Acres)	3,400.00	3,400.00
Large Construction/Land Clearing Activities (10.0 - 50.0 Acres)	4,500.00	4,500.00
Large Construction/Land Clearing (50.0 - 100 Acres)	6,100.00	6,100.00
Large Construction/Land Clearing Activities > 100 Acres	9,600.00	9,600.00

ISLE OF WIGHT COUNTY
UNIFORM FEE SCHEDULE
FISCAL YEAR 2024-2025

Fees	Fiscal Year 2023-2024	Fiscal Year 2024-2025
STORMWATER		
Annual Permit Renewal Fees:		
General/Stormwater Management - Small Construction Activity/CBPA Land Disturbing Activity (not subject to GP coverage)/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land disturbance acreage less than 5 acres)	50.00	50.00
Land Disturbing Permit Maintenance for disturbance less than 1.0 Acre	50.00	50.00
Small Construction/Land Clearing Activities < 1.0 Acre (Common Plan of development except for single family detached residential structures)	50.00	50.00
Small Construction/Land Clearing Activities 1.0 Acre - 5.0 acres	400.00	400.00
Large Construction/Land Clearing Activities 5.0 Acres - 10.0 Acres)	500.00	500.00
Large Construction/Land Clearing Activities 10.0 - 50.0 Acres	650.00	650.00
Large Construction/Land Clearing Activities 50.0 - 100.0 Acres)	900.00	900.00
Large Construction/Land Clearing Activities > 100 Acres	1,400.00	1,400.00
General Permit Modification and Review Fees:		
General/Stormwater Management - Small Construction Activity/CBPA Land Disturbing Activity (not subject to GP coverage)/Land Clearing (Single-family detached residential structures within or outside a common plan of development or sale with land disturbance acreage less than 5 acres)	20.00	20.00
Small Construction/Land Clearing Activities < 1.0 Acre (includes Common Plan of Development except for single family detached residential structures)	20.00	20.00
Small Construction/Land Clearing Activities 1.0 Acre - 5.0 acres	200.00	200.00
Large Construction/Land Clearing Activities 5.0 Acres - 10.0 Acres)	250.00	250.00
Large Construction/Land Clearing Activities 10.0 - 50.0 Acres	300.00	300.00
Large Construction/Land Clearing Activities 50.0 - 100.0 Acres)	450.00	450.00
Large Construction/Land Clearing Activities > 100 Acres	700.00	700.00
Large Construction/Land Clearing Activities 50.0 - 100.0 Acres)	450.00	450.00
Large Construction/Land Clearing Activities > 100 Acres	700.00	700.00
Miscellaneous Fees:		
Technology Fee	5% of all permit related fees	5% of all permit related fees
Commercial Re-inspection Fees (for failed inspections)	125.00	125.00
Residential Re-inspection Fees (for failed inspections)	50.00	50.00
Recordation fee for Declaration of Covenants and BMP Maintenance Documents (includes recordation plus convenience fee)		
1 to 10 pages	30.00	30.00
11 to 30 pages	45.00	45.00
31 or more pages	70.00	70.00
Storm Drain Medallions (each, includes one Liquid Nails)	3.00	5.00
County Land Disturbance Permit	0.00	0.00
TOURISM		
Guided Group Tours	$95 large bus/$55 small bus	$95 large bus/$55 small bus
Individual Guided Tours (Walking)	$5.00 (w/$20.00 minimum)	$5.00 (w/$20.00 minimum)
Individual Guided Tours (Van)	$10.00 (w/$20.00 minimum)	$10.00 (w/$40.00 minimum)
Spring Arts Festival	$125/booth	$125/booth
Spring Vintage Market	$75/booth + $50 additional spaces	$75/booth + $50 additional spaces
Spring Vintage Market - Pavillion Spaces	$125/ea + $75 additional spaces	$100/ea + $75 additional spaces
Fall Vintage Market	$125/booth + $75 additional spaces	$125 early bird/$150 reg + $75 additional spaces
Pickers Market	$125/booth + $75 additional spaces	$125/booth + $75 additional spaces
Restaurant Week	$125 Restaurants/$75 Retail	$125 Restaurants/$75 Retail
Evening Mistletoe Market Booth Fee	$100 early bird/$125 Reg.	$125 early bird/$150 reg + $75 additional spaces
Parade Entry Fee	$25/$50 Car Clubs	$30/$50 Car Clubs
TREASURER		
Return Checks	50.00	50.00
Certified Mail Fees	7.38	7.38
Motor Vehicle License Fee	33.00	33.00
National Guard Motor License Fee		Limit one FREE license per owner
Motorcycle License Fee	18.00	18.00
Farm Vehicle w/"F" Plates	10.00	10.00
Tax Liens	30.00	30.00
Warrant in Debt	30.00	30.00
Distress Seizure	35.00	35.00
90 Day Late Fee	30.00	30.00
Set off Fee	25.00	25.00

RESOLUTION TO ADOPT THE FY 2024-2034 CAPITAL IMPROVEMENTS PROGRAM

WHEREAS, for planning purposes, capital improvement projects have been identified and listed for consideration along with their respective costs in the FY2024-2034 Capital Improvements Program; and,

WHEREAS, the Board of Supervisors deems it appropriate to adopt a capital improvements plan in accordance with the Code of Virginia.

NOW THEREFORE BE IT RESOLVED that the Board of Supervisors of the County of Isle of Wight, Virginia adopts the FY2023-2033 Capital Improvements Program.

Adopted this _____ day of _____, 2024.

_____
Joel C. Acree, Chairman
Isle of Wight County, Virginia,
Board of Supervisors

Attest:

_____
Carey Mills Storm, Clerk

Approved as to form:

_____
Robert W. Jones, Jr., County Attorney

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Revenues

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REAL PROPERTY TAXES								
Real Estate - Current	$	41,420,000	45,302,592	45,302,592	49,144,235	47,417,376	(1,726,859)	4.67%
Real Estate - Delinquent		950,000	750,000	750,000	750,000	750,000	-	0.00%
Public Service Property		1,402,000	1,350,000	1,350,000	1,612,000	1,612,000	-	19.41%
Personal Property- Current		13,500,000	14,100,000	14,100,000	14,700,000	14,700,000	-	4.26%
Personal Property- Delinquent		500,000	750,000	750,000	1,300,000	1,300,000	-	73.33%
Mobile Home Tax - Current		160,000	170,000	170,000	155,000	155,000	-	-8.82%
Mob. Home Tax -- Delinquent		5,000	15,000	15,000	20,000	20,000	-	33.33%
Boat/Airplane Tax - Current		120,000	125,000	125,000	130,000	130,000	-	4.00%
Boat/Airplane Tax - Delinquent		5,000	15,000	15,000	15,000	15,000	-	0.00%
Machinery & Tools -Current & Delinquent		5,140,000	5,929,000	5,929,000	6,220,000	6,220,000	-	4.91%
Equipment-Current		1,775,000	2,150,000	2,150,000	2,285,000	2,285,000	-	6.28%
Equipment-Delinquent		-	-	-	-	-	-	0.00%
Penalty		400,000	450,000	450,000	550,000	550,000	-	22.22%
Interest		170,000	180,000	180,000	250,000	250,000	-	38.89%
Total Real Property Taxes	$	65,547,000	71,286,592	71,286,592	77,131,235	75,404,376	(1,726,859)	5.78%
OTHER LOCAL TAXES								
Local Sales & Use	$	4,000,000	4,300,000	4,300,000	4,400,000	4,400,000	-	2.33%
Consumer Utility Tax		900,000	1,000,000	1,000,000	1,175,000	1,175,000	-	17.50%
Consumption Tax		120,000	140,000	140,000	140,000	140,000	-	0.00%
Business License Tax		915,000	1,200,000	1,200,000	1,200,000	1,200,000	-	0.00%
Motor Vehicles License Current		1,090,000	1,100,000	1,100,000	1,100,000	1,100,000	-	0.00%
Motor Vehicle Licenses-Delinquent		40,000	60,000	60,000	60,000	60,000	-	0.00%
Penalty - Taxes		7,000	7,000	7,000	7,000	7,000	-	0.00%
Interest - Taxes		2,000	2,000	2,000	4,000	4,000	-	100.00%
Taxes on Record/Wills-Local		850,000	700,000	700,000	600,000	600,000	-	-14.29%
Lodging Tax		84,000	85,000	85,000	90,000	90,000	-	5.88%
Meals Tax		675,000	725,000	725,000	760,000	1,140,000	380,000	57.24%
Communications Sales & Use Tax		600,000	450,000	450,000	480,000	480,000	-	6.67%
Bank Stock Tax		12,000	12,000	12,000	15,000	15,000	-	25.00%
Total Other Property Taxes	$	9,295,000	9,781,000	9,781,000	10,031,000	10,411,000	380,000	6.44%
PERMITS, FEES & LICENSES								
Animal License	$	40,000	35,000	35,000	35,000	35,000	-	0.00%
Land Use Application Fees		-	-	-	-	-	-	0.00%
Land Transfer Fees		1,000	1,000	1,000	1,000	1,000	-	0.00%
Inspections Technology Fee		20,000	20,000	20,000	20,000	20,000	-	0.00%
Zoning Use & Subdiv Ord Fee		75,000	75,000	75,000	75,000	75,000	-	0.00%
Building & Misc Permits & Fees		550,000	400,000	400,000	600,000	600,000	-	50.00%
Solid Waste Franchise Fee		30,000	40,000	40,000	40,000	40,000	-	0.00%
Concealed Weapon Permit Fee		40,000	40,000	40,000	40,000	40,000	-	0.00%
Total Permits, Fees & Licenses	$	756,000	611,000	611,000	811,000	811,000	-	32.73%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Revenues

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
FINES & FORFEITURES								
Court Fines and Forfeitures	$	75,000	75,000	75,000	85,000	85,000	-	13.33%
Interest - Court Fine & Forft		4,000	4,000	4,000	4,500	4,500	-	12.50%
County Code Violations		10,000	5,000	5,000	5,000	5,000	-	0.00%
Electronic Summons Assessment		-	-	-	10,000	10,000	-	100.00%
Total Fines & Forfeitures	$	89,000	84,000	84,000	104,500	104,500	-	24.40%
REVENUE FROM USE								
Interest Revenue	$	100,000	500,000	500,000	1,700,000	1,700,000	-	240.00%
Property Rental		185,000	185,000	185,000	175,000	175,000	-	-5.41%
Lease Revenue		-	-	-	-	-	-	0.00%
Unrealized Gain on Investment		-	-	-	-	-	-	0.00%
Total Revenue from Use	$	285,000	685,000	685,000	1,875,000	1,875,000	-	173.72%
CHARGES FOR SERVICES								
Set Off Collection Fees	$	75,000	100,000	100,000	100,000	100,000	-	0.00%
Finance Administration Fee		1,000	1,000	1,000	500	500	-	-50.00%
Court Security Fee		80,000	85,000	85,000	100,000	100,000	-	17.65%
Sheriff's Fee		2,000	2,000	2,000	2,000	2,000	-	0.00%
Sheriff Extradition Revenue		4,000	2,000	2,000	2,000	2,000	-	0.00%
Law Library Fees		8,000	6,000	6,000	9,000	9,000	-	50.00%
Building Const Court Fees		15,000	12,000	12,000	12,000	12,000	-	0.00%
Courthouse Construction Fees		20,000	18,000	18,000	20,000	20,000	-	11.11%
Reimb for Court Appointed Atty		2,000	2,000	2,000	2,000	2,000	-	0.00%
Commonwealth Attorney's Fees		3,000	3,000	3,000	3,000	3,000	-	0.00%
Criminal Check & Incident Rpt		1,000	1,000	1,000	-	-	-	-100.00%
Fingerprinting		1,000	1,000	1,000	1,000	1,000	-	0.00%
Animal Adoption Fees		30,000	25,000	25,000	15,000	15,000	-	-40.00%
Impound Fees		1,000	1,000	1,000	1,000	1,000	-	0.00%
Quarantine Fees		-	-	-	-	-	-	0.00%
Kennel Fees		-	-	-	-	-	-	0.00%
Miscellaneous Charges		-	-	-	-	-	-	0.00%
EMS Revenue Recovery		1,000,000	1,100,000	1,100,000	1,100,000	1,100,000	-	0.00%
EMS Records Request Fee		-	-	-	-	-	-	0.00%
P&R Facility Rentals		-	-	-	-	-	-	0.00%
Treasurer Admin SC		-	-	-	-	-	-	0.00%
Treasurer Admin Fees		175,000	200,000	200,000	200,000	200,000	-	0.00%
DMV Hold Administration Fee		25,000	40,000	40,000	25,000	25,000	-	-37.50%
Surry County EMS		-	-	-	-	-	-	0.00%
Camps		104,500	102,000	102,000	85,700	85,700	-	-15.98%
Special Events Fee		2,000	1,500	1,500	2,000	2,000	-	33.33%
Athletics		53,935	65,264	65,264	68,550	68,550	-	5.03%
Instructor Classes		15,700	5,000	5,000	10,000	10,000	-	100.00%
Recreation		38,720	60,000	60,000	55,200	55,200	-	-8.00%
Senior Adult Programming		16,492	27,600	27,600	28,045	28,045	-	1.61%
Tyler's Beach Docking		-	500	500	500	500	-	0.00%
Windsor Center Fees		2,592	1,200	1,200	5,815	5,815	-	384.58%
Tourism Special Events		1,000	1,000	1,000	-	-	-	-100.00%
Tourism		8,080	15,000	15,000	15,000	15,000	-	0.00%
Total Charges for Services	$	1,686,019	1,878,064	1,878,064	1,863,310	1,863,310	-	-0.79%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Revenues

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
RECOVERED COST								
Borrow Pit Contribution	$	50,000	50,000	50,000	40,000	40,000	-	-20.00%
Insurance Reimbursements		118,003	50,000	67,538	50,000	50,000	-	-25.97%
Smfd Recovered Cost		286,603	314,005	314,005	366,635	366,635	-	16.76%
Sale of Recyclables		80,000	80,000	80,000	90,000	90,000	-	12.50%
Other Recovered Costs		-	200,000	1,569,587	1,568,052	1,568,052	-	0.00%
Smithfield Debt Service		51,453	-	-	-	-	-	0.00%
Salty Southern Route		5,500	5,500	8,704	6,000	6,000	-	-31.07%
Total Recovered Cost	$	591,559	699,505	2,089,834	2,120,687	2,120,687	-	1.48%
MISCELLANEOUS								
DSS Indirect Cost Allocation	$	398,242	414,626	414,626	331,207	331,207	-	-20.12%
Gifts and Donations		500	-	-	-	-	-	0.00%
Sale of Property		-	-	-	-	-	-	0.00%
Sale of Photocopies / Maps		-	-	-	-	-	-	0.00%
Miscellaneous		20,000	20,000	60,147	20,000	20,000	-	-66.75%
Surplus Proceeds		20,000	40,000	60,400	40,000	40,000	-	-33.77%
School Meal Debt Collections		-	-	-	-	-	-	0.00%
P-Card Rebate		30,000	30,000	30,000	30,000	30,000	-	0.00%
E-payables Rebate		5,000	5,000	5,000	5,000	5,000	-	0.00%
PU Indirect Cost		247,027	227,414	227,414	112,383	112,383	-	-50.58%
SW Indirect Cost		74,294	80,700	80,700	52,318	52,318	-	-35.17%
Market Fees		34,327	37,500	40,382	37,500	37,500	-	-7.14%
Market Sponsors		6,900	8,500	8,500	6,945	6,945	-	-18.29%
Vintage Market		59,302	33,000	34,415	30,000	30,000	-	-12.83%
2011 QSCB Federal Tax Credit		337,500	318,263	318,263	318,263	318,263	-	0.00%
Total Miscellaneous	$	1,233,092	1,215,003	1,279,847	983,616	983,616	-	-23.15%
NON-CATEGORICAL AID								
Auto Rental Tax	$	50,000	50,000	50,000	50,000	50,000	-	0.00%
Rolling Stock Tax		42,000	42,000	42,000	42,000	42,000	-	0.00%
Mobile Home Titling Tax		45,000	80,000	80,000	80,000	80,000	-	0.00%
Grantor's Tax		200,000	200,000	200,000	200,000	200,000	-	0.00%
State PPTR		5,115,890	5,115,890	5,115,890	5,115,890	5,115,890	-	0.00%
Total Non-categorical Aid	$	5,452,890	5,487,890	5,487,890	5,487,890	5,487,890	-	0.00%
CATEGORICAL AID								
Comonwealth Attorney Shared Expenses	$	421,529	475,166	475,166	537,111	537,111	-	13.04%
Sheriff Shared Expenses		1,416,259	1,532,467	1,532,467	1,713,640	1,713,640	-	11.82%
Commissioner Shared Expenses		158,295	172,844	172,844	229,104	229,104	-	32.55%
Treasurer Shared Expenses		140,162	153,257	153,257	196,445	196,445	-	28.18%
Registrar/Electoral Brd Shrd Ex		58,290	58,290	58,290	75,000	75,000	-	28.67%
Clerk of Circuit Court Shrd Ex		300,407	325,855	325,855	350,663	350,663	-	7.61%
Technology Trust Funds		41,310	22,698	22,698	23,000	23,000	-	1.33%
Total Categorical Aid	$	2,536,252	2,740,577	2,740,577	3,124,963	3,124,963	-	14.03%
REVENUE FROM THE COMMONWEALTH								
Fire Prevention Program	$	109,639	109,639	135,401	123,000	123,000	-	-9.16%
Four for Life		40,000	36,127	91,364	42,734	42,734	-	-53.23%
Total Revenue from the Commonwealth	$	149,639	145,766	226,764	165,734	165,734	-	-26.91%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Revenues

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUE FROM THE FEDERAL GOVERNMENT								
Federal Grant Revenue	$	-	-	-	-	-	-	0.00%
Total Federal Revenue	$	-	-	-	-	-	-	0.00%
OTHER FINANCING SOURCES								
Lease Proceeds	$	540,000	598,800	598,800	965,500	965,500	-	61.24%
Lease Obligation Issued		-	-	-	-	-	-	0.00%
SBITA Obligation Issued		-	-	-	-	-	-	0.00%
Transfer from Grants Fund		-	322,917	324,741	322,917	322,917	-	-0.56%
Appropriated Fund Balance		9,973,605	-	308,750	4,000,000	4,000,000	-	1195.55%
Committed Fund Balance		83,576	-	-	-	-	-	0.00%
Transfer from Debt Service		924,012	-	-	-	-	-	0.00%
Assigned Fund Balance		1,201,828	-	1,038,222	-	-	-	-100.00%
Transfer from Assigned FB		276,336	-	-	-	-	-	0.00%
Total Other Financing Sources	$	12,999,356	921,717	2,270,513	5,288,417	5,288,417	-	132.92%
TOTAL REVENUES	**$**	**100,620,807**	**95,536,114**	**98,421,081**	**108,987,352**	**107,640,493**	**(1,346,859)**	**9.37%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund
Expenditure Summary

