Agenda
Board of Supervisors
Isle of Wight County
March 17, 2022

1. Call to Order (5:00 P.M.)
2. Approval of Agenda
3. Closed Meeting
4. Reconvene Public Meeting at 6:00 P.M.
5. Invocation - Supervisor Joel Acree
6. Citizens' Comments
7. Consent Agenda
    A. 2021 Planning Commission Annual Report

       Acceptance of the 2021 Planning Commission Annual Report
    B. Budget Amendment - Reassessment Contract

       Resolution to Amend the Budget and Appropriate Additional Funding for the General Reassessment ($209,000)
    C. Minutes

       . February 17, 2022 Regular Minutes
8. Regional and Inter-Governmental Reports
    A. Regional Reports
9. Appointments
    A. Appointments List
10. Special Presentations / Appearances
    A. Hampton Roads Retail Alliance

Presentation from the Hampton Roads Retail Alliance

B. COVID-19 Vaccine Update

Staff Update on COVID-19 Vaccine Rollout in Western Tidewater

11. County Attorney's Report

A. VATI Agreements

Consideration of an Agreement with HRPDC and Partner Agencies and an Agreement with RURALBAND for County-wide Expansion of Broadband

12. Public Hearings

A. Conditional Use Permit Request for Nuby Run Solar Energy Facility

Request of Nuby Run Solar, LLC, Applicant, on Behalf of Robert Benjamin Stagg, Property Owner, for a Conditional Use Permit to Establish a Utility Scale Solar Energy Facility on Property Located on Orbit Road Zoned Rural Agricultural Conservation and a Request to Withdraw Twenty Acres of the Property from the Courthouse Agricultural/Forestal District

B. Proposed Ordinance Revisions

Proposed Revisions to the Isle of Wight County Zoning and Subdivision Ordinances

13. County Administrator's Report

A. Transportation Project Updates

Transportation Capital Projects and Grant Opportunities Update

B. Matters for the Board's Information

14. Unfinished / Old Business

A. Water Tank Painting

Discussion of Water Tank Painting Project

15. New Business

    A. Employee Health Insurance

       Resolution to Approve the Employee Health Insurance Plan Offerings for Fiscal Year 2022-23

    B. Stormwater Advisory Committee Grant Proposal

       Consideration of a Stormwater Management Grant Pilot Program

    C. Special Needs Commission

       Consideration of Establishment of a Commission for Adults with Special Needs

16. Adjournment

ISSUE:

Acceptance of the 2021 Planning Commission Annual Report

BACKGROUND:

The Planning Commission develops an annual report in conformance with Section 15.1-2221 of the Code of Virginia. This Section states that local planning commissions shall make recommendations and an annual report to the governing body concerning the operation of the commission and the status of planning within its jurisdiction.

The Planning Commission approved their 2021 Annual Report at their February 22, 2022, regular meeting and directed staff to submit it to the Board of Supervisors for their review and information.

BUDGETARY IMPACT:

None

RECOMMENDATION:

No action required.

ATTACHMENTS:

Description	Type	Upload Date
2021 Planning Commission Annual Report	Backup Material	3/7/2022



ISLE OF WIGHT COUNTY PLANNING COMMISSION
2021 ANNUAL REPORT

ADOPTED BY THE
ISLE OF WIGHT COUNTY PLANNING COMMISSION
FEBRUARY 22, 2022



CHAIRMAN'S MESSAGE

To Members of the Board of Supervisors and Citizens of the County of Isle of Wight, Virginia:

We are pleased to submit the 2021 Annual Planning Commission Report. This report is intended to provide informative and relevant data for the residents of the County, Board of Supervisors, and any other interested readers.

Although 2021 started with many of the same Covid pandemic challenges as the previous year, the County continued to experience economic growth based on increases in the number of permits, sales tax and real estate tax revenues during the year.

Much like last year, trends continue to indicate a general pattern of growth in the number of permits issued, development applications received, inspections conducted, and plans reviewed which is consistent with the County's continued population growth. This year saw the release of the 2020 decennial census population count of 38,606 for the County, representing a 9.5% increase over the 2010 decennial census population count of 35,270 people. This represents an annual average growth rate of nearly 1% a year.

Permits for new single family houses totaled 296 in Fiscal Year (FY) 2021 compared to 200 in FY 2020, representing a 48% increase. In addition, 44 new multifamily dwelling units were permitted which is a 100% increase over the previous fiscal year in which none were constructed. The value of new single-family construction went from $42.3 million in FY 2020 to $63.6 million in FY 2021, a 50% increase. New commercial construction value also increased from $2.3 million in FY 2020 to $3 million, or a 30% increase.

In light of the County's growing development activity, land development practices took center stage at the Planning Commission annual retreat on Friday, October 22, 2021, where Randy Royal, a professional engineer who teaches with the Virginia Tech Land Development Design Initiative, led an interactive, half day class on how transportation, utilities, storm water management, and planning interrelate in land development projects. Also on the agenda were presentations on the County's Economic Development prospects and its Water and Sewer master plans.

Looking ahead in the new year, we look forward to continuing our work on new long-range planning projects such as the Plan on Aging and Rushmere Village Master Plan.



We would like to thank the Board for its support of the County's planning efforts and the planning staff for their continued efforts to provide timely assistance to the citizens and recommendations to the Commission in our pursuit of the vision of what our County will look like for years to come. We look forward to continuing our service in 2022.

J. Brian Carroll
Chairman

2021 ISLE OF WIGHT PLANNING COMMISSION

Brian Carroll, Chair	Carrsville District
Bobby Bowser, Vice-Chair	Hardy District
Cynthia Taylor, AICP	Smithfield District
Thomas Duerig	Smithfield District
Jennifer Boykin	Carrsville District
James Ford	Hardy District
Thomas Distefano	Newport District
Edward Hulick	Newport District
Roberta Varner	Windsor District
George Rawls	Windsor District

Robert W. Jones, Jr., County Attorney
Amanda Landrus, Secretary

ISLE OF WIGHT COUNTY PLANNING AND ZONING STAFF

Amy M. Ring, AICP	Community Development Director
Claire Jones, AICP	Assistant Director – Planning and Zoning
Joshua A. Bateman, AICP	Principal Planner
Shaunee A. Beussink	Environmental Planner
Sandy Robinson	Zoning Coordinator
Trenton Blowe	Planner
Rachel Bass	Codes Enforcement Officer
Amanda Landrus	Planning Services Coordinator

OVERVIEW

The role of the Planning Commission outlined in Section 15.2-2200 of the Code of Virginia (1950, as amended) is to improve the public health, safety, convenience and welfare of the County's citizens through the development and implementation of long-range plans to ensure for adequate transportation, utility, health, housing, educational, economic development, and recreational facilities and to ensure future growth be consonant with the efficient and economical use of public funds. The Planning Commission utilizes the County's Comprehensive Plan as a guide to review current and long-range planning applications to ensure future development proceeds in an orderly and efficient manner.

In furtherance of this effort, the Planning Commission conducted a total of eight regular meetings and one special called annual retreat meeting during the 2021 calendar year. The Commission took action on a total of 19 items to include:

- 5 Rezoning requests;
- 4 Conditional use permit requests;
- 3 Highway Corridor Overlay District Exception requests;
- 2 Zoning ordinance amendments;
- 1 Subdivision Ordinance amendment;
- 1 Chesapeake Bay Preservation Area Ordinance Amendment;
- 1 Agricultural and Forestal District Withdrawal Request;
- 1 Electronic Meeting Planning Commission Bylaw Amendment; and
- 2020 Planning Commission Annual Report.

The total number of items considered by Planning Commission in 2021 is a decrease from the total of 20 items considered in 2020. The highest number of applications by type in 2021 consisted of rezoning requests. Three of these applications sought to amend previously approved conditional zoning while the other requests sought a change to the Rural Residential zoning district for two lots and a change to the Village Center district for a satellite church parking lot. The next highest number of applications included four conditional use permit requests to include a utility scale solar energy facility, a new elementary school, a child care center and an accessory apartment.

The Planning Commission recommended approval for all but two of the applications. Of the items considered by the Board of Supervisors as of December 31, 2021, the Board voted consistently with the Planning Commission recommendations 94% of the time.

A series of summary tables are included with this report, including a list of the Commission members' districts, appointment date, and attendance record as well as a record of the Commission's decisions by application type and a comparison table of the number of applications by year.

MEMBERSHIP UPDATE

The Commission continues to reflect a balanced representation of the citizenry of Isle of Wight County with specific interests in rural, agricultural, and historic preservation; environmental protection; community values, quality of life; economic development; and overall land use planning standards that promote balanced growth, community character and enhanced design. The Planning Commission membership is made up of two members appointed by the Board of Supervisors from each of the County's five election districts.

The longest serving members on the Commission are James Ford (Hardy), appointed in October 2009, Cynthia Taylor (Smithfield), appointed in March 2014, and Brian Carroll (Carrsville), appointed in March 2014. Mr. Carroll served as Chairman in 2021 while Bobby Bowser of the Hardy District served as Vice-Chairman.

BY-LAW AMENDMENTS AND PROCEDURAL CHANGES

The Planning Commission voted to amend the bylaws at their February 23, 2021, regular meeting to allow for electronic meeting participation under certain conditions. Due to ongoing COVID conditions, Planning Commission continued to hold their regular meetings at the Smithfield Center for the first half of the year to allow for social distancing. Fortunately as the epidemic ebbed, the Planning Commission was allowed to return to the Courthouse Complex for their regular meetings beginning in July 2021.

LONG RANGE PLANNING PROJECTS

Long-range planning projects that kicked off in 2021 include the County's Plan on Aging and the Rushmere Village Master Plan. Also underway is the update to the County's 2008 Workforce Housing Study by professor Dr. Tom Hall of Christopher Newport University made possible by a grant from the Peninsula Association of Realtors. The estimated completion date for this study is Spring 2022. Each of these projects is a recommended action step identified in the County's 2020 Comprehensive Plan meant to implement the policies and goals of the Plan.

DEVELOPMENT ACTIVITY

Several large, public and private projects either started or completed construction in the County in 2021. Major projects include:

- Construction continued on 162 townhome-style apartment units in the master planned Brewer's Station community approved in 2014.
- Construction began on 210 condominium units at the Crossings development originally approved in 2002.
- The County completed construction of the Nike Park Multipurpose Trail that connects Nike Park and the Town of Smithfield.
- The County held a ground-breaking ceremony for the new Hardy Elementary School with construction to begin in Spring 2022.

- The County will benefit from a $21.1 million grant awarded in December 2021 to the Hampton Roads Planning District Commission to build fiber broadband to 12,223 unserved locations and achieve universal coverage in the City of Suffolk, Isle of Wight, and Southampton Counties.
- Engineering and design continued for the new Nike Park Road extension that will provide an alternative route between the Town of Smithfield and the Route 17 corridor.

GOALS FOR 2022

It is the goal of the Planning Commission in 2022 to continue the implementation of *Envisioning the Isle* as well as continue its review of applicable ordinances for opportunities to add clarity and flexibility. The Commission plans to hold an educational retreat in the fall of 2022 for its members to review its mission, future goals, new planning techniques, and community outreach activities. The Commission also renews its commitment in 2021 to provide comprehensive, objective and thorough reviews on plans, ordinances, and applications prior to making a recommendation to the Board of Supervisors.

Adopted this _____ day of _____ 2022.

_____
Chairman, Isle of Wight County
Planning Commission

Attest:_____
Amanda Landrus, Secretary

2021 Planning Commission Actions Summary Tables

ZONING DISTRICTS LEGEND

RAC-Rural Agricultural Conservation
RR-Rural Residential
VC-Village Center
NC-Neighborhood Conservation
SE-Suburban Estate
SR-Suburban Residential
UR-Urban Residential
LC-Limited Commercial
GC-General Commercial
LI-Limited Industrial
GI-General Industrial
GIC-General Industrial Conservation
PD-R-Planned Development Residential
PD-MH-Planned Development Manufactured Home Park
PD-CP-Planned Development Commercial Park
PD-MX-Planned Development Mixed-Use
PD-IP-Planned Development Industrial Park
HCO-Highway Corridor Overlay
NDSO-Newport Development Service Overlay
HO-Historic Overlay
FPMO-Flood Plain Management Overlay

REZONINGS (5)

Tax PIN Application Number	Election District/ Location	Owner/Applicant	Acreage	Application Description	Recommendation/Action/Vote/Date	
					PC	BOS
14-02-037C	Smithfield District/ 39 Monette Parkway	Accelerated Properties, LLC	.73	Amend the conditional zoning to allow for a garden center.	Approved (9-0) April 27, 2021	Approval (5-0) June 10, 2021
58-01-127C	Carrsville District/ 26585 River Run Trail	Coastal City Church, Sean Domer	1.75	Rezone from RR to VC to allow for satellite parking lot	Approval (9-0) May 25, 2021	Approval (5-0) June 10, 2021
34B-01-010 34B-01-011 34B-01-012	Newport District/ 15314 Carrollton Blvd	Wilbur R. Wendy R. Todd	1.5	Amend conditional zoning to allow Medical and general office as permitted uses	Approval (9-0) June 22, 2021	Approval (5-0) July 15, 2021
46-01-024	Carrsville District/ Cut Thru Road and Garrison Drive	Cobb Land Limited Partnership Alpha M. Cobb Steven F. Cobb Timothy L. Cobb	9.56	Rezone from RAC to RR to create three single family residential lots	Approval (7-0) August24, 2021	Approval (5-0) September 16, 2021
14-02-037B	Smithfield District 1 Monette Parkway	Accelerated Properties, LLC	5.85	Amend the conditional zoning to allow for a laboratory	Approval (6-0) October 26, 2021	Approval (5-0) November 18, 2021

CONDITIONAL USE PERMITS (4)

Tax PIN Application Number	Election District/ Location	Owner/Applicant	Acreage	Application Description	Recommendation/Action/Vote/Date	
					PC	BOS
10-01-017 10-01-020 10-01-021 10-01-023 10-01-024 10-01-025 10-01-027 10-01-030 11-01-005 11-01-015	Carrsville District Mill Swamp Road/ Burwells Bay Road	Cavalier Solar A, LLC	1,684.5	Cavalier Solar Major utility service use consisting of a utility-scale, solar energy generation facility, including related equipment, electrical lines, project substation and 500 kV gen-tie (overhead) transmission line	Approval (7-2) March 23, 2021	Approval (5-0) May 20, 2021
13B-02-A003 13B-02-A004 13B-03-025	Hardy District Old Stage Hwy Blounts Corner Road	Isle of Wight Public Schools Isle of Wight County Utility Services	17.9	Hardy Elementary School Major utility service for a water tower and primary educational facility	Approval (9-0) May 25, 2021	Approval (3-2) June 10, 2021
43A-03-013	Newport Election District 112 Obrey Drive	Christopher D. and Wendy A. Caldwell	1.8	Residential Accessory Apartment	Denial (9-0) June 22, 2021	Application withdrawn
32-01-093	Windsor District 14353 Benns Church Blvd.	Vincent C. Carollo Benns Saint Luke LLC	24.8	Child Care Center	Approval (7-0) September 28, 2021	Approval (5-0) October 21, 2021

EXEMPTIONS, WAIVERS, EXCEPTIONS, MODIFICATIONS AND APPEALS REQUESTS (3)

Tax PIN Application Number	Election District/Location	Owner/Applicant	Application Description	Recommendation/Action/Vote/Date	
				PC	BOS
58-01-127C	Carrsville District/ 26585 River Run Trail	Coastal City Church, Sean Domer	HCO Exception request to allow a gravel parking lot and encroachment into the HCO front yard setback	Approval (9-0) May 25, 2021	Approval (5-0) June 10, 2021
13B-02-A003 13B-02-A004 13B-03-025	Hardy District Old Stage Hwy Blounts Corner Road	Isle of Wight Public Schools Isle of Wight County Utility Services	Hardy Elementary School HCO Exception request to allow six-foot-tall chain-link fence around stormwater management pond, mechanical service areas, playgrounds and site perimeter	Denial (9-0)* May 25, 2021	Approval (3-2) June 10, 2021
13-01-035	Hardy District 8196 Old Stage Hwy.	Isle of Wight County Public Works	HCO Exception request to allow six foot tall vinyl coated chainlink fence around the Wrenn's Mill Refuse and Recycling Center.	Approval (7-0) August 24, 2021	Approval (5-0) September 16, 2021

**Commissioner Distefano wishes to note that the denial was based on lack of information on the fence design.*

ZONING ORDINANCE AMENDMENTS (2)

Application Description	Recommendation/Action/Vote/Date	
	PC	BOS
An ordinance to amend Section 4-1005 and Section 4-7003 of Article IV, "Zoning Districts and Boundaries" of Appendix B, "Zoning," of the Isle of Wight County Code to add childcare center as a conditional use in the Suburban Residential zoning district.	Approval (9-0) June 22, 2021	Approval (5-0) July 15, 2021
An ordinance to amend Appendix B. Zoning: Article I (General Provisions), Article IV (Zoning Districts and Boundaries), Article V (Supplementary Use Regulations), Article VI (Overlay Districts), Article VII (General Design Guidelines and Development)	Approval (6-0) October 26, 2021	Tabled (5-0) November 18, 2021

SUBDIVISION ORDINANCE AMENDMENTS (1)

Application Description	Recommendation/Action/Vote/Date	
	PC	BOS
An ordinance to amend the following sections of Appendix A. Subdivisions: Article 2 (Definitions), Article 3 (Administration and Procedures), Article 4 (Plat Requirements), Article 5 (Development Standards); Appendix B. Zoning: Article I (General Provisions), Article IV (Zoning Districts and Boundaries), Article V (Supplementary Use Regulations), Article VI (Overlay Districts), Article VII (General Design Guidelines and Development); and Appendix B-1. Chesapeake Bay Preservation Area Ordinance. The purpose of the proposed amendments is to reduce and clarify requirements, make editorial corrections, increase flexibility, and revise development requirements.	Approval (6-0) October 26, 2021	Approval of Subdivision and Chesapeake Bay Preservation Area (5-0) Revisions to the Zoning Ordinance tabled

CHESAPEAKE BAY PRESERVATION AREA ORDINANCE AMENDMENTS (1)

Application Description	Recommendation/Action/Vote/Date	
	PC	BOS
An ordinance to amend and Appendix B-1. Chesapeake Bay Preservation Area Ordinance.	Approval (6-0) October 26, 2021	Approval (5-0) November 18, 2021

AGRICULTURAL/FORESTAL DISTRICTS AMENDMENTS (1)

Application Description	Recommendation/Action/Vote/Date	
	PC	BOS
Cavalier Solar A, LLC, applicant, to construct and operate a major utility and includes a request from the owners of six affected parcels to withdraw their properties from the Moonlight Agricultural/Forestal District.	Approval (7-2) March 23, 2021	Approval (5-0) May 20, 2021

PLANNING COMMISSION BY-LAW AMENDMENTS (1)

Application Description	Recommendation/Action/Vote/Date	
	PC	BOS
Amendment to allow remote electronic meetings should a Planning Commission member be unable to attend for a personal, work or medical reason.	Approval (10-0) February 23, 2021	Informational / No Action Required

PLANNING COMMISSION ANNUAL REPORT

Application Description	Recommendation/Action/Vote/Date	
	PC	BOS
2020 Planning Commission Annual Report	Adopted (9-0) February 23, 2021	Informational / No Action Required

2021 ISLE OF WIGHT COUNTY
PLANNING COMMISSIONERS

NAME	DISTRICT	APPOINTED	TERM EXPIRES
Brian Carroll, Chair	Carrsville	March 20, 2014	February 2022
Bobby Bowser, Vice-Chair	Hardy	April 20, 2017	February 2025
Cynthia Taylor	Smithfield	March 20, 2014	February 2023
Thomas Duerig	Smithfield	February 18, 2016	February 2024
Jennifer Boykin	Carrsville	February 15, 2018	February 2023
James Ford	Hardy	October 15, 2009	February 2024
Thomas Distefano	Newport	February 21, 2019	February 2023
Edward Hulick	Newport	February 16, 2017	February 2025
George Rawls	Windsor	August 16, 2018	February 2023
Bobbie Varner	Windsor	August 16, 2018	February 2024
Glen Seay	Windsor	May 20, 2021	February 2024

2021 MEETING STATISTICS

Regular Meetings	Members Absent	Attendance Percentage	
January 26th	Distefano	Brian Carroll	100%
February 23rd	Duerig	Bobby Bowser	100%
March 23rd	Varner	Cynthia Taylor	100%
April 27th	Varner	Thomas Duerig	78%
May 25th	----------	Jennifer Boykin	89%
June 22nd	Boykin	James Ford	89%
August 24th	Hulick, Distefano, Seay	Thomas Distefano	78%
September 28th	Distefano, Seay	Edward Hulick	89%
October 26th	Ford, Duerig, Seay	Roberta Varner	50%
		George Rawls	100%
		Glenn Seay	25%
WORK SESSIONS/SPECIAL MEETINGS			
October 23, 2021	Boykin, Ford, Seay		

PLANNING COMMISSION REVIEW
FIVE YEAR DEVELOPMENT APPLICATION COMPARISON CHART

APPLICATIONS/PROJECTS	2021	2020	2019	2018	2017
Rezonings	5	5	6	5	5
Conditional Use Permits	4	5	4	7	8
Special Use Permits	0	0	0	1	0
Site Plans	0	0	0	0	1
Subdivision Plats	0	0	0	0	0
Comp Plan Update/Master Plans	0	0	1	0	0
Comp Plan Amendments/Land Use	0	0	2	1	1
Zoning Ordinance Amendments	2	2	2	2	3
Subdivision Ordinance Amendments	1	1	1	0	0
CBPA Ordinance Amendments	1	0	0	0	0
Agricultural/Forestal Districts	1	0	0	2	1
Waivers, Exceptions, Appeals	3	4	2	2	4
Miscellaneous	0	1	0	0	0
CBPA Ordinance Exceptions/WQIA	0	1	1	1	1
Historic Overlay Districts	0	0	0	0	0
TOTAL NUMBER OF APPLICATIONS/PROJECTS	**17**	**19**	**19**	**21**	**24**

ISSUE:

Resolution to Amend the Budget and Appropriate Additional Funding for the General Reassessment ($209,000)

BACKGROUND:

As required by State law, Isle of Wight County conducts a General Reassessment of Real Estate every four years. The Wampler-Eanes Appraisal Group, has been chosen through appropriate bidding procedures to conduct the 2023 General Reassessment at an expected total cost of $462,000.

The Wampler-Eanes Appraisal Group bid for reassessment requires a budget amendment resolution to increase the reassessment budget by $209,000.

Wampler-Eanes bid of $21 per parcel = $462,000
Current Reserve - $270,000
Balance needed for reassessment - $192,000
Plus $17,000 for new construction
Total Professional Services to be budgeted for - $209,000

The increase in Sales Tax Revenue collections for FY22 will be appropriated in the General Fund, for the currently unbudgeted costs associated with the General Real Estate Reassessment.

BUDGETARY IMPACT:

Adoption of the attached resolution will increase the FY 2021-22 General Fund budget by $209,000.

RECOMMENDATION:

Adopt a resolution to amend the budget and appropriate additional funding for the general reassessment contract with the Wampler-Eanes Appraisal Group.

ATTACHMENTS:

Description	Type	Upload Date
Resolution	Resolution	3/7/2022

RESOLUTION TO AMEND THE FY 2021-22 BUDGET AND APPROPRIATE FUNDING FOR THE UPCOMING GENERAL REASSMENT OF REAL ESTATE

WHEREAS, the Board of Supervisors, as required by State law, conducts a General Reassessment of Real Estate every four years; and,

WHEREAS, the Wampler-Eanes Appraisal Group has been chosen through appropriate bidding procedures to conduct the General Reassessment of Real Estate; and,

WHEREAS, the total cost of the General Reassessment of Real Estate exceeds the current budget of $270,000; and,

WHEREAS, the Board of Supervisors desires to amend the FY 2021-2022 General Fund Budget for the unbudgeted costs associated with the reassessment from Sales Tax Revenue in the amount of $209,000; and,

WHEREAS, the Board of Supervisors needs to appropriate $209,000 to the General Fund for the upcoming General Reassessment of Real Estate.

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of Isle of Wight, Virginia that the FY 2021-2022 General Fund budget is hereby amended, and funds appropriated for the upcoming General Reassessment of Real Estate.

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 17th day of March, 2022.

_____
Rudolph Jefferson, Chairman

_____
Carey Mills-Storm, Clerk

Approved as to form:

_____
Robert W. Jones, Jr., County Attorney

ISSUE:

. February 17, 2022 Regular Minutes

BACKGROUND:

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

BUDGETARY IMPACT:

None

RECOMMENDATION:

Adopt the following sets of minutes:

. February 17, 2022 Regular Minutes

ATTACHMENTS:

Description	Type	Upload Date
February 17, 2022 Regular Meeting Minutes	Cover Memo	3/8/2022

REGULAR MEETING OF THE ISLE OF WIGHT COUNTY BOARD OF SUPERVISORS HELD IN THE ROBERT C. CLAUD, SR. BOARD ROOM OF THE ISLE OF WIGHT COUNTY COURTHOUSE LOCATED AT 17090 MONUMENT CIRCLE, ISLE OF WIGHT, VIRGINIA ON THURSDAY, THE SEVENTEENTH DAY OF FEBRUARY IN THE YEAR TWO THOUSAND AND TWENTY-TWO

PRESENT:

Rudolph Jefferson, District 3, Chairman
William M. McCarty, District 2, Vice-Chairman
Richard L. Grice, District 1
Don G. Rosie, II, District 5
Joel C. Acree, District 4

ALSO IN ATTENDANCE:

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

CALL TO ORDER

Chairman Jefferson called the regular meeting to order at 5:00 p.m.

APPROVAL OF AGENDA

Supervisor McCarty moved that the agenda be approved. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

CLOSED MEETING

The following matters were identified for discussion in closed meeting by County Attorney Jones: Consultation with legal counsel regarding potential litigation regarding zonings matters where such consultation would adversely affect the negotiating or litigation posture of this public body pursuant to subsection 7;

discussion concerning a prospective business or the expansion of an existing business where no previous announcement has been made of business' interest in locating or expanding its facilities in the Shirley T. Holland Industrial Park pursuant to subsection 5; discussion or consideration of the disposition of publicly held real property in the Windsor area, where discussion in an open meeting would adversely affect the bargaining position or negotiating strategy of the Board pursuant to subsection 3; a discussion regarding the appointment of specific appointees to County boards, committee or authorities as set forth in the agenda, pursuant to subsection 1; and a discussion regarding the performance of the County Attorney, pursuant to subsection 1.

Upon motion of Supervisor McCarty and all voting in favor (5-0), the Board entered the closed meeting for the reasons stated by County Attorney Jones.

Upon motion of Supervisor McCarty 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 McCarty 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, Grice, Jefferson, McCarty. Rosie

NAYS: 0

ABSENT DURING VOTE: 0

ABSENT DURING MEETING: 0

INVOCATION

Pastor Willie Williams delivered the invocation and led the Pledge of Allegiance to the American Flag of the United States of America.

CITIZENS' COMMENTS

Robert Hines of Smithfield expressed concern with the development proposed in the Town of Smithfield called The Grange at 10Main because it will double the population, increase traffic and have a negative impact on Town residents. On a second subject, CRT, he stated that he believes that all history, positive and negative, should be taught in school.

Richard Sieukiewicz of Carrollton asked the Board to deny the request presented by Mr. Kooiman later in the meeting tonight for a height variance.

Chris Edwards, Fire Chief of the Smithfield Volunteer Fire Department, relayed a request from the Fire & Advisory Board for the Board of Supervisors to work with the Town of Smithfield to use Waterworks Lake for a water supply for the Smithfield

Volunteer Fire Department.

Volpe Boykin of the Carrsville District recommended that the Board's salary be increased from $13,000 to $24,000 annually to ensure that the County attracts and retains good supervisors.

Chris Torre of Smithfield expressed concern with County taxes being used to subsidize a development in Smithfield called The Grange at 10Main.

Steven Morinszko of Carrollton asked the Board to deny the request of Mr. Kooiman for a height variance.

Elizabeth Hopkins of Gray Street in Smithfield spoke against using taxpayer funds to build a farmer's market.

Jeff Brooks of Smithfield spoke against using taxpayer funds to build a farmer's market.

Steve Turner of Carrollton asked the Board to deny the request of Mr. Kooiman for a height variance.

Ty Ehlers of Spring Crest Drive asked the Board to deny Mr. Kooiman's request for a height variance.

Herb DeGroft asked the Board to scrutinize anything the School Board sends to the Board involving taxpayers' money and funding for public schools.

There being no further persons signed up to speak, Supervisor McCarty advised that the Board of Supervisors has no authority over housing projects or development in the Town of Smithfield.

Supervisor Acree asked that citizens always relay their concerns to the Board but advised that the Smithfield Town Council has authority over development in the Town of Smithfield and not this Board.

Supervisor Grice commented that proffers were eliminated because of their misuse in the northern part of the State, and he would like to see a modification to that.

He advised that the Board could deny an application because an applicant is not contributing to the welfare of the community, but the Board is not in a position to suggest proffers on any project any longer. On the issue of a salary increase for the Board, the public was advised that there are specific laws stipulating when salary increases can be done which is when they change over at least two Board members at election time. He stated he is supportive of an increase for the Board.

Chairman Jefferson commented that when he ran for the Board of Supervisors, he was unaware of a salary for Board members and that he personally came on the Board to serve the community. He added that he does not support an increase for the Board at this time. Regarding Chris Edwards' request to the Board from the Fire & Advisory Board, he would recommend County Administrator Keaton speak with the Town.

County Administrator Keaton reported that the Smithfield Town Manager had spoken with him approximately a year ago and relayed three options, one of which was the road being cut in two; however, the Town Council has never requested the County to fund any portion of that project.

CONSENT AGENDA

Supervisor McCarty moved that the following Consent Agenda be adopted:

A. Resolution to Amend the FY2021-22 Grant Fund Budget and Appropriate Funding from the Virginia Department of Motor Vehicles ($960)

B. Resolution to Amend the FY2021-22 Operating Budget and Appropriate Funding for Pass Through Dominion Energy funding from the Virginia Department of Emergency Management ($25,000)

C. Resolution to Amend the FY2021-22 Operating Budget and Appropriate Funding for Vehicle Repairs from Insurance Proceeds ($6,366)

D. Resolution to Amend the FY2021-22 Operating Budget and Appropriate Funding for the 2021 Local Emergency Management Performance Grant ($7,500)

E. Resolution to Amend the FY2021-22 Budget and Appropriate Funding from the Virginia DHCD Covid-19 ARPA SLFRF Municipal Utility Assistance Program ($94,182)

F. Resolution to Amend the FY2021-22 Grant Fund Budget and Appropriate Funding from Virginia Department of Health Rescue Squad Assistance Fund ($15,109)

G. Resolution to Amend the FY2021-22 Grant Fund Budget and Appropriate Funding for the DCJS Violence Against Women's Act Grant ($30,795)

H. Resolution of the Board of Supervisors of Isle of Wight County, Virginia to Request the Virginia Department of Transportation Include Certain Streets in the System of State Highways (Benn's Grant Subdivision, Phases 6,7,8, 10A1, 10B1 and parts of Phases 2, 3 and 10A2) (Spring Hill Place (Route 1060) from Rt. 1071 (Turner Landing Way) to Rt. 1061 (Oak Hill Ln.), 0.13 miles; Spring Hill Place (Rt. 1060) from Rt. 1061 (Oak Hill Way) to Rt. 1072 (Jordan House Dr.), .11 miles; Spring Hill Place (Route 1060) from Rt. 1072 (Jordan House Dr.) to Private Alley, 0.03 miles; Spring Hill Place (Route 1060) from Private Alley to Private Alley (existing Rt. 1060 termini), 0.09 miles; Oak Hill Lane (Route 1061) from Rt. 1069 (Asbury Way) to Brentwood Cove, 0.05 miles; Oak Hill Lane (Route 1061) from Brentwood Cove to Rt. 1065(Williamson Park Lane), 0.15 miles; Oak Hill Lane (Route 1061) from Rt. 1065 (Williamson Park Ln.) to Rt. 1060(Spring Hill Pl.), 0.05 miles; Williamson Park Lane (Route 1065) from Rt. 1061 (Oak Hill Lane) to Rt. 1069 (Asbury Way), 0.05 miles; Williamson Park Lane (Route 1065) from Rt. 1069 (Asbury Way) to Rt. 1068 (Bridger Dr.), 0.05 miles; Asbury Way (Route 1069) from Rt. 1061 (Oak Hill Ln) to Rt. 1065 (Williamson Park Ln), 0.17 miles; Turner Landing Way (Route 1071) from Rt. 1060 (Spring Hill Pl.) to Rt. 1073 (Riley Way), 0.10 miles; Jordan House Way (Route 1072) from Rt. 1060 (Spring Hill Pl.) to Rt. 1073

(Riley Way), 0.10 miles; Jordan House Way (Route 1072) from Rt. 1073 (Riley Way) to Rt. 1076 (Bowler Way), 0.11 miles; Riley Way (Route 1073) from Rt. 1071 (Turner Landing Way) to Rt. 1074 (Cedar Crest Dr.), 0.14 miles; Riley Way (Route 1073) from Rt. 1074 (Cedar Crest Dr.) to Rt. 107 (Spring Grove Way), 0.05 miles; Riley Way (Route 1073) from Rt. 1075 (Spring Grove Way) to Rt. 1072 (Jordan House Dr.), 0.05 miles; Cedar Crest Drive (Route 1074) from Rt. 1073 (Riley Way) to Sycamore Walk, 0.06 miles; Spring Grove Way (Route 1075) from Rt. 1073 (Riley Way) to Rt. 1076 (Bowler Way), 0.11 miles; and Bowler Way (Route 1076) from Rt. 1075 (Spring Grove Way) to Rt. 1072 (Jordan House Dr.), 0.05 miles.

I. Resolution of the Board of Supervisors of Isle of Wight County, Virginia to Request the Virginia Department of Transportation Include Certain Streets in the System of State Highways (Holland Meadows Phase 2 Subdivision) (Lena Rose Street (Route 1852) from Rt. 1851 (John Henry St) to Rt. 1854 (Savannah St.), 0.19 miles; Lena Rose Street (Route 1852) from Rt. 1854 (Savannah St.) to Rt. 1855 (Kelsie Street), 0.13 miles; Lena Rose Street (Route 1852) from Rt. 1855 (Kelsie St.) to Stub, 0.01 miles; Savannah Street (Route 1854) from Rt.1851(John Henry St.) to Rt. 1852 (Lena Rose St.), 0.09 miles; and Kelsie Street (Route 1855) from Rt. 1851(John Henry St.) to Rt. 1852 (Lena Rose St.), 0.1 miles.

J. Minutes

- November 22, 2021 Special Joint Meeting
- December 9, 2021 Work Session
- December 9, 2021 Regular Meeting
- December 22, 2021 Special Meeting
- January 6, 2022 Organizational Meeting
- January 20, 2022 Regular Meeting

The motion was adopted unanimously (5-0) with Supervisors Acree, McCarty, Grice, Rosie and Jefferson voting in favor of the motion and no Supervisors voting against the motion.

REGIONAL AND INTER-GOVERNMENTAL REPORTS

There were no reports offered.

APPOINTMENTS

Supervisor Grice moved that Debra Frank be reappointed to serve on the Commission on Aging. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

Supervisor Acree moved that the following individuals be appointed to serve on the Fire & Rescue Advisory Board:

Department	Primary	Alternate
Carrollton VFD	Tim Nunez	Scott Brower
Carrsville VFD	Judson West	Weston Jamison
Rushmere VFD	Brandon Jefferson	Kevin Parker
Windsor VFD	Lee Marshall	Dale Scott
Smithfield VFD	Chris Edwards	Charlie Kempton
Isle of Wight VRS	Brian Carroll	Chad Owens
Windsor VRS	Keith Griffin	Beth Hecker
Dept. Emergency Services	Pat Humphries	Greg Parsons

The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

Supervisor McCarty moved that Dr. Cornell Jones be appointed to serve as the parent representative on the Community Policy & Management Team. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

SPECIAL PRESENTATION

Assistant County Administrator Robertson addressed the Board regarding past events held by the Special Needs Task Force which included a Let's Connect Event on March 10, 2020; Field Day on May 22, 2021; and County Fair Day on September 17, 2021. He advised that another Let's Connect event is scheduled for April 26, 2022.

Howard Meissel, a resident of Battery Park and member of the Special Needs Task Force, identified the goals of the Special Needs Task Force as recreation/socialization; facilitation; advocacy; and life skills. He requested that the Board build on the work of the Task Force with the formation of a stand-alone commission composed of appointed civil servants and volunteers charged with the goal of coordinating and monitoring future activities. He noted the need for a full-time staff member with an understanding of therapeutic recreation to provide regular sustainable programming and assist with employment opportunities.

Supervisor Grice moved, and rescinded his motion, that the County move forward with a Special Needs Commission. He then recommended that staff return to the Board's March meeting with an outline of how the Commission will be formed, its makeup and its mission statement. Staff is to advise what a therapeutic position would involve at the County level to facilitate those services. Said position is to be incorporated into the budget for the upcoming 2022-23 fiscal year.

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Dr. Nancy Welch, Acting Director, Western Tidewater Health District, provided a COVID-19 vaccine update.

Supervisor Grice requested that emergency services staff return to the Board at its next meeting with ideas on what can be undertaken on the part of the County to encourage additional vaccinations.

Supervisor Grice moved that masks as of March 1, 2022 in County facilities will be optional. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

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Valerie Butler, on behalf of the Isle of Wight NAACP, presented Will Drewery with a service award.

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The Board took a break and upon returning to open session, Chairman Jefferson called for the County Attorney's report.

COUNTY ATTORNEY'S REPORT

No report was offered.

PUBLIC HEARINGS

County Administrator Keaton explained that the schools had received additional funding in the amount of $2,122,797 for a school nutrition program and because the amount exceeded 1% of the budget, a public hearing on a Resolution to Amend the FY2021-22 Budget and Appropriate Funds from the Federal Government must be conducted.

> A Resolution to Amend the FY2021-22 Budget and Appropriate Funds from the Federal Government

Chairman Jefferson opened the public hearing and called for persons to speak in favor of or in opposition to the Resolution.

No one appeared and spoke.

Chairman Jefferson closed the public hearing and called for comments from the Board.

Supervisor McCarty moved that the following Resolution be adopted:

RESOLUTION TO AMEND THE FY 2021-22 BUDGET AND APPROPRIATE FUNDS FROM THE FEDERAL GOVERNMENT

WHEREAS, Isle of Wight County Schools have received funding in the amount of $2,122,797 for school breakfasts and lunches provided during the COVID-19 pandemic; and,

WHEREAS, the Board of Supervisors wishes to amend the FY 2021-22 budget and appropriate federal funding from the Federal Food and Nutrition Service Child Nutrition Service program to the Food Service category within the Isle of Wight County Schools budget.

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of Isle of Wight County, Virginia, that the FY 2021-22 budget is hereby amended and funds in the amount of two million one hundred twenty-two thousand seven hundred ninety-seven dollars ($2,122,797) from the Federal Food and Nutrition Service Child Nutrition Service program be appropriated to the Food Service budget category within the Isle of Wight County Schools budget.

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.

The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

COUNTY ADMINISTRATOR'S REPORT

County Administrator Keaton updated the Board on the issuance of General Obligation Bonds to include a market update; a review of the County's 2020 debt service; and the final results from the General Obligation Bonds sold last week and which funds projects in the County's Capital Improvements Plan over the next three years.

County Administrator Keaton acknowledged that the County's AA rating is a result of the fiscal policies adopted by the Board, conservative budgets, and the

accumulation of reserves. The County has received a very high credit rating from the rating agencies which allowed the County to command a lower interest rate of 2.37% from the investors who buy the bonds.

It was further noted by Supervisor Grice that because of the County's excellent financial status, the bonds sold at a premium and the County received more money than it has to pay back. He applauded Davenport & Company and staff for their efforts. He pointed out that taxes have not been raised in the County in seven years.

Assistant County Administrator Robertson provided a legislative update on the 2022 General Assembly Session. He stated the County's focus continues to be on SB37; a budget amendment associated with the Western Tidewater Regional Jail; SB481; HB251; HB90/SB451; and HB1010.

UNFINISHED/OLD BUSINESS

County Attorney Jones stated that pursuant to the Board's direction at its January work session he has drafted amendments to the County's ordinance to allow hunting of deer/bear with rifles. He advised that also responsive to the Board's direction, a representative from the Department of Wildlife Resources is in attendance tonight to address the Board this evening.

Peter Acker, Department of Wildlife Resources, advised that the State's position regarding hunting with rifles versus shotguns is neutral. He presented safety data for the last twenty years in Virginia of hunting incidents. He stated hunting is overall a safe activity.

Chairman Jefferson stated he believes that the amendments, if adopted, would place homeowners in the rural areas of the County at a disadvantage as there is a great deal of trees being cleared in the County.

Supervisor Rosie commented that the data shows that there has been far more harm with shotguns than with rifles. He agreed that an elevated stand is a good safety practice.

Supervisor Grice expressed concern that a landowner can't hunt with a rifle on his

own land.

Supervisor McCarty stated he has not talked to anyone who has asked him to approve the amendments. He inquired, if adopted, could it be restricted to not allow hunting in a Development Service District?

Supervisor Rosie recommended that the number of feet a hunter must be from a home be identified.

Supervisor McCarty moved to table action on the ordinance amendment and direct the County Attorney to investigate if a hunter can be restricted from hunting in a Development Service District; determine a number of feet a hunter must be from a home; and review the ordinances of Smithfield, Windsor and Sussex. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

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On the subject of local matching funds for the Virginia Technology Initiative (VATI) grant application, Assistant County Administrator Robertson reminded the Board that the County had received funding from the State with regard to the VATI grant and staff is working with partners in the region to work through the details and get to the point of a contract. He continued that when the Board was initially approached by staff, the Board approved match funding up to approximately $2.7 million and because the number of homes included in the VATI grant have been reduced, there is now an opportunity for the County's local match amount to be reduced to $2.4 million. He would recommend that the Board authorize staff to submit a letter in support of the revised grant match amount.

Supervisor McCarty moved to authorize the Chairman to sign the Letter of Support for the program and with a revised grant match amount. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

NEW BUSINESS

Ms. Ring presented the request of Jerry Kooiman on behalf of KS Carrollton, LLC,

property owner, for a height exception for the Heritage Apartment building located at 23321 Sugar Hill Road to allow the building to exceed the maximum height limit of 35 feet permitted in the Urban Residential District by 2.25 feet for a total building height of 37.25 feet requested. She provided background information on the application, to include its strengths and weaknesses. She advised that the Planning Commission voted to recommend denial of the exception request and staff also recommends that because the building exceeds the maximum permitted height for the district and that the height exception request also be denied.

Supervisor Rosie stated that the County has guidelines in its ordinance for how things should be built for a reason and if the Board makes an exception, then why have an ordinance?

Mrs. Kooiman advised that a one-page application was submitted to the County with a site plan and a proposal to build a three-story building. The application did indicate 35.5 feet for the building. A year and four months later they submitted the architectural building plans which are detailed with specifics and the height of the building at that time in the building plans is shown as 36.4 feet. The plans were reviewed, approved and stamped and construction began last year in October of 2021. Three months into the construction process they received a notice that the building was nonconforming with the height according to the County's ordinance. They immediately engaged with County staff for direction on how to proceed. They informed us of the two options, as follows: 1.) we cut down the roof or 2.) apply for a variance. They had hoped that it would be resolved administratively; however, it was not. In the process of applying for a variance, they learned that neither central permitting or inspections checks the height of the building as permitted and submitted with the architectural building plan. She stated that there is no advantage on her end to build a building that is slightly taller than the County's ordinance. She recognized staff for making sure that all safety issues that were submitted were reviewed extensively and addressed. She stated the neighboring parcel is also a commercial parcel and there could be a building next door to them that is up to 50 feet. She stated that she looks to the County as the expert on ordinances and when they review, approve and stamp plans as was done in their case, she thinks that should be honored unless there is an error. She stated the only viable solution today is to obtain a variance; anything else would financially ruin them.

County Attorney Jones clarified that if a permit is issued that is not in harmony with the Zoning Ordinance, it would be null and void as stipulated under Section 1012, paragraph B2 which stipulates that all department officials and public employees of Isle of Wight County which are vested with the duty or authority to issue permits or licenses shall do so in conformance with the provisions of this ordinance. Such departments and personnel shall issue permits for uses and purposes only when they are in harmony with the provision of the ordinance. He opined that if a permit is issued that is not in harmony with the zoning ordinance it will be null and void. He reiterated that the building permit was issued properly, the building is designed structurally in accordance with the Virginia Statewide Building Permit, but the construction plans did not list the building being 34.5 feet tall. He stated the bottom line is that the architect drew the building too tall.

Supervisor McCarty expressed the important of listening to the citizens and noted he would like to know how they would feel about the site line being screened or mitigated.

Supervisor Rosie asked what could be done in terms of screening.

Mr. Kooiman advised that in lieu of the lower bushes, he would be willing to plant a very fast-growing tree that grows approximately four feet annually and provides a privacy screen.

Supervisor Grice stated he would like a favorable response from the affected neighbors in support of Mr. Kooiman's mitigation plan.

Mr. Kooiman inquired if the Board would be willing to authorize the County Administrator to lift the cease order and allow him to continue with the project and work on floors 1, 2 and 3 while any issues get resolved.

Supervisor Grice moved that the discussion be tabled until the Board's March 3, 2022 work session at which time Mr. Kooiman is to return with a mitigation plan. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

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On the subject of updated Voting Districts, Precincts and Polling Places, Caleb Kitchen, on behalf of the Isle of Wight Electoral Board which is charged with conducting free, open, fair and transparent elections and to provide oversight for the Registrar's office. The Electoral Board is recommending that Smithfield be District 1; Newport be District 2; Hardy be District 3; Windsor be District 4; and Carrsville be District 5. The Supreme Court of Virginia established new district lines for the House of Representatives, the State Senate and the Virginia House of Delegates and the County experienced a change in all three, but the change which caused the greatest challenge for the Electoral Board was the Virginia House of Delegates, specifically the County's line between 83rd and 84th House of Delegates District which have created split precincts where there are two distinct polling locations physically set up within the same polling location. The concern is without making any of these small voting districts adjustments, the County would be looking at eight of those precincts, some of which would not even have 100 people in them. To address this issue, the Code of Virginia allows localities to make minor adjustments under limited circumstances. The number of A/B precincts has been reduced to two, one at Nike Park and the other at Cypress Creek.

Supervisor McCarty moved to authorize a public hearing for the Board's March 3, 2022 work session for consideration of the updated voting district precincts and polling places as presented. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

County Administrator Keaton presented a Resolution to Adopt Financial and Accounting Policy Amendments to Isle of Wight County Policy Manual which updates the dollar limits for purchasing. He explained that the County has always taken a more conservative approach by using half of the State's number. He advised that the State has raised the amount to $200,000.

Supervisor McCarty moved to amend the following resolution to go from $50,000 to $100,000 knowing that the State amount is $200,000:

RESOLUTION TO AMEND CHAPTER 2: FINANCIAL AND ACCOUNTING ARTICLE I, SECTION 1.33 OF THE COUNTY POLICY MANUAL

WHEREAS, the Commonwealth of Virginia General Assembly has amended the State Code relative to central purchasing and procurement; and;

WHEREAS, Isle of Wight County's policies and procedures need to be amended to come into conformity with federal and State laws; and,

WHEREAS, the County's policies and procedures need to be periodically updated to conform with current practices.

NOW, THEREFORE, BE IT RESOLVED that revisions to Chapter 2: Financial and Accounting, Article I, Section 1.33 of the County Policy are hereby adopted as follows:

Section 1.33 - General Procedure
(Revised ~~July 1, 2019~~ February 17, 2022)

1. The purpose of this article is to enunciate the public policies pertaining to governmental procurement from nongovernmental sources, to include governmental procurement which may or may not result in monetary consideration for either party. This article shall apply whether the consideration is monetary or nonmonetary and regardless of whether the county, the contractor, or some third party is providing theconsideration.

2. All single or term contracts for goods and services other than professional services when the estimated cost is expected to exceed ~~one~~ two hundred thousand dollars ($~~1~~200,000) shall be purchased from the lowest responsive, responsible bidder, after due notice inviting bids.

3. Construction of improvements estimated to cost more than ~~fifty~~ one hundred thousand dollars ($~~5~~100,000.00) shall be procured only by competitive sealed bidding. Transportation improvements estimated to cost more than twenty-five thousand dollars ($25,000.00) shall be procured only by competitive sealed bidding. When it is in the County's best interest, formal solicitation requirements for other than professional services and transportation related construction may be waived up to two hundred thousand dollars ($200,000) by writing a justification to the

Purchasing Agent explaining why competitive sealed bidding or competitive negotiation is not advantageous. The Purchasing Agent will seek approval or disapproval of the County Administrator before proceeding.

The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

Gerald H. Gwaltney, Commissioner of the Revenue, addressed the impact of personal property valuations in the County. Looking at the 2022 property values, due to the economic situation with supply and demand, it is found that new vehicle inventory is down due to Covid-19 cases impacting the workforce and a shortage of computer chips. Used Vehicle inventory is also down due to very few trade-ins and travel down and lease companies not replacing its fleet. The County's property fleet was sent to be valued by JD Power and 95% of the 26,000 vehicles increased in value. The increase in value is going to result in an increased tax bill for taxpayers. Regarding the car tax relief, the County receives from the State annually $5.1 million for personal use vehicles only. The relief is only on the first $20,000 of value and he noted that as the value goes up, the relief percentage goes down. A 40% relief to taxpayers was awarded last year; however, with the increase in values staff is projecting 35% in 2022. He recommended that the Board reduce the Personal Property tax rate 20 cents and adopt a Personal Property tax rate of $4.30 as the tax relief is provided to all vehicles; is business friendly; business vehicles receive relief since those vehicle do not receive State car tax relief; business equipment tax is also lowered; the County no longer has the highest regional Personal Property tax rate; and in order to fund the reduced rate, $530,000 is needed to fund each 10 cent reduction in tax rate.

Supervisor McCarty moved to authorize the County Attorney to advertise a public hearing on the Personal Property tax rate of $4.30. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

The subject of interim salary adjustments for public safety employees was introduced by Michelle Clark, Director of Human Resources. Salaries in the Sheriff's Department, Animal Control, Dispatchers, Fire and Emergency Services were

compared against those in other localities and staff recommended a 5% increase which will cover the period of March through June to include FICA and retirement for a cost of $99,233.00.

Sheriff Clarke thanked the Board for its support and noted that while the 5% increase is appreciated, deputies in his department are still earning less than those employed by the Windsor Police Department. He noted that the County is competing against seven cities, and he would suggest a 7% raise for captains and below excluding himself and the Chief Deputy.

Supervisor McCarty remarked that he would like an opportunity to review the Sheriff's budget noting that funding of it is from County funds. Supervisor Grice asked the Sheriff to return to the Board with suggestions for a hiring bonus that would be payable over a period of time to assist with the recruitment of individuals and an outline of programs such as those used at West Point and the Air Force Academy where it will help the Sheriff recruit employees.

Supervisor McCarty moved that a 7% raise be granted to sworn law enforcement employees including Captains and below, Fire medics including Captains and below, Animal control officers, and E911 dispatchers effective March 1, 2022 and that the Sheriff return to the Board with suggestions on a hiring bonus that is payable out over a period of time which will assist in the recruitment of people. The motion was adopted (5-0) with Supervisors Jefferson, McCarty, Acree, Grice and Rosie voting in favor of the motion and no Supervisors voting against the motion.

ADJOURNMENT

At 11:00 p.m., Chairman Jefferson declared the meeting adjourned.

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Rudolph Jefferson, Chairman

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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
Regional Reports	Cover Memo	1/11/2022

2022 BOARD MEMBER REGIONAL REPRESENTATIVE

(Appointed by Board Vote)

Organization	Member	Term Expires
Hampton Roads Alliance	Grice	No Set Term
Hampton Roads Military Federal Facilities Alliance	Rosie	No Set Term
Hampton Roads Planning District Commission	Acree	No Set Term
	Keaton	No Set Term
Hampton Roads Transportation Accountability Commission	McCarty	No Set Term
Hampton Roads Transportation Planning Organization	McCarty	No Set Term
	Keaton	No Set Term
Southeastern Public Service Authority	Keaton	December 2021
	Etheridge/Alternate	December 2021
Western Tidewater Community Transportation Collaborative	Grice	No Set Term
Western Tidewater Regional Jail Authority	Jefferson	No Set Term
	McCarty	No Set Term
	Keaton	No Set Term
Western Tidewater Water Authority	Grice	June 2022
	Acree	June 2022
	Jones/Alternate	June 2022

Regional Reports

Updated/January 2022

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
Cynthia Taylor	Cover Memo	1/18/2022
Appointments Page	Cover Memo	3/9/2022

Carey Mills Storm

From: Cynthia Taylor
Sent: Tuesday, December 14, 2021 8:20 AM
To: Dick L. Grice
Cc: Carey Mills Storm
Subject: CAC Resignation

Dear Supervisor Grice:

In February 2019 the Board of Superiors appointed me to a second term on the Hampton Roads Community Advisory Committee. According to the CAC Bylaws, "no member shall serve more than two successive terms" which means I will be stepping down from this regional committee on February 1, 2022. I appreciated the opportunity to represent Isle of Wight County and to be a part of the decision-making process that impacts all citizens of Hampton Roads. Should my replacement wish to contact me regarding the duties and responsibilities of this appointment, I would be glad to share my experience.
Best wishes to you during the holiday season and in 2022.
Cynthia Taylor

BOARDS/COMMISSIONS/COMMITTEES

Boards/Commissions/Committees	Appointees	Contact	District	Expiration	
Commission on Aging	Maggie Richards - Resigned	371-9010	Windsor/District 4	December	2023
Commission on Aging	Shirley McGee - Resigned	356-0342	Smithfield/District 1	January	2022
Blackwater Regional Library Board	Sylvia J. Claggett	357-2644	Hardy/District 3	June	2022
Paul D. Camp Community College	Dr. Richard Antcliff	218=0749		June	2022
Commission on Aging	Thomas Finderson - Resigned	298-8978	Newport/District 2	March	2022
Commission on Aging	Brenda Reynolds	357-3300	Newport/District 2	January	2022
Commission on Aging	Jane March - Resigned	242-3807	Carrsville/District 5	November	2021
Commission on Aging	Ruth Hartsfield	242-9328	Windsor/District 4	April	2022
Community Transportation Adv. Committee	Cynthia Taylor (See attachment)			February	2022
Economic Development Authority	Carroll E. Keen, Jr.	357-4481	Newport/District 2	April	2022
Economic Development Authority	James Ford	357-3522	Hardy/District 3	April	2022
Hampton Roads Workforce Council	L'Tanya Johnson	242-9930	Business Leader	June	2022
Planning Commission	Glenn Seay (Resigned)	630-9048	Windsor/District 4	February	2024
Planning Commission	William Hulick - Resigned	503-0046	Newport/District 2	February	2025
Social Services Board	Brenda Mathew	641-1356	Newport/District 2	June	2022
Social Services Board	Barbara Stafford	357-9796	Smithfield/District 1	June	2022
STOP	Hazel Edwards	357-2761		March	2022

ISSUE:

Presentation from the Hampton Roads Retail Alliance

BACKGROUND:

At its retreat in January the Board discussed the potential of having a subject matter expert provide information relative to the factors that impact and inform decisions for the siting of retail businesses.

Jenny Crittenden, Senior VP, Retail Alliance, Kylie Sibert, VP of Corporate Communications, Retail Alliance, and Phil Scotti, owner of Philip Michael Fashion for Men and Chairman of the Board for Retail Alliance, will present information relative to locating sites for retail establishments.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

For the Board's information.

ISSUE:

Staff Update on COVID-19 Vaccine Rollout in Western Tidewater

BACKGROUND:

The infection rates for COVID-19 have begun to decline. Staff will provide an update regarding ongoing vaccine and testing efforts for Isle of Wight County residents.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

For the Board's information.

ISSUE:

Consideration of an Agreement with HRPDC and Partner Agencies and an Agreement with RURALBAND for County-wide Expansion of Broadband

BACKGROUND:

The County is participating in a regional effort with the Hampton Roads Planning District Commission, the City of Suffolk, and Southampton County to partner with Charter Communications to provide broadband services throughout the county. The County is also working with RURALBAND to provide broadband services to a portion of the County.

The Board may wish to enter into formal agreements to accomplish universal broadband service county-wide.

BUDGETARY IMPACT:

The Board has previously approved a local match of $2,400,000.

RECOMMENDATION:

Authorize execution of an agreement with HRPDC and Partner Agencies and an agreement with RURALBAND for the county-wide expansion of broadband.

ATTACHMENTS:

Description	Type	Upload Date
HRPDC Agreement	Agreement	3/17/2022
RURALBAND Agreement	Agreement	3/17/2022

MEMORANDUM OF AGREEMENT
BETWEEN
THE HAMPTON ROADS PLANNING DISTRICT COMMISSION AND
THE CITY OF SUFFOLK,
THE COUNTY OF SOUTHAMPTON, AND
THE COUNTY OF ISLE OF WIGHT
REGARDING
"HRPDC Universal Broadband for Suffolk, Isle of Wight, and Southampton 2022"

1. **PARTIES.**
The parties to this Memorandum of Agreement ("Agreement") are the Hampton Roads Planning District Commission (HRPDC), the City of Suffolk (Suffolk), the County of Southampton (Southampton), and the County of Isle of Wight (Isle of Wight). Suffolk, Southampton, and Isle of Wight are collectively the "Participating Localities".

2. **AUTHORITY.**
This Agreement is authorized under the approval of the Hampton Roads Planning District Commission, at its meeting held on March 17, 2022, the Suffolk City Council, at its meeting held on MONTH XX, 2022, the Southampton County Board of Supervisors, at its meeting held on MONTH XX, 2022, and the Isle of Wight County Board of Supervisors, at its meeting held on MONTH XX, 2022.

3. **PURPOSE.**
The purpose of this Agreement is to set forth terms by which HRPDC and the Participating Localities will provide services and personnel in order to complete the deliverables set forth in section "6. Conditions/Responsibilities" of this Agreement.

4. **BACKGROUND.**
The HRPDC, on behalf of the Participating Localities and in partnership with Spectrum Southeast, LLC (Charter Communications), submitted a grant application to the Virginia Telecommunications Initiative (VATI) through the Virginia Department of Housing and Community Development (DHCD) to provide universal broadband service in the Participating Localities. The project set forth in the VATI grant application (VATI Project) has been awarded $21,120,053.50. The Participating Localities will provide an additional $6,400,000 in local contributions designated as match for the VATI Project. Charter Communications will supplement grant funds and local contributions towards the total VATI Project cost of $34,959,576. The Participating Localities have designated the HRPDC to serve as their administrative/fiscal agent and administrator for the VATI Project, for which the HRPDC will receive administrative funding for such services.

5. **TERM.**
The terms of this Agreement, as modified with the consent of both parties, will remain in effect until June 30, 2025. The Agreement may be extended by mutual written agreement of HRPDC and the

Participating Localities. This Agreement may be terminated by any party upon 30 days' written notice to all other parties.

6. CONDITIONS/RESPONSIBILITIES.

HRPDC

1. The HRPDC will act as fiscal agent for the VATI Project and maintain accurate records of the financial expenditures of the VATI monies received and disbursed by HRPDC. HRPDC's services as fiscal agent shall include the preparation of periodic financial reports, payment of monthly funding draws, approval of expenditures and invoices, and the documentation of matching funds.

2. The HRPDC will provide overall grant management of the VATI Project and provide coordination and administration of the VATI Project by working as a liaison between the Participating Localities, Charter Communications, and DHCD.

3. The HRPDC will collect the local contributions from each of the Participating Localities on or before July 31, 2022 and disburse the contributions to Charter Communications in the manner set forth in the Memorandum of Agreement between the HRPDC and Charter Communications to be entered into on or before April 26, 2022, the terms of which shall be incorporated in this Agreement by reference.

SUFFOLK, SOUTHAMPTON COUNTY, AND ISLE OF WIGHT COUNTY

1. The Participating Localities will provide HRPDC with reasonable access to Participating Localities' information, as permitted by Virginia law, and personnel required to provide all work necessary in the network expansion activities, as provided by Charter Communications and the Memorandum of Agreement between the HRPDC and Charter Communications.

2. The Participating Localities will communicate in a timely manner with a Charter Communication point-of-contact for questions and requests regarding Charter's network expansion activities and the services to be provided using the network expansion.

3. In recognition of the VATI grant requirements of a matching contribution by the Participating Localities, the following has been committed and will be provided to the HRPDC as follows:
    a. The City of Suffolk - $3,000,000 by July 31, 2022
    b. Southampton County - $1,000,000 by July 31, 2022
    c. Isle of Wight County - $1,200,000 by July 31, 2022 and $1,200,000 by July 31, 2023

7. POINTS OF CONTACT; NOTICES

All notices, demands, and other communications to be given or delivered under or by reason of the provisions of this Agreement will be in writing and will be deemed to have been given (a) when personally delivered; (b) when transmitted via facsimile or other electronic device to the number set forth below if the sender on the same day sends a confirming copy of such notice by a recognized overnight delivery service, charges prepaid; (c) the first business day following the day, except if not a business day then the next Business Day, on which the same has been delivered prepaid to a reputable national overnight air courier service; or (d) the third business day following the day on which the same is sent by certified or registered mail, postage prepaid. Notices, demands, and communications, in each case to the respective parties, will be sent to the applicable persons and addresses set forth below, unless another address has been previously specified in writing.

The HRPDC Points of Contact for this project shall be:

Robert Crum
Executive Director
Hampton Roads Planning District Commission
723 Woodlake Drive
Chesapeake, Virginia 23320
rcrum@hrpdcva.gov757-420-8300

John Harbin
Senior Regional Planner
Hampton Roads Planning District Commission
723 Woodlake Drive
Chesapeake, Virginia 23320
jharbin@hrpdcva.gov
757-420-8300

The Suffolk Points of Contact for this project shall be:

Randah Gaitan
Senior Administrative Analyst
City of Suffolk
City Manager's Office
442 W Washington Street
Suffolk, VA 23434
rgaitan@suffolkva.us
757-514-4013

Regina Chandler
Interim Director of Information Technology
City of Suffolk
442 W Washington Street
Suffolk, VA 23434
rmchandler@suffolkva.us
757-514-7241

The Southampton County Point of Contact for this project shall be:

Ashley Covington
Marketing and Existing Business Manager
Franklin Southampton Economic Development
601 North Mechanic Street, Suite 300
Franklin, VA 23851
acovington@franklinsouthamptonva.com
757-562-1958

The Isle of Wight County Point of Contact for this project shall be:

Donald Robertson
Assistant County Administrator
Isle of Wight County
P.O. Box 80
17090 Monument Cir.
Isle of Wight, VA 23397
droberts@isleofwightus.net
757-365-6204

8. OTHER PROVISIONS.

Nothing in this Agreement is intended to conflict with current law or regulations of the Commonwealth of Virginia, the Department of Commerce, the City of Suffolk, Southampton County, or Isle of Wight County. If a term of this Agreement is inconsistent with such authority, then that term shall be invalid, but the remaining terms and conditions of this Agreement shall remain in full force and effect. This Agreement, and all claims or causes of action, whether in contract or tort, that may be based upon, arise out of, or relate to this Agreement or the negotiation, execution, or performance of this Agreement, including any claim or cause of action based upon, arising out of, or related to any representation and warranty made in or in connection with this Agreement, will be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

9. MODIFICATION.

This Agreement may be modified upon the mutual, written, consent of all parties.

10. CONTENT.

This Agreement contains the entire understanding and present intentions of the parties relating to the VATI Project, and supersedes any and all previous agreements or understandings they may have regarding this subject matter, whether orally or in writing.

11. **COUNTERPARTS**.

This Agreement may be executed in multiple counterparts, including by means of telecopied signature pages or electronic transmission in portable document format (pdf), any one of which need not contain the signatures of more than one party, and all such counterparts taken together will constitute one and the same instrument.

[Signature Pages Follow]

IN WITNESS WHEREOF, the Parties hereto have executed this MOA as of the day and year written below.

CITY OF SUFFOLK

_____

Albert S. Moor II Date
City Manager

ATTEST:

_____

Erika S. Dawley Date
City Clerk

Address: 442 W Washington Street
Suffolk, VA 23434

Attn: Regina Chandler, Interim Director of Information Technology
Email: amoor@suffolkva.us
Email: rmchandler@suffolkva.us

APPROVED AS TO FORM

_____

City Attorney Date

COUNTY OF SOUTHAMPTON

_____

Michael Johnson Date
County Administrator

Address: P.O. Box 400
26022 Administration Center Drive
Courtland, VA 23837

Attn: Lynette Lowe, Deputy County Administrator/Chief Financial Officer
Email: mjohnson@southamptoncounty.org
Email: llowe@southamptoncounty.org

APPROVED AS TO FORM

_____

County Attorney Date

COUNTY OF ISLE OF WIGHT

_____

Randy Keaton Date
County Administrator

Address: P.O. Box 80
17090 Monument Circle
Isle of Wight, VA 23397

Attn: Donald Robertson, Assistant County Administrator
Email: rkeaton@isleofwightus.net
Email: droberts@isleofwightus.net

APPROVED AS TO FORM

_____

County Attorney Date

Hampton Roads Planning District Commission

_____

Robert A. Crum, Jr. Date
Executive Director

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") entered into on November 16, 2021, by and between Prince George Electric Cooperative Enterprises LLC, dba RURALBAND, located at 7103 General Mahone Highway, Waverly, Virginia, 23890, hereinafter referred to as the "RURALBAND," and the County of Isle of Wight, Virginia, located at 17090 Monument Circle, Isle of Wight, VA 23397-0080, hereinafter referred to as the "County" (RURALBAND and County are collectively referred to as the "Parties"), for the purpose of establishing and achieving various goals and objectives relating to the project contemplated by the Parties.

WHEREAS, RURALBAND has been awarded funding from the FCC's Rural Digital Opportunity Fund ("RDOF") to cover a portion of the cost of building and maintaining a fiber network and providing broadband service to specific unserved or underserved located within census block group locations in the County ("the Project"); and

WHEREAS, RURALBAND agrees to construct the awarded RDOF areas awarded to RURALBAND in the county, providing broadband access to the unserved or underserved within a three year time from the announcement of FY 2022 VATI awards:

MISSION

The project will provide fiber-to-the-home (FTTH) access to the citizens of the county encompassed in the RDOF awarded block groups (510932801011, 510932801012).

PURPOSE AND SCOPE

This memorandum is to be considered the basis for any binding contracts between the parties in the future.

OBJECTIVES

The parties agree to work together to provide a reliable Broadband service to meet the needs of the unserved or underserved constituents located in the project area reflected in Exhibit A - Map of Project Area.

RESPONSIBILITIES AND OBLIGATIONS OF THE PARTIES

The parties agree to work together to bring the project to fruition providing reliable Broadband access to the constituents of the county encompassed in the project are as depicted in Exhibit B Isle of Wight Serviceable Points. The parties furthermore agree to communicate project status updates on a semi-annual basis.

EXPENSES

The parties understand that various cost will be incurred in relation to activities contemplated herein. Except to the extent set forth in any other agreements between any of the Parties, including any Definitive Agreements, the Parties understand that none of the Parties herein shall be responsible for reimbursement of expenses to any of the others.

TERMINATION

Any Party may terminate its participation in this Memorandum at any time, with or without cause, upon written notice to the other Parties.

LIMITATION OF LIABILITY

No Party shall be liable to any other Party in contract, tort, or otherwise, for any claims, liabilities or losses arising out of this Memorandum or alleged to result from the failure of the other Party to enter into any Definitive Agreements. The Parties hereby waive, in advance, any claims (whether such claims are based on breach of contract, tort, equity or any other theory) for the failure for any reason to enter into the Definitive Agreements. In no event shall any Party be liable to any other Party for any incidental, indirect, special, punitive or consequential damages (including without limitation damages for lost profits).

GOVERNING LAW

This Memorandum shall be governed in all respects by the laws of the Commonwealth of Virginia.

AMENDMENTS

No modification, amendment or waiver of any of the provisions of this Memorandum will be binding without the written consent of the Parties hereto.

ASSIGNMENT

This Memorandum will *inure* to the benefit of and be binding upon each of the Parties hereto and their respective successors and permitted assigns to the extent that RURALBAND agrees to construct the awarded RDOF areas awarded to RURALBAND in the county, providing broadband access to the unserved or underserved within a three-year time from the announcement of FY 2022 VATI awards, but in no respect shall give rise to any third-party beneficiary rights or claims. No Party may assign any of its rights, interests, or obligations hereunder without the prior written consent of the other Parties, except that any of the Organizing Parties may assign this Memorandum to an affiliated entity upon written notice to the other Parties.

COUNTERPARTS

This Memorandum may be executed in counterparts, all of which for all purposes shall be deemed to be an original and all of which shall, taken together, constitute one and the same instrument.

RELATIONSHIP OF PARTIES

Nothing in this Memorandum shall be deemed to constitute, create, give effect to, or otherwise recognize a joint venture, partnership, or formal business entity of any kind.

NOTICES

All notices, requests and other communications hereunder shall be in writing and delivered by hand, by nationally-recognized delivery service that guarantees overnight delivery, or by first-class registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

If to PGEC Enterprises, LLC dba RURALBAND:

PGEC Enterprises, LLC dba RURALBAND
Attn: CEO
PO Box 196
Waverly, VA 23890

If to Isle of Wight County,
County Administrator's Office
Attn: County Administrator
P.O. Box 80
Isle of Wight, VA 23397

IN WITNESS WHEREOF, the Parties have executed this Memorandum as of the Effective Date.

PGEC ENTERPRISES, LLC DBA RURALBAND



Name: Cary J. Logan, Jr.

Title: CEO

IN WITNESS WHEREOF, the Participating County named below has executed this Memorandum as of the Effective Date.

Isle of Wight County, Virginia

_____

Name: Randy R. Keaton

Title: County Administrator

ISSUE:

Request of Nuby Run Solar, LLC, Applicant, on Behalf of Robert Benjamin Stagg, Property Owner, for a Conditional Use Permit to Establish a Utility Scale Solar Energy Facility on Property Located on Orbit Road Zoned Rural Agricultural Conservation and a Request to Withdraw Twenty Acres of the Property from the Courthouse Agricultural/Forestal District

BACKGROUND:

The subject parcel consists of approximately 117 acres located on the south side of Orbit Road (Rte. 637) in central Isle of Wight County. The property is bounded by Nuby Run to the south and contains primarily forested land along with approximately 20 acres of cultivated farmland along the road frontage. It is not part of any designated Development Service District (DSD) and is surrounded by other agricultural and forestal land that is zoned RAC. There are also several single-family residential homes located immediately to the north along Orbit Road.

Tax Parcel 39-01-038 is located three miles south of Isle of Wight Courthouse and is currently part of the Courthouse Agricultural/Forestal District. Before development of any more intensive use on the property, the parcel will have to be removed from the District. This may be accomplished by written request of the property owner, Robert William Stagg, who submitted his request for consideration by the Agricultural/Forestal District Advisory Committee at their meeting on November 3, 2021. Based on their review, the Committee recommended approving the removal of the 20 acres proposed to be developed for the solar facility from the District. The land on which the solar facility is located would also be subject to changes in real estate tax value and back taxes, if removal is approved.

BUDGETARY IMPACT:

None

RECOMMENDATION:

The Planning Commission recommended approval of the conditional use permit request by a vote of four in favor and three against with the attached conditions:

1. The subject property shall be developed in general conformity with the Concept Plan included in the Nuby Run Solar application.

2. The portion of the subject property supporting solar panels shall be enclosed by security fencing of a type which is harmonious with the rural, agricultural, and historical character of the County while meeting federal and state regulations for solar electric generating facility fencing as determined by the Zoning Administrator while upon approval of the site plan for the project.
3. The applicant shall preserve and maintain both existing forest and vegetation as well as planted landscape buffering and shall not clear or cut live trees within required setbacks or buffer yards except as necessary to avoid shading of solar panels as approved by the Zoning Administrator.
4. The applicant shall submit an Emergency Response Plan with the first submission of the site plan, which shall detail fire suppression methods that will be immediately deployed during both construction and operation of the facility. The plan shall include a training program to be provided, at the discretion of the County, to County emergency response staff with regards to safety for on-site emergency response. The applicant shall install a Knox Box at the facility to ensure emergency responders have access to the facility should the need arise and include plans for the same on the project site plan.
5. The applicant shall conserve topsoil on the site to the maximum extent feasible. Topsoil stockpiled on the site shall be stored out of view from adjacent properties and public roads.
6. Hours of operation for construction activities to be limited to 7:00am to 6:00pm Monday through Friday and 9:00am to 5:00pm on Saturdays. No construction to occur on Sundays.
7. The applicant shall submit a Stormwater Management Plan and an Erosion and Sediment Control Plan with the submission of the final site plan. The applicant shall reimburse the County for reasonable costs related to retaining such third-party inspectors as deemed necessary for project inspections.
8. Prior to issuance of any construction permit, the applicant shall submit the concurrence of the completed and provided Phase 1 Cultural Resource Assessment from the Virginia Department of Historical Resources.
9. The applicant shall submit an invasive species management plan as recommended by DCR with the submission of the final site plan.
10. The applicant shall host at least two separate job fairs within Isle of Wight County to hire for the created jobs referenced in the applicant's permit narrative. These job fairs will be planned, located, and scheduled in consultation with county staff.
11. The applicant shall submit a seed mix for site groundcover that includes native pollinators blooming in spring/summer as recommended by DCR with the submission of the final site plan.
12. A sign shall be installed at the entance of the site with contact information for the facility.

Staff also recommended approval of the application with the conditions listed.

ATTACHMENTS:

Description	Type	Upload Date
Nuby Run PC Staff Rpt 012522	Backup Material	3/7/2022
Location Map	Exhibit	1/13/2022
Close Up Map	Exhibit	1/13/2022
Land Use Map	Exhibit	1/13/2022
Zoning Map	Exhibit	1/13/2022
Conceptual Plan	Backup Material	1/13/2022
Project Narrative	Backup Material	1/14/2022
Updated Economic Impact Memo	Backup Material	1/14/2022
Appendix A Nuby Run Viewshed Analysis	Cover Memo	1/24/2022
Appendix B - NC State Health Study	Cover Memo	1/24/2022
Appendix C - FAA Notice Criteria Result	Cover Memo	1/24/2022
Appendix D - Wetlands Delineation Map	Cover Memo	1/24/2022
Appendix E - Phase 1 ESA Executive Summary	Cover Memo	1/24/2022
Appendix F - USFWS Official Species List	Cover Memo	1/24/2022
Appendix G - VADCR Natural Heritage Project Review Report	Cover Memo	1/24/2022
Appendix H - VCRIS Map	Cover Memo	1/24/2022
Appendix I - Nuby Run Decommissioning Letter	Cover Memo	1/24/2022
Appendix J - Economic Impacts Memo	Cover Memo	1/24/2022
Appendix K - Nuby Run Proposed CUP Conditions	Cover Memo	1/24/2022
Appendix L - Nuby Run Solar Transportation Plan	Cover Memo	1/24/2022
Appendix M - Nuby Run Solar Desktop Cultural Resources Assessment	Cover Memo	1/24/2022
Appendix N - Nuby Run AFD Withdrawal Letter and Committee Recommendation	Cover Memo	1/24/2022
Appendix O - Nuby Run Solar Interconnection Request	Cover Memo	1/24/2022
Appendix P - Phase 1 Archaeological Survey and Reconnaissance Architectural Survey	Cover Memo	1/24/2022
Appendix Q - Nuby Run WQIA Report	Cover Memo	1/24/2022
Appendix R - Existing Vegetation Shading Description	Cover Memo	1/24/2022
Nuby Run CUP BOS Ordinance	Ordinance	3/9/2022

PLANNING REPORT

APPLICATION:

Request of Nuby Run Solar, LLC, applicant, on behalf of Robert Benjamin Stagg, property owner, for a conditional use permit (CUP) to establish a major utility service, specifically a utility scale solar energy facility, on property located on Orbit Road with tax parcel number 39-01-038, and zoned RAC, Rural Agricultural Conservation. The application includes a request to withdraw twenty acres of the property from the Courthouse Agricultural/Forestal District.

ELECTION DISTRICT:

Windsor

LOCATION:

The subject parcel consists of approximately 117 acres located on the south side of Orbit Road (Rte. 637) in central Isle of Wight County. The property is bounded by Nuby Run to the south and contains primarily forested land along with approximately 20 acres of cultivated farmland along the road frontage. It is not part of any designated Development Service District (DSD) and is surrounded by other agricultural and forestal land that is zoned RAC. There are also several single-family residential homes located immediately to the north along Orbit Road.

BACKGROUND:

Tax Parcel 39-01-038 is located three miles south of Isle of Wight Courthouse and is currently part of the Courthouse Agricultural/Forestal District. Before development of any more intensive use on the property, the parcel will have to be removed from the District. This may be accomplished by written request of the property owner, Robert William Stagg, who submitted his request for consideration by the Agricultural/Forestal District Advisory Committee at their meeting on November 3, 2021. Based on their review, the Committee recommended approving the removal of the 20 acres proposed to be developed for the solar facility from the District. The land on which the solar facility is located would also be subject to changes in real estate tax value and back taxes, if removal is approved.

DESCRIPTION:

The applicant proposes to establish a 2MW solar energy facility on approximately twenty acres of the 117-acre property, in an area that is already cleared and currently used for farming. A limited amount of tree clearing is proposed in the adjacent forested area to reduce potential shading of the solar facility, but no panels are proposed to occupy the cleared area. A driveway access and small parking area are to be located on the northwest corner of the site, along with customer switchgear and the point of connection to existing transmission lines. The proposed access point to the parcel is about 400 feet east of the neighboring property line and is separated from the residence on the property by existing forest land.

If the CUP is granted, the applicant will be required to meet all supplementary use regulations and must also follow the appropriate site plan review process to facilitate development of the site.

COMPREHENSIVE LAND USE PLAN:

The future recommended land use designation for these properties is Rural Agricultural Conservation (RAC) and Resource Conservation (RC) under the adopted Comprehensive Plan. Appropriate uses for the RAC land use designation include agriculture, horticulture, forest lands, and scattered low-density residential uses. Other uses such as resource extraction and utility-scale solar facilities are also permitted when appropriately sited. Appropriate uses for the RC land use designation include wetlands, farms, forest uses, open space, and limited park facilities.

Solar energy facilities are considered compatible with the RAC land use when properly sited and with the

application of appropriate development criteria. The areas designated as RC should be preserved due to environmental constraints, unless site-specific analysis demonstrates there are no environmental concerns in a specific area. The proposed use in this case is restricted to the existing agricultural land along the road and will be required to use screening landscaping and appropriate fencing to minimize its visual impacts to the surrounding area.

ORDINANCE REVIEW:

The zoning district classification for this property is RAC. The RAC zoning district is intended to preserve and protect areas of the County that are predominantly in agricultural and forestal use and to maintain the existing land base to support those activities. The applicant proposes to establish a 2MW solar energy facility which is classified as a major utility service use type in the zoning ordinance. These facilities are permitted as conditional uses in the RAC district and may be considered compatible with appropriate conditions to mitigate any potential negative impacts on the surrounding community.

Section 1-1017 of the Zoning Ordinance provides standards for review of a conditional use application that the Planning Commission and Board of Supervisors shall consider before granting a conditional use permit. They are as follows:

1. That the establishment, maintenance, and operation of the conditional use will not be detrimental to or endanger the public health, safety, and general welfare;
2. That the conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially impair the use of other property within the immediate proximity;
3. That adequate utilities, water, sewer or septic system, access roads, storm drainage and/or other necessary public facilities and improvements have been or will be provided;
4. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion on the public streets;
5. That the proposed conditional use is not contrary to the goals and objectives of the Isle of Wight County Comprehensive Plan;
6. That the conditional use shall, in all other respects, conform to the applicable regulations of the zoning district classification in which it is located and to the special requirements established for the specific use; and
7. That the use(s) at the location proposed will not result in a multiplicity or saturation of similar uses in the same general neighborhood of the proposed use.

In addition to the standards and other guidelines described in the Zoning Ordinance, the Board may impose conditions or limitations on any approval, including the posting of performance guarantees. Such conditions may include, but are not necessarily limited to:

1. The number of persons living or working in the immediate area and the proposed hours of operation, as may applicable;
2. Traffic conditions, including facilities for pedestrians, such as sidewalks and parking facilities; the access of vehicles to roads; peak periods of traffic; and proposed roads, but only if construction of such roads will commence within the reasonably foreseeable future;
3. The orderly growth of the neighborhood and community and the fiscal impact on the County;
4. The effect of odors, dust, gas, smoke, fumes, vibration, glare, and noise upon the use of surrounding properties;
5. Facilities for police, fire protection, sewerage, water, trash and garbage collection and disposal, and the ability of the County or persons to supply such services;
6. The degree to which the development is consistent with generally accepted engineering and planning principles and practices;
7. The structures in the vicinity such as schools, houses of worship, theaters, hospitals, and similar places of public use;
8. The purposes set forth in this ordinance, the County's Comprehensive Plan, and related studies for land use, roads, parks, schools, sewers, water, population, recreation, and the like;
9. The environmental impact, the effect on sensitive natural features, and opportunities for recreation and open

9. The environmental impact, the effect on sensitive natural features, and opportunities for recreation and open space; and
10. The preservation of cultural and historic resources of landmarks.

The impacts of the proposed facility on public infrastructure will occur primarily during construction and will be minimal once established. In establishing the use, the enjoyment of neighboring properties may also be temporarily impacted by construction traffic and noise generation.

The subject parcel is located within the Chesapeake Bay watershed and is subject to Chesapeake Bay regulations. A wetlands delineation and perennial stream/RPA determination has been performed on the 40-acre portion of the parcel that includes the 20 acres proposed for development of the solar farm and the area surrounding it where clearing or other impacts may occur. The boundaries of each feature were confirmed by a site visit with the Virginia Department of Environmental Quality and a preliminary jurisdictional determination from the Army Corps of Engineers. The proposed conceptual plan shows that all development activities will be located outside of delineated environmental features and the applicant indicates that tree clearing will be limited to the minimum amount necessary to avoid excessive shading of panels. Any modifications to identified environmental features would require additional approvals from the County or the Army Corps prior to disturbance.

A Phase I archaeological study and architectural reconnaissance study were conduced in the Area of Potential Effects (APE). Three archaeological sites identified within the APE were found to have little research potential because of the lack of discernible features and relatively low artifact densities. No further work was recommended within the APE. Two houses within .5 miles of the site were also evaluated and were recommended as individually ineligible for the National Register of Historic Places.

The primary long-term impact of the project on surrounding properties would be visual which will be addressed by the supplementary standards in section 5-5003 of the Zoning Ordinance and by the conditions proposed below. Finally, the project is located less than a mile from the Solidago solar project but will not be visible from that site. With the conditions noted, the proposed facility is consistent with the provisions of the Comprehensive Plan and can conform to all applicable regulations.

AGENCY REVIEW:

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

- County Attorney: The conditions offered are acceptable and enforceable as presented.
- Economic Development: The applicant's offer to work with SHINE and Paul D. Camp Community College for workforce training is encouraging.
- Emergency Services: Fire-Rescue has no concerns at this time.
- General Services (Stormwater and Utilities): This project is subject to Construction General Permit Coverage, which will require preparation of a Stormwater Pollution Prevention Plan (SWPPP). SWPPP compliance will be verified during the site plan review process.
- Sheriff 's Office:No comments at this time.
- Virginia Department of Conservation and Recreation: Natural heritage resources have not been identified within the project boundary, but potential habitat for natural heritage resources intersects the project boundary and the project will also fragment an Ecological Core C4 as identified in the Virginia Natural Landscape Assessment. Cores are areas of unfragmented habitat with at least 100 acres of interior and are ranked from C1 to C5 (most to least ecologically relevant). DCR recommends preparation of an invasive species management plan, minimizing fragmentation of the Ecological Core, minimizing edge in remaining fragments, and designing intervening landscape for native wildlife.
- VDOT: No issues identified. Compliance with VDOT requirements will be verified during site plan review.

Please note that, should this project be approved, it will be subject to review and approval from all associated agencies.

STAFF CONCLUSIONS:

Strengths:

1. The application is consistent with the Comprehensive Plan and can meet all ordinance requirements.
2. The proposed use will have minimal impact on community facilities and resources with the conditions presented.
3. The project is not visible from other approved or proposed solar projects in the County.

Weaknesses:

1. The proposed use would remove agricultural land from production.
2. Some impact to residential development in the area is expected during the construction phase.

STAFF RECOMMENDATION:

Staff recommends approval of the CUP with the following: 1. The subject property shall be developed in general conformity with the Concept Plan included in the Nuby Run Solar application. 2. The portion of the subject property supporting solar panels shall be enclosed by security fencing of a type which is harmonious with the rural, agricultural, and historical character of the County while meeting federal and state regulations for solar electric generating facility fencing as determined by the Zoning Administrator while upon approval of the site plan for the project. 3. The applicant shall preserve and maintain both existing forest and vegetation as well as planted landscape buffering and shall not clear or cut live trees within required setbacks or buffer yards except as necessary to avoid shading of solar panels as approved by the Zoning Administrator. 4. The applicant shall submit an Emergency Response Plan with the first submission of the site plan, which shall detail fire suppression methods that will be immediately deployed during both construction and operation of the facility. The plan shall include a training program to be provided, at the discretion of the County, to County emergency response staff with regards to safety for on-site emergency response. The applicant shall install a Knox Box at the facility to ensure emergency responders have access to the facility should the need arise and include plans for the same on the project site plan. 5. The applicant shall conserve topsoil on the site to the maximum extent feasible. Topsoil stockpiled on the site shall be stored out of view from adjacent properties and public roads. 6. Hours of operation for construction activities to be limited to 7:00am to 6:00pm Monday through Friday and 9:00am to 5:00pm on Saturdays. No construction to occur on Sundays. 7. The applicant shall submit a Stormwater Management Plan and an Erosion and Sediment Control Plan with the submission of the final site plan. The applicant shall reimburse the County for reasonable costs related to retaining such third-party inspectors as deemed necessary for project inspections. 8. Prior to issuance of any construction permit, the applicant shall submit the concurrence of the completed and provided Phase 1 Cultural Resource Assessment from the Virginia Department of Historical Resources. 9. The applicant shall submit an invasive species management plan as recommended by DCR with the submission of the final site plan. 10. The applicant shall host at least two separate job fairs within Isle of Wight

County to hire for the created jobs referenced in the applicant's permit narrative. These job fairs will be planned, located, and scheduled in consultation with county staff. 11. The applicant shall submit a seed mix for site groundcover that includes native pollinators blooming in spring/summer as recommended by DCR with the submission of the final site plan.

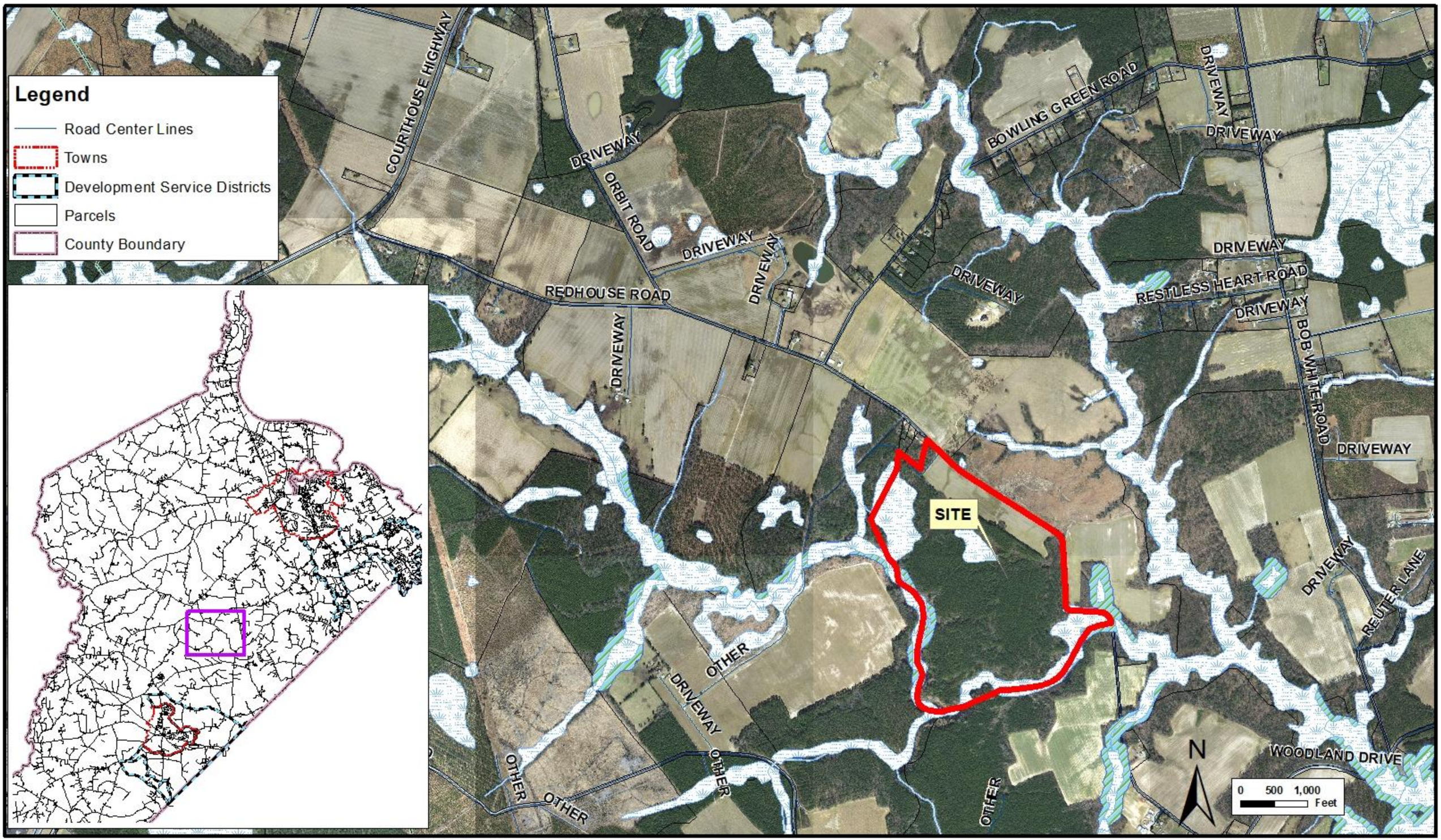
ATTACHMENTS:

Description	Type	Upload Date
Location Map	Exhibit	1/13/2022
Close Up Map	Exhibit	1/13/2022
Land Use Map	Exhibit	1/13/2022
Zoning Map	Exhibit	1/13/2022
Conceptual Plan	Backup Material	1/13/2022
Project Narrative	Backup Material	1/14/2022
Updated Economic Impact Memo	Backup Material	1/14/2022
PC Resolution	Resolution	1/13/2022
Appendix A Nuby Run Viewshed Analysis	Cover Memo	1/24/2022
Appendix B - NC State Health Study	Cover Memo	1/24/2022
Appendix C - FAA Notice Criteria Result	Cover Memo	1/24/2022
Appendix D - Wetlands Delineation Map	Cover Memo	1/24/2022

Appendix D - Wetlands Delineation Map	Cover Memo	1/24/2022
Appendix E - Phase 1 ESA Executive Summary	Cover Memo	1/24/2022
Appendix F - USFWS Official Species List	Cover Memo	1/24/2022
Appendix G - VADCR Natural Heritage Project Review Report	Cover Memo	1/24/2022
Appendix H - VCRIS Map	Cover Memo	1/24/2022
Appendix I - Nuby Run Decommissioning Letter	Cover Memo	1/24/2022
Appendix J - Economic Impacts Memo	Cover Memo	1/24/2022
Appendix K - Nuby Run Proposed CUP Conditions	Cover Memo	1/24/2022
Appendix L - Nuby Run Solar Transportation Plan	Cover Memo	1/24/2022
Appendix M - Nuby Run Solar Desktop Cultural Resources Assessment	Cover Memo	1/24/2022
Appendix N - Nuby Run AFD Withdrawal Letter and Committee Recommendation	Cover Memo	1/24/2022
Appendix O - Nuby Run Solar Interconnection Request	Cover Memo	1/24/2022
Appendix P - Phase 1 Archaeological Survey and Reconnaissance Architectural Survey	Cover Memo	1/24/2022
Appendix Q - Nuby Run WQIA Report	Cover Memo	1/24/2022
Appendix R - Existing Vegetation Shading Description	Cover Memo	1/24/2022

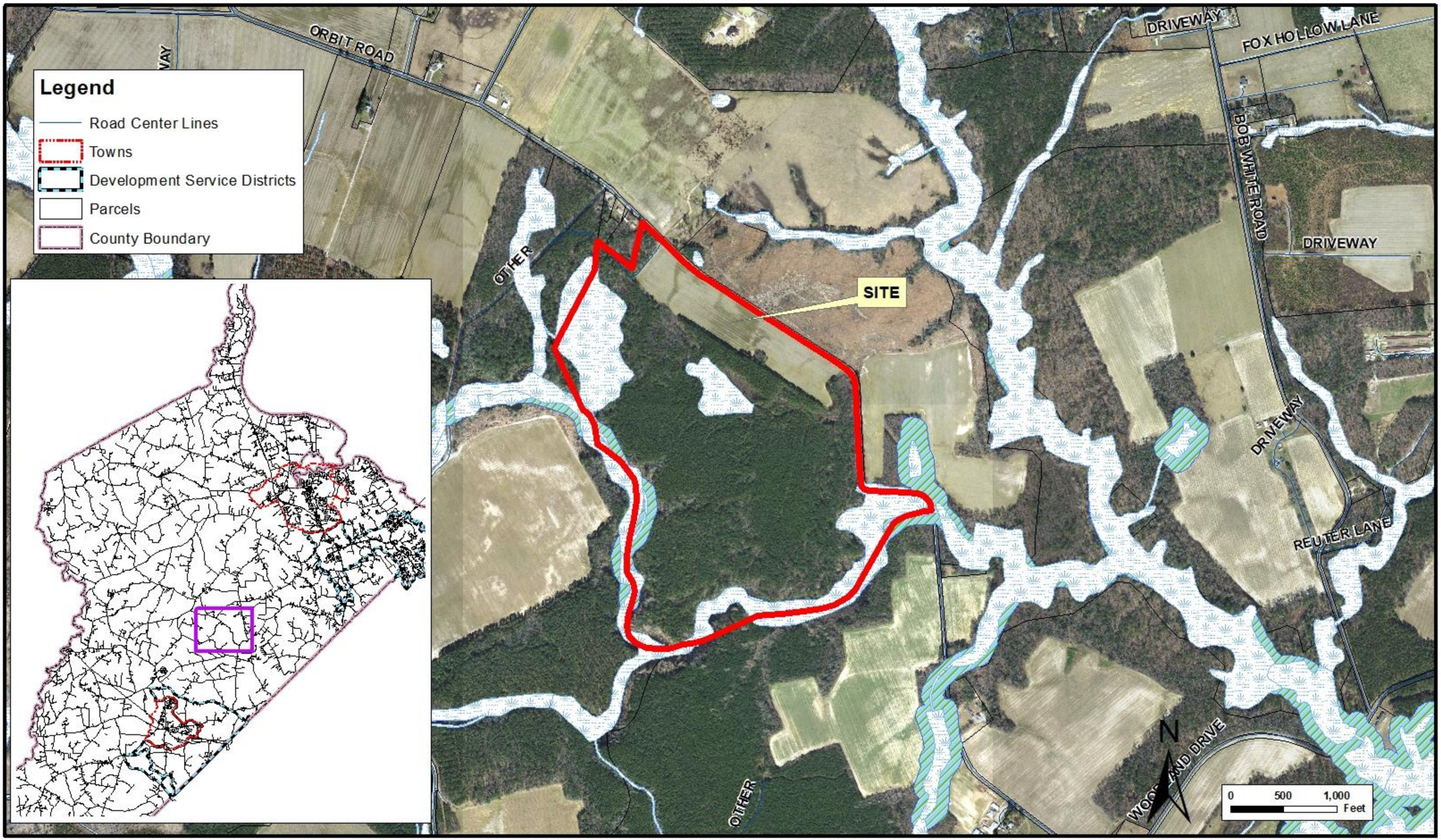
CUP-05-21 Nuby Run Solar - Location Map

Local Roots, Global Reach
ISLE OF WIGHT
COUNTY, VIRGINIA



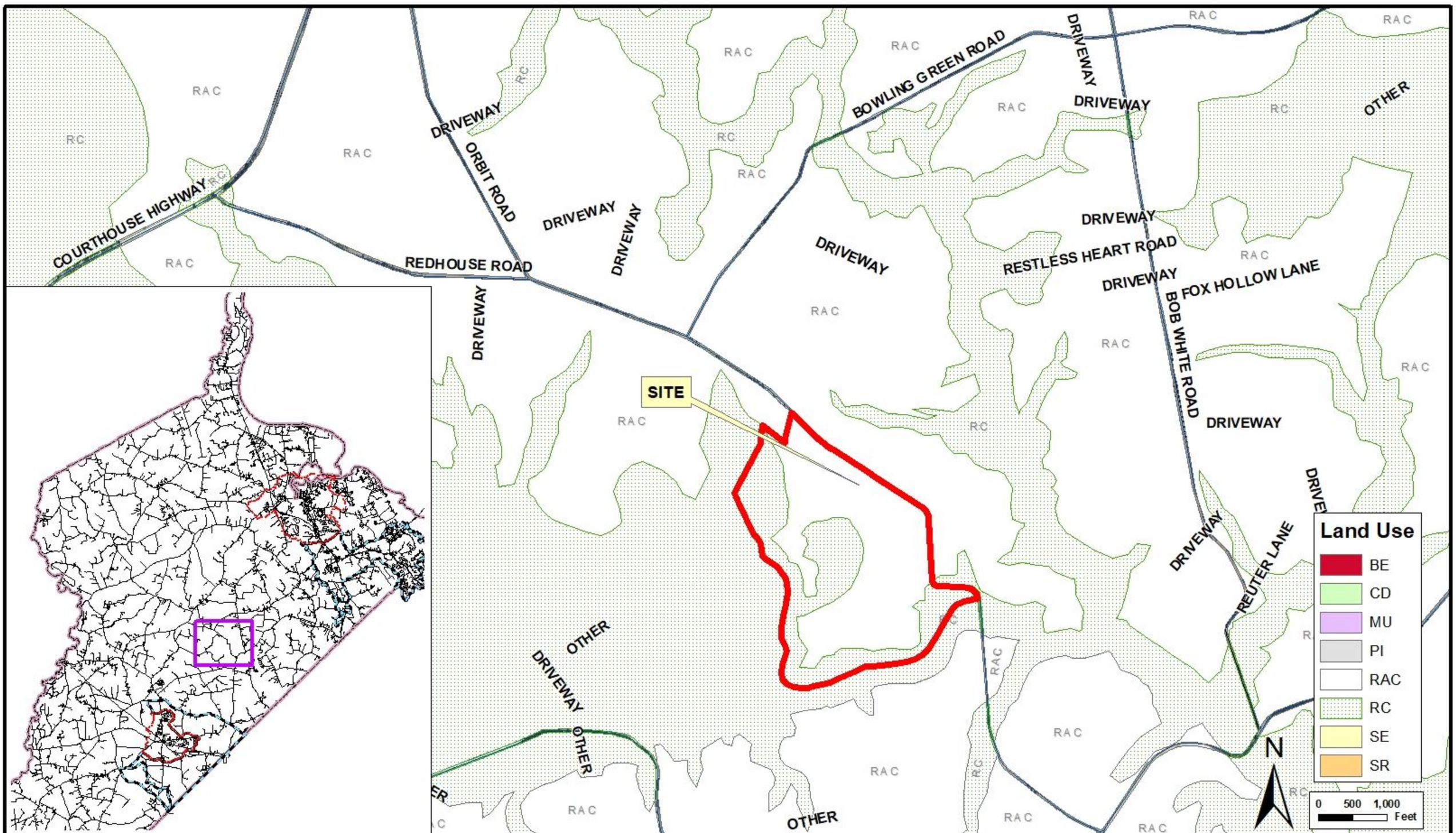
CUP-05-21 Nuby Run Solar - Location Closeup Map

Local Roots, Global Reach
ISLE OF WIGHT
COUNTY, VIRGINIA



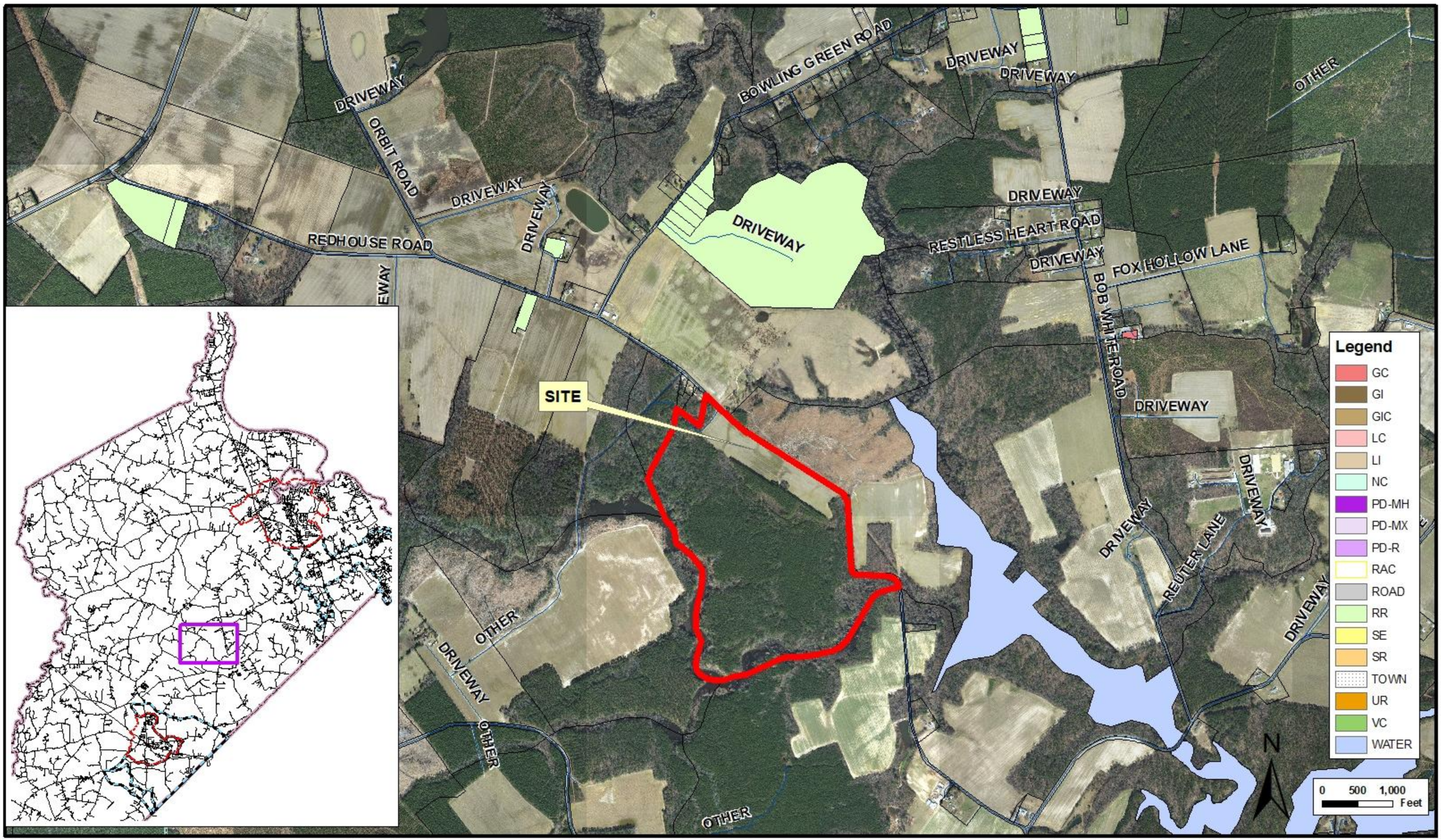
CUP-05-21 Nuby Run Solar - Land Use Map

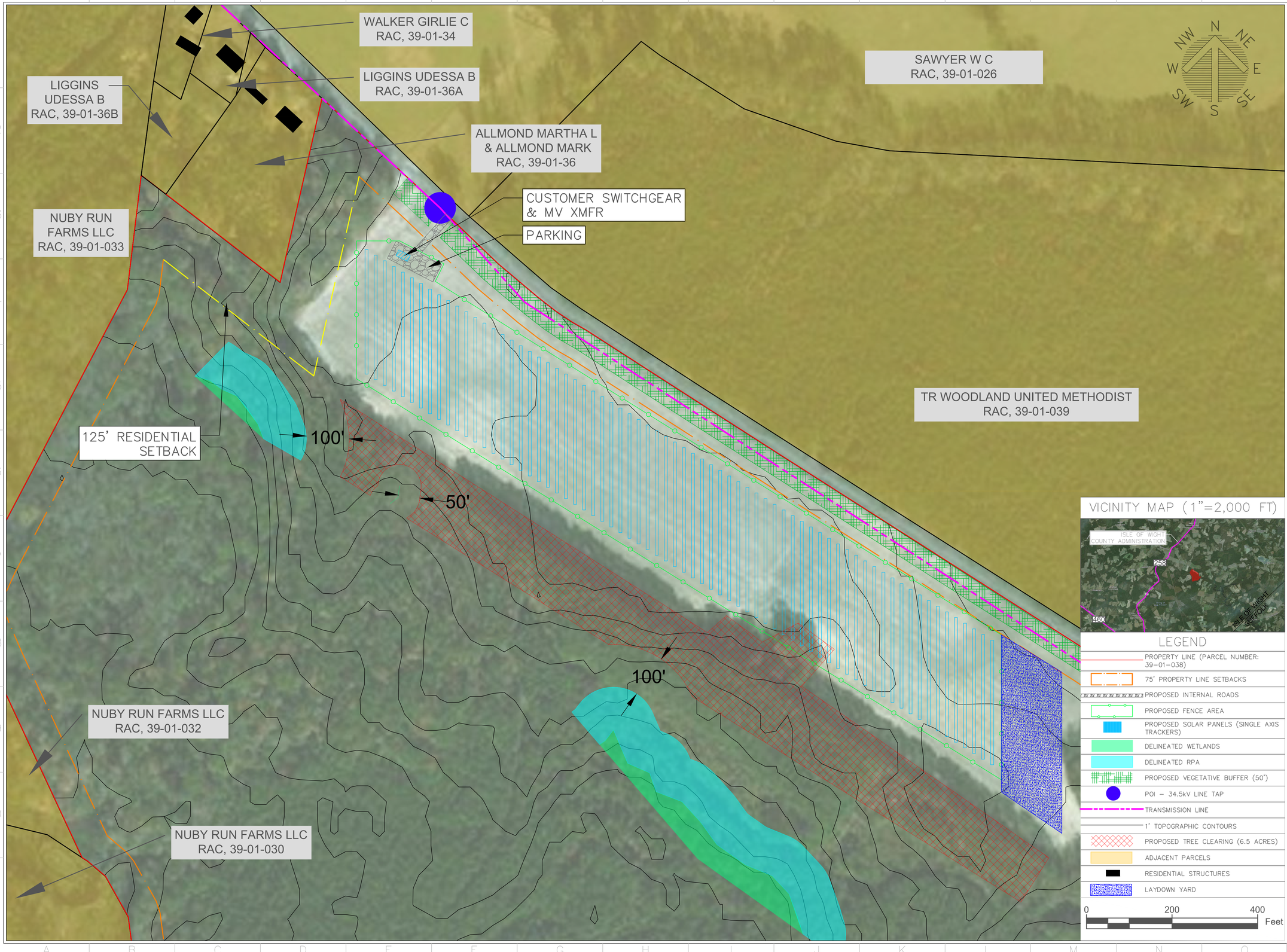
Local Roots, Global Reach
ISLE OF WIGHT
COUNTY, VIRGINIA



CUP-05-21 Nuby Run Solar - Zoning Map

Local Roots, Global Reach
ISLE OF WIGHT
COUNTY, VIRGINIA





HEXAGON ENERGY

HEXAGON ENERGY, LLC
321 E. Main St, Suite 500
Charlottesville, VA 22902
Phone: 434.227.5090
Website: www.hexagon-energy.com

Professional Engineer:

PE Seal:

DRAWING TYPE

☒ Preliminary	☐ Construction
☐ Customer Approval	☐ As-built
☐ Permitting	☐ Other

REVISIONS

Rev	By	Description	Date
0	EO	RFP PLAN	3/30/2021
1	EO	PERMIT PLAN	4/15/2021
2	EO	RFP PLAN	7/30/2021
3	EO	COUNTY SITE PLAN	9/28/2021
4	EO	REVISE TREE CLEARING AND VICINITY MAP	12/15/2021

Project Name:
NUBY RUN SOLAR, LLC

Site Address:
ORBIT RD
WINDSOR, VA 23487
36.882° N, -76.689° W

Sheet Name:
SITE PLAN

Scale: 1"=100FT | Project ID: TBD

Sheet No:
L1.1

HEXAGON ENERGY

Application for Nuby Run Solar Conditional Use Permit

Pursuant to

Code of the County of Isle of Wight, Virginia

Submitted June 16, 2021
Revised September 30, 2021
Additionally Revised December 17, 2021

Prepared for:
Isle of Wight County
Planning Commission
220 N. Church Street
Smithfield, Virginia 23430

Prepared by:
Hexagon Energy, LLC
321 E Main St. | Suite 500 | Charlottesville, VA 22902
Tel: 434-227-5090 | hexagon-energy.com

NOTICE OF RESTRICTIONS

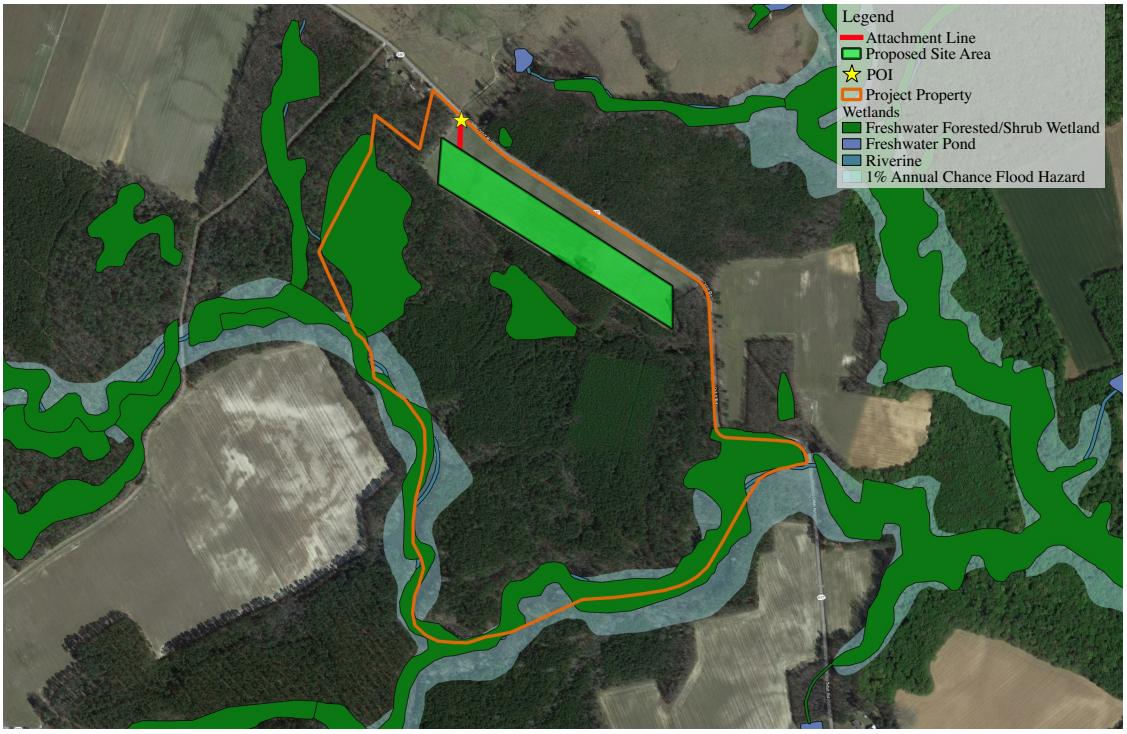
This document includes data that shall not be disclosed outside of Isle of Wight County and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this information. This restriction does not limit Isle of Wight County's right to use information contained in this data if it is obtained from another legitimate source without restriction. The data subject to this restriction are contained in all sheets marked with the following legend: "Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal or quotation."

Project Narrative

Nuby Run Solar – 2MW$_{AC}$

Winsor, VA

Isle of Wight County



✓ **WELL-SITED**

As a less intense land use, the project is appropriately located away from DSDs. Site design mitigates adverse impacts to natural, scenic, and cultural resources.

✓ **LOW IMPACT**

Low profile, low traffic, low sound-levels. No odor, hazardous materials, nor light pollution. No permanent structures.

✓ **PROVEN DESIGN & EQUIPMENT**

Fully meets Dominion's equipment and design requirements, including industry standard Tier 1 components backed by bankable warranties.

✓ **ECONOMIC DEVELOPMENT**

Local labor and materials will be used to the extent they are available. Virginia has over 4,400 solar jobs and the industry continues to grow faster than the overall economy (up 15.4% in 2019)

✓ **BASED IN VIRGINIA**

We are a locally-owned Virginia company based in Charlottesville and have partnered with Virginia community colleges to create a solar jobs training program, SHINE.

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal or quotation

Overview

Hexagon Energy is pleased to apply for a Conditional Use Permit for Nuby Run Solar (the Project), a small, solar photovoltaic (PV) facility of two (2) megawatts (MW) in capacity, measured in alternating-current (AC). The Project will be located at Parcel ID 39-01-038 (the Property), to the south of Orbit Road and approximately 2 miles southeast of Hwy 258. The Project will encompass up to approximately 20 acres of pastureland (the Site) on a larger, 117-acre property, located in the Rural Agricultural Conservation (RAC) zoning district. The project has been designed in full compliance with Isle of Wight County and Virginia permitting and approval requirements.

Applicant & Facility Owner

Nuby Run Solar, LLC is both the applicant and facility owner for the Project. Nuby Run Solar, LLC is a wholly-owned subsidiary of Hexagon Energy, LLC (Hexagon Energy), a Virginia Limited Liability Company. Hexagon Energy is located in Charlottesville, Virginia—with our owners and all but two of our employees residing in Virginia.

Hexagon Energy is an independent, privately owned energy development firm that believes the path to a clean energy future requires a range of new sources and technologies. We develop projects across six diverse energy solutions with one common goal—powering a clean future.

Over the past 19 years, Hexagon Energy's principals have played a central role in building the renewable energy industry in Virginia and bringing renewable energy jobs to the Commonwealth. Our principals have advised Dominion on 232 MW of renewable energy purchases and developed nearly 600 MW of operating solar projects across the U.S., including some of the first utility-scale projects in Virginia. We are excited to work with Isle of Wight County to develop a locally-based solar project that benefits Virginia communities, rate payers, and land owners.

AT A GLANCE

- Established in 2015
- Developing energy projects since the early 1990s
- 2,875 MW of energy development experience across 17 states
- Representing over $1.5 Billion USD in invested capital

LOCATION & CONTACT INFO

321 E Main St | Suite 500
Charlottesville, VA 22902
info@hexagon-energy.com

Energy Development Experience

Hexagon Energy's principals have been developing energy projects since the 2000s and have a wide range of experience that guides our work. Over the past 20 years, Hexagon Energy's principals have developed and financed nearly 3,000 MW of operating energy projects in 17 U.S. states, representing over $1.5 billion in invested capital. The projects include utility scale wind and solar projects ranging from a few megawatts to over a gigawatt. The following table summarizes the energy development experience of Hexagon Energy's principals, both at Hexagon and prior companies.

TYPE	SINCE	ADVISORY	OPERATING	UNDER DEVELOPMENT
Solar PV	2008	232 MW	597 MWac	2,317 MWac
Wind	2000	400 MW	2,278 MWac	550 MWac
Energy Storage	2013	20 MW	--	44 MWac
TOTAL		**652 MW**	**2,875 MWac**	**2,576 MWac**

Table 1: Hexagon Energy's Project Development Experience

Project Design

Hexagon Energy proposes to develop and construct Nuby Run Solar, with a nameplate capacity of up to 2MWac. All of the clean energy generated by the facility will be delivered to the Dominion power grid (the Grid) at the existing 34.5 kilovolt (kV) distribution line running along Orbit Rd. The Project has a pending proposal to sell power to Dominion Energy.

Nuby Run Solar will consist of up to approximately 7,450 crystalline silicon solar PV panels sourced from Tier 1 manufacturers. Additional equipment will include single axis tracker components, DC to AC string inverters, a medium voltage transformer and a control cabinet, project switch gear, a meter, and the interconnection to the existing distribution system.

To support the PV panels, the Project will utilize a single-axis tracking system designed to optimize power production of the panels by rotating them to follow the path of the sun. The single-axis tracker design consists of a series of mechanically linked horizontal steel support beams known as torque tubes, with a drive train system usually located in the center of the rows. The rows will be placed 21.2 feet apart (center to center) and the panels will cover approximately 68% of the Project area. The racking system will be supported by metal piles driven or screwed into the ground by a pile-driving machine to a depth of approximately 10 feet. The maximum height of the solar PV panels at full tilt is twelve feet (12').

The PV panels in each row will be wired together into a circuit (string). There will be a DC to AC string inverter for approximately every 3 rows, typically mounted on a piling adjacent to the tracker structure. AC Power will be transmitted from the string inverters via three-phase direct-buried cables, buried at a depth of approximately 36 to 48 inches, and aggregated at the AC collection switch gear and then on to the medium voltage transformer. The transformer will be mounted on a concrete slab with the project switchgear and control cabinet. The transformer steps up the voltage of the electrical power to 34.5kV to match the Grid. The power is transmitted from the transformer to the Project's protective recloser and metering equipment before interconnecting with Dominion's existing infrastructure on the Property.

An internal access drive, consisting of an all-weather aggregate base, will allow access to the PV panels. Site access will be restricted by a security fence installed around the perimeter of the solar panel array in compliance with Federal and State regulations and with a design approved by the Zoning Administrator consistent with proposed CUP Condition #2. Manual swing gates will be constructed at the main entrance and in strategic areas, as required for access by maintenance crews. National Electric Code standards for safety and signage will be met or exceeded.

The project will be screened from view with a planted vegetative bufferyard, further detailed in the landscaping plan in **Appendix A**. This landscaping plan complies with Isle of Wight's solar ordinance requirement to exceed the twenty-five (25) landscaping points per one hundred (100) linear feet.

Health & Safety

The project will utilize passive photovoltaic (PV) cells to generate electricity and inverters to change the direct current into alternating current. They consist of common materials including glass, polymer, aluminum, copper, and silicon semi-conductor material. Solar PV panels function

as a solid state, inert crystal composed of non-toxic materials and are most similar to a pane of solid glass. There are no chemicals, fluids, or materials that are capable of entering the environment. The PV and inverter technology have been utilized and studied for over 30 years and are not known to pose any significant health dangers to neighbors. Instead, the reduction in pollution from fossil-fuel-fired electric generators make solar farms a positive impact on human health.

In May 2017, researchers at NC State University published a detailed review of the Health and Safety Impacts of Solar Photovoltaics that utilizes the latest scientific literature and knowledge of solar practices in N.C. to address the health and safety risks associated with solar PV technology. "These risks are extremely small, far less than those associated with common activities such as driving a car, and vastly outweighed by health benefits of the generation of clean electricity." The full report can be found in **Appendix B**, attached.

Site Location and Characteristics

Nuby Run Solar will encompass up to approximately 20 acres across the 117-acre property. The Property is located in the Rural Agricultural Conservation (RAC)-zoned district and has historically been used crop farming such as corn or soybeans. The topography of the site area is flat, cleared land. We do not anticipate any site grading at this time and will pay particularly close attention to storm water management improvements given the wetlands on the property that have been identified through a field delineation.

Environmental and Cultural Impact

Wetlands

The Site is located north of its namesake, Nuby Run. Hexagon Energy has engaged the Timmons Group to perform a wetlands delineation and field assessment. We have also performed preliminary desktop analysis using the U.S. Fish and Wildlife Service National Wetlands Inventory and FEMA flood zones. The wetlands delineation can be found in **Appendix D** and will be verified by the US Army Corps of Engineers prior to site plan review. The Project will be designed and constructed to setback from, and not impact, delineated wetlands.

Wildlife Habitats

The Property has been screened, via the U.S. Fish and Wildlife Service Information, Planning, and Consultation System (IPAC System), for known critical habitats for threatened and endangered species, and none are known to be present on the Property. We will engage US Fish and Wildlife Service in a critical habitat field assessment to ensure our site has no impact to threatened and endangered species. An official species list, generated using USFWS's tool, can be found in **Appendix F**, attached.

Culturally and Historically Significant Resources

The Property has been screened for cultural and architectural sites via the Virginia Cultural Resource Information System (V-CRIS) and the National Register of Historic Places. We have identified one archaeological resource within 0.5 miles of the project area, "Bridge #6045". This resource has been determined as ineligible for the National Register of Historic Places by the

Virginia Department of Historical Resources and is designated as unrestricted. Nuby Run Solar shall be visually screened from this nearby resource via the existing vegetative buffer along the eastern perimeter of the property. The V-CRIS report map showing this resource can be found in **Appendix H**. Further field survey for archaeological and architectural resources have been completed to ensure no eligible cultural or historical resources exist with the area of potential effects. These reports can be found in **Appendix P**.

Environmentally Sensitive Areas

Nuby Run Solar has been reviewed by the Virginia Department of Conservation and Recreation (VADCR) for environmentally sensitive areas. VADCR initially identified that the Property boundary intersected with their Predictive Models for possible Natural Heritage Resources. Upon discovery of this information, VADCR searched its Biotics Data System for occurrences of natural heritage resources. In its report, VADCR confirmed that no natural heritage resources have been documented within a 100 ft. buffer of the property boundary. VADCR's biologist review of the project indicated that a DCR field survey is not recommended. These findings from VADCR can be found in **Appendix G**.

We have completed a Phase I Environmental Site Assessment for the Property. There were no identified Recognized Environmental Conditions (RECs) on the Property or adjoining properties. The Timmons Group recommends no further action to meet due diligence requirements. A draft of this report summary can be found in **Appendix E**.

To ensure that the conceptual design of Nuby Run Solar will have minimal impact on the surrounding environment, Timmons Group conducted a Water Quality Impact Assessment that can be found in **Appendix Q**. The minimal clearing along the edge of the forested area—in addition to revegetating with native pollinators and an additional 100ft setback from the 100ft RPA buffer—help safeguard natural resources with this project's low intensity use.

Construction

Based on the current project schedule, construction is forecasted to begin in the Summer of 2022. Construction is estimated to take two to three months, dependent on weather. Nuby Run Solar proposes hours of operation for construction activities to be limited to 7:00am to 6:00pm Monday through Friday and 9:00am to 5:00pm on Saturdays. No construction to occur on Sundays. See proposed CUP Condition #7.

Following construction, the Project will undergo testing and commissioning in coordination with Dominion Energy. The Project is estimated to commence operations in the fourth quarter of 2022.

Construction will involve minimal ground disturbance, and ingress and egress of heavy equipment and traffic will be restricted to access from Orbit Road. See **Appendix L** "Transportation Plan" for details regarding access, construction and traffic routes. Parking areas and laydown yards can be seen in the provided conceptual plans. Additionally, see proposed CUP Condition #10 addressing VDOT required improvements.

A detailed erosion and sediment control plan will be developed as a part of the final site plan and implemented to prevent runoff from entering the surrounding environment. Erosion and sediment control measures may include straw bales, hay coil logs, run-off channels, silt fencing, and sediment basins.

Natural vegetative ground cover will be established across the Site upon construction completion. The vegetative ground cover will include native grasses and pollinator mix to help ensure erosion and sediment control throughout the life of the Project.

Operations and Maintenance

Once constructed, the Project will require very little maintenance and therefore traffic to the Site. Electrical engineers will service the inverters and transformers on average once per quarter. The solar panels have very low failure rates of approximately 1 in 10,000 per year. The Project output is monitored remotely and defective panels are easily replaced from inventory stores. The Project does not require on-site water or chemicals to keep the panels clean. Rain occurs with sufficient frequency and quantity in Isle of Wight County to naturally keep the panels clean. Native vegetation will be maintained under and between the panels with periodic mowing during the growing season. The Site maintenance is typically contracted and performed by local companies.

County Impact

Water

An on-site source of potable water will not be required during construction or operation of Nuby Run Solar. Any on-site water required during construction or operation will be supplied by Nuby Run Solar, LLC. No well-digging will be required.

Sound

Construction:
During the 2-3 months of construction, we anticipate an increase in construction noise primarily from delivery of materials and installation of support beams on which the solar panels will be fixed. These impacts are mitigated by selecting site area that will require little to no groundwork, establishing limits of construction operation hours as proposed in CUP condition #7. Additionally, the nearest residence is approximately 390' from the project and separated by 270' of mature forest, mitigating the sound heard at neighboring properties.

Operations:
From Orbit Road and nearby residences, the array will be virtually inaudible. The Project is planned to feature Sungrow model SG125Hv (125kWac) inverters and DuraTrack HZ v3 racking equipment that will produce a small amount of sound (<60dBA at 1 meter away) within the Site. At just one meter away, the sound ratings of the inverters are less than outdoor air conditioning units, which are rated at over 60dB. Inverter sound ratings fall to less than 30dB at a distance of 50 feet, which is the background noise level in a rural area. The nearest residence is approximately 390' from the project fenceline and will not be able to hear any equipment.

Glare

Construction:
No glare hazard is anticipated during construction.

Operations:
In addition to being visually screened from nearby residences and Orbit Road, the panels are designed to absorb as much sunlight as possible and are treated with an anti-glare coating.

Hexagon has utilized the Federal Aviation Administration's online Notice Criteria Tool to determine that Nuby Run Solar does not exceed the notice criteria required by the FAA for the Project. An FAA Hazard analysis is not required. Confirmation of this result is available for review in **Appendix C**.

Odor

Construction:
During construction, the EPC contractor will store, collect, and dispose of solid construction material waste such to prevent any hazards—including odors. This will mitigate any possible impact odors from the project could have on neighboring property use.

Operations:
During operations, no perceivable odors will come from the solar array. Given this, no impact mitigation is necessary for neighboring property use.

Dust

Construction:
During construction, trucks and construction machinery may kick up existing dirt particles within the site. Dust will be mitigated by spraying water on dry dirt and by instituting a 5 MPH speed limit within the construction zone.

Operations:
Vegetative ground cover will be planted and maintained during operations, preventing dust.

Fuel

Construction
Any fuels stored on-site during construction, will be safely stored to follow all OSHA and environmental regulation to ensure no impact to site or neighboring properties.

Operations:
No fuels are present within the site area after construction.

Smoke

There is no portion of the development, construction, or operations process where we anticipate smoke emanating from the site area. Any trees cut to prevent shading will not be burned on site. We have addressed coordination with local emergency services elsewhere in our application that apply to the scenario of a potential fire on the property or surrounding neighbors.

Fumes

Construction:
During construction, exhaust from trucks or construction machinery may occur near the site and along the haul route leading to the property. Contractors will be required to meet or exceed all existing emission standards for equipment used for construction operations.

Operations:
There are no fumes produced by an operating solar array once placed into service.

Vibration

Construction:
The only tangible source of vibration will occur during construction from the piledriving. Vibration is mitigated by only taking place during the county approved hours of construction operation and pile driving activity only occurs for a small fraction of the overall construction period. Additionally, the proposed site area locates potential pile placement over 390' of feet from the nearest residence and no vibration is anticipated on neighboring properties.

Operations:
No vibration is generated from equipment during operations.

Security & Access

The Site will be fenced in by an opaque, agricultural-style fence that is harmonious with the rural, agricultural, and historical character of the County, as determined by the Zoning Administrator. This fence will meet federal and state regulations for solar electric generating facility fencing. After construction concludes, the gates will remain locked, and access will be coordinated by authorized operations and maintenance personnel. The Site will also include a "Knox Box" on the

gate to provide 24/7 emergency access for fire and police personnel. Ingress and egress will be maintained off of Orbit Road and will ensure suitable access for fire and other emergency vehicles.

Economic Development

Jobs

Local materials and labor will be used for the construction and maintenance of the Project to the extent that they are available. Nuby Run Solar will create approximately 20 new construction positions. The operations phase of the project will require approximately one to two, full-time positions, once facility construction is complete. This small crew will be responsible for routine upkeep of the facility throughout the project's life. Upkeep of solar facilities generally includes vegetation management, routine single-axis tracker maintenance, and visual inspections and repair of the equipment. Once per quarter, the crew will visit the site in a pickup truck or like vehicle, to perform the upkeep.

The solar industry in Virginia is growing faster than the overall economy and presents new career opportunities throughout the Commonwealth. Hexagon Energy is on the Leadership Council of SHINE, a Virginia Solar Workforce Initiative partnered with Southside Virginia Community College. The program not only trains new workers but pairs the training with an upcoming solar installation job. The program is aligned with upcoming solar projects and the first classes commenced in the fall of 2019. The SHINE program also has a mobile lab that can deploy local training classes. Hexagon Energy will work with the SHINE program and Paul D. Camp College to ensure that training and job opportunities are created for interested Isle of Wight residents.

Investment

Nuby Run Solar will also make roughly $3,306,000 in total capital investment for construction, material, labor, and professional services. The capital expenditures breakdown as follows:

Expense	Amount
Solar PV Panels	$1,102,000
Inverters	$179,075
Mounting/Racking System	$551,000
Transformers	$192,850
Electrical Components	$261,725
Site Management (fencing, vegetation, etc.)	$55,100
Labor	$964,250

The Department of Energy's JEDI model predicts that Nuby Run Solar construction will contribute over $745,000 in direct spending in the local economy on labor, local contractors, and locally sourced materials. The array will produce enough energy to power roughly 176 homes after it is completed.

Increased County Revenue

Increased Real Property Assessment & Tax Revenue

The 20 acre portion of land used for Nuby Run Solar will increase in assessment from $1,238/acre (Agricultural) to $15,000/acre (Solar). The Isle of Wight tax rate for Real Property is $0.85/$100 assessed.

	Assessment Rate	**Assessed Value (Acres x Assessment Rate)**	**Real Property Tax Rate**	**Annual Real Property Tax (Assessed Value x Real Property Tax Rate)**	**30 Year Revenue**
Current	$1,238 / acre	$24,760	$0.85 / $100 assessed value	$210.46 / year	$6,314
Nuby Run	$15,000 / acre	$300,000	$0.85 / $100 assessed value	$2,550 / year	$76,500

Total Revenue

Real estate tax under the new use would contribute $2,550 annually and $76,500 over the projected 30 year lifetime of the project, offering a 12x increase over the current land use.

Agricultural Land Impact

Nuby Run Solar is proposed to be located on the cleared section of approximately 20 acres of the 117 acre Nuby Run Farms LLC property. The most recently harvested crop on this site was corn. Utilizing the Isle of Wight County staff analysis regarding solar and agriculture from February 17, 2021 (provided), Isle of Wight County has 80,672 acres of land on its 237 farms, which average 340 acres each.

Therefore, Nuby Run Farm's 20 acres represent 0.025% of the farm acreage in Isle of Wight County, with the average County farm being 17 times as large. Nuby Run has a small impact on the County's agricultural capacity while providing improved economic opportunities and increased revenue for the County. Given this minimal impact, the County Agricultural and Forrestal District Committee has voted to recommend withdrawal of the site acres from the AFD, as seen in **Appendix N**.

Regulatory Conformance

Virginia Code § 15.2-2232 requires that the Planning Commission makes a determination as to whether or not the general location, character, and extent of a proposed solar energy facility is in substantial accord with the locality's adopted comprehensive plan.

Conformance with Comprehensive Plan

The character and extent of Nuby Run Solar are substantially in accord with the County's Comprehensive Plan. The Project intends to provide locally generated, clean energy to Dominion customers pursuant to the Virginia Clean Economy Act of 2020, promoting infrastructure service to the County and beyond. The Project will be clean, non-disturbing, and support local job training and educational opportunities through SHINE, the Virginia Solar Workforce Initiative hosted by Southside Virginia Community College. In 2020, the Isle of Wight Board of Supervisors adopted the latest version of the County Comprehensive Plan, entitled *Envisioning the Isle.* This update includes a section of development and location considerations for evaluation potential solar farms in Chapter 4, pages 73-74 (Serving The Isle, Community Energy). Nuby Run Solar has been developed with these policies in mind:

"Require facilities to be located adjacent or close to existing electric transmission lines."

Nuby Run Solar proposes to interconnect to the Dominion three-phase powerlines that run across the property's road frontage along Orbit Rd.

"Require facilities to be located outside of DSDs."

Nuby Run Solar is sited on a property that is approximately 4.5 miles away from the nearest DSD (Windsor).

"Avoid or minimize impact to prime farmland or farmlands of statewide importance as defined by the USDA and Commonwealth of Virginia, respectively."

The farming component of Parcel ID 39-01-038 makes up only 20 acres of the 117 acre property. Additionally, these cleared acres are currently isolated by Orbit Rd and forested wetlands on the property. Given the average farm size of 340 acres and over 80,000 total farm acres in Isle of Wight County, Nuby Run Solar presents a negligible impact on farmlands, which it more than offsets by providing 176 homes with clean, locally generated power.

"Facilities should be located outside of the viewshed of any scenic, cultural, or recreational resources (i.e., solar facilities may not be seen from surrounding points that are in line-of-sight with a resource location) or within the Highway Corridor Overlay district."

The only resource within a half-mile of the proposed Nuby Run Solar site area is "Bridge #6045" as described in the V-CRIS section above. This bridge is over 1,400 feet from the nearest point of the Nuby Run Solar site, most of that distance being vegetative buffer. The natural forested boundaries of the site area combined with the proposed planted vegetative buffer along Orbit Rd make Nuby Run Solar a thoughtfully sited location with respect to viewshed.

The Comprehensive Plan also outlines several Policy themes with Action Items associated toward those ends. Below are some of the more applicable selections regarding solar projects and our determination of how Nuby Run Solar would fit.

Preserve: Protect water quality from sedimentation and pollutants carried by runoff through the continued enforcement of the local stormwater management program.

Before final site plan approval, Nuby Run Solar must secure confirmation from the Virginia Department of Environmental Quality that the designed stormwater management features will meet or exceed the rates of current property use. Verification of this confirmation will safeguard against any degradation of local stormwater management as a result of the project.

Shape: Protect rural historic landscapes by ensuring development is consistent with existing community character through performance criteria for new development.

The vegetative screening plans provided by Nuby Run Solar offer planted bufferings between 600-880% the required landscaping points required by the solar ordinance. Exceeding the vegetative screening standard by this degree shows the specific focus on existing community character and ensuring Nuby Run Solar is a mindful neighbor.

Serve: Encourage collaboration with the private sector to provide integrated infrastructure in the most efficient way possible.

Serve: Design and develop public facilities, wherever possible, that take advantage of alternative energy sources and conserve energy in operations.

Serve: Ensure all major utility service use types mitigate any potential negative impacts to the character and future viability of surrounding land uses.

Nuby Run Solar offers alternative energy sourced power generation for the local community, financed by private investment, to the net fiscal benefit for the county. By designing vegetative buffering that exceeds the county requirement for solar projects in its particular location, Nuby Run Solar is sited respectfully to local character and land uses while allowing the site landowner to exercise his property rights.

Educate: Continue to grow programs that enhance job skills of County residents needed by employers.

Upon completion of the pilot programs at SVCC, SHINE plans to expand to other community colleges and academic institutions across Virginia so we can increase access to solar training programs across the state. Nuby Run Solar can begin that facilitation between SHINE and Paul D. Camp College.

Planning Commission Determination Request

Nuby Run Solar has been designed to be in substantial accord with the Comprehensive Plan and conform with all requirements set forth in the County's Zoning Ordinance. The Applicant, Nuby Run Solar, LLC, requests that the Planning Commission makes this determination pursuant to VA Code § 15.2-2232 in one of three ways:

TO RECCOMEND APPROVAL AS IS (please say the following):

"I move that the Planning Commission adopt to forward the application for Nuby Run Solar to the Isle of Wight County Board of Supervisors with a favorable recommendation, as it complies with the requirements of the Zoning Ordinance and is substantially in accord with the Comprehensive Plan."

TO RECCOMEND APPROVAL WITH CHANGES (please say the following):

"I move that the Planning Commission adopt to forward the application for Nuby Run Solar with the following changes: _____ to the Isle of Wight County Board of Supervisors with a favorable recommendation, as it complies with the requirements of the Zoning Ordinance and is substantially in accord with the Comprehensive Plan."

TO RECOMMEND DENIAL (please say the following):

"I move that the Planning Commission adopt to forward the application for Nuby Run Solar to the Isle of Wight County Board of Supervisors with an unfavorable recommendation for the following reasons:

Agricultural Forestal District Withdrawal Request

Tax map parcel 39-01-038 is part of the Courthouse Agricultural Forestal District, which was established by the Board of Supervisor on September 15, 1988, for the purposed of conserving and protecting agricultural and forestal lands. The district was last renewed on September 15, 2016, for a period of ten (10) years set to expire on September 15, 2026. Appendix D, Section D-6 of the County Code states that parcels included in this district cannot be developed for a more intensive use than the one existing at the time of inclusion while the parcel remains in the district; therefore, withdrawal of the parcel will be necessary to allow for the proposed use. Please see **Appendix N** - AFD Withdrawal Letter and Committee Recommendation which includes a request from the parcel landowner to remove a portion of the property from the Courthouse District to allow for the development of the Nuby Run Solar project and confirmation of the AFD's positive recommendation for this withdrawal. We request that the Planning Commission vote to recommend to the Board of Supervisors removal from the Courthouse District, and the Board of Supervisors vote to approve withdrawal from the Courthouse District.

Appendix A: Conceptual Site and Landscaping Digital Rendering

Enclosed.

Appendix B: NC State: Health and Safety Impacts of Solar Photovoltaics.

Enclosed.

Appendix C: FAA Notice Criteria Result

Enclosed.

Appendix D: Wetlands Delineation Map

Enclosed.

Appendix E: Phase I ESA Executive Summary

Enclosed.

Appendix F: USFWS Official Species List

Enclosed.

Appendix G: VADCR Natural Heritage Project Review Report

Enclosed.

Appendix H: V-CRIS Map

Enclosed.

Appendix I: Decommissioning Cost Estimate

Enclosed.

Appendix J: Economic Impacts Memo

Enclosed.

Appendix K: Proposed CUP Conditions

Enclosed.

Appendix L: Transportation Plan

Enclosed.

Appendix M: Cultural Resources Assessment

Enclosed.

Appendix N: AFD Withdrawal Letter and Committee Recommendation

Enclosed.

Appendix O: Interconnection Request

Enclosed.

Appendix P: Phase 1 Archaeological Survey and Reconnaissance Architectural Survey

Enclosed.

Appendix Q: Water Quality Impact Assessment

Enclosed.

Appendix R: Existing Vegetation Shading Depiction

Enclosed.

Local Roots, Global Reach

ISLE OF WIGHT COUNTY, VIRGINIA

DEPARTMENT OF ECONOMIC DEVELOPMENT

MEMORANDUM

January 14, 2022

TO: **Members, Isle of Wight County Planning Commission**

FROM: **Chris Morello, Economic Development Director**
Amy Ring, Planning and Zoning Director

SUBJECT: **Economic Impacts – Nuby Run Proposed Solar Energy Facility**

This memorandum responds to a request by the Planning Commission for County Staff to provide economic impact information associated with Utility Scale Solar Energy Generation Facility applications. More particularly, the request is related to the desire to understand the impacts of potential conversion of agricultural and silviculture land uses to solar farm land use beyond tax revenue benefits to the County. It should be noted that staff has prepared this limited analysis based on readily-available data and information provided by the land owners, and that an extensive econometric analysis would require the assistance of an external consultant.

Impacts associated with conversions to solar certainly do exist and should be understood to the extent possible. Staff has investigated these potential impacts with the assistance of Federal, state and local resources, including USDA, Farm Service Agency, Virginia Cooperative Extension and the Isle of Wight Commissioner of Revenue, to name a few.

Nuby Run is the sixth solar project proposed in the County. Below is a table with a summary of the County's existing solar projects, with "Land in Farms" representing the USDA's definition, which includes cropland, pastureland, wood lots and timber tracts.