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
GENERAL ADMINISTRATION								
Board of Supervisors	$	351,144	372,373	373,450	401,814	377,813	(24,001)	1.17%
County Administration		508,596	531,119	532,869	565,241	563,241	(2,000)	5.70%
County Attorney		684,349	496,743	496,878	459,177	444,177	(15,000)	-10.61%
Human Resources		451,926	524,396	545,239	572,786	570,564	(2,222)	4.64%
Voter Registration		385,749	545,968	547,021	584,497	583,273	(1,224)	6.63%
Total General Administration	$	2,381,764	2,470,599	2,495,457	2,583,515	2,539,068	(44,447)	1.75%
FINANCIAL ADMINISTRATION								
Commissioner of the Revenue	$	859,954	868,607	881,353	942,338	934,973	(7,365)	6.08%
Assessment		575,520	178,500	179,030	161,100	161,100	-	-10.02%
Treasurer		1,018,538	1,135,479	968,277	894,964	891,595	(3,369)	-7.92%
Budget & Finance		944,010	895,930	961,716	1,033,028	1,031,346	(1,682)	7.24%
Purchasing		170,407	177,831	165,435	230,143	229,160	(983)	38.52%
Total Financial Administration	$	3,568,429	3,256,347	3,155,811	3,261,573	3,248,174	(13,399)	2.93%
JUDICIAL								
Circuit Court Judges	$	102,887	99,400	115,011	123,186	123,186	-	7.11%
General District Court		28,601	29,612	30,398	36,193	36,193	-	19.06%
Fifth District Community Corrections Program		18,614	20,316	20,316	35,713	35,713	-	75.79%
Juvenile and Domestic Relations Court		12,772	12,902	12,902	13,102	13,102	-	1.55%
Juvenile Accountability Program		2,500	2,500	2,500	2,500	2,500	-	0.00%
Court Services Unit		250,341	200,965	1,570,552	1,569,189	1,569,189	-	-0.09%
Clerk of the Circuit Court		781,922	735,867	740,499	785,779	783,354	(2,425)	5.79%
Commonwealth's Attorney		916,005	1,003,854	1,008,987	1,079,299	1,076,404	(2,895)	6.68%
Total Judicial	$	2,113,642	2,105,416	3,501,165	3,644,961	3,639,641	(5,320)	3.96%
PUBLIC SAFETY								
Sheriff - Administration & Public Safety Officers	$	7,129,197	7,917,696	8,061,892	7,957,326	7,953,582	(3,744)	-1.34%
Sheriff - Animal Control		647,278	745,124	746,138	769,889	765,835	(4,054)	2.64%
Fire and Rescue Response		4,188,295	4,439,527	4,695,130	4,833,767	4,818,767	(15,000)	2.63%
Fire & Rescue - Station Services		1,591,434	1,707,295	1,733,057	1,777,478	1,717,478	(60,000)	-0.90%
Fire & Rescue - Emergency Mgt & Billing		584,549	670,128	673,893	725,770	722,976	(2,794)	7.28%
Western Tidewater Regional Jail		1,293,333	1,259,298	1,259,298	1,141,354	1,141,354	-	-9.37%
Total Public Safety	$	15,434,086	16,739,068	17,169,408	17,205,584	17,119,992	(85,592)	-0.29%
PUBLIC WORKS								
Public Works - Administration	$	330,828	337,251	339,118	346,365	346,364	(1)	2.14%
Public Works - Transportation		463,723	473,978	529,252	494,227	493,428	(799)	-6.77%
Public Works - Refuse Collection & Disposal		3,331,352	3,341,499	3,397,466	3,568,138	3,527,569	(40,569)	3.83%
Public Works - Building Maintenance		1,726,371	1,718,525	1,729,691	1,777,868	1,775,123	(2,745)	2.63%
Public Works - Capital Programs and Inspections		106,005	97,080	97,322	101,549	101,549	-	4.34%
Total Public Works	$	5,958,279	5,968,333	6,092,849	6,288,147	6,244,033	(44,114)	2.48%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund
Expenditure Summary

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
HEALTH & WELFARE								
Western Tidewater Health District	$	575,000	580,000	580,000	580,000	580,000	-	0.00%
Western Tidewater Community Service Board		289,214	297,890	297,890	310,336	310,336	-	4.18%
Total Health & Welfare	$	864,214	877,890	877,890	890,336	890,336	-	1.42%
EDUCATION								
Local Support	$	27,144,755	30,209,069	30,209,069	32,959,069	32,959,069	-	9.10%
School Capital Maintenance		234,272	250,000	250,000	500,000	250,000	(250,000)	0.00%
Total Education	$	27,379,027	30,459,069	30,459,069	33,459,069	33,209,069	(250,000)	9.03%
PARKS, RECREATION, GROUNDS & CULTURAL								
Parks and Recreation - Administration	$	292,636	278,936	295,266	310,696	308,756	(1,940)	4.57%
Parks and Recreation - Gateways, and Grounds		1,032,455	1,102,287	1,121,184	1,209,947	1,186,714	(23,233)	5.84%
Parks and Recreation - Programs		801,915	904,208	890,374	877,351	873,151	(4,200)	-1.93%
Blackwater Regional Library - Local Support		962,508	1,046,756	1,046,756	1,088,844	1,088,844	-	4.02%
Total Parks, Recreation, Grounds & Cultural	$	3,089,514	3,332,187	3,353,580	3,486,838	3,457,465	(29,373)	3.10%
COMMUNITY DEVELOPMENT								
Planning and Zoning	$	944,652	1,086,051	1,112,744	1,210,313	1,181,461	(28,852)	6.18%
Inspections		856,856	829,428	834,625	865,275	861,969	(3,306)	3.28%
Economic Development		1,357,846	808,393	1,586,401	715,424	714,257	(1,167)	-54.98%
Tourism		615,461	649,509	655,083	674,270	674,759	489	3.00%
Markets		104,359	79,000	83,297	75,445	75,445	-	-9.43%
Communications		138,226	140,639	142,232	150,876	145,142	(5,734)	2.05%
Virginia Coop Ext - Local Support		75,620	78,934	78,934	83,828	83,828	-	6.20%
Total Community Development	$	4,093,020	3,671,954	4,493,316	3,775,431	3,736,861	(38,570)	-16.84%
OTHER PUBLIC SERVICES								
Local and Regional Organizations	$	1,613,847	1,627,809	1,627,809	1,591,777	1,563,517	(28,260)	-3.95%
Total Other Public Services	$	1,613,847	1,627,809	1,627,809	1,591,777	1,563,517	(28,260)	-3.95%
DEBT SERVICE								
Debt Service	$	12,790,617	12,158,396	12,488,896	12,874,349	12,809,124	(65,225)	2.56%
Total Debt Service	$	12,790,617	12,158,396	12,488,896	12,874,349	12,809,124	(65,225)	2.56%
NON-DEPARTMENTAL								
Non-Departmental Expenses	$	10,666,103	2,651,020	2,245,068	5,008,800	4,464,300	(544,500)	98.85%
Internal Service Charges		1,775,766	1,985,123	1,985,123	2,134,503	2,124,824	(9,679)	7.04%
Transfer to Other Funds		8,892,500	8,232,903	8,475,641	12,782,469	12,594,089	(188,380)	48.59%
Total Non-Departmental	$	21,334,369	12,869,046	12,705,832	19,925,772	19,183,213	(742,559)	50.98%
TOTAL GENERAL FUND EXPENDITURES	**$**	**100,620,807**	**95,536,114**	**98,421,081**	**108,987,352**	**107,640,493**	**(1,346,859)**	**9.37%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

BOARD OF SUPERVISORS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	69,860	72,615	73,615	76,156	76,156	-	3.45%
Board Salaries		61,812	64,000	64,000	67,979	67,979	-	6.22%
FICA (SS & Medicare)		9,997	10,452	10,529	11,027	11,027	-	4.73%
VRS - Retirement Benefits		8,009	8,446	8,446	8,147	8,146	(1)	-3.55%
Hospital/Medical Plans		29,923	25,959	25,959	49,952	49,952	-	92.43%
Group Life Insurance		923	974	974	956	956	-	-1.85%
Professional Services		73,684	97,830	97,830	90,000	90,000	-	-8.00%
Software License/Maintenance		41,645	42,000	42,000	42,000	18,000	(24,000)	-57.14%
Advertising Services		30,068	24,500	24,500	24,500	24,500	-	0.00%
Postage		161	150	150	150	150	-	0.00%
Telephone (Voice And Fax)		610	612	612	612	612	-	0.00%
Travel & Training		8,093	7,500	7,500	12,500	12,500	-	66.67%
Operating Expenses		5,800	7,500	7,500	7,500	7,500	-	0.00%
Dues & Association Memberships		9,585	9,585	9,585	9,585	9,585	-	0.00%
Office Supplies		974	250	250	750	750	-	200.00%
Total Operating Expenditures	$	351,144	372,373	373,450	401,814	377,813	(24,001)	1.17%

COUNTY ADMINISTRATOR

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	362,201	379,189	380,564	400,049	400,049	-	5.12%
FICA (SS & Medicare)		27,709	29,008	29,113	30,604	30,604	-	5.12%
VRS - Retirement Benefits		43,815	45,801	45,801	54,615	54,615	-	19.24%
Hospital/Medical Plans		41,268	41,796	41,796	44,307	44,307	-	6.01%
Group Life Insurance		4,854	5,082	5,082	5,343	5,343	-	5.14%
Deferred Comp		12,632	12,630	12,900	12,900	12,900	-	0.00%
Postage		150	150	150	150	150	-	0.00%
Telephone (Voice and Fax)		1,435	1,375	1,375	1,435	1,435	-	4.36%
Travel & Training		5,351	6,000	6,000	6,000	4,000	(2,000)	-33.33%
Dues & Assoc Memberships		3,888	4,400	4,400	4,400	4,400	-	0.00%
Office Supplies		1,355	1,750	1,750	1,500	1,500	-	-14.29%
Copier Lease		2,738	2,738	2,738	2,738	2,738	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	508,596	531,119	532,869	565,241	563,241	(2,000)	5.70%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

COUNTY ATTORNEY

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	181,594	190,358	190,483	213,652	213,652	-	12.16%
FICA (SS & Medicare)		13,892	14,563	14,573	16,345	16,345	-	12.16%
VRS - Retirement Benefits		22,467	23,533	23,533	32,306	32,306	-	37.28%
Hospital/Medical Plans		29,029	29,523	29,523	31,298	31,298	-	6.01%
Group Life Insurance		2,434	2,551	2,551	2,862	2,862	-	12.19%
Deferred Comp		8,368	10,911	10,911	12,410	12,410	-	13.74%
Professional Services		375,000	175,000	175,000	100,000	100,000	-	-42.86%
Contracted Services		25,000	25,000	25,000	25,000	10,000	(15,000)	-60.00%
Postage		300	300	300	300	300	-	0.00%
Telephone (Voice and Fax)		536	536	536	536	536	-	0.00%
Travel & Training		3,761	2,500	2,500	2,500	2,500	-	0.00%
Dues & Association Memberships		2,000	2,000	2,000	2,000	2,000	-	0.00%
Office Supplies		1,500	1,500	1,500	1,500	1,500	-	0.00%
Copier Lease		2,268	2,268	2,268	2,268	2,268	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Books/Subscriptions		15,000	15,000	15,000	15,000	15,000	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	684,349	496,743	496,878	459,177	444,177	(15,000)	-10.61%

HUMAN RESOURCES

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	248,058	289,379	289,979	300,107	300,107	-	3.49%
FICA (SS & Medicare)		19,267	22,137	22,183	22,959	22,959	-	3.50%
VRS - Retirement Benefits		30,012	34,473	34,473	38,457	36,235	(2,222)	5.11%
Hospital/Medical Plans		32,868	38,663	38,940	41,083	41,083	-	5.50%
Group Life Insurance		3,375	3,878	3,878	4,014	4,014	-	3.51%
Deferred Comp		1,400	1,680	2,400	2,400	2,400	-	0.00%
Tuition Reimbursement		5,849	7,000	7,000	7,000	7,000	-	0.00%
Uniforms Taxable		-	-	238	-	-	-	-100.00%
Professional Services		48,250	47,500	50,700	53,080	53,080	-	4.69%
Advertising Services		1,853	18,500	18,500	18,500	18,500	-	0.00%
Postage		350	350	350	350	350	-	0.00%
Telephone (Voice and Fax)		1,556	1,736	1,736	1,736	1,736	-	0.00%
Emp Service Awards & Recognition		34,100	34,500	34,500	34,500	34,500	-	0.00%
Health & Wellness		-	-	16,000	19,000	19,000	-	18.75%
Travel & Training		5,247	6,400	6,162	11,400	11,400	-	85.00%
Operating Expenses		15,712	15,000	15,000	15,000	15,000	-	0.00%
Dues & Association Membership		1,200	1,000	1,000	1,000	1,000	-	0.00%
Office Supplies		2,600	2,200	2,200	2,200	2,200	-	0.00%
Books/ Subscriptions		229	-	-	-	-	-	0.00%
Total Operating Expenditures	$	451,926	524,396	545,239	572,786	570,564	(2,222)	4.64%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

COMMISSIONER OF REVENUE

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	557,443	568,802	571,302	586,829	586,829	-	2.72%
FICA (SS & Medicare)		42,645	43,514	43,705	44,893	44,893	-	2.72%
VRS - Retirement Benefits		66,380	68,189	68,189	81,009	73,644	(7,365)	8.00%
Hospital/Medical Plans		137,776	127,681	127,681	154,933	154,933	-	21.34%
Group Life Insurance		7,470	7,623	7,623	7,831	7,831	-	2.73%
Deferred Comp		4,200	2,940	4,995	5,400	5,400	-	8.11%
Maintenance Service Contracts		6,764	7,500	7,650	8,800	8,800	-	15.03%
Postage		6,000	6,900	6,900	8,000	8,000	-	15.94%
Telephone (Voice and Fax)		1,355	1,123	1,123	1,908	1,908	-	69.90%
Travel & Training		5,400	7,000	7,000	7,000	7,000	-	0.00%
Dues & Association Memberships		1,000	1,000	1,000	1,000	1,000	-	0.00%
Office Supplies		6,236	6,800	6,650	7,200	7,200	-	8.27%
Copier Lease		2,335	2,335	2,335	2,335	2,335	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Books/Subscriptions		13,750	16,000	24,000	24,000	24,000	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	859,954	868,607	881,353	942,338	934,973	(7,365)	6.08%

REAL ESTATE ASSESSMENT

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Compensation	$	-	12,500	12,500	-	-	-	-100.00%
Professional Services		473,180	28,000	28,530	28,000	28,000	-	-1.86%
Advertising Services		-	5,000	5,000	500	500	-	-90.00%
Postage		1,040	600	600	600	600	-	0.00%
Travel & Training		700	1,200	1,200	1,200	1,200	-	0.00%
Office Supplies		600	1,200	1,200	800	800	-	-33.33%
Reassessment Reserve		100,000	130,000	130,000	130,000	130,000	-	0.00%
Total Operating Expenditures	$	575,520	178,500	179,030	161,100	161,100	-	-10.02%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

TREASURER

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	501,065	581,055	461,938	399,700	399,700	-	-13.47%
Overtime		5,100	-	5,000	1,553	1,553	-	-68.94%
Part-Time Salaries		63,097	44,558	54,058	46,118	46,118	-	-14.69%
FICA (SS & Medicare)		42,933	47,860	39,857	34,224	34,224	-	-14.13%
VRS - Retirement Benefits		62,352	68,945	56,019	55,110	51,741	(3,369)	-7.64%
Hospital/Medical Plans		104,857	132,126	99,716	109,695	109,695	-	10.01%
Group Life Insurance		6,951	7,787	6,368	5,336	5,336	-	-16.21%
Deferred Comp		2,940	3,360	3,533	2,820	2,820	-	-20.18%
Bank Fees		16,915	50,000	50,000	50,000	50,000	-	0.00%
Maintenance Service Contracts		5,800	5,800	5,800	5,800	5,800	-	0.00%
Advertising Services		2,735	3,290	3,290	3,290	3,290	-	0.00%
DMV Stop Program Fees		48,000	48,000	48,000	45,000	45,000	-	-6.25%
Postage		96,762	98,000	98,000	98,000	98,000	-	0.00%
Telephone (Voice and Fax)		2,154	1,963	1,963	2,083	2,083	-	6.11%
Lease/Rental of Equipment		2,226	3,200	3,200	3,200	3,200	-	0.00%
Travel & Training		1,725	5,000	5,000	5,000	5,000	-	0.00%
Operating Expenses		500	500	500	-	-	-	-100.00%
Due & Association Membership		2,000	2,000	2,000	1,000	1,000	-	-50.00%
Office Supplies		43,391	25,000	17,000	20,000	20,000	-	17.65%
Copier Lease		2,335	2,335	2,335	2,335	2,335	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Items for Resale		3,500	3,500	3,500	3,500	3,500	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	1,018,538	1,135,479	968,277	894,964	891,595	(3,369)	-7.92%

BUDGET & FINANCE

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	557,992	580,758	627,934	682,878	682,878	-	8.75%
Overtime		206	-	411	-	-	-	-100.00%
FICA (SS & Medicare)		42,205	44,428	48,037	52,280	52,280	-	8.83%
VRS - Retirement Benefits		66,559	69,866	74,338	90,236	88,554	(1,682)	19.12%
Hospital/Medical Plans		104,857	102,073	110,299	118,269	118,269	-	7.23%
Group Life Insurance		7,393	7,783	8,295	9,124	9,124	-	9.99%
Deferred Comp		2,100	2,520	3,900	4,200	4,200	-	7.69%
Professional Services		66,930	58,230	24,105	16,530	16,530	-	-31.43%
Postage		3,500	3,500	3,500	3,500	3,500	-	0.00%
Telephone (Voice and Fax)		1,706	1,869	1,869	1,483	1,483	-	-20.65%
Travel & Training		9,965	15,000	14,975	9,975	9,975	-	-33.39%
Dues & Association Memberships		1,919	780	805	1,305	1,305	-	62.11%
Office Supplies		4,953	5,000	5,000	5,000	5,000	-	0.00%
Copier Lease		2,423	2,423	2,423	2,423	2,423	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
SaaS/SBITA Short Term		-	-	34,125	34,125	34,125	-	0.00%
Books/Subscriptions		500	500	500	500	500	-	0.00%
Capital Outlay		69,602	-	-	-	-	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	944,010	895,930	961,716	1,033,028	1,031,346	(1,682)	7.24%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

PURCHASING

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	113,352	119,887	108,511	129,859	129,859	-	19.67%
FICA (SS & Medicare)		8,671	9,172	8,302	9,935	9,935	-	19.67%
VRS - Retirement Benefits		14,147	14,386	13,840	17,819	16,836	(983)	21.65%
Medical/Dental Plans		29,923	30,404	30,404	32,229	32,229	-	6.00%
Group Life Insurance		1,519	1,607	1,548	1,741	1,741	-	12.47%
Deferred Comp		840	420	875	600	600	-	-31.43%
Software Subscription Based IT		-	-	-	36,000	36,000	-	100.00%
Travel & Training		1,580	1,580	1,580	1,580	1,580	-	0.00%
Dues & Association Memberships		230	225	225	230	230	-	2.22%
Office Supplies		145	150	150	150	150	-	0.00%
Total Operating Expenditures	$	170,407	177,831	165,435	230,143	229,160	(983)	38.52%

REGISTRAR

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	145,735	216,210	216,810	228,629	228,629	-	5.45%
Overtime		3,211	-	-	2,070	2,070	-	100.00%
Part-Time Salaries		51,705	40,571	40,571	67,866	67,866	-	67.28%
Compensation		51,935	90,000	90,000	60,000	60,000	-	-33.33%
FICA (SS & Medicare)		14,899	19,644	19,690	22,841	22,841	-	16.00%
VRS - Retirement Benefits		16,205	22,567	22,567	26,684	25,460	(1,224)	12.82%
Hospital/Medical Plans		24,009	37,882	38,159	35,723	35,723	-	-6.38%
Group Life Insurance		1,893	2,590	2,590	2,916	2,916	-	12.59%
Deferred Comp		420	840	970	1,020	1,020	-	5.15%
Repairs & Maintenance		12,155	21,000	21,000	21,000	21,000	-	0.00%
Advertising Services		1,600	1,600	1,600	600	600	-	-62.50%
Utilities		5,930	4,130	4,130	5,100	5,100	-	23.49%
Postage		7,004	10,000	10,000	18,000	18,000	-	80.00%
Telephone (Voice and Fax)		464	466	466	1,080	1,080	-	131.76%
Lease/Rental of Equipment		2,300	4,000	4,000	2,500	2,500	-	-37.50%
Lease/Rental of Buildings		2,100	3,000	3,000	2,000	2,000	-	-33.33%
Travel & Training		5,586	6,500	6,500	6,500	6,500	-	0.00%
Operating Expenses		30,630	57,000	57,000	72,000	72,000	-	26.32%
Dues & Association Memberships		500	500	500	500	500	-	0.00%
Office Supplies		4,000	4,000	4,000	4,000	4,000	-	0.00%
Copier Lease		2,268	2,268	2,268	2,268	2,268	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	385,749	545,968	547,021	584,497	583,273	(1,224)	6.63%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

CIRCUIT COURT

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	61,076	66,520	66,920	69,249	69,249	-	3.48%
Compensation		10,690	-	15,000	20,000	20,000	-	33.33%
FICA (SS & Medicare)		4,642	5,088	5,119	5,298	5,298	-	3.50%
VRS - Retirement Benefits		7,057	7,737	7,737	7,869	7,869	-	1.71%
Hospital/Medical Plans		16,481	16,719	16,719	17,723	17,723	-	6.01%
Group Life Insurance		813	892	892	923	923	-	3.48%
Deferred Comp		420	420	600	600	600	-	0.00%
Telephone (Voice and Fax)		329	624	624	624	624	-	0.00%
Travel & Training		179	200	200	200	200	-	0.00%
Dues & Association Memberships		200	200	200	200	200	-	0.00%
Office Supplies		1,000	1,000	1,000	500	500	-	-50.00%
Total Operating Expenditures	$	102,887	99,400	115,011	123,186	123,186	-	7.11%