PROJECT	**ACRES IN PANELS**	**LOCATION**	**% OF TOTAL FARMLAND**
Woodland	180 +/-	Longview	0.2%
Solidago	170 +/-	Redhouse	0.2%
Ho-Fel	330 +/-	Lees Mill	0.4%
Windsor PV1	630 +/-	Windsor	0.8%
Cavalier	450	Hardy	0.6%
Nuby Run	20	Orbit	0.02%
TOTAL	**1,780 +/-**		**2.2%**

According to the 2017 Census of Agriculture (USDA-NASS), Isle of Wight County has 237 farms totaling 80,672 acres of land. The average farm size is 340 acres. The average annual market value of agriculture products sold per farm is $270,985, or $797 average market value per acre.

Using the average market value per acre for crops cultivated from twenty acres of farmland on the subject farm generates an estimated $15,940 in market value. Additional property includes 97 acres in active timber. The current market rate for timber ranges from $1,000 to $3,000 per acre depending on size of trees, species composition and the land itself. For loblolly pine, the current industry standard is to clear cut and replant at 18-20 years.

Land and Equipment Valuation

The Office of the Commissioner of Revenue values various land uses differently based on the following categories:

- Agriculture/Horticulture - $1,238
- Pasture - $334
- Non-productive - $240
- Forest - $641
- Non-productive (swamp/marsh) - $100

Parcels hosting a solar farm are currently assessed at $15,000 per acre. The final assessment and tax revenue generated by a parcel's conversion to solar facility usage depends on the proportion of each of the uses after the conversion. In other words, the Commissioner of Revenue derives a tax levy composed of assessments on the differing uses allowed by the conditional use permit. In the case of Nuby Run, other uses will include some silvicultural use after the conversion to solar. The rate of $15,000 per acre would apply only to 20 out of 117 acres.

As for tax revenues derived from solar facilities and equipment, because the proposed project will generate 2 MW of output, the property will receive a full exemption from machinery and tools tax. Under the current land use program, the farm generates approximately $210.46 per year for the twenty acres of cropland proposed for the solar facility. If the CUP is approved for the solar energy generation facility, the total projected real estate revenue per year is $2,550.

Long Term Economic Impacts

When assessing conversion of agricultural land to solar facility usage, the following potential direct and indirect impacts to the agriculture and silviculture industries can occur:

- The current 100 percent machinery and tools tax exemption for facilities generating less than 5 MW will continue to create demand in rural communities for large tracts of land to be converted to solar use. This engenders natural competition between green energy and food and fiber production in the marketplace.
- Currently, agriculture and silviculture are two of the County's top industries. The Nuby Run Solar Facility represents a subtraction of approximately 0.02 percent of the County's cultivated land (USDA-NASS, 2017). While this project represents a relatively small

impact, longer-term cumulative land conversions could create adverse effects on the local agricultural industry.

- To the extent that farmers purchase goods and services locally, associated direct and indirect adverse impacts would be realized. While it is not possible at this time to derive which goods and services are being purchased locally, Nuby Run property owners have indicated to staff that a very small proportion are purchased within the County.
- Irrespective of the origin of purchase, data provided by the Virginia Cooperative Extension is useful for understanding a farmer's costs per acre for different crops:
    - Corn = $395.47
    - Soybeans = $271.65
    - Cotton = $839.57

- Examples of goods and services purchased:
    - Seed
    - Fertilizers
    - Herbicides/Insecticides
    - Fuel/Oil/Lube
    - Repairs
    - Labor
    - Insurance
- The construction of solar projects creates temporary demand for skilled and unskilled labor, some of which could be sourced locally or regionally, bringing new economic benefits to the community's ancillary sectors, such as temporary housing, food service, and entertainment.
- Property owners who lease their land to solar energy developers, such as those associated with the Nuby Run facility, can realize a reliable, long-term income stream for their land, with the potential to return to agriculture or silviculture use at the end of the lease period.

Rural localities will continue to grapple with the apparent high demand for utility-scale solar conversions if upward pressure to supply the grid with solar-derived energy does not wane. It is difficult to predict the future at this stage; however, staff is hopeful that this limited analysis is useful to understanding the broader economic picture and informs future policy discussions connected with this matter.

Viewshed Analysis

This appendix is a brief description and digital rendering of the vegetative screening plan as well as some viewshed analysis for our proposed solar photovoltaic project, Nuby Run Solar. In accordance with Article 8, Section 8-1004/5 from the Isle of Wight County Zoning Ordinance, Nuby Run Solar is designed to exceed the rural frontage zone standard. Our proposed buffering includes:

1) A single row of evergreen trees (eastern red cedar, depicted) and a staggered single row of deciduous trees (black gum, depicted), with the trees in each row planted at twenty (20) feet on center. This solution offers plentiful screening and 165 landscaping points across 100 linear feet. According to the Isle of Wight Utility Scale Solar Energy Facilities ordinance, 25 landscaping points per 100 linear feet are required along public roadways with less than 50ft of right-of-way (as is the case with Orbit Rd along the proposed property).

We have included digital rendering that utilizes higher quality site images and depicts an opaque security fence as is anticipated to be later determined by the Zoning Administrator in the relevant CUP condition. Please see below for depictions as described above.

Following the buffer renderings, we have field photographs showing the robust, existing vegetative screening between the only abutting residence and the proposed site area. You will see in the pictures from both perspectives that the nearly 300ft of vegetation completely obscures one property from the other at ground level. Additionally, we have provided two reference photographs utilizing a midsize SUV as a reference point to highlight the minimal visual inclusion of a new item in the proposed site area from Orbit Rd.



Above, we show the respective vantage points of Pictures A and B to the right from satellite view.

In Picture A, we see from the closest point before existing vegetation (on the only abutting residence to Nuby Run site area) that the depth and thickness of the vegetation completely obscure the Nuby Run field.

In Picture B, we take a similar existing vegetation picture from the Nuby Run property toward the residential abutter. This verifies the robust screening that mitigates any viewshed impact of potential development between neighboring properties.







Above, we show the respective vantage points of Pictures C and D to the right from satellite view.

In Picture C, we see how a midsize SUV within the site area appears from Orbit Rd. Even without proposed vegetative screen or opaque fence, similarly sized objects have very little impact on passing driver viewshed

In Picture D, we take a picture from the approximate SUV location of Picture C to show how the proposed setback of the site location dramatically reduces the perceived size of an object, even without vegetative screening and opaque fencing.





NC CLEAN ENERGY
TECHNOLOGY CENTER

Health and Safety Impacts of Solar Photovoltaics

MAY 2017



NC STATE UNIVERSITY

Health and Safety Impacts of Solar Photovoltaics

The increasing presence of utility-scale solar photovoltaic (PV) systems (sometimes referred to as solar farms) is a rather new development in North Carolina's landscape. Due to the new and unknown nature of this technology, it is natural for communities near such developments to be concerned about health and safety impacts. Unfortunately, the quick emergence of utility-scale solar has cultivated fertile grounds for myths and half-truths about the health impacts of this technology, which can lead to unnecessary fear and conflict.

Photovoltaic (PV) technologies and solar inverters are not known to pose any significant health dangers to their neighbors. The most important dangers posed are increased highway traffic during the relative short construction period and dangers posed to trespassers of contact with high voltage equipment. This latter risk is mitigated by signage and the security measures that industry uses to deter trespassing. As will be discussed in more detail below, risks of site contamination are much less than for most other industrial uses because PV technologies employ few toxic chemicals and those used are used in very small quantities. Due to the reduction in the pollution from fossil-fuel-fired electric generators, the overall impact of solar development on human health is overwhelmingly positive. This pollution reduction results from a partial replacement of fossil-fuel fired generation by emission-free PV-generated electricity, which reduces harmful sulfur dioxide (SO_2), nitrogen oxides (NO_x), and fine particulate matter ($PM_{2.5}$). Analysis from the National Renewable Energy Laboratory and the Lawrence Berkeley National Laboratory, both affiliates of the U.S. Department of Energy, estimates the health-related air quality benefits to the southeast region from solar PV generators to be worth 8.0 ¢ per kilowatt-hour of solar generation.[1] This is in addition to the value of the electricity and suggests that the air quality benefits of solar are worth more than the electricity itself.

Even though we have only recently seen large-scale installation of PV technologies, the technology and its potential impacts have been studied since the 1950s. A combination of this solar-specific research and general scientific research has led to the scientific community having a good understanding of the science behind potential health and safety impacts of solar energy. This paper utilizes the latest scientific literature and knowledge of solar practices in N.C. to address the health and safety risks associated with solar PV technology. These risks are extremely small, far less than those associated with common activities such as driving a car, and vastly outweighed by health benefits of the generation of clean electricity.

This paper addresses the potential health and safety impacts of solar PV development in North Carolina, organized into the following four categories:

(1) Hazardous Materials
(2) Electromagnetic Fields (EMF)
(3) Electric Shock and Arc Flash
(4) Fire Safety

1. Hazardous Materials

One of the more common concerns towards solar is that the panels (referred to as “modules” in the solar industry) consist of toxic materials that endanger public health. However, as shown in this section, solar energy systems may contain small amounts of toxic materials, but these materials do not endanger public health. To understand potential toxic hazards coming from a solar project, one must understand system installation, materials used, the panel end-of-life protocols, and system operation. This section will examine these aspects of a solar farm and the potential for toxicity impacts in the following subsections:

(1.2) Project Installation/Construction
(1.2) System Components
    1.2.1 Solar Panels: Construction and Durability
    1.2.2 Photovoltaic technologies
        (a) Crystalline Silicon
        (b) Cadmium Telluride (CdTe)
        (c) CIS/CIGS
    1.2.3 Panel End of Life Management
    1.2.4 Non-panel System Components
(1.3) Operations and Maintenance

1.1 Project Installation/Construction

The system installation, or construction, process does not require toxic chemicals or processes. The site is mechanically cleared of large vegetation, fences are constructed, and the land is surveyed to layout exact installation locations. Trenches for underground wiring are dug and support posts are driven into the ground. The solar panels are bolted to steel and aluminum support structures and wired together. Inverter pads are installed, and an inverter and transformer are installed on each pad. Once everything is connected, the system is tested, and only then turned on.



Figure 1: Utility-scale solar facility (5 MW_{AC}) located in Catawba County. Source: Strata Solar

1.2 System Components

1.2.1 Solar Panels: Construction and Durability

Solar PV panels typically consist of glass, polymer, aluminum, copper, and semiconductor materials that can be recovered and recycled at the end of their useful life.[2] Today there are two PV technologies used in PV panels at utility-scale solar facilities, silicon, and thin film. As of 2016, all thin film used in North Carolina solar facilities are cadmium telluride (CdTe) panels from the US manufacturer First Solar, but there are other thin film PV panels available on the market, such as Solar Frontier's CIGS panels. Crystalline silicon technology consists of silicon wafers which are made into cells and assembled into panels, thin film technologies consist of thin layers of semiconductor material deposited onto glass, polymer or metal substrates. While there are differences in the components and manufacturing processes of these two types of solar technologies, many aspects of their PV panel construction are very similar. Specifics about each type of PV chemistry as it relates to toxicity are covered in subsections a, b, and c in section 1.2.2; on crystalline silicon, cadmium telluride, and CIS/CIGS respectively. The rest of this section applies equally to both silicon and thin film panels.

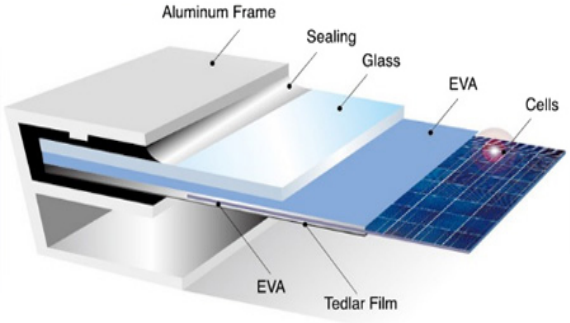


Figure 2: Components of crystalline silicon panels. The vast majority of silicon panels consist of a glass sheet on the topside with an aluminum frame providing structural support. Image Source: www.riteksolar.com.tw

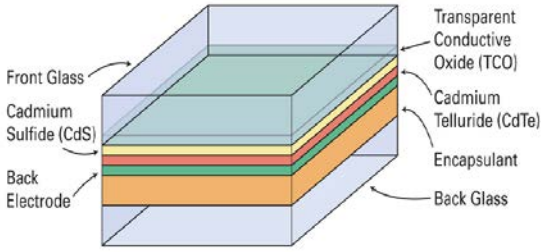


Figure 3: Layers of a common frameless thin-film panel (CdTe). Many thin film panels are frameless, including the most common thin-film panels, First Solar's CdTe. Frameless panels have protective glass on both the front and back of the panel. Layer thicknesses not to scale. Image Source: www.homepower.com

To provide decades of corrosion-free operation, PV cells in PV panels are encapsulated from air and moisture between two layers of plastic. The encapsulation layers are protected on the top with a layer of tempered glass and on the backside with a polymer sheet. Frameless modules include a protective layer of glass on the rear of the panel, which may also be tempered. The plastic ethylene-vinyl acetate (EVA) commonly provides the cell encapsulation. For decades, this same material has been used between layers of tempered glass to give car windshields and hurricane windows their great strength. In the same way that a car windshield cracks but stays intact, the EVA layers in PV panels keep broken panels intact (see Figure 4). Thus, a damaged module does not generally create small pieces of debris; instead, it largely remains together as one piece.



Figure 4: The mangled PV panels in this picture illustrate the nature of broken solar panels; the glass cracks but the panel is still in one piece. Image Source: http://img.alibaba.com/photo/115259576/broken_solar_panel.jpg

PV panels constructed with the same basic components as modern panels have been installed across the globe for well over thirty years.[3] The long-term durability and performance demonstrated over these decades, as well as the results of accelerated lifetime testing, helped lead to an industry-standard 25-year power production warranty for PV panels. These power warranties warrant a PV panel to produce at least 80% of their original nameplate production after 25 years of use. A recent SolarCity and DNV GL study reported that today's quality PV panels should be expected to reliably and efficiently produce power for thirty-five years.[4]

Local building codes require all structures, including ground mounted solar arrays, to be engineered to withstand anticipated wind speeds, as defined by the local wind speed requirements. Many racking products are available in versions engineered for wind speeds of up to 150 miles per hour, which is significantly higher than the wind speed requirement anywhere in North Carolina. The strength of PV mounting structures were demonstrated during Hurricane Sandy in 2012 and again during Hurricane Matthew in 2016. During Hurricane Sandy, the many large-scale solar facilities in New Jersey and New York at that time suffered only minor damage.[5] In the fall of 2016, the US and Caribbean experienced destructive winds and torrential rains from Hurricane Matthew, yet one leading solar tracker manufacturer reported that their numerous systems in the impacted area received zero damage from wind or flooding.[6]

In the event of a catastrophic event capable of damaging solar equipment, such as a tornado, the system will almost certainly have property insurance that will cover the cost to cleanup and repair the project. It is in the best interest of the system owner to protect their investment against such risks. It is also in their interest to get the project repaired and producing full power as soon as possible. Therefore, the investment in adequate insurance is a wise business practice for the system owner. For the same

reasons, adequate insurance coverage is also generally a requirement of the bank or firm providing financing for the project.

1.2.2 Photovoltaic (PV) Technologies

a. **Crystalline Silicon**

This subsection explores the toxicity of silicon-based PV panels and concludes that they do not pose a material risk of toxicity to public health and safety. Modern crystalline silicon PV panels, which account for over 90% of solar PV panels installed today, are, more or less, a commodity product. The overwhelming majority of panels installed in North Carolina are crystalline silicon panels that are informally classified as Tier I panels. Tier I panels are from well-respected manufacturers that have a good chance of being able to honor warranty claims. Tier I panels are understood to be of high quality, with predictable performance, durability, and content. Well over 80% (by weight) of the content of a PV panel is the tempered glass front and the aluminum frame, both of which are common building materials. Most of the remaining portion are common plastics, including polyethylene terephthalate in the backsheet, EVA encapsulation of the PV cells, polyphenyl ether in the junction box, and polyethylene insulation on the wire leads. The active, working components of the system are the silicon photovoltaic cells, the small electrical leads connecting them together, and to the wires coming out of the back of the panel. The electricity generating and conducting components makeup less than 5% of the weight of most panels. The PV cell itself is nearly 100% silicon, and silicon is the second most common element in the Earth's crust. The silicon for PV cells is obtained by high-temperature processing of quartz sand (SiO_2) that removes its oxygen molecules. The refined silicon is converted to a PV cell by adding extremely small amounts of boron and phosphorus, both of which are common and of very low toxicity.

The other minor components of the PV cell are also generally benign; however, some contain lead, which is a human toxicant that is particularly harmful to young children. The minor components include an extremely thin antireflective coating (silicon nitride or titanium dioxide), a thin layer of aluminum on the rear, and thin strips of silver alloy that are screen-printed on the front and rear of cell.[7] In order for the front and rear electrodes to make effective electrical contact with the proper layer of the PV cell, other materials (called glass frit) are mixed with the silver alloy and then heated to etch the metals into the cell. This glass frit historically contains a small amount of lead (Pb) in the form of lead oxide. The 60 or 72 PV cells in a PV panel are connected by soldering thin solder-covered copper tabs from the back of one cell to the front of the next cell. Traditionally a tin-based solder containing some lead (Pb) is used, but some manufacturers have switched to lead-free solder. The glass frit and/or the solder may contain trace amounts of other metals, potentially including some with human toxicity such as cadmium. However, testing to simulate the potential for leaching from broken panels, which is discussed in more detail below, did not find a potential toxicity threat from these trace elements. Therefore, the tiny amount of lead in the grass frit and the solder is the only part of silicon PV panels with a potential to create a negative health impact. However, as described below, the very limited amount of lead involved and its strong physical and chemical attachment to other components of the PV panel means that even in worst-case scenarios the health hazard it poses is insignificant.

As with many electronic industries, the solder in silicon PV panels has historically been a lead-based solder, often 36% lead, due to the superior properties of such solder. However, recent advances in lead-free solders have spurred a trend among PV panel manufacturers to reduce or remove the lead in their panels. According to the 2015 Solar Scorecard from the Silicon Valley Toxics Coalition, a group that tracks environmental responsibility of photovoltaic panel manufacturers, fourteen companies (increased from twelve companies in 2014) manufacture PV panels certified to meet the European Restriction of

Hazardous Substances (RoHS) standard. This means that the amount of cadmium and lead in the panels they manufacture fall below the RoHS thresholds, which are set by the European Union and serve as the world's de facto standard for hazardous substances in manufactured goods.[8] The Restriction of Hazardous Substances (RoHS) standard requires that the maximum concentration found in any homogenous material in a produce is less than 0.01% cadmium and less than 0.10% lead, therefore, any solder can be no more than 0.10% lead.[9]

While some manufacturers are producing PV panels that meet the RoHS standard, there is no requirement that they do so because the RoHS Directive explicitly states that the directive does not apply to photovoltaic panels.[10] The justification for this is provided in item 17 of the current RoHS Directive: "The development of renewable forms of energy is one of the Union's key objectives, and the contribution made by renewable energy sources to environmental and climate objectives is crucial. Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources (4) recalls that there should be coherence between those objectives and other Union environmental legislation. Consequently, this Directive should not prevent the development of renewable energy technologies that have no negative impact on health and the environment and that are sustainable and economically viable."

The use of lead is common in our modern economy. However, only about 0.5% of the annual lead consumption in the U.S. is for electronic solder for all uses; PV solder makes up only a tiny portion of this 0.5%. Close to 90% of lead consumption in the US is in batteries, which do not encapsulate the pounds of lead contained in each typical automotive battery. This puts the lead in batteries at great risk of leaching into the environment. Estimates for the lead in a single PV panel with lead-based solder range from 1.6 to 24 grams of lead, with 13g (less than half of an ounce) per panel seen most often in the literature.[11] At 13 g/panel[12], each panel contains one-half of the lead in a typical 12-gauge shotgun shell. This amount equates to roughly 1/750th of the lead in a single car battery. In a panel, it is all durably encapsulated from air or water for the full life of the panel.[14]

As indicated by their 20 to 30-year power warranty, PV modules are designed for a long service life, generally over 25 years. For a panel to comply with its 25-year power warranty, its internal components, including lead, must be sealed from any moisture. Otherwise, they would corrode and the panel's output would fall below power warranty levels. Thus, the lead in operating PV modules is not at risk of release to the environment during their service lifetime. In extreme experiments, researchers have shown that lead can leach from crushed or pulverized panels.[15, 16] However, more real-world tests designed to represent typical trash compaction that are used to classify waste as hazardous or non-hazardous show no danger from leaching.[17, 18] For more information about PV panel end-of-life, see the Panel Disposal section.

As illustrated throughout this section, silicon-based PV panels do not pose a material threat to public health and safety. The only aspect of the panels with potential toxicity concerns is the very small amount of lead in some panels. However, any lead in a panel is well sealed from environmental exposure for the operating lifetime of the solar panel and thus not at risk of release into the environment.

b. Cadmium Telluride (CdTe) PV Panels

This subsection examines the components of a cadmium telluride (CdTe) PV panel. Research demonstrates that they pose negligible toxicity risk to public health and safety while significantly reducing the public's exposure to cadmium by reducing coal emissions. As of mid-2016, a few hundred MWs of

cadmium telluride (CdTe) panels, all manufactured by the U.S. company First Solar, have been installed in North Carolina.

Questions about the potential health and environmental impacts from the use of this PV technology are related to the concern that these panels contain cadmium, a toxic heavy metal. However, scientific studies have shown that cadmium telluride differs from cadmium due to its high chemical and thermal stability.[19] Research has shown that the tiny amount of cadmium in these panels does not pose a health or safety risk.[20] Further, there are very compelling reasons to welcome its adoption due to reductions in unhealthy pollution associated with burning coal. Every GWh of electricity generated by burning coal produces about 4 grams of cadmium air emissions.[21] Even though North Carolina produces a significant fraction of our electricity from coal, electricity from solar offsets much more natural gas than coal due to natural gas plants being able to adjust their rate of production more easily and quickly. If solar electricity offsets 90% natural gas and 10% coal, each 5-megawatt (5 MW_{AC}, which is generally 7 MW_{DC}) CdTe solar facility in North Carolina keeps about 157 grams, or about a third of a pound, of cadmium *out of* our environment.[22, 23]

Cadmium is toxic, but all the approximately 7 grams of cadmium in one CdTe panel is in the form of a chemical compound cadmium telluride,[24] which has $1/100^{th}$ the toxicity of free cadmium.[25] Cadmium telluride is a very stable compound that is non-volatile and non-soluble in water. Even in the case of a fire, research shows that less than 0.1% of the cadmium is released when a CdTe panel is exposed to fire. The fire melts the glass and encapsulates over 99.9% of the cadmium in the molten glass.[27]

It is important to understand the source of the cadmium used to manufacture CdTe PV panels. The cadmium is a byproduct of zinc and lead refining. The element is collected from emissions and waste streams during the production of these metals and combined with tellurium to create the CdTe used in PV panels. If the cadmium were not collected for use in the PV panels or other products, it would otherwise either be stockpiled for future use, cemented and buried, or disposed of.[28] Nearly all the cadmium in old or broken panels can be recycled which can eventually serve as the primary source of cadmium for new PV panels.[29]

Similar to silicon-based PV panels, CdTe panels are constructed of a tempered glass front, one instead of two clear plastic encapsulation layers, and a rear heat strengthened glass backing (together >98% by weight). The final product is built to withstand exposure to the elements without significant damage for over 25 years. While not representative of damage that may occur in the field or even at a landfill, laboratory evidence has illustrated that when panels are ground into a fine powder, very acidic water is able to leach portions of the cadmium and tellurium,[30] similar to the process used to recycle CdTe panels. Like many silicon-based panels, CdTe panels are reported (as far back ask 1998[31]) to pass the EPA's Toxic Characteristic Leaching Procedure (TCLP) test, which tests the potential for crushed panels in a landfill to leach hazardous substances into groundwater.[32] Passing this test means that they are classified as non-hazardous waste and can be deposited in landfills.[33, 34] For more information about PV panel end-of-life, see the Panel Disposal section.

There is also concern of environmental impact resulting from potential catastrophic events involving CdTe PV panels. An analysis of worst-case scenarios for environmental impact from CdTe PV panels, including earthquakes, fires, and floods, was conducted by the University of Tokyo in 2013. After reviewing the extensive international body of research on CdTe PV technology, their report concluded, "Even in the worst-case scenarios, it is unlikely that the Cd concentrations in air and sea water will exceed the environmental regulation values."[35] In a worst-case scenario of damaged panels abandoned on the ground, insignificant amounts of cadmium will leach from the panels. This is because this scenario is

much less conducive (larger module pieces, less acidity) to leaching than the conditions of the EPA's TCLP test used to simulate landfill conditions, which CdTe panels pass.[36]

First Solar, a U.S. company, and the only significant supplier of CdTe panels, has a robust panel take-back and recycling program that has been operating commercially since 2005.[37] The company states that it is "committed to providing a commercially attractive recycling solution for photovoltaic (PV) power plant and module owners to help them meet their module (end of life) EOL obligation simply, cost-effectively and responsibly." First Solar global recycling services to their customers to collect and recycle panels once they reach the end of productive life whether due to age or damage. These recycling service agreements are structured to be financially attractive to both First Solar and the solar panel owner. For First Solar, the contract provides the company with an affordable source of raw materials needed for new panels and presumably a diminished risk of undesired release of Cd. The contract also benefits the solar panel owner by allowing them to avoid tipping fees at a waste disposal site. The legal contract helps provide peace of mind by ensuring compliance by both parties when considering the continuing trend of rising disposal costs and increasing regulatory requirements.

c. CIS/CIGS and other PV technologies

Copper indium gallium selenide PV technology, often referred to as CIGS, is the second most common type of thin-film PV panel but a distant second behind CdTe. CIGS cells are composed of a thin layer of copper, indium, gallium, and selenium on a glass or plastic backing. None of these elements are very toxic, although selenium is a regulated metal under the Federal Resource Conservation and Recovery Act (RCRA).[38] The cells often also have an extremely thin layer of cadmium sulfide that contains a tiny amount of cadmium, which is toxic. The promise of high efficiency CIGS panels drove heavy investment in this technology in the past. However, researchers have struggled to transfer high efficiency success in the lab to low-cost full-scale panels in the field.[39] Recently, a CIGS manufacturer based in Japan, Solar Frontier, has achieved some market success with a rigid, glass-faced CIGS module that competes with silicon panels. Solar Frontier produces the majority of CIS panels on the market today.[40] Notably, these panels are RoHS compliant,[41] thus meeting the rigorous toxicity standard adopted by the European Union even thought this directive exempts PV panels. The authors are unaware of any completed or proposed utility-scale system in North Carolina using CIS/CIGS panels.

1.2.3 Panel End-of-Life Management

Concerns about the volume, disposal, toxicity, and recycling of PV panels are addressed in this subsection. To put the volume of PV waste into perspective, consider that by 2050, when PV systems installed in 2020 will reach the end of their lives, it is estimated that the global annual PV panel waste tonnage will be 10% of the 2014 global e-waste tonnage.[42] In the U.S., end-of-life disposal of solar products is governed by the Federal Resource Conservation and Recovery Act (RCRA), as well as state policies in some situations. RCRA separates waste into hazardous (not accepted at ordinary landfill) and solid waste (generally accepted at ordinary landfill) based on a series of rules. According to RCRA, the way to determine if a PV panel is classified as hazardous waste is the Toxic Characteristic Leaching Procedure (TCLP) test. This EPA test is designed to simulate landfill disposal and determine the risk of hazardous substances leaching out of the landfill.[43, 44, 45] Multiple sources report that most modern PV panels (both crystalline silicon and cadmium telluride) pass the TCLP test.[46, 47] Some studies found that some older (1990s) crystalline silicon panels, and perhaps some newer crystalline silicon panels (specifics are not given about vintage of panels tested), do not pass the lead (Pb) leachate limits in the TCLP test.[48, 49]

The test begins with the crushing of a panel into centimeter-sized pieces. The pieces are then mixed in an acid bath. After tumbling for eighteen hours, the fluid is tested for forty hazardous substances that all must be below specific threshold levels to pass the test. Research comparing TCLP conditions to conditions of damaged panels in the field found that simulated landfill conditions provide overly conservative estimates of leaching for field-damaged panels.[50] Additionally, research in Japan has found no detectable Cd leaching from cracked CdTe panels when exposed to simulated acid rain.[51]

Although modern panels can generally be landfilled, they can also be recycled. Even though recent waste volume has not been adequate to support significant PV-specific recycling infrastructure, the existing recycling industry in North Carolina reports that it recycles much of the current small volume of broken PV panels. In an informal survey conducted by the NC Clean Energy Technology Center survey in early 2016, seven of the eight large active North Carolina utility-scale solar developers surveyed reported that they send damaged panels back to the manufacturer and/or to a local recycler. Only one developer reported sending damaged panels to the landfill.

The developers reported at that time that they are usually paid a small amount per panel by local recycling firms. In early 2017, a PV developer reported that a local recycler was charging a small fee per panel to recycle damaged PV panels. The local recycling firm known to authors to accept PV panels described their current PV panel recycling practice as of early 2016 as removing the aluminum frame for local recycling and removing the wire leads for local copper recycling. The remainder of the panel is sent to a facility for processing the non-metallic portions of crushed vehicles, referred to as "fluff" in the recycling industry.[52] This processing within existing general recycling plants allows for significant material recovery of major components, including glass which is 80% of the module weight, but at lower yields than PV-specific recycling plants. Notably almost half of the material value in a PV panel is in the few grams of silver contained in almost every PV panel produced today. In the long-term, dedicated PV panel recycling plants can increase treatment capacities and maximize revenues resulting in better output quality and the ability to recover a greater fraction of the useful materials.[53] PV-specific panel recycling technologies have been researched and implemented to some extent for the past decade, and have been shown to be able to recover over 95% of PV material (semiconductor) and over 90% of the glass in a PV panel.[54]

A look at global PV recycling trends hints at the future possibilities of the practice in our country. Europe installed MW-scale volumes of PV years before the U.S. In 2007, a public-private partnership between the European Union and the solar industry set up a voluntary collection and recycling system called PV CYCLE. This arrangement was later made mandatory under the EU's WEEE directive, a program for waste electrical and electronic equipment.[55] Its member companies (PV panel producers) fully finance the association. This makes it possible for end-users to return the member companies' defective panels for recycling at any of the over 300 collection points around Europe without added costs. Additionally, PV CYCLE will pick up batches of 40 or more used panels at no cost to the user. This arrangement has been very successful, collecting and recycling over 13,000 tons by the end of 2015.[56]

In 2012, the WEEE Directive added the end-of-life collection and recycling of PV panels to its scope.[57] This directive is based on the principle of extended-producer-responsibility. It has a global impact because producers that want to sell into the EU market are legally responsible for end-of-life management. Starting in 2018, this directive targets that 85% of PV products "put in the market" in Europe are recovered and 80% is prepared for reuse and recycling.

The success of the PV panel collection and recycling practices in Europe provides promise for the future of recycling in the U.S. In mid-2016, the US Solar Energy Industry Association (SEIA) announced that they are starting a national solar panel recycling program with the guidance and support of many

leading PV panel producers.[58] The program will aggregate the services offered by recycling vendors and PV manufacturers, which will make it easier for consumers to select a cost-effective and environmentally responsible end-of-life management solution for their PV products. According to SEIA, they are planning the program in an effort to make the entire industry landfill-free. In addition to the national recycling network program, the program will provide a portal for system owners and consumers with information on how to responsibly recycle their PV systems.

While a cautious approach toward the potential for negative environmental and/or health impacts from retired PV panels is fully warranted, this section has shown that the positive health impacts of reduced emissions from fossil fuel combustion from PV systems more than outweighs any potential risk. Testing shows that silicon and CdTe panels are both safe to dispose of in landfills, and are also safe in worst case conditions of abandonment or damage in a disaster. Additionally, analysis by local engineers has found that the current salvage value of the equipment in a utility scale PV facility generally exceeds general contractor estimates for the cost to remove the entire PV system.[59, 60, 61]

1.2.4 Non-Panel System Components (racking, wiring, inverter, transformer)

While previous toxicity subsections discussed PV panels, this subsection describes the non-panel components of utility-scale PV systems and investigates any potential public health and safety concerns. The most significant non-panel component of a ground-mounted PV system is the mounting structure of the rows of panels, commonly referred to as “racking”. The vertical post portion of the racking is galvanized steel and the remaining above-ground racking components are either galvanized steel or aluminum, which are both extremely common and benign building materials. The inverters that make the solar generated electricity ready to send to the grid have weather-proof steel enclosures that protect the working components from the elements. The only fluids that they might contain are associated with their cooling systems, which are not unlike the cooling system in a computer. Many inverters today are RoHS compliant.

The electrical transformers (to boost the inverter output voltage to the voltage of the utility connection point) do contain a liquid cooling oil. However, the fluid used for that function is either a non-toxic mineral oil or a biodegradable non-toxic vegetable oil, such as BIOTEMP from ABB. These vegetable transformer oils have the additional advantage of being much less flammable than traditional mineral oils. Significant health hazards are associated with old transformers containing cooling oil with toxic PCBs. Transfers with PCB-containing oil were common before PCBs were outlawed in the U.S. in 1979. PCBs still exist in older transformers in the field across the country.

Other than a few utility research sites, there are no batteries on- or off-site associated with utility-scale solar energy facilities in North Carolina, avoiding any potential health or safety concerns related to battery technologies. However, as battery technologies continue to improve and prices continue to decline we are likely to start seeing some batteries at solar facilities. Lithium ion batteries currently dominate the world utility-scale battery market, which are not very toxic. No non-panel system components were found to pose any health or environmental dangers.

1.4 Operations and Maintenance – Panel Washing and Vegetation Control

Throughout the eastern U.S., the climate provides frequent and heavy enough rain to keep panels adequately clean. This dependable weather pattern eliminates the need to wash the panels on a regular basis. Some system owners may choose to wash panels as often as once a year to increase production, but most in N.C. do not regularly wash any PV panels. Dirt build up over time may justify panel washing a few times over the panels' lifetime; however, nothing more than soap and water are required for this activity.

The maintenance of ground-mounted PV facilities requires that vegetation be kept low, both for aesthetics and to avoid shading of the PV panels. Several approaches are used to maintain vegetation at NC solar facilities, including planting of limited-height species, mowing, weed-eating, herbicides, and grazing livestock (sheep). The following descriptions of vegetation maintenance practices are based on interviews with several solar developers as well as with three maintenance firms that together are contracted to maintain well over 100 of the solar facilities in N.C. The majority of solar facilities in North Carolina maintain vegetation primarily by mowing. Each row of panels has a single row of supports, allowing sickle mowers to mow under the panels. The sites usually require mowing about once a month during the growing season. Some sites employ sheep to graze the site, which greatly reduces the human effort required to maintain the vegetation and produces high quality lamb meat.[62]

In addition to mowing and weed eating, solar facilities often use some herbicides. Solar facilities generally do not spray herbicides over the entire acreage; rather they apply them only in strategic locations such as at the base of the perimeter fence, around exterior vegetative buffer, on interior dirt roads, and near the panel support posts. Also unlike many row crop operations, solar facilities generally use only general use herbicides, which are available over the counter, as opposed to restricted use herbicides commonly used in commercial agriculture that require a special restricted use license. The herbicides used at solar facilities are primarily 2-4-D and glyphosate (Round-up®), which are two of the most common herbicides used in lawns, parks, and agriculture across the country. One maintenance firm that was interviewed sprays the grass with a class of herbicide known as a growth regulator in order to slow the growth of grass so that mowing is only required twice a year. Growth regulators are commonly used on highway roadsides and golf courses for the same purpose. A commercial pesticide applicator license is required for anyone other than the landowner to apply herbicides, which helps ensure that all applicators are adequately educated about proper herbicide use and application. The license must be renewed annually and requires passing of a certification exam appropriate to the area in which the applicator wishes to work. Based on the limited data available, it appears that solar facilities in N.C. generally use significantly less herbicides per acre than most commercial agriculture or lawn maintenance services.

2. Electromagnetic Fields (EMF)

PV systems do not emit any material during their operation; however, they do generate electromagnetic fields (EMF), sometimes referred to as radiation. EMF produced by electricity is non-ionizing radiation, meaning the radiation has enough energy to move atoms in a molecule around (experienced as heat), but not enough energy to remove electrons from an atom or molecule (ionize) or to damage DNA. As shown below, modern humans are all exposed to EMF throughout our daily lives without negative health impact. Someone outside of the fenced perimeter of a solar facility is not exposed to significant EMF from the solar facility. Therefore, there is no negative health impact from the EMF

produced in a solar farm. The following paragraphs provide some additional background and detail to support this conclusion.

Since the 1970s, some have expressed concern over potential health consequences of EMF from electricity, but no studies have ever shown this EMF to cause health problems.[63] These concerns are based on some epidemiological studies that found a slight increase in childhood leukemia associated with average exposure to residential power-frequency magnetic fields above 0.3 to 0.4 µT (microteslas) (equal to 3.0 to 4.0 mG (milligauss)). µT and mG are both units used to measure magnetic field strength. For comparison, the average exposure for people in the U.S. is one mG or 0.1 µT, with about 1% of the population with an average exposure in excess of 0.4 µT (or 4 mG).[64] These epidemiological studies, which found an association but not a causal relationship, led the World Health Organization's International Agency for Research on Cancer (IARC) to classify ELF magnetic fields as "possibly carcinogenic to humans". Coffee also has this classification. This classification means there is limited evidence but not enough evidence to designate as either a "probable carcinogen" or "human carcinogen". Overall, there is very little concern that ELF EMF damages public health. The only concern that does exist is for long-term exposure above 0.4 µT (4 mG) that may have some connection to increased cases of childhood leukemia. In 1997, the National Academies of Science were directed by Congress to examine this concern and concluded:

> "Based on a comprehensive evaluation of published studies relating to the effects of power-frequency electric and magnetic fields on cells, tissues, and organisms (including humans), the conclusion of the committee is that the current body of evidence does not show that exposure to these fields presents a human-health hazard. Specifically, no conclusive and consistent evidence shows that exposures to residential electric and magnetic fields produce cancer, adverse neurobehavioral effects, or reproductive and developmental effects."[65]

There are two aspects to electromagnetic fields, an electric field and a magnetic field. The electric field is generated by voltage and the magnetic field is generated by electric current, i.e., moving electrons. A task group of scientific experts convened by the World Health Organization (WHO) in 2005 concluded that there were no substantive health issues related to *electric* fields (0 to 100,000 Hz) at levels generally encountered by members of the public.[66] The relatively low voltages in a solar facility and the fact that electric fields are easily shielded (i.e., blocked) by common materials, such as plastic, metal, or soil means that there is no concern of negative health impacts from the electric fields generated by a solar facility. Thus, the remainder of this section addresses magnetic fields. Magnetic fields are not shielded by most common materials and thus can easily pass through them. Both types of fields are strongest close to the source of electric generation and weaken quickly with distance from the source.

The direct current (DC) electricity produced by PV panels produce stationary (0 Hz) electric and magnetic fields. Because of minimal concern about potential risks of stationary fields, little scientific research has examined stationary fields' impact on human health.[67] In even the largest PV facilities, the DC voltages and currents are not very high. One can illustrate the weakness of the EMF generated by a PV panel by placing a compass on an operating solar panel and observing that the needle still points north.

While the electricity throughout the majority of a solar site is DC electricity, the inverters convert this DC electricity to alternating current (AC) electricity matching the 60 Hz frequency of the grid. Therefore, the inverters and the wires delivering this power to the grid are producing non-stationary EMF, known as extremely low frequency (ELF) EMF, normally oscillating with a frequency of 60 Hz. This frequency is at the low-energy end of the electromagnetic spectrum. Therefore, it has less energy than

other commonly encountered types of non-ionizing radiation like radio waves, infrared radiation, and visible light.

The wide use of electricity results in background levels of ELF EMFs in nearly all locations where people spend time – homes, workplaces, schools, cars, the supermarket, etc. A person's average exposure depends upon the sources they encounter, how close they are to them, and the amount of time they spend there.[68] As stated above, the average exposure to magnetic fields in the U.S. is estimated to be around one mG or 0.1 µT, but can vary considerably depending on a person's exposure to EMF from electrical devices and wiring.[69] At times we are often exposed to much higher ELF magnetic fields, for example when standing three feet from a refrigerator the ELF magnetic field is 6 mG and when standing three feet from a microwave oven the field is about 50 mG.[70] The strength of these fields diminish quickly with distance from the source, but when surrounded by electricity in our homes and other buildings moving away from one source moves you closer to another. However, unless you are inside of the fence at a utility-scale solar facility or electrical substation it is impossible to get very close to the EMF sources. Because of this, EMF levels at the fence of electrical substations containing high voltages and currents are considered "generally negligible".[71, 72]

The strength of ELF-EMF present at the perimeter of a solar facility or near a PV system in a commercial or residential building is significantly lower than the typical American's average EMF exposure.[73, 74] Researchers in Massachusetts measured magnetic fields at PV projects and found the magnetic fields dropped to very low levels of 0.5 mG or less, and in many cases to less than background levels (0.2 mG), at distances of no more than nine feet from the residential inverters and 150 feet from the utility-scale inverters.[75] Even when measured within a few feet of the utility-scale inverter, the ELF magnetic fields were well below the International Commission on Non-Ionizing Radiation Protection's recommended magnetic field level exposure limit for the general public of 2,000 mG.[76] It is typical that utility scale designs locate large inverters central to the PV panels that feed them because this minimizes the length of wire required and shields neighbors from the sound of the inverter's cooling fans. Thus, it is rare for a large PV inverter to be within 150 feet of the project's security fence.

Anyone relying on a medical device such as pacemaker or other implanted device to maintain proper heart rhythm may have concern about the potential for a solar project to interfere with the operation of his or her device. However, there is no reason for concern because the EMF outside of the solar facility's fence is less than 1/1000 of the level at which manufacturers test for ELF EMF interference, which is 1,000 mG.[77] Manufacturers of potentially affected implanted devices often provide advice on electromagnetic interference that includes avoiding letting the implanted device get too close to certain sources of fields such as some household appliances, some walkie-talkies, and similar transmitting devices. Some manufacturers' literature does not mention high-voltage power lines, some say that exposure in public areas should not give interference, and some advise not spending extended periods of time close to power lines.[78]

3. Electric Shock and Arc Flash Hazards

There is a real danger of electric shock to anyone entering any of the electrical cabinets such as combiner boxes, disconnect switches, inverters, or transformers; or otherwise coming in contact with voltages over 50 Volts.[79] Another electrical hazard is an arc flash, which is an explosion of energy that can occur in a short circuit situation. This explosive release of energy causes a flash of heat and a shockwave, both of which can cause serious injury or death. Properly trained and equipped technicians and electricians know how to safely install, test, and repair PV systems, but there is always some risk of

injury when hazardous voltages and/or currents are present. Untrained individuals should not attempt to inspect, test, or repair any aspect of a PV system due to the potential for injury or death due to electric shock and arc flash, The National Electric Code (NEC) requires appropriate levels of warning signs on all electrical components based on the level of danger determined by the voltages and current potentials. The national electric code also requires the site to be secured from unauthorized visitors with either a six-foot chain link fence with three strands of barbed wire or an eight-foot fence, both with adequate hazard warning signs.

4. Fire Safety

The possibility of fires resulting from or intensified by PV systems may trigger concern among the general public as well as among firefighters. However, concern over solar fire hazards should be limited because only a small portion of materials in the panels are flammable, and those components cannot self-support a significant fire. Flammable components of PV panels include the thin layers of polymer encapsulates surrounding the PV cells, polymer backsheets (framed panels only), plastic junction boxes on rear of panel, and insulation on wiring. The rest of the panel is composed of non-flammable components, notably including one or two layers of protective glass that make up over three quarters of the panel's weight.

Heat from a small flame is not adequate to ignite a PV panel, but heat from a more intense fire or energy from an electrical fault can ignite a PV panel.[80] One real-world example of this occurred during July 2015 in an arid area of California. Three acres of grass under a thin film PV facility burned without igniting the panels mounted on fixed-tilt racks just above the grass.[81] While it is possible for electrical faults in PV systems on homes or commercial buildings to start a fire, this is extremely rare.[82] Improving understanding of the PV-specific risks, safer system designs, and updated fire-related codes and standards will continue to reduce the risk of fire caused by PV systems.

PV systems on buildings can affect firefighters in two primary ways, 1) impact their methods of fighting the fire, and 2) pose safety hazard to the firefighters. One of the most important techniques that firefighters use to suppress fire is ventilation of a building's roof. This technique allows superheated toxic gases to quickly exit the building. By doing so, the firefighters gain easier and safer access to the building, Ventilation of the roof also makes the challenge of putting out the fire easier. However, the placement of rooftop PV panels may interfere with ventilating the roof by limiting access to desired venting locations.

New solar-specific building code requirements are working to minimize these concerns. Also, the latest National Electric Code has added requirements that make it easier for first responders to safely and effectively turn off a PV system. Concern for firefighting a building with PV can be reduced with proper fire fighter training, system design, and installation. Numerous organizations have studied fire fighter safety related to PV. Many organizations have published valuable guides and training programs. Some notable examples are listed below.

- The International Association of Fire Fighters (IAFF) and International Renewable Energy Council (IREC) partnered to create an online training course that is far beyond the PowerPoint click-and-view model. The self-paced online course, "Solar PV Safety for Fire Fighters," features rich video content and simulated environments so fire fighters can practice the knowledge they've learned. www.iaff.org/pvsafetytraining
- Photovoltaic Systems and the Fire Code: Office of NC Fire Marshal
- Fire Service Training, Underwriter's Laboratory

- Firefighter Safety and Response for Solar Power Systems, National Fire Protection Research Foundation
- Bridging the Gap: Fire Safety & Green Buildings, National Association of State Fire Marshalls
- Guidelines for Fire Safety Elements of Solar Photovoltaic Systems, Orange County Fire Chiefs Association
- Solar Photovoltaic Installation Guidelines, California Department of Forestry & Fire Protection, Office of the State Fire Marshall
- PV Safety & Firefighting, Matthew Paiss, Homepower Magazine
- PV Safety and Code Development: Matthew Paiss, Cooperative Research Network

Summary

The purpose of this paper is to address and alleviate concerns of public health and safety for utility-scale solar PV projects. Concerns of public health and safety were divided and discussed in the four following sections: (1) Toxicity, (2) Electromagnetic Fields, (3) Electric Shock and Arc Flash, and (4) Fire. In each of these sections, the negative health and safety impacts of utility-scale PV development were shown to be negligible, while the public health and safety benefits of installing these facilities are significant and far outweigh any negative impacts.

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NC CLEAN ENERGY TECHNOLOGY CENTER

Notice Criteria Tool

Notice Criteria Tool - Desk Reference Guide V_2018.2.0

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

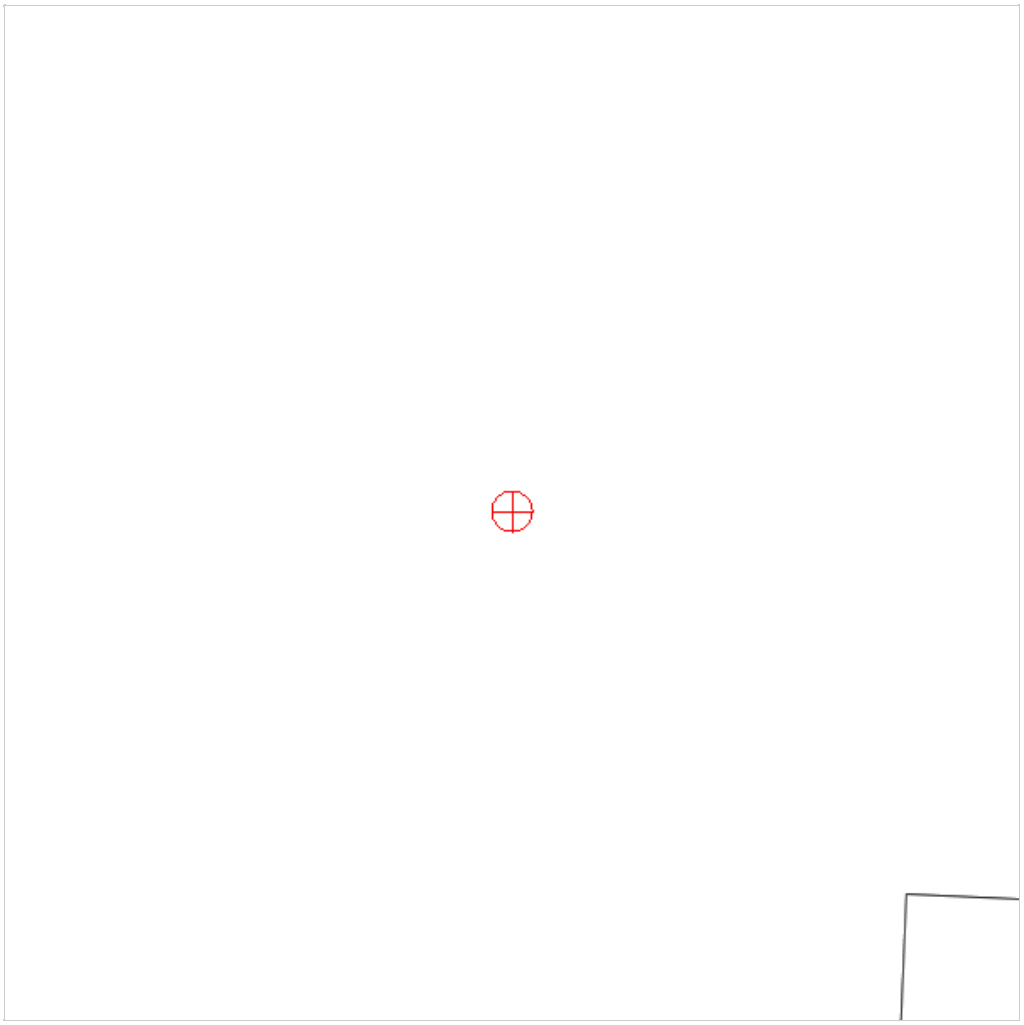
If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the Air Traffic Areas of Responsibility map for Off Airport construction, or contact the FAA Airports Region / District Office for On Airport construction.

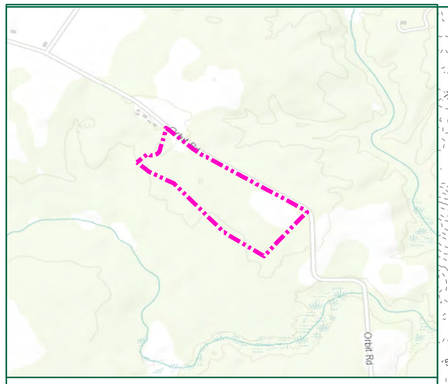
The tool below will assist in applying Part 77 Notice Criteria.

Latitude:	36 Deg 52 M 56 S N
Longitude:	76 Deg 41 M 21 S W
Horizontal Datum:	NAD83
Site Elevation (SE):	24 (nearest foot)
Structure Height :	12 (nearest foot)
Traverseway:	No Traverseway (Additional height is added to certain structures under 77.9(c)) User can increase the default height adjustment for Traverseway, Private Roadway and Waterway
Is structure on airport:	(•) No ( ) Yes

Results

You do not exceed Notice Criteria.





Resource Identification	Confirmation						Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	WOUS (sq ft)	WOUS (lf)	
A	4,139						NT/V
B	30,640						NT/V
C					50	50	NT/NV
Total	**34,779**	**0**	**0**	**0**	**50**	**50**	
Total Stream Length =			**50 sq ft**		**0.00 ac**	**50 lf**	
Total Wetland Area =			**34,779 sq ft**		**0.80 ac**		

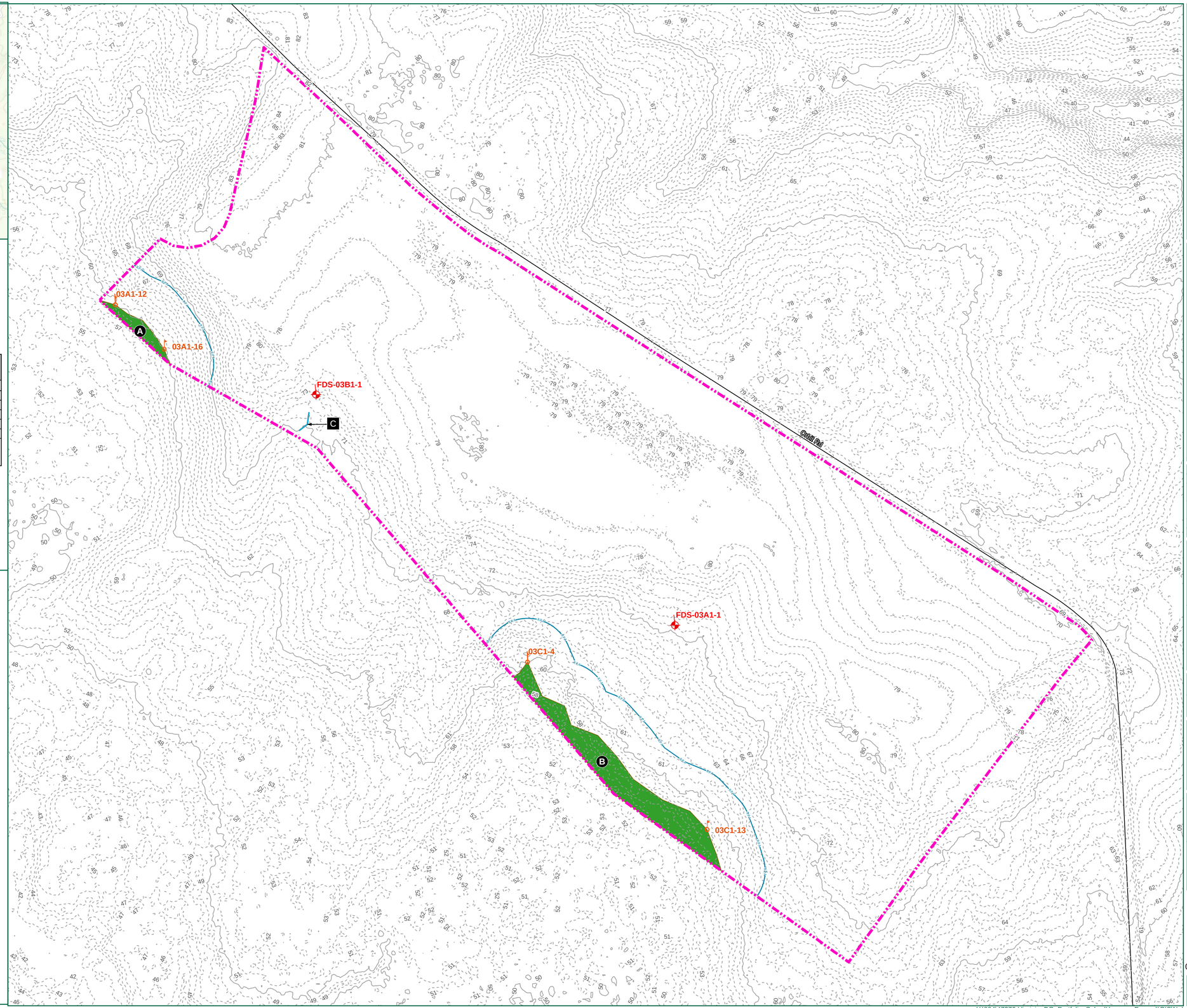
* T=Tidal; NT=Non-tidal; V=Vegetated; NV=Non-Vegetated; PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW= Palustrine Open Water; WOUS = Water of the U.S.

Legend

- Project Study Limits- 39.7 Acres
- Stream Identifier
- Wetland Identifier
- Wetland Flag
- Field Data Station
- Resource Protection Area
- WOUS
- Palustrine Forested (PFO) Wetlands

Topographic Contours

- Major- 10 Foot
- Minor- 1 Foot



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.
1001 Boulders Parkway, Suite 300
Richmond, VA 23225
TEL 804.200.6500
www.timmons.com

PROJECT NAME & LOCATION

VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN

ISLE OF WIGHT COUNTY, VIRGINIA

DATE: 12/16/2020

PROJECT NUMBER: 47276

PROJECT NAME: NUBY RUN

DESIGNED BY / DRAWN BY: M. COOLEY

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
2.Waters of the U.S. have not been confirmed by the U.S. Army Corps of Engineers until stamped.
3. Project limits are approximate.
4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based solely on field observations. No formal Stream assessment methodology was completed to determine these Cowardin Classifications.

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staking without the express written consent of TIMMONS GROUP.

REVISIONS

#	MM/DD/YY	DESCRIPTION

DRAWING DESCRIPTION

FIGURE 4:
WETLANDS AND WATERS DELINEATION MAP

SCALE (FEET)

0 110 220

PLANS PRINTED AS 11X17 ARE HALF SCALE

SCALE	SHEET NUMBER
H:1 " = 110 '	1

Y:\804\47276-Virginia_DG_Portfolio_Solar (Hexagon Energy)\GIS\Nuby Run WTDM\47276-WTDM.mxd

PHASE I ENVIRONMENTAL SITE ASSESSMENT

NUBY RUN
APPROXIMATELY 117 ACRES
ISLE OF WIGHT COUNTY, VIRGINIA

PREPARED FOR:

HEXAGON ENERGY

PREPARED BY:

TIMMONS GROUP
1001 BOULDERS PARKWAY, SUITE 300
RICHMOND, VIRGINIA 23225

DRAFT

Inspection Date: December 15, 2020
Report Publication Date: December 30, 2020

STATEMENT OF QUALIFICATIONS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and have the specific qualifications based on education, training, and experience to assess the nature, history, and setting of real property. We have developed and performed "all appropriate inquiries" in conformance with the standards and practices set forth in 40 CFR Part 312.

DRAFT

1.0 EXECUTIVE SUMMARY

At the request of Hexagon Energy (hereafter the "User"), and in accordance with 40 CFR Part 312 and ASTM Standard E 2247-16 (*Standard Practice for Phase I Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property*), Timmons Group conducted a Phase I Environmental Site Assessment (ESA) of approximately 117 acres located along Orbit Road in Isle of Wight County, Virginia (hereafter the "Subject Property" or "Site"). Based on our understanding, the Site is being evaluated for the construction of a solar farm.

The assessment was performed to identify Recognized Environmental Conditions (RECs) on the Subject Property or adjoining properties based on a review of reasonably available environmental resource information and/or site observations. The assessment was also performed to allow the User to qualify for landowner liability protections, including the Bona Fide Prospective Purchaser (BFPP) liability protection, available under federal and state law. RECs are defined by ASTM standards as "*the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to release to the environment; under conditions indicative of a release to the environment or under conditions that pose a material threat of future release*."

Site Description

The Subject Property is comprised of approximately 117 acres located along Orbit Road in Isle of Wight County, Virginia. The Site consists of undeveloped woodlands and agricultural land.

Environmental Conditions on the Subject Property

The results of the Phase I ESA did not identify any RECs in connection with the Subject Property, as defined by ASTM Standard E 2247-16.

Environmental Conditions on Adjoining Properties

The Subject Property is generally bordered to the north by Orbit Road, undeveloped woodlands, and open fields; to the east by Orbit Road, agricultural land, and undeveloped woodlands; to the south by silvicultural forest, undeveloped woodlands, and agricultural land; and to the west by silvicultural forest, undeveloped woodlands, agricultural land, and a private residence. As a result of site inspection and a review of resource data, RECs were not identified for the adjoining properties as defined by ASTM Standard E 2247-16.

Data Gaps

No significant data gaps were encountered during the completion of this Phase I ESA.

Conclusions and Recommended Response Actions

Timmons Group completed a Phase I ESA of approximately 117 acres located along Orbit Road in Isle of Wight County, Virginia. Based on the results, RECs were not identified for the Subject Property or adjoining properties as defined by ASTM Standard E 2247-16. Therefore, Timmons Group recommends no further action to meet due diligence requirements.

DRAFT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: November 23, 2020
Consultation Code: 05E2VA00-2021-SLI-0839
Event Code: 05E2VA00-2021-E-02357
Project Name: Stagg Nuby Farms

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2021-SLI-0839

Event Code: 05E2VA00-2021-E-02357

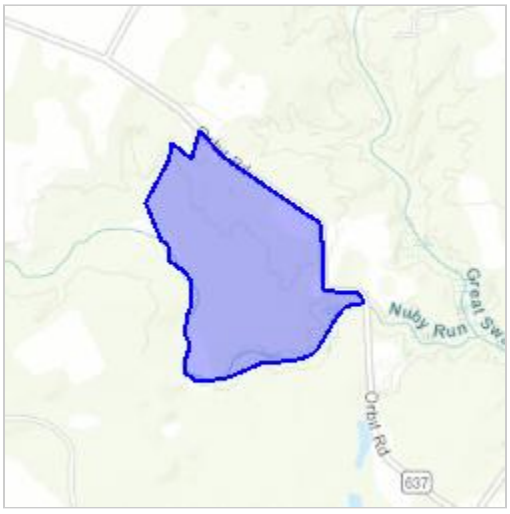
Project Name: Stagg Nuby Farms

Project Type: POWER GENERATION

Project Description: Stagg Nuby Farms is a 1MWac photovoltaic solar facility located on 178 acres. The project is projected to commence operations by the end of 2022. Property is located in Smithfield, Virginia outside the town of Isle of Wight. The northern portion of the site is cleared and used as farmland. There may be 1-2 acres of trees that need to be cleared. Wetlands have been identified to the south of site area, but not on the site area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.87937700736151N76.68931636392058W



Counties: Isle of Wight, VA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

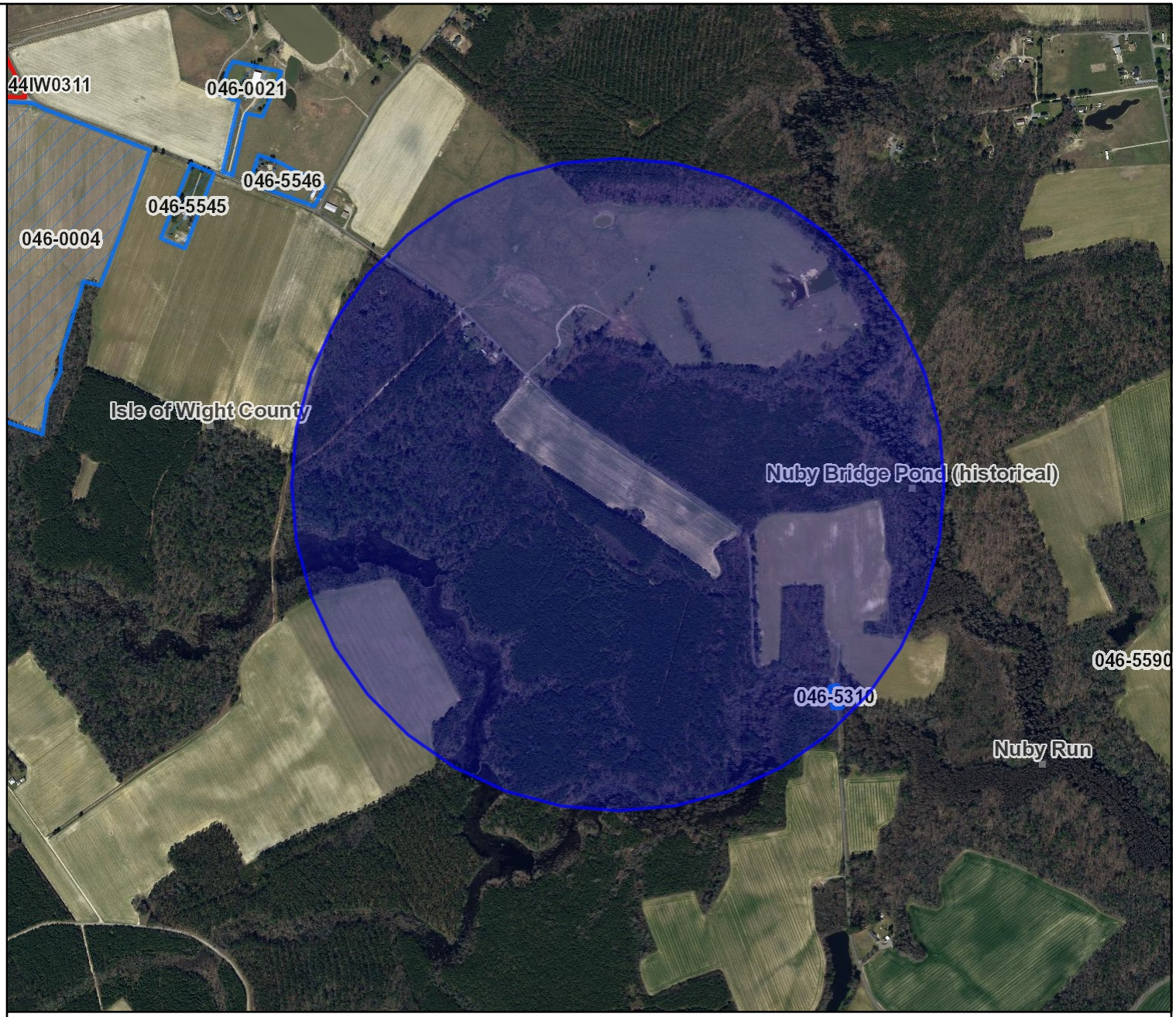
Virginia Dept. of Historic Resources

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

0 500 1000 1500 2000

1:18,056 / 1"=1,505 Feet

Title: Nuby Run Solar 0.5 Mile VCRIS Map **Date: 12/15/2020**

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.

HEXAGON
ENERGY

June 16, 2021

Amy Ring
Director of Community Development, Isle of Wight County
220 N. Church Street
Smithfield, Virginia 23430

Re: Nuby Run Solar, Decommissioning Cost Estimate

Dear Ms. Ring and the Community Development Department,

Please accept this letter as the decommissioning cost estimate and methodology for our proposed solar photovoltaic project, Nuby Run Solar. Please note that the items listed and described below represent estimates, and are subject to change. Prior to issuance of a building permit, we will engage a 3rd party engineer to review the decommissioning cost estimate, and will post a surety bond in the amount of the updated cost estimate. In the interest of conservative financial planning, this estimate is not inclusive of salvage value. This bond will cover the cost of removing the system and restoring the site to as close to its original condition to the extent reasonably possible, and will include a mechanism for a cost of Living Adjustment after ten (10) and fifteen (15) years. Nuby Run Solar proposes to ensure the funds are kept current by re-evaluating the cost of facility decommissioning every five (5) years. We estimate the lifespan of this project to be approximately 35 years in length.

Based on the estimates provided below, the cost of decommissioning for the facility, including equipment removal and site restoration, is approximately $331,725

Should you have any questions, please don't hesitate to contact me

Sincerely,

Buzz Becker
Development Manager
Hexagon Energy, LLC

(Decommissioning Schedule and Cost Estimate on the following pages)

321 E. Main St. | Suite 500 | Charlottesville, VA 22902
P 434.227.5090 hexagon-energy.com

HEXAGON ENERGY

DECOMMISSIONING SCHEDULE

Facility decommissioning is generally described as the removal of all system components and the rehabilitation of the site to pre-construction conditions. The goal of project decommissioning and reclamation is to remove the installed power generation equipment and return the site to a condition as close to a pre-construction state as feasible. A detailed cost estimate of decommissioning the Project can be found in Appendix I.

The decommissioning of Nuby Run Solar will proceed in reverse order of the installation within 365 days of the date of abandonment or discontinuation.

1. The PV facility shall be disconnected from the utility power grid.
2. PV modules shall be disconnected, collected, and recycled off-site by an approved recycling facility. If no recycling facility is available, PV modules are deemed non-hazardous waste by EPA guidelines and can be landfilled.
3. Above ground and underground electrical interconnection and distribution cables shall be removed and salvaged or recycled off-site by an approved facility.
4. PV module support aluminum racking shall be removed and recycled off-site by an approved recycler.
5. PV module support steel and support posts shall be removed and recycled off-site by an approved metals recycler.
6. Electrical and electronic devices, including transformers and inverters shall be removed and recycled off-site by an approved recycler.
7. Concrete foundations shall be removed and recycled off-site by a concrete recycler.
8. Fencing shall be removed and will be recycled off-site by an approved recycler.
9. The interior roads can remain onsite should the landowner choose to retain them or be removed, and the gravel repurposed either on or off-site.
10. The Project Site may be converted to other uses in accordance with applicable land use regulations in effect at that time of decommissioning. There are no permanent changes to the site, and it can be restored to its original condition including re-vegetation. Any soil removed for construction purposes will be relocated on the site or used for landscaping after construction is complete.

321 E. Main St. | Suite 500 | Charlottesville, VA 22902
P 434.227.5090 hexagon-energy.com

HEXAGON ENERGY

DECOMMISSIONING COST ESTIMATE

Item	Quantity	Unit	Unit Removal Price	Total Removal Price
345W Solar Modules	7,616	Each	$ 5.00	$ 38,080
Solar Panel Support Steel Piles	4,040	Each	$ 15.00	$ 60,600
Solar Panel Racks	311	Each	$ 50.00	$ 15,550
125kW Inverters	16	Each	$ 100.00	$ 1,600
1.5 kVA Transformers	2	Each	$ 3,000.00	$ 6,000
Conductor Removal (LV/DC)	18,278	Ft	$ 0.50	$ 9,139
Conductor Removal (MV)	1066	Each	$ 5.00	$ 5,330
Fence Removal	4,081	Linear Ft.	$ 1.00	$ 4,081
Land Restoration	50	Acres	$ 500.00	$ 25,000
Erosion Control	50	Acres	$ 2,000.00	$ 100,000
			Subtotal Removal Cost	$ 265,380
			Additional Allowances (25%)	$ 66,345
			Total Cost	**$ 331,725**

321 E. Main St. | Suite 500 | Charlottesville, VA 22902
P 434.227.5090 hexagon-energy.com

Local Roots, Global Reach
ISLE OF WIGHT
COUNTY, VIRGINIA
DEPARTMENT OF ECONOMIC DEVELOPMENT

MEMORANDUM

August 19, 2019

TO: **Members, Isle of Wight County Planning Commission**

FROM: **Chris Morello, Economic Development Director**
Amy Ring, Planning and Zoning Director

SUBJECT: **Economic Impacts – Conversion of Agriculture to Solar Facilities**

This memorandum responds to a request by the Planning Commission at its regular meeting on July 23, 2019, for County Staff to provide additional economic impact information associated with the Windsor PV1 Solar Farm Conditional Use Permit (CUP) application. More particularly, the request is related to the desire to understand the impacts of potential conversion of agricultural and silviculture land uses to solar farm land use beyond tax revenue benefits to the County. It should be noted that staff has prepared this limited analysis based on readily-available data and information provided by the land owners, and that an extensive econometric analysis would require the assistance of an external consultant.

Impacts associated with conversions to solar certainly do exist and should be understood to the extent possible. Staff has investigated these potential impacts with the assistance of Federal, state and local resources, including USDA, Farm Service Agency, Virginia Cooperative Extension and the Isle of Wight Commissioner of Revenue, to name a few.

Windsor PV1 is the fourth solar project proposed in the County. Below is a table with a summary of the County's existing solar projects.

PROJECT	ACRES IN PANELS	LOCATION	% OF COUNTY AG
Woodland	180 +/-	Longview	0.2%
Solidago	170 +/-	Redhouse	0.2%
Ho-Fel	330 +/-	Lees Mill	0.4%
Windsor PV1	630 +/-	Windsor	0.8%
TOTAL	**1,310 +/-**		**1.6%**

According to the 2017 Census of Agriculture (USDA-NASS), Isle of Wight County has 237 farms totaling 80,672 acres of land. The average farm size is 340 acres. The average annual market value of agriculture products sold per farm is $270,985.

Using the same data to derive market values for crops cultivated from 268 acres of farmland on the subject farms generates an estimated $214,078 in market value. Additional property includes 790 acres in active timber. The current market rate for timber ranges from $1,000 to $3,000 per acre depending on size of trees, species composition and the land itself. For loblolly pine, the current industry standard is to clear cut and replant at 18-20 years.

According to the USDA – NASS, 2017, the average rental rate for County cropland in tax year 2018 was $69.00 per acre. One of the subject farms is currently generating $110 per acre, and the other $100 per acre. By contrast, market rates for solar leases in the region are between $600 and $1,000 per acre.

Land and Equipment Valuation

The Office of the Commissioner of Revenue values various land uses differently based on the following categories:

- Agriculture/Horticulture - $1,238
- Pasture - $334
- Non-productive - $240
- Forest - $641
- Non-productive (swamp/marsh) - $100

Parcels hosting a solar farm are currently assessed at $15,000 per acre. The final assessment and tax revenue generated by a parcel's conversion to solar facility usage depends on the proportion of each of the uses after the conversion. In other words, the Commissioner of Revenue derives a tax levy composed of assessments on the differing uses allowed by the conditional use permit. In the case of Windsor PV1, uses will include some agricultural and silvicultural use after the conversion to solar. The rate of $15,000 per acre would apply only to 630 out of 1,080 acres.

As for tax revenues derived from solar facilities and equipment, because the proposed project will exceed 20 MW of output, that type of property receives an 80 percent exemption on initial and depreciated values as per State law. In addition, because the proposed project exceeds 25 MW, the facility and equipment will be assessed by the State Corporation Commission (SCC) using a sliding scale depreciation method. The SCC then applies the County's real estate sales ratio to the assessed value to determine the final assessment. The sales ratio is determined annually by the Department of Taxation based on the sales price compared to the assessment for each real estate sale in Isle of Wight County. The final assessment is sent to the Commissioner's office in September, and the real estate tax rate is applied to the assessment to determine the actual tax for the following year. Therefore, precise revenue predictions are not available until both the sales ratio factor and the per acre tax rate are both known.

Real Estate Tax Revenue – Current Land Use Program

Parcel	Annual RE Tax	30 Yr. Revenue (PV)
52-01-046	$4,160	$124,797
Parcel	**Annual RE Tax**	**30 Yr. Revenue (PV)**
53-01-007	$6,443	$193,290

Total Annual Tax Revenue is $10,603, which over 30 years totals $318,087.

Real Estate Tax Revenue – Proposed Land Use Program + Solar Facility

Parcel	Annual RE Tax	30 Yr. Revenue (PV)
52-01-046	$46,536	$1,396,077
Parcel	**Annual RE Tax**	**30 Yr. Revenue (PV)**
53-01-007	$39,728	$1,191,831

Total Annual Tax Revenue is $86,264, which over 30 years totals $2,587,908. (Please see attachment for detail.)

Economic Impacts

When assessing conversion of agricultural land to solar facility usage, the following potential direct and indirect impacts to the agriculture and silviculture industries can occur:

- The current 80 percent machinery and tools tax exemption for facilities generating 20 MW or greater will continue to create demand in rural communities for large tracts of land to be converted to solar use. This engenders natural competition between green energy and food and fiber production in the marketplace.
- Currently, agriculture and silviculture are two of the County's top industries. The Windsor PV1 Solar Facility represents a subtraction of approximately 0.3 percent of the County's cultivated land (USDA-NASS, 2017). While this project represents a relatively small impact, longer-term cumulative land conversions could create adverse effects on the local agricultural industry.
- To the extent that farmers purchase goods and services locally, associated direct and indirect adverse impacts would be realized. While it is not possible at this time to derive which goods and services are being purchased locally, Windsor PV1 property owners have indicated to staff that a very small proportion are purchased within the County by their tenant farmer.
- Irrespective of the origin of purchase, data provided by the Virginia Cooperative Extension is useful for understanding a farmer's costs per acre for different crops:
    - Corn = $395.47
    - Soybeans = $271.65
    - Cotton = $839.57

- Examples of goods and services purchased:
    - Seed
    - Fertilizers
    - Herbicides/Insecticides
    - Fuel/Oil/Lube
    - Repairs
    - Labor
    - Insurance
- The construction of solar projects creates temporary demand for skilled and unskilled labor, some of which could be sourced locally or regionally, bringing new economic benefits to the community's ancillary sectors, such as temporary housing, food service, and entertainment.
- Property owners who lease their land to solar energy developers, such as those associated with the Windsor PV1 CUP, can realize a reliable, long-term income stream for their land, with the potential to return to agriculture or silviculture use at the end of the lease period.

Rural localities will continue to grapple with the apparent high demand for utility-scale solar conversions if upward pressure to supply the grid with solar-derived energy does not wane. It is difficult to predict the future at this stage; however, staff is hopeful that this limited analysis is useful to understanding the broader economic picture and informs future policy discussions connected with this matter.

Revised February 4, 2014

COUNTY OF ISLE OF WIGHT
PROFFER STATEMENT

Applicant's name(s): Nuby Run Solar LLC

Owner's name(s): Robert Benjamin Stagg

Project name: Nuby Run Solar

Date: December 17, 2021

Parcel-Tax Map Numbers and deed book reference: 39-01-038

These proffers are made as of the 17th of December, 2021 by Benjamin Stagg (collectively "Owner"), of Tax Map Number 39-01-038, containing approximately 117 acres of land which is referred to herein as the "Property". Owner has filed a Conditional Use Permit (CUP) application with the Isle of Wight County Planning and Zoning Department requesting use approval for a small, solar facility to be developed on the Property. Owner voluntarily proffers that the development of the Property proposed under this application shall be in strict accordance with the conditions set forth below.

These proffered conditions ("Proffers") are the only conditions offered in this CUP application, and any prior proffered conditions on the Property are hereby superseded by these proffers and any and all previous proffers on the Property are hereby void and of no further force and effect.

All improvements, land, easements, dedications, gifts, proffers and other conveyances to the County shall be in fee simple, without cloud of title or encumbrance of any kind.

I. Development of the Property

1. The subject property shall be developed in general conformance with the Concept Plan included in the Nuby Run Solar application.

2. The portion of the subject property supporting solar panels shall be enclosed by security fencing of a type which is harmonious with the rural, agricultural, and historical character of the County while meeting federal and state regulations for solar electric generating facility fencing as determined by the Zoning Administrator while upon approval of the site plan for the project.

3. A continuous screening zone at least seventy-five (75) feet in width shall be established between the project and Orbit Rd, provided that breaks for required access, and for overhead and underground electrical lines, shall be permitted to interrupt the contiguous of the zone with approval by the Zoning Administrator.

4. The applicant shall submit an Emergency Response Plan with the first submission of the site plan, which shall detail fire suppression methods that will be immediately deployed during both construction and operation of the facility. The plan shall include a training program to be provided, at the discretion of the County, to County emergency response staff with regards to safety for on-site emergency response. The applicant shall install a Knox Box at the facility to ensure emergency responders have access to the facility should the need arise and include plans for the same on the project site plan.

5. Hours of operation for construction activities to be limited to 7:00am to 6:00pm Monday through Friday and 9:00am to 5:00pm on Saturdays. No construction to occur on Sundays.

6. The applicant shall submit a Stormwater Management Plan and an Erosion and Sediment Control Plan with the submission of the final site plan. The applicant shall reimburse the County for reasonable costs related to retaining such third-party inspectors as deemed necessary for project inspections.

7. Prior to final site plan approval, the applicant shall submit a plan for decommissioning the project to the County Zoning Administrator. Nuby Run Solar will decommission and remove the system and its components at the end of the life of the project in accordance with Sec. 5-5003(M)(4)(g) of the Ordinance. The project site could then be converted to other uses in accordance with applicable land use regulations in effect at that time. All decommissioning and restoration activities will adhere to the requirements of the appropriate governing authorities and the County Zoning Ordinance.

II. Land Use

This section left intentionally empty.

III. Cash Proffers

This section left intentionally empty.

IV. Environmental Protection

1. The applicant shall preserve and maintain both existing forest and vegetation as well as planted landscape buffering within required setback areas and buffer yards and shall not clear or cut live trees within required setbacks or buffer yards without written authorization from the Zoning Administrator.

2. The applicant shall conserve topsoil on the site to the maximum extent feasible. Topsoil stockpiled on the site shall be stored out of view from adjacent properties and public roads.

3. Prior to final site plan review, the applicant shall submit a US Army Corps of Engineers Jurisdictional Determination, Resource Area Protection confirmation review.

4. The applicant shall submit an invasive species management plan as recommended by DCR with the submission of the final site plan.

5. The applicant shall submit a seed mix for site groundcover that includes native pollinators blooming in spring/summer as recommended by DCR with the submission of the final site plan.

V. Archaeology

Prior to issuing building permit, the applicant shall submit the concurrence of the completed and provided Phase 1 Cultural Resource Assessment from the Virginia Department of Historical Resources

VI. Transportation

All 5 requirements as identified by VDOT Land Use Engineer Joshua Norris in his August 9, 2021 letter to Claire Jones will be adhered to, incorporated within, and fulfilled by Nuby Run Solar's final site plan submission.

VII. Water and Sewer Improvements

This section left intentionally empty.

VIII. Easements, Rights-of-Way and Buffers

This section left intentionally empty.

IX. Property Owners' Association and Restrictive Covenants

This section left intentionally empty.

X. General

1. Successors and Assigns - This Proffer Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective heirs, successors and/or assigns. Any obligation(s) of Owner hereunder shall be binding upon and enforceable against any subsequent owner or owners of the Property or any portion thereof.

2. Severability - In the event that 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 of 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, such judgment or holding shall he confined in its operation to the clause, sentence, paragraph, subparagraph, section or subsection hereof, or the specific application thereof directly involved in the controversy in which the judgment or holding shall have been rendered or made, and shall not in any way affect the validity of any other clause, sentence, paragraph, subparagraph, section or provision hereof.

3. Void if Application is not approved - In the event that the Application is not approved by the County, these Proffers shall be null and void.

4. Job Fairs for Created Positions - The applicant shall host at least two separate job fairs within Isle of Wight County to hire for the created jobs referenced in the applicant's permit narrative. These job fairs will be planned, located, and scheduled in consultation with county staff and/or members of the Board of Supervisors.

SIGNATURE PAGE

Applicant: Matthew Hantzmon, Manager
Printed or Typed Name

Applicant: _____ Date: 12/28/2021
Signature

Jacob Woods
NOTARY PUBLIC
REG. #7789522
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES July 31, 2022

Commonwealth of Virginia
~~County~~ of ~~Isle of Wight~~ City Charlottesville
Subscribed and sworn to before me Matthew Hantzmon
A Notary Public in and for the County of Isle of Wight, Commonwealth of Virginia, this 28th day of December, 2021.

_____
Notary Public
My Commission Expires 7/31/2022

Owner: Robert Benjamin Story
Printed or Typed Name

Owner: _____ Date: 12-17-21
Signature

Commonwealth of Virginia
County of Isle of Wight

JESSICA STORY MOORE
NOTARY
REG # 7659279
COMMONWEALTH OF VIRGINIA
PUBLIC

Subscribed and sworn to before me Jessica Story Moore
A Notary Public in and for the County of Isle of Wight, Commonwealth of Virginia, this 17th day of December, 2021.

_____
Notary Public
My Commission Expires November 30, 2024

Owner: _____
Printed or Typed Name

Owner: _____ Date: _____
Signature

Commonwealth of Virginia
County of Isle of Wight

Subscribed and sworn to before me _____,
A Notary Public in and for the County of Isle of Wight, Commonwealth of Virginia, this _____ day of _____, 200____.

_____
Notary Public
My Commission Expires _____

Transportation Plan

This Transportation Plan as a key measure to ensure traffic safety and route navigability for the proposed Nuby Run Solar. This plan outlines multiple strategies for efficient and safe road use during Nuby Run Solar's construction period.

A subsequent road use impact study will follow this plan to refine and document its measures to be implemented during construction within the planned haul routes. Such measures include school bus avoidance, delivery procedures, on-site and off-site parking and ridesharing programs, haul route pavement maintenance, temporary traffic control measures, and overall safety.

Hexagon Energy and the contractor will work closely with Isle of Wight County and VDOT to ensure safe and efficient movement of local traffic throughout the anticipated 2-3 month construction period.

School Bus Avoidance

After confirming the project's construction haul routes, Hexagon Energy will identify all school bus stops that exist along the roads and connecting side streets in the vicinity of the project area. Hexagon Energy will work to minimize interactions between construction traffic and school bus operations to the greatest extent possible. This work will be achieved through multiple methods:

- Wide-load deliveries will be restricted during student pick-up or drop-off times during the school year. Hexagon Energy will ensure delivery drivers are aware of school bus times and stop locations.
- Employees will be encouraged to participate in ridesharing programs to reduce traffic to the site.
- Reduced speed limits during the school year near bus stop locations will be a suggested traffic calming measure to VDOT. Speed limits will be communicated via temporary signage along construction traffic routes and driver education where applicable.
- Possible "high risk" bus stops will be identified in collaboration with Isle of Wight Schools. These locations will be considered for temporary relocation or enhanced safety measure such as signage indicating safe waiting areas and/or heavy truck traffic warnings.

Pavement Maintenance Along Haul Routes

Portions of the public roads identified in the transportation plan will be designated haul routes for deliveries during construction. The following procedures will be set in place for the evaluation and maintenance of haul route pavements before, during, and after construction:

- Before construction, representatives from Isle of Wight County, Hexagon Energy, VDOT, and the contractor will coordinate to drive the designated haul routes to collect observations and video footage of current pavement conditions. The pre-construction pavement conditions will be documented for future reference.
- Upon construction conclusion, previously identified representatives will repeat their observation drives to collect video footage of current pavement conditions. The post-construction pavement conditions will be documented and compared to pre-construction conditions.
- At project's completion, Hexagon Energy will restore road damage determined to be cause by construction vehicle negligence in coordination with Isle of Wight County and to the satisfaction of VDOT as permitted.
- If pavement along a haul route becomes damaged due to construction traffic, and is determined by VDOT to be unsafe, Hexagon Energy will repair the damage at their expense within 48 hours upon notice from the County's transportation planner and/or VDOT.

Temporary Traffic Control Measures

Temporary traffic control measures will be implemented in accordance with the most recent version of the Virginia Work Area Protection Manual. Traffic control for construction activity within the public right-of-way will be implemented in accordance with typical traffic control applications. Necessary construction activity within the public right-of-way will be identified as construction documents are prepared and traffic control plans will be included in the construction documents as necessary.

Traffic control measures will also be installed at active construction entrances. These include but are not limited to:

- Advanced warning signs
- Flaggers at the entrance location to facilitate truck turns for wide-load deliveries
- If sight distance is limited on a construction entrance approach, additional installed warning signs
- Reduced speed limits
- Additional construction traffic warning signage
- Channelizing devices

These VDOT-approved measures may be implemented as needed and will be addressed during the site plan review and VDOT permitting process.

Deliveries

- Delivery instructions shall be provided to all suppliers and contractors.
- Trained employees shall assist when deliveries are accessing the Project Site.
- Banksmen shall ensure the safe passage of pedestrians and vehicular traffic when vehicles are being loaded and unloaded.
- Delivery vehicles shall not stack or wait on County roads.
- Contractors and suppliers shall utilize primary delivery routes identified in the transportation plan to the greatest extent possible. In the event delivery routes are not feasible, new routes shall be identified and coordinated with County staff.
- Hexagon Energy and its contractor shall issues strip maps to suppliers identifying primary delivery routes.
- In the event that GPS maps do not accurately direct delivery trucks to the site, flaggers may be stationed at key junction points to ensure trucks are traveling the designated haul route.
- Identification of surrounding truck stops shall be identified prior to construction to ensure that trucks can stage overnight prior to scheduled deliveries.
- Permits for oversized or overweight loads, if any, on primary delivery routes shall be obtained from VDOT and coordinated with the County. Such permit loads shall be subject to the conditions of the permit at the time of the issuance.

Safety

- Where necessary, flagmen with communication devices shall be used to coordinate delivery and hauling activities at the project site.
- General construction signs shall be placed in a pre-approved areas along primary delivery routes in the vicinity of the project site to notify residents of construction delivery locations.

Parking

- On-site parking will be provided adjacent to construction entrances within the project where feasible. Parking area size will fluctuate based on the construction phasing and number of workers needed at each entrance.
- If offsite parking is needed, the contractor will utilize multiple seat vehicles to transport employees to and from the site to reduce the number of vehicle trips.

.

HURT & PROFFITT

September 30, 2021

Nuby Run Solar, LLC
Drew Price, President and Chief Development Officer
321 E. Main St, Ste 500
Charlottesville, VA 22902

Re: Desktop Cultural Resources Assessment for Nuby Run Solar Site, Isle of Wight County, VA; H&P Project #: 20211813

Dear Mr. Price:

We are pleased to present this desktop Cultural Resources Assessment of the Nuby Run Solar Site. The conclusions in this letter are presented for planning purposes only and do not satisfy local, state and federal regulatory requirements.

The project was completed by or under the direct supervision of professional archaeologists and architectural historians who meet or exceed the qualifications contained in the Secretary of the Interior's Professional Qualifications Standards (48 *Federal Register* 44738-44739).

Site Overview

The proposed Nuby Run Solar Site lies in the central part of Isle of Wight County in Virginia's Hampton Roads region. The project development footprint of approximately 34 acres is situated within a larger parcel (39-01-038) of 117.3 acres bordering the south side of Orbit Road (Rte. 637)(Figures 1 and 2). The parcel is approximately 2 miles southeast of the county seat, also named Isle of Wight. The county had a population of 35,270 according to the 2010 census.

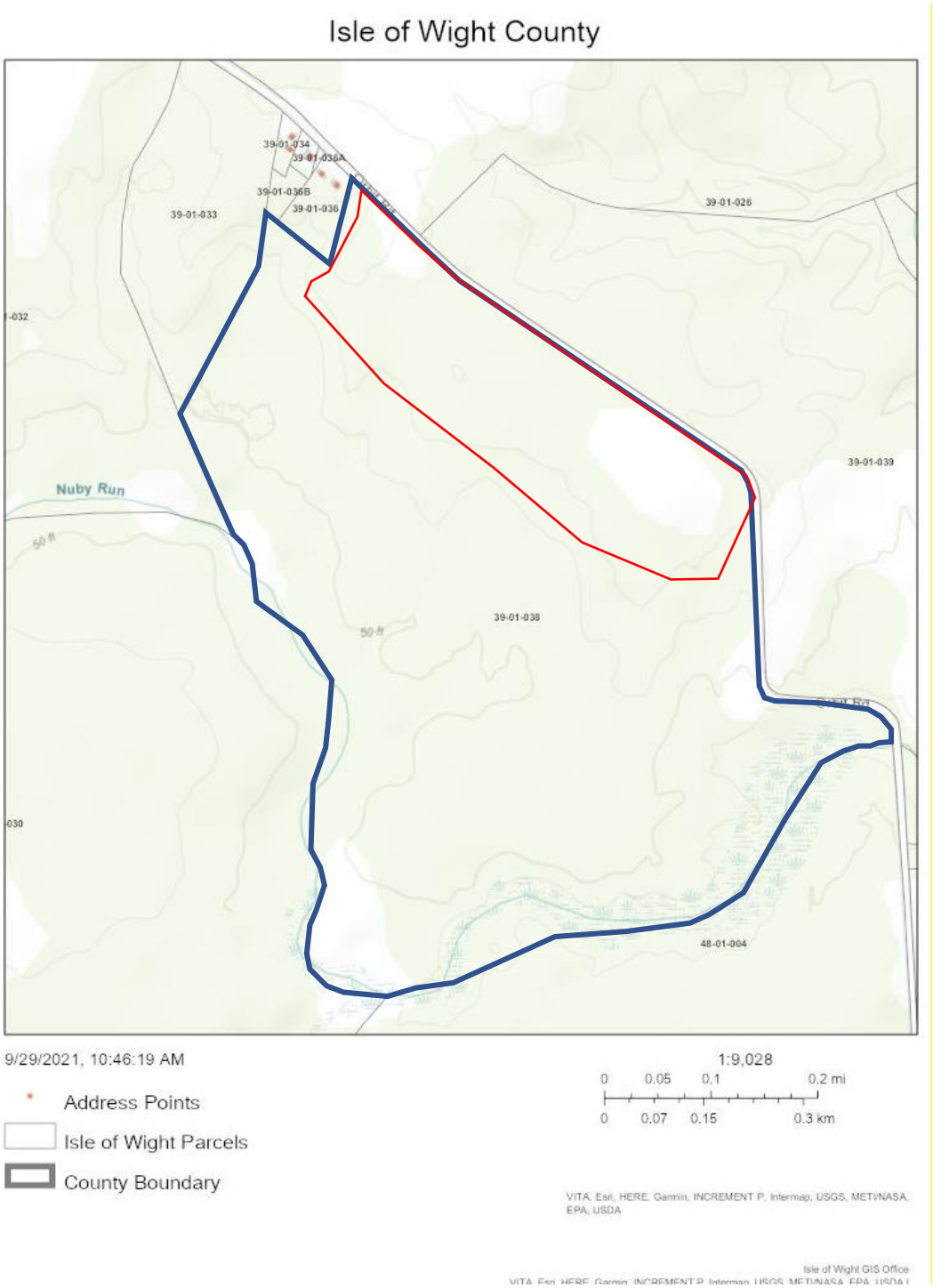


Figure 1. Project parcel (blue line) and development footprint (red line) as depicted in Isle of Wight County GIS (accessed September 2021).

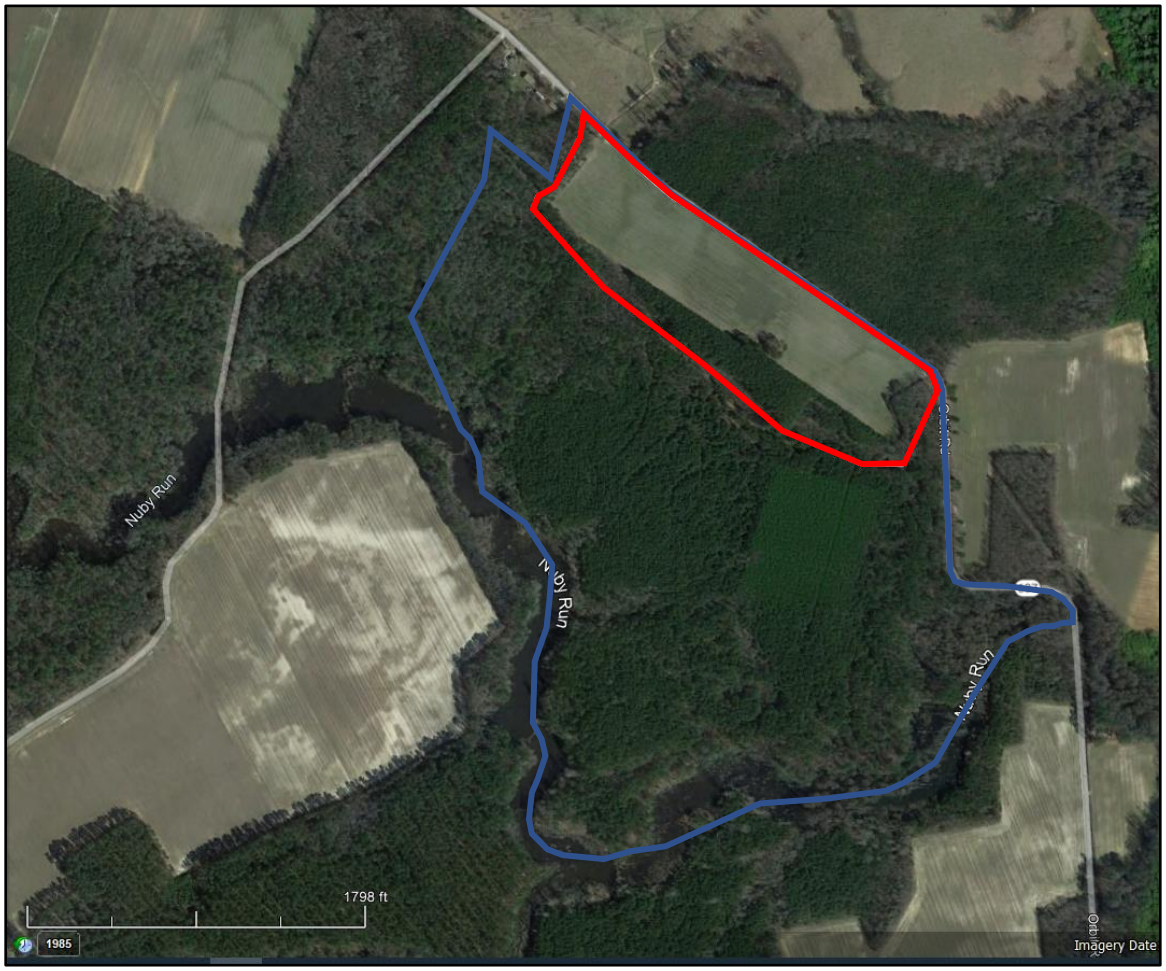


Figure 2. Aerial view of project parcel (Google Earth 2021).

Environmental Setting

The 34 acres proposed for project development consists of a long approximately rectangular block running parallel to the south side of Orbit Road (Rte. 637). Approximately 19 of the 34 acres consists of a relatively flat agricultural field along the road. The east and west ends of the project area are composed of deciduous forest while the south side is a mix of deciduous forest and pine plantation. A clump of trees extending into the field approximately halfway along its south edge is related to a former habitation site with structures still depicted on current topographic maps (Figure 3).

The project area is in Virginia's Coastal Plain geologic province. The Coastal Plain is a narrow strip along Virginia's eastern edge stretching from the Fall Zone to the Atlantic Ocean. It is characterized by younger strata than the adjoining Piedmont province, cut by large tidal rivers that flow into the Chesapeake Bay. The nearest water source to the project area is Nuby Run

which forms the western and southern boundaries of the larger parcel in which the proposed development area sits. Nuby Run is a tributary to Great Swamp which it joins approximately 1800 feet east of Orbit Road. Great Swamp flows southeasterly through a series of reservoirs, eventually emptying into the Nansemond River which flows into the James River several miles to the northeast of the project area. The margins of Nuby Run are depicted as wetlands on topographic maps.

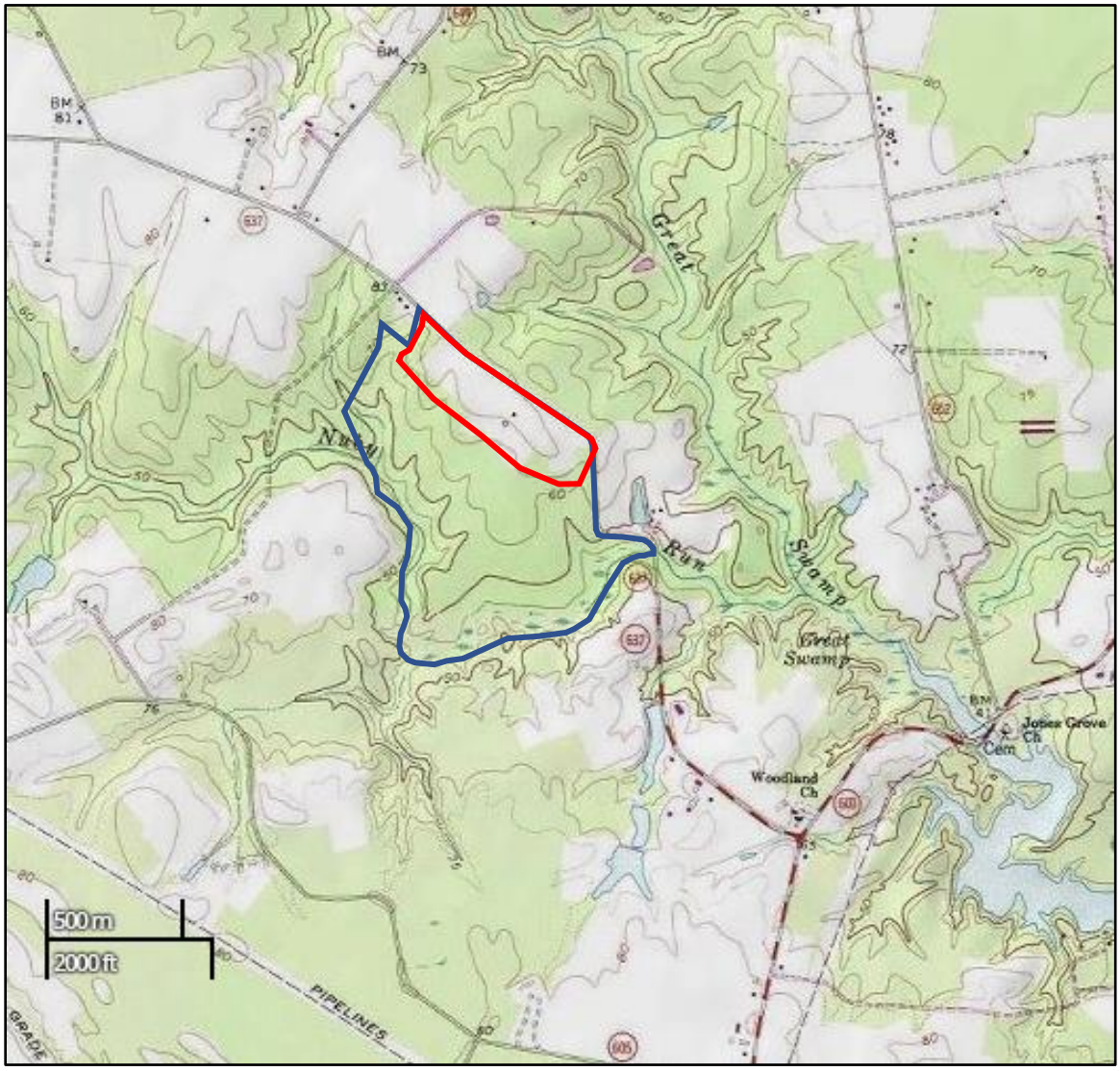


Figure 3. Project area depicted on current topographic map (USGS 2021).

Soils within the plowed part of the development parcel consist of level or gently sloping sandy loams (Table 1). The wooded areas to the south have similar soils that are more sloping toward

Nuby Run (Figure 4). All of the soils are well drained to moderately well drained with low runoff and are considered prime farmland.

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5A	Emporia fine sandy loam, 0 to 2 percent slopes	4.0	12.0%
18A	Slagle fine sandy loam, 0 to 2 percent slopes	19.6	58.3%
18B	Slagle fine sandy loam, 2 to 6 percent slopes	10.0	29.8%
Totals for Area of Interest		**33.7**	**100.0%**

Table 1. Project area soil map unit legend (NRCS 2021).

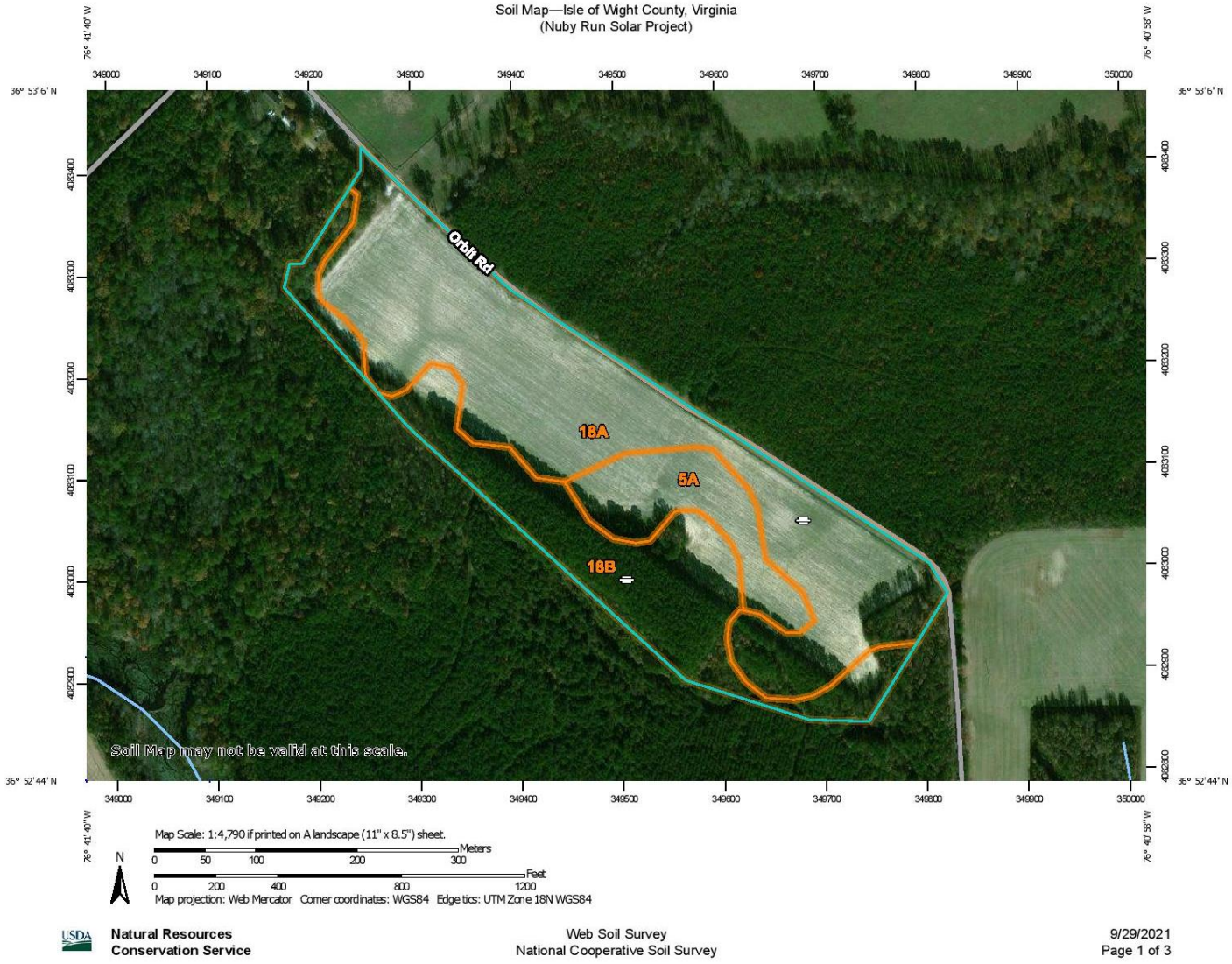


Figure 4. Project area soil unit map (NRCS 2021)

Previously Recorded Cultural Resources

H&P reviewed the Virginia Department of Historic Resources' (VDHR) Virginia Cultural Resource Information System (V-CRIS) for previously recorded cultural resources and previously conducted Phase I Archaeological Surveys in the vicinity of the project area.

A review of these resources within 0.5 miles of the project parcel boundaries identified no previously recorded archaeological sites and no previous Phase I Archaeological Surveys. Two architectural resources have been recorded within 0.5 miles (Figure 5)(Table 2).

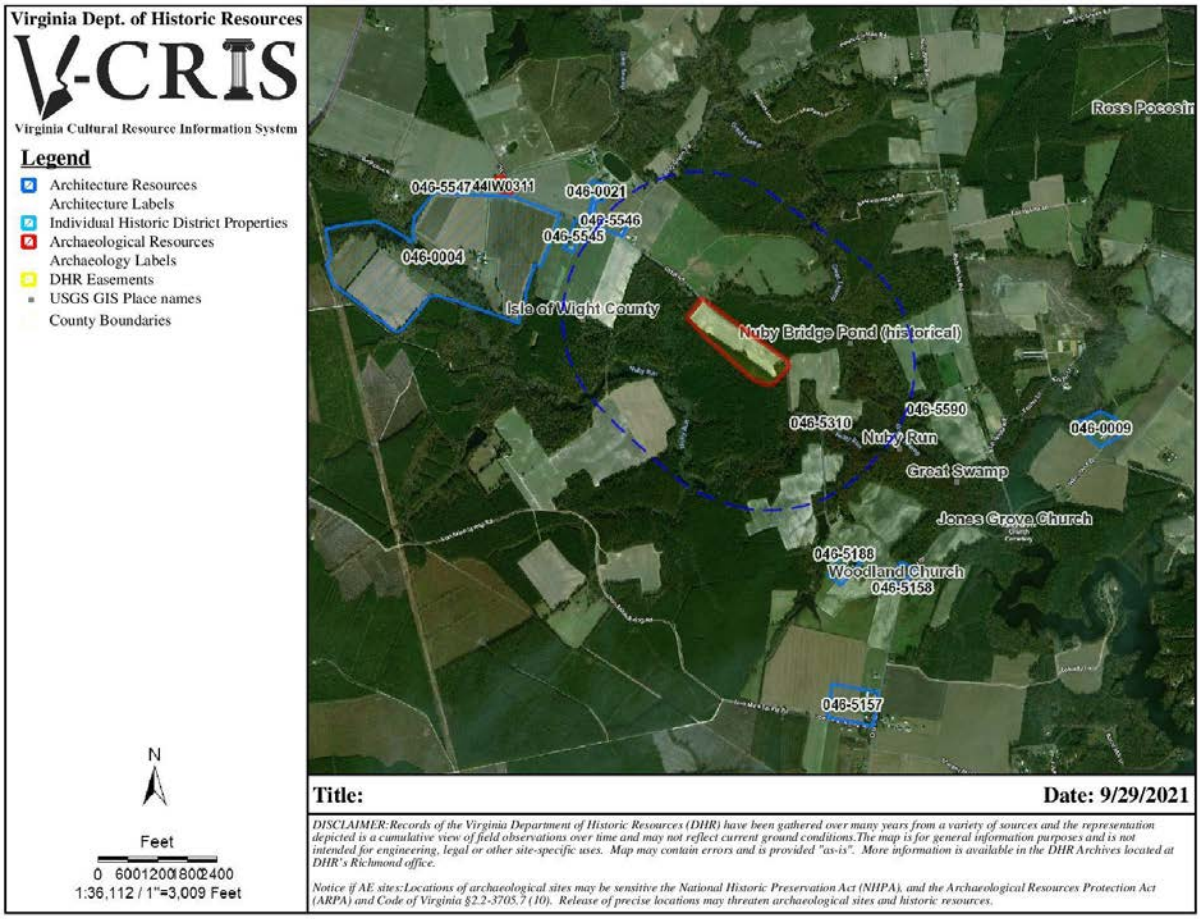


Figure 5. Previously recorded sites within 0.5 miles of the project parcel.

Site/Structure	Name	Type	Temporal Affiliation	NR Eligibility
046-5310	Bridge, #6045 Orbit Road	Steel I-beam, timber deck	c. 1945	Not Eligible
046-5546	Dwelling, 18493 Orbit Road	Colonial Revival	1950	Not Evaluated

Table 2. Architectural resources recorded within 0.5 miles of the project parcel.

Resource 046-5310 is a standard steel I-beam, timber deck bridge located east of the project parcel on Orbit Road at the crossing of Nuby Run. The bridge was surveyed in 2011 and determined not eligible for listing in the National Register of Historic Places.

A 1950 Colonial Revival house at 18493 Orbit Road (046-5546), was recorded in 2019 by Commonwealth Heritage Group, Inc. (CHG). Although the house and outbuildings were not considered by CHG to be individually eligible for the National Register, they recommended further study to determine if the property might be a contributing element to a larger rural agricultural historic district. CHG assumed eligibility of the property strictly for the purposes of environmental review of the solar energy project it was surveyed for at the time. This property is located on the north side of Orbit Road and approximately 2,000 feet to the west of the proposed Nuby Run project development area.

Expanding the V-CRIS search to 1 mile captures one previously recorded archaeological site and six additional architectural resources (Figure 6).

Archaeological Site 44IW0311 is located on the north side of Orbit Road approximately 4,500 feet west of the current project development area. This site consists of the remains of a medical office dating from between 1900 and 1938. The site was recorded by CHG in 2019 and determined not eligible for the National Register. Although the site was recorded as part of a Phase I Archaeological Survey, that survey is not currently mapped in V-CRIS, nor are any additional surveys mapped within a 1-mile radius.

The six additional architectural resources consist of a potentially eligible farm at 12452 Redhouse Road (046-0004), a potentially eligible house and cemetery at 18421 Orbit Road (046-0021), the Woodland United Methodist Church and cemetery (046-5158) which has not been evaluated, the National Register-eligible Julius Caesar Darden House (046-5188) at 19614 Orbit Road, a dwelling at 18402 Orbit Road (046-5545) that was considered eligible for environmental review purposes only, and the unevaluated Gray Cemetery (046-5590).

In addition to the V-CRIS database, Hurt & Proffitt also reviewed Isle of Wight cemetery data available as a separate layer in the county GIS. The cemetery mapping indicates that there are none present in the immediate vicinity of the project parcel

(https://iowgis.maps.arcgis.com/apps/View/index.html?appid=417a057414a842f891502086a9afdc7f).

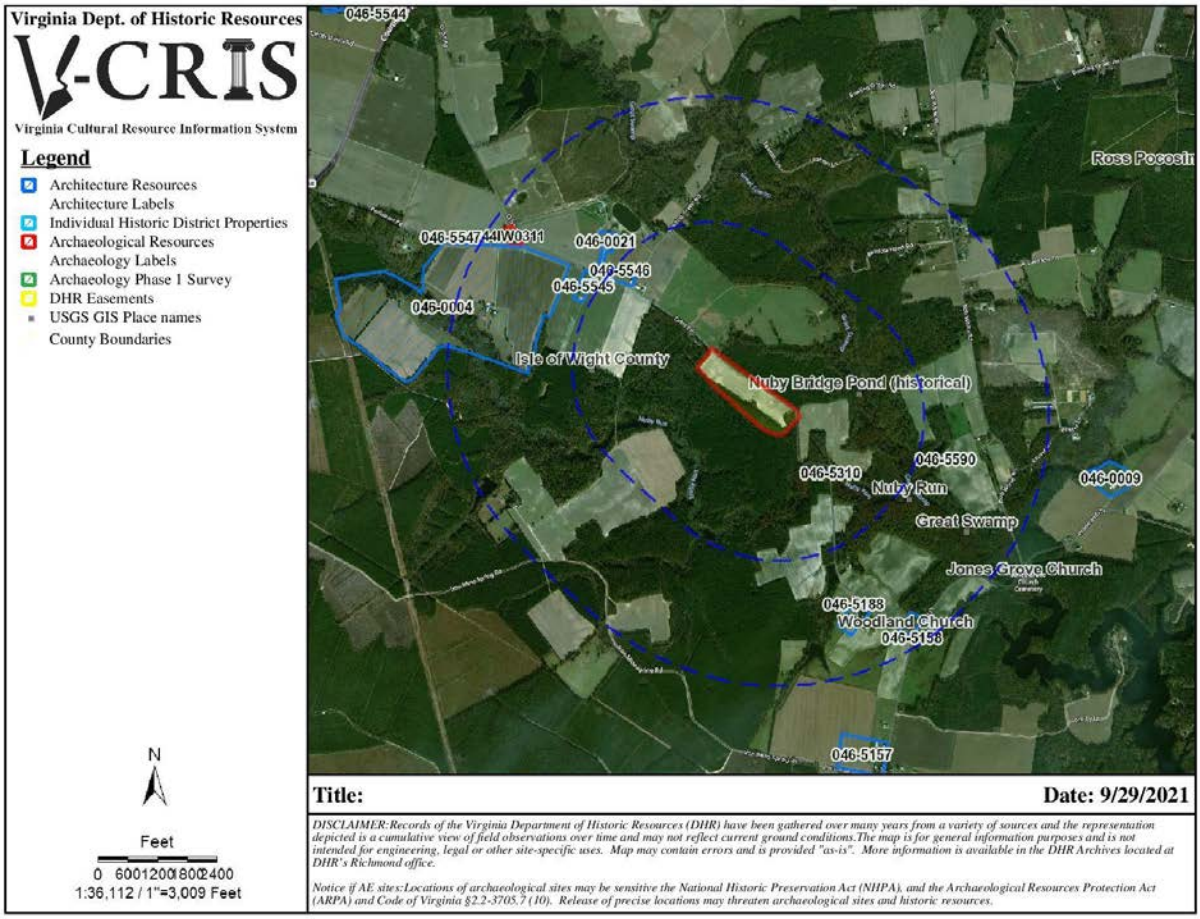


Figure 6. Previously recorded sites within 1 mile of the project parcel.

Historic Aerial Photo and Map Review

A review of aerial photos and historic maps available through online sources reveals that the 34-acre project development area has retained a similar configuration since at least 1919. Likewise, the larger parcel of which it is a part appears to have been wooded from that time to the present day.

The one significant change depicted within the development parcel is the abandonment of an apparent small farmstead located near the center of the agricultural field. The current aerial photo shows a clump of trees extending northward into the field and an associated darker rectangle in the crop just north of the clump (see Figure 2). While no structures are visible, the current topographic map depicts two structures near the center of the field, one of which is

indicated as abandoned at the last mapping update (see Figure 3). These structures, or their ruins, are visible in a 1994 aerial photograph of the property (Figure 7). That photo also shows a driveway extending to the buildings at a right angle from Orbit Road.

The structures are depicted again on a 1968 map of the property (Figure 8). A 1966 aerial photo offers the clearest evidence of the former farmstead. It shows a small complex of buildings, including a house, large barn and several smaller structures arranged within a series of fenced yards and gardens (Figure 9). Four smaller fenced fields extended southward into what is today wooded portions of the development parcel. The 1944 and 1919 topographic maps of the parcel depict what is presumed to be the farmhouse for this complex, but no other buildings (Figures 10 and 11). The 1919 map is interesting in that it depicts a series of farm roads surrounding the development parcel, including showing the driveway to the farmhouse continuing southward to connect with this road network.

Note that at the 1:24000 scale the southern edge of the larger project parcel lies on the Windsor, VA USGS quadrangle. A review of the 1944 and 1965 Windsor maps shows only wetlands indicated along Nuby Run in the project vicinity.

Maps dating before 1919 show little detail in the project vicinity. A Civil War era map indicates that the present Orbit Road was once part of the Court House Road but no structures are indicated on the map in the presumed location of the project parcel. A structure identified as belonging to Turner is shown on the north side of the road not far from the crossing of Nuby Run (Figure 12). Similarly, the Boye map of 1827 depicts the courthouse road but no further details in the project vicinity (Figure 13). The maps available for the period prior to 1827 do not depict the project area in sufficient detail to be useful for this analysis.

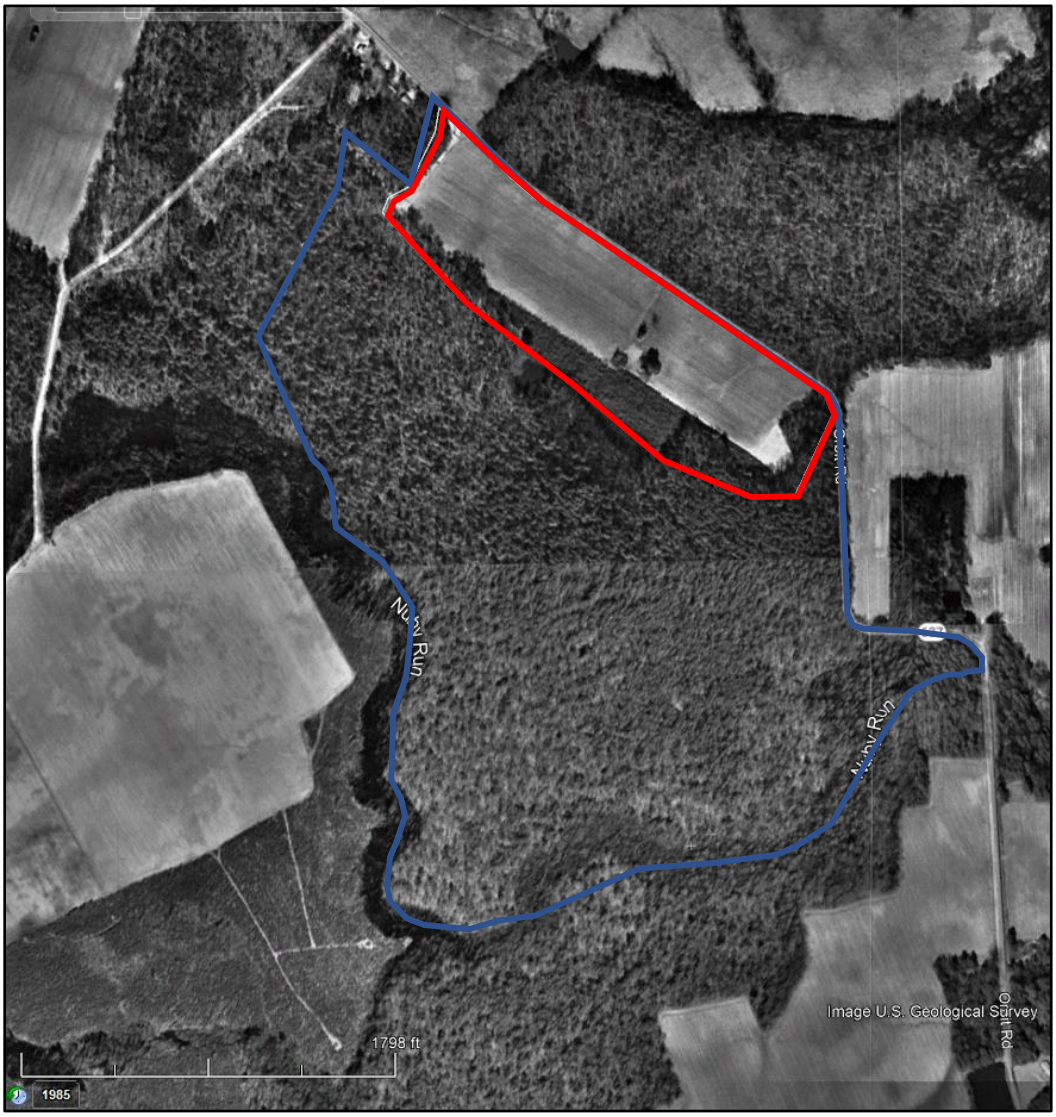


Figure 7. March 1994 aerial view of the project parcel (Google Earth).

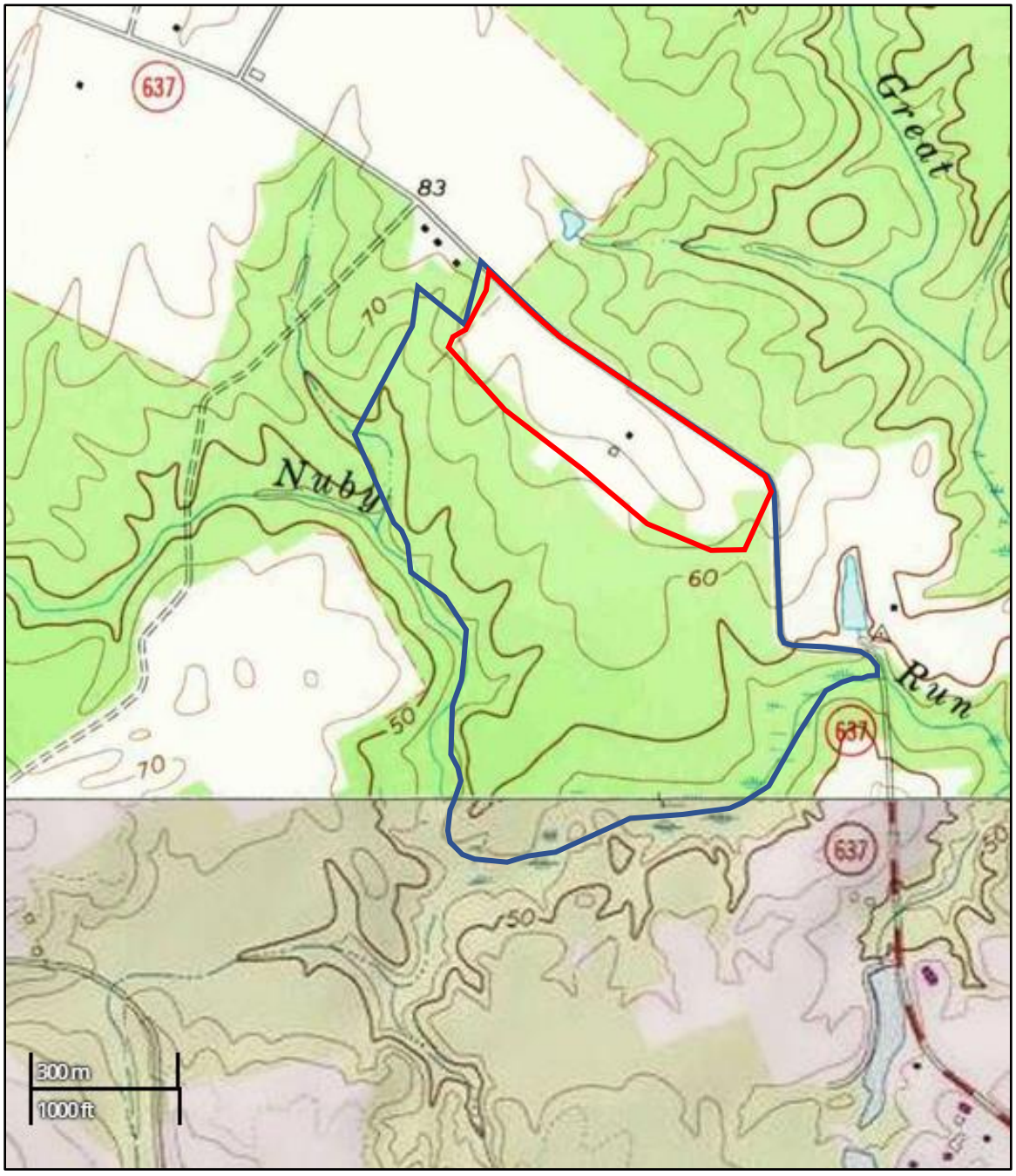


Figure 8. Project area depicted on 1968 Smithfield, VA 1:24000 USGS topographic map (USGS 2021).



Figure 9. Detail of 1966 aerial depicting building complex near center of project parcel.

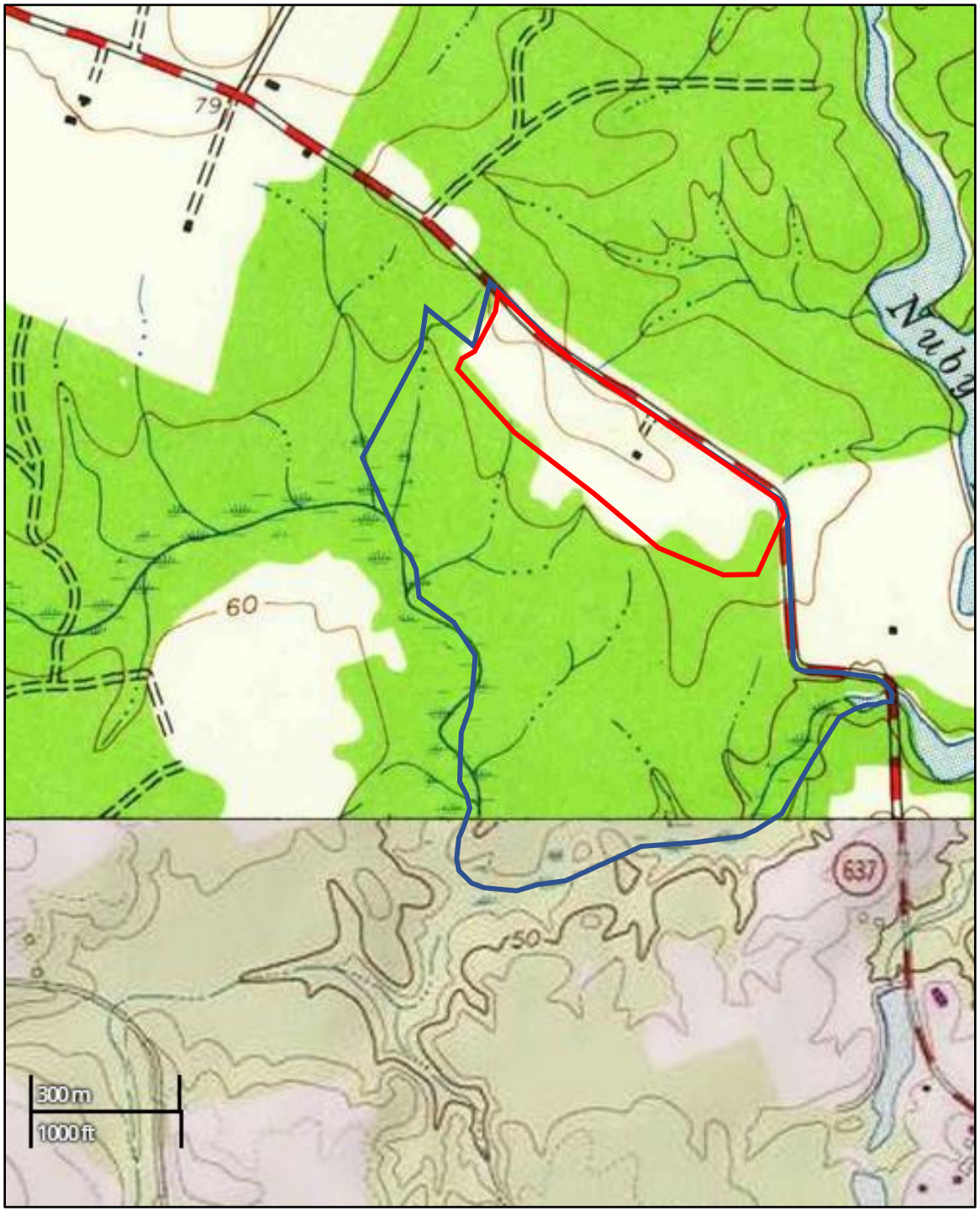


Figure 10. Project area depicted on 1944 Smithfield, VA 1:24000 USGS topographic map (USGS 2021).

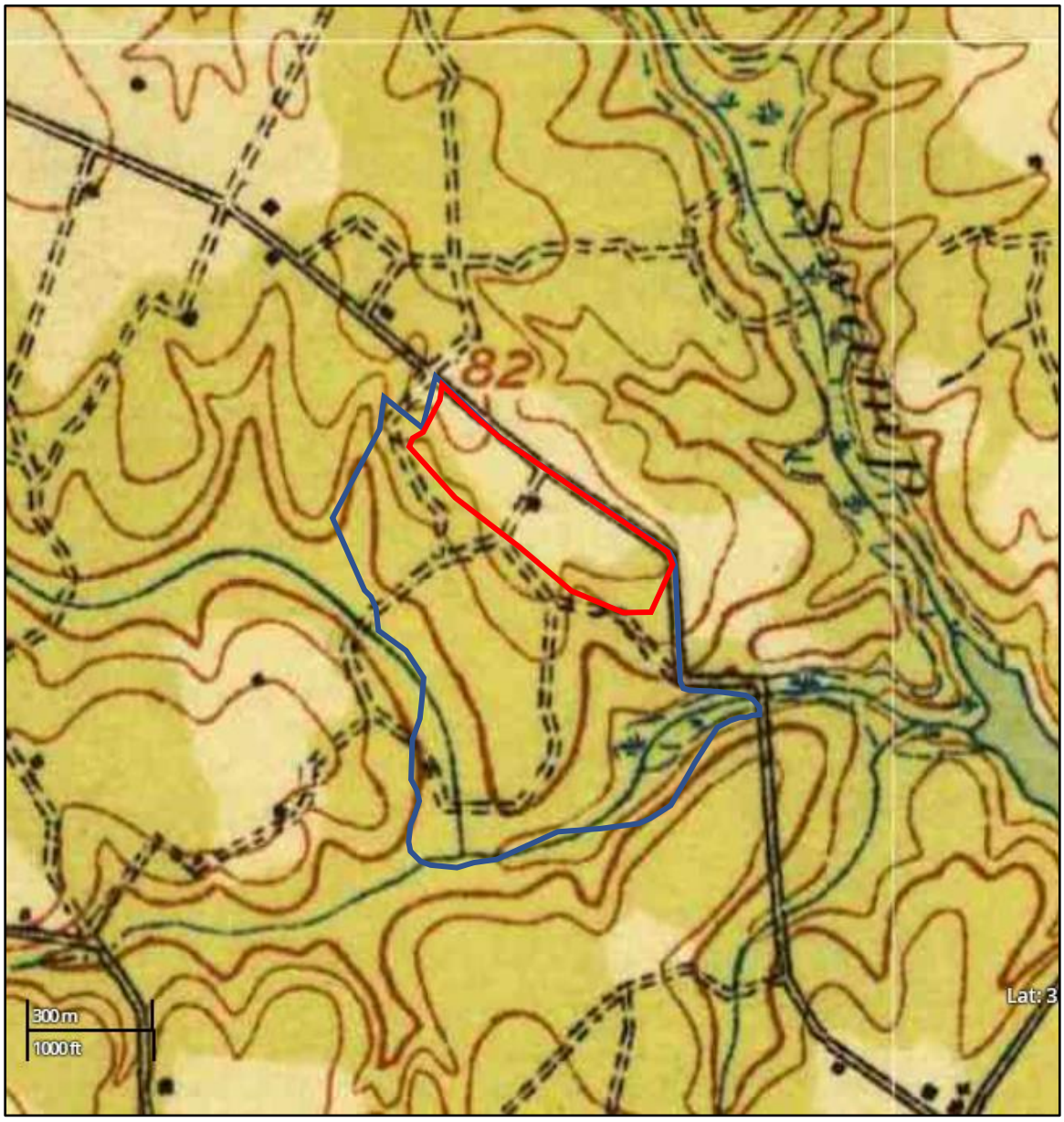


Figure 11. Project area depicted on 1919 Smithfield, VA 1:62500 USGS topographic map (USGS 2021).

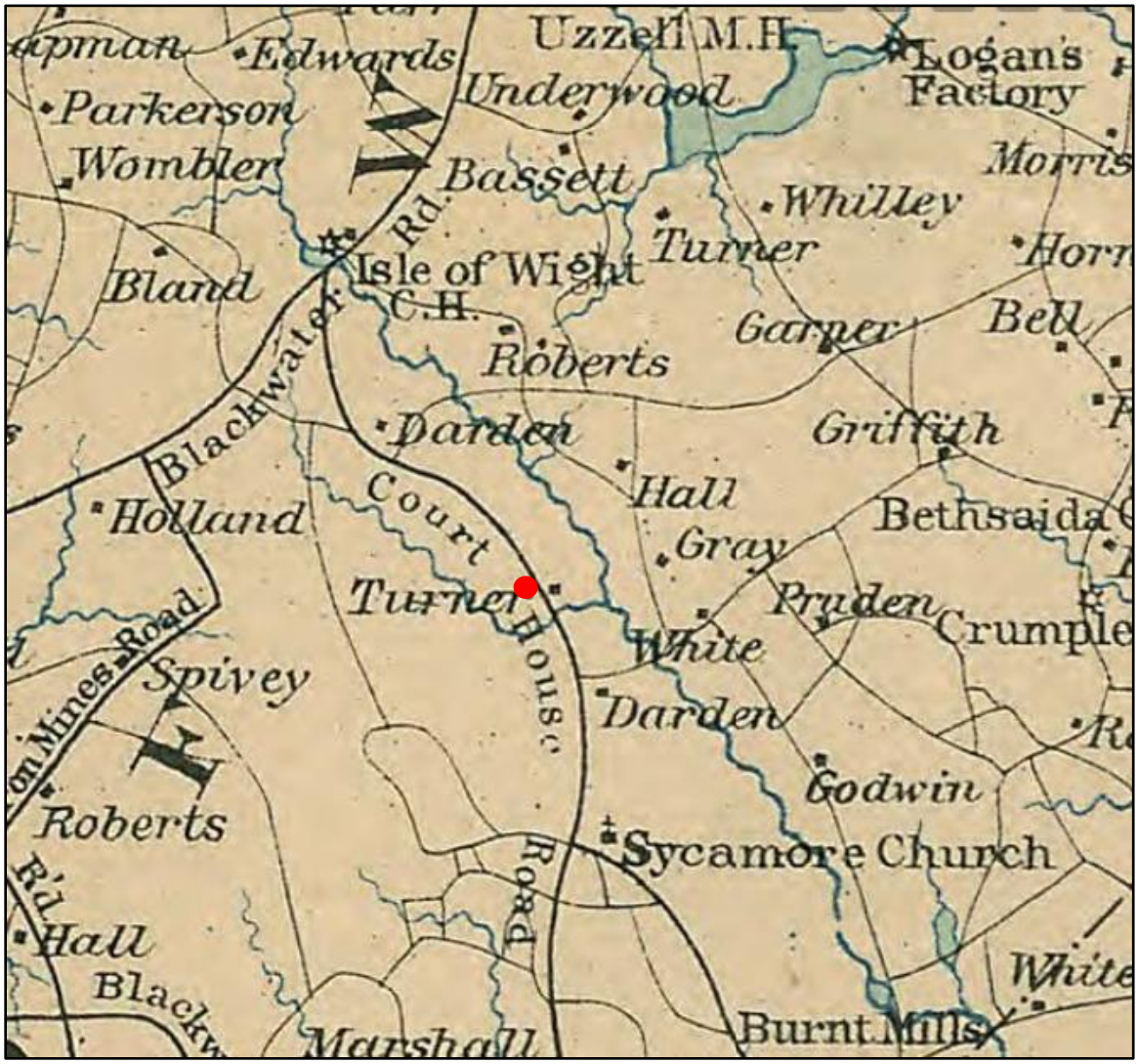


Figure 12. Red dot depicts approximate location of project area on Civil War map (Confederate States Of America. Army Of Northern Virginia. Engineer Office, Bien, J., Campbell, A. H. & Patton, J. H. (1891) *Preliminary map of a part of the south side of James River, Va.: from surveys and reconnaissances*. [Washington: GPO, between to 1893] [Map] Retrieved from the Library of Congress, https://www.loc.gov/item/lva0000171/.)



Figure 13. Project vicinity depicted on Böÿe, Herman, Henry Schenck Tanner, E. B Dawson, and William Branch Giles, 1827 *A map of the state of Virginia: reduced from the nine sheet map of the state in conformity to law*. H.S. Tanner and E.B. Dawson, Philadelphia, Pennsylvania (Library of Congress).

Analysis and Recommendations

H&P reviewed online sources related to the project parcel's environmental setting, previous cultural resources surveys in the vicinity of the parcel, previously recorded cultural resources in the vicinity, historic aerial images and historic maps. These sources allow us to assess the potential for the project parcel and its immediate vicinity to contain historic properties that may be affected by any future project and to make recommendations concerning the need for cultural resources surveys.

The review shows that the project development parcel is composed of a mix of active prime farmland and pockets of deciduous forest located along the course of an early road. It is situated between the waters of Nuby Run to its west and south and Great Swamp to its east. This level to gently sloping swath of arable land close to two waterways would have been attractive to habitation from the prehistoric period through the historic period.

Archaeological data is scarce in the project vicinity as few surveys have been conducted in this part of Isle of Wight County. The lack of previously recorded archaeological sites within 0.5 miles of the parcel and the presence of just one site between 0.5 miles and 1 mile away should be

attributed to the lack of survey. No architectural resources have been recorded immediately adjacent to the project parcel, but the lot adjoining the west end of the parcel contains a house constructed in 1963 and would require survey for the proposed project (Isle of Wight County GIS).

Historic aerial images and maps reveal that the project development parcel has been in roughly its present configuration since at least the early part of the twentieth century. Significantly, the parcel contains the archaeological remains of a small farmstead that dates at least from that time period. While the farmstead is not denoted on earlier maps, it is unclear when it may have been constructed.

It is our opinion, therefore, that the project parcel has moderate potential to contain prehistoric period archaeological sites and high potential for the presence of historic period archaeological sites. In addition, there is the potential for National Register eligible architectural resources to be located within the project's Area of Potential Effects. We recommend archaeological and architectural surveys be conducted in advance of any development of this property.

Sincerely,
Hurt & Proffitt, Inc.



Randy Lichtenberger
Director of Cultural Resources

Attachment

V-CRIS forms for architectural resources recorded within 0.5 miles of the project parcel boundaries:

Property Information

Property Names

Name Explanation	Name
Function/Location	Bridge #6045, Orbit Rd (Rt 637), Nuby Run

Property Evaluation Status

DHR Staff: Not Eligible

Property Addresses

Current - Orbit Road
Alternate - Route 637

County/Independent City(s): Isle of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): *No Data*
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): SMITHFIELD

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

6/2011: The bridge is located on a two-lane secondary roadway over a small run. The area surrounding the bridge consists of floodplain trees and understory along side the bridge and to the abutments. At he south end of the bridge, the floodplain trees give way to open field, some of which are under cultivation. At the north end of the bridge, the roadway turns abruptly west to border the floodplain. On the north side of the road is pasture with a low area that used to mark a field pond that stands drained today.

6/2011: None.

Surveyor Assessment:

6/2011 The structure is a steel I-beam, timber deck bridge that is built to a standard plan. Approximately 3,200 similar bridges exist in Virginia and were determined by the Department of Historic Resources to be not individually eligible to the National Register. The resource is not associated with the broad patterns of our history, it is not linked to a specific event or person, it has no stylistic distinction or is the work of a master, and it has no potential to provide important information about history. The location of the bridge is in a rural area that has been populated since the eighteenth century, but today contains little of a historic nature. The area within a mile of the bridge is still lightly settled and the majority of the structures are modern in nature. The land is either cultivated, in pature, or in forest. This bridge did not exist until 1945, thus it played no role in the settlement and development of the area through history and therefore would not contribute to any potential historic district.