GENERAL DISTRICT COURT

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Other Compensation	$	2,620	3,400	4,186	4,500	4,500	-	7.50%
Professional Services		154	-	-	-	-	-	0.00%
Court Appt Public Defender		15,000	15,000	15,000	15,000	15,000	-	0.00%
Telephone (Voice and Fax)		1,361	1,372	1,372	1,398	1,398	-	1.90%
Travel & Training		1,500	2,055	2,055	2,510	2,510	-	22.14%
Operating Expenses		2,346	2,500	2,270	5,500	5,500	-	142.29%
Dues & Association Membership		1,085	750	750	750	750	-	0.00%
Office Supplies		1,000	1,000	1,230	3,000	3,000	-	143.90%
Copier Lease		2,335	2,335	2,335	2,335	2,335	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	28,601	29,612	30,398	36,193	36,193	-	19.06%

WESTERN TIDEWATER COMM CORRECTNS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Contributions	$	18,614	20,316	20,316	35,713	35,713	-	75.79%
Total Operating Expenditures	$	18,614	20,316	20,316	35,713	35,713	-	75.79%

JUVENILE ACCOUNTABILITY PROGRAM

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Professional Services	$	1,250	1,250	1,250	1,250	1,250	-	0.00%
Telephone (Voice And Fax)		75	75	75	75	75	-	0.00%
Drug Testing Supplies		750	750	750	750	750	-	0.00%
Drug Lab Test		425	425	425	425	425	-	0.00%
Total Operating Expenditures	$	2,500	2,500	2,500	2,500	2,500	-	0.00%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

JUVENILE & DOMESTIC RELATION COURT

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Other Compensation	$	2,201	2,400	2,405	2,600	2,600	-	8.11%
Repairs & Maintenance		179	240	240	240	240	-	0.00%
Court Appointed Public Defnder		500	500	500	500	500	-	0.00%
Postage		1,000	800	800	800	800	-	0.00%
Telephone (Voice and Fax)		1,174	1,044	1,044	1,044	1,044	-	0.00%
Travel & Training		2,000	2,000	2,000	2,000	2,000	-	0.00%
Dues & Association Membership		450	450	450	450	450	-	0.00%
Office Supplies		1,800	2,000	1,995	2,000	2,000	-	0.25%
Copier Lease		2,268	2,268	2,268	1,200	1,200	-	-47.09%
Copier Service/Supply Contract		1,200	1,200	1,200	2,268	2,268	-	89.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	12,772	12,902	12,902	13,102	13,102	-	1.55%

CLERK OF THE CIRCUIT COURT

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	437,492	460,352	462,202	484,551	484,551	-	4.84%
FICA (SS & Medicare)		33,177	35,217	35,359	37,069	37,069	-	4.84%
VRS - Retirement Benefits		51,701	54,030	54,030	64,033	61,608	(2,425)	14.03%
Hospital/Medical Plans		91,030	88,037	88,037	98,041	98,041	-	11.36%
Group Life Insurance		5,838	6,169	6,169	6,469	6,469	-	4.86%
Deferred Comp		2,940	2,940	4,175	4,200	4,200	-	0.60%
Legal Services-Jurors		17,920	17,920	17,920	17,920	17,920	-	0.00%
Professional Services		57,800	-	-	-	-	-	0.00%
TTF Professional Services		41,310	31,450	31,450	33,548	33,548	-	6.67%
Repairs & Maintenance		500	500	500	500	500	-	0.00%
Maintenance Service Contracts		10,000	10,000	10,000	10,000	10,000	-	0.00%
Postage		6,520	7,000	7,000	7,000	7,000	-	0.00%
Telephone (Voice and Fax)		1,669	1,684	1,684	1,880	1,880	-	11.64%
Travel & Training		998	3,000	3,000	3,000	3,000	-	0.00%
Dues & Association Membership		600	600	600	600	600	-	0.00%
Office Supplies		7,300	11,000	8,917	11,000	11,000	-	23.36%
Copier Lease		2,268	2,268	2,268	2,268	2,268	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Law Library		9,159	-	1,405	-	-	-	-100.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Audit Fees		2,500	2,500	4,583	2,500	2,500	-	-45.45%
Total Operating Expenditures	$	781,922	735,867	740,499	785,779	783,354	(2,425)	5.79%

FIFTH DISTRICT COURT SERVICES

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Professional Services	$	249,475	200,100	200,100	200,100	200,100	-	0.00%
Telephone (Voice And Fax)		866	865	865	1,037	1,037	-	19.88%
Joint Services		-	-	1,369,587	1,368,052	1,368,052	-	-0.11%
Total Operating Expenditures	$	250,341	200,965	1,570,552	1,569,189	1,569,189	-	-0.09%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

COMMONWEALTH ATTORNEY

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	645,370	675,702	679,052	717,070	717,070	-	5.60%
Part-Time Salaries		-	40,000	40,000	41,400	41,400	-	3.50%
FICA (SS & Medicare)		49,115	54,752	55,008	58,023	58,023	-	5.48%
VRS - Retirement Benefits		75,865	79,504	79,504	89,714	86,819	(2,895)	9.20%
Hospital/Medical Plans		105,019	106,518	106,795	113,190	113,190	-	5.99%
Group Life Insurance		8,604	9,055	9,055	9,564	9,564	-	5.62%
Deferred Comp		2,520	2,520	3,770	4,020	4,020	-	6.63%
Maintenance Service Contracts		5,880	7,685	7,685	11,200	11,200	-	45.74%
Telephone (Voice and Fax)		4,076	4,700	4,700	5,700	5,700	-	21.28%
Travel & Training		5,588	6,750	6,750	12,750	12,750	-	88.89%
Travel- Witness		-	4,000	4,000	4,000	4,000	-	0.00%
Dues & Association Membership		5,250	3,700	3,700	3,700	3,700	-	0.00%
Office Supplies		5,250	5,500	5,500	5,500	5,500	-	0.00%
Copier Lease		2,268	2,268	2,268	2,268	2,268	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Equipment/Machinery		-	-	-	-	-	-	100.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	916,005	1,003,854	1,008,987	1,079,299	1,076,404	(2,895)	6.68%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

SHERIFF

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	3,636,520	4,398,758	4,439,549	4,478,579	4,478,579	-	0.88%
Overtime		315,695	313,578	313,578	340,992	340,992	-	8.74%
Part-Time Salaries		141,871	134,098	134,098	138,792	138,792	-	3.50%
FICA (SS & Medicare)		314,713	370,752	373,873	379,315	379,315	-	1.46%
VRS - Retirement Benefits		423,173	507,017	510,248	508,622	504,878	(3,744)	-1.05%
Hospital/Medical Plans		741,369	878,560	836,296	891,662	891,662	-	6.62%
Group Life Insurance		49,355	58,877	61,935	62,525	62,525	-	0.95%
Unemployment Insurance		-	-	40	40	40	-	0.00%
Worker's Compensation		-	-	7,317	7,317	7,317	-	0.00%
Deferred Comp		19,074	21,420	28,400	29,172	29,172	-	2.72%
Uniforms Taxable		4,500	6,600	6,600	6,600	6,600	-	0.00%
Professional Services		9,400	8,700	8,700	29,700	29,700	-	241.38%
Repairs & Maintenance		3,143	6,148	6,148	6,148	6,148	-	0.00%
Maintenance Service Contracts		38,779	49,770	55,870	44,970	44,970	-	-19.51%
Advertising Services		799	6,350	6,350	-	-	-	-100.00%
Capital Lease Agreements		178,940	185,535	185,535	66,500	66,500	-	-64.16%
SBITA Financing Expense		-	-	-	129,935	129,935	-	0.00%
Utilities		51,000	45,000	45,000	50,000	50,000	-	11.11%
Postage		2,000	2,000	2,000	2,000	2,000	-	0.00%
Telephone (Voice and Fax)		31,646	42,777	42,777	56,715	56,715	-	32.58%
Line of Duty		-	-	1,288	1,288	1,288	-	0.00%
RMS Licenses		31,500	7,385	7,385	16,000	16,000	-	116.66%
Lease/Rental of Equipment		-	-	-	-	-	-	0.00%
Travel & Training		50,000	60,000	60,000	65,000	65,000	-	8.33%
Tolls & Parking		50	-	-	-	-	-	0.00%
Travel - Prisoner Extradition		2,550	-	-	-	-	-	0.00%
Special Investigate Task Force		2,368	2,000	2,000	3,000	3,000	-	50.00%
Operating Expenses		74,437	65,125	65,125	71,125	71,125	-	9.21%
Dues & Association Memberships		7,370	7,470	7,470	7,470	7,470	-	0.00%
Office Supplies		11,232	13,000	13,000	16,000	16,000	-	23.08%
Equipment-Small<$5k		18,938	8,200	8,200	4,400	4,400	-	-46.34%
Copier Lease		4,300	4,300	4,300	4,300	4,300	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Computer Software		500	500	500	7,200	7,200	-	1340.00%
Computer Hardware<$5k		18,447	3,000	3,000	3,000	3,000	-	0.00%
Fleet		435,964	549,306	394,429	395,000	395,000	-	0.14%
Uniforms		100,279	83,270	92,159	92,159	92,159	-	0.00%
Equipment/Machinery		63,644	-	33,846	-	-	-	-100.00%
Vehicles		-	-	206,277	-	-	-	-100.00%
Capital Outlay		344,440	77,000	97,400	40,600	40,600	-	-58.32%
Capital Lease Interest		-	-	-	-	-	-	0.00%
SBITA Financing Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	7,129,197	7,917,696	8,061,892	7,957,326	7,953,582	(3,744)	-1.34%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

FIRE & RESCUE - ADMINISTRATION

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	378,847	427,360	428,360	437,009	437,009	-	2.02%
Overtime		7,672	505	505	523	523	-	3.56%
FICA (SS & Medicare)		28,392	32,732	32,809	33,472	33,472	-	2.02%
VRS - Retirement Benefits		43,900	51,204	51,204	57,481	54,687	(2,794)	6.80%
Hospital/Medical Plans		59,519	80,559	81,300	81,973	81,973	-	0.83%
Group Life Insurance		4,939	5,727	5,727	5,843	5,843	-	2.03%
Deferred Comp		3,718	4,101	4,101	3,600	3,600	-	-12.22%
Maintenance Service Contracts		24,500	24,500	23,936	57,460	57,460	-	140.06%
Advertising Services		250	-	-	-	-	-	0.00%
Postage		3,680	3,680	3,680	3,680	3,680	-	0.00%
Telephone (Voice and Fax)		4,185	4,115	4,115	4,115	4,115	-	0.00%
Travel & Training		9,150	13,736	13,736	13,000	13,000	-	-5.36%
Dues & Association Membership		598	810	810	815	815	-	0.62%
Office Supplies		3,631	5,331	5,331	5,331	5,331	-	0.00%
Equipment-Small<$5k		2,500	4,000	2,947	4,000	4,000	-	35.73%
Copier Lease		2,268	2,268	5,832	2,268	2,268	-	-61.11%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Computer Software <$5k		100	-	-	-	-	-	0.00%
Fleet		4,200	7,000	7,000	12,000	12,000	-	71.43%
Uniforms		1,300	1,300	1,300	2,000	2,000	-	53.85%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	584,549	670,128	673,893	725,770	722,976	(2,794)	7.28%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

FIRE & RESCUE - RESPONSE

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	1,768,324	2,003,918	2,009,068	2,190,006	2,190,006	-	9.01%
Overtime		350,178	290,000	290,000	300,150	300,150	-	3.50%
Holiday Pay		102,070	116,554	116,554	120,634	120,634	-	3.50%
Part-Time Salaries		803,456	815,200	815,200	843,732	843,732	-	3.50%
FICA (SS & Medicare)		223,567	246,765	247,159	264,271	264,271	-	6.92%
VRS - Retirement Benefits		211,846	233,773	233,773	249,700	249,700	-	6.81%
Medical/Dental Plans		374,007	429,392	430,648	480,475	480,475	-	11.57%
Group Life Insurance		24,453	26,853	26,853	29,274	29,274	-	9.02%
Deferred Comp		10,080	9,450	12,816	13,860	13,860	-	8.15%
Professional Services		9,135	9,530	9,530	9,922	9,922	-	4.11%
EMS Service Contracts		21,000	23,000	23,000	23,000	23,000	-	0.00%
Maintenance Service Contracts		26,000	26,000	26,000	35,500	35,500	-	36.54%
Utilities		800	800	800	800	800	-	0.00%
Telephone (Voice And Fax)		13,678	17,064	17,064	17,064	17,064	-	0.00%
Travel & Training		12,850	15,000	15,000	17,000	17,000	-	13.33%
Four-4-Life EMS Support		40,000	36,127	91,364	36,127	36,127	-	-60.46%
Hampton Roads Planning Distric		6,082	6,283	6,283	6,450	6,450	-	2.66%
Contribution State Forrestry		10,093	10,093	10,093	10,094	10,094	-	0.01%
Disaster Response		-	-	190,200	-	-	-	-100.00%
Office Supplies		425	425	425	425	425	-	0.00%
Medical Supplies		87,930	75,000	75,000	82,500	82,500	-	10.00%
Medical Services		9,414	10,400	10,400	13,883	13,883	-	33.49%
Fleet		11,100	8,900	8,900	8,900	8,900	-	0.00%
Uniforms		15,000	15,000	15,000	20,000	20,000	-	33.33%
PPE & Safety		10,000	14,000	14,000	60,000	45,000	(15,000)	221.43%
Capital Outlay		46,807	-	-	-	-	-	0.00%
Total Operating Expenditures	$	4,188,295	4,439,527	4,695,130	4,833,767	4,818,767	(15,000)	2.63%

FIRE & RESCUE - STATION SERVICES

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Maintenance Service Contracts	$	-	-	-	5,200	5,200	-	100.00%
Utilities-Volunteer Depts		134,000	117,000	117,000	128,000	128,000	-	9.40%
Fuel - Volunteer		104,000	115,000	115,000	126,000	126,000	-	9.57%
Volunteer Dept-Insurance		230,444	240,444	240,444	240,444	240,444	-	0.00%
Travel & Training		10,000	10,000	8,700	10,000	10,000	-	14.94%
Fire Programs Fund Expense		109,639	109,639	135,401	123,039	123,039	-	-9.13%
Contribution Carrollton VFR		162,450	149,400	149,400	138,200	138,200	-	-7.50%
Contribution-Carrsville VFR		83,600	115,400	115,400	100,295	100,295	-	-13.09%
Contribution RushmereVF		54,900	65,992	65,992	91,400	91,400	-	38.50%
Contribution Smithfield VF		209,580	219,400	219,400	267,900	207,900	(60,000)	-5.24%
Contribution Windsor VF		88,500	113,000	113,000	117,500	117,500	-	3.98%
Contribution IOWVR		211,000	246,000	246,000	215,000	215,000	-	-12.60%
Contribution Windsor VR		83,321	39,270	39,270	42,000	42,000	-	6.95%
Vehicle Tax Relief		100,000	115,000	115,000	115,000	115,000	-	0.00%
Medical Services		-	16,250	16,250	32,500	32,500	-	100.00%
Equipment / Machinery		10,000	35,500	36,800	25,000	25,000	-	-32.07%
Total Station Services - Fire	$	1,591,434	1,707,295	1,733,057	1,777,478	1,717,478	(60,000)	-0.90%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

WESTERN TIDEWATER REGIONAL JAIL

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Professional Services	$	1,293,333	1,259,298	1,259,298	1,141,354	1,141,354	-	-9.37%
Total Operating Expenditures	$	1,293,333	1,259,298	1,259,298	1,141,354	1,141,354	-	-9.37%

INSPECTIONS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	480,542	514,477	518,027	528,954	528,954	-	2.11%
FICA (SS & Medicare)		36,659	39,358	39,630	40,465	40,465	-	2.11%
VRS - Retirement Benefits		56,863	60,982	60,982	67,461	64,155	(3,306)	5.20%
Hospital/Medical Plans		128,863	136,570	136,570	136,844	136,844	-	0.20%
Group Life Insurance		6,422	6,849	6,849	6,989	6,989	-	2.04%
Deferred Comp		2,940	2,520	3,895	4,020	4,020	-	3.21%
Uniforms Taxable		1,806	200	200	1,900	1,900	-	850.00%
Professional Services		23,110	15,000	15,000	25,000	25,000	-	66.67%
Ecommerce Equipment & Software		70,326	-	-	-	-	-	0.00%
Postage		600	600	600	600	600	-	0.00%
Telephone (Voice and Fax)		4,168	4,529	4,529	4,649	4,649	-	2.65%
Travel & Training		5,000	5,000	5,000	5,000	5,000	-	0.00%
Tolls & Parking		50	50	50	100	100	-	100.00%
Dues & Association Membership		1,400	1,400	1,400	1,400	1,400	-	0.00%
Office Supplies		3,500	3,500	3,500	3,500	3,500	-	0.00%
Copier Lease		2,365	2,365	2,365	2,365	2,365	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Fleet		10,922	12,992	12,992	12,992	12,992	-	0.00%
Uniforms		-	816	816	816	816	-	0.00%
PPE & Safety		-	900	900	900	900	-	0.00%
Books/Subscriptions		4,550	4,550	4,550	4,550	4,550	-	0.00%
Equipment/Machinery		15,570	15,570	15,570	15,570	15,570	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	856,856	829,428	834,625	865,275	861,969	(3,306)	3.28%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

ANIMAL CONTROL

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	290,739	335,412	335,662	352,574	352,574	-	5.04%
Overtime		46,039	46,310	46,310	75,587	75,587	-	63.22%
Part-Time Salaries		5,108	22,578	22,578	-	-	-	-100.00%
FICA (SS & Medicare)		26,282	29,781	29,800	32,755	32,755	-	9.92%
VRS - Retirement Benefits		35,022	40,902	40,902	52,350	48,296	(4,054)	18.08%
Hospital/Medical Plans		86,063	122,885	122,885	103,120	103,120	-	-16.08%
Group Life Insurance		3,897	4,495	4,495	4,722	4,722	-	5.05%
Deferred Comp		2,100	2,100	2,845	2,820	2,820	-	-0.88%
Repairs & Maintenance		2,380	2,380	2,380	2,380	2,380	-	0.00%
Advertising Services		1,100	1,100	1,100	1,100	1,100	-	0.00%
Veterinarian Services		55,000	40,000	40,000	30,000	30,000	-	-25.00%
Utilities		20,200	22,000	22,000	22,000	22,000	-	0.00%
Postage		140	140	140	140	140	-	0.00%
Telephone (Voice and Fax)		1,300	1,300	1,300	4,100	4,100	-	215.38%
Travel & Training		3,000	3,000	3,000	3,000	3,000	-	0.00%
Operating Expenses		35,022	31,800	31,800	31,800	31,800	-	0.00%
Dues & Association Memberships		120	120	120	120	120	-	0.00%
Office Supplies		2,192	2,125	2,125	2,125	2,125	-	0.00%
Equipment-Small<$5k		1,000	1,000	1,000	1,000	1,000	-	0.00%
Copier Lease		3,000	3,000	3,000	3,000	3,000	-	0.00%
Fleet		24,574	29,196	29,196	29,196	29,196	-	0.00%
Uniforms		3,000	3,500	3,500	3,500	3,500	-	0.00%
Capital Outlay		-	-	-	12,500	12,500	-	100.00%
Total Operating Expenditures	$	647,278	745,124	746,138	769,889	765,835	(4,054)	2.64%

PUBLIC WORKS ADMINISTRATION

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	209,424	219,346	220,746	229,807	229,807	-	4.10%
FICA (SS & Medicare)		15,914	16,780	16,887	17,581	17,581	-	4.11%
VRS - Retirement Benefits		24,578	25,510	25,510	26,107	26,107	-	2.34%
Hospital/Medical Plans		53,745	50,156	50,156	45,239	45,239	-	-9.80%
Group Life Insurance		2,788	2,940	2,940	3,062	3,061	(1)	4.12%
Deferred Comp		840	840	1,200	1,200	1,200	-	0.00%
Utilities		5,200	5,200	5,200	5,200	5,200	-	0.00%
Postage		75	75	75	75	75	-	0.00%
Telephone (Voice and Fax)		1,543	1,390	1,390	1,560	1,560	-	12.23%
Travel & Training		-	250	250	250	250	-	0.00%
Office Supplies		1,000	1,500	1,500	1,500	1,500	-	0.00%
Copier Lease		1,134	1,134	1,134	1,134	1,134	-	0.00%
Copier Service/Supply Contract		650	650	650	650	650	-	0.00%
Fleet		13,937	11,480	11,480	13,000	13,000	-	13.24%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	330,828	337,251	339,118	346,365	346,364	(1)	2.14%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

PUBLIC WORKS - CAPITAL PROGRAMS & INSPECTIONS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	58,647	61,374	61,599	63,746	63,746	-	3.49%
FICA (SS & Medicare)		4,379	4,696	4,713	4,877	4,877	-	3.48%
VRS - Retirement Benefits		6,763	7,138	7,138	7,260	7,260	-	1.71%
Medical/Dental Plans		14,903	15,047	15,047	15,951	15,951	-	6.01%
Group Life Insurance		780	823	823	852	852	-	3.52%
Telephone (Voice And Fax)		1,205	1,219	1,219	1,320	1,320	-	8.29%
Travel & Training		-	800	800	800	800	-	0.00%
Operating Expenses		26	400	400	400	400	-	0.00%
Fuel		7,030	4,783	4,783	5,543	5,543	-	15.89%
PPE & Safety		-	800	800	800	800	-	0.00%
Vehicles		12,272	-	-	-	-	-	0.00%
Total Operating Expenditures	$	106,005	97,080	97,322	101,549	101,549	-	4.34%

PUBLIC WORKS - REFUSE

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	465,198	497,967	499,317	512,174	512,174	-	2.57%
Overtime		29,243	10,771	10,771	50,000	50,000	-	364.21%
Part-Time Salaries		543,702	447,421	447,421	575,000	575,000	-	28.51%
FICA (SS & Medicare)		78,186	73,147	73,250	86,994	86,994	-	18.76%
VRS - Retirement Benefits		56,480	60,837	60,837	73,284	70,715	(2,569)	16.24%
Hospital/Medical Plans		87,133	100,803	100,803	94,201	94,201	-	-6.55%
Group Life Insurance		6,206	6,673	6,673	6,846	6,846	-	2.59%
Deferred Comp		2,940	2,940	3,755	4,020	4,020	-	7.06%
Repairs & Maintenance		50,000	50,000	50,000	50,000	50,000	-	0.00%
Contracted Services		17,470	16,200	16,200	16,200	16,200	-	0.00%
Purchased Services-SPSA		1,429,113	1,502,000	1,535,616	1,502,000	1,464,000	(38,000)	-4.66%
Utilities		19,816	17,000	17,000	19,200	19,200	-	12.94%
Telephone (Voice and Fax)		6,808	14,988	14,988	7,467	7,467	-	-50.18%
Travel & Training		1,050	4,800	4,800	4,800	4,800	-	0.00%
Operating Expenses		7,234	9,052	9,052	9,052	9,052	-	0.00%
Landfill Post-Closure Cost		274,365	300,000	320,083	300,000	300,000	-	-6.27%
Dues & Association Membership		699	700	700	700	700	-	0.00%
Fleet		230,000	200,000	200,000	225,000	225,000	-	12.50%
Uniforms		4,500	4,500	4,500	4,500	4,500	-	0.00%
PPE & Safety		6,209	6,700	6,700	6,700	6,700	-	0.00%
Capital Outlay		15,000	15,000	15,000	20,000	20,000	-	33.33%
Total Operating Expenditures	$	3,331,352	3,341,499	3,397,466	3,568,138	3,527,569	(40,569)	3.83%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

PUBLIC WORKS - BLDGS & GROUNDS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	499,847	556,906	559,206	504,393	504,393	-	-9.80%
Overtime		6,872	9,060	9,060	24,000	24,000	-	164.90%
Part-Time Salaries		251,332	182,405	182,405	225,000	225,000	-	23.35%
FICA (SS & Medicare)		56,512	57,251	57,427	57,635	57,635	-	0.36%
VRS - Retirement Benefits		59,683	66,858	66,858	68,176	65,431	(2,745)	-2.13%
Hospital/Medical Plans		135,144	143,480	143,480	134,360	134,360	-	-6.36%
Group Life Insurance		6,656	7,463	7,463	6,729	6,729	-	-9.84%
Deferred Comp		2,940	3,360	4,526	4,800	4,800	-	6.05%
Repairs & Maintenance		210,746	248,600	248,600	248,600	248,600	-	0.00%
Maintenance Service Contracts		120,012	111,000	111,000	111,000	111,000	-	0.00%
Generator Maintenance Program		22,000	25,300	26,662	25,300	25,300	-	-5.11%
Utilities		252,300	204,300	204,300	255,400	255,400	-	25.01%
Telephone (Voice and Fax)		11,110	12,110	12,110	12,300	12,300	-	1.57%
Travel & Training		52	2,910	2,910	2,910	2,910	-	0.00%
Equipment-Small<$5k		-	4,900	4,900	4,900	4,900	-	0.00%
Fleet		33,137	26,640	32,802	33,000	33,000	-	0.60%
Uniforms		9,831	9,080	9,080	9,080	9,080	-	0.00%
PPE & Safety		4,829	10,185	10,185	10,185	10,185	-	0.00%
Operating Supplies		27,463	26,617	26,617	30,000	30,000	-	12.71%
County Signage		5,320	5,000	5,000	5,000	5,000	-	0.00%
Capital Outlay		10,585	5,100	5,100	5,100	5,100	-	0.00%
Total Operating Expenditures	$	1,726,371	1,718,525	1,729,691	1,777,868	1,775,123	(2,745)	2.63%

PUBLIC WORKS - TRANSPORTATION

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	176,849	197,103	198,703	203,561	203,561	-	2.44%
FICA (SS & Medicare)		13,591	15,079	15,201	15,573	15,573	-	2.45%
VRS - Retirement Benefits		21,043	23,408	23,408	25,501	24,703	(798)	5.53%
Hospital/Medical Plans		30,728	51,567	51,567	54,665	54,665	-	6.01%
Group Life Insurance		2,381	2,642	2,642	2,708	2,707	(1)	2.46%
Deferred Comp		840	1,260	1,725	1,800	1,800	-	4.35%
Uniforms Taxable		-	-	75	-	-	-	-100.00%
Professional Services		122,379	100,000	153,087	100,000	100,000	-	-34.68%
Maintenance Service Contracts		21,563	20,000	20,200	22,000	22,000	-	8.91%
Advertising		400	400	200	400	400	-	100.00%
Utilities		59,500	59,500	59,500	65,000	65,000	-	9.24%
Postage		200	200	200	200	200	-	0.00%
Telephone (Voice And Fax)		879	879	879	879	879	-	0.00%
Travel & Training		2,840	1,340	1,340	1,340	1,340	-	0.00%
Operating Expenses		3,200	-	-	-	-	-	100.00%
Office Supplies		6,770	400	400	400	400	-	0.00%
Computer Software <$5k		360	-	-	-	-	-	0.00%
PPE & Safety		200	200	125	200	200	-	60.00%
Total Operating Expenditures	$	463,723	473,978	529,252	494,227	493,428	(799)	-6.77%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

PARKS & RECREATION

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	198,911	200,172	200,422	205,732	205,732	-	2.65%
Overtime		3,227	1,700	1,700	1,760	1,760	-	3.53%
FICA (SS & Medicare)		15,347	15,444	15,463	15,874	15,874	-	2.66%
VRS - Retirement Benefits		24,824	24,134	24,134	27,819	25,879	(1,940)	7.23%
Hospital/Medical Plans		25,334	9,241	24,941	27,516	27,516	-	10.32%
Group Life Insurance		2,666	2,683	2,683	2,754	2,754	-	2.65%
Deferred Comp		1,260	840	1,201	1,200	1,200	-	-0.08%
Postage		500	500	500	500	500	-	0.00%
Telephone (Voice and Fax)		4,425	5,085	5,085	8,504	8,504	-	67.24%
Travel & Training		4,581	6,955	6,955	6,855	6,855	-	-1.44%
Dues & Association Membership		325	446	446	446	446	-	0.00%
Office Supplies		4,000	4,500	4,500	4,500	4,500	-	0.00%
Copier Lease		4,536	4,536	4,536	4,536	4,536	-	0.00%
Copier Service/Supply Contract		2,400	2,400	2,400	2,400	2,400	-	0.00%
Fleet		-	-	-	-	-	-	0.00%
Uniforms		200	200	200	200	200	-	0.00%
Books/Subscriptions		100	100	100	100	100	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	292,636	278,936	295,266	310,696	308,756	(1,940)	4.57%

PARKS & RECREATION - PROGRAMS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	277,433	318,938	318,588	306,409	306,409	-	-3.82%
Overtime		8,094	1,800	1,800	1,863	1,863	-	3.50%
Holiday Pay		830	-	1,200	1,346	1,346	-	12.17%
Part-Time Salaries		126,360	132,678	132,678	137,322	137,322	-	3.50%
Other Compensation		6,000	6,000	6,000	6,000	6,000	-	0.00%
FICA (SS & Medicare)		31,184	34,687	34,752	34,191	34,191	-	-1.61%
VRS - Retirement Benefits		33,646	39,282	39,282	45,190	40,990	(4,200)	4.35%
Medical/Dental Plans		55,480	77,526	61,826	37,308	37,308	-	-39.66%
Group Life Insurance		3,745	4,274	4,274	4,095	4,095	-	-4.19%
Deferred Comp		1,260	1,260	2,211	2,400	2,400	-	8.55%
Marketing		11,234	15,100	15,100	15,100	15,100	-	0.00%
Utilities		45,000	45,000	45,000	48,820	48,820	-	8.49%
Telephone (Voice And Fax)		2,309	2,309	2,309	2,514	2,514	-	8.88%
Lease/Rental of Buildings		1	1	1	-	-	-	-100.00%
Travel & Training		7,477	7,477	7,477	7,477	7,477	-	0.00%
Special Events		40,500	40,500	40,500	49,845	49,845	-	23.07%
Dues & Association Memberships		7,199	3,500	3,500	3,500	3,500	-	0.00%
Equipment-Small<$5k		5,200	5,200	5,200	5,200	5,200	-	0.00%
Athletics		47,589	44,427	44,427	52,000	52,000	-	17.05%
Camps		26,230	33,046	33,046	30,000	30,000	-	-9.22%
Instuctor Led Classes		10,645	11,190	11,190	8,000	8,000	-	-28.51%
Recreation (Gym, etc.)		15,457	17,792	17,792	18,300	18,300	-	2.86%
Senior Adult Programming		30,292	53,471	53,471	53,471	53,471	-	0.00%
Windsor Center		8,750	8,750	8,750	7,000	7,000	-	-20.00%
Total Operating Expenditures	$	801,915	904,208	890,374	877,351	873,151	(4,200)	-1.93%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

PARKS & RECREATION - GATEWAYS & GROUNDS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	489,183	559,466	536,541	566,265	566,265	-	5.54%
Overtime		28,000	28,000	28,000	28,980	28,980	-	3.50%
Holiday Pay		1,940	-	800	828	828	-	3.50%
Part-Time Salaries		15,517	15,834	15,834	16,389	16,389	-	3.51%
FICA (SS & Medicare)		40,867	46,153	46,340	46,854	46,854	-	1.11%
VRS - Retirement Benefits		59,681	68,652	68,652	81,960	74,627	(7,333)	8.70%
Medical/Dental Plans		124,786	111,806	136,658	161,163	161,163	-	17.93%
Group Life Insurance		6,581	7,498	7,498	7,515	7,515	-	0.23%
Deferred Comp		3,877	4,200	7,327	7,620	7,620	-	4.00%
Repairs & Maintenance		45,809	48,000	48,000	48,000	48,000	-	0.00%
Roadway Beautification		2,000	2,000	2,000	2,000	2,000	-	0.00%
Telephone (Voice And Fax)		1,823	1,828	1,828	1,823	1,823	-	-0.27%
Lease/Rental of Equipment		8,000	8,000	8,000	10,000	10,000	-	25.00%
Travel & Training		7,454	4,800	10,800	4,800	4,800	-	-55.56%
Dues & Association Memberships		1,120	1,120	1,120	2,370	2,370	-	111.61%
Fleet		79,227	50,480	50,480	54,480	54,480	-	7.92%
Uniforms		3,891	7,130	7,130	7,000	7,000	-	-1.82%
PPE & Safety		7,289	6,420	6,420	7,000	7,000	-	9.03%
Operating Supplies		66,869	75,000	75,000	79,000	79,000	-	5.33%
Vehicles		-	-	6,856	-	-	-	-100.00%
Capital Outlay		38,541	55,900	55,900	75,900	60,000	(15,900)	7.33%
Total Operating Expenditures	$	1,032,455	1,102,287	1,121,184	1,209,947	1,186,714	(23,233)	5.84%

BLACKWATER REGIONAL LIBRARY

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Other Compensation	$	2,500	2,500	2,500	2,500	2,500	-	0.00%
Utilities		34,400	34,400	34,400	34,400	34,400	-	0.00%
Contributions-BlkwtrLibrary		925,608	1,009,856	1,009,856	1,051,944	1,051,944	-	4.17%
Total Operating Expenditures	$	962,508	1,046,756	1,046,756	1,088,844	1,088,844	-	4.02%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

PLANNING & ZONING

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	597,055	652,361	654,461	652,052	652,052	-	-0.37%
Compensation		17,108	20,000	20,000	20,000	20,000	-	0.00%
FICA (SS & Medicare)		45,675	49,906	50,067	49,882	49,882	-	-0.37%
VRS - Retirement Benefits		71,974	78,441	78,441	90,128	86,276	(3,852)	9.99%
Hospital/Medical Plans		106,229	100,451	100,728	129,191	129,191	-	28.26%
Group Life Insurance		8,001	8,742	8,742	8,710	8,710	-	-0.37%
Deferred Comp		1,995	2,520	3,925	4,200	4,200	-	7.01%
Meals- Taxable		-	-	-	-	-	-	0.00%
Professional Services		37,000	45,000	67,750	120,000	95,000	(25,000)	40.22%
Software Subscription Based IT		-	80,000	80,000	85,050	85,050	-	6.31%
Advertising Services		13,925	13,000	13,000	14,000	14,000	-	7.69%
Postage		4,500	4,000	4,000	4,000	4,000	-	0.00%
Telephone (Voice and Fax)		4,725	4,881	4,881	5,101	5,101	-	4.51%
Travel & Training		5,651	5,900	5,900	5,900	5,900	-	0.00%
Tolls & Parking		70	70	70	70	70	-	0.00%
Operating Expenses		6,151	7,250	7,250	8,000	8,000	-	10.34%
Dues & Association Membership		2,900	2,900	2,900	2,900	2,900	-	0.00%
Office Supplies		6,500	5,000	5,000	5,500	5,500	-	10.00%
Copier Lease		1,369	1,369	1,369	1,369	1,369	-	0.00%
Copier Service/Supply Contract		650	650	650	650	650	-	0.00%
Fleet		3,110	3,360	3,360	3,360	3,360	-	0.00%
Uniforms		250	250	250	250	250	-	0.00%
Vehicles		9,814	-	-	-	-	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	944,652	1,086,051	1,112,744	1,210,313	1,181,461	(28,852)	6.18%

ECONOMIC DEVELOPMENT

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	304,978	319,878	320,878	317,965	317,965	-	-0.91%
FICA (SS & Medicare)		23,235	24,471	24,548	24,325	24,325	-	-0.91%
VRS - Retirement Benefits		35,943	37,837	37,837	43,039	41,872	(1,167)	10.66%
Hospital/Medical Plans		67,289	68,285	68,285	72,388	72,388	-	6.01%
Group Life Insurance		4,071	4,287	4,287	4,248	4,248	-	-0.91%
Deferred Comp		1,680	1,680	2,275	2,400	2,400	-	5.49%
Professional Services		10,000	10,000	10,000	10,000	10,000	-	0.00%
Advertising Services		500	500	500	500	500	-	0.00%
Marketing		48,500	58,441	58,291	55,437	55,437	-	-4.90%
Economic Development Incentive		776,336	200,000	976,336	100,000	100,000	-	-89.76%
Postage		250	250	400	250	250	-	-37.50%
Telephone (Voice and Fax)		3,630	3,690	3,690	3,782	3,782	-	2.49%
Travel & Training		20,969	22,129	22,129	21,640	21,640	-	-2.21%
Tolls & Parking		275	275	275	275	275	-	0.00%
Dues & Association Membership		52,422	49,337	49,337	51,987	51,987	-	5.37%
Office Supplies		1,500	1,500	1,500	1,500	1,500	-	0.00%
Copier Lease		2,268	2,268	2,268	2,268	2,268	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Fleet		2,500	2,000	2,000	2,000	2,000	-	0.00%
Books/Subscriptions		300	365	365	220	220	-	-39.73%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	1,357,846	808,393	1,586,401	715,424	714,257	(1,167)	-54.98%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

TOURISM

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	269,103	282,308	284,008	292,867	292,867	-	3.12%
Holiday Pay		2,170	1,560	1,560	1,615	1,615	-	3.53%
Part-Time Salaries		53,466	53,607	53,607	55,484	55,484	-	3.50%
FICA (SS & Medicare)		24,277	25,817	25,947	26,773	26,773	-	3.18%
VRS - Retirement Benefits		31,980	33,718	33,718	40,660	39,733	(927)	17.84%
Hospital/Medical Plans		51,188	51,918	51,918	45,239	45,239	-	-12.86%
Group Life Insurance		3,587	3,783	3,783	3,902	3,902	-	3.15%
Deferred Comp		1,260	1,260	1,800	1,800	1,800	-	0.00%
Professional Services		-	250	250	250	250	-	0.00%
Repairs & Maintenance		-	3,500	3,500	3,500	3,500	-	0.00%
Marketing		60,000	70,400	70,400	70,400	70,400	-	0.00%
Salty Southern Route		7,000	7,000	10,204	6,000	6,000	-	-41.20%
Internal Service Charge IT		21,953	22,907	22,907	20,237	21,653	1,416	-5.47%
Internal Service Chrg-Risk Mgt		6,082	6,082	6,082	15,352	15,352	-	152.42%
Utilities		3,260	6,100	6,100	3,300	3,300	-	-45.90%
Postage		200	500	500	500	500	-	0.00%
Telephone (Voice and Fax)		4,078	4,042	4,042	4,750	4,750	-	17.52%
Lease/Rental of Buildings		30,000	31,000	31,000	34,884	34,884	-	12.53%
Travel & Training		4,400	5,000	5,000	5,000	5,000	-	0.00%
Tolls & Parking		-	125	125	125	125	-	0.00%
Special Events		17,600	18,200	18,200	18,200	18,200	-	0.00%
Special Events Marketing		-	4,900	4,900	7,900	7,900	-	61.22%
Dues & Association Membership		1,800	2,400	2,400	2,400	2,400	-	0.00%
Office Supplies		2,700	3,000	3,000	3,000	3,000	-	0.00%
Copier Lease		2,268	2,268	2,268	2,268	2,268	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Fleet		976	1,251	1,251	1,251	1,251	-	0.00%
Principal (Lease)		5,207	5,269	5,269	5,332	5,332	-	1.20%
Interest (Lease)		206	144	144	81	81	-	-43.75%
Capital Outlay		9,500	-	-	-	-	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	615,461	649,509	655,083	674,270	674,759	489	3.00%

FARMER'S MARKET

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Part-Time Salaries	$	27,929	29,325	29,325	29,325	29,325	-	0.00%
Holiday Pay		720	720	720	720	720	-	0.00%
FICA (SS & Medicare)		2,137	2,243	2,243	2,299	2,299	-	2.50%
Telephone (Voice And Fax)		610	1,220	1,220	609	609	-	-50.08%
Farmer's Market		11,667	12,492	15,374	12,492	12,492	-	-18.75%
Total Operating Expenditures	$	43,063	46,000	48,882	45,445	45,445	-	-7.03%

VINTAGE MARKET

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Part-Time Salaries	$	21,840	13,000	13,000	13,000	13,000	-	0.00%
FICA (SS & Medicare)		1,674	995	995	995	995	-	0.00%
Telephone (Voice And Fax)		1,090	-	-	-	-	-	0.00%
Capital Outlay Additions		9,500	-	-	-	-	-	0.00%
Vintage Market		27,192	19,005	20,420	16,005	16,005	-	-21.62%
Total Operating Expenditures	$	61,296	33,000	34,415	30,000	30,000	-	-12.83%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