Surveyor Recommendation: *No Data*

Ownership

Ownership Category	Ownership Entity
State Govt	Virginia Department of Transportation

Primary Resource Information

Resource Category: Transportation
Resource Type: Bridge
NR Resource Type: Structure
Historic District Status: *No Data*
Date of Construction: Ca 1945
Date Source: Written Data
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Transportation/Communication
Other ID Number: *No Data*
Architectural Style: No Discernable Style
Form: *No Data*
Number of Stories: *No Data*

Condition: Fair

Threats to Resource: Transportation Expansion

Architectural Description:

6/2011 The bridge is a standard steel I-beam, timber deck bridge. The abutments are driven wood piles with sawn wood planking. The supports in the water are driven wood piles with a concrete cap. Steel I-beams run the length of the bridge from abutment to abutment as support for the sawn timber deck laid perpendicular to the I-beams. The timbers are sucured to the I-beams by large bolts with hex nuts. The deck is finished in asphalt. A slightly raised curb is on the east and west side of the deck made of sawn wood. Four by four square wood posts are bolted to the side of the edge I-beams and support a steel guard rail.

Bridge Information

Structure Number:	6045
VDOT Bridge ID:	10415
Entity Crossed Name:	Nuby Run
Entity Crossed Type:	Water
Bridge Type:	Beam
Current Use:	Road
Number of Spans:	1
Number of Lanes:	1

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: DHR Staff: Not Eligible

DHR ID:	046-5310
Staff Name:	Holma, Marc
Event Date:	7/11/2011

Staff Comment

No Data

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number:	2011-1067
Investigator:	VDOT
Organization/Company:	Unknown (DSS)
Photographic Media:	*No Data*
Survey Date:	6/21/2011
Dhr Library Report Number:	*No Data*

Project Staff/Notes:

Reconnaisance level survey conducted by Ken Stuck, Vdot Hampton Roads District for VDOT Project # 0637-046-573, P101, R201, C501.

Project Bibliographic Information:

Name: VDOT
Record Type: Other
Bibliographic Notes: VDOT Bridge Inspection reports

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Unknown
Company 1: Virginia Department of Transportation
Phone 1: 000-000-0000
Ext: 0000
Phone 2: 000-000-0000
Ext: 0000
Owner Relationship: Owner of property

Property Information

Property Names

Name Explanation	Name
Function/Location	Dwelling, 18493 Orbit Road

Property Addresses

Current - 18493 Orbit Road

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): SMITHFIELD

Property Evaluation Status

DHR Staff: Considered Eligible for Environmental Review purposes only

Additional Property Information

Architecture Setting: Rural
Acreage: 4
Site Description:

June 2019: This resource is located in a rural area. The property is a 4-acre parcel, surrounded by pasture. The house and domestic outbuildings stand in a cluster north of Orbit Road, with the house facing south. A circular gravel driveway leads to the house. A garage, outbuilding, and gazebo stand northeast of the house. The house has a carport attached to the north elevation of the house. Around the house are scattered mature trees. At the southeast corner of the property, near the northwest corner of the intersection of Orbit Road and Bowling Green Road, stand two other buildings: a pole barn machine shed and prefabricated shed.

Surveyor Assessment:

June 2019: This architectural resource is located within a 1/2 mile of a proposed solar energy farm. The resource is directly visible from the proposed project area. According to Isle of Wight real estate assessment records, this dwelling was built in 1950. The house does not represent an individually significant example of the Colonial Revival style, as it has typical details such as the symmetrical core, stretcher bond brick, and side-gabled roof with gabled dormers. This building is recommended as not eligible under Criterion C of the NRHP/VLR. It is not known to be associated with significant events or persons, and as an architectural resource is not recommended eligible under Criterion D.

This resource is also located in an agricultural area of Isle of Wight County and surrounded by other farms that appear to have a high degree of architectural and landscape integrity. This cluster of farms may be significant in the architectural history, agricultural development, and landscape of Isle of Wight County. Additional investigation is recommended to research the history and development of this cluster of farms to aid in determining its significance and NRHP/VLR eligibility.

Surveyor Recommendation: Recommended for Further Survey

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: 1950
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Colonial Revival
Form: *No Data*
Number of Stories: 1.5

Condition: Excellent

Threats to Resource: Other

Architectural Description:

June 2019: The core of this Colonial Revival, Cape Cod style dwelling measures three bays wide and two bays deep. There are multiple wings and additions to this core. A one-story tall, two-bay wide wing extends from the eastern gable end of the core and a one-and-one-half story tall gabled ell extends from the north (rear elevation). A shed roof addition has been made to the north elevation of the one-story, eastern wing. Also added to this eastern wing and connected with an open hyphen is a two-car carport. The exterior of the house is stretcher bond brick, with vinyl siding cladding the gabled dormers on the front roof slope. The roof is covered with asphalt shingles. An exterior end, stretcher bond chimney rises up the western gable end of the house. A gabled entry porch, with curved underside, square posts, and matchstick railing, shelters the front entry. The front entry is topped with a decorative fanlight and flanked by sidelights. A gabled roof porch, with square wood posts, extends partially across the western gable end. The attached carport features square brick posts. The windows are one-over-one, double-hung sash with faux muntins and rowlock brick sills. The façade of the core features two picture windows.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Exterior End	Brick	Strecther Bond
Dormer	Gable	Vinyl	*No Data*
Porch	Portico/Entry Porch	Wood	Square
Porch	1-Story Partial Width	Wood	Square
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic

Resource Type: Garage

Date of Construction: 1950

Date Source: Map

Historic Time Period: The New Dominion (1946 - 1991)

Historic Context(s): Domestic

Architectural Style: No discernible style

Form: *No Data*

Condition: Good

Threats to Resource: Other

Architectural Description:

June 2019: This two-car garage has a square plan, and it has a stretcher bond brick exterior and the front gabled roof is covered with asphalt shingles. There are two, overhead vehicular doors on the western elevation.

Number of Stories: 1

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #2

Resource Category: Domestic

Resource Type: Shed

Date of Construction: 1950

Date Source: Map

Historic Time Period: The New Dominion (1946 - 1991)

Historic Context(s): Domestic

Architectural Style: No discernible style

Form: *No Data*

Condition: Good

Threats to Resource: Other

Architectural Description:

June 2019: This small shed has a stretcher bond brick exterior, with vinyl siding in the gable ends. The front gabled roof is covered with asphalt shingles. An entry door is centered on the south elevation.

Number of Stories: 1

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #3

Resource Category: Domestic
Resource Type: Outbuilding,Domestic
Date of Construction: 2000
Date Source: Map
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Architectural Style: No discernible style
Form: *No Data*
Condition: Good
Threats to Resource: Other

Architectural Description:

June 2019: This one-story tall outbuilding has a stretcher bond brick exterior, with vinyl siding in the gable ends. The front gabled roof is covered with asphalt shingles. The windows are one-over-one, double-hung sash with faux muntins and rowlock sills.

Number of Stories: 1

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #4

Resource Category: Domestic
Resource Type: Outbuilding,Domestic
Date of Construction: 2000
Date Source: Map
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Architectural Style: No discernible style
Form: *No Data*
Condition: Good
Threats to Resource: Other

Architectural Description:

June 2019: This frame gazebo has an octagonal plan. The roof is covered with asphalt shingles. The supports are square wooden posts.

Number of Stories: 1

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Complex	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Wood	Other

Secondary Resource #5

Resource Category: Domestic
Resource Type: Shed
Date of Construction: 1980
Date Source: Map
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic

Architectural Style: No discernible style
Form: *No Data*
Condition: Good
Threats to Resource: Other
Architectural Description:

June 2019: This large pole barn structure has a rectangular plan. The east and west side walls slope slightly outward from the eaves. The exterior and roof are both covered with corrugated metal. Large, sliding, corrugated metal doors are on the south and north elevations.

Number of Stories: 1
Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Metal	*No Data*
Structural System and Exterior Treatment	Wood Frame	Metal	Panels

Secondary Resource #6

Resource Category: Agriculture/Subsistence
Resource Type: Shed
Date of Construction: 2000
Date Source: Map
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Subsistence/Agriculture
Architectural Style: No discernible style
Form: *No Data*
Condition: Good
Threats to Resource: Other
Architectural Description:

June 2019: This prefabricated frame shed has a T-111 sided exterior. The gambrel roof is covered with asphalt shingles.

Number of Stories: 1
Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Plywood/Particle Board	Panels

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: Considered Eligible for Environmental Review purposes only

DHR ID: 046-5546
Staff Name: R.Kirchen
Event Date: 10/29/2019
Staff Comment

2019-0563

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2019-0563
Investigator: Amy Krull and Susan E. Bamann
Organization/Company: Commonwealth Heritage Group, Inc.

Photographic Media: Digital

Survey Date: 3/14/2019

Dhr Library Report Number: IW-089

Project Staff/Notes:

Commonwealth Heritage Group, Inc. Project staff included Amy Krull, M.A., RPA, Sarah G. Traum, M.A., Susan E. Bamann, Ph.D., RPA, B. Scott Rose, M.A., RPA, and D. Allen Poyner. Cultural resource survey conducted in March, May, and June 2019 for a proposed 146.30-acre solar farm in Isle of Wight County.

Project Bibliographic Information:

2019, Amy Krull, Sarah G. Traum, and Susan E. Bamann, Cultural Resources Survey, Proposed Solidago Solar Farm, Isle of Wight, Virginia. Commonwealth Heritage Group, Inc.
DHR Report No. IW-089

Bibliographic Information

Bibliography:

No Data

Property Notes:

No Data

September 27, 2021

Central Permitting

17140 Monument Circle, Suite 101, Isle of Wight VA 23397

Attn: Agricultural/Forestal District Advisory Committee

Re: Request to withdraw parcel

Dear Committee Members:

I am hereby requesting from the committee a recommendation of approval to remove a portion of a parcel of land I own along Orbit Road, from the Courthouse District, as allowed by the Code of Virginia, Title 15.2 Chapter 43 (15.2-1314), being a portion of tax map parcel 39-01-038. My request is contingent upon county approval of a proposed small solar field project (Nuby Run Solar) on the tax map parcel referenced above, which, if approved will encumber a portion of this parcel with an easement, only for area required for the project. The remainder of the parcel outside the easement will remain in timber production for the foreseeable future and I would like to keep that portion within the district, if that is possible. The approximate area of easement is 20 acres and is subject to a survey to create the final easement area. Hexagon Energy, with my concurrence, has submitted a CUP application (#24505) for this project.

I understand that withdrawal, if approved, may result in back taxes being owed, due to the change in use of the leased portion of the property. I am requesting the removal request be considered at the next scheduled Agricultural/Forestal District Advisory Committee meeting date.

Sincerely,

Robert B. (Ben) Stagg, LS

15298 Gayle Way (P.O. Box 497)

Carrollton, VA 23314

Local Roots, Global Reach

ISLE OF WIGHT COUNTY, VIRGINIA

DEPARTMENT OF COMMUNITY DEVELOPMENT

November 4, 2021

Mr. Ben Stagg
15298 Gayle Way
Carrollton, Va. 2314

Dear Ben:

Your request to withdraw approximately twenty (20) acres of land from the Courthouse Agricultural District was considered by the Ag/Forestal District Advisory Committee on November 3, 2021.

The Committee voted to recommend approval of the request to the Isle of Wight County Planning Commission contingent on approval of the Conditional Use Permit application (CUP-5-21) being approved by the Board of Supervisors.

If you have any questions concerning this matter, please give me a call.

Sincerely,

Swr

Sandy W. Robinson
Zoning Coordinator

cc: bbecker@hexagon-energy.com

P. O. Box 80
17140 Monument Circle
Isle of Wight, VA 23397
(757) 357-9206
www.co.isle-of-wight.va.us

Schedule 4

LEVELS 2 AND 3 INTERCONNECTION REQUEST FORM SMALL GENERATING FACILITY LESS THAN 20 MW

Section 1. Interconnection Customer Information

Name: Nuby Run Solar, LLC
Contact person: Nicholas Ford
Mailing address: 722 Preston Ave Suite 102
City: State: Zip: Charlottesville, VA 22903
Utility and account number:
Energy Service Provider and account number:
Facility address: Orbit Rd Windsor, VA 23487 (36.882° N, -76.689° W)
Telephone (Day): 434-987-5452 (Evening):
Fax: E-Mail: nford@hexagon-energy.com

Alternative contact information

Contact Name: Drew Price
Title: Managing Director
Mailing Address: Same as Above
City: State: Zip:
Telephone (Day): 434-227-5090 (Evening):
Fax: E-Mail: dprice@hexagon-energy.com

Application is for: New Small Generating Facility X Capacity addition
If capacity addition to existing facility, please describe:

The Small Generating Facility will supply: Interconnection Customer __ others __
Point of Interconnection: 36.884285ºN, -76.691254ºW Distribution Line Tap
Interconnection Customer's requested in-service date: 6/30/2021

Section 2. Processing Fee or Deposit

If the Interconnection Request is submitted as Level 2, the nonrefundable processing fee payable to the utility is $500.

If the Interconnection Request is submitted as Level 3, the Interconnection Customer shall submit to the Utility the deposit is $1,000, or 50% of the estimated cost of the Feasibility Study, whichever is less.

Section 3. Small Generating Facility Information

Data apply only to the small generating facility, not the interconnection facilities.

Energy Source: Solar __X_ Wind ___ Hydro ___ Hydro Type:_____

Diesel ___ Natural Gas ___ Fuel Oil ___ Other (describe):_____

Prime Mover: Fuel Cell__ Recip Engine__ Gas Turb__ Steam Turb__ Microturbine__ PV_X_ Other (describe) _____

Type of Generator: Synchronous ____Induction ____ Inverter X

Generator Nameplate Rating: 2,000kW Generator Nameplate kVAR: _____

Interconnection customer or customer-site load: _____NA_____kW

Typical reactive load: _____NA_____

Maximum physical export capability requested: ____2,000_____ kW

List components of the small generating facility equipment package that are currently certified:

Equipment	Certifying Entity
1.Module	1._UL,IEC
2._Inverter	2._UL
3._____	3._____
4._____	4._____
5._____	5._____

Is the prime mover compatible with the certified protective relay package? Yes _x___ No ____

Generator (or solar collector)

Manufacturer, model name & number:____Hanwha QCells Q.Plus L-G4.2 345__

Version Number:_____

Nameplate Output Power Rating in kW: (Summer) __0.345_____ (Winter) _____

Nameplate Output Power Rating in kVA: (Summer) _____ (Winter) _____

Individual Generator Power Factor

Rated Power Factor: Leading: ____0.8_____Lagging:____0.8_____

Total number of generators in wind farm to be interconnected pursuant to this Interconnection Request: Elevation: ____ ___Single phase ___ Three phase ___

Inverter manufacturer, model name & number: Sungrow SG125HV_____

List of adjustable set points for the protective equipment or software:_____
_____
_____

Note: A completed power systems load flow data sheet must be supplied with the Interconnection Request.

Small Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current:_____ Instantaneous_____ or RMS _____
Harmonics characteristics:_____
Start-up requirements:_____

Small Generating Facility Characteristic Data (for rotating machines)

RPM Frequency:_____
Neutral Grounding Resistor (If Applicable):_____

Synchronous Generators:

Direct Axis Synchronous Reactance, X_d:_____P.U.
Direct Axis Transient Reactance, X'_d:_____P.U.
Direct Axis Subtransient Reactance, X''_d:_____P.U.
Negative Sequence Reactance, X_2:_____P.U.
Zero Sequence Reactance, X_0:_____P.U.
KVA Base:_____
Field Volts:_____
Field Amperes:_____

Induction Generators:

Motoring Power (kW):_____
I^2t or K (Heating Time Constant):_____
Rotor Resistance, R_r:_____
Stator Resistance, Rs_s:_____
Stator Reactance, Xs_s :_____
Rotor Reactance, Xr_r:_____
Magnetizing Reactance, Xm_m:_____
Short Circuit Reactance, Xd_d'':_____
Exciting Current:_____
Temperature Rise:_____
Frame Size:_____
Design Letter:_____
Reactive Power Required In Vars (No Load):_____
Reactive Power Required In Vars (Full Load):_____

Total Rotating Inertia, H: _____ Per Unit on kVA base

Excitation and Governor System Data for Synchronous Generators Only:

Provide appropriate IEEE model block diagram of excitation system, governor system and power system stabilizer (PSS) in accordance with the regional reliability council criteria. A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be substituted.

Section 4. Customer's Interconnection Facilities Information

Will a transformer be used between the generator and the point of interconnection? Yes _____X_____ No _____

Will the transformer be provided by the interconnection customer? Yes __ No ___

Transformer Data (If applicable, for interconnection customer-owned transformer):

Is the transformer: single phase ___ three phase __X__ Size: kVA _____2000_____

Transformer Impedance:___5.75___% on__2000_____ kVA base

If Three Phase:

Transformer Primary:34,500__Volts Delta_____Wye____X__Wye Grounded

Transformer Secondary: _600____Volts _____ Delta _____Wye ___X__ Wye Grounded

Transformer Tertiary:_____Volts _____ Delta _____Wye _____Wye Grounded

Transformer Fuse Data (If applicable, for interconnection customer-owned fuse):

(Attach copy of fuse manufacturer's minimum melt and total clearing time-current curves)

Manufacturer: _____ Type: _____ Size: _____Speed: _____

Interconnecting Circuit Breaker (if applicable):

Manufacturer: _____ Type: _____

Load Rating (Amps): _____ Interrupting Rating (Amps): _____ Trip Speed (Cycles): _____

Interconnection Protective Relays (If Applicable):

_____

If microprocessor-controlled:

Manufacturer: _____ Type: _____Model No. _____ Firmware ID: _____

Instruction Book No._____

List of functions and adjustable setpoints for the protective equipment or software:

Setpoint Function	Minimum	Maximum

1._____ _____ _____

2._____ _____ _____

3._____ _____ _____

4._____ _____ _____

5._____ _____ _____

6._____ _____ _____

If Discrete Components:
(Enclose copy of any proposed time-overcurrent coordination curves)

Manufacturer:_____Type:_____Style/Catalog No.: _____ Proposed Setting:_____
Manufacturer:_____Type:_____ Style/Catalog No.: _____ Proposed Setting:_____
Manufacturer:_____Type:_____Style/Catalog No.: _____ Proposed Setting:_____
Manufacturer:_____Type:_____ Style/Catalog No.: _____ Proposed Setting:_____
Manufacturer:_____Type:_____
Style/Catalog No.:_____ Proposed Setting:_____

Current Transformer Data (If applicable):
(Enclose copy of manufacturer's excitation and ratio correction curves)
Manufacturer:_____
Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____
Manufacturer:_____
Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____

Potential Transformer Data (If applicable):
Manufacturer:_____
Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____
Manufacturer:_____
Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____

Section 5. General Information

Enclose a copy of the site electrical one-line diagram showing the configuration of the small generating facility equipment, current and potential circuits, and protection and control schemes.

Enclose a copy of any site documentation that indicates the precise physical location of the proposed SGF (e.g., United States Geological Survey topographic map or other diagram or documentation).

Describe the proposed location of the protective interface equipment on the property:___
_____

Enclose a copy of any site documentation that describes and details the operation of the protection and control schemes. Is available documentation enclosed?

Yes ____No __x__

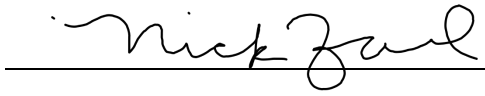
Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable).

Are schematic drawings enclosed?

Yes __x__No ____

Section 6. Interconnection Customer Signature

I hereby certify that, to the best of my knowledge, all the information provided in this Interconnection Request is true and correct.

Signature:  Date: 6/8/2020

Section 7. Utility Acknowledgement of Receipt

Signed:_____

Title:_____

Utility:_____

Date:_____

Utility signature signifies only receipt of this form, in compliance with 20VAC5-314-50 of the State Corporation Commission's Regulations Governing Interconnection of Small Electrical Generators.

PHASE I ARCHAEOLOGICAL SURVEY

PROPOSED NUBY RUN SOLAR SITE

Isle of Wight County, Virginia

November 16, 2021



H&P PROJECT NO.

2021813

CONTACT:

Dwayne Pickett
Principal Investigator

SUBMITTED TO:

Mr. Drew Price, President
Nuby Run Solar, LLC
321 E. Main Street, Suite 500
Charlottesville, VA 22902

2524 Langhorne Road | Lynchburg, VA 24501
(434) 847-7796 | www.HandP.com

HURT & PROFFITT

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EXECUTIVE SUMMARY

On behalf of Nuby Run Solar LLC, Hurt & Proffitt, Inc. (H&P) has completed a Phase I archaeological survey of a 34-acre tract located in the central part of Isle of Wight County in Virginia's Hampton Roads region.

The purpose of the survey was to identify all archaeological sites in the Area of Potential Effects (APE), to estimate site size and boundaries, and to preliminarily assess the eligibility of identified sites for listing in the National Register of Historic Places (NRHP). The total area surveyed was approximately 34 ac. (13.7 Ha). The archaeological survey of the APE was conducted by a crew led by Dwayne Pickett from October 25 to November 3, 2021.

H&P first completed a reconnaissance survey of the project corridor which consists of a deciduous forest on the east, west and south ends of the project area and an agricultural field. A clump of trees extending into the field approximately halfway along its south edge is related to former structures which no longer exist. Fifty shovel test transects were laid out and spaced 50 feet (15.24m) apart running north to south across the APE. A total of 263 shovel test pits (STPs) were then placed at 50-foot (15.24m) intervals along those transects. Another 65 STPs were placed at 25-foot (7.62m) intervals around STPs that were positive for cultural material. A total of 328 STPs were excavated with 36 being positive for cultural material.

In addition to shovel testing, a pedestrian survey was conducted in the agricultural field which had approximately 75-80% surface visibility. The combined survey strategies resulted in the discovery of 11 isolated historic artifacts, one isolated prehistoric artifact (by definition not NRHP eligible) and three historic sites.

Site 44IW0324 is a moderate concentration of late 19th- early 20th century artifacts located to the north and south of the former structures. All that remains of these buildings is a pile of cement and a depression where it appears that one of the structures, or what remained of it, was removed by a machine and its remnants piled next to it. A 1919 map is the earliest map of the project area that depicts a structure there. The late date of this site along with the lack of intact stratigraphy and discernible features suggests that site 44IW0324 has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.

Site 44IW0325 is located in the woods along the eastern end of the property and consists of a depression with a few machine-made bricks at the bottom. The only artifacts recovered from STPs in this area were brick fragments. This depression might be related to an outbuilding associated with the structures at site 44IW0324. Given the low density of artifacts, the lack of domestic artifacts and the absence of

intact stratigraphy, site 44IW0325 has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.

Site 44IW0326 is also located at the eastern end of the property and consists of a low concentration of late 19th- early 20th century artifacts. Given the low number of architectural artifacts, this concentration might be related to disposal activities associated with the structures at site 44IW0324. The late date of this site along with the lack of intact stratigraphy and discernible features suggests that site 44IW0326 has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.

1. INTRODUCTION

On behalf of Nuby Run Solar LLC, Hurt & Proffitt, Inc. (H&P) has completed a Phase I archaeological survey of a 34-acre tract located in the central part of Isle of Wight County in Virginia's Hampton Roads region (Figure 1). The Area of Potential Effects (APE) for archaeological resources was defined as those portions of the project where ground disturbance may occur. This consisted of 19 acres of a relatively flat agricultural field and 15 acres of forest located on the east, west and south ends of the project area (Figure 2). The purpose of the survey was to identify all archaeological sites in the Area of Potential Effects (APE) of the proposed solar site, to estimate site size and boundaries and to preliminarily assess the eligibility of identified sites for listing in the National Register of Historic Places (NRHP). The total area surveyed was approximately 34 ac. (13.7 Ha).

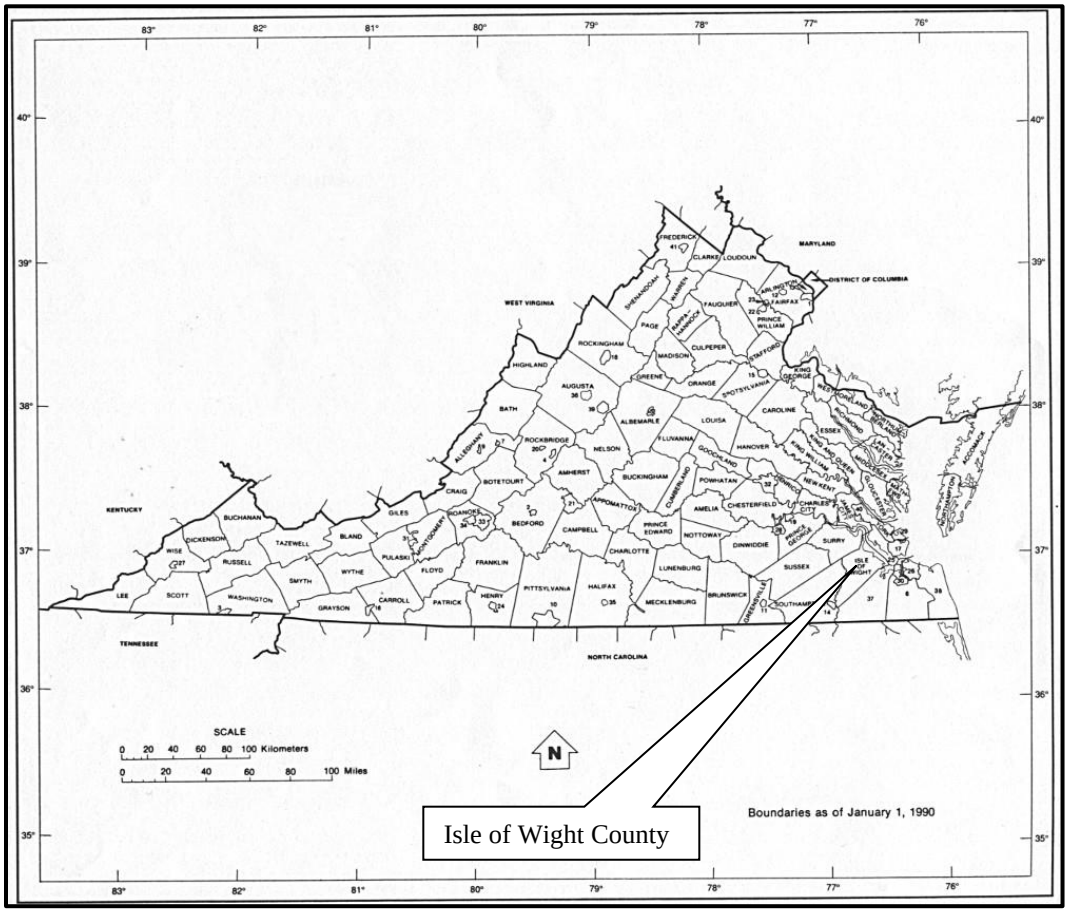


Figure 1. Project location.



Figure 2. Project area map showing areas of potential ground disturbance.

Prior to initiating the field portion of the project, Hurt & Proffitt compiled historic and environmental data regarding the distribution of known and potential sites in the project vicinity. This research included a review of site files stored in the Virginia Department of Historic Resources' (VDHR's) Virginia Cultural Resource Information System (V-CRIS), VDHR archives, Library of Congress digital map and photographic archives and local histories. A summary of that research follows, including information on all previously recorded cultural resources within a 1-mile (1.6-kilometer) radius of the project area.

The archaeological survey of the APE was conducted by a crew led by Dwayne Pickett from October 25 to November 3, 2021. All work conducted as a part of this investigation was in accordance with the National Historic Preservation Act of 1966 (as amended), the Archaeological and Historical Preservation Act of 1974, Executive Order 11593, and Title 36 of the Code of Federal Regulations, Parts 60-66 and 800 (as revised). The field investigations and technical report meet the requirements specified in the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 48:190:44716-44742) and the Virginia Department of Historic Resources *Guidelines for Conducting Historic Resources Survey In Virginia* (2011, rev. 2017). The Principal Investigator performing the cultural resource investigations meets or exceeds the qualifications described in the Secretary of the Interior's *Professional Qualifications Standards* (48 FR 44738-9).

2. SETTING

The project development footprint of approximately 34 acres is situated within a larger parcel of 117.3 acres bordering the south side of Orbit Road (Rte.637) (Figure 3). This parcel is approximately 2 miles southeast of the county seat, also named Isle of Wight. The APE consists of a long approximately rectangular block running parallel to the south side of Orbit Road (Rte. 637). Approximately 19 of the 34 acres consists of a relatively flat agricultural field along the road. The east and west ends of the project area are composed of deciduous forest while the south side is a mix of deciduous forest and pine plantation. A clump of trees extending into the field approximately halfway along its south edge is related to a former habitation site with structures still depicted on current topographic maps (Figure 4).

The project area is located in the Embayed portion of Virginia's Coastal Plain geologic province. The Embayed portion is a narrow strip along Virginia's eastern edge stretching from the Fall Zone to the Atlantic Ocean. It is characterized by younger strata than the adjoining Piedmont province and is cut by large tidal rivers that flow into the Chesapeake Bay (Geology of Virginia 2021). The area between the Coastal and Piedmont provinces was an important area for cultural interaction (Thornbury 1965). The lack of lithic resources in the Coastal Plain such as quartz and quartzite meant that people had to either travel to areas near the Fall Line or trade with others for the material they needed (Egloff 1989).

The nearest water source to the project area is Nuby Run which forms the western and southern boundaries of the larger parcel in which the proposed development area sits. Nuby Run is a tributary to Great Swamp which it joins approximately 1800 feet (548.6m) east of Orbit Road. Great Swamp flows southeasterly through a series of reservoirs, eventually emptying into the Nansemond River which flows into the James River several miles to the northeast of the project area. The margins of Nuby Run are depicted as wetlands on topographic maps. Elevations range from 97 feet AMSL in the northwestern part of the county to about sea level along the James River in the northeastern corner of the county. Elevations within the project area are between 62-84 ft AMSL.

There are three different soil types within the APE. Slagle fine sandy loam 0 to 2 percent slopes (18A) makes up 58.3% of the APE and covers about 19.6 acres mainly in the agricultural field. Along the wooded area to the south is Slagle fine sandy loam 2 to 6 percent slopes (18B) which comprises 29.8% of the APE and covers about 10 acres. Making up 12% of the APE is Emporia fine sandy loam 0 to 2 percent slopes (5A) which comprises 4 acres in the eastern end of the APE (Figure 5).

Sagle fine sandy loam is very deep, moderately well drained and moderately slow or slow permeable soil found within marine terraces and uplands of the Atlantic Coastal



Figure 3. Project area (red line) depicted within larger parcel (blue line).

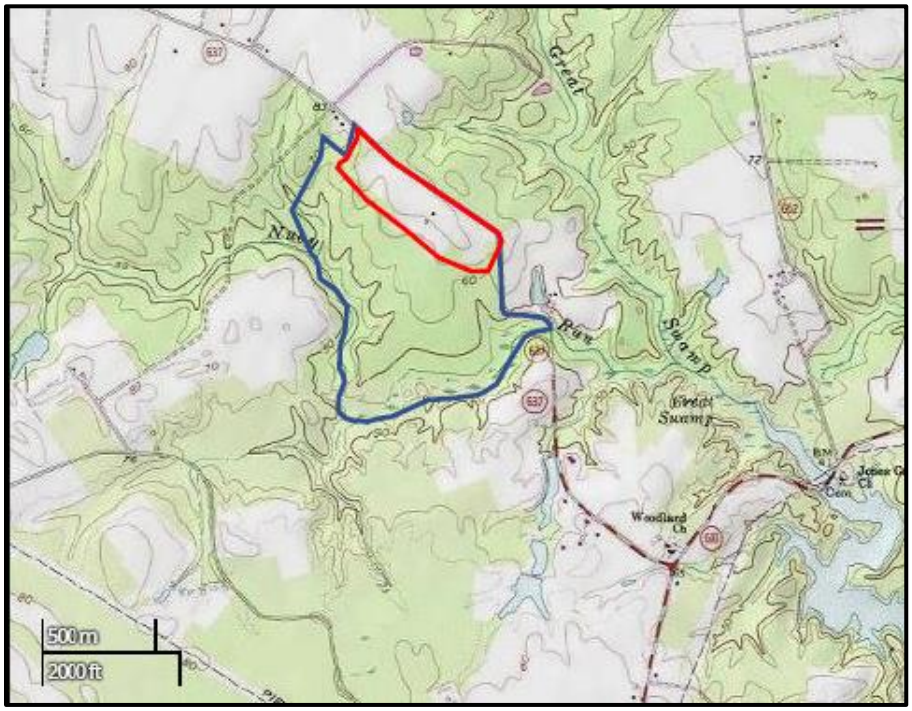


Figure 4. Project area depicted on USGS Isle of Wight 7.5-minute quadrangle. Scale 1:24000.

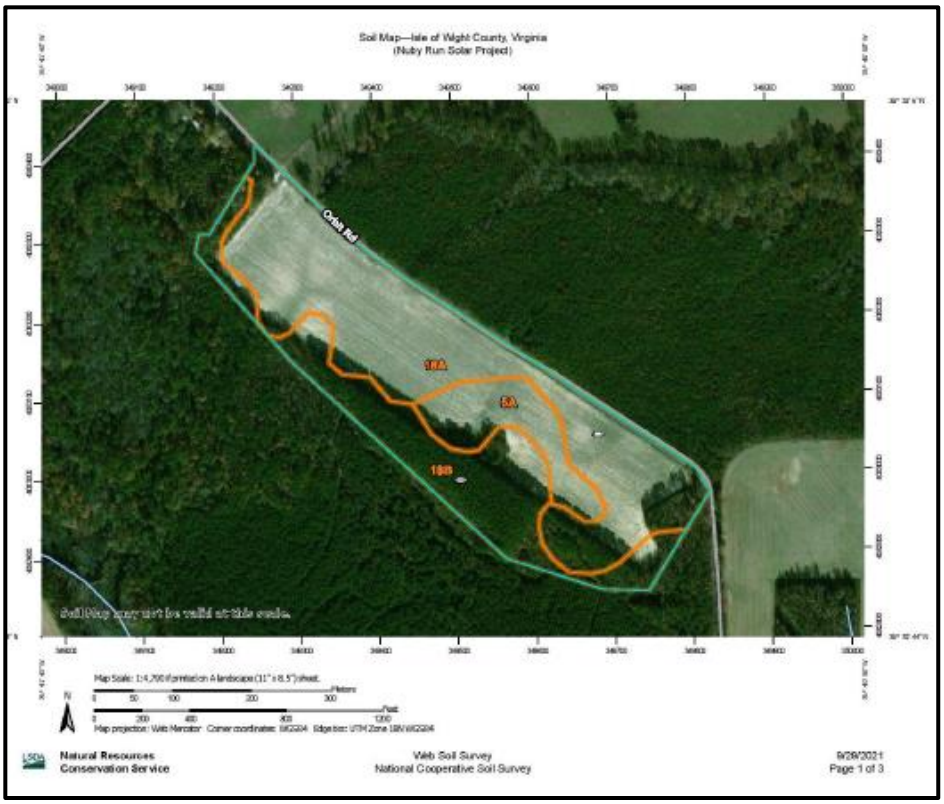


Figure 5. Limits of proposed ground disturbance depicted on Isle of Wight County Soil Map (NRCS 2021).

Plain. It is strong to extremely acidic. This soil is mainly used for crops and forestry. In fields it can support corn, soybeans, tobacco and peanuts whereas in wooded areas it can support Virginia pine, sweet gum, red maple, southern red oak, water oak, yellow poplar and hickory.

Emporia fine sandy loam is also very deep, moderately well drained and moderately slow or slow permeable soil found within marine terraces and uplands of the Atlantic Coastal Plain. It is very strong to moderately acidic. This soil supports both crops and woodlands. In fields it can support corn, soybeans, tobacco, peanuts and cotton whereas in wooded areas it can support loblolly pines, Virginia pine, red maple, sweet gum, oak, and hickory (NRCS 2021).

3. HISTORY

Project area precontact history

Paleoindian Period 15,000–8,000 B.C.

It is believed that the first people who entered the Western Hemisphere came from Asia at the end of the last great Ice (or Pleistocene) Age. Glaciers covered large areas of Canada and they lowered the sea level by 300 feet (91.4m), exposing an immense, 1,000-mile (1609.3km)-wide plain between Siberia and Alaska known as Beringia.

In 1927 a fluted point was discovered in Folsom, New Mexico, which was in the ribs of an extinct species of bison. Five years later near Clovis, New Mexico, a woolly mammoth kill site was found with associated stone tools dating to 11,200 years ago. The fluted points that were discovered are called Clovis points and they are the distinguishing feature of Paleo sites.

In the western plains they used these points to hunt large game like the mastodons but along the east coast that does not appear to have been the case. The archaeological data from Virginia records numerous discoveries of fluted points, but no clear-cut association between extinct large game and fluted points (Boyd 1989:139). For this reason, many archaeologists now hold that eastern Paleoindians were generalized foragers (e.g., Grayson and Meltzer 2003; but see Fiedel and Haynes 2004).

The first people lived in groups that have been classified as bands, which was like an extended family. They camped along streams that ran through the tundra-like grasslands and the open pine, spruce and fir forests that covered Virginia at that time. Due to the severe climate, each band moved around seasonally to hunt and forage (Egloff and Woodward 2006).

Although it is clear that people entered the Western Hemisphere through Alaska some sites suggest that people may have been here earlier and possibly entered from elsewhere. These pre-Clovis sites such as Cactus Hill in southern Virginia, which has been dated to almost 17,000 years ago, suggests people could have been here much earlier than was previously thought (Egloff and Woodward 2006).

Current research of the Paleoindian time period is focused on the southeastern Coastal Plain area and the upper Roanoke River. The Nottoway River Survey has identified numerous Paleo sites along with the pre-Clovis Cactus Hill site in southeastern Virginia. One of the important sites discovered is the Williamson site which has shown evidence of intact Clovis-age deposits beneath a plow zone layer (Hall 1999; McAvoy and McAvoy 2003).

In the upper Roanoke River area stratified Paleoindian sites have been discovered in the Leesville/Smith Mountain Lake area (Childress and Blanton 1997; Gingerich 2016; Gingerich et al. 2015). The sites in this area have well-defined Paleoindian to Early Archaic components and are being studied for how lithic resources and the climate changed during the Younger Dryas and the Pleistocene/Holocene transition (Boyd 2020).

Two sites dating to the Paleoindian period have been found in Isle of Wight County. Both are located along the James River in the northern part of the county. Site 44IW0015 was a shell midden eroding into the river where fluted points were found. Also eroding into the river was site 44IW0081 where a Hardaway point was discovered.

Archaic Period (8000 – 1200 B.C.)

The Archaic period is generally divided into three phases, Early (8,000–6,000 B.C.), Middle (6000–2500 B.C.), and Late (2500–1200 B.C.). At the beginning of the Early Archaic was the dawn of the Holocene epoch at approximately 8,000 B.C. The climate began to warm and the glacial ice sheets retreated. The warming trend associated with the Holocene period fostered a diversity of flora and fauna throughout the eastern seaboard on land as well as within the gradually forming Chesapeake Bay.

The people of the Early Archaic settled a diverse area ranging from the mountains in the west to the coastline in the east. A look at the distribution of these sites shows that they are concentrated along the Ridge and Valley and the Fall Line. Both these environments provided natural resources such as stone for lithics. Groups of about 25-50 people would work as a unit at base camps and breakup into smaller units to gather resources utilizing smaller camps (Barber 2020).

Diagnostic artifacts recovered from Early Archaic sites include Charleston Corner Notched, Palmer and Kirk, Amos, Warren, Big Sandy, Kessell and ending with Kirk Stemmed. During this time period, the bifurcate tradition was developed and thumb nosed scrapers continued to be used. Also, ground stone tools such as axes, celts, adzes and grinding stones make their first appearance. Towards the end of this period there is an increased reliance on a wider range of lithic resources (Coe 1964; Custer 1990).

There are only seven sites recorded in Isle of Wight County that have an Early Archaic component. No sites dating to this time period are located within 3 miles (4.8 km) of the project area.

The Middle Archaic period coincided with a relatively warm and dry period. Sites dating to this time period are more numerous suggesting an increase in population

and sites appear to be occupied for longer periods of time (Delcourt and Delcourt 1987; Stoltman and Baerreis 1983). The people of this time period were thought to comprise small groups of highly mobile hunter-gathers exploiting upland forests of oak and hickory which spread during this warmer dryer period. Because of this new forest growth nuts and berries began to play an important role in their diets. Despite the number of Middle Archaic sites located in the uplands they likely exploited resources over a vast area including the estuary system around the Chesapeake Bay (Egghart 2020a).

During this time period there was an increased use of ground stone tools, cobble tools and a shift to local lithics in crafting projectile points. Projectile points from this time period include Stanley Stemmed, Morrow Mountain Stemmed, Guilford Lanceolate and Halifax Side-Notched. LeCroy points area seen as coinciding with the beginning of the Middle Archaic with Savannah River points marking the end of the period (Egghart 2020a).

No sites dating to this time period are located within 3 miles (4.8 km) of the project area.

By the Late Archaic Period, the population in Virginia could have been in the tens of thousands. In order to feed the growing number of people, hunting and gathering practices had to intensify. At the beginning of the Late Archaic Period retreating glaciers led to higher sea levels on the Atlantic seaboard. This allowed for the development of large estuaries and tidal wetlands that were beneficial to the development of coastal resources such as fish and shellfish. Groups began settling along river valleys, the lower portion of the coastal plain tributaries of major rivers and near swamps. At riverside sites large hearths of fire-cracked rock have been found suggesting Late Archaic people prepared large amounts of food there. Because of this some archaeologists have hypothesized that fish began to play a larger role in the diet. Platform hearths seen during this period are interpreted as being associated with fish processing (Dent 1995:185).

During this period, they may also have begun to domesticate plants such as goosefoot, squash and gourds (Yarnell 1976:268; Chapman and Shea 1981:70). They also used squash and gourds for food storage in addition to earthen pits (Egloff and Woodward 2006:22). Other characteristics of this time period is an increase in sedentism, the beginnings of long-distance trade networks and societies becoming less egalitarian (Egghart 2020b).

The projectile point technology of the Late Archaic Period is dominated by stemmed and notched point forms, many with broad blades, likely used as projectiles or knives. These points diminish in size towards the latter portion of this period (Dent 1995; Justice 1995).

No sites dating to this time period were located within 3 miles (4.8 km) of the project area.

Woodland Period (1200 B.C.– A.D. 1600)

Like the Archaic Period, the Woodland Period is also divided into three phases; Early (1,200 -500 B.C.), Middle (500 B.C.-A.D. 900) and Late (A.D. 900-1600). The beginning of the Woodland period is usually marked by the appearance of pottery in the archaeological record which was used for storing and cooking food. Also, the Native Americans of the Woodland period began to maintain a greater reliance on horticulture and agriculture which increased sedentism and the nucleating of societies (Klein and Klatka 1991; Mouer 1991).

In the Piedmont region of Virginia, Early Woodland settlements are located along rivers as well as in interior areas and there is evidence to suggest the Piedmont areas developed a more sedentary lifestyle during this time (Klein and Klatka 1991; Mouer 1991). A number of Early Woodland sites in the Piedmont are large permanent or semi-permanent villages. This corresponds with the domestication of plants such as the goosefoot and sunflower along intentionally cleared riverine areas. Also, long distance trade appears to decline with exotic items becoming less prominent. In the Coastal Plain, Early Woodland sites are scarce and appear to be seasonal in nature and occupied for short durations (Egghart 2020c). Early Woodland projectile points include various stemmed or lanceolate forms and include a variety of small, stemmed point types (Coe 1964; McLearen 1991).

In the Middle Woodland Period people move away from smaller tributaries and began to settle along estuaries and major streams and also began to organize into larger groups (Hantman and Klein 1992). They became more sedentary and exploited riverine and estuarine resources such as fish, deer, waterfowl and turkey along with nuts, amaranth and chenopod seeds. The spear was replaced by the bow and arrow for hunting and corn had transformed into the large ears familiar today (Egloff and Woodward 2006:25). During this time period specialized crafts and increased trade over long distances is noted. With this comes evidence of rank societies and the spreading of religious and ritual behavior including symbols and regional styles in ceramics (Nash 2020).

Modification in ceramic manufacturing is characteristic of the Middle Woodland Period with Pope's Creek ceramics being associated with the beginning of this period and Mockley ceramics with the later. Pope's Creek ceramics are tempered with medium to coarse sand, with occasional quartz inclusions, and interior scoring has also been recorded (Stephenson 1963:94; McLearen and Mouer 1989). The majority of Pope's Creek ceramics have net-impressed surfaces (Egloff and Potter 1982:99). Shell-tempered Mockley ceramics first appeared around 200 A.D. in Virginia to

southern Delaware. There was a variation in surface treatments for Mockley that included plain, cord-marked and net-impressed (Egloff and Potter 1982:103). The pottery of the Piedmont was similar to that of neighboring regions, though it was tempered with quartz and sand, and fabric, net and cord markings were common (Egloff and Woodward 2006:35).

The highest concentration of Middle Woodland sites is east of the Fall Line (Nash 2020). As such, one site dating to this time period was found within three miles (4.8 km) of the project area. Site 44IW0058 is recorded as a Middle Woodland camp. Artifacts collected from a plowed field included 29 quartz and quartzite flakes, one Stoney Creek fabric marked and two Stoney Creek cord mark sherds.

The use of domesticated plants had assumed a major role in the prehistoric subsistence system by the Late Woodland Period. The arrival and cultivation of beans joined corn and squash as the three major crops (Egloff and Woodward 2006:26). The adoption of agriculture represented a major change in the prehistoric subsistence economy and settlement patterns. Expanses of arable land became a dominant settlement factor, and sites were located on fertile floodplain soils or, in many cases, on higher terraces or ridges adjacent to them. Native Americans in Virginia became more populous and developed strong identities to their local settings. They became more sedentary and organize into villages and small hamlets with more substantial housing that may have been placed in rows around a plaza. These villages were highly nucleated and occasionally fortified with palisades. The fortifications demonstrate inter-group conflict (Egloff and Woodward 2006:26; Means and Moore 2020).

No sites dating to this time period were found within three miles (4.8 km) of the project area but two sites recorded as Woodland are located within that distance. Site 44IW0059 is classified as a Woodland camp where artifacts were found in a plowed field. They include 34 quartz and quartzite flakes along with shell tempered and grit tempered sherds that were either fabric, net or cord marked. The other site is 44IW0060 which is also described as a Woodland camp. A total of 16 quartz and quartzite flakes, one biface and one grit tempered sherd were recovered from a plowed field.

Project area history

The Spanish were the first recorded Europeans to reside in what would become Virginia. A mission was established along the York River in 1570 that was short lived. Native Americans attacked the Jesuits there and killed all except an altar boy who was later rescued by the Spanish (Mallios 2006). It was not until 1607 when the English established the Jamestown colony on the James River. Despite many hardships Jamestown prevailed and did not succumb to the failures that plagued the Roanoke and Popham colonies (Pickett and Pickett 2011).

The following year in 1608, Captain John Smith explored the area that would become Isle of Wight County. He traded beads and trinkets with the Warrosquoyacke for corn. The Warrosquoyacke inhabited land in an area that became known as Fergusson's Wharf and controlled an area that extended roughly five miles along the James River and 20 miles inland (Morrison 1907). Over the next few years, they maintained a peaceful relationship with the settlers, occasionally providing them with overnight accommodations and taking in two men for the purposes of exploration and learning (King 1993).

On April, 27, 1619 a ship called the *Marygold* arrived at Jamestown with 100 setters. They established a settlement near the mouth of Lawne's Creek which today is the dividing line between Isle of Wight and Surry Counties. The settlement was organized by Captain Christopher Lawne, Sir Richard Worsley, Nathaniel Basse, and John Hobson and was called Warrosquoyacke or Lawne's Plantation. Not long after its establishment the settlers fell ill and began to die. Within a year Lawne and about 80 others were dead. In 1620, the settlement was given more time from the London Company to establish itself. At the same time, the company also renamed the plantation Isle of Wight, most likely after the homeplace of Sir Richard Worsley. Patents for two additional plantations were granted the next year, further increasing the population of the colony (King 1993).

With the successful cultivation of tobacco people began to move further away from the colonial center at Jamestown in search of land. Tobacco was grown by just about everyone from large landowners to tenant farmers (Kulikoff 1986: 4-5; Rutman and Rutman 1984: 41-43). In order to be financially successful, large landowners needed an abundance of labor. Indentured servants and slaves were used to fulfill this need but by the second half of the 17th century the labor force began to be dominated by African slaves (Morgan 1975).

The need for land in order to grow tobacco caused colonists to increasingly encroach on lands controlled by the Powhatan Confederacy. This led to increased conflict which resulted in the Powhatan uprising of 1622. On Good Friday, March 22, 1622, tribes belonging to the confederacy attacked settlements up and down the James River killing 347 colonists. The Warrosquoyacke took part in the uprising and attacked two settlements in what would become Isle of Wight County. Basse's Choice and Bennett's Welcome were attacked resulting in the deaths of 53 colonists. Retaliation from the colonists and ongoing wars resulted in the Warraskoyack disappearing from colonial records by 1650. These attacks alarmed colonial officials and led to the British Crown taking over the colony from the Virginia Company in 1624. Ten years later in 1634 eight counties were established one of which was Warrosquoyacke (Isle of Wight) (Dabney 1971; Salmon and Campbell 1994).

In 1635, the population of Warrosquoyacke was 532 and by 1637, the name of the county was officially changed to Isle of Wight. The county was originally bound on the north by Lawne's Creek, on the east by the James River and an inland line that extended from the point of Richard Hayes's plantation to the head of Colonel Pitt's creek, and on the south by a line that ran west for an undefined distance. In 1642, it was divided into the Upper and Lower Parish, with Pagan Creek as the dividing line (King 1993). Initial settlements centered on the south shore of the James River as well as the east and west shores of Pagan Creek.

The project area is south of the James River near the center of Isle of Wight County, removed from the major plantations on the James and York Rivers. The first town in the county was established at Pate's Field where the Pagan River enters the James River. It was established as the result of a law passed in 1680 that required every county that exported tobacco and other goods to lay out a town of fifty acres with half acre lots. The lots were to include both a dwelling and a storehouse, and other stipulations were put in place to discourage people from developing and reselling the lots. After January 1681, all exports and imports were required to pass through these towns. The town at Pate's Field however was too remote and inconvenient for people to access and thus never fully succeeded (King 1993).

At the beginning of the eighteenth-century increasing numbers of African slaves were transported to Virginia. Between 1700 and 1750, approximately 45,000 slaves were brought to the colony brining the estimated total population to around 230,000 (Isaac 1982:12). This period also saw a marked increase in American-born slaves. In 1728, three out of five adults were African born, but by 1740, less than half of all slaves were born in African (Kulikoff 1986:71).

The town of Smithfield was established in 1750 by Captain Arthur Smith from a portion of his farm that bordered Pagan Creek. That area already had a tobacco storehouse with a public landing that offered ferry access. A total of 72 lots were laid out and two center lots were set aside for the construction of a courthouse. In 1750 construction began on the new courthouse which still stands in Smithfield today (Dashiell 1996).

During this period, the economy of the county continued to rely on the production of tobacco. The crop, however, quickly depleted the land and was slowly replaced with corn and other grains, orchards and livestock. The pine forests of the area were also harvested for tar, pitch and turpentine (King 1993).

In 1757 Great Britain and France went to war which spilled over into North America. The French and Indian War lasted for six years and ended in 1763. Following this conflict, Great Britain tried to recoup some of the costs for defending the American colonies by levying taxes and tightening the administration of trade through navigation acts. Additionally, King George forbade settlement of lands west of the

mountains and trade with the Native Americans. All this was done without a representative from the colonies in Parliament and prompted many colonists to adopt the phrase no taxation without representation (Salmon and Campbell 1994).

At the onset of the Revolutionary War many citizens in Isle of Wight County were divided. Some had immigrated from England and Scotland and were faced with choosing between their king and county or the new land in which they lived. In October of 1775, a number of local patriots joined the Princess Anne District Battalion and participated in battles at Kempsville and Portsmouth. Others joined the 7th, 8th, and 9th companies of the 4th Virginia Regiment of Foot, which eventually joined Washington's army and fought at Trenton and Germantown. Though no major battles were fought in Isle of Wight County, British Lieutenant Colonel Tarleton led a raid on the courthouse in Smithfield that caused substantial damage. Residents also found the shoreline difficult to defend and at least one tobacco warehouse had to be closed due to an attempted invasion by British forces (King 1993).

The first federal census, taken in 1790, recorded the population of Isle of Wight County at 9,028 people. Out of that number 4,786 were of European descent, 3,867 were slaves, and 375 were freed slaves. In 1790, Virginians owned nearly half of the slaves in the nation (Berlin 2010:104). The United States outlawed the importation of slaves in 1808 but did not outlaw the domestic slave trade (Berlin 2010:70). During this period many Virginia farmers, especially in the Piedmont, began to diversify their crops, turning to those that required less labor. This led to a surplus of slave labor that was used for manufacturing or leased out to others (Sanford 1994:119).

The population of the county was slow to grow, as only 10,517 residents were recorded in 1830. Also, the geographical distribution of people began to shift with an increasing number moving to the western part of the county (King 1993). To accommodate the shift in population, a new courthouse was constructed closer to the center of the county around 1800. This courthouse, which is still in use today, is located approximately 2 miles (3.2 km) north of the project area.

During the late eighteenth and early nineteenth centuries, farmers in Isle of Wight County began to move away from tobacco and began growing cotton. In the early nineteenth century a gin and two cotton factories began to operate. Although ferries had long served the transportation needs of the county, bridges and roads also began to improve during this period (Figure 6). In 1818, the Corrowaugh Post Office was established in what is now the town of Windsor approximately 9 miles (14.5 km) south of the project area (King 1993).

At the start of the Antebellum Period, many in the coastal areas of Virginia were farmers. In the 1820s and 30s there was an agricultural depression which caused a number of people to leave the area and look for opportunities elsewhere. (Mansfield 1989; Parramore et al. 1994). Cotton farmers could not compete with cotton of the



Figure 6. Project vicinity depicted on Böÿe, Herman, Henry Schenck Tanner, E. B Dawson, and William Branch Giles, 1827 *A map of the state of Virginia: reduced from the nine sheet map of the state in conformity to law*. H.S. Tanner and E.B. Dawson, Philadelphia, Pennsylvania (Library of Congress).

Deep South, and many inhabitants of the region moved west. This agricultural depression was exacerbated by cold weather that destroyed many cotton crops and contributed to the drastic reduction in cotton farming in Virginia (Crofts 1992).

Despite these setbacks, agriculture continued in Isle of Wight County with over 1,400 farms growing such crops as corn, sweet potatoes, peas, watermelons, beans and cotton (King 1993). However, in contrast with earlier periods, only 44 pounds of tobacco were reportedly produced in Isle of Wight County in 1850 (Whichard 1959). Neighboring Sussex County began growing peanuts which was introduced to Isle of Wight County as a commercial crop just prior the Civil War (King 1993).

One of the more significant developments in the county was the construction of the Norfolk and Petersburg Railroad in 1858. With its construction people could ship items to market more readily which stimulated the economy. One of the stops on the railroad was at Windsor Station at the site of the Corrowaugh Post Office. The opening of this station spurred the lumber industry in the county, which resulted in land clearing and the construction of sawmills (Isle of Wight n.d.). From Windsor

Station, farmers could send crops to market in Norfolk or Petersburg, giving those near the station an advantage over more remote parts of the county (King 1993; Maguire 1989).

Between 1830 and 1860, the total population of the county decreased from 10,517 to 9,977, with the number of enslaved persons decreasing from 4,272 to 3,570. Less reliance on slave labor was at the core of this decrease. The only group that saw an increase was free blacks whose numbers grew to 1,370 and comprised 13 percent of the total population (King 1993).

The beginning of the Civil War interrupted the economic prosperity brought by the railroad. William Mahone, the engineer of the railroad, joined the Confederate Army and served with distinction. In May, 1862 Union forces took control of the railroad from Norfolk to Zuni after the evacuation of Norfolk. As a response, the railroad company removed sections of track making the portion of the rail line under Union control unusable (Chabot 1938) (Figure 7).

The Confederates kept watch and sent out patrols to look for any Union attempts to cross the Blackwater River and the Union in the Suffolk area took similar steps to prevent a Confederate crossing of the Nansemond River. The area between the two rivers was the scene of small skirmishes between bands of opposing cavalry.

On December 12, 1862, an engagement took place at Joyner's Ford, near Zuni. According to Captain J. H. Sikes of Company D, Seventh Confederate Cavalry, the number of Confederates at the ford did not exceed 30 men. The opposing Union force, according to Captain Sikes, was much larger and used artillery. The Confederates successfully repelled attempts by Union infantry and cavalry to cross the river. Union troops eventually managed to cross the river below the ford on pontoon boats. The Confederate troopers made a last stand at the Joyner house, but were overwhelmed by the Federal Army and captured. Confederate reinforcements arrived as Union soldiers retreated across the Blackwater River with their prisoners which included Captain Sikes (Sikes 1862).

The Union remained active along the Norfolk and Petersburg railroad. In May 1863, they tore up tracks between Suffolk and the Blackwater River. Major General Dix reported that two regiments of Confederate infantry with two artillery pieces tried to stop them about five miles east of Zuni (Wistar 1863).

Following the war, Mahone began the task of rebuilding the Norfolk and Petersburg Railroad, as well as the repairing of water stations and station buildings (Chabot 1938). Although the South was in economic ruin, Mahone wanted to connect Norfolk

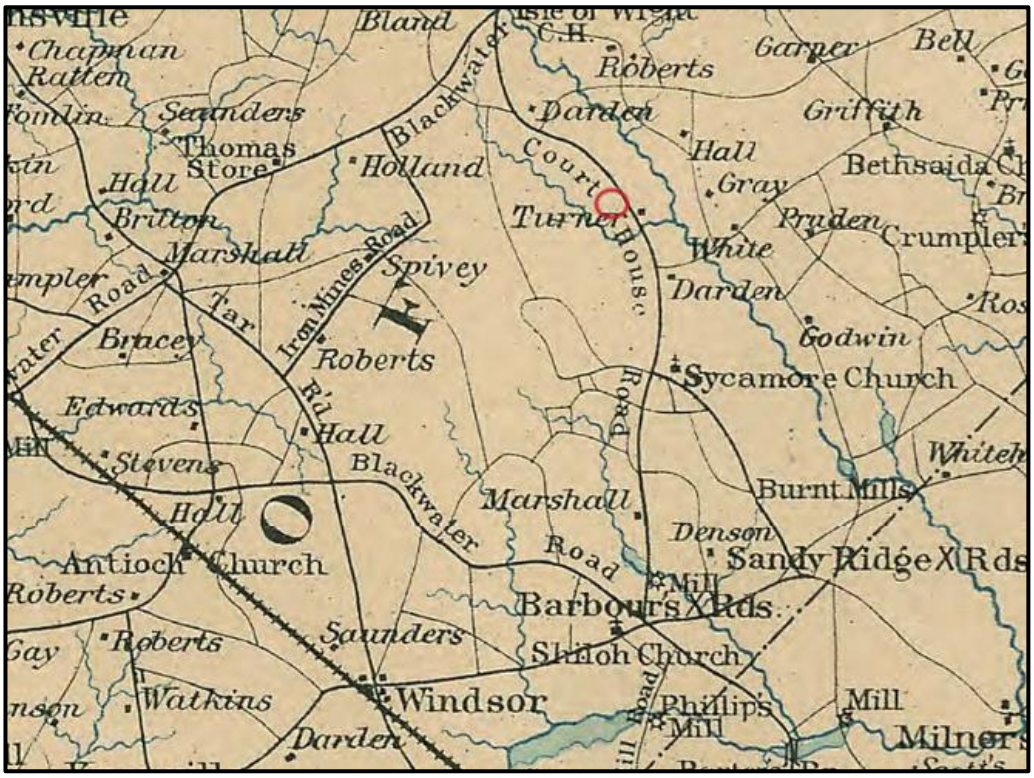


Figure 7. Project vicinity depicted on Civil War map. *Preliminary map of a part of the south side of JamesRiver, Va.: from surveys and reconnaissances*. [Washington: GPO, between to 1893] (Library of Congress).

to the Mississippi Valley. In order to do this, he began consolidating railroads. The Atlantic, Mississippi and Ohio Railroad Company was formed from a merger with the Norfolk and Petersburg in 1872. From this, the Norfolk and Western was organized in 1881 (Virginia Writers' Program 1942).

In addition to rebuilding the railroad, peanut farming was also on the rise in Isle of Wight County after the war. Peanut production increased from 40,000 bushels in 1872 to over 200,000 bushels in 1890. In 1877, John King established a peanut factory in Windsor and a peanut cleaning factory was established in Smithfield in 1880 (King 1993).

Lumber also continued to be an important industry. In 1878 the Camp Manufacturing Company established itself along the Blackwater River and others opened up close to the James River. Because of the train station, Windsor became a center for those who used the railroad to ship their lumber. This caused the community to grow considerably (King 1993).

At the turn of the twentieth century peanuts remained an important crop along with soybeans. As such, by 1935, the county had over 1,400 farms. One of those farms was located within the APE. A 1919 USGS map depicts a structure in the project area (Figure 8). An aerial photo from 1966 offers the clearest evidence of the former farmstead. It shows a small complex of buildings, including a house, large barn and several smaller structures arranged within a series of fenced yards and gardens (Figure 9).

In 1939 the Community Electric Cooperative began erecting power lines and providing electricity to the more rural portions of the county. The construction of the James River Bridge, which opened on November 17, 1928, connected Isle of Wight residents with the growing urban centers of Hampton and Newport News. In order to pay for it, a toll was collected which discouraged many from using it (King 1993).

By 1950, there were over 14,000 people living in Isle of Wight County. Smithfield was the largest town with Windsor being the second largest despite only having 451 inhabitants. At this time commercial forestry was still a leading industry along with the continued importance of agriculture (Whichard 1959). In 1975, the state took over the operation of the James River Bridge and removed its tolls. This encouraged people who worked in the Newport News area to move to Isle of Wight County. As a result, the population increased.

The number of farms in the county declined greatly by the early 1990s, and many farmers shifted their focus from crops to beef cattle (King 1993). A 1994 aerial photo of the project area shows the farm complex which appears to be abandoned (Figure 10). Sometime after that date it appears that all the buildings were razed. According to the 2010 U. S. Census, the population of the county was 35,270, an 18.6 percent increase from 2000 and indicative of the continued growth of the area (USCB).

Previous Investigations

H&P reviewed the Virginia Department of Historic Resources' (VDHR) Virginia Cultural Resource Information System (V-CRIS) for previously recorded cultural resources and previously conducted Phase I Archaeological Surveys in the vicinity of the project area. A review of these resources within 0.5 miles (0.8 km) of the project parcel boundaries identified no previously recorded archaeological sites and no previous Phase I Archaeological Surveys. Two architectural resources have been recorded within 0.5 miles (0.8km) (Figure 11).

Resource 046-5310 is a standard steel I-beam, timber deck bridge located east of the project parcel on Orbit Road at the crossing of Nuby Run. The bridge was surveyed in 2011 and determined not eligible for listing in the National Register of Historic Places. A 1950 Colonial Revival house at 18493 Orbit Road (046-5546), was recorded in 2019 by Commonwealth Heritage Group, Inc. (CHG). Although the

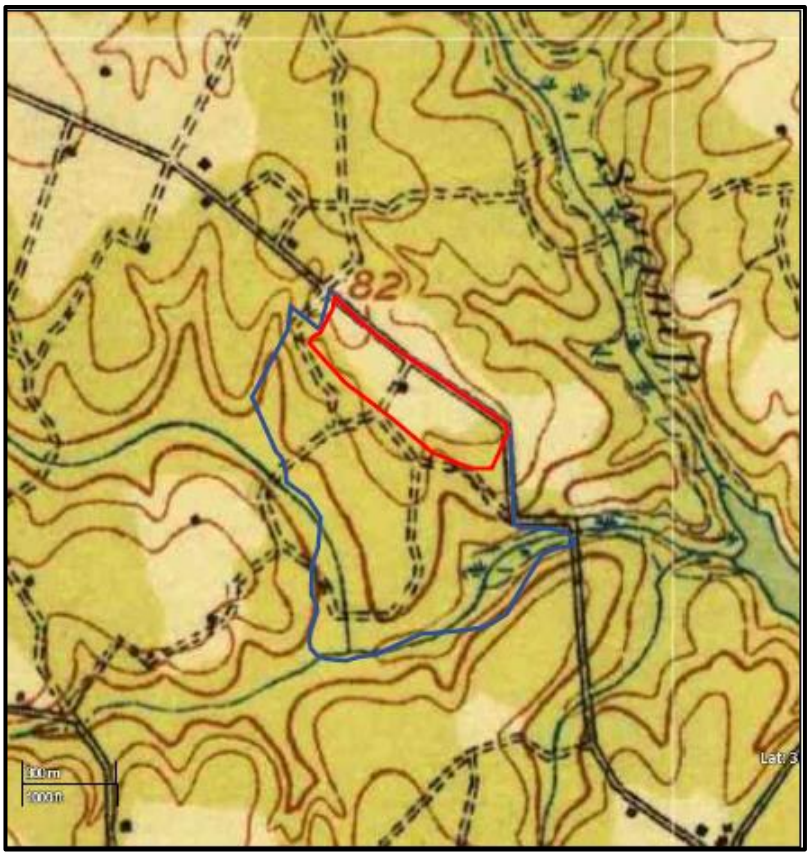


Figure 8. Project area depicted on 1919 Smithfield, VA 1:62500 USGS topographic map (USGS 2021).



Figure 9. Detail of 1966 aerial depicting building complex near center of project area.



Figure 10. March 1994 aerial view of the project area (Google Earth).

house and outbuildings were not considered by CHG to be individually eligible for the National Register, they recommended further study to determine if the property might be a contributing element to a larger rural agricultural historic district. CHG assumed eligibility of the property strictly for the purposes of environmental review of the solar energy project it was surveyed for at the time. This property is located on the north side of Orbit Road and approximately 2,000 feet (609.6m) to the west of the proposed Nuby Run project development area.

Expanding the V-CRIS search to 1 mile (1.6km) captures one previously recorded archaeological site and six additional architectural resources (Figure 11). Archaeological Site 44IW0311 is located on the north side of Orbit Road approximately 4,500 feet (1,371.6m) west of the current project area. This site consists of the remains of a medical office dating from between 1900 and 1938. The site was recorded by CHG in 2019 and determined not eligible for the National Register. Although the site was recorded as part of a Phase I Archaeological Survey, that survey is not currently mapped in V-CRIS, nor are any additional surveys mapped within a 1-mile (1.6km) radius. The six additional architectural resources consist of a potentially eligible farm at 12452 Redhouse Road (046-0004), a potentially eligible house and cemetery at 18421 Orbit Road (046- 0021), the Woodland United Methodist Church and cemetery (046-5158) which has not been evaluated, the National Register-eligible Julius Caesar Darden House (046-5188) at 19614 Orbit Road, a dwelling at 18402 Orbit Road (046-5545) that was considered eligible for environmental review purposes only, and the unevaluated Gray Cemetery (046-5590).

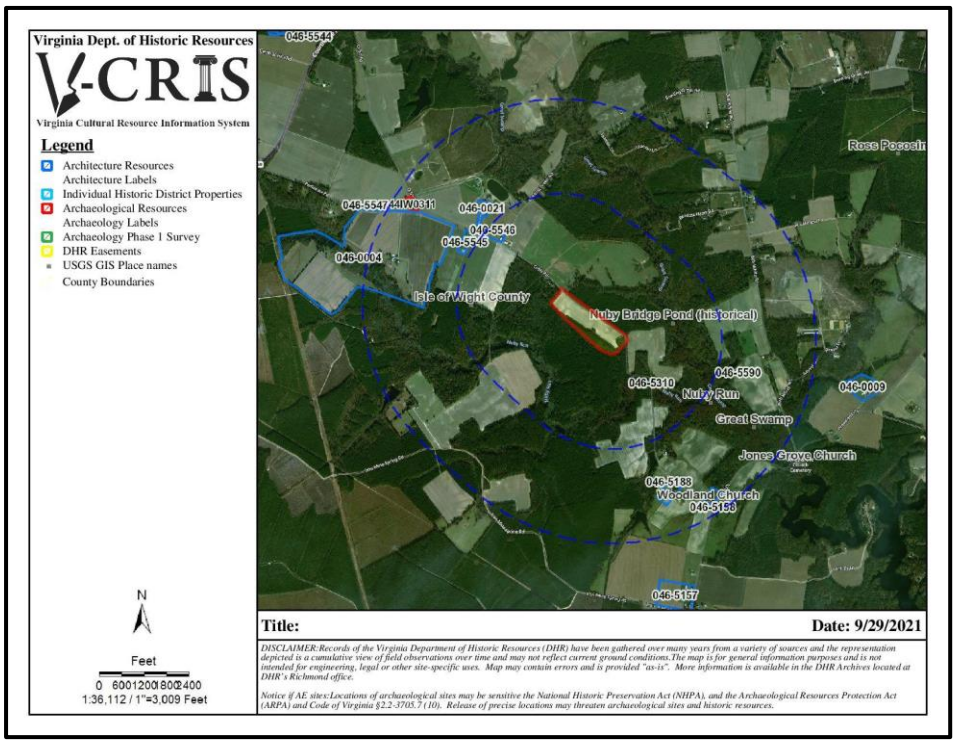


Figure 11. Previously recorded sites within 0.5 miles (inner circle) and 1 mile (outer circle) of the project area.

In addition to the V-CRIS database, Hurt & Proffitt also reviewed Isle of Wight cemetery data available as a separate layer in the county GIS. The cemetery mapping indicates that there are none present in the immediate vicinity of the project area.

Site Potential

The background research indicates the APE lies within a zone of moderate probability for the presence of prehistoric archaeological sites and high potential for the presence of historic period archaeological sites. The area is relatively level, arable and close to water.

Historic aerial images and maps reveal that the project area has been in roughly its present configuration since at least the early part of the 20th century. Significantly, the parcel contains the archaeological remains of a small farmstead that dates at least from that time period. While the farmstead is not denoted on earlier maps, it is unclear when it may have been constructed.