COMMUNICATIONS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries and Wages	$	72,459	77,358	77,958	80,665	80,665	-	3.47%
Part-Time Salaries		666	-	-	-	-	-	0.00%
FICA (SS & Medicare)		6,172	5,918	5,964	6,171	6,171	-	3.47%
VRS - Retirement Benefits		8,709	9,299	9,299	10,707	9,973	(734)	7.25%
Medical/Dental Plans		31,048	33,437	34,081	28,160	28,160	-	-17.37%
Group Life Insurance		971	1,037	1,037	1,073	1,073	-	3.47%
Deferred Comp		754	840	1,143	1,200	1,200	-	4.99%
Professional Services		1,275	-	-	-	-	-	0.00%
Postage		10,000	5,000	5,000	10,000	10,000	-	100.00%
Lease/Rental of Equipment		5,200	6,000	6,000	6,000	6,000	-	0.00%
Operating Expenses		722	1,500	1,500	6,500	1,500	(5,000)	0.00%
Office Supplies		250	250	250	400	400	-	60.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	138,226	140,639	142,232	150,876	145,142	(5,734)	2.05%

COOPERATIVE EXTENSION

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Professional Services	$	70,265	73,380	73,380	78,142	78,142	-	6.49%
Telephone (Voice and Fax)		739	636	636	768	768	-	20.75%
Travel & Training		448	750	650	550	550	-	-15.38%
Dues & Association Membership		300	300	400	400	400	-	0.00%
Office Supplies		400	400	400	500	500	-	25.00%
Copier Lease		2,268	2,268	2,268	2,268	2,268	-	0.00%
Copier Service/Supply Contract		1,200	1,200	1,200	1,200	1,200	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	75,620	78,934	78,934	83,828	83,828	-	6.20%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

NON-DEPARTMENTAL

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Salaries And Wages	$	-	22,957	22,957	605,000	333,000	(272,000)	1350.54%
Compensation		-	47,000	10,395	475,000	252,500	(222,500)	2329.05%
VRS - Retirement Benefits		-	-	-	-	-	-	0.00%
Hospital / Medical Plans		1,319	-	-	-	-	-	0.00%
Comp Plan Salary Adjustment		74,740	-	-	-	-	-	0.00%
Internal Service Charge IT		1,120,906	1,252,057	1,252,057	1,334,093	1,343,121	9,028	7.27%
Internal Service Chrg-Risk Mgt		654,860	733,066	733,066	800,410	781,703	(18,707)	6.63%
Miscellaneous		-	19,425	1,601	8,300	8,300	-	418.43%
Payment-Tax Relief		1,300,000	1,500,000	1,162,500	2,500,000	2,500,000	-	115.05%
Capital Lease Vehicle Purchase		894,495	598,800	678,224	965,500	965,500	-	42.36%
Contingency		1,536	392,838	356,973	450,000	400,000	(50,000)	12.05%
Judgements and Settlements		8,358,151	-	-	-	-	-	0.00%
Longevity Pay Reserve		35,862	70,000	12,418	5,000	5,000	-	-59.74%
Total Operating Expenditures	$	12,441,869	4,636,143	4,230,191	7,143,303	6,589,124	(554,179)	55.76%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

TRANSFERS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Transfer to County Fair	$	70,000	66,395	66,395	-	-	-	-100.00%
Transfer to E911 Fund		1,391,778	1,498,352	1,498,352	1,605,479	1,606,527	1,048	7.22%
Transfer to CSA		423,545	259,034	259,034	286,000	286,000	-	10.41%
Transfer to Grant Fund		69,842	71,934	75,552	75,552	81,968	6,416	8.49%
Transfer to Capital Projects		1,609,831	1,088,000	1,206,750	3,000,000	2,825,000	(175,000)	134.10%
Transfer to Social Services		1,500,000	1,750,000	1,750,000	1,800,000	1,800,000	-	2.86%
Transfer to Public Utilities		3,700,827	3,499,188	3,619,558	4,515,438	4,494,594	(20,844)	24.18%
Transfer to Public Utilities Capital Fund		-	-	-	1,500,000	1,500,000	-	100.00%
Transfer to Technology Fund		124,997	-	-	-	-	-	0.00%
Transfer to Risk Management		1,680	-	-	-	-	-	0.00%
Transfer To Schools		27,144,755	30,209,069	30,209,069	32,959,069	32,959,069	-	9.10%
Trsf School-Maint & Repair		234,272	250,000	250,000	500,000	250,000	(250,000)	0.00%
Total Operating Expenditures	$	36,271,527	38,691,972	38,934,710	46,241,538	45,803,158	(438,380)	17.64%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

DEBT SERVICE

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Redemption of Principal	$	3,533,925	4,096,353	4,096,353	4,218,714	4,218,714	-	2.99%
Redempt Principal-Schools		4,125,668	3,284,995	3,284,995	3,379,208	3,379,208	-	2.87%
Principal (Lease)		660,248	595,060	595,690	809,138	809,138	-	35.83%
Interest Payments		1,830,263	1,725,685	1,725,685	1,590,299	1,590,299	-	-7.85%
Interest Pay Schools		2,369,462	1,967,967	2,305,467	2,210,239	2,210,239	-	-4.13%
Interest (Lease)		30,215	43,032	42,402	95,415	95,415	-	125.02%
Administrative Fees		31,000	31,000	24,000	24,000	24,000	-	0.00%
PACE Interest Payments		209,836	209,836	209,836	209,836	209,836	-	0.00%
Debt Service Reserve		-	204,468	204,468	337,500	272,275	(65,225)	33.16%
SBITA Financing Expense		-	-	-	-	-	-	0.00%
SBITA Financing Interest		-	-	-	-	-	-	0.00%
Total Operating Expenditures	$	12,790,617	12,158,396	12,488,896	12,874,349	12,809,124	(65,225)	2.56%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
General Fund Expenditures

OTHER PUBLIC SERVICE/ CONTRIBUTIONS

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
Committed:								
WTCS Board	$	289,214	297,890	297,890	310,336	310,336	-	4.18%
W. Tidewater Health District		575,000	580,000	580,000	580,000	580,000	-	0.00%
Franklin Annex. Revenue Share		1,071,000	1,071,000	1,071,000	1,020,000	1,020,000	-	-4.76%
Hampton Roads Planning Distric		35,362	40,308	40,308	41,027	41,027	-	1.78%
Hmpt Rds Military & Fed Fac		18,973	19,472	19,472	19,975	19,975	-	2.58%
Hampton Roads Workforce Council		9,277	9,820	9,820	10,038	10,038	-	2.22%
Camp Community College		27,325	28,000	28,000	31,425	31,425	-	12.23%
Smithfield/ Museum		87,770	85,000	85,000	90,000	90,000	-	5.88%
Total Commited	$	2,113,921	2,131,490	2,131,490	2,102,801	2,102,801	-	-1.35%
Discretionary:								
For KIDS	$	7,500	7,500	7,500	7,500	7,500	-	0.00%
CASA		25,000	25,000	25,000	25,000	25,000	-	0.00%
Chamber of Commerce		14,000	14,000	14,000	14,000	14,000	-	0.00%
Endependence Center		10,000	10,000	10,000	10,000	10,000	-	0.00%
Genieve Shelter		20,000	20,000	20,000	22,000	20,000	(2,000)	0.00%
Christian Outreach Program		35,000	35,000	35,000	35,000	35,000	-	0.00%
Peanut Soil & Water Conserv		8,000	8,000	8,000	8,000	8,000	-	0.00%
Sr Services of Southeastern VA		138,440	138,440	138,440	142,200	138,440	(3,760)	0.00%
Early Childhood Western Tidewater fmrly Sr		10,000	10,000	10,000	12,500	10,000	(2,500)	0.00%
Isle of Wight Arts League		4,500	4,500	4,500	4,500	4,500	-	0.00%
Western Tidewater Free Clinic		75,000	78,369	78,369	63,237	63,237	-	-19.31%
Smithfield School Museum		1,700	3,400	3,400	5,375	5,375	-	58.09%
IOW County Historical Society		10,000	15,000	15,000	5,000	5,000	-	-66.67%
St. Luke's Historic Church & Museum		-	-	-	5,000	-	(5,000)	100.00%
The Susan A. & Joseph N. Graif Found.		-	-	-	-	-	-	100.00%
Meals on Wheels		-	-	-	5,000	-	(5,000)	100.00%
Virginia Legal Aid Society		-	-	-	-	-	-	100.00%
Virginia Defenders		-	-	-	5,000	-	(5,000)	100.00%
1750 IOW Courthouse		5,000	5,000	5,000	10,000	5,000	(5,000)	0.00%
Total Discretionary	$	364,140	374,209	374,209	379,312	351,052	(28,260)	-6.19%
Total Other Public Service	$	2,478,061	2,505,699	2,505,699	2,482,113	2,453,853	(28,260)	-2.07%
TOTAL EXPENDITURES	**$**	**100,620,807**	**95,536,114**	**98,421,081**	**108,987,352**	**107,640,493**	**(1,346,859)**	**9.37%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Debt Service Reserve Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
OTHER SOURCES								
Transfers from General Fund	$	-	204,468	204,468	337,500	272,275	(65,225)	33.16%
Miscellaneous		-	-	-	-	-	-	0.00%
Transfers from Appropriated Fund Balance		1,432,034	743,772	743,772	608,108	673,333	65,225	-9.47%
Total Other Sources	$	1,432,034	948,240	948,240	945,608	945,608	-	-0.28%
TOTAL REVENUES	**$**	**1,432,034**	**948,240**	**948,240**	**945,608**	**945,608**	**-**	**-0.28%**
EXPENSES								
Transfers to General Fund for Debt Service	$	924,012	-	-	-	-	-	0.00%
Transfers to Public Utilities for Debt Service		508,022	948,240	948,240	945,608	945,608	-	-0.28%
Total Expenses	$	1,432,034	948,240	948,240	945,608	945,608	-	-0.28%
TOTAL EXPENSES	**$**	**1,432,034**	**948,240**	**948,240**	**945,608**	**945,608**	**-**	**-0.28%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Enterprise Funds

	Public Utilities Fund	Stormwater Fund	Totals
Projected Revenues	$ 7,070,500	$ 1,492,367	$ 8,562,867
Projected Expenses	12,510,702	1,492,367	14,003,069
Sub-Total	$ (5,440,202)	$ -	$ (5,440,202)
Transfer from General Fund	$ 4,494,594	$ -	$ 4,494,594
Transfer from Debt Service	945,608	-	945,608
Total Transfers	5,440,202	-	5,440,202
Over/(Under)	$ -	$ -	$ -

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Public Utilities Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
FEES & LICENSES								
Inspection Fees	$	50,000	50,000	50,000	50,000	50,000	-	0.00%
Water Connection Fees		650,000	450,000	450,000	450,000	450,000	-	0.00%
Sewer Tap Fees		-	1,600,000	1,600,000	-	-	-	-100.00%
New Account Fee		20,000	17,000	17,000	17,000	17,000	-	0.00%
Administration Fees		3,000	3,000	3,000	3,000	3,000	-	0.00%
Sewer Connection Fee		650,000	400,000	400,000	400,000	400,000	-	0.00%
Disconnect/Reconnect Fee		10,000	10,000	10,000	30,000	30,000	-	200.00%
Total Fees & Licenses	$	1,383,000	2,530,000	2,530,000	950,000	950,000	-	-62.45%
REVENUE FROM USE								
Property Rental	$	31,940	31,940	31,940	33,000	33,000	-	3.32%
Total Revenue from Use	$	31,940	31,940	31,940	33,000	33,000	-	3.32%
CHARGES FOR SERVICES								
Interest Revenue	$	5,000	40,000	40,000	40,000	40,000	-	0.00%
Public Utility Late Fees		7,500	15,000	15,000	15,000	15,000	-	0.00%
Sewage Collection Fees		1,725,000	1,820,000	1,820,000	1,720,000	1,720,000	-	-5.49%
Sewage Treatment Fees		71,400	75,000	75,000	75,000	75,000	-	0.00%
Sale of Water		3,800,000	4,436,000	4,436,000	4,236,000	4,236,000	-	-4.51%
Total Charges for Services	$	5,608,900	6,386,000	6,386,000	6,086,000	6,086,000	-	-4.70%
RECOVERED COST								
Sale of Recyclables	$	500	500	500	500	500	-	0.00%
Insurance Reimbursements		9,244	-	15,770	-	-	-	-100.00%
Total Recovered Cost	$	9,744	500	16,270	500	500	-	-96.93%
MISCELLANEOUS								
Miscellaneous	$	1,000	1,000	1,000	1,000	1,000	-	0.00%
Capital Contributions-Property		-	-	-	-	-	-	0.00%
Total Miscellaneous	$	1,000	1,000	1,000	1,000	1,000	-	0.00%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Public Utilities Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES *(continued)*								
OTHER SOURCES & USES								
Lease Financing Proceeds	$	88,000	-	-	-	-	-	0.00%
Total Other Sources & Uses	$	88,000	-	-	-	-	-	0.00%
TRANSFERS								
Appropriated Fund Balance	$	-	-	765,530	-	-	-	-100.00%
Assigned Fund Balance		-	-	205,938	-	-	-	-100.00%
Transfer From General Fund		3,700,827	3,499,188	3,619,558	4,515,438	4,494,594	(20,844)	24.18%
Transfer from Debt Service		508,022	948,240	948,240	945,608	945,608	-	-0.28%
Transfer from Assigned FB		106,782	-	-	-	-	-	0.00%
Total Transfers	$	4,315,631	4,447,428	5,539,266	5,461,046	5,440,202	(20,844)	-1.79%
TOTAL REVENUES	**$**	**11,438,216**	**13,396,868**	**14,504,476**	**12,531,546**	**12,510,702**	**(20,844)**	**-13.75%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Public Utilities Fund

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES							
PUBLIC UTILITIES - ADMINISTRATION							
Salaries and Wages	$ 299,308	267,580	339,697	430,463	430,463	-	26.72%
Overtime	-	-	-	725	725	-	100.00%
FICA (SS & Medicare)	22,897	20,470	25,494	32,986	32,986	-	29.39%
VRS - Retirement Benefits	35,129	31,189	40,189	59,710	54,800	(4,910)	36.36%
Hospital/Medical Plans	89,922	41,556	65,606	94,980	94,980	-	44.77%
Group Life Insurance	3,983	3,554	4,520	5,758	5,758	-	27.39%
Deferred Comp	1,050	630	1,843	2,640	2,640	-	43.24%
Uniforms Taxable	360	500	500	200	200	-	-60.00%
Advertising Services	640	500	500	500	500	-	0.00%
Postage	25,788	30,000	30,000	30,000	30,000	-	0.00%
Telephone (Voice and Fax)	3,798	3,733	3,733	4,774	4,774	-	27.89%
Travel & Training	1,080	3,500	3,500	3,500	3,500	-	0.00%
Operating Expenses	8,317	8,510	8,510	8,500	8,500	-	-0.12%
Dues & Association Membership	1,360	1,360	1,360	1,400	1,400	-	2.94%
Office Supplies	9,830	9,500	17,500	10,000	10,000	-	-42.86%
Copier Lease	1,134	1,134	1,134	1,134	1,134	-	0.00%
Copier Service/Supply Contract	650	650	650	650	650	-	0.00%
Fleet	2,105	2,105	2,105	1,000	1,000	-	-52.49%
Uniforms	35	500	500	-	-	-	-100.00%
Lease Amortization Expense	-	-	-	-	-	-	0.00%
Capital Lease Interest	-	-	-	-	-	-	0.00%
Amortz-DefrCost/Prem/Discount	-	-	-	-	-	-	0.00%
Total Public Utilities - Administration	$ 507,386	426,971	547,341	688,920	684,010	(4,910)	24.97%
PUBLIC UTILITIES - WATER							
Salaries and Wages	$ 447,873	492,864	443,972	465,918	465,918	-	4.94%
Overtime	36,200	20,200	66,497	46,575	46,575	-	-29.96%
FICA (SS & Medicare)	37,032	39,250	39,250	39,206	39,206	-	-0.11%
VRS - Retirement Benefits	56,827	59,376	59,376	71,689	62,735	(8,954)	5.66%
Hospital/Medical Plans	62,962	99,110	99,110	112,775	112,775	-	13.79%
Group Life Insurance	6,102	6,376	6,376	6,131	6,131	-	-3.84%
Deferred Comp	3,360	2,730	5,325	5,700	5,700	-	7.04%
Uniforms Taxable	500	500	500	200	200	-	-60.00%
Professional Services	97,788	170,000	201,093	250,000	250,000	-	24.32%
HRPDC Fees	4,374	4,852	4,852	4,888	4,888	-	0.74%
Repairs & Maintenance	429,326	265,000	333,344	350,000	350,000	-	5.00%
Contracted Services	20,404	100,000	50,850	150,000	150,000	-	194.99%
Bulk Water Purchases	1,971,340	1,750,000	1,750,000	1,900,000	1,900,000	-	8.57%
Norfolk Water Contract	1,190,815	1,396,809	1,396,809	1,451,000	1,451,000	-	3.88%
Suffolk Water Contract	1,745,021	1,952,920	1,952,920	2,077,000	2,077,000	-	6.35%
Utilities	23,400	23,868	23,868	23,400	23,400	-	-1.96%
Telephone (Voice and Fax)	10,185	10,524	10,524	11,963	11,963	-	13.67%
Travel & Training	3,000	3,000	3,000	4,000	4,000	-	33.33%
Operating Expenses	15,000	15,300	15,300	20,000	20,000	-	30.72%
Dues & Association Membership	33,700	24,500	24,500	25,000	25,000	-	2.04%
Fleet	25,037	22,000	22,670	24,000	24,000	-	5.87%
Uniforms	6,150	6,450	6,450	5,000	5,000	-	-22.48%
PPE & Safety	2,475	2,475	2,475	2,500	2,500	-	1.01%
Capital Outlay	30,300	50,000	24,481	50,000	50,000	-	104.24%
SBITA Amortization Expense	-	-	-	-	-	-	0.00%
SBITA Financing Interest	-	-	-	-	-	-	0.00%
Transfer to PU Capital	-	-	-	-	-	-	0.00%
Total Public Utilities - Water	$ 6,259,171	6,518,104	6,543,542	7,096,945	7,087,991	(8,954)	8.32%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Public Utilities Fund

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES							
PUBLIC UTILITIES - SEWER							
Salaries and Wages	$ 376,620	414,220	367,307	427,364	427,364	-	16.35%
Overtime	30,150	16,150	62,628	31,050	31,050	-	-50.42%
FICA (SS & Medicare)	31,119	32,924	32,924	35,069	35,069	-	6.52%
VRS - Retirement Benefits	46,280	48,781	48,781	60,202	54,730	(5,472)	12.20%
Hospital/Medical Plans	127,055	125,729	125,729	120,913	120,913	-	-3.83%
Group Life Insurance	5,062	5,349	5,349	5,651	5,651	-	5.65%
Deferred Comp	2,940	2,310	2,745	3,120	3,120	-	13.66%
Uniforms Taxable	500	500	500	500	500	-	0.00%
Professional Services	176,329	150,000	237,850	240,000	240,000	-	0.90%
HRPDC Fees	1,119	822	822	971	971	-	18.13%
Repairs & Maintenance	243,348	300,000	1,204,530	450,000	450,000	-	-62.64%
Contracted Services	12,400	14,000	14,850	10,000	10,000	-	-32.66%
Sewage Treatment	47,400	50,000	50,000	50,000	50,000	-	0.00%
Utilities	79,600	60,000	60,000	76,000	76,000	-	26.67%
Telephone (Voice and Fax)	6,420	7,046	7,046	8,046	8,046	-	14.19%
Travel & Training	4,000	4,000	4,000	3,000	3,000	-	-25.00%
Operating Expenses	26,400	40,000	40,000	40,000	40,000	-	0.00%
Fleet	26,700	22,000	37,100	26,000	26,000	-	-29.92%
Uniforms	8,000	8,000	8,000	8,000	8,000	-	0.00%
PPE & Safety	5,000	5,000	5,000	3,500	3,500	-	-30.00%
Capital Outlay	142,176	300,000	-	50,000	50,000	-	100.00%
SBITA Amortization Expense	-	-	-	-	-	-	0.00%
SBITA Financing Interest	-	-	-	-	-	-	0.00%
Transfer to PU Capital	-	-	-	-	-	-	0.00%
Total Public Utilities - Sewer	$ 1,398,618	1,606,831	2,315,161	1,649,386	1,643,914	(5,472)	-28.99%
PUBLIC UTILITIES - NON-DEPARTMENTAL							
OPEB Expense	$ -	-	-	-	-	-	0.00%
Unemployment Insurance	1,000	1,000	1,000	500	500	-	-50.00%
Cost Allocation	247,027	227,414	227,414	112,349	112,349	-	-50.60%
Internal Service Charge IT	105,333	126,234	126,234	118,577	118,036	(541)	-6.49%
Internal Service Chrg-Risk Mgt	55,384	61,490	61,490	65,627	64,660	(967)	5.16%
Capital Outlay	88,000	-	66,951	-	-	-	-100.00%
Depreciation Expense	-	-	-	-	-	-	0.00%
Redemption Of Principal	1,293,253	1,784,123	1,784,123	1,845,735	1,845,735	-	3.45%
Principal (Lease)	51,356	44,779	44,779	45,247	45,247	-	1.05%
Interest Payments	954,528	903,875	903,875	839,630	839,630	-	-7.11%
Interest (Lease)	2,159	1,434	1,434	765	765	-	-46.65%
Transfer To Capital Projects	436,009	1,600,000	1,875,319	-	-	-	-100.00%
Contingency	38,991	94,613	5,813	67,865	67,865	-	1067.47%
Total Public Utilities -Non-Departmental	$ 3,273,040	4,844,962	5,098,432	3,096,295	3,094,787	(1,508)	-39.30%
TOTAL EXPENSES- PU FUND	**11,438,215**	**13,396,868**	**14,504,476**	**12,531,546**	**12,510,702**	**(20,844)**	**-13.75%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Stormwater Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
PERMITS, FEES & LICENSES								
Stormwater Fee	$	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	-	0.00%
Stormwater Technology Fee		3,500	3,500	3,500	3,500	3,500	-	0.00%
Stormwater Inspection Fees		175,000	175,000	175,000	175,000	175,000	-	0.00%
Stormwater Erosion & Sediment		-	-	-	5,000	5,000	-	100.00%
VSMP Permit-State		5,000	5,000	5,000	5,000	5,000	-	0.00%
Total Permits, Fees & Licenses	$	1,483,500	1,483,500	1,483,500	1,488,500	1,488,500	-	0.34%
REVENUE FROM USE OF MONEY								
Interest Revenue	$	4,000	4,000	4,000	3,985	3,867	(118)	-3.33%
Total Revenue from Use of Money	$	4,000	4,000	4,000	3,985	3,867	(118)	-3.33%
TRANSFERS & OTHER								
Assigned Fund Balance	$	-	-	50,100	-	-	-	-100.00%
Transfer From Assigned Fund Balance		61,045	-	-	-	-	-	0.00%
Appropriated Fund Balance		22,675	-	22,675	-	-	-	-100.00%
Total Transfers & Other		83,720	-	72,775	-	-	-	-100.00%
TOTAL REVENUES	**$**	**1,571,220**	**1,487,500**	**1,560,275**	**1,492,485**	**1,492,367**	**(118)**	**-4.35%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Stormwater Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES								
STORMWATER ADMINISTRATION								
Salaries And Wages	$	486,799	521,709	520,906	538,790	538,790	-	3.43%
Overtime		878	-	46	50	50	-	8.70%
Part-Time Salaries		162	1,040	1,040	1,079	1,079	-	3.75%
Other Compensation		2,000	-	1,600	1,600	1,600	-	0.00%
FICA (SS & Medicare)		37,183	39,991	39,991	41,305	41,305	-	3.29%
VRS - Retirement Benefits		58,592	62,459	62,459	70,656	70,656	-	13.12%
Medical/Dental Plans		104,562	106,278	106,278	127,161	127,161	-	19.65%
Group Life Insurance		6,583	6,991	6,991	7,196	7,196	-	2.93%
OPEB Expense		-	-	-	-	-	-	0.00%
Deferred Comp		3,150	3,150	3,907	4,020	4,020	-	2.89%
Professional Services		240,115	150,000	227,100	200,000	200,000	-	-11.93%
HRPDC Stormwater Mgt. Fee		7,824	8,134	8,134	8,665	8,665	-	6.53%
Advertising		1,000	500	500	500	500	-	0.00%
Contracted Services		56,850	50,000	50,000	50,000	50,000	-	0.00%
Cost Allocation		74,294	81,723	81,723	52,288	52,288	-	-36.02%
Internal Service Charge IT		42,133	42,133	42,133	42,628	42,969	341	1.98%
Internal Service Chrg-Risk Mgt		15,556	15,556	15,556	13,439	12,980	(459)	-16.56%
Utilities		3,900	3,900	3,900	3,900	3,900	-	0.00%
Postage		500	250	250	250	250	-	0.00%
Telephone (Voice And Fax)		5,390	5,498	5,498	5,618	5,618	-	2.18%
Lease/Rental of Equipment		3,000	3,000	3,000	3,000	3,000	-	0.00%
Travel & Training		8,025	8,200	8,200	8,200	8,200	-	0.00%
Peanut Soil & Water Conserv Bd		8,000	8,000	8,000	8,000	8,000	-	0.00%
Operating Expenses		6,575	5,500	5,500	5,500	5,500	-	0.00%
VSMP Expense(State)		7,476	5,000	11,000	15,000	15,000	-	36.36%
Dues & Association Memberships		2,500	2,500	2,500	2,400	2,400	-	-4.00%
Office Supplies		3,000	2,500	2,500	2,500	2,500	-	0.00%
Copier Lease		1,370	1,370	1,370	1,370	1,370	-	0.00%
Copier Service/Supply Contract		630	630	630	630	630	-	0.00%
Fleet		10,580	7,500	7,500	7,500	7,500	-	0.00%
Uniforms		845	500	500	500	500	-	0.00%
PPE & Safety		750	750	750	700	700	-	-6.67%
Equipment/Machinery		7,424	1,000	1,000	1,000	1,000	-	0.00%
Computer Software		9,000	6,000	2,000	6,000	6,000	-	200.00%
Depreciation Expense		-	-	-	-	-	-	0.00%
Lease Amortization Expense		-	-	-	-	-	-	0.00%
Capital Lease Interest		-	-	-	-	-	-	0.00%
Transfer to Grant Fund		22,675	-	22,675	-	-	-	-100.00%
Trsf. to SW Capital Projects		200,000	250,000	250,000	250,000	250,000	-	0.00%
Transfer to Technology Fund		-	43,907	43,907	-	-	-	-100.00%
Contingency		122,699	30,791	191	-	-	-	-100.00%
Total Stormwater Administration	$	1,562,020	1,476,460	1,549,235	1,481,445	1,481,327	(118)	-4.38%
OTHER								
Stormwater Management Program	$	9,200	11,040	11,040	11,040	11,040	-	0.00%
Total Other Expenses	$	9,200	11,040	11,040	11,040	11,040	-	0.00%
TOTAL EXPENSES	**$**	**1,571,220**	**1,487,500**	**1,560,275**	**1,492,485**	**1,492,367**	**(118)**	**-4.35%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Special Revenue Funds - Summary

		Children's Services Act	E911 Fund	Grants Fund	County Fair Fund	Social Services (DSS) Fund	Total
Projected Revenues	$	291,440	1,495,833	492,584	517,950	3,541,330	6,339,137
Projected Expenses		577,440	3,102,360	574,552	517,950	5,341,330	10,113,632
Sub-Total	**$**	**(286,000)**	**(1,606,527)**	**(81,968)**	**-**	**(1,800,000)**	**(3,774,495)**
Transfer from General Fund	$	286,000	1,606,527	81,968	-	1,800,000	3,774,495
Total Transfers	**$**	**286,000**	**1,606,527**	**81,968**	**-**	**1,800,000**	**3,774,495**
Over/(Under)	$	-	-	-	-	-	-

Isle of Wight County
Proposed FY 2024-25 Operating Budget
County Fair Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
Equipment Rental	$	1,000	1,000	1,000	1,000	1,000	-	0.00%
Space Rent - Concession		16,000	16,000	16,000	16,000	16,000	-	0.00%
Space Rent - Arts & Crafts		5,000	6,000	6,000	5,000	5,000	-	-16.67%
Space Rent - Commercial		12,500	12,000	12,000	12,000	12,000	-	0.00%
Space Rent - Non-Profit		1,200	1,550	1,550	1,550	1,550	-	0.00%
Total Revenue from Use	$	35,700	36,550	36,550	35,550	35,550	-	-2.74%
CHARGES FOR SERVICES								
Midway Commission Income	$	32,000	40,500	40,500	50,000	50,000	-	23.46%
Competition Fees		500	500	500	500	500	-	0.00%
Pageant Income		1,200	1,200	1,200	2,000	2,000	-	66.67%
Seafood Fest Revenue		12,000	12,000	12,000	15,000	15,000	-	25.00%
Sales - Beer		26,500	16,500	16,500	18,000	18,000	-	9.09%
Sales - Ice		3,500	3,500	3,500	3,500	3,500	-	0.00%
Sales - Admissions		230,738	250,000	250,000	275,000	275,000	-	10.00%
Car Show Revenue		1,000	1,000	1,000	1,000	1,000	-	0.00%
Truck & Tractor Pull		32,000	32,000	32,000	32,000	32,000	-	0.00%
Total Charges for Services	$	339,438	357,200	357,200	397,000	397,000	-	11.14%
MISCELLANEOUS								
Corporate Sponsors	$	38,000	38,000	38,000	38,000	38,000	-	0.00%
Recovered Costs		-	-	-	-	-	-	0.00%
Fundraising		-	2,950	2,950	2,000	2,000	-	-32.20%
Total Miscellaneous	$	38,000	40,950	40,950	40,000	40,000	-	-2.32%
TRANSFERS								
Transfer From General Fund	$	70,000	66,395	66,395	-	-	-	-100.00%
Transfer From Appropriated Fund Balance		70,428	-	-	-	-	-	0.00%
Transfer From Assigned Fund Balance		-	-	56	45,400	45,400	-	80855.78%
Total Miscellaneous	$	140,428	66,395	66,451	45,400	45,400	-	-31.68%
TOTAL REVENUES		553,566	501,095	501,151	517,950	517,950	-	3.35%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
County Fair Fund

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES							
Overtime	$ 41,375	28,785	28,785	40,000	40,000	-	38.96%
Part-Time Salaries	9,250	10,550	10,550	10,000	10,000	-	-5.21%
FICA (SS & Medicare)	3,478	3,010	3,010	3,825	3,825	-	27.08%
Professional Services	11,795	16,000	16,000	16,000	16,000	-	0.00%
Marketing	36,950	41,350	41,350	41,350	41,350	-	0.00%
Postage	200	200	200	200	200	-	0.00%
Lease/Rental of Equipment	57,100	61,300	67,956	63,800	63,800	-	-6.12%
Travel & Training	5,700	6,500	9,500	8,500	8,500	-	-10.53%
Operating Expenses	75,930	80,075	77,775	80,075	80,075	-	2.96%
Dues & Association Membership	500	500	500	500	500	-	0.00%
Office Supplies	1,000	1,000	1,000	1,000	1,000	-	0.00%
Pageant	6,450	5,250	5,250	5,250	5,250	-	0.00%
Entertainment	187,900	182,125	197,125	194,800	194,800	-	-1.18%
Concessions	4,460	3,500	6,000	4,000	4,000	-	-33.33%
4-H Awards	4,000	4,000	4,600	4,500	4,500	-	-2.17%
Demolition Derby	14,500	16,000	16,000	16,000	16,000	-	0.00%
Truck & Tractor Pull	10,050	25,800	900	13,000	13,000	-	1344.44%
Car Show Expenses	1,500	1,650	1,150	1,650	1,650	-	43.48%
Seafood Fest	11,000	13,500	13,500	13,500	13,500	-	0.00%
Transfer to Capital Projects	70,428	-	-	-	-	-	0.00%
Total Operating Expenses	$ 553,566	501,095	501,151	517,950	517,950	-	3.35%
TOTAL EXPENSES	$ 553,566	501,095	501,151	517,950	517,950	-	3.35%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Children's Services Act (CSA) Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
INTERGOVERNMENTAL REVENUE								
CSA State Revenue	$	341,639	269,757	269,757	291,440	291,440	-	8.04%
Federal Grant Revenue		-	-	-	-	-	-	0.00%
Total Intergovernmental Revenue	$	341,639	269,757	269,757	291,440	291,440	-	8.04%
TRANSFERS								
Transfer From General Fund	$	423,545	259,034	259,034	286,000	286,000	-	10.41%
Total Transfers	$	423,545	259,034	259,034	286,000	286,000	-	10.41%
TOTAL REVENUES	**$**	**765,184**	**528,791**	**528,791**	**577,440**	**577,440**	**-**	**9.20%**

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES								
Other Compensation	$	600	600	600	600	600	-	0.00%
Ther Care/Res IVE		706,476	450,766	450,766	475,185	475,185	-	5.42%
Foster Care Lic Resd Care (1a)		-	-	-	-	-	-	0.00%
School Ref. Resid (1e)		-	-	-	-	-	-	0.00%
Therp Foster Care I-VE (2a)		-	-	-	-	-	-	0.00%
Therp. Foster Care (2a.1)		-	-	-	-	-	-	0.00%
Therp. Foster Care CSA (2a.2)		-	-	-	-	-	-	0.00%
Fam. Fost. Care Sp.Arg (2e)		-	-	-	-	-	-	0.00%
Community Based Servs (2f)		-	-	-	-	-	-	0.00%
Comm. Transition Servs (2f.1)		-	-	-	-	-	-	0.00%
Alt. Day Placement (2g)		-	-	-	-	-	-	0.00%
Serv. Public School (2h)		-	-	-	-	-	-	0.00%
Non-Mand.Serv (3.)		-	-	-	-	-	-	0.00%
Administrative Support-Suffolk		58,108	77,425	77,425	64,657	64,657	-	-16.49%
Contingency		-	-	-	36,998	36,998	-	100.00%
Total Expenses	$	765,184	528,791	528,791	577,440	577,440	-	9.20%
TOTAL EXPENSES	**$**	**765,184**	**528,791**	**528,791**	**577,440**	**577,440**	**-**	**9.20%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Social Services (DSS) Fund

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES							
Federal Revenue	$ 1,965,871	2,344,132	2,344,132	2,149,634	2,149,634	-	-8.30%
State Revenue	1,245,288	1,229,793	1,229,793	1,391,696	1,391,696	-	13.17%
Total Intergovernmental Revenue	$ 3,211,159	3,573,925	3,573,925	3,541,330	3,541,330	-	-0.91%
TRANSFERS							
Transfer From General Fund	$ 1,301,555	1,750,000	1,750,000	1,800,000	1,800,000	-	2.86%
Total Transfers	$ -	1,750,000	1,750,000	1,800,000	1,800,000	-	2.86%
TOTAL REVENUES	$ 4,512,714	5,323,925	5,323,925	5,341,330	5,341,330	-	0.33%

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES							
Social & Welfare Services	$ 4,512,714	5,323,925	5,323,925	5,341,330	5,341,330	-	0.33%
TOTAL EXPENSES	$ 4,512,714	5,323,925	5,323,925	5,341,330	5,341,330	-	0.33%

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Emergency Communications System (E911) Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
OTHER LOCAL TAX								
IOW Communication Tax E-911	$	360,000	400,000	400,000	390,240	390,240	-	-2.44%
Smfd Communication Tax		64,030	75,000	75,000	69,280	69,280	-	-7.63%
Windsor Communication Tax		18,000	21,000	21,000	19,550	19,550	-	-6.90%
Total Other Local Tax	$	442,030	496,000	496,000	479,070	479,070	-	-3.41%
MISCELLANEOUS								
RAD-Emergency Program	$	5,000	5,000	5,000	5,000	5,000	-	0.00%
Joint Service Smithfield		356,301	396,512	396,512	420,545	420,819	274	6.13%
Joint Service Windsor		115,721	132,813	132,813	140,615	140,707	92	5.94%
Total Miscellaneous	$	477,022	534,325	534,325	566,160	566,526	366	6.03%
STATE REVENUE								
State Comp Bd Reimbursement	$	216,811	235,797	235,797	250,000	250,000	-	6.02%
911 Wireless		129,000	139,000	139,000	139,000	139,000	-	0.00%
State Grant Revenue		-	-	-	61,237	61,237	-	100.00%
Total State Revenue	$	345,811	374,797	374,797	450,237	450,237	-	20.13%
TRANSFERS								
Transfer From General Fund	$	1,391,778	1,498,352	1,498,352	1,605,479	1,606,527	1,048	7.22%
Transfer From Assigned Fund Balance		-	-	7,847	-	-	-	-100.00%
Transfer From Grants Fund		-	-	96,250	-	-	-	-100.00%
Total Transfers	$	1,391,778	1,498,352	1,602,449	1,605,479	1,606,527	1,048	0.25%
TOTAL REVENUES	**$**	**2,656,641**	**2,903,474**	**3,007,571**	**3,100,946**	**3,102,360**	**1,414**	**3.15%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Emergency Communications System (E911) Fund

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES							
Salaries and Wages	$ 1,006,862	1,073,822	1,120,052	1,132,642	1,132,642	-	1.12%
Other Compensation	-	22,287	22,287	-	-	-	-100.00%
Overtime	118,630	95,950	95,950	136,457	136,457	-	42.22%
Part-Time Salaries	14,124	8,320	8,320	8,612	8,612	-	3.51%
FICA (SS & Medicare)	87,181	90,125	94,045	97,745	97,745	-	3.93%
VRS - Retirement Benefits	124,788	129,744	129,744	154,316	142,474	(11,842)	9.81%
Hospital/Medical Plans	266,622	271,764	271,764	290,882	290,882	-	7.03%
Group Life Insurance	13,874	14,390	14,390	15,130	15,130	-	5.14%
Deferred Comp	5,880	5,460	6,560	7,980	7,980	-	21.65%
Repairs & Maintenance	697,247	865,241	873,041	879,634	879,634	-	0.76%
Cost Allocation	102,709	94,658	94,658	71,085	71,085	-	-24.90%
Internal Service Charge IT	94,799	120,746	120,746	111,962	112,859	897	-6.53%
Internal Service Chrg-Risk Mgt	28,692	27,406	27,406	28,215	28,215	-	2.95%
Utilities	14,300	14,300	14,300	14,300	14,300	-	0.00%
Telephone (Voice and Fax)	34,828	35,231	23,231	35,240	35,240	-	51.69%
NG911 PSAP	-	-	12,000	10,673	10,673	-	-11.06%
NG911 PSAP Communication Syst	-	-	45,000	61,327	61,327	-	36.28%
Lease/Rental of Buildings	5,150	5,305	5,305	5,150	5,150	-	-2.92%
Travel & Training	8,850	9,000	9,000	11,000	11,000	-	22.22%
RAD Emergency Program	5,000	5,000	5,000	5,000	5,000	-	0.00%
Operating Expenses	2,000	2,000	2,000	2,000	2,000	-	0.00%
Dues & Association Membership	935	925	972	972	972	-	0.00%
Office Supplies	3,500	3,500	3,500	3,000	3,000	-	-14.29%
Copier Lease	1,300	1,300	1,300	1,300	1,300	-	0.00%
Uniforms	1,500	1,500	1,500	1,500	1,500	-	0.00%
Operating Supplies	3,500	3,500	3,500	2,000	2,000	-	-42.86%
Equipment/Machinery	-	2,000	-	7,100	7,100	-	100.00%
Furniture & Fixtures	-	2,000	2,000	2,000	2,000	-	0.00%
Capital Lease Interest	-	-	-	-	-	-	0.00%
Contingency	14,370	-	-	3,724	16,083	12,359	0.00%
						-	
Total Operating Expenses	$ 2,656,641	2,905,474	3,007,571	3,100,946	3,102,360	1,414	3.15%
TOTAL EXPENSES	**$ 2,656,641**	**2,905,474**	**3,007,571**	**3,100,946**	**3,102,360**	**1,414**	**3.15%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Grants Fund