4. FIELD AND LABORATORY METHODS

The goal of the present archaeological survey was to identify any archaeological sites in or eligible for listing in the NRHP within the project's APE. The survey methodology employed to meet this goal was chosen with regard to the project's scope (i.e., the project's potential to affect significant resources, should they be present), the potential of the APE to contain significant archaeological resources, and local field conditions.

Prior to initiating the field study, H&P notified VA 811 and had utilities marked. Once in the field, the APE was subjected to a surface reconnaissance to assess conditions and identify any surface indications of archaeological sites. The wooded areas to the east, west and south of the project area had no surface exposure so it was determined that the wooded areas would require shovel testing. The agricultural field had approximately 75-80% surface visibility and it was determined that a pedestrian survey was warranted.

Shovel test pits (STPs) were excavated at 50-foot (15.24m) intervals along transects spaced 50 feet (15.24m) apart. The STPs measured 15 inches (38.1cm) in diameter and were excavated stratigraphically to 0.4ft. (12cm) into culturally sterile subsoil. All soil from the STPs was screened through 0.25-inch (0.64-cm) mesh to facilitate artifact recovery. Soil profiles were recorded using Munsell Soil Color charts and standard soils nomenclature (Kollmorgen Instruments Corporation 1992). All positive STPs were delineated using radial STPs excavated at half intervals or less. STPs were not excavated in areas with slopes greater than 15 percent, areas of previous construction disturbance and waterlogged areas. All shovel test locations were recorded and mapped.

The pedestrian survey was carried out by a crew of five people spaced arm's length apart walking parallel, straight transects at a slow pace. Each observed artifact was marked with a pin flag. The artifacts' provenience information was noted on the bag and recorded using a GPS unit. When a site was encountered, artifacts were recorded that lay within a 25-foot (7.62m) area of the corresponding transect and STP line already established for the woods. At least two STPs were excavated at each site discovered in order to determine if intact stratigraphy or features were present.

All artifacts recovered as a result of this survey have been processed and prepared for curation by the Hurt & Proffitt Archaeological Materials Laboratory in accordance with the specifications in *Curation of Federally Owned and Administered Archaeological Collections* (36 CFR Part 79) and the VDHR's *State Curation Standards*. Artifacts retained during this investigation will be stored temporarily at the H&P laboratory and curated along with all original field records and photographs at the VDHR at the conclusion of the project.

5. RESULTS

The Phase I archaeological survey resulted in the excavation of 328 STPs with 36 being positive for cultural material and a pedestrian survey which resulted in the collection of numerous artifacts from an agricultural field (Figure 12). Fifty shovel test transects were laid out and spaced 50 feet (15.24m) apart running north to south across the APE. A total of 263 STPs were then placed at 50-foot (15.24m) intervals along those transects. Another 65 STPs were placed at 25-foot (7.62m) intervals around STPs that were positive for cultural material. The positive STPs and artifact concentrations in the field were located in the central and eastern sections of the APE and all contained historic material with the exception of one STP which contained a flake.

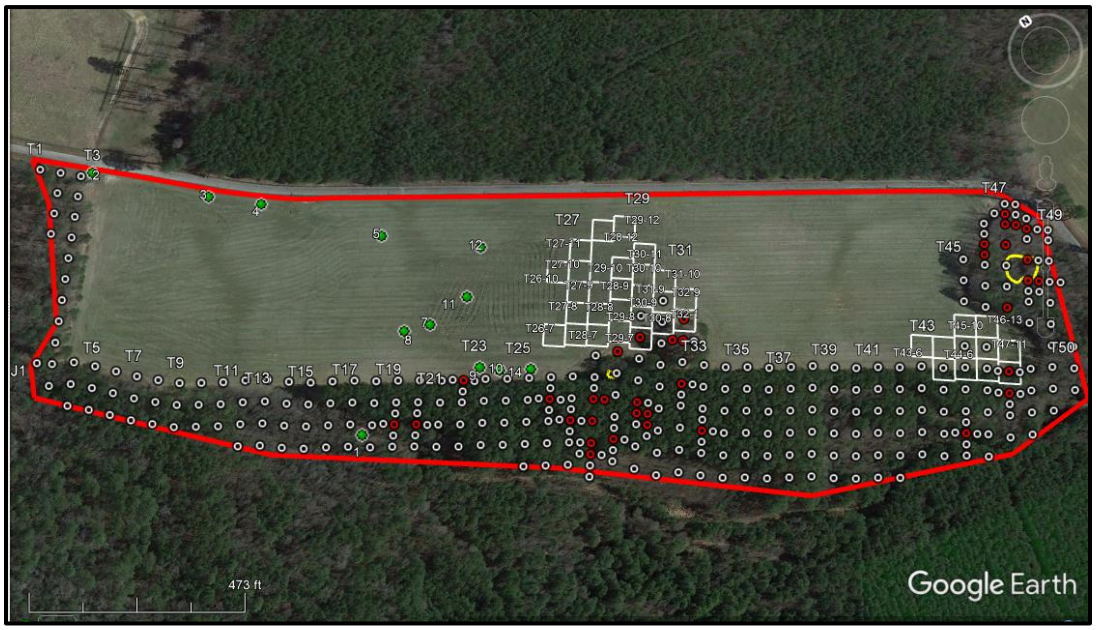


Figure 12. Shovel Test Pit (STP) location map. Positive STPs in red, isolated finds in green and yellow denotes depressions.

The stratigraphy in the wooded areas of the APE consisted of an upper stratum that developed naturally from forestation over an abandoned plow zone. The typical STP in this section contained three layers. Layer A measured between 0.5-0.8 feet (15.24-24.4cm) deep. The soil was a brown (10YR 4/3) sandy loam. This layer was on top of a dark yellowish brown (10YR 3/4) silty loam that was between 1-1.3 feet (30.5-39.6cm) deep. Layer C was an olive yellow (2.5Y 6/6) clay loam subsoil (Figures 13-14).

In the agricultural field the stratigraphy consisted of a plow zone above subsoil. Layer A measured between 0.7-0.9 feet (21.3-27.4cm) deep. The soil was a dark greyish brown (10YR 4/2) sandy loam. This was on top of a yellowish brown (10YR 5/4) clay loam subsoil (Figures 15-16).

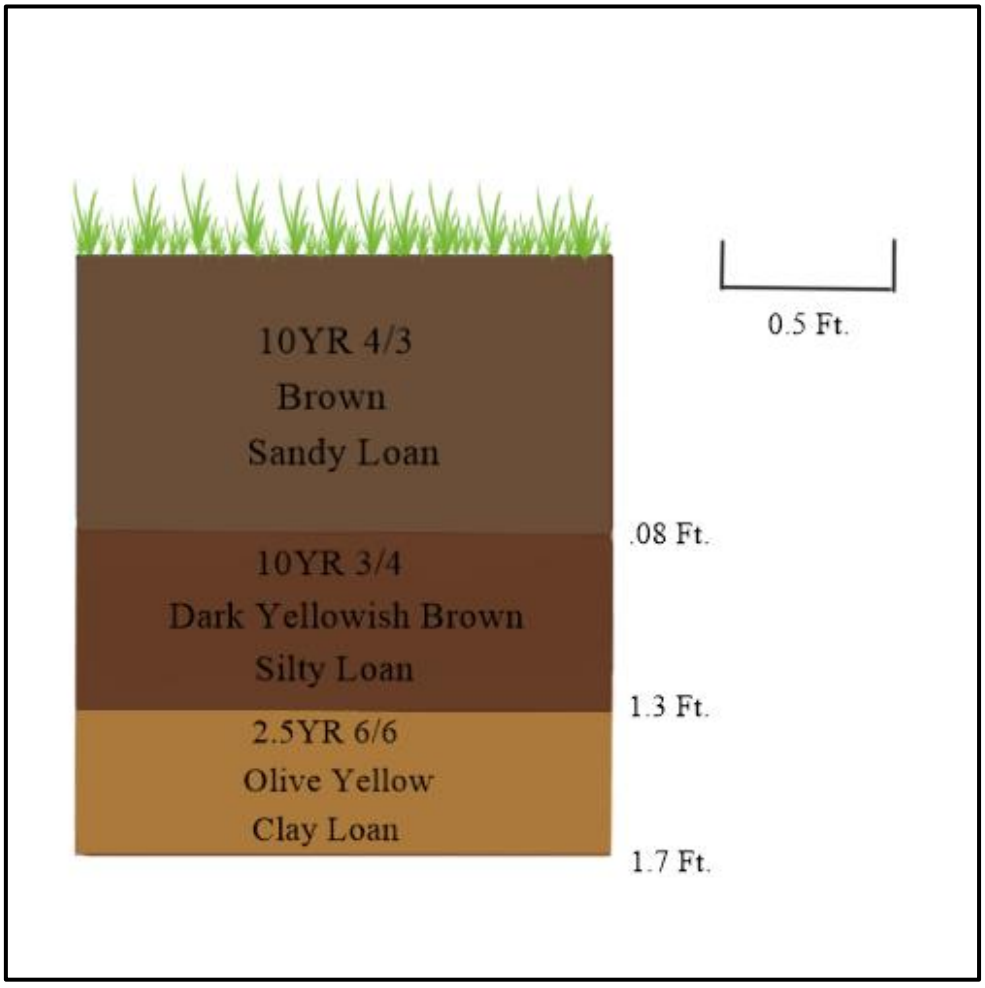


Figure 13. Representative STP profile in woods, Transect 30 STP 4.



Figure 14. STP north profile, Transect 30 STP 4.

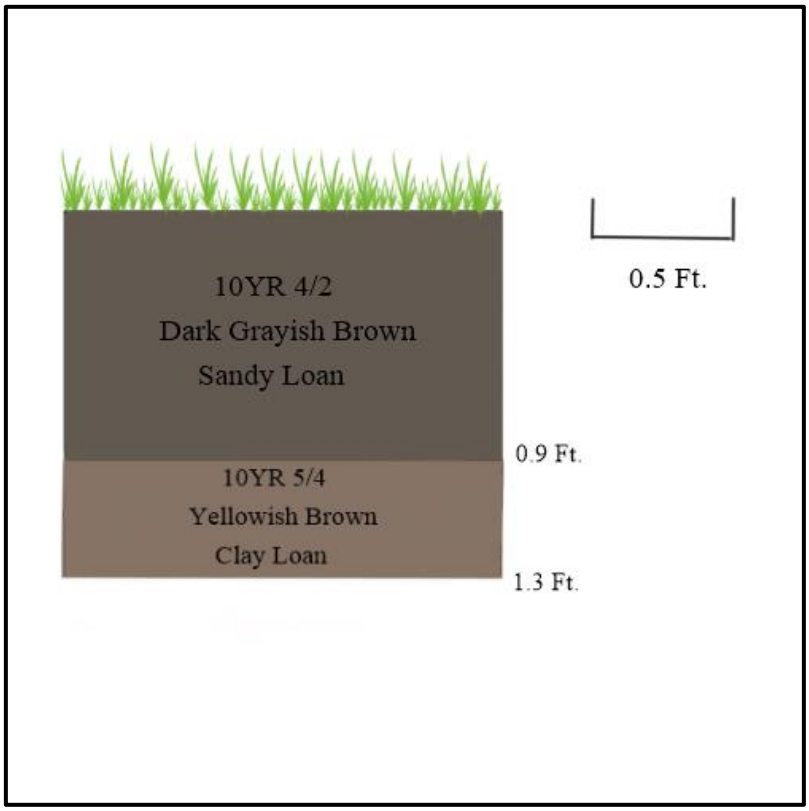


Figure 15. Representative STP profile in field, Transect 31 STP 9.



Figure 16. STP north profile, Transect 31 STP 9.

As a result of the survey, 11 isolated historic artifacts and one isolated prehistoric artifact (by definition not NRHP eligible) as well as three historic sites all dating to the late 19th – early 20th centuries were identified. In total, 181 artifacts and 1,221.4 grams of brick were found in the APE. The lone prehistoric artifact was a quartzite, secondary flake discovered in T45 STP 7. The rest of the isolated finds were either glass or ceramics. Four bottle glass fragments and one flat glass fragment were found along with a whole bottle embossed with "Baking Powder Davis OK". The ceramics included three whiteware fragments along with one ironstone and one European hard paste porcelain fragment (Table 1).

Location	Artifact	Decoration/Color
Isolated find 1	Whole glass bottle	Aqua, "Baking Powder Davis OK"
Isolated find 2	Whiteware	None
Isolated find 3	Bottle glass	Cobalt blue
Isolated find 4	Bottle glass	Frosted blue
Isolated find 5	European hard paste porcelain	None
Isolated find 7	Bottle glass	Clear
Isolated find 8	Glass jar lid	Milky white
Isolated find 11	Whiteware	None
Isolated find 12	Whiteware	None
T19 STP 3	Flat glass	Clear
T20 STP 3	Ironstone	None
T45 STP 7	Secondary flake	Quartzite

Table 1. Isolated finds.

44IW0324

Site 44IW0324 is a moderate concentration of late 19th- early 20th century artifacts located to the north and south of the former structures in the middle of the project area (Figure 17-18). All that remains of these buildings is a pile of cement located just south of T31 STP 1, and a depression where it appears that one of the structures, or what remained of it, was removed by a machine and its remnants piled directly to the west of it. The depression measures 21 x 13 feet (6.4 x4m) and is located exactly where a structure, possibly the main house, was located on the 1966 aerial photo. Two mounds are located in the depression which contain a few machine-made bricks (Figures 19-22).

In total, 144 artifacts were found with 55.5 percent of the assemblage consisting of glass and 30.5 percent ceramics (Figure 23). Out of the 80 glass artifacts recovered, 72 were bottle glass and eight were flat glass. Forty-four ceramics were found with 21 of them being whiteware, 13 ironstone, six European hard paste porcelain, three Albany Slip/Bristol glaze and one American salt glazed. Also, 271.4 grams of bricks and 13 nails were found. Eleven of the nails were wire, one was a cut nail and one was unidentifiable.

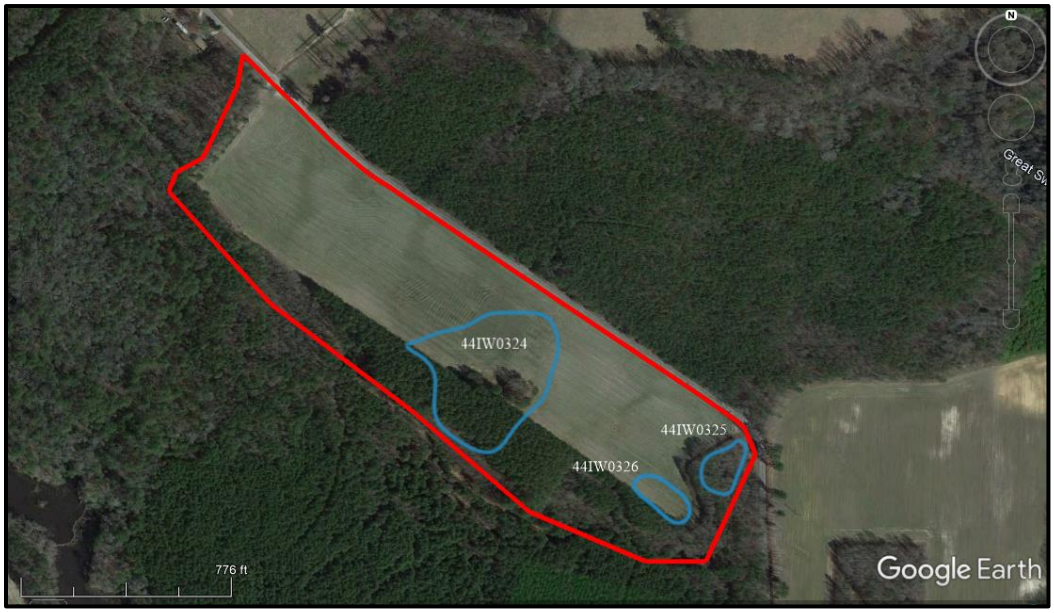


Figure 17. Site location map.



Figure 18. Site 44IW0324 looking southeast. Photo by author.

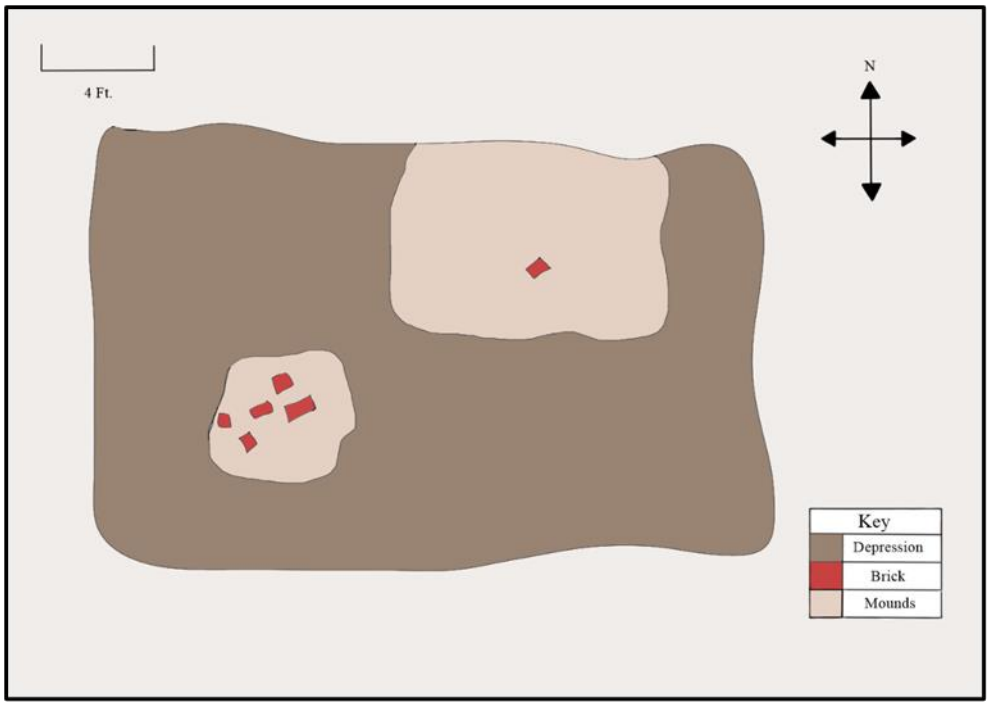


Figure 19. Planview of depression at site 44IW0324.



Figure 20. Depression at stie 44IW0324 looking southwest. Photo by author.



Figure 21. Large pile directly west of the depression at site 44IW0324 looking northeast. Photo by author.



Figure 22. Pile of cement at site 44IW0324 looking southeast. Photo by author.

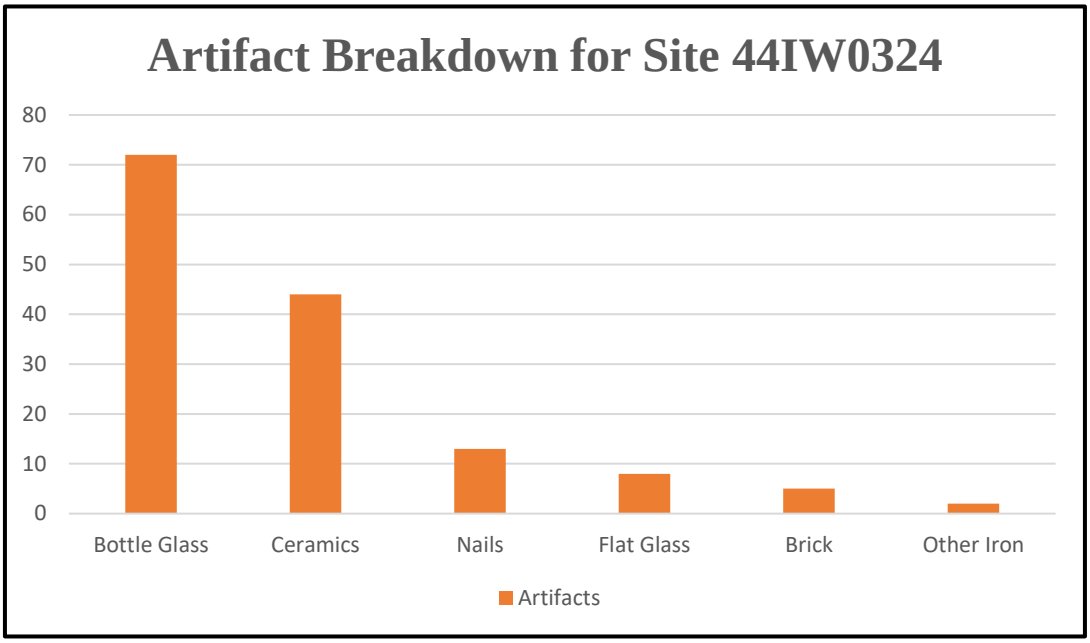


Figure 23. Breakdown of artifacts recovered from site 44IW0324.

The presence of the Albany Slip/Bristol glaze ceramics dates the site to around 1890 to about 1920. This fits well with the other ceramics found such as the whiteware and ironstone sherds that have date ranges that extend into the 20th century. The date also fits well with the earliest map of the project area that depicts a structure there in 1919.

44IW0325

Site 44IW0325 is located in the woods along the eastern end of the property and consists of a depression with a few machine-made bricks at the bottom (Figure 17 and 24). The depression measures 68 x 46 feet (20.7 x 14m) and is roughly rectangular in shape (Figure 25). Two half bricks and three brick bats were observed in the depression and the only other artifacts recovered from the STPs were 950 grams of brick fragments (Figure 26).

The lack of any other architectural artifacts along with the lack of domestic artifacts suggests that this depression might be related to an outbuilding associated with site 44IW0324. Unfortunately, no maps or aerial photos depicts a structure in this area.



Figure 24. Site 44IW0325 looking north through depression. Photo by author.



Figure 25. Planview of depression at site 44IW0325.



Figure 26. Bricks at the bottom of depression at site 44IW0325 looking west. Photo by author.

44IW0326

Site 44IW0326 is also located at the eastern end of the property and consists of a low concentration of late 19th- early 20th century artifacts (Figures 17 and 27). A total of 22 artifacts were recovered with 59 percent of them being ceramics and 36.4 glass (Figure 28). Out of the 13 ceramics found ten were whiteware, two European hard paste porcelain and one lead glazed redware. Eight glass shards were recovered with seven of them being bottle glass and one being a flat glass fragment. The only other artifact found was a small brick fragment weighing 0.5 grams.

The presence of European hard paste porcelain dates the site to between 1850-1950 suggesting that it is contemporary with site 44IW0324. Given the low number of architectural artifacts, this concentration is most likely not related to a structure in this area but instead might be related to disposal activities associated with the structures at site 44IW0324.



Figure 27. Site 44IW0326 looking east. Photo by author.

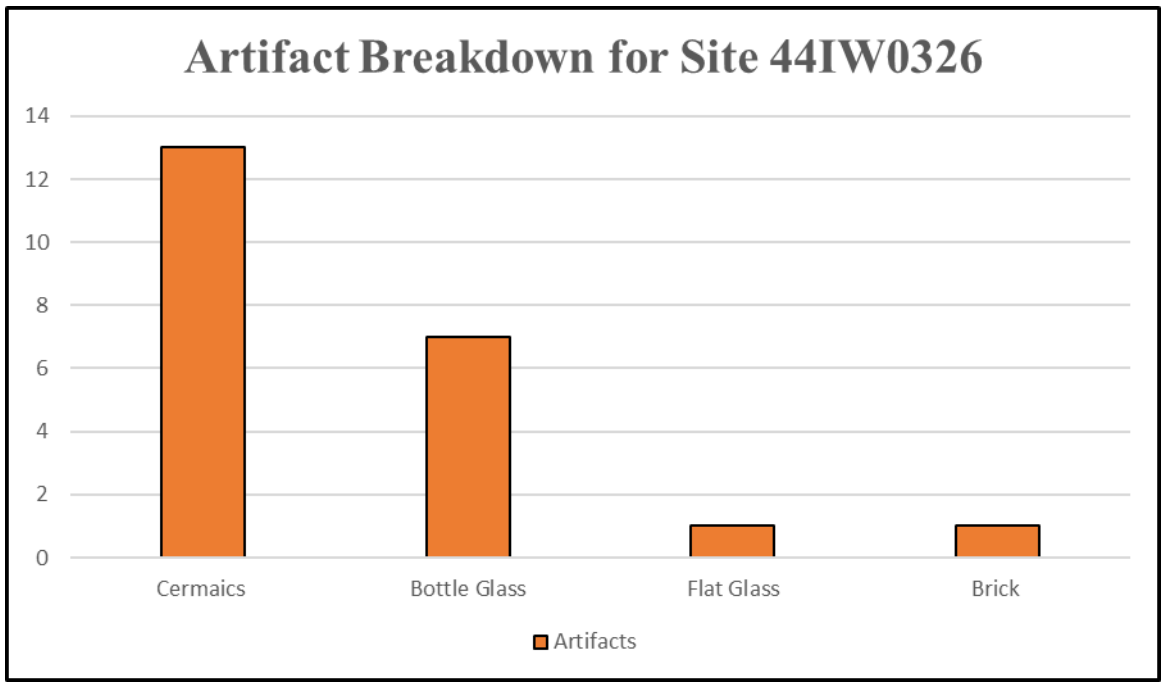


Figure 28. Breakdown of artifacts recovered from site 44IW0326.

6. CONCLUSIONS AND RECOMMENDATIONS

The Phase I archaeological survey resulted in the discovery of 11 isolated historic artifacts and one prehistoric isolated artifact (by definition not NRHP eligible) as well as three historic sites all dating to the late 19th- early 20th centuries. The historic sites consist of a widely dispersed low to moderate density scatter of domestic and architectural artifacts that have no intact stratigraphy.

Site 44IW0324 is a moderate concentration of late 19th- early 20th century artifacts located to the north and south of the former structures. All that remains of these buildings is a pile of cement and a depression where it appears that one of the structures, or what remained of it, was removed by a machine and its remnants piled next to it. A 1919 map is the earliest map of the project area that depicts a structure there.

The late date of this site along with the lack of intact stratigraphy and discernible features suggests it has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.

Site 44IW0325 is located in the woods along the eastern end of the property and consists of a depression with a few machine-made bricks at the bottom. The only artifacts recovered from STPs in this area were brick fragments. This depression might be related to an outbuilding associated with the structures at site 44IW0324.

Given the low density of artifacts, the lack of domestic artifacts and the absence of intact stratigraphy this site has little research potential. This leads H&P to recommend that it is not eligible for the NRHP.

Site 44IW0326 is also located at the eastern end of the property and consists of a low concentration of late 19th- early 20th century artifacts. Given the low number of architectural artifacts, this concentration might be related to disposal activities associated with the structures at site 44IW0324.

The late date of this site along with the lack of intact stratigraphy and discernible features suggests that site 44IW0326 has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.

In summary, all three sites identified within the APE during the current survey have little research potential because of the lack of discernible features and relatively low artifact densities. H&P recommends no further work within the APE.

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Site Number	Context	Layer	Typology	Form	Subform	Size (mm)	Length (cm)	Weight (g)	Count
44IW0324	10 Isolate	Surface	Ceramic	European Hard Paste Porcleain	Body	30	N/A	5.8	1
44IW0324	14 Isolate	Surface	Ceramic	Ironstone	Rim	65	N/A	17.7	1
44IW0324	20-3	B	Ceramic	Ironstone	Base	25	N/A	3	1
44IW0324	22-1	A	Bottle Glass	Press Molded	Body	30	N/A	3.3	1
44IW0324	26-2	A	Bottle Glass	Press Molded	Body	15	N/A	0.6	1
44IW0324	26-7	Surface	Ceramic	Whiteware	Rim	30	N/A	3.4	1
44IW0324	27-10	Surface	Ceramic	European Hard Paste Porcleain	Body	30	N/A	2.5	2
44IW0324	27-10	Surface	Ceramic	Ironstone	Rim	45	N/A	16.1	1
44IW0324	27-10	Surface	Ceramic	Ironstone	Body	35	N/A	6	1
44IW0324	27-10	Surface	Other	Press Molded	Rim	15	N/A	0.6	1
44IW0324	27-10	Surface	Flat Glass	N/A	Body	10-25	N/A	2.4	3
44IW0324	27-10	Surface	Slate	Fragment	N/A	15	N/A	0.3	1
44IW0324	27-11	Surface	Bottle Glass	Press Molded	Body	25	N/A	1.3	1
44IW0324	27-11	Surface	Bottle Glass	Blown in mold	Base	30	N/A	4.6	1
44IW0324	27-11	Surface	Bottle Glass	Blown in mold	Base	55	N/A	20.7	1
44IW0324	27-3	A	Bottle Glass	Press Molded	Body	40	N/A	2.4	1
44IW0324	27-7	Surface	Bottle Glass	Press Molded	Body	25	N/A	2	1
44IW0324	27-8	Surface	Ceramic	Whiteware	Rim	20	N/A	1.4	1
44IW0324	27-8	Surface	Ceramic	Albany Slip/Bristol Glaze	Handle	50	N/A	37.8	1
44IW0324	27-8	Surface	Bottle Glass	Press Molded	Base	50	N/A	22.6	1
44IW0324	27-8	Surface	Flat Glass	N/A	Body	15	N/A	0.6	1
44IW0324	27-8	Surface	Bottle Glass	Press Molded	Body	30	N/A	3.2	1
44IW0324	27-8	Surface	Bottle Glass	Blown in mold	Body	40	N/A	13.8	1
44IW0324	27-8	Surface	Plastic	Bakelite	N/A	15	N/A	0.5	1
44IW0324	27-9	Surface	Ceramic	Modern Porcelain	Child's tea set lid	20	N/A	3.6	1
44IW0324	28-12	Surface	Ceramic	Whiteware	Base	35-40	N/A	13.8	2
44IW0324	28-12	Surface	Ceramic	Whiteware	Body	25	N/A	2.3	1
44IW0324	28-12	Surface	Ceramic	Whiteware	Rim	30	N/A	2.8	1
44IW0324	28-12	Surface	Glass	Melted	N/A	15	N/A	0.5	1
44IW0324	28-12	Surface	Bottle Glass	Press Molded	Body	20	N/A	1.2	1
44IW0324	28-3	A	Bottle Glass	Press Molded	Body	15	N/A	0.7	1
44IW0324	28-3 RE	B	Bottle Glass	Press Molded	Body	15	N/A	0.5	1
44IW0324	28-3 RE	B	Bottle Glass	Blown in mold	Base	45	N/A	10.3	1
44IW0324	28-3 RE	B	Nail	Wire	Machine Headed	N/A	35	5	1
44IW0324	28-3 RE	B	Iron Other	Wire	N/A	45	N/A	0.4	1
44IW0324	28-4	A	Ceramic	Albany Slip/Bristol Glaze	Body	25	N/A	4.1	1
44IW0324	28-4	A	Ceramic	Whiteware	Body	20	N/A	1.9	1
44IW0324	28-4	A	Bottle Glass	Press Molded	Body	15	N/A	0.5	1
44IW0324	28-4	A	Bottle Glass	Press Molded	Body	25	N/A	3.6	1
44IW0324	28-4	A	Glass	Melted	N/A	35	N/A	5.8	1
44IW0324	28-5	A	Bottle Glass	Blown in mold	Body	35	N/A	4.4	1
44IW0324	28-5 RS	A	Bottle Glass	Press Molded	Body	25	N/A	1.6	1
44IW0324	28-5 RS	A	Nail	Cut	Machine Headed	N/A	45	8.8	1
44IW0324	28-5 RS	A	Nail	Unidentified	N/A	N/A	30	3.7	1
44IW0324	28-7	Surface	Bottle Glass	Press Molded	Body	15	N/A	0.9	1
44IW0324	28-7	Surface	Bottle Glass	Press Molded	Body	15	N/A	1	1
44IW0324	28-8	Surface	Ceramic	Ironstone	Body	20	N/A	1.6	1
44IW0324	28-8	Surface	Bottle Glass	Press Molded	Body	30	N/A	3	1
44IW0324	28-8	Surface	Bottle Glass	Press Molded	Rim	30	N/A	4.1	1
44IW0324	28-8	Surface	Other	Press Molded	Body	40	N/A	7.1	1
44IW0324	28-9	Surface	Brick	Fragment	N/A	N/A	N/A	52.8	1
44IW0324	28-9	Surface	Ceramic	Whiteware	Body	25	N/A	1.4	1
44IW0324	28-9	Surface	Flat Glass	N/A	Body	20	N/A	1.3	1
44IW0324	28-9	Surface	Bottle Glass	Press Molded	Body	20	N/A	1.2	1
44IW0324	28-9	Surface	Bottle Glass	Press Molded	Body	30	N/A	2.8	1
44IW0324	29-1	B	Bottle Glass	Blown in mold	Base	55-85	N/A	37	2
44IW0324	29-1	B	Bottle Glass	Blown in mold	Body	10-25	N/A	3.3	5
44IW0324	29-10	Surface	Bottle Glass	Press Molded	Body	15	N/A	0.7	1
44IW0324	29-10	Surface	Bottle Glass	Press Molded	Body	35	N/A	5.9	1
44IW0324	29-12	Surface	Bottle Glass	Press Molded	Body	20	N/A	1.3	1
44IW0324	29-5	A	Flat Glass	Press Molded	Body	25	N/A	0.9	1
44IW0324	29-7	Surface	Bottle Glass	Press Molded	Body	45	N/A	13	1
44IW0324	29-7	Surface	Bottle Glass	Press Molded	Body	40	N/A	12.4	2
44IW0324	29-7	Surface	Other	Press Molded	Body	35	N/A	5.9	1

Site Number	Context	Layer	Typology	Form	Subform	Size (mm)	Length (cm)	Weight (g)	Count
44IW0324	29-7	Surface	Stone	Decorative Rock	N/A	40	N/A	15.5	1
44IW0324	29-7	Surface	Tin	Tin Can Fragment	N/A	45	N/A	18	1
44IW0324	29-8	Surface	Bottle Glass	Press Molded	Body	20	N/A	1.5	2
44IW0324	29-9	Surface	Ceramic	Whiteware	Body	20	N/A	1.2	1
44IW0324	29-9	Surface	Ceramic	Ironstone	Rim	25	N/A	2.7	1
44IW0324	29-9	Surface	Ceramic	European Hard Paste Porcleain	Body	40	N/A	6.2	1
44IW0324	29-9	Surface	Bottle Glass	Blown in mold	Body	25	N/A	1.6	1
44IW0324	29-9	Surface	Bottle Glass	Press Molded	Body	20-35	N/A	8.6	3
44IW0324	29-9	Surface	Bottle Glass	Blown in mold	Body	30-35	N/A	10	2
44IW0324	29-9	Surface	Flat Glass	N/A	Body	20-35	N/A	8	5
44IW0324	30-1	Surface	Brick	Fragment	N/A	N/A	N/A	47.3	1
44IW0324	30-1	A	Brick	Fragment	N/A	N/A	N/A	74	1
44IW0324	30-1	Surface	Ceramic	Whiteware	Base	40	N/A	6.7	1
44IW0324	30-1	Surface	Ceramic	Whiteware	Rim	15	N/A	0.6	1
44IW0324	30-1	Surface	Bottle Glass	Press Molded	Body	10-50	N/A	6/8	4
44IW0324	30-1	A	Nail	Wire	Machine Headed		1.1-7.2	77.2	10
44IW0324	30-1	A	Iron Other	Sheet Fragment	N/A	25	N/A	4.9	1
44IW0324	30-10	Surface	Ceramic	Whiteware	Base	25	N/A	2.3	1
44IW0324	30-10	Surface	Ceramic	Whiteware	Body	20	N/A	1.2	1
44IW0324	30-10	Surface	Bottle Glass	Press Molded	Body	30	N/A	4.3	1
44IW0324	30-11	Surface	Ceramic	Ironstone	Body	40	N/A	8.7	1
44IW0324	30-11	Surface	Bottle Glass	Blown in mold	Base	30	N/A	7	1
44IW0324	30-4	Surface	Bottle Glass	Blown in mold	Base	30	N/A	1.8	1
44IW0324	30-4 RS	A	Bottle Glass	Press Molded	Body	10	N/A	0.4	1
44IW0324	30-4 RSRE	B	Bottle Glass	Press Molded	Body	50	N/A	4.8	1
44IW0324	30-4 RSRE	B	Faunal	Marine Shell	Oyster	15	N/A	0.8	1
44IW0324	30-4 RSRERS	B	Bottle Glass	Press Molded	Body	20	N/A	0.6	1
44IW0324	30-8	Surface	Ceramic	European Hard Paste Porcleain	Body	15-20	N/A	1.2	2
44IW0324	30-8	Surface	Ceramic	European Hard Paste Porcleain	Body	30	N/A	2.8	1
44IW0324	30-8	Surface	Ceramic	Whiteware	Body	25	N/A	1.1	1
44IW0324	30-8	Surface	Ceramic	Whiteware	Base	25	N/A	2.5	1
44IW0324	30-8	Surface	Ceramic	Albany Slip/Bristol Glaze	Body	30	N/A	4.7	1
44IW0324	30-8	Surface	Ceramic	Ironstone	Body	25	N/A	3.2	1
44IW0324	30-8	Surface	Ceramic	Ironstone	Body	30	N/A	2.7	1
44IW0324	30-8	Surface	Bottle Glass	Press Molded	Body	10	N/A	0.1	1
44IW0324	30-8	Surface	Bottle Glass	Blown in mold	neck and finish	20	N/A	10.4	1
44IW0324	30-8	Surface	Flat Glass	N/A	Body	20	N/A	3.9	2
44IW0324	30-8	Surface	Bottle Glass	Press Molded	Body	20-25	N/A	6.6	3
44IW0324	30-8	Surface	Bottle Glass	Blown in mold	Base	35	N/A	8.5	1
44IW0324	30-9	Surface	Ceramic	Whiteware	Body	15	N/A	1.1	1
44IW0324	30-9	Surface	Ceramic	Ironstone	Body	20	N/A	1.5	1
44IW0324	30-9	Surface	Ceramic	Ironstone	Rim	20	N/A	1.7	2
44IW0324	30-9	Surface	Bottle Glass	Press Molded	Body	10	N/A	0.3	1
44IW0324	30-9	Surface	Bottle Glass	Press Molded	Body	25-55	N/A	19.9	2
44IW0324	30-9	Surface	Bottle Glass	Press Molded	Body	25	N/A	2	1
44IW0324	30-9	Surface	Other	Press Molded	Rim	15	N/A	1.3	1
44IW0324	31-1	Surface	Ceramic	European Hard Paste Porcleain	Body	20-30	N/A	7.2	3
44IW0324	31-1	Surface	Ceramic	Whiteware	Body	15-25	N/A	4.4	2
44IW0324	31-1	Surface	Ceramic	Ironstone	Body	15	N/A	2.1	3
44IW0324	31-1	Surface	Bottle Glass	Press Molded	Base	30	N/A	4.4	1
44IW0324	31-1	Surface	Bottle Glass	Press Molded	Body	25-40	N/A	14.6	2
44IW0324	31-1	Surface	Flat Glass	N/A	Body	15-25	N/A	4.5	4
44IW0324	31-1	Surface	Bottle Glass	Press Molded	Body	15-40	N/A	5.6	3
44IW0324	31-1	Surface	Bottle Glass	Press Molded	Body	30	N/A	3.2	1
44IW0324	31-1	Surface	Bottle Glass	Press Molded	Base	45	N/A	7.7	1
44IW0324	31-10	Surface	Other	Press Molded	Lid	25	N/A	1.9	1
44IW0324	31-9	Surface	Ceramic	American Salt Glazed	Body	45	N/A	15.3	1
44IW0324	31-9	Surface	Ceramic	Whiteware	Body	35	N/A	4.1	1
44IW0324	31-9	Surface	Ceramic	Whiteware	Base	20-25	N/A	4.5	2
44IW0324	31-9	Surface	Bottle Glass	Press Molded	Body	25	N/A	3.2	2
44IW0324	31-9	Surface	Bottle Glass	Press Molded	Body	20	N/A	0.8	1
44IW0324	31-9	Surface	Bottle Glass	Blown in mold	Base	45	N/A	17.5	1
44IW0324	31-9	Surface	Bottle Glass	Press Molded	Body	35	N/A	1.9	1
44IW0324	31-9	Surface	Bottle Glass	Press Molded	Body	25	N/A	2.4	1

Site Number	Context	Layer	Typology	Form	Subform	Size (mm)	Length (cm)	Weight (g)	Count
44IW0324	31-9	Surface	Bottle Glass	Press Molded	Body	20	N/A	1.1	1
44IW0324	31-9	Surface	Other	Press Molded	Lid	30	N/A	2.5	1
44IW0324	32-1	Surface	Ceramic	Whiteware	Base	30	N/A	4.9	1
44IW0324	32-1	Surface	Ceramic	Ironstone	Body	20	N/A	3.1	2
44IW0324	32-1	Surface	Ceramic	Whiteware	Body	25	N/A	3.1	1
44IW0324	32-1	Surface	Bottle Glass	Press Molded	Body	20	N/A	2.4	1
44IW0324	32-1	Surface	Bottle Glass	Blown in mold	Body	25	N/A	2.2	1
44IW0324	32-1	A	Bottle Glass	Press Molded	Body	10	N/A	0.4	1
44IW0324	32-1	Surface	Faunal	Marine Shell	Oyster	30	N/A	1.5	1
44IW0324	32-2	A	Bottle Glass	Press Molded	Body	25	N/A	1.8	1
44IW0324	32-2 RE	Surface	Brick	Fragment	N/A	N/A	N/A	9.2	1
44IW0324	32-2 RE	Surface	Flat Glass	Press Molded	Body	15-30	N/A	4.2	3
44IW0324	32-9	Surface	Ceramic	Ironstone	Body	25	N/A	1.9	1
44IW0324	34-4	B	Plastic	Sheet Fragment	N/A	15	N/A	0.3	1
44IW0324	34-4	B	Coral	Fragment	N/A	10	N/A	0.1	1
44IW0324	33-4	Surface	Bottle Glass	N/A	Body	N/A	N/A	N/A	1
44IW0324	19-3	B	Flat Glass	N/A	Body	20	N/A	1	1
44IW0325	46-2	A	Brick	Fragment	N/A	N/A	N/A	56	9
44IW0325	46-2 RS	B	Brick	Fragment	N/A	N/A	N/A	166.6	65
44IW0325	46-2 RS	B	Charcoal	Fragment	N/A	15	N/A	0.2	1
44IW0325	47-2	A	Brick	Fragment	N/A	N/A	N/A	179.7	80
44IW0325	47-2 RN	Surface	Brick	Fragment	N/A	N/A	N/A	15.1	9
44IW0325	47-2 RE	B	Brick	Fragment	N/A	N/A	N/A	4.8	1
44IW0325	47-3	Surface	Brick	Fragment	N/A	N/A	N/A	4.9	2
44IW0325	47-3	B	Lime Mortar	Fragment	N/A	N/A	N/A	18.5	21
44IW0325	48-1 RS	B	Brick	Fragment	N/A	N/A	N/A	11.4	1
44IW0325	48-3	B	Brick	Fragment	N/A	N/A	N/A	2.4	2
44IW0325	48-4	A	Brick	Fragment	N/A	N/A	N/A	488.8	26
44IW0325	48-4 RE	Surface	Brick	Fragment	N/A	N/A	N/A	1.3	1
44IW0326	43-6	Surface	Ceramic	Whiteware	Base	20	N/A	2.4	1
44IW0326	44-1	Surface	Ceramic	Whiteware	Body	30	N/A	3.2	1
44IW0326	44-6	Surface	Ceramic	Whiteware	Body	20	N/A	1.8	1
44IW0326	44-6	Surface	Ceramic	Whiteware	Body	15	N/A	0.5	1
44IW0326	44-6	Surface	Bottle Glass	Press Molded	Body	20	N/A	0.8	1
44IW0326	44-6	Surface	Bottle Glass	Blown in mold	Neck	35	N/A	11.9	1
44IW0326	45-10	Surface	Bottle Glass	Blown in mold	Body	25	N/A	2	1
44IW0326	45-4	Surface	Ceramic	Whiteware	Base stem	35	N/A	7	1
44IW0326	45-9	Surface	Ceramic	Whiteware	Body	25	N/A	3.7	1
44IW0326	45-9	Surface	Bottle Glass	Press Molded	Body	15-25	N/A	4.7	2
44IW0326	46-12	Surface	Ceramic	Whiteware	Body	15	N/A	0.5	1
44IW0326	46-12	Surface	Ceramic	European Hard Paste Porcleain	Body	10	N/A	0.2	1
44IW0326	46-13	Surface	Ceramic	Whiteware	Body	15	N/A	0.6	1
44IW0326	46-7	Surface	Ceramic	Whiteware	Body	10-20	N/A	2.2	2
44IW0326	46-7	Surface	Ceramic	European Hard Paste Porcleain	Body	25	N/A	4.6	1
44IW0326	46-7	Surface	Ceramic	Lead Glazed Redware	Base	35	N/A	10.7	1
44IW0326	47-11	Surface	Ceramic	Whiteware	Body	10	N/A	0.1	1
44IW0326	47-11	Surfae	Flat Glass	N/A	Body	20	N/A	1.6	1
44IW0326	47-7	Surface	Bottle Glass	Press Molded	Body	5	N/A	0.1	1
44IW0326	47-7	Surface	Bottle Glass	Press Molded	Body	20	N/A	1.2	1
44IW0326	47-7	A	Bottle Glass	Press Molded	Body	15	N/A	0.6	1
44IW0326	47-7	A	Secondary Flake	Quartizite	N/A	20	N/A	1.2	1
44IW0326	47-8	B	Brick	Fragment	N/A	N/A	N/A	0.5	1
	1 Isolate	Surface	Bottle Glass	Blown in mold	Whole	55	N/A	193.7	1
	11 Isolate	Surface	Ceramic	Whiteware	Body	10	N/A	0.1	1
	12 Isolate	Surface	Ceramic	Whiteware	Body	25	N/A	2.1	1
	2 Isolate	Surface	Ceramic	Whiteware	Base	60	N/A	21.9	1
	3 Isolate	Surface	Bottle Glass	Press Molded	Body	30	N/A	1.8	1
	4 Isolate	Surface	Bottle Glass	Press Molded	Body	20	N/A	1.3	1
	5 Isolate	Surface	Ceramic	European Hard Paste Porcleain	Body	20	N/A	1.2	1
	7 Isolate	Surface	Bottle Glass	Press Molded	Base	30	N/A	5.1	1
	8 Isolate	Surface	Other	Press Molded	Rim	30	N/A	4.2	1
	9 Isolate	Surface	Brick	Fragment	N/A	N/A	N/A	88.1	1

Curriculum Vita
(Revised May 2019)

Randy Michael Lichtenberger

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Education

The University of Virginia, Charlottesville, VA.

Successfully completed PhD. coursework, 2002-2008. Withdrew from program to pursue employment objectives.

The College of William and Mary, Williamsburg, VA

M.A.: Anthropology with specialization in historical archaeology, June 1995.

Thesis Topic: An Archaeological Assessment of Middlesex County, Virginia.

The George Washington University National Law Center, Washington, D.C.

Completed three semesters of coursework toward Juris Doctor degree before voluntarily withdrawing to pursue a career in archaeology (August 1990-December 1991).

State University of New York at Binghamton, Binghamton, NY

B.A.: Double major in Geology (Environmental Studies Concentration) and History (specializing in American History), June 1990.

Experience

Oct. 2010-Present	Director of Cultural Resources, Hurt & Proffitt, Inc., Lynchburg.
Oct. 2009-Present	Regional Archaeologist (Lynchburg, Bristol, Salem and Staunton Districts), Virginia Department of Transportation.
Jan. 2006-Oct. 2009	Preservation Program Manager, Virginia Department of Transportation, Lynchburg District.
July 2000-Jan. 2006	Archaeology Field Supervisor, The Corporation for Thomas Jefferson's Poplar Forest, Forest Virginia.
Dec. 1999-July 2000	Staff Archaeologist, The Corporation for Thomas Jefferson's Poplar Forest, Forest Virginia.
April 1998-July 1999	Project Manager, R. Christopher Goodwin & Associates, Inc., New Orleans, Louisiana.

July 1997-April 1998	Principal Investigator & Laboratory Director, Archaeological and Historical Consultants, Inc., Centre Hall, Pennsylvania.
Mar. 1997-July 1997	Principal Investigator, Archaeological and Historical Consultants, Inc., Centre Hall, Pennsylvania.
Dec. 1995-Feb. 1997	Field Director, Archaeological & Historical Consultants, Inc., Centre Hall, PA.
1995	Crew Chief, John Milner Associates, Inc., Alexandria, VA. Phase I Archaeological Survey at Seneca Army Depot HAZMAT site in NY.
1995	Crew Chief, Colonial Williamsburg Foundation Department of Archaeological Research, Williamsburg, VA. Supervised field work in and around Williamsburg, VA.
1994-95	Field Technician, Colonial Williamsburg Foundation Department of Archaeological Research, Williamsburg, VA. Field work in and around Williamsburg, VA.
1994	Intern at the William and Mary Center for Archaeological Research. Co- authored the report, An Archaeological Assessment of the City of Suffolk, Virginia. Also, field work on various projects in Virginia and laboratory processing.
1993	Laboratory Assistant, Engineering-Science, Inc., Washington, D.C.
1992-93	Field Technician, John Milner Associates, Inc., Alexandria, VA and West Chester, PA. Field work in Washington, D.C., Baltimore, MD, Danville, VA, Beckley, WV, Richmond, VA, East Stroudsburg, PA, Alexandria, VA, Simpsonville, MD. Laboratory Assistant, various projects.
1991	Field Technician, Engineering-Science, Inc., Washington, D.C. Field work in Manassas, VA, Annapolis, MD, and Alexandria, VA.
1991	Field Technician, John Milner Associates, Inc., West Chester, PA. Field work in Danbury, CT, Kingston, NY.
1991	Field Technician, 3D Environmental Services, Inc., Cincinnati, OH. Field work in Annapolis, MD.
1989-90	Field Technician, Public Archaeology Facility, Binghamton, NY. Field work on various projects throughout upstate NY. Laboratory Assistant, catalogued historical artifacts.

Reports

Lichtenberger, Randy
2019 Archaeological Excavation of the Mead's Tavern Basement (44CP0244), Campbell

County, Virginia. Submitted by Hurt & Proffitt, Inc. to Liberty University, Lynchburg, Virginia.

Lichtenberger, Randy and Keith Adams
2019 Report on Archaeological Excavation of the Greenfield Plantation Terraces (44BO0514-0004; 011-0026), Botetourt County, Virginia. Submitted by Hurt & Proffitt, Inc. to Botetourt County.

Lichtenberger, Randy
2018 Leftwich Family Cemetery at Mount Airy (44BE0355; 009-0221) Archaeological Investigation, Bedford County, Virginia. Submitted by Hurt & Proffitt, Inc. to Leftwich Historical Foundation, Lynchburg, Virginia.

Lichtenberger, Randy and Robert Clarke
2017 Phase I Archaeological Survey of the Town of Glen Lyn River Front Park Primitive Camp Site, Giles County, Virginia. Submitted by Hurt & Proffitt, Inc. to Town of Glen Lyn, Virginia.

Lichtenberger, Randy
2017 Phase I Archaeological Survey of the Mead's Tavern Site (44CP0244), Campbell County, Virginia. Submitted by Hurt & Proffitt, Inc. to Liberty University, Lynchburg, Virginia.

Lichtenberger, Randy and Elizabeth A. Moore
2017 Final Report on Excavation at the Oak Hill Plantation Slave Quarter (44PY0440-0005), Pittsylvania County, Virginia. Submitted by Hurt & Proffitt, Inc. to the Virginia Department of Historic Resources, Richmond.

Lichtenberger, Randy
2017 Phase I Archaeological Survey at the Preston House Site (44RN0104, 129-5018), City of Salem, Virginia. Submitted by Hurt & Proffitt, Inc. to Salem Historical Society.

Lichtenberger, Randy
2017 Phase I Archaeological Survey at Point of Honor (44CP0020, 118-0014), Lynchburg, Virginia. Submitted by Hurt & Proffitt, Inc. to Lynchburg Museum Foundation.

Lichtenberger, Randy and Keith Adams
2017 Archaeological Monitoring Associated with the Combined Sewer Overflow Project, Lynchburg, Virginia. Submitted by Hurt & Proffitt, Inc. to City of Lynchburg.

Lichtenberger, Randy, Robert Clarke and Keith Adams
2016 Archaeological Investigation of a "cemetery of unknown origin" in the L. Barnes Brockman, Sr. Business and Industrial Park, Amherst, Virginia. Submitted by Hurt & Proffitt, Inc. to Town of Amherst Industrial Development Authority.

Lichtenberger, Randy and Keith W. Adams
2016 Phase I Archaeological Survey of the Proposed Carlisle Tract Borrow Site, Hog Island Wildlife Management Area, Surry County, Virginia. Submitted by Hurt & Proffitt, Inc. to Virginia Department of Game and Inland Fisheries.

Lichtenberger, Randy
2016 Phase I Archaeological Survey at Tyro Mill (062-0028), Nelson County, Virginia. Submitted by Hurt & Proffitt, Inc. to Catherine and Mack Walls, Spring Grove, Virginia.

Lichtenberger, Randy
2015 Phase I Archaeological Survey of the Cabellsville Site (44NE0174), Nelson County, Virginia. Submitted by Hurt & Proffitt, Inc. to the Virginia Department of Historic Resources, Richmond.

Lichtenberger, Randy and Keith W. Adams
2014 Archaeological Investigations at Yankee Square, Old City Cemetery, Lynchburg, Virginia. Submitted by Hurt & Proffitt, Inc. to Old City Cemetery, Lynchburg, Virginia.

Lichtenberger, Randy and Sarah Clarke
2012 Historical Assessment of a "cemetery of unknown origin" in the L. Barnes Brockman, Sr. Business and Industrial Park, Amherst, Virginia. Submitted by Hurt & Proffitt, Inc. to Town of Amherst, Virginia.

Lichtenberger, Randy, Keith W. Adams and Perry Tourtellotte
2012 Archaeological Investigations at the site of the Caretaker's House, Old City Cemetery, Lynchburg, Virginia. Submitted by Hurt & Proffitt, Inc. to Old City Cemetery, Lynchburg, Virginia.

Lichtenberger, Randy and Robert "Cham"bliss Light, Jr., Esq.
2011 Clark Family Cemetery (Site 44CP0181) Archaeological Investigation, Campbell County, Virginia. Submitted by Hurt & Proffitt, Inc. to The Lynchburg Historical Foundation, Inc., Lynchburg, Virginia.

Lichtenberger, Randy
2011 An Archaeological Survey of the Proposed Sweet Briar College Radio Tower Project, Appomattox County, Virginia. Submitted by Hurt & Proffitt, Inc. to Stu-Comm, Inc., Charlottesville, Virginia.

Heath, Barbara J., Randy Lichtenberger, Keith Adams, Lori Lee, and Elizabeth Paull
2005 Poplar Forest Archaeology: Studies in Plantation Life and Landscape, Excavations and Analysis of Site B, Southeast Curtilage, June 2004–August 2005. Ms. On file, The Corporation for Jefferson's Poplar Forest, Forest, VA.

Heath, Barbara J., Randy Lichtenberger, Keith Adams, and Elizabeth Paull
2004 Poplar Forest Archaeology: Studies in African American Life, Excavations and Analysis of Site A, Southeast Terrace and Site B, Southeast Curtilage, June 2003-June 2004. Ms. on file, The Corporation for Jefferson's Poplar Forest, Forest, VA. http://www.poplarforest.org/ARCH/pwf04report.pdf

Lichtenberger, Randy and Barbara J. Heath
2003 Excavation Report on Sandusky West Parking Lot Survey and Mitigation Project. Submitted to Historic Sandusky, Inc., Lynchburg, VA. Copy on file at the Corporation for Jefferson's Poplar Forest, Forest, VA.

Heath, Barbara J. and Randy Lichtenberger
2002 Excavation Report on Boundary Testing for Tree Screen and Parking at Historic Sandusky. Submitted to Historic Sandusky, Inc., Lynchburg, VA. Copy on file at the Corporation for Jefferson's Poplar Forest, Forest, VA.

Lichtenberger, Randy M.

1999a Phase I Cultural Resources Survey and Inventory of the Proposed Vermilion River Dredge Maintenance Project, Lafayette Parish, Louisiana (Randy Lichtenberger, Dave Robinson, Ralph Draughon, Jr., and William P. Athens). Submitted by R. Christopher Goodwin & Associates, Inc. to the U.S. Army Corps of Engineers, New Orleans District.

1999b Phase I Cultural Resources Survey of the 3.4 Acre Triple Arch Oil Co. No. 1 Well Site and Associated Access Road within the Bodcau State Wildlife Management Area, Bossier Parish, Louisiana (with Ryan Crutchfield and William P. Athens). Submitted by R. Christopher Goodwin & Associates, Inc. to C. H. Fenstermaker & Associates, Inc.

1999c Phase II Evaluatory Testing of Sites 1MG724, 1MG725, 1MG695, 1MG715, and 1MG696 within the Amended Route of the Proposed Southern Natural Gas Company North Alabama Pipeline Project, Morgan County, Alabama (with William P. Athens, Ryan Crutchfield, Frank Vento, James Allen Green, Dave D. Davis, and Patrick Robblee). Submitted by R. Christopher Goodwin & Associates, Inc., to Southern Natural Gas Company, Birmingham.

1999d Phase I Cultural Resources Survey and Archeological Inventory of the Proposed Expansion of I-10 from US 29 (Pensacola Blvd.) to US 90 (Scenic Highway) and I-110 from Maxwell Street to I-10, Escambia County, Florida (with Matt Keelean, William P. Athens, and Susan Barrett Smith). Submitted by R. Christopher Goodwin & Associates, Inc., to Florida Department of Transportation, District III.

1999e Phase I Cultural Resources Survey of SR 30 (US 98) Retention Ponds 3 and 4; State Project No.: 48280-3510, Escambia County, Florida (with Ralph Draughon, Jr., Angele Montana, and William P. Athens). Submitted by R. Christopher Goodwin & Associates, Inc., to Florida Department of Transportation, District III.

1998f Supplemental Phase I Cultural Resources Survey and Inventory of the Proposed Route 190 Expansion Project Corridor in the Vicinity of Sites16ST68, 16ST175, and 16ST178 and Phase II National Register Evaluation of Standing Structure SS23 (with Paul Hughbanks, Patrick P. Robblee, and William P. Athens). Submitted by R. Christopher Goodwin & Associates, Inc., to URS Greiner, Inc./Woodward Clyde.

Lichtenberger, Randy M.
1998a Phase I Archaeological Survey for the Landenberg Road Bridge Rehabilitation/Replacement Project (S.R. 3024, Section 28S), New Garden Township, Chester County, Pennsylvania. Prepared for the Pennsylvania Department of Transportation, Engineering District 6-0

Lichtenberger, Randy M.
1998b Phase I Cultural Resources Survey and Inventory of the Proposed 5.1 km (3.17 mi) Long SR 727 (Fairfield Drive), Jackson Street to SR 10A (Mobile Highway) Expansion,, Escambia County, Florida (with Scott E. Simmons, Julian Granberry, Christine Herman, Ralph Draughon, Jr., Matthew Keelean, Paul Hughbanks, Michael B. Godzinski, and Dave D. Davis). Submitted by R. Christopher Goodwin & Associates, Inc. to the Florida Department of Transportation, District III.

Lichtenberger, Randy M.
1998c Phase II Evaluatory Testing of Site 3FR289 within the Proposed Ozark/NOARK Expansion Project Dual 20 in O.D. Pipeline Corridor, Franklin County, Arkansas (with Andrea Stilwell, Angele Montana, Charlene Keck, Julienne Crawford, and

William P. Athens). Submitted by R. Christopher Goodwin & Associates, Inc., to ENSR Consulting and Engineering.

Lichtenberger, Randy M.
1998d Phase I Cultural Resources Survey and Inventory of the Proposed Hidalgo Energy Facility, Hidalgo County, Texas (with Glenn Walter, Paul Hughbanks, Ralph Draughon, Jr., and William P. Athens). Submitted by R. Christopher Goodwin & Associates, Inc., to ENSR Consulting and Engineering.

Lichtenberger, Randy M.
1998e Phase II Evaluatory Testing of Locus B of Site 1MG74 within the Amended Route of the Proposed Southern Natural Gas Company North Alabama Pipeline Project, Morgan County, Alabama (with Ryan Crutchfield, Scott E. Simmons, Matthew Keelean, James Allen Green, and William P. Athens). Submitted by R. Christopher Goodwin & Associates, Inc., to Southern Natural Gas Company.

Tidlow, Evelyn M., and Randy M. Lichtenberger
1997a FERC 4 Report for ANR Defiance-Leidy Pipeline Project. Contract for ANR Pipeline Company, Detroit, Michigan.

Lichtenberger, Randy M., and Evelyn M. Tidlow
1997b Addendum To: Phase I Cultural Resources Survey for Proposed New Wells and Pipelines in the Crawford Storage Field, Fairfield and Hocking Counties, Ohio. Prepared for Columbia Gas Transmission Corporation, Charleston, West Virginia.

Lichtenberger, Randy M.
1997c Addendum To: Phase I Cultural Resources Survey for Proposed New Wells and Pipelines in the Crawford Storage Field, Fairfield and Hocking Counties, Ohio. Prepared for Columbia Gas Transmission Corporation, Charleston, West Virginia.

Lichtenberger, Randy M.
1997d Phase II Archaeological Survey at Tobyhanna Army Depot (TYAD), Tobyhanna, Pennsylvania. Prepared for Baltimore District, U.S. Army Corps of Engineers, Baltimore, Maryland.

Lichtenberger, Randy M.
1997e Phase I Archaeological Survey for Mount Jackson Road Bridge Replacement, S.R. 0108, Section L04, City of New Castle, Taylor Township, and North Beaver Township, Lawrence County, Pennsylvania. Prepared for the Pennsylvania Department of Transportation Engineering District 11-0.

Lichtenberger, Randy M.
1997f Phase I Archaeological Survey for the Proposed Replacement of Third Street Bridge Over French Creek, Utica Borough, Venango County, Pennsylvania. Prepared for the Pennsylvania Department of Transportation Engineering District 1-0.

Lichtenberger, Randy M., Nancy Van Dolsen, Wendy Zug-Gilbert, and Gary Coppock
1997g Phase II Archaeological Assessment and Addendum to the National Register Nomination for the Catoctin Furnace Historical District at the Reed-Stitely House, Frederick County, Maryland. Prepared for the Maryland Department of Transportation, State Highway Administration.

Lichtenberger, Randy M., David J. Rue, and David R. George
1997h Phase IB Archaeological Survey for the New Cumberland Army Depot, New Cumberland, York County, Pennsylvania. Prepared for the Baltimore District, U.S. Army Corps of Engineers, Baltimore, MD

Deitrick, V.L., A.L. Gray, M.L. Groveman, and R.M. Lichtenberger
1994a A Phase I Archaeological Survey of the Proposed Widening and Realignment of Route 616 City of Suffolk, Virginia. William and Mary Center for Archaeological Research, Williamsburg, Virginia. Submitted to Virginia Department of Transportation, Richmond, Virginia. On file, William and Mary Center for Archaeological Research, Williamsburg, Virginia.

Lichtenberger, R.M, M.L. Groveman, and A.L. Gray
1994b An Archaeological Assessment of the City of Suffolk, Virginia. William and Mary Center for Archaeological Research, Williamsburg, Virginia. Submitted to City of Suffolk, Department of Planning, Suffolk, Virginia. On file, William and Mary Center for Archaeological Research, Williamsburg, Virginia.

Papers Presented

Lichtenberger, Randy and Dan Pezzoni
2018 *A Colonial Tavern in the Virginia Backcountry: Archaeological and Architectural Findings from the Mead's Tavern 2018 Field Season.* Presented at the Archeological Society of Virginia annual conference in Winchester, Virginia.

Lichtenberger, Randy
2017 Invited paper on the Greenfield Plantation archaeological salvage excavation for the Friday evening COVA/ASV public session "Examining Contemporary Notions of Race and Racism through Recent Archaeological Research in Western Virginia." Presented at the Archeological Society of Virginia annual conference in Natural Bridge, Virginia.

Lichtenberger, Randy
2015 Exploring Cabellsville, Amherst County's First Courthouse Village. Presented at the Archeological Society of Virginia annual conference in Manassas, Virginia.

Lichtenberger, Randy
2006 *Remembering Thomas Jefferson in Landscape: Evidence for the Evolution of Historical Authenticity*. Presented at the Society for American Archaeology annual conference in San Juan, Puerto Rico.

Lichtenberger, Randy
2005 *Everyday Living in Jefferson's Shadow*. Presented at the Society for Historical Archaeology annual meeting in York, England.

Lichtenberger, Randy and Michael Jennings
2002 *Assessing New London, Virginia: A Colonial Town Faces Destruction*. Presented at the Society for Historical Archaeology annual meeting in Mobile, Alabama.

Lichtenberger, Randy and Barbara Heath
2001 *Defining "Household" at Thomas Jefferson's Poplar Forest.* Presented at the Society for Historical Archaeology annual meeting in Long Beach, California.

Lichtenberger, Randy, Charlene Keck, and Angele Montana
2000 *The Iron Cross Gravemarker: A French Roman Catholic Hallmark in Southern Louisiana*. Presented at the Society for Historical Archaeology annual meeting in Quebec City, Quebec, Canada.

Lichtenberger, Randy and Patrick P. Robblee
1996 *Growth and Decline of an 18th Century Virginia Suburb.* Presented at the Society for Historical Archaeology annual meeting in Cincinnati, Ohio.

Lichtenberger, Randy
1995 *An Archaeological Assessment of Middlesex County, Virginia*. Presented at the Council for Northeast Historical Archaeology Conference and Annual Meeting at Louisbourg, Nova Scotia.

Grants Awarded

2017 Virginia Department of Historic Resources Threatened Sites. Award to conduct metals conservation of artifacts from the Greenfield Plantation Site in Botetourt County.

2015 and 2016 Virginia Department of Historic Resources Threatened Sites. Award to conduct Archaeological excavation at the Oak Hill slave quarter in Pittsylvania County.

2013 and 2014 Virginia Department of Historic Resources Threatened Sites. Award to conduct Phase I archaeological survey at Cabellsville, first county seat of Amherst County, in Nelson County, Virginia.

2013 Council of Virginia Archaeologists. Award to conduct Phase I archaeological survey at the 1763 Mead's Tavern in New London, Virginia.

2011 Virginia Department of Historic Resources Threatened Sites. Award to conduct archaeological excavations at Historic Sandusky Museum, Lynchburg, Virginia.

Virginia Governor's Fellowship – 2002-2005
Award for full tuition and fees at the University of Virginia, Charlottesville.

Mellon Research Fellowship - 2001
Awarded for one week of study at the Virginia Historical Society in Richmond to research a series of early nineteenth century Virginia diaries.

Professional Memberships

Council of Virginia Archaeologists (COVA), 2001-Present
Ethics Committee 2002-Present; Chair, 2004-Present
Archeological Society of Virginia (ASV), 2017-Present
Virginia Archaeology Charitable Trust (VACT), Founding board member 2017-Present; President, 2019-Present
Society for Historical Archaeology, 1994-2009
Council for Northeast Historical Archaeology, 2001-2014

Awards

Commissioner's Award – 2019
Awarded by the Virginia Department of Transportation for Outstanding Customer Service (Work on historic Clarkton Bridge memorandum of agreement and mitigation plan)

Preservationist of the Year – 2013
Awarded by the Lynchburg Historical Foundation.

DWAYNE W. PICKETT, RPA
34 St Simons Dr.
Bluffton, SC 29910
Phone: (843) 422-5556
Email: dwayne.pickett@gmail.com

EDUCATION:

M.A. in Anthropology, The College of William & Mary

EMPLOYMENT:

2007-Present **Director,** *Pickett Educational Resources LLC, Bluffton, SC*

- Develop, schedule, and teach educational programs for K-12 students and adults with museums, local schools and homeschool groups.
- Work with museums to create unique and insightful programs using real and replica artifacts.
- Prepare written lesson plans for teaching interdisciplinary history and archaeology courses as well as for educational DVDs.
- Write and present lectures for mainstream and academic audiences.
- Maintain website and conduct online marketing as well as use social media to promote educational DVDs that the company produced.
- Create proposals and cost-effective budgets for programs.

2002-Present **Cultural Resource Specialist**, Self-Employed, Bluffton, SC

- Successfully bid on archaeological projects by coming up with competitive budget proposals.
- Direct and organize field excavations as well as supervise archaeological technicians and volunteers.
- Catalogue artifacts and prepared them for curation in accordance with federal standards set by the National Park Service's 36 CFR Part 79.
- Help local historical sites with identifying, cataloging and preserving collections including a letter by Thomas Jefferson valued at $700,000.
- Conduct historical research, author reports as well as give lectures.
- Coordinate efforts between multiple agencies and landowners resulting in assured cooperation and the timely completion of projects.

2000-2002 **Project Manager**, *TRC Garrow and Associates, Inc., Durham, NC*

- Team leader who arranged, organized and directed multiple archaeological projects.
- Complied information from various sources, wrote reports and proposals.
- Prepared artifacts for curation in accordance with federal standards.
- Presented research findings at professional conferences and to the public.

1998-2000 **Assistant Director**, *CHRS, Inc., North Wales, PA*

- Planned, coordinated, and managed numerous archaeological projects as a team leader.
- Complied background research in publishable format.
- Prepared artifacts for curation in accordance with federal standards set forth by the National Park Service's 36 CFR Part 79.
- Authored detailed reports as well as proposals and marketing material.
- Presented research findings at professional conferences and to the public.
- Coordinated with clients, landowners, and review agencies resulting in the timely completion of projects.

1993-1998 **Project Director**, *Colonial Williamsburg, Williamsburg, VA*

- Planned, organized and managed multiple archaeological projects.
- Conducted intensive historical research and wrote reports.
- Developed and lead educational programs.
- Cataloged and accessioned artifacts and prepared them for curation.
- Gave public and professional lectures.
- Taught advanced archaeological field school.

VOLUNTERR EXPERIENCE:

2013-2020 **Instructor**, *Osher Lifelong Learning Institute at University of South Carolina Beaufort, SC*

- Taught classes on 16th and 17th history of the southeastern United States and Beaufort County, South Carolina.
- Classes were based on two books that I have written or co-authored.

2018-2019 **President Board of Directors**, *Lowcountry Montessori, Beaufort, SC*

- Provided direction for achieving the school's mission statement.
- Served on Fundraising Committee.
- Strengthen programs and services to achieve academic goals.
- Evaluated performance of the Director.

MEMBERSHIPS:

Register of Professional Archaeologists (RPA)
Society for Historical Archaeology
National Trust for Historic Preservation

SELECT PUBLICATIONS:

Phase III Archaeological Excavation of the Mead's Tavern Basement (44CP0244), Campbell County, Virginia. Prepared for Liberty University, Lynchburg, Virginia. In progress.

Phase I Archaeological Survey of the Proposed Springfield Solar Site. Westmoreland County, Virginia. Prepared for Springfield Solar LLC, Charlottesville, Virginia. October 2021.

Archaeological Survey of the Banister River, Pittsylvania County, Virginia. Prepared for the Virginia Department of Historic Resources, Richmond. September 2021.

Phase I Archaeological Survey of the Proposed Dry Bridge Energy Center, LLC Chesterfield County, Virginia. Prepared for Dry Bridge Energy, LLC Charlottesville, Virginia. January 2021.

Captain William Hilton and the Founding of Hilton Head Island. The History Press. July 1, 2019

Archaeological Survey in Advance of Construction Activities at the Morris Center for Lowcountry Heritage Ridgeland, South Carolina. Prepared for The Morris Center for Lowcountry Heritage. June 2018.

Going Green at Jamestown. *Dig Magazine*. July 1, 2014

The European Struggle to Settle North America: Colonizing Attempts by England, France and Spain, 1521-1608. McFarland. Feb 8, 2011

Pivotal Decisions in American History: Revolution or Resolution? Bacon's Rebellion in Virginia 1676. Educational DVD. © Pickett Educational Resources LLC. 2008

Meet Joan Peirce "an honest, industrious woman" Living History at Historic Jamestowne. Educational DVD. © Pickett Educational Resources LLC. 2007

Archaeological Excavations and Monitoring of Construction Activities at Historic Elk Landing, Elkton, Maryland. Aug. 2004.

Historical and Archaeological Research into the Entrance Avenue to Tryon Palace Historic Sites & Gardens New Bern, North Carolina. Tryon Palace research publication. Oct. 2003

Limited Archaeological Testing Within the Foundation of the Log Structure at Historic Elk Landing, Elkton Maryland. For the Historic Elk Landing Foundation, Inc. Oct. 2002.

Archaeological Survey and Testing at Historic Elk Landing, Elkton Maryland. For the Historic Elk Landing Foundation, Inc. Aug. 2002.

Maryland's War of 1812 Battlefield Sites: An Archaeological Assessment. *Maryland Humanities*. Sept 2001

Archaeology of the Tucker House Revisited: Recent Excavations of the Kitchen. *Bermuda Journal of Archaeology and Maritime History*. Volume 10. Oct. 1998

Phase III Data Recovery in Advance of Waterproofing Activities at Site 44YO755, the Thomas Pate House, Yorktown, Virginia. Department of Archaeological Research Publications, Colonial Williamsburg Foundation. Jan. 1998

The John Page House Site: An Example of the Increase in Domestic Brick Architecture in Seventeenth-Century Tidewater Virginia. Masters Thesis. Dec. 1996

Changing Landscapes: Recent Excavations at the John Page House Site. *The Colonial Williamsburg Interpreter*, volume 16 number 4, pages 9-13. Dec. 1995

CONFERENCE PAPERS:

"It was a busy bustling place": The Rise and Decline of Commerce at Elk Landing. Paper presented at the Society for Historical Archaeology conference, January 2003, Providence, Rhode Island.

Frenchtown to Elkton: Upland Investigations of the War of 1812 in Maryland. Paper presented at the Society for Historical Archaeology conference, January 2001, Long Beach California.

Mr. Madison's War: An Archaeological Assessment of Maryland's War of 1812 Battlefield Sites. Paper presented at the American Battlefield Protection Program conference, November 2000, Baltimore Maryland.

The John Page House Site: An Artifactual Analysis of a Colonial Chesapeake Home. Paper presented at the Society for Historical Archaeology Conference, January 1997, Corpus Christi, Texas.

The John Page House Site: 1996 Update. Paper presented at the Jamestown Conference, November 1996, Jamestown, Virginia.

Changing Landscapes: The Adoption of Brick Architecture in Seventeenth-Century Tidewater Virginia. Paper presented at the Society for Historical Archaeology Conference, January 1996, Cincinnati, Ohio.

Excavations at the John Page House Site. Paper presented at the Jamestown Conference, November 1995, Jamestown, Virginia.

Snapshot

Date Generated: November 16, 2021

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Farmstead
Other DHR ID: No Data
Temporary Designation: Site 1

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: SMITHFIELD
County/Independent City: Isle Of Wight (County)
Physiographic Province: Coastal Plain
Elevation: 70
Aspect: No Data
Drainage: James
Slope: 2 - 6
Acreage: 3.170
Landform: Other
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Farmstead
Cultural Affiliation: African American, Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Reconstruction and Growth, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: Site 1 is a moderate concentration of late 19th- early 20th century artifacts located to the north and south of the former structures. All that remains of these buildings is a pile of cement and a depression where it appears that one of the structures, or what remained of it, was removed by a machine and its remnants piled next to it. A 1919 map is the earliest map of the project area that depicts a structure there.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Dwayne W. Pickett, Principal Investigator Randy Lichtenberger, Director of Cultural Resources

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Hurt & Proffitt

Investigator: Dwayne Pickett

Survey Date: 11/3/2021

Survey Description:

Phase I archaeological survey of a 34-acre tract located in the central part of Isle of Wight County

Current Land Use	Date of Use	Comments
Agricultural field	11/3/2021 12:00:00 AM	*No Data*

Threats to Resource: Development

Site Conditions: Surface Deposits Present But With No Subsurface Integrity, Unknown Portion of Site Destroyed

Survey Strategies: Subsurface Testing, Surface Testing

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Whiteware, ironstone, milk glass press molded glass,clear bottle glass, unidentified nails, brick.

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: H&P

Permanent Curation Repository: VDHR

Field Notes: Yes

Field Notes Repository: VDHR

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Pickett and Lichtenberger, in prep.

Survey Report Repository: VDHR

DHR Library Reference Number: No Data

Significance Statement: This is a moderate concentration of late 19th- early 20th centuries artifacts located to the north and south of former structures. All that remains of these buildings is a pile of cement and a depression where it appears that one of the structures, or what remained of it, was removed by a machine and its remnants piled next to it. A 1919 map is the earliest map of the project area that depicts a structure there. The late date of this site along with the lack of intact stratigraphy and discernible features suggests that this site has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations, : No Data

Surveyor's NR Criteria Considerations: No Data

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: Archaeological Resources **Date: 11/16/2021**

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.

Snapshot

Date Generated: November 16, 2021

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Outbuilding
Other DHR ID: No Data
Temporary Designation: Site 2

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: SMITHFIELD
County/Independent City: Isle Of Wight (County)
Physiographic Province: Coastal Plain
Elevation: 71
Aspect: No Data
Drainage: James
Slope: 2 - 6
Acreage: 0.700
Landform: Other
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Subsistence/Agriculture
Site Type: Outbuilding
Cultural Affiliation: African American, Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Reconstruction and Growth, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: Site 2 is located in the woods along the eastern end of the property and consists of a depression with a few machine-made bricks at the bottom. The only artifacts recovered from STPs in this area were brick fragments. This depression might be related to an outbuilding associated with the structures at site 1.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:
Dwayne W. Pickett, Principal Investigator Randy Lichtenberger, Director of Cultural Resources

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Hurt & Proffitt
Investigator: Dwayne Pickett
Survey Date: 11/3/2021
Survey Description:
Phase I archaeological survey of a 34-acre tract located in the central part of Isle of Wight County

Current Land Use	Date of Use	Comments
Forest	11/3/2021 12:00:00 AM	*No Data*

Threats to Resource: Development
Site Conditions: Surface Features, Unknown Portion of Site Destroyed
Survey Strategies: Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
Brick
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: H&P
Permanent Curation Repository: VDHR
Field Notes: Yes
Field Notes Repository: VDHR
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:
Pickett and Lichtenberger, in prep.
Survey Report Repository: VDHR
DHR Library Reference Number: No Data
Significance Statement: This site is located in the woods along the eastern end of the property and consists of a depression with a few machine-made bricks at the bottom. The only artifacts recovered from STPs in this area were brick fragments. This depression might be related to an outbuilding associated with the structures at site 1. Given the low density of artifacts, the lack of domestic artifacts and the absence of intact stratigraphy site 2 has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.
Surveyor's Eligibility Recommendations: Recommended Not Eligible
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

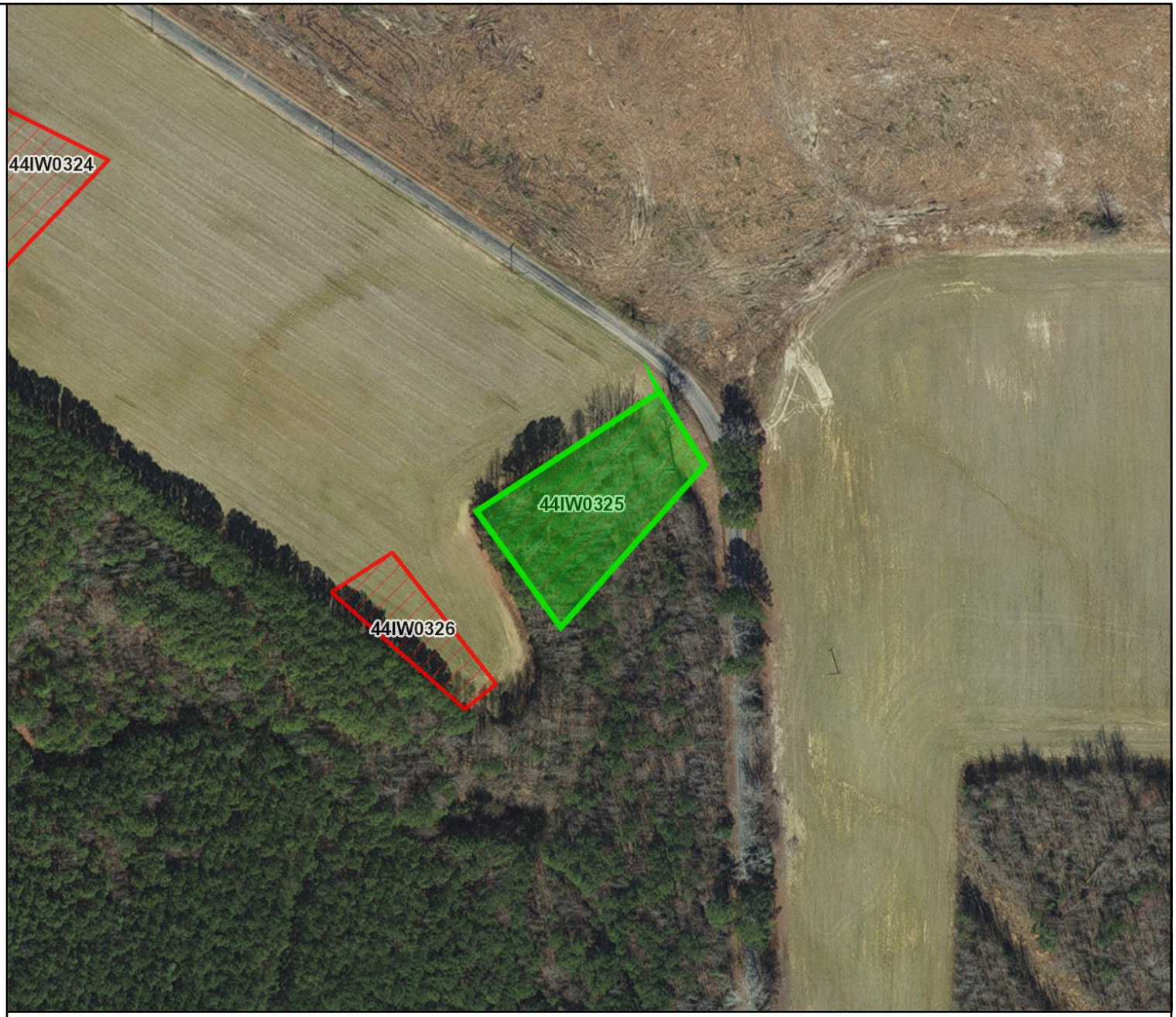
Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
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- USGS GIS Place names
- County Boundaries



N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Archaeological Resources **Date: 11/16/2021**

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Snapshot

Date Generated: November 16, 2021

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Artifact scatter
Other DHR ID: No Data
Temporary Designation: Site 3

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: SMITHFIELD
County/Independent City: Isle Of Wight (County)
Physiographic Province: Coastal Plain
Elevation: 70
Aspect: No Data
Drainage: James
Slope: 2 - 6
Acreage: 0.270
Landform: Other
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Artifact scatter
Cultural Affiliation: African American, Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Reconstruction and Growth, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: Site 3 is also located at the eastern end of the property and consists of a low concentration of late 19th- early 20th century artifacts. Given the low number of architectural artifacts, this concentration might be related to disposal activities associated with the structures at site 1.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Dwayne W. Pickett, Principal Investigator Randy Lichtenberger, Director of Cultural Resources

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Hurt & Proffitt

Investigator: Dwayne Pickett

Survey Date: 11/3/2021

Survey Description:

Phase I archaeological survey of a 34-acre tract located in the central part of Isle of Wight County

Current Land Use	Date of Use	Comments
Agricultural field	11/3/2021 12:00:00 AM	*No Data*

Threats to Resource: Development

Site Conditions: Surface Deposits Present But With No Subsurface Integrity, Unknown Portion of Site Destroyed

Survey Strategies: Subsurface Testing, Surface Testing

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Whiteware, ironstone, milk glass press molded glass,clear bottle glass.

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: H&P

Permanent Curation Repository: VDHR

Field Notes: Yes

Field Notes Repository: VDHR

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Pickett and Lichtenberger, in prep.

Survey Report Repository: VDHR

DHR Library Reference Number: No Data

Significance Statement: This site consists of a low concentration of late 19th- early 20th centuries artifacts. Given the low number of architectural artifacts, this concentration might be related to disposal activities associated with the structures at site 1. The late date of this site along with the lack of intact stratigraphy and discernible features suggests that this site has little research potential. This leads H&P to recommend that this site is not eligible for the NRHP.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations, : No Data

Surveyor's NR Criteria Considerations: No Data

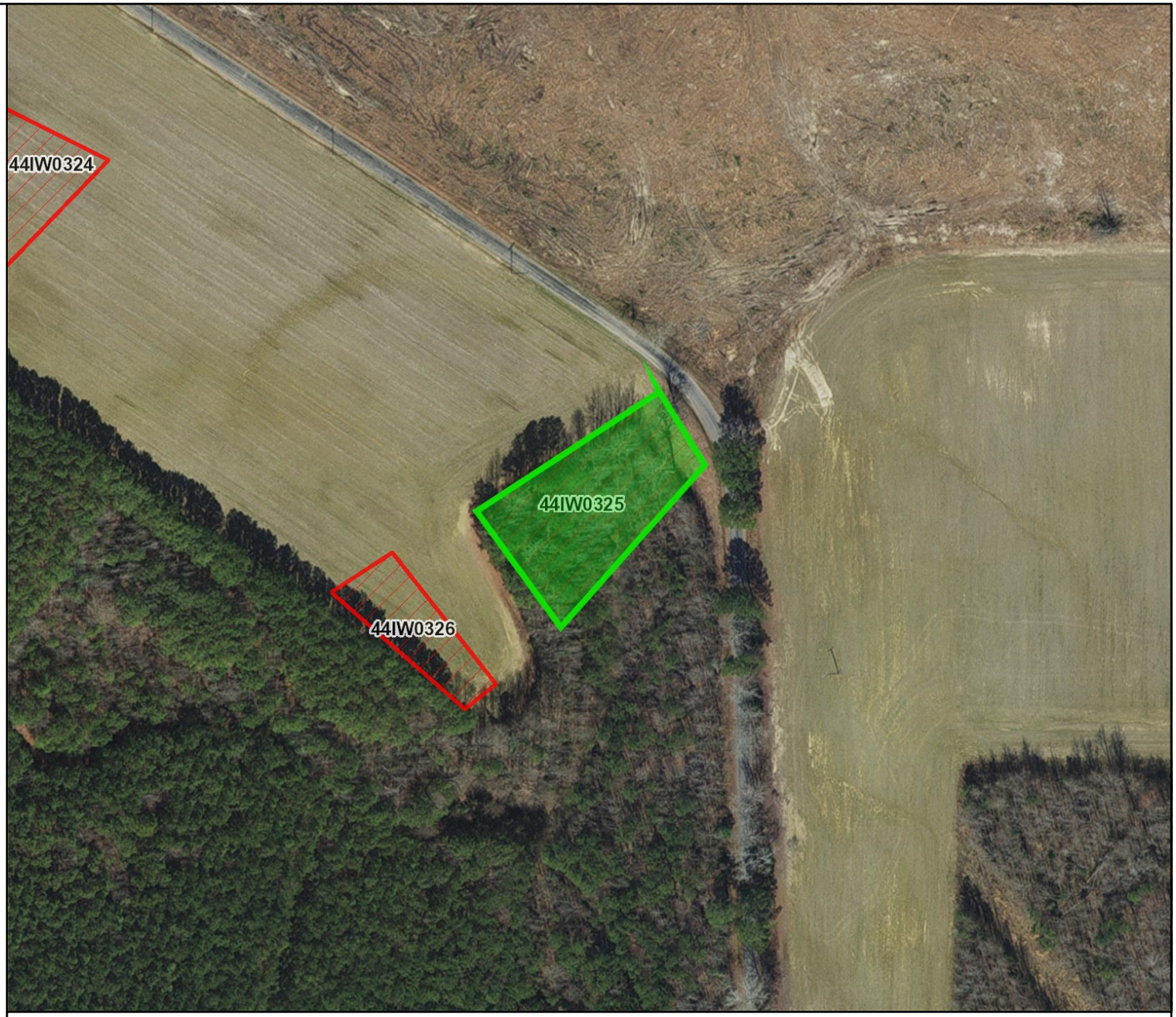
Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

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- Archaeology Labels
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N

Feet

0 50 100 150 200

1:2,500 / 1"=208 Feet

Title: Archaeological Resources **Date: 11/16/2021**

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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.



046-5546_House_18493_Orbit_Road_2021_view_north

Property Information

Property Names

Name Explanation	Name
Function/Location	Dwelling, 18493 Orbit Road

Property Addresses

Current - 18493 Orbit Road

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): SMITHFIELD

Property Evaluation Status

DHR Staff: Considered Eligible for Environmental Review purposes only

Additional Property Information

Architecture Setting: Rural
Acreage: 4
Site Description:

June 2019: This resource is located in a rural area. The property is a 4-acre parcel, surrounded by pasture. The house and domestic outbuildings stand in a cluster north of Orbit Road, with the house facing south. A circular gravel driveway leads to the house. A garage, outbuilding, and gazebo stand northeast of the house. The house has a carport attached to the north elevation of the house. Around the house are scattered mature trees. At the southeast corner of the property, near the northwest corner of the intersection of Orbit Road and Bowling Green Road, stand two other buildings: a pole barn machine shed and prefabricated shed.

November 2021: The property remains unchanged since the previous survey.

Surveyor Assessment:

June 2019: This architectural resource is located within a 1/2 mile of a proposed solar energy farm. The resource is directly visible from the proposed project area. According to Isle of Wight real estate assessment records, this dwelling was built in 1950. The house does not represent an individually significant example of the Colonial Revival style, as it has typical details such as the symmetrical core, stretcher bond brick, and side-gabled roof with gabled dormers. This building is recommended as not eligible under Criterion C of the NRHP/VLR. It is not known to be associated with significant events or persons, and as an architectural resource is not recommended eligible under Criterion D.

This resource is also located in an agricultural area of Isle of Wight County and surrounded by other farms that appear to have a high degree of architectural and landscape integrity. This cluster of farms may be significant in the architectural history, agricultural development, and landscape of Isle of Wight County. Additional investigation is recommended to research the history and development of this cluster of farms to aid in determining its significance and NRHP/VLR eligibility.

November 2021: Hurt & Proffitt concurs with the previous eligibility recommendation made for this property.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1950
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Colonial Revival

Form: *No Data*
Number of Stories: 1.5
Condition: Excellent
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: The core of this Colonial Revival, Cape Cod style dwelling measures three bays wide and two bays deep. There are multiple wings and additions to this core. A one-story tall, two-bay wide wing extends from the eastern gable end of the core and a one-and-one-half story tall gabled ell extends from the north (rear elevation). A shed roof addition has been made to the north elevation of the one-story, eastern wing. Also added to this eastern wing and connected with an open hyphen is a two-car carport. The exterior of the house is stretcher bond brick, with vinyl siding cladding the gabled dormers on the front roof slope. The roof is covered with asphalt shingles. An exterior end, stretcher bond chimney rises up the western gable end of the house. A gabled entry porch, with curved underside, square posts, and matchstick railing, shelters the front entry. The front entry is topped with a decorative fanlight and flanked by sidelights. A gabled roof porch, with square wood posts, extends partially across the western gable end. The attached carport features square brick posts. The windows are one-over-one, double-hung sash with faux muntins and rowlock brick sills. The façade of the core features two picture windows.

November 2021: This resource remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Exterior End	Brick	Strecther Bond
Dormer	Gable	Vinyl	*No Data*
Porch	Portico/Entry Porch	Wood	Square
Porch	1-Story Partial Width	Wood	Square
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Garage
NR Resource Type: Building
Date of Construction: ca 1950
Date Source: Map
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This two-car garage has a square plan, and it has a stretcher bond brick exterior and the front gabled roof is covered with asphalt shingles. There are two, overhead vehicular doors on the western elevation.

November 2021: This resource remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #2

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 1950
Date Source: Map
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This small shed has a stretcher bond brick exterior, with vinyl siding in the gable ends. The front gabled roof is covered with asphalt shingles. An entry door is centered on the south elevation.

November 2021: This shed remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #3

Resource Category: Domestic
Resource Type: Outbuilding,Domestic
NR Resource Type: Building
Date of Construction: ca 2000
Date Source: Map
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This one-story tall outbuilding has a stretcher bond brick exterior, with vinyl siding in the gable ends. The front gabled roof is covered with asphalt shingles. The windows are one-over-one, double-hung sash with faux muntins and rowlock sills.

November 2021: The outbuilding remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #4

Resource Category: Domestic
Resource Type: Outbuilding,Domestic

NR Resource Type: Building
Date of Construction: ca 2000
Date Source: Map
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This frame gazebo has an octagonal plan. The roof is covered with asphalt shingles. The supports are square wooden posts.

November 2021: The gazebo remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Complex	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Wood	Other

Secondary Resource #5

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 1980
Date Source: Map
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This large pole barn structure has a rectangular plan. The east and west side walls slope slightly outward from the eaves. The exterior and roof are both covered with corrugated metal. Large, sliding, corrugated metal doors are on the south and north elevations.

November 2021: The pole barn remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Metal	*No Data*
Structural System and Exterior Treatment	Wood Frame	Metal	Panels

Secondary Resource #6

Resource Category: Agriculture/Subsistence
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 2000
Date Source: Map

Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This prefabricated frame shed has a T-111 sided exterior. The gambrel roof is covered with asphalt shingles.

November 2021: This shed remains unchanged since the previous survey.

March 2019

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Plywood/Particle Board	Panels

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: Ben Leatherland
Organization/Company: Hurt & Proffitt
Photographic Media: Digital
Survey Date: 11/2/2021
Dhr Library Report Number: *No Data*
Project Staff/Notes:

Sarah M. Clarke
Hurt & Proffitt Senior Architectural Historian

Project Bibliographic Information:

Isle of Wight Property Search

Event Type: DHR Staff: Considered Eligible for Environmental Review purposes only

DHR ID: 046-5546
Staff Name: R.Kirchen
Event Date: 10/29/2019
Staff Comment

2019-0563

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2019-0563

Investigator: Amy Krull and Susan E. Bamann
Organization/Company: Commonwealth Heritage Group, Inc.
Photographic Media: Digital
Survey Date: 3/14/2019
Dhr Library Report Number: IW-089
Project Staff/Notes:

Commonwealth Heritage Group, Inc. Project staff included Amy Krull, M.A., RPA, Sarah G. Traum, M.A., Susan E. Bamann, Ph.D., RPA, B. Scott Rose, M.A., RPA, and D. Allen Poyner. Cultural resource survey conducted in March, May, and June 2019 for a proposed 146.30-acre solar farm in Isle of Wight County.

Project Bibliographic Information:

Isle of Wight Property Search

Bibliographic Information

Bibliography:

Isle of Wight County Property Search

Property Notes:

No Data

RECONNAISSANCE ARCHITECTURAL SURVEY

NUBY RUN SOLAR SITE

Isle of Wight County, Virginia

November 16, 2021





H&P PROJECT NO.
2021813

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HURT & PROFFITT

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EXECUTIVE SUMMARY

This report presents the results of a reconnaissance survey of two architectural resources in Isle of Wight County, Virginia. The survey was completed by Hurt & Proffitt (H&P) on behalf of Nuby Run Solar, LLC. The fieldwork for this project was conducted on November 2, 2021.

The architecture survey conducted for this project resulted in the identification of one new architecture property, house at 18688 Orbit Road (VDHR No. 046-5646) and one previously recorded property, house at 18493 Orbit Road (VDHR No. 046-5546). Both the previously recorded property, and the newly surveyed property are mid-twentieth century dwellings. The previously recorded property (VDHR No. 046-5646) was recorded in 2019 and recommended not individually eligible for the National Register of Historic Places (NRHP). However, it was recommended that the property may be a contributing resource to a larger rural historic district. For the purposes of the environmental review conducted for the previous project in 2019, the property was recommended as a contributing resource to a potential rural historic district.

Nuby Run Solar, LLC proposes to construct a solar farm of 34 acres on the south side of Orbit Road (Rt. 637). The project requires a permit from the Federal Energy Regulatory Commission (FERC) which necessitates compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The Area of Potential Effects (APE) for architecture includes those parcels within 0.5 miles of the proposed location of the solar farm, the vicinity where alterations to feeling and setting may occur.

The reconnaissance-level surveys completed for this project include background research of Isle of Wight County records and survey files at the Virginia Department of Historic Resources. The fieldwork for the project entailed photographing and drawing site plans for each resource.

Based on the results of the survey, H&P recommends that the newly identified architectural resource the house at 18688 (VDHR No. 046-5646), is not individually eligible for the NRHP, nor is it a contributing resource to a larger historic district. In addition, H&P recommends that the previously recorded resource, the house located at 18493 Orbit Road (VDHR No. 046-5546) is not individually eligible for the NRHP, which is consistent with the previous eligibility determination made in 2019. Additional survey would be needed to establish whether the property is contributing to a larger rural historic district.

1. INTRODUCTION

This report presents the results of reconnaissance architectural surveys completed for a proposed solar farm near the town of Windsor in Isle of Wight County, Virginia (Figure 1). The survey for this project was conducted by Hurt & Proffitt (H&P) on behalf of Nuby Run Solar, LLC. H&P completed the fieldwork for this project on November 2, 2021.

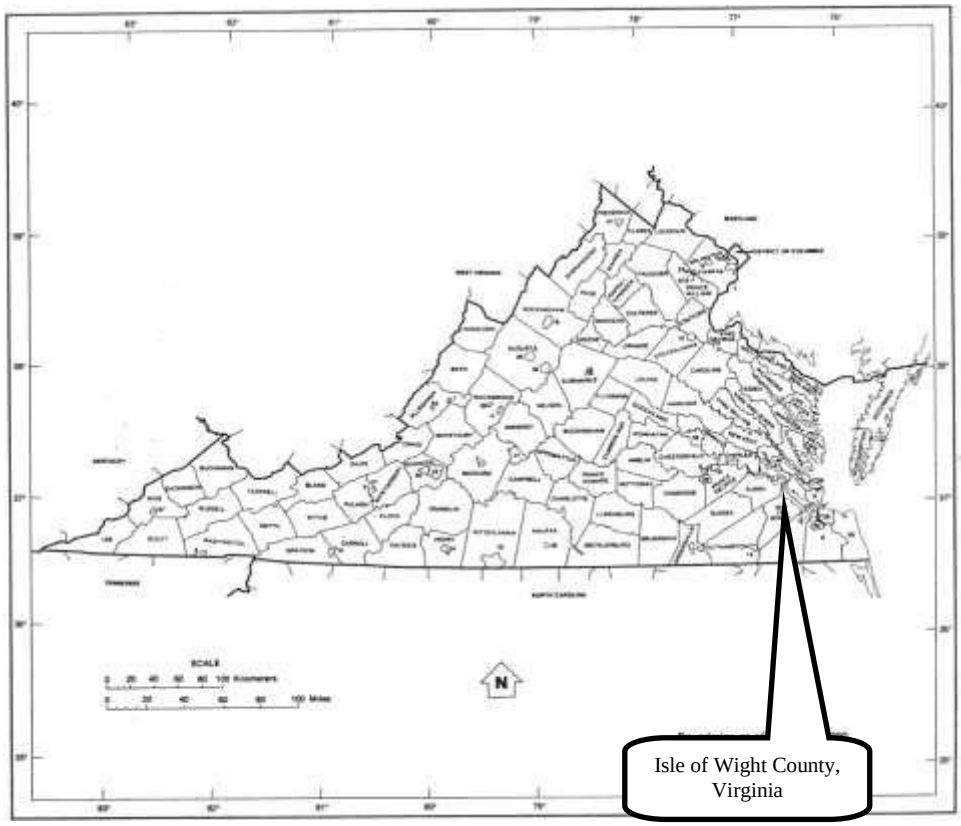


Figure 1. Project location.

The resources surveyed for this project are in proximity to Orbit Road (Rt. 637), approximately 10 miles northeast of the Town of Windsor in Isle of Wight County, Virginia. All of the architectural properties are in close proximity to Orbit Road.

Nuby Run Solar, LLC proposes to construct a 34-acre solar farm to the south of Orbit Road. The proposed solar farm consists of 34 acres and is a portion of a larger land parcel of approximately 117.3 acres (parcel no. 39-01-038). The parcel proposed for the solar farm contains no extant structures and is currently utilized for crop cultivation. The architecture APE for the project is the project footprint, and those parcels within 0.5 miles of the proposed location of the solar farm, where alterations to feeling and setting may occur (Figure 2).

Prior to beginning the fieldwork for the project, H&P completed background and historic research at VDHR and Isle of Wight County, which included a site file review of previously recorded architectural resources in the VDHR's Virginia Cultural Resources Information System (V-CRIS).

The fieldwork for this project was completed by Sarah M. Clarke, H&P Senior Architectural Historian. The field investigations and technical report meet the requirements specified in the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 48:190:44716-44742) and the Virginia Department of Historic Resources (VDHR) *Guidelines for Conducting Cultural Resource Survey In Virginia* (2017). The Principal Investigator performing the cultural resource investigations meets or exceeds the qualifications described in the Secretary of the Interior's *Professional Qualifications Standards* (48 FR 44738-9).

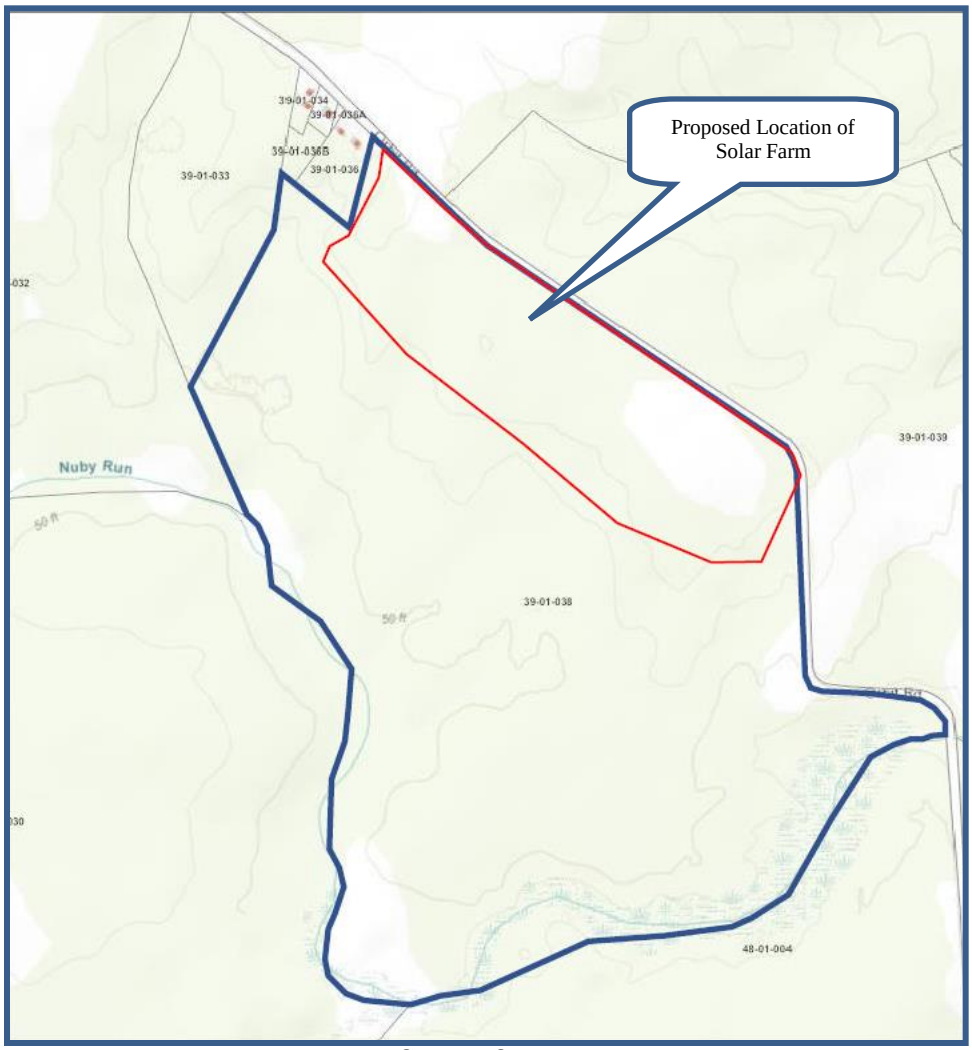


Figure 2. Proposed location of solar farm. Project parcel (blue line) and development footprint (red line) as depicted in Isle of Wight County GIS (accessed September 2021).

2. SETTING

The project is located northeast of the Town of Windsor in Isle of Wight County, to the south of Orbit Road (Rt. 637). The proposed location of the solar farm is a cultivated field that consists of 34 acres which is part of a larger 117-acre parcel (Figure 3). The area surrounding the proposed solar farm parcel consists of heavily wooded areas and clear cultivated fields (Figure 4).

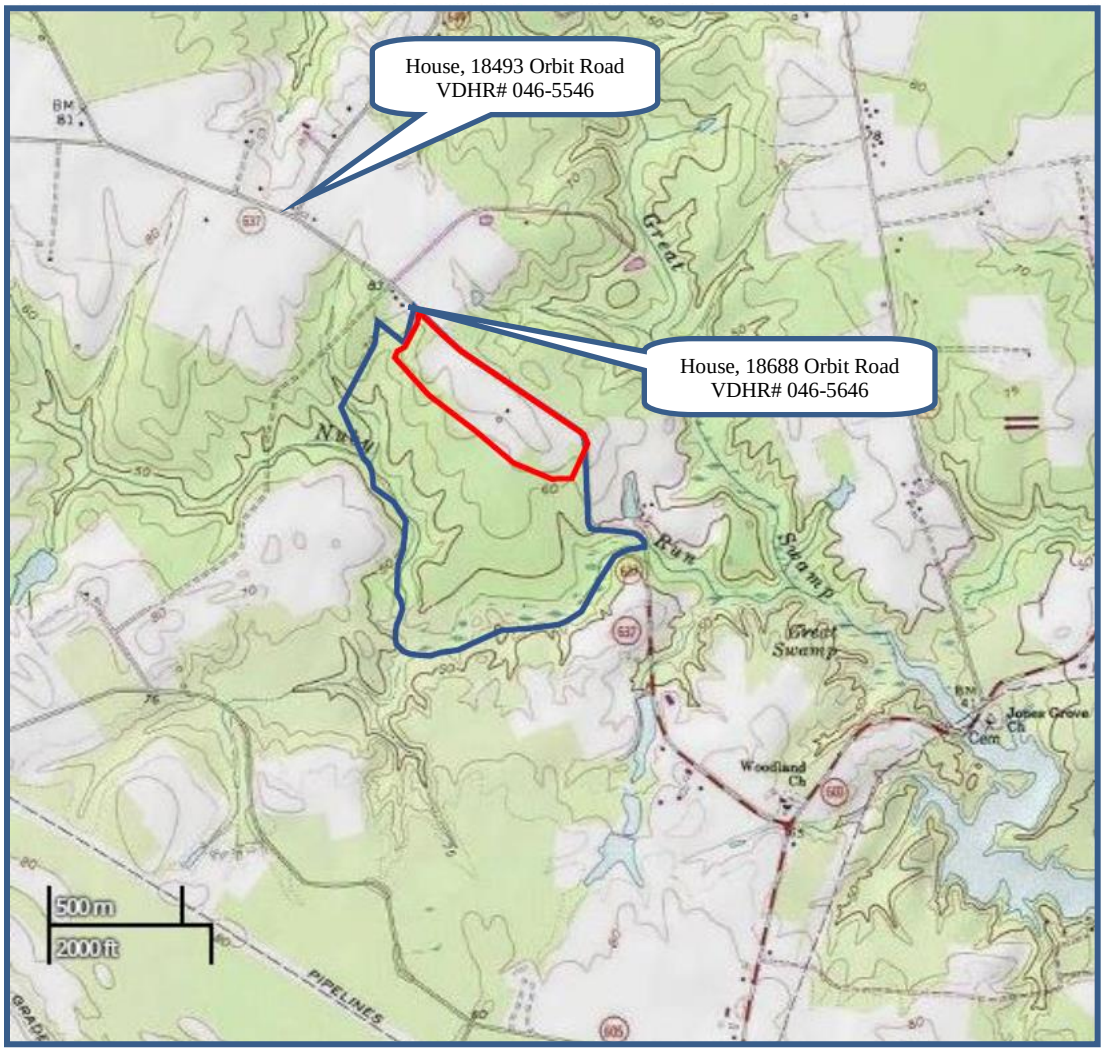


Figure 3. Proposed solar farm location and identified architectural resources on current topographic map (USGS 2021).



Figure 4. Aerial image of proposed solar farm location.

3. HISTORIC CONTEXT

Settlement to Society (1607-1750)

English settlement in the Tidewater region of Virginia began with the founding of the Jamestown colony in 1607. Soon thereafter, the Jamestown colonists began exploring the mouth of the Elizabeth River and Hampton Creek. During this exploration, the colonists eventually encountered Native Americans when they visited the town of Kecoughtan, part of the Powhatan Confederacy. The colonists continued their exploration of the area and eventually founded the Jamestown settlement at the mouth of the James River (Mansfield 1989).

The colonists did not explore the area of modern day Isle of Wight County until 1608, when John Smith sought to trade with the Warrosquoyacke tribe for food (King 1993). The Warrosquoyacke lived in the area of modern Fergusson's Wharf and hunted along the James River, as well as 20 miles inland (Morrison 1907). The settlers and Native Americans continued friendly relations for the next several years. The settlers continued to learn from the Native Americans and explore the land (King 1993).

Within a few years, the colonists began cultivating the crop of tobacco which led to both huge exports to England, as well as impressive growth in population. English settlement continued to expand, including the region that would become modern-day Isle of Wight County. Led by Captain Christopher Lawne, Sir Richard Worsley, Nathaniel Basse, and

John Hobson, the colonists settled near the mouth of Lawne's Creek. Lawne's Creek is the modern dividing line between Isle of Wight and Surry Counties. The first settlement in this area was called Warrosquoyacke; however, the new residents of this area suffered greatly from disease, especially malaria with a majority dying within the year. In 1620, the settlement became known as the plantation of Isle of Wight. The area continued to grow and two additional patents were granted that year (King 1993).

In 1619, the first Africans arrived in Virginia via a Dutch trader, a majority of which ended up at Governor Sir George Yeardley's Flowerdew Hundred Plantation. As the seventeenth century progressed enslaved individuals began to replace indentured servants as the primary source of labor in the Tidewater area. The first recorded slave within the modern boundary of Isle of Wight County was at Bennett's Welcome, a plantation that belonged to Edward Bennett (IWCM 2021).

The expanded settlement along the James River eventually led to conflict with the communities of the Powhatan Confederacy. On March 22, 1622, the tribes of the Powhatan Confederacy attacked the James River settlements, 347 colonists were killed. As a result, the management of the colony was transferred from the Virginia Company to the British Crown in 1624. In 1634 eight counties or shires were established: Henrico, James City, Charles City, Warwick River, Charles River, Warrosquoake (Isle of Wight), Elizabeth City, and Accomack. In addition county courts and officials, to include justices, sheriffs, clerks, and lieutenants of the militia were established (Dabney 1971).

In 1637 Warrosquoyacke officially became Isle of Wight and was bound on the north by Lawne's Creek, the east by the James River, and inland extended from Richard Hayes's plantation to the head of Colonel Pitt's creek, the southern boundary ran to the west for an undefined distance. In 1642, Isle of Wight was divided into the Upper and Lower Parish, Pagan Creek was the boundary between the two. A majority of the settlements were along the southern shore of the James River and the shores of Pagan Creek (King 1993).

The project area is south of the James River, in the middle of Isle of Wight County, far from the larger established plantations on the James and York Rivers. The first town of Isle of Wight County was at Pate's Field near Pagan Point Creek and Warrosquoyacke Back Bay Creek. In 1680, a law was passed that required every county that exported tobacco and other goods to lay out a town of fifty acres with half-acre lots. Each lot had to include a dwelling and a storehouse. By 1681, all exports and imports had to pass through these established towns. However, Pate's Field, Patesfield, was considered too remote and inconvenient for trade (King 1993).

During this time, the transportation of enslaved individuals continued to increase. In fact, between 1700 and 1750, 45,000 enslaved people were brought to the colony. In addition, there was an increase in the number of American-born slaves. This increase in the number of enslaved peoples in the colony resulted in the need for housing for these individuals. Evidence of these quarters does not really appear until the eighteenth century. However, due to the sheer number of enslaved individuals and tension between

planters and their workers, separate quarters became the norm (Upton 1984).

Quarter sites in the Coastal Plain area are defined by sub-floor pits; however there is no architectural evidence suggesting a structure. In addition, Colonoware or Colono-Indian pottery has been found in significant amounts in sites of the late-seventeenth century through to the early-nineteenth century of housing for the enslaved (Deetz 1993).

Colony to Nation (1750-1789)

By 1750, the second town was established in Isle of Wight County, Smithfield. Originally, Smithfield was part of the property owned by Captain Arthur Smith that sat along Pagan Creek. Due to its location, Smithfield was perfect because it contained a storehouse, a public landing, and had access to a ferry landing. Smith laid out 72 lots, with two proposed locations for a courthouse. One of these locations was accepted, and construction of the courthouse began in 1750. The courthouse and a contemporary tavern are still standing in the Town of Smithfield today. It was during this period that there was a transition away from the cultivation of tobacco. Tobacco was hard on the land and depleted the soil, so new crops were introduced like corn, other grains, orchards, and livestock. In addition, the pine forests in Isle of Wight were utilized for their tar, pitch, and turpentine (King 1993).

With the start of the Revolutionary War, many citizens of Isle of Wight County were divided in their loyalties. The loyalists had to abandon their homes and property. In 1775, many residents of Isle of Wight County joined the Princess Anne District Battalion to fight at Kempsville and Portsmouth. These same men later joined the 7th, 8th, and 9th companies of the 4th Virginia Regiment of Foot. Eventually, these soldiers joined Washington's army and fought at Trenton and Germantown. No major battles were fought within Isle of Wight County; however, raids were led by British Lieutenant Colonel Tarleton. Including one on the courthouse in Smithfield, which severely damaged the building. In addition, the shoreline was under threat of invasion, which led to the closing of one of the tobacco warehouses (King 1993).

During the eighteenth century, enslaved peoples were still imported into Virginia. Though there was not a significant increase in the number in the Tidewater area. In fact, it appears that many of the enslaved were moved from Tidewater to other parts of Virginia, or other regions (Morgan 1988). Virginia passed the Emancipation Act in 1782. This new law allowed the enslaved to be freed by their owner through a deed of manumission or through a will after their death (IWCM 2021).

Early National Period (1789-1830)

In 1790, the population of Isle of Wight County was 9,028. This included 4,786 whites, 3,867 enslaved individuals, and 375 free blacks. The population of Isle of Wight County grew very slowly, by the 1830 census the number of individuals in the county only increased to 10,517 people (King 1993).

The population of Isle of Wight County began to move to the western parts of the county. Because of this, it was decided that the courthouse should be moved to accommodate the population shift. Around 1800, the new courthouse was constructed, it is still used and sits approximately 1.5 miles from the project area (King 1993).

Agriculture began to change during this time period. Tobacco cultivation had been on the decline because of soil depletion. Therefore, the residents of Isle of Wight County began to grow new crops, specifically cotton. By the early-nineteenth century, Isle of Wight County had two functioning cotton factories (King 1993).

Additional changes came in the transportation network in Isle of Wight County. Residents long relied on ferries for the transportation of goods and people. This time period also saw improvements of roads and bridges (King 1993).

Slavery continued during this time period, though the United States government outlawed the importation of enslaved people, the domestic slave trade continued. Due to the changes in crop cultivation mentioned above, less slave labor was required, which led to a surplus of slave labor (Berlin 2010).

Antebellum Period (1830-1861)

The population of Isle of Wight County continued to decrease from 10,517 in 1830 to 9,977 in 1860. This is primarily due to the decrease in the number of enslaved people, which declined from 4,272 in 1830 to 3,570 in 1860. This is due to changes in farming and the crops cultivated during this time that did not rely as heavily on slavery (King 1993). A map of this period depicts no structures in the immediate project vicinity (Figure 5).

A majority of the residents in Isle of Wight County were farmers. However, there was an agricultural depression in eastern Virginia in the 1820s and 1830s. This economic crisis is credited with one of the reasons for the population decline in the county (Mansfield 1989). Further problems stemmed from the fact that Lower Tidewater cotton farmers could not compete with the cotton farmers of the Deep South. In spite of these issues, agriculture continued with over 1,400 farms in Isle of Wight County. The focus was on new crops like corn, sweet potatoes, peas, watermelons, beans, and some cotton. It was also during this time that peanut cultivation began in Isle of Wight County (King 1993).

During the Antebellum period the railroad came to Isle of Wight County. The Norfolk and Petersburg Railroad, completed in 1858, provided access to new markets and injected some needed energy into the economy of the region. The railroad also opened up the region for the lumber industry (King 1993).

The changes in agriculture resulted in the exportation of enslaved people from Virginia to the Deep South. Called "the second middle passage," more than one million slaves were sent to the Deep South. During this time, there was talk of ending slavery within

Virginia; however, after Nat Turner's Rebellion in 1831, all talk ceased (Berlin 2010).

Civil War (1861-1865)

The area between the Nansemond and Blackwater Rivers witnessed at least 30 engagements during the Civil War between September 28, 1862 and March 17, 1863. In this area both the Confederate and Union troops had patrols between the two rivers. Specifically the localities of Providence Church, Zuni, Windsor, and Joyner's Ferry. The Confederates attempted to prevent Union troops from crossing the Blackwater River. The Union troops worked to prevent the Confederates from crossing the Nansemond River (Cormier 1989). Union Major-General John A. Dix estimated at least 5,000 Confederate troops fortifying the Blackwater River (Dix).

One skirmish took place on December 12, 1862 at Joyner's Ford near the community of Zuni. Captain J.H. Sikes of Company D of the 7th Confederate States Cavalry stated that at least 30 Confederate soldiers engaged with Union forces at Joyner's Ford. At first, the Confederates were able to hold off Union forces and kept them from crossing the river. Eventually, Union troops did manage to cross the river on pontoon boats. The Confederate soldiers attempted to hold the Union soldiers but were soon overwhelmed and captured by Union forces (Sikes 1862).

Union forces focused considerable attention along the Norfolk and Petersburg Railroad. In May 1863, Union troops were busy tearing up the railroad tracks between Suffolk and the Blackwater River. Major General Dix stated that two regiments of Confederate troops with artillery pieces attacked the Union troops.

All of this activity along the railroad interrupted the prosperity the railroad brought to Isle of Wight County. After the evacuation of Norfolk in May 1862, Union troops had control of the Norfolk and Petersburg Railroad from Norfolk to Zuni. To make that portion unusable, the railroad removed sections of track outside of what the Union troops occupied (Chabot 1938). The Confederates were still in possession of the western end of the railroad and continued to transport troops to the Blackwater River (Dix 1862).



Figure 5. Approximate location of project on *Map of Isle of Wight and Part of Nansemond* (Campbell, et al 1864).

Reconstruction and Growth (1865-1917)

After the end of the Civil War, began the task of rebuilding the Norfolk and Petersburg Railroad. The ultimate goal was to connect Norfolk with the markets of the Mississippi Valley. In 1872, the Norfolk and Petersburg Railroad merged to form the Atlantic, Mississippi, and Ohio Railroad Company. A result of this merger was the creation of the Norfolk and Western in 1881 (Chabot 1907).

Prior to the start of the Civil War, was the start of peanut cultivation in the county. By the end of the Civil War, peanut farming was being encouraged in Isle of Wight County. In 1872, 40,000 bushels of peanuts were cultivated in the county, by 1890 it was over 200,000 bushels. A peanut factory was constructed in Smithfield, and in 1877 another factory was built in Windsor (King 1993). Lumbering, an industry that began in the area with the construction of the Norfolk and Petersburg Railroad, also continued after the Civil War. In 1878, the Camp Manufacturing Company, a lumber company, was built on the east bank of the Blackwater River. Lumber operations were established in communities with wharves on the James River (King 1993).

Windsor benefitted from its proximity to the railroad and became an important distribution point. By 1878, Windsor had the first two-room school in Isle of Wight County. By 1902, Windsor had a jail and a public school.

The Civil War also brought the 13th Amendment which outlawed slavery in the United

States. Freedman's Bureaus were established throughout the country to help newly freed blacks (Berlin 2010).

World War I to World War II (1917-1945)

The types of crops cultivated in Isle of Wight County remained mostly unchanged, with peanuts continuing to be the primary crop; however, soybeans were introduced to the county. In 1935, there were over 1,400 farms in Isle of Wight County, this number includes farms of both whites and blacks. By 1919, a new farmstead was erected on the project parcel (Figure 6). Change came with the erection of power lines by the Community Electric Cooperatives, which provided electricity to rural parts of the county. In 1928, the James River Bridge opened, which connected Isle of Wight residents with the larger cities of Hampton and Newport News (King 1993).

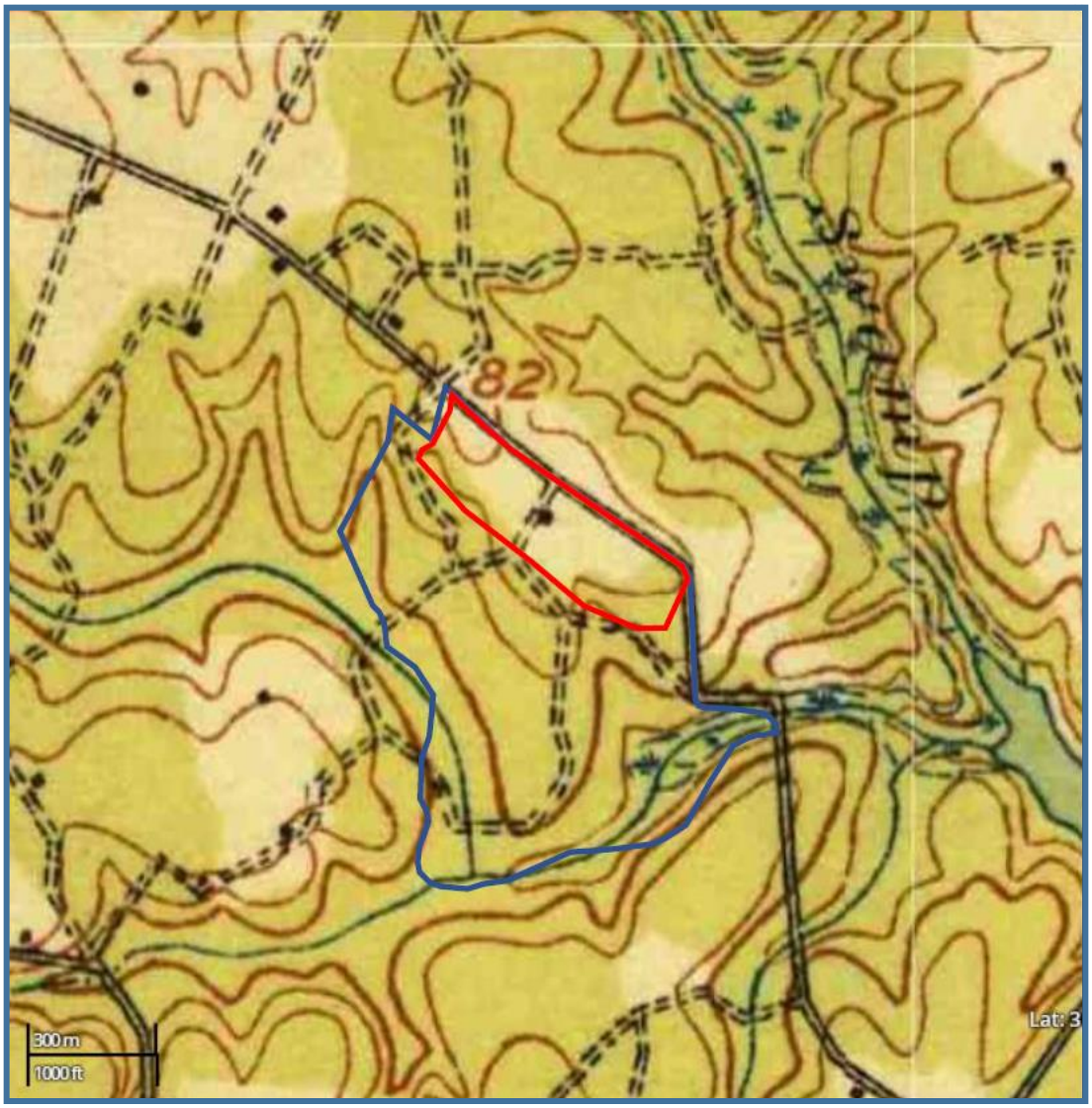


Figure 6. Project area depicted on 1919 Smithfield, VA 1:62500 USGS topographic map (USGS 2021).

The New Dominion (1945 to Present)

In 1950, the Isle of Wight population was over 14,000 people. Smithfield was the largest town. Windsor was the second largest town. In 1975, the Commonwealth of Virginia took over operation of the James River Bridge and removed the tolls on the bridge. The removal of tolls made Isle of Wight County an attractive place to move for people working in Newport News. This resulted in a population increase and new residential and commercial construction along Route 17 and in the Town of Smithfield.

The number of farms began to decline by the 1990s, and there was a transition from crops to beef cattle (King 1993). While the farmstead on the project parcel continued in use in the 1960s, it was abandoned by 2010 (Figure 7). In the 2010 U.S. Census the population of Isle of Wight County was 35,270 and increase of 18.6 percent from the 2000 census. The Smithfield and Isle of Wight Convention and Visitors Bureau promotes the historic tourism and outdoor activity of the area.



Figure 7. Detail of 1966 aerial depicting proposed project location.

4. FIELD METHODS

The purpose of the architectural investigation was to survey and evaluate two properties for individual eligibility for listing in the NRHP. Of the two resources located within the project APE, one is previously recorded. The previously recorded resource is the house at 18493 Orbit Road (VDHR No. 046-5546), the newly recorded resource is the house at 18688 Orbit Road (VDHR No. 046-5646). The APE for this project includes the property parcels that are within 0.5 mile, the vicinity where alterations to feeling and setting may occur. Background research was completed at Isle of Wight County and survey files at VDHR. H&P staff conducted a site visit to photograph and survey the architectural resources. The resources were photographed and site plans were drawn depicting the relationship of the resources to the landscape, and each other.

5. RESULTS

H&P completed reconnaissance level survey for two properties: the previously recorded house at 18493 Orbit Road (VDHR No. 046-5546), and the newly identified house at 18688 Orbit Road (VDHR No. 046-5646).

House at 18493 Orbit Road (VDHR No. 046-5546) The dwelling sits at the top of a poured concrete circular drive. The west side of the driveway is flanked by mature trees and shrubs and the perimeter of the property is enclosed with a vinyl, picket fence. Constructed in 1950 this Colonial Revival, Cape Cod single dwelling is one-and-half stories with three bays composed of a stretcher-bond brick and clad in vinyl siding. The pedimented front entrance is supported by four, square posts and is capped with a gable roof. The front door is capped with a decorative fan light and is flanked by side lights. Two picture windows flank the front entrance of the dwelling and two dormers pierce the façade of the dwelling. The vinyl windows are one-over-one light with faux muntins. An exterior-end brick chimney is visible on the west elevation of the dwelling. The single dwelling is capped with a gable roof covered with asphalt shingles.

The dwelling has multiple additions including a one-story brick, two-bay addition on the east elevation, and a one-and-half story addition on the north (rear) elevation that is capped with a shed roof. The east elevation addition has a hyphen that connects to a carport clad in stretcher bond brick and gable ends sheathed in vinyl siding.

A one-story, two-bay, gable-end-entry, brick garage sits to the east of the primary dwelling. Another outbuilding is a one-story shed clad in stretcher-bond brick and vinyl siding that sits to the north of the dwelling. A frame, octagonal gazebo sits to the northeast of the dwelling. A large vehicle shed clad in metal siding sits to the northeast of the dwelling.

This property was recommended not individually eligible for the NRHP and was recommended as a contributing resource to a potential rural historic district. H&P

concurs with the previous recommendation concerning individual eligibility. However, additional work is needed to determine whether the dwelling is a contributing resource to a potential rural historic district.



Figure 8. House at 18493 Orbit Road (VDHR No. 046-5546).

House at 18688 Orbit Road (VDHR No. 046-5646) The dwelling sits to the south of a gravel and dirt circular drive. The lawn is overgrown and dotted with mature trees, two large shrubs are visible on the façade of the dwelling. The dwelling was constructed in 1963 and is one-story, five bays clad in stretcher-bond brick and vinyl siding. The paired and single windows are vinyl, one-over-one with double-hung sashes. The front entrance is a single-leaf, door accessed by a front stoop with brick steps and wrought-iron railing.

The east elevation of the dwelling has a one-story, one-bay addition on the dwelling clad in a combination of stretcher-bond brick and vinyl siding. A pair of wood doors with multiple lights is visible on the east elevation.

There are multiple outbuildings that sit to the southeast of the dwellings. Two are one-story, one-bay, gable-end-entry, sheds clad in metal sheets and capped with gable roofs covered in standing-seam metal. A one-story, five-bay mobile home sits to the southwest of the primary dwelling. The mobile home is clad in metal with a metal skirt. The metal windows are four-over-four lights with double-hung sashes. The single-leaf metal door is accessed by wood steps and deck that are in poor condition. The low-pitch gable roof is covered with standing-seam metal.



Figure 9. House at 18688 Orbit Road (VDHR No. 046-5646)

H&P recommends that the house at 18688 Orbit Road is not individually eligible for the NRHP under Criteria A, B, or C; Criterion D is not applicable. The dwelling does not represent any important people or events in history and the design, workmanship, and materials are stock and unremarkable.

6. CONCLUSIONS AND RECOMMENDATIONS

As a result of the survey, H&P recommends that the house at 18688 Orbit Road (VDHR No. 046-5646) is not individually eligible for the NRHP under Criteria A, B, or C; Criterion D is not applicable. The previously recorded architectural resource, the house at 18493 (VDHR No. 046-5546) was recommended not individually eligible for the NRHP and was recommended as a contributing resource to a potential rural historic district. H&P concurs with the previous recommendation concerning individual eligibility. However, additional work is needed to determine whether the dwelling is a contributing resource to a potential rural historic district.

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Property Information

Property Names

Name Explanation	Name
Function/Location	Dwelling, 18493 Orbit Road

Property Addresses

Current - 18493 Orbit Road

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): SMITHFIELD

Property Evaluation Status

DHR Staff: Considered Eligible for Environmental Review purposes only

Additional Property Information

Architecture Setting: Rural
Acreage: 4
Site Description:

June 2019: This resource is located in a rural area. The property is a 4-acre parcel, surrounded by pasture. The house and domestic outbuildings stand in a cluster north of Orbit Road, with the house facing south. A circular gravel driveway leads to the house. A garage, outbuilding, and gazebo stand northeast of the house. The house has a carport attached to the north elevation of the house. Around the house are scattered mature trees. At the southeast corner of the property, near the northwest corner of the intersection of Orbit Road and Bowling Green Road, stand two other buildings: a pole barn machine shed and prefabricated shed.

November 2021: The property remains unchanged since the previous survey.

Surveyor Assessment:

June 2019: This architectural resource is located within a 1/2 mile of a proposed solar energy farm. The resource is directly visible from the proposed project area. According to Isle of Wight real estate assessment records, this dwelling was built in 1950. The house does not represent an individually significant example of the Colonial Revival style, as it has typical details such as the symmetrical core, stretcher bond brick, and side-gabled roof with gabled dormers. This building is recommended as not eligible under Criterion C of the NRHP/VLR. It is not known to be associated with significant events or persons, and as an architectural resource is not recommended eligible under Criterion D.

This resource is also located in an agricultural area of Isle of Wight County and surrounded by other farms that appear to have a high degree of architectural and landscape integrity. This cluster of farms may be significant in the architectural history, agricultural development, and landscape of Isle of Wight County. Additional investigation is recommended to research the history and development of this cluster of farms to aid in determining its significance and NRHP/VLR eligibility.

November 2021: Hurt & Proffitt concurs with the previous eligibility recommendation made for this property.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1950
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Colonial Revival

Form: *No Data*
Number of Stories: 1.5
Condition: Excellent
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: The core of this Colonial Revival, Cape Cod style dwelling measures three bays wide and two bays deep. There are multiple wings and additions to this core. A one-story tall, two-bay wide wing extends from the eastern gable end of the core and a one-and-one-half story tall gabled ell extends from the north (rear elevation). A shed roof addition has been made to the north elevation of the one-story, eastern wing. Also added to this eastern wing and connected with an open hyphen is a two-car carport. The exterior of the house is stretcher bond brick, with vinyl siding cladding the gabled dormers on the front roof slope. The roof is covered with asphalt shingles. An exterior end, stretcher bond chimney rises up the western gable end of the house. A gabled entry porch, with curved underside, square posts, and matchstick railing, shelters the front entry. The front entry is topped with a decorative fanlight and flanked by sidelights. A gabled roof porch, with square wood posts, extends partially across the western gable end. The attached carport features square brick posts. The windows are one-over-one, double-hung sash with faux muntins and rowlock brick sills. The façade of the core features two picture windows.

November 2021: This resource remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Exterior End	Brick	Strecther Bond
Dormer	Gable	Vinyl	*No Data*
Porch	Portico/Entry Porch	Wood	Square
Porch	1-Story Partial Width	Wood	Square
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Garage
NR Resource Type: Building
Date of Construction: ca 1950
Date Source: Map
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This two-car garage has a square plan, and it has a stretcher bond brick exterior and the front gabled roof is covered with asphalt shingles. There are two, overhead vehicular doors on the western elevation.

November 2021: This resource remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #2

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 1950
Date Source: Map
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This small shed has a stretcher bond brick exterior, with vinyl siding in the gable ends. The front gabled roof is covered with asphalt shingles. An entry door is centered on the south elevation.

November 2021: This shed remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #3

Resource Category: Domestic
Resource Type: Outbuilding,Domestic
NR Resource Type: Building
Date of Construction: ca 2000
Date Source: Map
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This one-story tall outbuilding has a stretcher bond brick exterior, with vinyl siding in the gable ends. The front gabled roof is covered with asphalt shingles. The windows are one-over-one, double-hung sash with faux muntins and rowlock sills.

November 2021: The outbuilding remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Masonry	Brick	Stretcher Bond

Secondary Resource #4

Resource Category: Domestic
Resource Type: Outbuilding,Domestic

NR Resource Type: Building
Date of Construction: ca 2000
Date Source: Map
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This frame gazebo has an octagonal plan. The roof is covered with asphalt shingles. The supports are square wooden posts.

November 2021: The gazebo remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Complex	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Wood	Other

Secondary Resource #5

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 1980
Date Source: Map
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This large pole barn structure has a rectangular plan. The east and west side walls slope slightly outward from the eaves. The exterior and roof are both covered with corrugated metal. Large, sliding, corrugated metal doors are on the south and north elevations.

November 2021: The pole barn remains unchanged since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Metal	*No Data*
Structural System and Exterior Treatment	Wood Frame	Metal	Panels

Secondary Resource #6

Resource Category: Agriculture/Subsistence
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 2000
Date Source: Map

Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Other
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

June 2019: This prefabricated frame shed has a T-111 sided exterior. The gambrel roof is covered with asphalt shingles.

November 2021: This shed remains unchanged since the previous survey.

March 2019

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Plywood/Particle Board	Panels

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: Ben Leatherland
Organization/Company: Hurt & Proffitt
Photographic Media: Digital
Survey Date: 11/2/2021
Dhr Library Report Number: *No Data*
Project Staff/Notes:

Sarah M. Clarke
Hurt & Proffitt Senior Architectural Historian

Project Bibliographic Information:

Isle of Wight Property Search

Event Type: DHR Staff: Considered Eligible for Environmental Review purposes only

DHR ID: 046-5546
Staff Name: R.Kirchen
Event Date: 10/29/2019
Staff Comment

2019-0563

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2019-0563

Investigator: Amy Krull and Susan E. Bamann
Organization/Company: Commonwealth Heritage Group, Inc.
Photographic Media: Digital
Survey Date: 3/14/2019
Dhr Library Report Number: IW-089
Project Staff/Notes:

Commonwealth Heritage Group, Inc. Project staff included Amy Krull, M.A., RPA, Sarah G. Traum, M.A., Susan E. Bamann, Ph.D., RPA, B. Scott Rose, M.A., RPA, and D. Allen Poyner. Cultural resource survey conducted in March, May, and June 2019 for a proposed 146.30-acre solar farm in Isle of Wight County.

Project Bibliographic Information:

Isle of Wight Property Search

Bibliographic Information

Bibliography:

Isle of Wight County Property Search

Property Notes:

No Data



046-5546_House_18493_Orbit_Road_2021_view_north

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 18688 Orbit Road

Property Evaluation Status

Property Addresses

Current - 18688 Orbit Road

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): SMITHFIELD

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

November 2021: The dwellings sits to the south of Orbit Road, at the top of a dirt and gravel circular drive. There are several mature trees on the property and the lawn is overgrown. Two large shrubs are visible on the facade of the dwelling. Two metal sheds sit to the southeast of the main dwelling and a mobile home sits to the southwest.

Surveyor Assessment:

November 2021: H&P recommends that the house at 18688 Orbit Road is not individually eligible for the NRHP under Criteria A, B, or C; Criterion D is not applicable. The dwelling does not represent any important people or events in history and the design, workmanship, and materials are stock and unremarkable.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1963
Date Source: Written Data
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Ranch
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: None Known
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

November 2021: The dwelling was constructed in 1963 and is one-story, five bays clad in stretcher-bond brick and vinyl siding. The paired and single windows are vinyl, one-over-one with double-hung sashes. The front entrance is a single-leaf, door accessed by a front stoop with brick steps and wrought-iron railing.

The east elevation of the dwelling has a one-story, one-bay addition on the dwelling clad in a combination of stretcher-bond brick and vinyl siding. A pair of wood doors with multiple lights is visible on the east elevation.

Exterior Components

Component	Component Type	Material	Material Treatment
Foundation	Solid/Continuous	*No Data*	*No Data*
Porch	Stoop/Deck	*No Data*	Not Visible
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Brick	Veneer
Structural System and Exterior Treatment	Wood Frame	Vinyl	Siding
Windows	Double-hung	Vinyl	*No Data*

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 1970
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Poor
Threats to Resource: Neglect, None Known
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

November 2021: This shed is one-story, one-bay, gable-end-entry, sheds clad in metal sheets and capped with gable roofs covered in standing-seam metal.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Metal	*No Data*
Structural System and Exterior Treatment	Steel Frame	Metal	Siding

Secondary Resource #2

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 1970
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Poor

Threats to Resource: Neglect, None Known
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

November 2021: The shed is one-story, one-bay, gable-end-entry, sheds clad in metal sheets and capped with gable roofs covered in standing-seam metal.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Front Gable	Metal	*No Data*
Structural System and Exterior Treatment	Steel Frame	Metal	Siding

Secondary Resource #3

Resource Category: Domestic
Resource Type: Mobile Home/Trailer
NR Resource Type: Building
Date of Construction: ca 1970
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Poor
Threats to Resource: Neglect, None Known
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

November 2021: A one-story, five-bay mobile home sits to the southwest of the primary dwelling. The mobile home is clad in metal with a metal skirt. The metal windows are four-over-four lights with double-hung sashes. The single-leaf metal door is accessed by wood steps and deck that are in poor condition. The low-pitch gable roof is covered with standing-seam metal.