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES							
Federal Revenue	$ 603,277	65,111	469,442	64,589	64,589	-	-86.24%
State Revenue	653,140	428,243	904,996	427,995	427,995	-	-52.71%
Miscellaneous	124,102	4,000	22,806	-	-	-	-100.00%
Other Local Source	82,818	-	32,005	-	-	-	-100.00%
Total Revenues (before transfers)	$ 1,463,338	497,354	1,429,250	492,584	492,584	-	-65.54%
TRANSFERS							
Transfer From General Fund	$ 69,842	71,934	75,552	81,968	81,968	-	8.49%
Transfer From Assigned Find Balance	99,088	-	105,000	-	-	-	-100.00%
Transfer From Stormwater Fund	22,675	-	22,675	-	-	-	-100.00%
Transfer From Restricted Fund Balance	49,575	-	258,053	-	-	-	-100.00%
Total Transfers	$ 241,181	71,934	461,280	81,968	81,968	-	-82.23%
TOTAL REVENUES	$ 1,704,518	569,288	1,890,529	574,552	574,552	-	-69.61%

	FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES							
Library of Virginia	$ -	-	50,565	-	-	-	-100.00%
Isle of Wight Arts League	4,500	4,500	4,500	4,500	4,500	-	0.00%
Local Cash Match	288	29,749	27,925	30,000	30,000	-	7.43%
Law Enforcement Program	343,027	-	243,932	-	-	-	-100.00%
Animal Control - Miscellaneous	96,542	-	95,629	-	-	-	-100.00%
RAD Emergency Program	107,563	75,000	107,672	75,000	75,000	-	-30.34%
PSAP Call Handling Equip Grant	-	-	54,250	-	-	-	-100.00%
LEMPG	7,500	-	7,500	-	-	-	-100.00%
911 Emergency Answering Point	-	-	45,000	-	-	-	-100.00%
Litter Prevention and Recycling Grant	16,442	-	19,629	-	-	-	-100.00%
Tourism Grants	155,931	-	80,691	-	-	-	-100.00%
Fifth District Drug Court	464,015	-	339,840	-	-	-	-100.00%
Forfeited Assets	120,754	-	100,456	-	-	-	-100.00%
Commonwealth Attorney	4,000	4,000	4,000	-	-	-	-100.00%
Stormwater Grant Program	90,701	-	90,701	-	-	-	-100.00%
Public Health & Welfare	4,126	-	-	-	-	-	0.00%
Victim Witness	129,706	133,122	135,940	140,311	140,311	-	3.22%
V-Stop Grant	45,973	-	45,609	-	-	-	-100.00%
Recreation Scholarship Program	2,187	-	2,187	-	-	-	-100.00%
Home Grant Allocation	109,763	-	109,763	-	-	-	-100.00%
Transfer to General Fund	-	322,917	324,741	324,741	324,741	-	0.00%
TOTAL EXPENSES	$ 1,703,018	569,288	1,890,529	574,552	574,552	-	-69.61%

Isle of Wight County
Proposed FY2024-25 Operating Budget
Internal Service Funds

	Technology Services Fund	Risk Management Fund	Totals
Projected Revenues	$ 1,811,759	$ 958,498	$ 2,770,257
Projected Expenses	1,811,759	958,498	2,770,257
Sub-Total	$ -	$ -	$ -
Transfers	$ -	$ -	$ -
Total Transfers	-	-	-
Over/(Under)	$ -	$ -	$ -

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Technology Services Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
OTHER LOCAL TAXES								
Charter Franchise PEG Fees	$	11,200	65,000	65,000	65,000	65,000	-	0.00%
Total Other Local Taxes	$	11,200	65,000	65,000	65,000	65,000	-	0.00%
CHARGES FOR SERVICES								
Charges for GIS Data/Maps	$	-	-	-	-	-	-	0.00%
Billings to Econ Development		5,267	5,488	5,488	20,543	5,177	(15,366)	-5.67%
Billings to General Fund		1,120,906	1,252,057	1,252,057	1,334,093	1,343,121	9,028	7.27%
Billings to E-911		94,799	120,746	120,746	111,962	112,859	897	-6.53%
Billings to Public Utilities		105,333	126,234	126,234	117,098	118,036	938	-6.49%
Billings to Stormwater		42,133	43,907	43,907	42,628	42,969	341	-2.14%
Transfer From Risk Management		8,500	10,900	10,900	16,277	10,944	(5,333)	0.40%
Billings to Tourism		21,953	22,907	22,907	20,237	21,653	1,416	-5.47%
Billings to Towns		92,000	92,000	92,000	92,000	92,000	-	0.00%
Total Charges for Services	$	1,490,891	1,674,239	1,674,239	1,754,838	1,746,759	(8,079)	4.33%
TRANSFERS								
Transfer From General Fund	$	124,997	-	-	-	-	-	0.00%
Transfer from Assigned FB		71,215	-	33,149	-	-	-	-100.00%
Total Transfers	$	196,212	-	33,149	-	-	-	-100.00%
MISCELLANEOUS								
Surplus Proceeds	$	-	-	-	-	-	-	0.00%
Total Miscellaneous	$	-	-	-	-	-	-	0.00%
TOTAL REVENUES	**$**	**1,698,303**	**1,739,239**	**1,772,388**	**1,819,838**	**1,811,759**	**(8,079)**	**2.22%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Technology Services Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES								
Salaries And Wages	$	581,827	662,469	657,645	685,412	685,412	-	4.22%
Overtime		730	-	4,074	1,035	1,035	-	-74.59%
FICA (SS & Medicare)		44,986	50,680	50,680	52,514	52,514	-	3.62%
VRS - Retirement Benefits		69,779	79,180	79,180	88,936	86,392	(2,544)	9.11%
Medical/Dental Plans		104,354	136,570	136,570	120,688	120,688	-	-11.63%
Group Life Insurance		7,880	8,879	8,879	9,149	9,149	-	3.04%
OPEB Expense		-	-	-	-	-	-	0.00%
Deferred Comp		2,940	2,940	3,690	3,840	3,840	-	4.07%
Professional Services		36,594	75,000	77,250	75,000	75,000	-	-2.91%
Repairs & Maintenance		20,000	20,000	20,000	20,000	20,000	-	0.00%
Computer Software Maintenance		385,000	395,000	395,000	418,000	418,000	-	5.82%
Postage		200	200	200	200	200	-	0.00%
Telephone (Voice And Fax)		9,000	9,200	9,200	9,593	9,593	-	4.27%
Travel & Training		8,000	9,050	9,050	9,000	9,000	-	-0.55%
Office Supplies		3,000	3,030	3,030	3,000	3,000	-	-0.99%
Computer Software		84,704	30,000	57,586	30,000	30,000	-	-47.90%
Computer Hardware<$5k		60,000	85,000	85,201	65,000	65,000	-	-23.71%
Fleet		1,990	2,000	2,000	2,000	2,000	-	0.00%
PEG-Equip/Machinery		64,617	65,000	65,000	65,000	65,000	-	0.00%
Furniture And Fixtures		1,000	-	-	-	-	-	0.00%
Capital Outlay		100,000	85,000	88,113	85,000	85,000	-	-3.53%
Depreciation Expense		-	-	-	-	-	-	0.00%
Transfer to Risk Management		11,585	14,829	14,829	16,314	15,779	(535)	6.41%
Contingency		94,857	-	-	55,000	50,000	(5,000)	100.00%
Total Operating Expenses	$	1,693,043	1,734,027	1,767,176	1,814,681	1,806,602	(8,079)	2.23%
NON-OPERATING								
Principal (Lease)	$	4,999	5,052	5,052	5,104	5,104	-	1.03%
Interest (Lease)		261	160	160	53	53	-	-66.88%
Total Non-Operating Expenses	$	5,260	5,212	5,212	5,157	5,157	-	-1.06%
TOTAL EXPENSES	**$**	**1,698,303**	**1,739,239**	**1,772,388**	**1,819,838**	**1,811,759**	**(8,079)**	**2.22%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Risk Management Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
REVENUES								
CHARGES FOR SERVICES								
Billings to DSS	$	40,755	42,058	42,058	39,809	39,809	-	-5.35%
Billings to General Fund		654,860	733,066	733,066	800,410	781,703	(18,707)	6.63%
Billings to E-911		28,692	27,406	27,406	28,215	28,215	-	2.95%
Billings to Public Utilities		55,384	61,490	61,490	65,955	64,660	(1,295)	5.16%
Billings to Stormwater		15,556	13,475	13,475	13,473	12,980	(493)	-3.67%
Tech Services		11,585	14,829	14,829	16,314	15,779	(535)	6.41%
Billings to Tourism		6,082	14,355	14,355	15,352	15,352	-	6.95%
Total Charges for Services	$	812,914	906,679	906,679	979,528	958,498	(21,030)	5.72%
TRANSFERS								
Transfer from General Fund	$	1,680	-	-	-	-	-	0.00%
Total Transfers	$	1,680	-	-	-	-	-	0.00%
TOTAL REVENUES	**$**	**814,594**	**906,679**	**906,679**	**979,528**	**958,498**	**(21,030)**	**5.72%**

Isle of Wight County
Proposed FY 2024-25 Operating Budget
Risk Management Fund

		FY 2023 Amended	FY 2024 Original	FY 2024* Amended	FY 2025 Proposed-3/29	FY 2025* Proposed-5/09	Changes	PCT* Change
EXPENSES								
Salaries And Wages	$	129,814	136,487	136,487	141,914	141,914	-	3.98%
FICA (SS & Medicare)		9,881	10,443	10,443	10,857	10,857	-	3.96%
VRS - Retirement Benefits		15,523	16,334	16,334	18,509	17,812	(697)	9.05%
Medical/Dental Plans		9,109	9,240	9,240	9,793	9,793	-	5.98%
Group Life Insurance		1,733	1,830	1,830	1,893	1,893	-	3.44%
OPEB Expense		-	-	-	-	-	-	0.00%
Unemployment Insurance		20,000	15,000	15,000	15,000	15,000	-	0.00%
Worker's Compensation		275,000	300,000	300,000	340,000	340,000	-	13.33%
Deferred Comp		840	840	840	1,200	1,200	-	42.86%
Internal Service Charge IT		8,500	10,900	10,900	16,277	10,944	(5,333)	0.40%
Telephone (Voice And Fax)		864	850	850	850	850	-	0.00%
Health & Wellness		1,500	1,500	1,500	-	-	-	-100.00%
Claims Deductible		6,940	6,990	6,990	6,990	6,990	-	0.00%
A&S Inmate Trustees		4,500	4,500	4,500	4,500	4,500	-	0.00%
Line of Duty		90,643	100,000	100,000	100,000	100,000	-	0.00%
Property Insurance		77,286	83,000	83,000	85,000	85,000	-	2.41%
Motor Vehicle Insurance		94,536	100,000	100,000	110,000	110,000	-	10.00%
Surety Bonds		775	775	775	775	775	-	0.00%
Public Official Liability Insu		13,000	13,000	13,000	13,000	13,000	-	0.00%
Cyber Risk Insurance		10,000	10,000	10,000	10,000	10,000	-	0.00%
General Liability Insurance		33,000	33,000	33,000	33,000	33,000	-	0.00%
Travel & Training		5,950	4,500	4,500	8,000	8,000	-	77.78%
Operating Expenses		4,200	6,400	6,400	8,800	8,800	-	37.50%
Dues & Association Memberships		500	500	500	700	700	-	40.00%
Office Supplies		300	350	350	350	350	-	0.00%
Fleet		-	-	-	1,880	1,880	-	100.00%
PPE & Safety		200	240	240	240	240	-	0.00%
Contingency		-	40,000	40,000	40,000	25,000	(15,000)	-37.50%
TOTAL EXPENSES	$	814,594	906,679	906,679	979,528	958,498	(21,030)	5.72%
TOTAL RISK MANAGEMENT EXPENSES	**$**	**814,594**	**906,679**	**906,679**	**979,528**	**958,498**	**(21,030)**	**5.72%**

Isle of Wight County
Proposed FY 2024-25 Capital Fund Budget

REVENUES

	FY23-24 AMENDED *	FY24-25 Proposed-3/29	FY24-25 Proposed-5/09 *	Changes	PCT CHANGE*
GOVERNMENTAL					
General Fund Transfer	$ 1,206,750	$ 3,000,000	$ 2,825,000	$ (175,000)	148.6%
Appropriated Fund Balance	8,189,351	-	-	-	-100.0%
Stormwater Fund Transfer	250,000	-	-	-	-100.0%
Grants and Donations	17,825,894	-	-	-	-100.0%
Proffer Revenues	1,441,091	-	-	-	-100.0%
Proposed Bond/Financing	-	10,000,000	10,000,000	-	100.0%
Bond Interest Earnings	-	-	417,000	417,000	100.0%
Existing Bonds	12,708,913	-	-	-	-100.0%
Total Governmental Revenues	$ 41,621,999	$ 13,000,000	$ 13,242,000	$ 242,000	-68.8%
ENTERPRISE					
General Fund Transfer	$ -	$ 1,500,000	$ 1,500,000	$ -	100.0%
Public Utilities Operating Fund Transfer	1,875,319	-	-	-	-100.0%
Public Utilities Fund Balance	5,863,584	-	-	-	-100.0%
Stormwater Fund Balance	804,700	-	-	-	-100.0%
Stormwater Operating Fund Transfer	300,000	250,000	250,000	-	-16.7%
Grants and Donations	2,100,000	1,600,000	1,600,000	-	-23.8%
Total Enterprise Revenues	$ 10,943,603	$ 3,350,000	$ 3,350,000	$ -	-69.4%
TOTAL REVENUES	$ 52,565,602	$ 16,350,000	$ 16,592,000	$ 242,000	-68.9%

EXPENDITURE SUMMARY

	FY23-24 AMENDED *	FY24-25 Proposed-3/29	FY24-25 Proposed-5/09 *	Changes	PCT CHANGE*
GOVERNMENTAL CAPITAL PROJECTS					
Capital Projects Expenditures	$ 41,621,999	$ 13,000,000	$ 13,242,000	$ 242,000	-68.8%
ENTERPRISE CAPITAL PROJECTS					
Capital Projects Expenditures	$ 10,943,603	$ 3,350,000	$ 3,350,000	$ -	-69.4%
TOTAL EXPENDITURES	$ 52,565,602	$ 16,350,000	$ 16,592,000	$ 242,000	-68.9%

**Projects committed in prior fiscal years automatically roll forward until completion per the budget ordinance which increases the original budget as amended*

Isle of Wight County
Proposed FY 2024-25 Capital Fund Budget

Project Detail

	FY23-24 AMENDED *	FY24-25 Proposed-3/29	FY24-25 Proposed-5/09 *	Changes	PCT CHANGE*
GOVERNMENTAL CAPITAL PROJECTS					
General Government					
Broadband	$ 1,518,750	$ -	$ -	$ -	-100.0%
Capital Maintenance	607,333	-	-	-	-100.0%
Parks & Recreation					
Capital Maintenance	$ 174,232	$ 125,000	$ 125,000	$ -	-28.3%
Bradby Park Development	812,014	-	-	-	-100.0%
Heritage Park ATV Trail	142,772	-	-	-	-100.0%
Blackwater River Park	11,914	-	-	-	-100.0%
Jones Creek Dock	163,348	-	-	-	-100.0%
Nike Park Tennis Courts	34,292	170,000	170,000	-	395.7%
Tyler's Beach Marina	810,854	-	-	-	-100.0%
Heritage Park Upgrades	255,377	-	-	-	-100.0%
Tyler Beach Dredging	20,954	-	-	-	-100.0%
Nike Park Pavement	429,412	-	-	-	-100.0%
STH Park Phase III	892,729	-	-	-	-100.0%
WSES Sidewalk	1,623,565	-	-	-	-100.0%
Camptown Park Playground	-	80,000	80,000	-	100.0%
Riverview/ Robinson Playground	-	75,000	75,000	-	100.0%
Public Works- Buildings & Grounds					
Capital Maintenance	$ 247,046	$ 50,000	$ 50,000	$ -	-79.8%
Capital Additions	133,234	-	-	-	-100.0%
Asbestos Abatement	1,570	-	-	-	-100.0%
P&R Shop Roof Replacement	63,428	-	-	-	-100.0%
Windsor Library Additions	337,280	-	-	-	-100.0%
Planning & Zoning Office	257,554	-	-	-	-100.0%
Wrenn's Mill R&R Center	3,643	-	-	-	-100.0%
Smithfield Library Roof	531,928	-	-	-	-100.0%
Old Clerk Office Rennovation	71,850	-	-	-	-100.0%
Social Services Roof Replacement	124,000	-	-	-	-100.0%
Public Works - Transportation					
Rte 10/258 Main St./Bypass	$ 8,498,077	$ -	$ -	$ -	-100.0%
Rte 460/258 Turn Lane	3,191,282	-	-	-	-100.0%
Nike Park Road Extended	3,508,325	-	-	-	-100.0%
Lawnes Pt/ James Road	781,259	-	-	-	-100.0%
Paving Projects	708,007	-	-	-	-100.0%
Public Safety - Sheriff					
Vehicles	$ -	$ -	$ 182,000	$ 182,000	100.0%
Public Safety - Fire & Rescue					
Tanker, Engines, Medics & Brush	$ 3,722,364	$ -	$ -	$ -	-100.0%
SCBA Replacement	1,735,902	-	-	-	-100.0%
Rushmere Station Addition	873,859	-	-	-	-100.0%
Carrollton Station Addition	800,000	-	-	-	-100.0%
Smithfield VFD Equipment	-	-	60,000	60,000	100.0%
Public Safety - Emergency Response					
E911 Radio Communication System Upgrades	$ 236,699	$ -	$ -	$ -	-100.0%

Isle of Wight County
Proposed FY 2024-25 Capital Fund Budget

Project Detail

	FY23-24 AMENDED *	FY24-25 Proposed-3/29	FY24-25 Proposed-5/09 *	Changes	PCT CHANGE*
GOVERNMENTAL CAPITAL PROJECTS					
Schools					
Hardy Elementary	$ 7,177,349	$ -	$ -	$ -	-100.0%
Security Vestibules	827,648	300,000	300,000	-	-63.8%
Restrooms Repairs/ Renovation	-	180,000	180,000	-	100.0%
SHS/WHS Tracks	-	820,000	820,000	-	100.0%
SHS/WHS Athletic Fields	-	450,000	450,000	-	100.0%
SHS Baseball Lights	-	675,000	675,000	-	100.0%
Carrollton Elementary HVAC	-	7,350,000	7,350,000	-	100.0%
Total Governmental Capital Projects	$ 41,621,999	$ 13,000,000	$ 13,242,000	$ 242,000	-68.8%

Project Detail

	FY23-24 AMENDED	FY24-25 PROPOSED	FY24-25 PROPOSED	FY24-25 PROPOSED	PCT CHANGE
Public Utilities					
Capital Maintenance/Upgrades (Sewer)	$ 1,081,045	$ 100,000	$ 100,000	$ -	-90.7%
Capital Maintenance/Upgrades (Water)	86,345	1,400,000	1,400,000	-	1521.4%
Benns Grant Water Tank	3,914,088	1,250,000	1,250,000	-	-68.1%
Utilities Capital Reserve	1,069,898	-	-	-	-100.0%
Hardy Water Line/Tank	2,391,114	-	-	-	-100.0%
Shop Facility	495,150	-	-	-	-100.0%
SCADA	301,263	-	-	-	-100.0%
Stormwater					
Stormwater BMP/SLAF Projects	$ 500,000	$ 250,000	$ 250,000	$ -	-50.0%
Stormwater Projects	520,000	-	-	-	-100.0%
Enhanced Commercial Data Base	50,000	100,000	100,000	-	100.0%
Stormwater Capital Reserve	145,000	200,000	200,000	-	37.9%
Capital Maintenance/Upgrades	389,700	50,000	50,000	-	-87.2%
Total Stormwater Capital Projects	$ 1,604,700	$ 600,000	$ 600,000	$ -	-62.6%
Total Enterprise Capital Projects	$ 10,943,603	$ 3,350,000	$ 3,350,000	$ -	-69.4%
Total Capital Expenditures	$ 52,565,602	$ 16,350,000	$ 16,592,000	$ 242,000	68.9%

**Projects committed in prior fiscal years automatically roll forward until completion per the budget ordinance which increases the original budget as amended*

RESOLUTION TO APPROVE THE POSITION CLASSIFICATION AND COMPENSATION PLAN FOR FISCAL YEAR 2024-2025

WHEREAS, the Board of Supervisors has approved the FY 2024-2025 Annual Operating Budget; and,

WHEREAS, in accordance with County Policy (Chapter 1: Personnel, Article II, Position Classification Plan and Article III, Compensation Plan), the Position Classification and Compensation Plan containing the Salary Schedule and Schematic List of Classes assigned to Salary Grades has been prepared as referenced in the attached exhibit in accordance with the Approved FY 2024-2025 Annual Operating Budget.

NOW, THEREFORE, BE IT AND IT IS HEREBY RESOLVED by the Board of Supervisors of the County of Isle of Wight, Virginia that the FY 2024-2025 Position Classification and Compensation Plan is adopted and shall remain in effect until amended by the Board.

Adopted this 16th day of May, 2024.

_____
Joel C. Acree, Chairman

_____
Carey Mills Storm, Clerk

Approved as to Form:

_____
Robert W. Jones, Jr., County Attorney

GENERAL PAY PLAN-FULL TIME

Job Title	Exempt Nonexempt	Pay Grade	Annual Salary Min	Annual Salary Mid	Annual Salary Max	Hourly Rate Min	Hourly Rate Mid	Hourly Rate Max
		103	$29,478	$38,742	$48,006	$14.17	$18.63	$23.08
Parks & Grounds Attendant	N	104	$30,952	$40,679	$50,406	$14.88	$19.56	$24.23
Receptionist/Switchboard Operator	N	104	$30,952	$40,679	$50,406	$14.88	$19.56	$24.23
Office Assistant	N	104	$30,952	$40,679	$50,406	$14.88	$19.56	$24.23
Tour Coordinator	N	104	$30,952	$40,679	$50,406	$14.88	$19.56	$24.23
Cashier	N	105	$32,500	$42,713	$52,926	$15.62	$20.54	$25.44
Utilities Account Technician	N	105	$32,500	$42,713	$52,926	$15.62	$20.54	$25.44
Maintenance Worker I	N	105	$32,500	$42,713	$52,926	$15.62	$20.54	$25.44
Treasurer-Deputy Clerk I	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Deputy Commissioner I	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Utility Accounting Clerk I	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Deputy Registrar I	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Administrative Assistant	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Heavy Equipment Operator I	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Maintenance Worker II	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Maintenance Worker II-Sanitation	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Utility Marking Technician	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Utility Meter Technician	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Senior Utilities Account Technician	N	106	$34,125	$44,849	$55,572	$16.41	$21.56	$26.72
Treasurer-Deputy Clerk II	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Deputy Commissioner II	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Utility Accounting Clerk II	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
~~Deputy Registrar II/Absentee Coordinator~~	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Administrative Assistant II	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Utility Systems Worker I	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Permit Technician I	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Roll Off/Grapple Truck Operator	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Bus Driver	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Medical Billing Clerk I	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Maintenance Worker III	N	107	$35,831	$47,091	$58,351	$17.23	$22.64	$28.05
Legal Assistant	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Administrative Assistant III	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Clerk of the Circuit Court-Deputy Clerk II	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Human Resources Assistant	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Pump Station Mechanic I	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Permit Technician II	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Medical Billing Clerk II	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Visitor's Center Manager	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Utility System Worker II	N	108	$37,623	$49,446	$61,269	$18.09	$23.77	$29.46
Deputy Commissioner III	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Treasurer-Deputy Clerk III	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Deputy Registrar III	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Engineering & Environmental Technician	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Utility Accounting Clerk III	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Code Enforcement Officer	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Administrative Services Coordinator	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93

			Annual Salary			Hourly Rate		
Job Title	Exempt Nonexempt	Pay Grade	Min	Mid	Max	Min	Mid	Max
Planning Services Coordinator	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Custodial Supervisor	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Accounts Payable Technician	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Permit Technician III	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Pump Station Mechanic II	N	109	$39,504	$51,918	$64,332	$18.99	$24.96	$30.93
Clerk of the Circuit Court-Deputy Clerk III	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Deputy Commissioner IV	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Administrative Services Coordinator II	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Office Administrator Utility Billing	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Elections & Training Coordinator	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Lead Maintenance Worker	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Quality Assurance Technician I	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Pump Station Mechanic III	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Grounds & Landscape Supervisor	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Recreation Specialist	N	110	$41,479	$54,514	$67,549	$19.94	$26.21	$32.48
Chief Deputy Registrar	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Clerk of the Circuit Court-Deputy Clerk IV	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Park Maintenance Supervisor	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
IT Support Specialist	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Stormwater Technician	~~N~~	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Executive Assistant	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Clerk to the Board of Supervisors	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Construction Inspector	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Human Resources Generalist	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Quality Assurance Technician II	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Therapeutic Recreation Specialist	N	111	$43,554	$57,240	$70,926	$20.94	$27.52	$34.10
Special Projects Coordinator	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Victim Witness Manager	E	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Special Events Coordinator	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Junior Accountant	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Junior Accountant-Payroll	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Deputy Clerk IV-Junior Accountant	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Fair & Events Coordinator	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Quality Assurance Technician III	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
~~Transportation Coordinator~~	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Electronics Technician	N	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Parks & Grounds Manager	E	112	$45,731	$60,102	$74,472	$21.99	$28.89	$35.80
Foreman	N	113	$48,018	$63,107	$78,196	$23.09	$30.34	$37.59
Office Administrator	N	113	$48,018	$63,107	$78,196	$23.09	$30.34	$37.59
Accountant I	N	113	$48,018	$63,107	$78,196	$23.09	$30.34	$37.59
IT Support Specialist II	E	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Zoning Coordinator	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Recreation Manager	E	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Building Operations Supervisor	E	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Sr Electronics Technician	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Marketing & Public Relations Coordinator	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Information Services Specialist	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Docket Administrator	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Cross Connection Control & FOG Program Administrat	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47

			Annual Salary			Hourly Rate		
Job Title	Exempt Nonexempt	Pay Grade	Min	Mid	Max	Min	Mid	Max
Safety Officer	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Medical Billing/HIPPA Supervisor	E	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Code Compliance Inspector/Plan Examiner	M	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Master Maintenance Technician	N	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Human Resources Coordinator	E	114	$50,419	$66,262	$82,106	$24.24	$31.86	$39.47
Planner I	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
GIS Analyst	N	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Chief Codes Compliance Inspector	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Utility Assistant Field Operations Manager	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Plans Examiner	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Environmental Program Coordinator	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Senior Accountant	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Environmental Planner	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Transportation Coordinator I	E	115	$52,940	$69,575	$86,211	$25.45	$33.45	$41.45
Planner II	E	116	$55,587	$73,054	$90,522	$26.72	$35.12	$43.52
Transportation Coordinator II	E	116	$55,587	$73,054	$90,522	$26.72	$35.12	$43.52
Systems Analyst I	N	117	$58,366	$76,707	$95,048	$28.06	$36.88	$45.70
Business Development Analyst	E	117	$58,366	$76,707	$95,048	$28.06	$36.88	$45.70
Economic Development Coordinator	E	118	$61,284	$80,542	$99,800	$29.46	$38.72	$47.98
Office Manager-Sheriff's Office	E	118	$61,284	$80,542	$99,800	$29.46	$38.72	$47.98
Principal Planner	E	118	$61,284	$80,542	$99,800	$29.46	$38.72	$47.98
Risk Manager	E	118	$61,284	$80,542	$99,800	$29.46	$38.72	$47.98
Purchasing Agent	E	118	$61,284	$80,542	$99,800	$29.46	$38.72	$47.98
Systems Analyst II	E	118	$61,284	$80,542	$99,800	$29.46	$38.72	$47.98
Building & Maintenance Manager	E	119	$64,348	$84,569	$104,790	$30.94	$40.66	$50.38
Financial Analyst	E	119	$64,348	$84,569	$104,790	$30.94	$40.66	$50.38
~~Capital Projects Engineer~~ Project Manager	E	119	$64,348	$84,569	$104,790	$30.94	$40.66	$50.38
Network Administrator	E	119	$64,348	$84,569	$104,790	$30.94	$40.66	$50.38
Cashier Manager	E	119	$64,348	$84,569	$104,790	$30.94	$40.66	$50.38
Solid Waste Manager	E	119	$64,348	$84,569	$104,790	$30.94	$40.66	$50.38
Construction Manager	E	119	$64,348	$84,569	$104,790	$30.94	$40.66	$50.38
Chief Deputy Clerk	E	120	$67,565	$88,797	$110,030	$32.48	$42.69	$52.90
Chief Deputy Treasurer	E	120	$67,565	$88,797	$110,030	$32.48	$42.69	$52.90
Chief Deputy-Commissioner of Revenue	E	120	$67,565	$88,797	$110,030	$32.48	$42.69	$52.90
GIS Manager	E	121	$70,943	$93,237	$115,532	$34.11	$44.83	$55.54
Utilities Field Operations Manager	E	121	$70,943	$93,237	$115,532	$34.11	$44.83	$55.54
Transportation Administrator	E	122	$74,490	$97,899	$121,309	$35.81	$47.07	$58.32
Assistant Director of Community Development-Inspections	E	122	$74,490	$97,899	$121,309	$35.81	$47.07	$58.32
Assistant Director of Community Development-Planning & Zoning	E	122	$74,490	$97,899	$121,309	$35.81	$47.07	$58.32

			Annual Salary			Hourly Rate		
Job Title	**Exempt Nonexempt**	**Pay Grade**	**Min**	**Mid**	**Max**	**Min**	**Mid**	**Max**
Assistant Commonwealth Attorney	E	123	$78,215	$102,794	$127,374	$37.60	$49.42	$61.24
Assistant Director of Utility Services	E	124	$82,126	$107,934	$133,743	$39.48	$51.89	$64.30
Comptroller	E	124	$82,126	$107,934	$133,743	$39.48	$51.89	$64.30
Director of Tourism	E	125	$86,232	$113,331	$140,430	$41.46	$54.49	$67.51
Senior Assistant Commonwealth Attorney	E	125	$86,232	$113,331	$140,430	$41.46	$54.49	$67.51
	E	126	$90,544	$118,998	$147,452	$43.53	$57.21	$70.89
Director of Economic Development	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Director of Finance	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Director of Human Resources	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Director of Information Technology	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Director of Community Development	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Director of Public Works	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Director of Utility Services	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Director of Parks & Recreation	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Deputy Commonwealth Attorney	E	127	$95,071	$124,948	$154,825	$45.71	$60.07	$74.44
Chief Financial Officer	E	128	$99,825	$131,195	$162,566	$47.99	$63.07	$78.16
Assistant County Administrator	E	129	$104,816	$137,755	$170,694	$50.39	$66.23	$82.06
	E	130	$110,057	$144,643	$179,229	$52.91	$69.54	$86.17

ISLE OF WIGHT COUNTY, VIRGINIA
POSITION CLASSIFICATION AND COMPENSATION PLAN
2024- 2025 Fiscal Year effective 7/1/2024

Public Safety Pay Plan

			Annual Salary			Hourly Rate		
Job Title	**Exempt Nonexempt**	**Pay Grade**	**Min**	**Mid**	**Max**	**Min**	**Mid**	**Max**
Kennel Assistant	N	201	$32,136	$42,580	$55,724	$15.45	$20.47	$26.79
	N							
Dispatcher I	N	202	$41,134	$54,502	$67,871	$19.78	$26.20	$32.63
Animal Control Officer	N	202	$41,134	$54,502	$67,871	$19.78	$26.20	$32.63
Shelter Manager	N	202	$41,134	$54,502	$67,871	$19.78	$26.20	$32.63
Part time Deputy Sheriff	N	202	$41,134	$54,502	$67,871	$19.78	$26.20	$32.63
Dispatcher II	N	203	$42,985	$56,955	$70,926	$20.67	$27.38	$34.10
Chief Animal Control Officer	N	204	$44,919	$57,030	$74,117	$21.60	$27.42	$35.63
Dispatcher III	N	204	$44,919	$57,030	$74,117	$21.60	$27.42	$35.63
		205	$46,941	$62,197	$77,452	$22.57	$29.90	$37.24
Accreditation Manager	N	206	$49,053	$64,995	$80,937	$23.58	$31.25	$38.91
Senior Dispatcher	N	206	$49,053	$64,995	$80,937	$23.58	$31.25	$38.91
Fire Medic I	N	206	$49,053	$64,995	$80,937	$23.58	$31.25	$38.91
Deputy Sheriff-Recruit	N	206	$49,053	$64,995	$80,937	$23.58	$31.25	$38.91
Deputy Sheriff	N	207	$51,506	$68,245	$84,984	$24.76	$32.81	$40.86
Investigator	N	207	$51,506	$68,245	$84,984	$24.76	$32.81	$40.86
Deputy First Class	N	208	$53,824	$71,316	$88,809	$25.88	$34.29	$42.70
Fire Medic II	N	209	$56,245	$75,249	$92,805	$27.04	$36.18	$44.62
Forensic Examiner	N	209	$56,245	$72,355	$92,805	$27.04	$34.79	$44.62
Digital Forensic Examiner	N	209	$56,245	$72,355	$92,805	$27.04	$34.79	$44.62
Senior Deputy	N	209	$56,245	$72,355	$92,805	$27.04	$34.79	$44.62
Paramedic/Intermediate	N	209	$56,245	$72,355	$92,805	$27.04	$34.79	$44.62
Corporal-Sheriff's Office	N	210	$58,777	$77,879	$94,157	$28.26	$37.44	$45.27
Master Fire Medic	N	211	$7,422	$81,383	$101,346	$3.57	$39.13	$48.72
Fire & EMS Lieutenant	N	212	$65,414	$86,673	$107,933	$31.45	$41.67	$51.89
Sergeant-Sheriff's Office	N	212	$65,414	$86,673	$107,933	$31.45	$41.67	$51.89
Lieutenant-Sheriff's Office	N	213	$69,666	$92,308	$114,949	$33.49	$44.38	$55.26
Emergency Management Coordinator	E	213	$69,666	$92,308	$114,949	$33.49	$44.38	$55.26
Fire & EMS Captain	E	214	$74,194	$98,307	$122,421	$35.67	$47.26	$58.86

ISLE OF WIGHT COUNTY, VIRGINIA
POSITION CLASSIFICATION AND COMPENSATION PLAN
2024- 2025 Fiscal Year effective 7/1/2024

			Annual Salary			Hourly Rate		
Job Title	**Exempt Nonexempt**	**Pay Grade**	**Min**	**Mid**	**Max**	**Min**	**Mid**	**Max**
Captain-Sheriff's Office	E	215	$79,016	$104,697	$130,377	$37.99	$50.34	$62.68
Battlaion Chief	E	215	$79,016	$104,697	$130,377	$37.99	$50.34	$62.68
Fire Marshall								
Major-Sheriff's Office	E	216	$84,153	$138,056	$138,852	$40.46	$66.37	$66.76
Chief of Fire and Rescue	E	217	$95,093	$125,998	$156,903	$45.72	$60.58	$75.43

GENERAL PAY PLAN-PART TIME

			Annual Salary			Hourly Rate		
Job Title	**Exempt Nonexempt**	**Pay Grade**	**Min**	**Mid**	**Max**	**Min**	**Mid**	**Max**
	N	101	$27,560	$35,000	$43,000	$13.25	$16.83	$20.67
	N	101	$27,560	$35,000	$43,000	$13.25	$16.83	$20.67
	N	101	$27,560	$35,000	$43,000	$13.25	$16.83	$20.67
Book Keeper/ Scorekeeper	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Counselor	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Visitor Center Advisor	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
~~Site Supervisor~~ Recreation Leader	N	104	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Custodial Worker	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Athletic Clockkeeper/Bookkeeper	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Junior Counselor	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Market Event Assistant	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Refuse and Recycling Center Attendant	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
Recreation ~~Assistant~~ (Aide)	N	102	$28,074	$36,897	$45,720	$13.50	$17.74	$21.98
		103	$31,567	$41,488	$51,409	$15.18	$19.95	$24.72
Cashier	N	105	$34,803	$45,740	$56,678	$16.73	$21.99	$27.25

ISSUE:

Consideration of the Tax Rate Ordinances for FY2024-25

BACKGROUND:

At its meeting on April 9, 2024, the Board held a public hearing on the proposed tax rates to fund the FY2024-25 Operating budget. The advertised real estate tax rate was $0.76 per $100 value; however, after considerable deliberation, the Board is now considering a $0.73 per $100 value tax rate.

The Board is also considering increasing the meals tax to 6%.

BUDGETARY IMPACT:

TBD

RECOMMENDATION:

Adopt ordinances to set the tax rates for FY2024-25.

ATTACHMENTS:

Description	Type	Upload Date
Ordinance - Tax Rate	Ordinance	5/13/2024
Ordinance - Meal Tax	Ordinance	5/9/2024

AN ORDINANCE TO IMPOSE TAX RATES FOR ISLE OF WIGHT COUNTY, VIRGINIA FOR FISCAL YEAR JULY 1, 2024 THROUGH JUNE 30, 2025

BE IT AND IT IS HEREBY ORDAINED by the Board of Supervisors of the County of Isle of Wight, Virginia, to-wit:

Section 1: That there is hereby levied for the fiscal year beginning July 1, 2024, a tax of $0.73 per one hundred dollars of assessed valuation on all taxable real estate, and all real and personal property of public service corporations in accordance with Section 58.1-2606 of the Code of Virginia (1950, as amended).

Section 2: That there is hereby levied for the fiscal year beginning July 1, 2024, a tax of $1.95 per one hundred dollars of assessed valuation on machinery and tools used in businesses as defined in Section 58.1-3507 of the Code of Virginia (1950, as amended).

Section 3: That there is hereby levied for the fiscal year beginning July 1, 2024, a tax of $1.00 per one hundred dollars of assessed valuation of boats, watercraft and aircraft as defined in Section 58.1-3606 of the Code of Virginia (1950, as amended).

Section 4: That there is hereby levied for the fiscal year beginning July 1, 2024, a tax of $0.32 per one hundred dollars of assessed valuation on watercraft, including vessels and ships, weighing five tons or more, excluding privately owned pleasure boats and watercraft used for recreational purposes only.

Section 5: That there is hereby levied for the fiscal year beginning July 1, 2024, a tax of one-half (1/2) of one percent (1%) of the gross receipts on telephone and telegraph companies, water companies, heat, light and power companies, except electric suppliers, gas utilities and gas suppliers as defined in Section 58.1-400.2 of the Code of Virginia (1950, as amended) and pipeline distribution companies as defined in Section 58.1-2600 of said Code, accruing from sales to the ultimate consumer in the County of Isle of Wight, Virginia, pursuant to Section 58.1-3731 of the Code of Virginia (1950, as amended), however, in the case of telephone companies, charges for long distance telephone calls shall not be included in gross receipts for purposes of license taxation.

BE IT FURTHER ORDAINED that this Ordinance be entered in the Minutes of this Board of Supervisors and that a copy thereof by the Clerk of this Board, be furnished to the Treasurer of this County.

Adopted this _____ day of _____, 2024.

_____
Joel C. Acree, Chairman
Isle of Wight County, Virginia,
Board of Supervisors

Attest:

_____
Carey Mills Storm, Clerk

Approved as to form:

_____
Robert W. Jones, Jr.
County Attorney

AN ORDINANCE TO AMEND AND REENACT
THE ISLE OF WIGHT COUNTY CODE
BY AMENDING AND REENACTING

WHEREAS, the Board of Supervisors of Isle of Wight County, Virginia, has deemed it necessary and appropriate to update its current ordinances in order to more clearly set forth local ordinances for the benefit of the public, in order to accurately reflect current practices, to correct inaccuracies, and to conform to those provisions set forth in the Code of Virginia (1950, as amended).

NOW, THEREFORE, BE IT ORDAINED by the Isle of Wight County Board of Supervisors that Chapter 15.-Taxation of the Isle of Wight County Code be amended and reenacted as follows:

Sec. 15-101. Levy of tax; amount.

In addition to all other taxes and fees of any kind now or hereafter imposed by law, a tax is hereby levied and imposed on the purchaser of all food served, sold or delivered for human consumption in the county in or from a restaurant, whether prepared in such restaurant or not, or prepared by a caterer. The rate of this tax shall be six percent of the amount paid for such food. In the computation of this tax, any fraction of $0.005 or more shall be treated as one cent. (5-17-18; 5-9-24.)

Adopted this 9th day of May 2024.

Joel C. Acree, Chairman
Isle of Wight Board of Supervisors

Attest:

Carey Mills-Storm, Clerk
Approved as to Form:

Robert W. Jones, Jr., County Attorney