Exterior Components

Component	Component Type	Material	Material Treatment
Foundation	Not Visible	*No Data*	*No Data*
Porch	1-Story Partial Width	Wood	Not Visible
Roof	Side Gable	Metal	*No Data*
Structural System and Exterior Treatment	Steel Frame	Metal	Siding
Windows	Double-hung	Metal	*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: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Ben Leatherland
Organization/Company: Hurt & Proffitt

Photographic Media: Digital
Survey Date: 11/2/2021
Dhr Library Report Number: *No Data*
Project Staff/Notes:

Sarah M. Clarke
Hurt & Proffitt Senior Architectural Historian

Project Bibliographic Information:

Isle of Wight Property Search

Bibliographic Information

Bibliography:

Isle of Wight County Property GIS

Property Notes:

No Data



046-5646_House_18688_Orbit_Road_2021_view_south



046-5646_18688_Orbit_Road_2021_view_NW



046-5646_House_18688_Orbit_Road_2021_view_east



046-5646_Shed_2021_view_SE



046-5646_Shed_2021_view_south

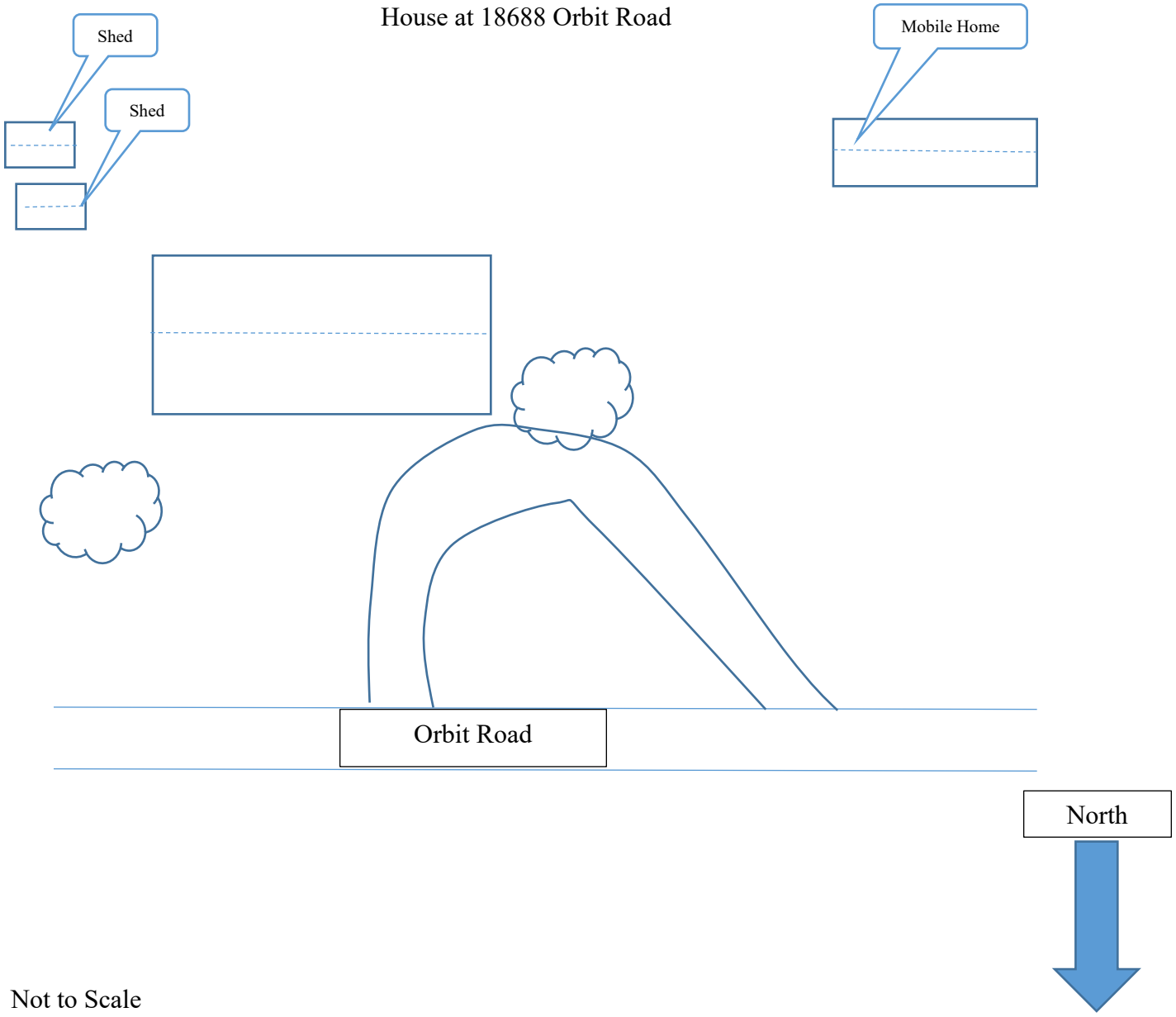


046-5646_Mobile_Home_2021_view_S



046-5646_Mobile_Home_2021_view_SW

VDHR No. 046-5646
House at 18688 Orbit Road



Not to Scale

Nuby Run Solar

Water Quality Impact Assessment

December 2021

Prepared For:
Nuby Run Solar, LLC

Submitted to:
Isle of Wight
Department of Planning and Zoning

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

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I. Project Narrative

This Water Quality Impact Assessment (WQIA) was prepared by Timmons Group on behalf of Nuby Run Solar, LLC for the proposed Nuby Run Solar (Project, Site) project, located off Orbit Road in Isle of Wight County. The approximately 40 acre Site (Parcel Number 39-01-038) is located within the Hampton Roads watershed (HUC 02080208) in the Southern Coastal Plan physiographic province. The purpose of the proposed project is to construct a solar power generation facility utilizing single axis tracking panels. Additional improvements include utility installation and stormwater improvements.

A WQIA is required when there are proposed modifications to the Chesapeake Bay Preservation Act Resource Protection Area (RPA) buffer. This WQIA memo was developed for the planning commission to demonstrate that the proposed development is consistent with the spirit and intent of the Chesapeake Bay Preservation Area Ordinance.

There are currently no RPA buffer encroachments planned for the proposed Nuby Run Solar Site. This memo is prepared in compliance with the requirements set forth in Article 4, Performance Standards and Development Criteria, specifically section 4003 of the County ordinance.

Impacts to the RPA were avoided by incorporating resourceful site planning, including the utilization of the wetland delineation, and RPA determination to adjust the layout to avoid RPA impacts. As an additional measure to ensure compliance there is no tree clearing or land disturbance proposed within 100 feet of the confirmed RPA buffer.

II. Project Site Conditions

i. Location & Existing Condition

The Project Study Limits for the proposed Nuby Run Solar Site are located on the south side of Orbit Road and north of Nuby Run. The project site generally consists of agricultural fields and mixed hardwood forest. The site is generally flat and has floodplain wetlands and RPA associated with Nuby Run located along the southern boundary in the mid-successional forested area.

ii. Topography & Hydrology

The existing topography within the Site is relatively flat with elevations approximately 60 to 80 feet above msl. The approximately 39.7-acre study area is located within the Hampton Roads watershed (HUC 02080208) in the Southern Coastal Plain physiographic province (see Figure 2: Hydrologic Unit Code Map). The majority of the Site consists of a maintained agricultural field and mixed pine-hardwood forest. Surface water onsite is

drained by Nuby Run flowing south and east into Great Swamp (see Figure 2: Hydrologic Unit Code Map). It is bound by Orbit Road to the north, mixed pine-hardwood forest and Orbit Road to the east, and mixed pine-hardwood forest to the west and south.

The Site is not located within Flood Zone X, defined as an Area of Minimal Flood Hazard with a 0.2% annual chance flooding.

iii. Vegetation

The majority of the Site consists of maintained agricultural field. Vegetation in non-agricultural areas was dominated by loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*) in the tree and sapling strata; American holly (*Ilex opaca*), sweetbay (*Magnolia virginiana*), and devil's-walkingstick (*Aralia spinosa*) in the shrub stratum; switch cane (*Arundinaria tecta*), Japanese stiltgrass (*Microstegium vimineum*), and eastern woodland sedge (*Carex blanda*) in the herbaceous stratum; and honeysuckle (*Lonicera japonica*) in the woody vine stratum,

iv. Soils

A soil survey for the project site was developed using soil data from the Natural Resources Conservation Service's (NRCS) online Soil Survey Geographic (SURGO) database and is included in Figure 3: Environmental Inventory Map. The SSURGO identified one (1) hydric soil within the Project Study Limits. Kinston loam (7) is described as "poorly drained". Non-hydric soils consist of various loamy sands and sandy loams.

III. RPA Modification

i. Jurisdictional & RPA Determinations

In order to identify the extent of onsite surface waters, a wetland delineation was conducted by Timmons Group on December 8, 2020. The delineation was performed based upon the methodology outlined in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual; the Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0); and subsequently issued COE regulatory guidance regarding the identification of stream channels through the recognition of field indicators of an ordinary high-water mark within drainage features. The wetland delineation conducted on December 8, 2020 has been confirmed by the USACE in a letter dated December 15, 2021 issued by Melissa Nash (NAO-2021-01444).

The extents of the RPA buffer were confirmed on October 28, 2021, Nathan Hughes and Amber Foster of DEQ met with representative Dan Cox from Timmons Group to confirm the limits of the RPA. Per the site visit conversation, DEQ confirmed the limits of the RPA presented on the map entitled Figure 5: Resource Protection Area dated 12/16/2020.

ii. Resource Protection Area Buffer Modification

There are no RPA buffer encroachments planned for the proposed Nuby Run Solar Site. See Figure 6: Conceptual Site Plan.

IV. Potential Water Quality Impacts

i. Erosion & Sediment Control

Proper erosion and sediment control measures will be designed and specified in accordance with the *Virginia Erosion and Sediment Control Handbook,* state's minimum standards (MS-19) and the Isle of Wight County code. A Storm Water Pollution Prevention Plan (SWPPP) will also be developed and incorporated with these measures in accordance with the Virginia Stormwater Management Program (VSMP). The designed erosion and sediment control measures shall be installed prior to land disturbance activities and maintained until construction is complete and disturbed areas have been stabilized with permanent vegetation. The specific erosion and sediment control measures for the project site will be selected during the civil design process and reviewed and approved by all authorities having jurisdiction.

ii. Stormwater Management

Project stormwater management will be designed in compliance with the Virginia Stormwater Management Program (VSMP) regulations.

V. Avoidance, Minimization and Mitigation

Impacts to RPA features were avoided by incorporating resourceful site planning, including the utilization of the wetland delineation, and RPA determination to adjust the layout to avoid impacts. As an additional measure a 100' buffer between development activities and the RPA has been implemented.

VI. Conclusion

There are no proposed RPA buffer encroachments associated with the development of the Nuby Run Solar Site for construction of utility scale solar facility. The site has been designed to avoid the wetlands area located on the Site. Adverse effects on water quality will be minimized by

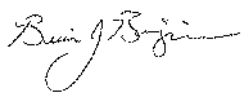
erosion and sediment control measures designed to protect the site WOUS, buffers during project construction, and avoidance of secondary impacts from construction stormwater runoff.

Tree clearing along the southern section of the site will occur to reducing shading impacts, however the proposed tree clearing is more than 100' away from the RPA buffer and the area is proposed to be planted with pollinator friendly herbaceous vegetation.

This WQIA was developed under the requirements set forth in Article 4, Performance Standards and Development Criteria, specifically section 4003 of the County ordinance.
It is our intent this WQIA memorandum has demonstrated that there is no proposed RPA buffer encroachment.

Please do not hesitate to contact Brian Breissinger at (804) 200-6439 or brian.breissinger@timmons.com with any questions, concerns, or if any additional information is required to complete this review.

Sincerely,

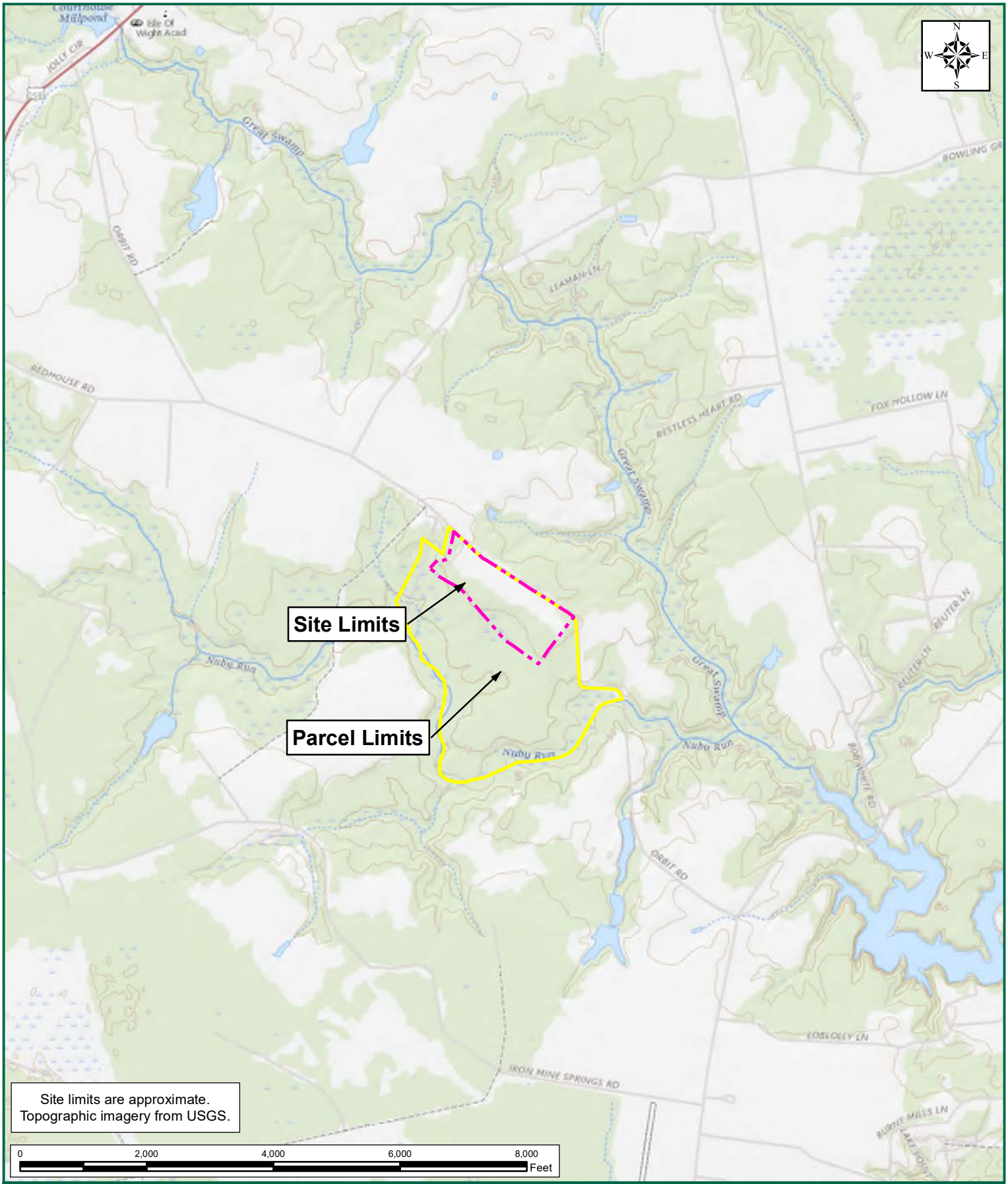


Brian Breissinger
Senior Environmental Project Manager

FIGURES

- Figure 1: Vicinity Map
- Figure 2: Hydrologic Unit Code Map
- Figure 3: Environmental Inventory Map
- Figure 4: Wetlands and Waters Delineation Map
- Figure 5: Resource Protection Area Map
- Figure 6: Conceptual Site Plan

Path: Y:\804\47276-Virginia_DG_Portfolio_Solar (Hexagon Energy)\GIS\NubyRun\47276-JD-VIC-NubyRun.mxd



VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN

ISLE OF WIGHT, VIRGINIA

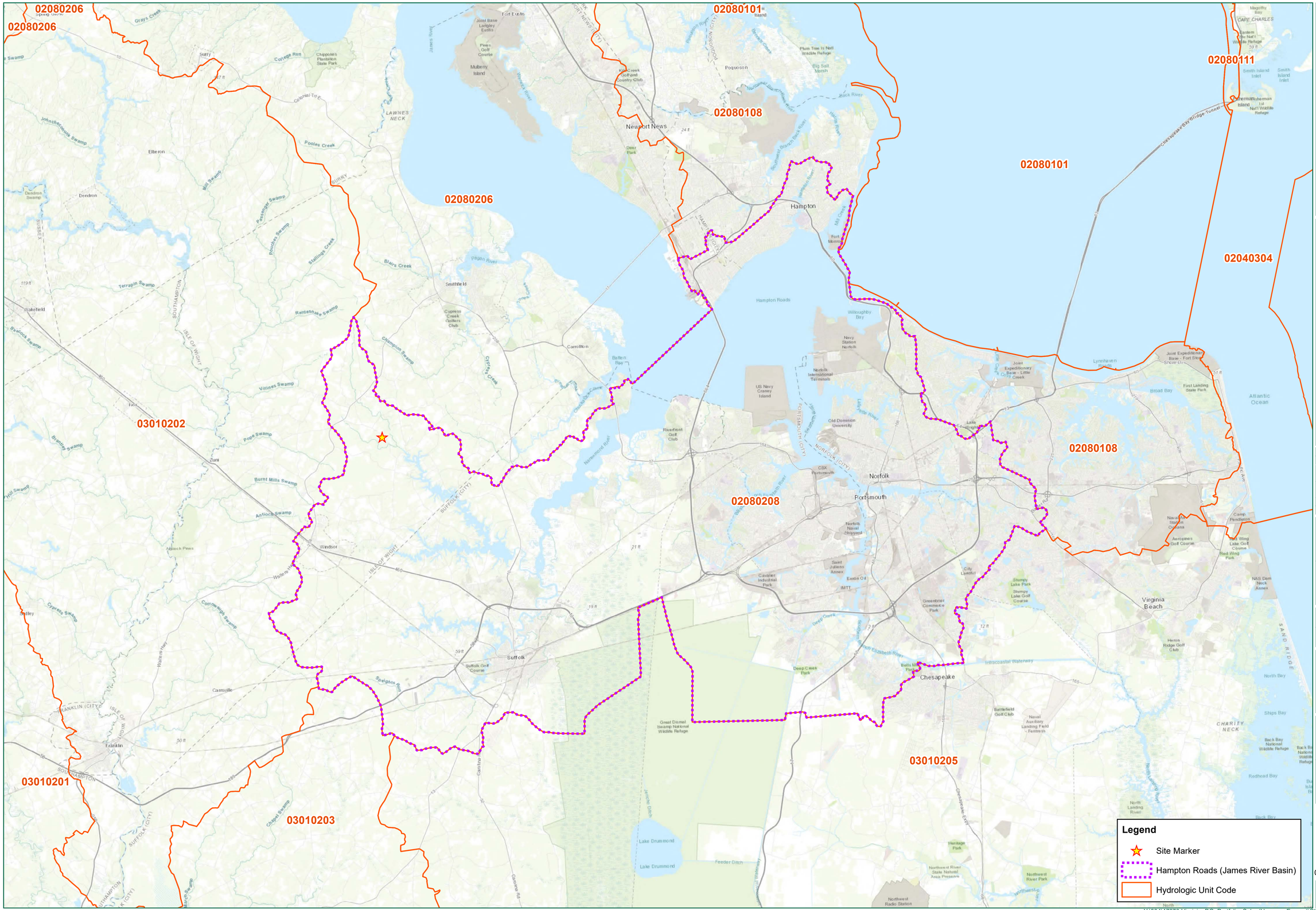
FIGURE 1: VICINITY MAP

TIMMONS GROUP
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TIMMONS GROUP JOB NUMBER: *47276*
PROJECT STUDY LIMITS: *39.7 ACRES*
LATITUDE: *36.882100*
LONGITUDE: *-76.689088*

U.S.G.S. QUADRANGLE(S): *SMITHFIELD*
DATE(S): *2019*
WATERSHED(S): *HAMPTON ROADS (JAMES RIVER BASIN)*
HYDROLOGIC UNIT CODE(S): *02080208*

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Richmond, VA 23225
TEL 804.200.6500
www.timmons.com

PROJECT NAME & LOCATION

VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN

ISLE OF WIGHT COUNTY, VIRGINIA

DATE	12/03/2020
PROJECT NUMBER	47276
PROJECT NAME	VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN
DESIGNED BY / DRAWN BY	K. SCHMIDT

NOTES:
Site marker is approximate.
HUC from USGS.
Topographic basemap from Esri Online.

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REVISIONS

#	MM/DD/YY	DESCRIPTION

DRAWING DESCRIPTION

FIGURE 2:
HYDROLOGIC
UNIT CODE MAP

PLANS PRINTED AS 11X17 ARE HALF SCALE

SCALE	SHEET NUMBER
H: 1 " = 2 Miles	1

Y:\804\47276-Virginia_DG_Portfolio_Solar (Hexagon Energy)\GIS\47276-JD-HUC-NubyRun.mxd

Hampton Roads Soils	
Mapunit Symbol	**Mapunit Name**
4	Chipley sand
7	Kinston loam
10	Nawney loam
21	Udorthents, loamy
23	Yemassee fine sandy loam
17B3	Slagle sandy loam, 2 to 6 percent slopes, severely eroded
18A	Slagle fine sandy loam, 0 to 2 percent slopes
18B	Slagle fine sandy loam, 2 to 6 percent slopes
19A	Uchee loamy sand, 0 to 2 percent slopes
19B	Uchee loamy sand, 2 to 6 percent slopes
5A	Emporia fine sandy loam, 0 to 2 percent slopes
5B	Emporia fine sandy loam, 2 to 6 percent slopes
W	Water

Legend

- Project Study Limits - 39.7 Acres
- Property Boundary
- National Hydrography Dataset
- National Wetlands Inventory

Hydric Soils Classification

- Hydric
- Partially Hydric
- Not Hydric

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PROJECT NAME & LOCATION

VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN

ISLE OF WIGHT COUNTY, VIRGINIA

DATE 12/03/2020

PROJECT NUMBER 47276

PROJECT NAME VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN

DESIGNED BY / DRAWN BY K. SCHMIDT

NOTES:
Project Limits are approximate.
NWI from US Fish and Wildlife Service.
Soils data from SSURGO.
National Hydrography Dataset from USGS.
Aerial imagery from VGIN.

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REVISIONS

#	MM/DD/YY	DESCRIPTION

DRAWING DESCRIPTION

FIGURE 3: ENVIRONMENTAL INVENTORY MAP

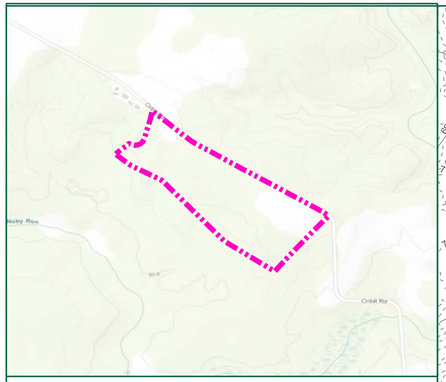
SCALE (FEET)

0 200 400

PLANS PRINTED AS 11X17 ARE HALF SCALE

SCALE	SHEET NUMBER
H:1 " = 200 '	1

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Resource Identification	Confirmation						Resource Description Notes*
	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	POW (sq ft)	Stream (sq ft)	Stream (lf)	
A	4,139						NT/V
B	30,640						NT/V
C					50	50	NT/NV
Total	**34,779**	**0**	**0**	**0**	**50**	**50**	
Total Stream Length =			**50 sq ft**		**0.001 ac**	**50 lf**	
Total Wetland Area =			**34,779 sq ft**		**0.80 ac**		

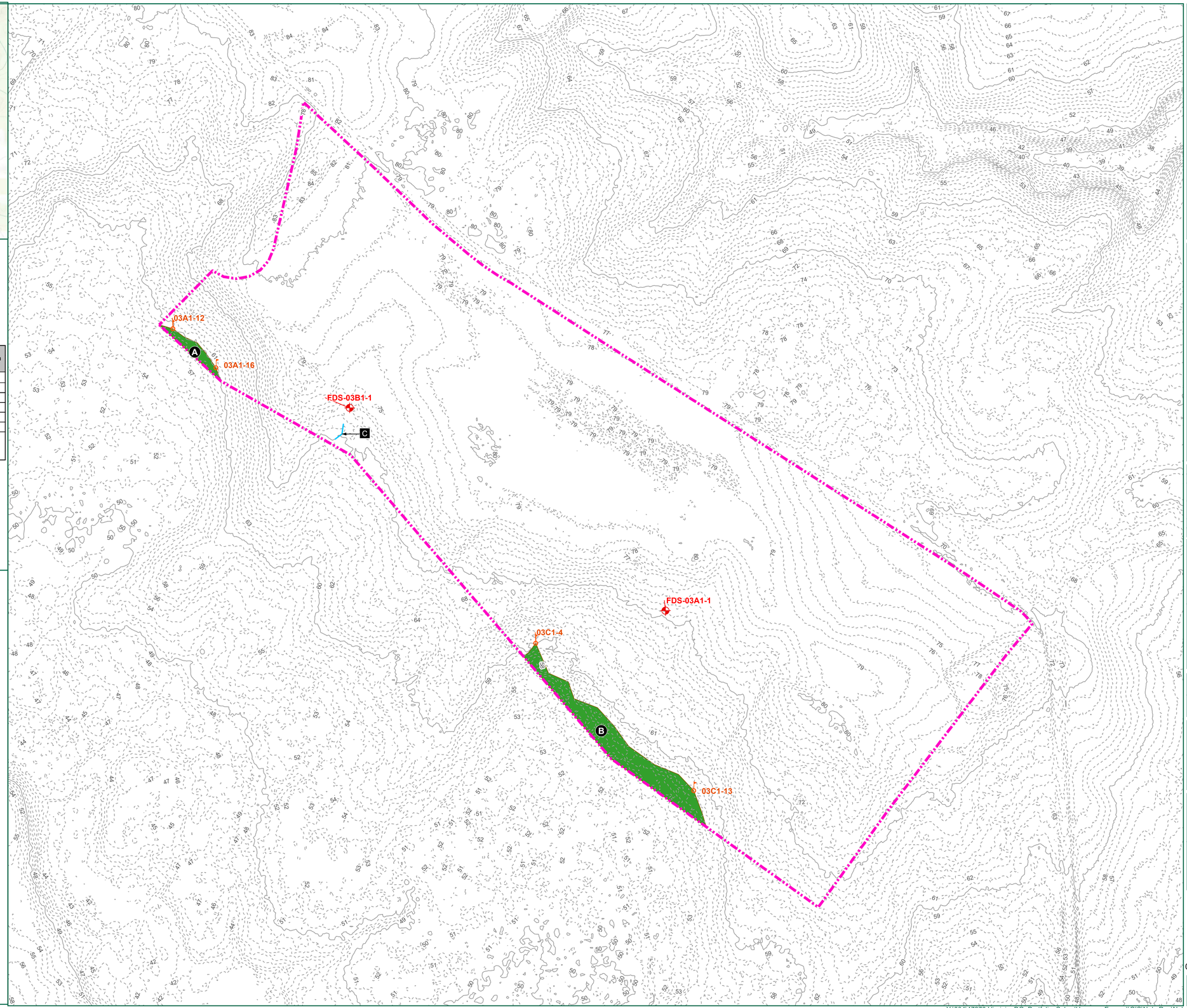
* T=Tidal; NT=Non-tidal; V=Vegetated; NV=Non-Vegetated; PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW= Palustrine Open Water

Legend

- Project Study Limits- 39.7 Acres
- Stream Identifier
- Wetland Identifier
- Flag
- Field Data Station
- Streams
- Palustrine Forested (PFO) Wetlands

Topographic Contours

- Major- 10 Foot
- Minor- 1 Foot



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PROJECT NAME & LOCATION

VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN

ISLE OF WIGHT COUNTY, VIRGINIA

DATE: 12/16/2020

PROJECT NUMBER: 47276

PROJECT NAME: NUBY RUN

DESIGNED BY / DRAWN BY: M. COOLEY

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
2.Waters of the U.S. have not been confirmed by the U.S. Army Corps of Engineers until stamped.
3. Project limits are approximate.
4. Topography based on USGS LIDAR.

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REVISIONS

#	MM/DD/YY	DESCRIPTION

DRAWING DESCRIPTION

FIGURE 4:
WETLANDS AND WATERS DELINEATION MAP

SCALE (FEET)

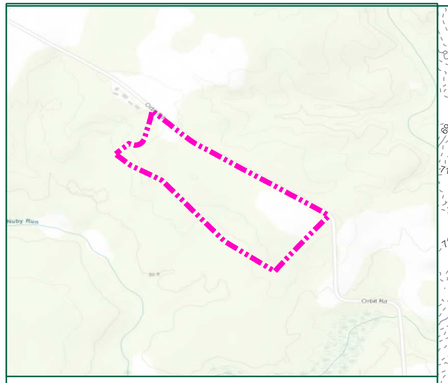
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PLANS PRINTED AS 11X17 ARE HALF SCALE

SCALE: H:1 " = 125 '

SHEET NUMBER: 1

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Legend

- Project Study Limits- 39.7 Acres
- Resource Protection Area
- Intermittent Stream (R4)
- Palustrine Forested (PFO) Wetlands

Topographic Contours

- Major- 10 Foot
- Minor- 1 Foot

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PROJECT NAME & LOCATION

VIRGINIA DG PORTFOLIO SOLAR - NUBY RUN

ISLE OF WIGHT COUNTY, VIRGINIA

DATE	12/16/2020
PROJECT NUMBER	47276
PROJECT NAME	NUBY RUN
DESIGNED BY / DRAWN BY	M. COOLEY

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
2.Waters of the U.S. have not been confirmed by the U.S. Army Corps of Engineers until stamped.
3. Project limits are approximate.
4. Topography based on USGS LiDAR.
5. Cowardin Stream Classifications are based solely on field observations. No formal Stream assessment methodology was completed to determine these Cowardin Classifications.

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REVISIONS

#	MM/DD/YY	DESCRIPTION

DRAWING DESCRIPTION

FIGURE 5: RESOURCE PROTECTION AREA MAP

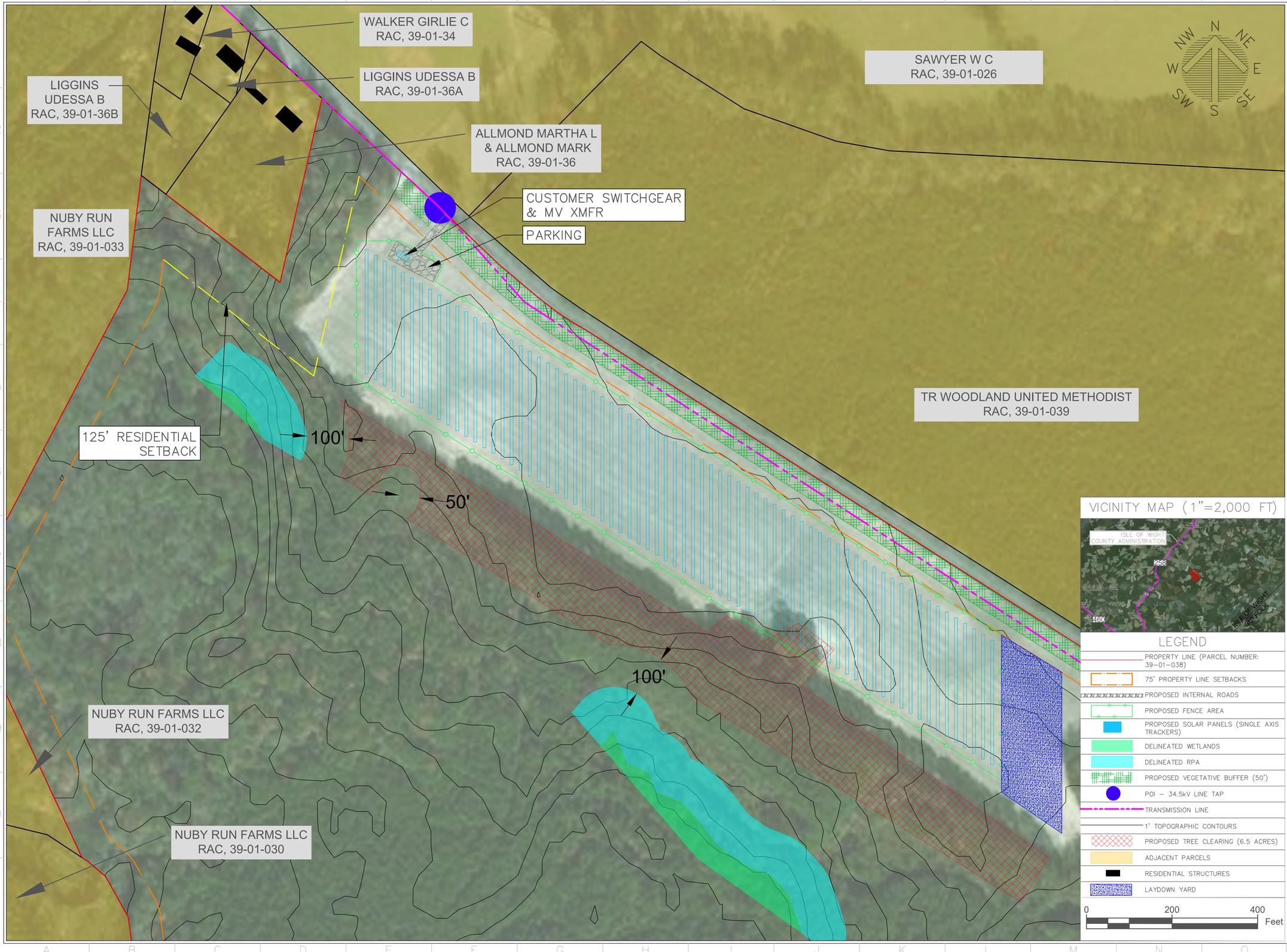
SCALE (FEET)

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PLANS PRINTED AS 11X17 ARE HALF SCALE

SCALE	SHEET NUMBER
H:1 " = 125 '	1

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HEXAGON ENERGY

HEXAGON ENERGY, LLC
321 E. Main St, Suite 500
Charlottesville, VA 22902
Phone: 434.227.5090
Website: www.hexagon-energy.com

Professional Engineer:

PE Seal:

DRAWING TYPE

☒ Preliminary ☐ Construction
☐ Customer Approval ☐ As-built
☐ Permitting ☐ Other

REVISIONS

Rev	By	Description	Date
0	EO	RFP PLAN	3/30/2021
1	EO	PERMIT PLAN	4/15/2021
2	EO	RFP PLAN	7/30/2021
3	EO	COUNTY SITE PLAN	9/28/2021
4	EO	REVISE TREE CLEARING AND VICINITY MAP	12/15/2021

Project Name:
NUBY RUN SOLAR, LLC

Site Address:
ORBIT RD
WINDSOR, VA 23487
36.882° N, -76.689° W

Sheet Name:
SITE PLAN

Scale: 1"=100FT | Project ID: TBD

Sheet No:
L1.1

Existing Vegetation Shading Description

This memo accompanies the conceptual site plan depiction of the existing vegetation's shading impacts on the site area for the proposed Nuby Run Solar as seen in Appendix R.

This depiction illustrates the current daily max of shading if no vegetation management were to occur. Based on our engineer's production analysis, this would translate to 96,000 kWh/yr lost from lack of sun exposure. This meaningful impairment makes for a less efficient array and limits the environmental benefits of the clean energy project. 96,000kWh currently requires burning 4 tons of coal and 679,000,000 cubic feet of natural gas based on our current power supply in Virginia. This combination will create over 51 tons of pollution each year that could be avoided by removing the shading losses.

As seen in proposed CUP condition #15, we are seeking to revegetate the 6.8 acres of proposed clearing with a seed mix including native pollinators that bloom in spring and summer to support the surrounding agricultural community. Additionally, the proposed clearing exists at the edge of the ecological core which maintains the natural corridors and connectivity of habitats within the area. DCR recognized both of these considerations as key mitigation measures.

We have also committed to an additional 100ft non-disturbance buffer from the RPA edge, as seen in our provided WQIA and revised site plan. This conservative approach will ensure ample existing vegetation is maintained, ensuring strong water quality impact safeguards, and can be accomplished without impacting clean energy production.

ORDINANCE NUMBER _____

AN ORDINANCE TO ISSUE A CONDITIONAL USE PERMIT, CUP-5-21, TO ESTABLISH A MAJOR UTILITY SERVICE, SPECIFICALLY A UTILITY SCALE SOLAR ENERGY FACILITY, ON A PORTION OF PROPERTY ZONED RURAL AGRICULTURAL CONSERVATION AND LOCATED ON ORBIT ROAD WITH TAX PARCEL NUMBER 39-01-038

WHEREAS, Nuby Run Solar, LLC, applicant, on behalf of Robert Benjamin Stagg, property owner, has requested the issuance of a conditional use permit for a certain portion property with tax parcel number 39-01-038, which land is depicted on Exhibit "B"; and,

WHEREAS, the procedural requirements of Appendix B, Zoning Ordinance, of the Code of Isle of Wight County, Virginia, 2005 (as amended), have been followed; and,

WHEREAS, in acting upon this request, the Planning Commission and Board of Supervisors have considered the matters enunciated in Section 15.2-2284 of the Code of Virginia (1950), as amended, and Section 1-1017 of the Isle of Wight County Zoning Ordinance with respect to the purposes stated in Code of Virginia (1950), as amended, Section 15.2-2200 and 15.2 2283; and,

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

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" which are attached hereto, are hereby incorporated as part of this ordinance.

Section 2. Findings.

The Board of Supervisors finds that the proposal for a conditional use permit (CUP-5-21), as submitted or modified with conditions herein, the expressed purpose of which is to permit a major utility service, is in conformity 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 use 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.

These findings are based upon a determination that most reasonable and limited way of avoiding the adverse impacts of a major utility service is by the imposition of the conditions provided herein.

Section 3. Permit Granted.

The conditional use permit for the property be, and is hereby approved for the property, subject to the attached conditions in Appendix C and the general conditions set forth in Section 4 hereof. The conditional use permit specifically allows for a major utility service in compliance with the County Zoning Ordinance.

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. The conditional use authorized by this permit shall be implemented within two (2) years from that date of approval by the Board of Supervisors and shall terminate if not initiated within that time period.

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:

Proposed Revisions to the Isle of Wight County Zoning and Subdivision Ordinances

BACKGROUND:

Planning and Zoning staff worked closely with the Planning Commission and Board of Supervisors to develop the proposed Zoning and Subdivision Ordinance changes. The Planning Commission discussed the proposed changes at their January 25, 2022, regular meeting. After their discussion, Commission members directed staff to advertise the changes for public hearing.

The Planning Commission held a public hearing at their February 22, 2022, regular meeting and voted to recommend approval of the proposed Ordinance changes. Both a redline copy of the proposed revisions as well as the Board of Supervisors Ordinance is attached with this report.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

Planning Commission recommended approval of the proposed Ordinance changes by a vote of seven in favor and zero against. Staff also recommends approval of the proposed changes.

ATTACHMENTS:

Description	Type	Upload Date
Zoning Ord Change Redline 021622	Backup Material	2/22/2022
Zoning Ord Changes Draft BOS Ordinance 021622	Backup Material	2/22/2022
Subdivision Ordinance Revision Redline 021622	Backup Material	2/22/2022
Subdivision Ord Draft BOS Ordinance 021622	Backup Material	2/22/2022
Ordinance Revision PC Staff Report 012522	Backup Material	3/7/2022

Proposed Zoning Ordinance Revisions
Revised February 16, 2022

New proposed changes are in red underlined text. Language proposed to be deleted is shown in red text with ~~strikethrough~~ markings.

1. **Add clarification that an environmental and historical resources impact analysis may be required as part of the community impact statement for rezoning requests. If there are potential impacts to historical resources as identified in the County's archeological and architectural surveys, the zoning administrator may require a Phase I cultural resources survey as part of the application.**

   Sec. 1-1015. - Amendments.

   F. Community impact statement. A community impact statement shall address the following:

   1. Adequacy of existing public facilities and services intended to serve the proposed development. Analysis shall be made of sewer, water, drainage, schools, fire stations, roadways, and other major locally financed facilities.
   2. Additional on-site and off-site public facilities or services which would be required as a result of the development.
   3. A traffic impact analysis is required for:
      a. Any development proposed which will generate two hundred (200) average daily trips (ADT) or more based on vehicular trip generation rates as defined by the Institute of Transportation Engineers' most recent publication, "Trip Generation", or the Virginia Department of Transportation. The analysis must be prepared in accordance with VDOT's Traffic Impact Analysis Regulations and Administrative Guidelines and indicate the relationship of the proposed development on the cumulative effect of the traffic and road use for the arterial and secondary roads providing access to the development and any other road or intersection impacted by the development. The traffic impact analysis shall also include traffic data from other existing development to show the cumulative impact of traffic and road use for the affected roadways. Additional areas may be required to be incorporated into the analysis where traffic and accident data warrant.
      b. At the request of the zoning administrator, when the proposed development is expected to significantly impact the vehicular movement on the arterial highways within the area.

   4. A capital impact analysis prepared by county staff utilizing the capital impact model which shall be updated annually. If the model is not available, a fiscal impact analysis of the proposed development on the county shall be required and prepared by the applicant to be reviewed and approved by the zoning administrator when the proposal includes residential dwelling units. A fiscal impact analysis is optional when the proposal does not include any residential dwelling units. The analysis shall contain a comparison of the public revenues anticipated to be generated by the development and the anticipated capital, operations, maintenance and replacement costs for public facilities needed to service the project at the

adopted county service standards, as well as employment opportunities to be generated by the development. The county shall consider the information provided by the applicant during the development review process; provided, however, that the fiscal impact analysis shall not serve as the sole basis for the approval or disapproval of an individual development proposal unless the health and safety of the community is affected by the inability to provide transportation, fire, police, emergency equipment and services, sewer or water to the proposed development.

5. A written assessment of the proposed development's impact on any of the County's environmental and historical resources on the site. A Phase I cultural resources survey may be required at the request of the zoning administrator, if the development will impact high or moderate sensitivity areas as shown in the County's archeological and architectural surveys.

2. Add Short Term Rentals as a commercial use type in Article III, "Use Types."

Sec. 3-6000. - Commercial use types.

Short Term Rental.\ the provision of a room or space that is suitable or intended for occupancy for dwelling, sleeping, or lodging purposes, for a period of fewer than thirty consecutive days, in exchange for a charge for the occupancy. A short term rental operator shall be further defined as the proprietor of any dwelling, lodging, or sleeping accommodations offered as a short-term rental, whether in the capacity of owner, lessee, sublessee, mortgagee in possession, licensee, or any other possessory capacity

3. The following changes are proposed for uses and bulk regulations for various zoning districts in Article IV, "Zoning Districts":

Sec. 4-1005. - Table of permissible uses.

Proposed changes to Section 4-1005, "Table of Permissible Uses," include adding reptile breeding as a conditional use in the General Commercial district, and adding short-term rentals as a permitted use in the Rural Agricultural Conservation and Rural Residential Districts and as a conditional use in all other residential zoning districts. One additional editorial change is proposed to add peddlers as permitted in the Village Center district unintentionally omitted during a previous update.

Table 1
Table of Permissible Uses (ATTACHED)

Sec. 4-2002. Permitted uses, Rural Agricultural Conservation District

The following uses are permitted by right subject to all other applicable requirements contained in this ordinance. An asterisk (*) indicates additional, modified or more stringent standards which are listed in section 5-5000, supplementary use regulations, for those specific uses.

D. Commercial uses:
* Commercial equipment repair, accessory to dwelling
* Construction office, temporary
Lawn and garden services
Real estate office, temporary
* Short-Term Rental
* Taxidermy
Veterinary hospital/clinic
E. Miscellaneous uses:
* Amateur radio tower
Hunt club
* Reconstructed wetland
* Turkey shoot

Sec. 4-2006. - Bulk regulations, Rural Agricultural Conservation District

C. Minimum side yard setback:

1. Principal structures: Fifteen (15) feet~~; Thirty-five (35) feet (both sides).~~
2. Accessory structures: ~~Fifteen (15) feet (~~See supplementary density and dimensional requirements, #1, accessory building requirements~~)~~.

Sec. 4-3002. - Permitted uses, Rural Residential District

The following uses are permitted by right subject to all other applicable requirements contained in this ordinance. An asterisk (*) indicates additional, modified or more stringent standards which are listed in section 5-5000, supplementary use regulations, for those specific uses.

D. Commercial uses:

* Construction office, temporary

Real estate office temporary

* Short-Term Rental

Sec. 4-3007. - Bulk regulations, Rural Residential District

C. Minimum side yard setback:

1. Principal structures: Fifteen (15) feet~~; Thirty-five (35) feet (both sides).~~
2. Accessory structures: ~~Fifteen (15) feet (~~See supplementary density and dimensional requirements, #1, accessory building requirements~~)~~.

Sec. 4-4003. - Conditional uses, Village Center District

E. Commercial uses:

* Antique shop
Auction establishment
Boarding house
Boating and fishing facilities
Business or trade school
Car wash
Commercial indoor amusement
Commercial indoor entertainment
* Commercial indoor sports and recreation
* Commercial outdoor swimming pool and tennis court
* Contractor office and storage facility
* Convenience store
* Crematorium
* Flea market
* Funeral home
* Garden center
* Gasoline station
* Golf course
* Golf driving range
Hotel/motel/motor lodge/inn
* Marina
Medical clinic
* Motor vehicle parts/supply retail
* Motor vehicle repair service/minor
Personal improvement service
Personal service
* Restaurant, drive-in fast food
Restaurant, general
Retail sales
* Short-Term Rental
Studio, fine arts
* Taxidermy
Veterinary hospital/clinic
Wholesale sales

Sec. 4-5003. - Conditional uses, Neighborhood Conservation District

D. Commercial uses:

* Bed and breakfast
Boarding house
* Commercial equipment repair, accessory to dwelling
* Commercial outdoor swimming pool and tennis facility
General store, country
* Golf course
* Marina

*Short-Term Rental

Sec. 4-5005. – Bulk regulations, Neighborhood Conservation District

C. Minimum front yard setback:

1. ~~Lots with less than one hundred fifty (150) feet of width:~~
   a. ~~Where rights-of-way is fifty (50) feet or greater, the minimum front yard setback is thirty-five (35) feet from property line.~~
   b. ~~Where rights-of-way is less than fifty (50) feet, the minimum front yard setback is sixty (60) feet from centerline of road.~~
2. ~~Lots one hundred fifty (150) feet or greater of width:~~
   a. ~~Where rights-of-way is fifty (50) feet or greater, the minimum front yard setback is sixty (60) feet from property line.~~
   b. ~~Where rights-of-way is less than fifty (50) feet, the minimum front yard setback is eighty-five (85) feet from centerline of road.~~

1. Where rights-of-way is fifty (50) feet or greater, the minimum front yard setback is thirty-five (35) feet from property line.
2. Where rights-of-way is less than fifty (50) feet, the minimum front yard setback is sixty (60) feet from centerline of road.
3. In the case that there are existing lots of record in a subdivision having a width that would require a front setback to be lesser or greater than the other lots within the subdivision, the setback met by the majority of the lots shall be required.

Sec. 4-6003. - Conditional uses, Suburban Estate District

D. Commercial uses:
* Bed and breakfast
Boarding house
* Commercial equipment repair, accessory to dwelling
* Commercial outdoor swimming pool and tennis facility
* Golf course
* Marina
* Short-Term Rental

Sec. 4-7003. - Conditional uses, Suburban Residential District

D. Commercial uses:
* Bed and breakfast
Boarding house
* Commercial equipment repair, accessory to dwelling
* Commercial outdoor swimming pool and tennis facility
* Golf course

* Marina
* Short-Term Rental

Sec. 4-7005. - Bulk regulations, Suburban Residential District

D. Minimum side yard setback: Ten (10) feet.
~~1.One (1) side: Ten (10) feet.~~
~~2.Both sides: Twenty-four (24) feet~~

Sec. 4-8003. - Conditional uses, Urban Residential District

E. Commercial uses:
* Bed and breakfast
Boarding house
* Commercial indoor sports and recreation
* Commercial outdoor swimming pool and tennis facility
* Golf course
* Marina
Restaurant, general
Retail sales
* Short-Term Rental
Studio, fine arts

Sec. 4-8004. - Lot size requirements, Urban Residential District

Lot size requirements are for Single Family Detached Residential lots. Public water and sewer are required. Refer to section 5-5002 for supplementary use regulations for townhomes and multifamily.

A. Minimum lot area: Eight thousand five hundred (8,500) square feet
B. Minimum lot width: Sixty (60) feet
C. Minimum lot frontage: Fifty-six (56) feet
D. Minimum frontage on a cul-de-sac: No less than fifty percent (50%) of minimum lot width of district.

~~A. Minimum lot area:~~
~~1.With private sewer and water: Thirty thousand (30,000) square feet.~~
~~2.With public sewer or water: Twenty thousand (20,000) square feet.~~
~~3. With public sewer and water: Twelve thousand (12,000) square feet.~~
~~B. Minimum lot width:~~
~~1. With private sewer and water: One hundred twenty-five (125) feet.~~
~~2. With public sewer or water: One hundred twenty-five (125) feet.~~
~~3. With public sewer and water: Eighty (80) feet.~~
~~C. Minimum lot frontage:~~
~~1. With private sewer and water: One hundred (100) feet.~~
~~2. With public sewer or water: One hundred (100) feet.~~

~~3. With public sewer and water: Fifty-six (56) feet.~~
~~4. Minimum frontage on a cul-de-sac: No less than fifty percent (50%) of minimum lot width of district. (11-17-16; 7-19-18; 11-15-18.)~~

Sec. 4-10003. - Conditional uses, General Commercial District

A. Agricultural uses:
Aquaculture
Aquaculture, waterfront business
Greenhouse, private
* Reptile Breeding
* Sawmill, commercial
* Stable, commercial - Not in conjunction with residence

Sec. 4-15003. - Conditional uses, Planned Residential District

D. Commercial uses:
* Bed and breakfast
Boarding house
Commercial indoor entertainment
* Commercial indoor sports and recreation
* Commercial outdoor swimming pool and tennis facility
* Marina
*Short-Term Rental

Sec. 4-16003. - Conditional uses, Planned Mobile Home Park District

C. Commercial Uses
* Short-Term Rental

Sec. 4-18003. - Conditional uses, Planned Mixed Use District

E. Commercial uses:
* Bed and breakfast
Boarding house
Boating and fishing facilities
Business or trade school
Car wash
Catering
Commercial indoor amusement
Commercial indoor entertainment
* Commercial indoor sports and recreation
* Commercial outdoor entertainment/sports and recreation
* Commercial outdoor swimming pool and tennis facility
* Convenience store
* Funeral home
* Garden center

* Gasoline station
* Golf driving range
Hospital
Hospital, special care
Hotel/motel/motor lodge/inn
* Marina
Medical clinic
* Motor vehicle repair service/minor
*Short-Term Rental
Tattoo parlor

4. The following are additional changes proposed proposed for Article V, "Supplemental Use Regulations":

Sec. 5-1004. - Accessory uses.

C. Portable on demand storage (POD) units, shipping containers or dumpsters used for renovation or construction work shall be considered temporary structures. They are permitted for use for a total of sixty (60) days, after which a zoning permit must be obtained through the planning and zoning department for a period not to exceed six months.

Sec. 5-2000. - Supplementary density and dimensional regulations.

A. Accessory building requirements.
1. The square footage of an accessory building shall not exceed the square footage of the primary structure.
2. The following provisions shall regulate the location of accessory buildings with respect to required yards:
a. Accessory buildings shall be prohibited in any required yard which adjoins a street, except as permitted under subsection 5-2000.E.3.
b. Accessory buildings shall be located at least five (5) feet from any required rear and side lot boundary lines where such building is entirely to the rear of the principal structure.
c. Accessory structures in the RAC and RR districts may be located in the side yard and shall be located at least five (5) feet from any required rear and side lot boundary lines. Such buildings shall be a maximum of fifteen (15) feet in height and shall be no more than 500 square feet. Anything larger must meet principal building setbacks.
d. ~~Where an accessory building is located in a zoning district requiring a side yard and such building is entirely to the rear of the principal structure, the accessory building shall be located at least five (5) feet from any adjoining lot line.~~
d. Accessory buildings shall not exceed the maximum height restriction for the zone in which such structures are located, except as specified in subsection 5-2000.D.2.

e. Shipping containers may be used as residential, commercial and industrial accessory structures subject to the criteria in subsection 5-5006.J.

Sec. 5-5001. - Supplementary use regulations for agricultural use types.

G. Reptile breeding.

1. In additional to obtaining a conditional use permit, reptile breeding shall comply with the following provisions:
   a. Each reptile shall be kept in ~~one hundred percent (100%)~~ escape proof, temperature-controlled ~~glass~~ cage. The only exception shall be during breeding and no more than two (2) reptiles shall be kept in a cage for breeding purposes at in any given time.
   b. Each cage shall contain proper housing, shelter, feeding and water accommodations.
   c. An operational plan shall accompany the conditional use permit application to describe how the business will operate, what structures/facilities will be devoted to the use, what species of reptiles will be kept, how large they grow and how will they will be caged long term, how the reptiles will be cared for including feeding, medical check-ups, how the cages will be cleaned and maintained to prevent the spread of bacteria, how waste disposal will be handled, and any other information as may be determined by the zoning administrator, planning commission and board of supervisors. The owner/operator shall be responsible for keeping a current report on file with the County Department of Emergency Services with a list of any poisonous species to be kept on the property.
   d. The keeping of reptiles shall comply with all local, state and federal requirements.

H. Private Sawmill.

1. A ~~permanent or temporary~~ private sawmill shall be no less than three hundred (300) feet from any lot line or street right-of-way.
2. A permanent or temporary structure shall not be located on environmentally sensitive lands (RPAs) and wetlands.
3. All power saws and machinery will be secured against tampering or locked when not in use.
4. ~~4.~~A ~~temporary~~ private sawmill shall only be established to process timber cut from the parcel on which the ~~temporary~~ private sawmill is located or on immediately adjacent parcels or to process timber for personal use only. ~~and shall only be allowed for a period of only one (1) year~~. ~~For periods exceeding one (1) year, a conditional use permit shall be obtained from the board of supervisors.~~

~~5.A temporary private sawmill shall be located at least two hundred (200) feet from any residence located on an adjoining property.~~

6. No processing, milling, finishing or artificial means of drying green lumber shall be associated with a ~~temporary~~ private sawmill.
7. Green lumber and all other products and by-products from the ~~temporary~~ private sawmill shall be removed from the site at least every sixty (60) days.
8. Buildings associated with a ~~temporary~~ private sawmill shall be limited to shelter for the sawmill equipment and essential shelter for personnel. No building shall be erected for the storage, processing, or drying of green lumber.

Sec. 5-5002. - Supplementary use regulations for residential use types.

Q. Short Term Rentals

1. Zoning permit is required.
2. Local contact who is available to respond to and resolve complaints during the entire length of the rental period. Failure to respond and resolve complaints will result in the revocation of the permit.
3. Operators must obtain a business license and register for transient occupancy and state sales tax.
4. Must meet current building and zoning regulations and be subject to a safety inspection from the County to confirm the installation of smoke alarms, fire extinguisher and a posted emergency exit plan prior to permit approval.
5. $500 penalty for failure to obtain required permits. Repeated violations may result in the prohibition on rental of applicable properties.
6. One off-street space per guest room is required in addition to the parking required for the house.
7. Rentals are limited to owner-occupied residences. No visible evidence of the conduct of a short-term rental is allowed on the outside of the property.
8. Event rentals are not permitted.
9. No meals may be prepared for or provided to guests.

Sec. 5-5003. - Supplementary use regulations for civic use types.

M. Utility services, major.

4.Utility Scale Solar Energy Facilities.

i. Facilities shall not be located within the limits of the County's Development Service Districts. This prohibition shall not apply to those solar facilities classified as minor utility use types and are considered incidental and accessory to the principal use of the property.

j. The facilities themselves must be partially or wholly located within a two mile radius of existing substations and/or high voltage transmission lines.

5. The following changes are proposed for Article VI, "Overlay Districts":

Sec. 6-1001. - Highway Corridor Overlay (HCO) District.

Sec. 6-1010. - Architectural and development guidelines for all nonresidential uses.

B. Development standards. Proposed development within the district should provide for visual compatibility and harmony with surrounding natural landforms and vegetation; be protective of views and vistas from the arterial highways within the

district; and provide continuity of site design within the proposed development. These objectives include the following standards:

6. Vehicular movement and parking areas requiring ~~five (5)~~ twenty (20) spaces or more shall be paved with concrete, asphalt, or other similar material. Vehicular movement and parking areas requiring less than ~~five (5)~~ twenty (20) spaces may be surfaced with gravel, slag, or other similar material but must be served by paved entrances meeting Virginia Department of Transportation standards. ~~Concrete curb and gutter or other stormwater management structure as approved by the zoning administrator shall be installed around the perimeter of all driveways and parking areas.~~ Off street parking areas shall be clearly designated by the use of borders around the perimeter of these areas using fences, walls, wooden timbers, brickwork, or other similar treatment. Drainage shall be designed so as not to interfere with pedestrian traffic.

Sec. 6-2000. - Newport Development Service Overlay (NDSO) District.

Sec. 6-2009. - Development standards.

E. ~~All vehicular movement and parking areas shall be paved with concrete, asphalt, or other similar material.~~ Vehicular movement and parking areas requiring twenty (20) spaces or more shall be paved with concrete, asphalt, or other similar material. Vehicular movement and parking areas requiring less than twenty (20) spaces may be surfaced with gravel, slag, or other similar material but must be served by paved entrances meeting Virginia Department of Transportation standards.

1. Parking shall be designed in accordance with one (1) of the following options:
   a. When all of the parking is located to the side or rear of the primary structure; the front setback along roads not specified in Section 6-1003 may be reduced ~~by up to twenty (20) feet~~ to no less than twenty-five (25) feet subject to review and approval by the zoning administrator after consideration of necessary utility, landscaping and pedestrian corridors.
   b. When more than twenty-five percent (25%) of the required parking is to be located in front of the primary structure; a decorative fence no less than three (3) feet in height shall be constructed between the parking and the public right-of-way. This fence shall not count towards the required landscaping points for any specified landscaping zone.

F. ~~Concrete curb and gutter or other stormwater management structures as approved by the zoning administrator shall be installed around the perimeter of all driveways and parking areas.~~ . Off street parking areas shall be clearly designated by the use of borders around the perimeter of these areas using fences, walls, wooden timbers, brickwork, or other similar treatment. Drainage shall be designed so as not to interfere with pedestrian and bicycle traffic.

AN ORDINANCE
TO AMEND AND REENACT THE FOLLOWING SECTIONS OF APPENDIX B. ZONING: ARTICLE I (GENERAL PROVISIONS), ARTICLE III (USE TYPES), ARTICLE IV (ZONING DISTRICT BOUNDARIES), ARTICLE V (SUPPLEMENTARY USE REGULATIONS), ARTICLE VI (OVERLAY DISTRICTS), AND ARTICLE VII (GENERAL DESIGN GUIDELINES AND DEVELOPMENT)

WHEREAS, the Board of Supervisors of Isle of Wight County, Virginia, has the legislative authority to make reasonable changes to the ordinances that govern the orderly growth and development of Isle of Wight County; and

WHEREAS, the Isle of Wight County Board of Supervisors is also concerned about the compatibility of uses on public and private lands within Isle of Wight County and seeks to allow flexibility in the administration of the ordinance regulations while protecting the health, safety, and general welfare of present and future residents and businesses of the County.

NOW, THEREFORE, BE IT ORDAINED by the Isle of Wight County Board of Supervisors that the following specific sections of the Articles of Appendix B, Zoning, of the Isle of Wight County Code be amended and reenacted as follows:

Article I. General Provisions.

Sec. 1-1015. - Amendments.

F. Community impact statement. A community impact statement shall address the following:

1. Adequacy of existing public facilities and services intended to serve the proposed development. Analysis shall be made of sewer, water, drainage, schools, fire stations, roadways, and other major locally financed facilities.
2. Additional on-site and off-site public facilities or services which would be required as a result of the development.
3. A traffic impact analysis is required for:
    a. Any development proposed which will generate two hundred (200) average daily trips (ADT) or more based on vehicular trip generation rates as defined by the Institute of Transportation Engineers' most recent publication, "Trip Generation", or the Virginia Department of Transportation. The analysis must be prepared in accordance with VDOT's Traffic Impact Analysis Regulations and Administrative Guidelines and indicate the relationship of the proposed development on the cumulative effect of the traffic and road use for the arterial and secondary roads providing access to the development and any other road or intersection impacted by the development. The traffic impact analysis shall also include traffic data from other existing development to show the cumulative impact of traffic and road use for the affected roadways. Additional areas may be required to be incorporated into the analysis where traffic and accident data warrant.

b. At the request of the zoning administrator, when the proposed development is expected to significantly impact the vehicular movement on the arterial highways within the area.

4. A capital impact analysis prepared by county staff utilizing the capital impact model which shall be updated annually. If the model is not available, a fiscal impact analysis of the proposed development on the county shall be required and prepared by the applicant to be reviewed and approved by the zoning administrator when the proposal includes residential dwelling units. A fiscal impact analysis is optional when the proposal does not include any residential dwelling units. The analysis shall contain a comparison of the public revenues anticipated to be generated by the development and the anticipated capital, operations, maintenance and replacement costs for public facilities needed to service the project at the adopted county service standards, as well as employment opportunities to be generated by the development. The county shall consider the information provided by the applicant during the development review process; provided, however, that the fiscal impact analysis shall not serve as the sole basis for the approval or disapproval of an individual development proposal unless the health and safety of the community is affected by the inability to provide transportation, fire, police, emergency equipment and services, sewer or water to the proposed development.
5. A written assessment of the proposed development's impact on any of the County's environmental and historical resources on the site. A Phase I cultural resources survey may be required at the request of the zoning administrator, if the development will impact high or moderate sensitivity areas as shown in the County's archeological and architectural surveys.

Article III. – Use Types.

Sec. 3-6000. Commercial use types.

Adult entertainment establishment.\ An establishment having a substantial or significant portion of its stock in trade books, magazines and other periodicals which are distinguished or characterized by their emphasis on matter depicting, describing or related to "specified sexual activities" or "specified anatomical areas," or an establishment with a segment or section devoted to the sale or display of such material. This use includes any adult bookstore, adult mini-motion-picture theater, adult picture theater, cabaret, drug paraphernalia store, and internet sweepstakes cafe.

Auction establishment.\ A structure or enclosure where goods are sold by auction on a recurring basis. Expressly excluded from this use are non-recurring auctions of property, possessions, estates, and other items located at the premises where the auction is being conducted.

Bed and breakfast.\ A dwelling or portion thereof, in which lodging is provided by the owner or operator who resides on the premises. This use offers short-term lodging rooms and meals for transient guests, none of who remain for more than fourteen (14) consecutive nights each. This definition shall include the term tourist home.

Boarding house.\ A single-family dwelling unit, or part thereof, with three (3) or more rooms that are rented individually or collectively by long-term residents (at least month-to-month tenants) as opposed to overnight or weekly guests. A boarding house may make provisions for serving meals.

Boat repair yard.\ See "marina" listed under commercial use types.

Boating and fishing facilities.\ Facilities catering to the general public, whether an admission is charged or not, where provisions are made for fishing from the shoreline or from a pier and/or launching or rental of boats are available on-site.

Business support service.\ Establishment or place of business engaged in the sale, rental or repair of office equipment, supplies and materials, or the provision of services used by office, professional and service establishments. Typical uses include office equipment and supply firms, small business machine repair shops, convenience printing and copying establishments, mail and packaging stores, as well as temporary labor services.

Business or trade school.\ A use providing education or training in business, commerce, language, or other similar activity or occupational pursuit, and not otherwise defined as an educational facility, either primary and secondary, or college and university, or as a home occupation.

Campground.\ Any site, lot, parcel or tract of land on which accommodations for temporary occupancy are located or may be placed, including cabins, tents, and recreational equipment, recreational vehicles, and which is primarily used for recreational purposes and retains an open air or natural character.

Campground, workforce.\ A small campground facility intended for the temporary workforce routinely required by establishments in the community for periods of up to one hundred and twenty (120) days at a time, and are intended to have only the minimum essential services necessary for recreational vehicles.

Car wash.\ Washing and cleaning of vehicles. Typical uses include automatic conveyor machines and self-service car washes.

Catering.\ Any establishment engaged in the preparation of food and beverages, or where food containers or supplies are kept, handled, prepared, packaged or stored for off-site distribution to individuals, events, and satellite operations.

Commercial equipment repair, accessory to dwelling.\ The repair and/or maintenance of mechanical, electrical, or electronic devices and equipment, such as, computers, televisions, lawnmowers, household appliances, machine parts, and other similar devices.

Commercial indoor amusement.\ Establishments which provide games of chance, skill or scoring other than an incidental use of the premises. Games would include pinball and video machines, pool and billiard tables and other similar amusement or entertainment devices, whether or not they are coin-operated, and also card games, bingo, and off-track betting. Typical uses include game rooms, pool halls, video arcades, and bingo parlors.

Commercial indoor entertainment.\ Predominantly spectator uses conducted within an enclosed building. Typical uses include motion picture theaters, drama theaters, concert or music halls.

Commercial indoor sports and recreation.\ Predominantly participant uses conducted within an enclosed building. Typical uses include bowling alleys, ice- and roller-skating rinks, indoor racquetball, squash courts, swimming, and/or tennis facilities, archery and indoor shooting ranges and similar uses.

Commercial outdoor entertainment/sports and recreation.\ Predominantly spectator uses conducted in open or partially enclosed or screened facilities. Typical uses include motor vehicle, boat, motorcycle or animal racing facilities/complexes, drive-in movies, miniature golf, amphitheaters and outdoor amusement parks, motorized cart and motorcycle tracks, and motorized model airplane flying facilities. Professional and semi-professional athletic fields shall also be included in this use.

Commercial outdoor swimming pool and tennis facility.\ Outdoor pools or tennis facilities operated by a commercial entity that are open to the general public usually requiring membership or some form of payment.

Construction office, temporary.\ A trailer used as a temporary office during a construction operation. This use includes construction office trailers occupied in conjunction with residential or nonresidential development.

Construction sales and service.\ Establishments or places of business primarily engaged in retail or wholesale sale, from the premises, of materials used in the construction of buildings or other structures, but specifically excluding motor vehicle or equipment supplies otherwise classified herein. Typical uses include building material stores and home supply establishments.

Contractor office and storage facility.\ An establishment or place of business engaged in the construction of residential or commercial structures including trades that assist in building construction or remodeling including carpentry, electrical, masonry, painting, metalworking, flooring installation, ductwork, plumbing, heating, au conditioning, roofing, and other similar trades.

Convenience store.\ Establishments primarily engaged in the provision of frequently or recurrently needed goods for household consumption, such as prepackaged food and beverages, limited household supplies and hardware.

Crematorium.\ A location used for cremation containing properly installed, certified apparatus for this process.

Dance hall.\ Any establishment open to the general public where dancing is permitted and a cover charge is directly or indirectly required for entry into the establishment. However, a restaurant licensed to serve food and beverages having a dance floor with an area not exceeding ten percent (10%) of the total floor area of the establishment shall not be considered a dance hall.

Equipment sales and rental.\ Establishments primarily engaged in the sale or rental of tools, trucks, tractors, construction equipment, and similar industrial equipment. Included in this use type is the incidental storage, maintenance, and servicing of such equipment.

Event center.\ A multipurpose facility with flexible indoor/outdoor space, typically used for activities such as weddings, conventions, meetings, job fairs, and trade shows.

Flea market.\ Occasional or periodic commercial activities held in an open area or enclosed structure where groups of sellers rent space on a short-term basis to display, barter, or sell goods to the general public. A fee may be charged for expected buyers for admission, or a fee may be

charged for the privilege of offering or displaying such merchandise. A flea market is composed of semi-closed or outdoor stalls, stands, or spaces.

Funeral home.\ Establishments engaged in undertaking services such as preparing the dead for burial, and arranging and managing funerals. This use excludes crematorium, which is defined separately.

Garden center.\ Establishments engaged primarily in the retail sale of trees, shrubs, seeds, fertilizers, pesticides, plants, plant materials, and garden supplies, primarily for agricultural, residential and commercial consumers.

Gasoline station.\ A facility for the retail sale of motor vehicle fuels, oils, and accessories, where repair is incidental, where no more than two (2) abandoned vehicles or other motor vehicles shall be stored on the premises. May include the sale of propane or kerosene as an accessory use.

General store, country.\ A single store, the ground floor area of which is four thousand (4,000) square feet or less and which offers for sale, primarily, most of the following articles: bread, milk, cheese, candy, papers and magazines, and general hardware articles. Gasoline may also be offered for sale but only as a secondary activity of a country general store.

Golf course.\ A tract of land for playing golf, improved with tees, greens, fairways, hazards, and which may include clubhouses and shelters. Included would be executive or par three (3) golf courses.

Golf driving range.\ A limited area on which golf players do not walk, but onto which they drive golf balls from a common driving tee.

Hospital.\ A building or group of buildings having room facilities for one (1) or more patients, used for providing services for the inpatient medical or surgical care of sick or injured humans and which may include related facilities such as laboratories, outpatient departments, training facilities, central service facilities, ambulance stops and helicopter landing sites, and other incidental and subordinate uses integral to hospital operations.

Hospital, special care.\ A special care hospital shall mean an institution rendering care primarily for patients with mentally-related illness, or under treatment for alcoholism, substance abuse, etc.

Hotel/motel/motor lodge/inn.\ A building or group of attached or detached buildings containing lodging units intended primarily for rental or lease to transients by the day or week. Such uses generally provide additional services such as daily maid service, restaurants, taverns, or public banquet halls, ballrooms, and meeting rooms and/or recreation facilities.

Itinerant merchant.\ A person who shall engage in, do or transact any temporary or transient business in the county, either in one (1) locality or in traveling from place to place in the sale of goods, services, wares and merchandise, and who, for the purpose of carrying on such business, shall hire, lease, use or occupy any building or structure, motor vehicle, tent, car, boat or public room, or any part thereof, including rooms in hotels, lodging houses or houses of private entertainment, any street, alley or other public place in any city or town or any public road in any county, for a period of less than one (1) year, for the exhibition of or sale of such goods, wares or merchandise.

Kennel, commercial.\ The boarding, breeding, raising, grooming or training of two (2) or more dogs, cats, or other household pets of any age not owned by the owner or occupant of the premises.

Laundry.\ Establishments primarily engaged in the provision of laundering, cleaning or dyeing services other than those classified as personal services. Typical uses include bulk laundry and cleaning plants, diaper services, or linen supply services.

Lawn and garden services.\ Establishments primarily engaged in performing a variety of lawn and garden services, including Bermuda sprigging services, cemetery upkeep, garden maintenance, garden planting, lawn care, lawn fertilizing services, lawn mowing services, lawn mulching services, lawn seeding services, lawn spraying services, lawn sprigging services, mowing highway center strips and edges, seeding highway strips, sod laying and turf installation.

Manufactured home sales.\ Establishment primarily engaged in the display, retail sale, rental, and minor repair of new and used manufactured homes, parts, and equipment.

Marina.\ A use for docking or mooring of more than four (4) boats (excluding paddle or rowboats) or providing services to boats, including servicing and repair, sale of fuel and supplies, and provisions of lodging, goods, beverages. A yacht or boat club shall be considered a marina.

Medical clinic.\ A facility providing medical, psychiatric, or surgical service for sick or injured persons exclusively on an outpatient basis including emergency treatment, diagnostic services, training, administration and services to outpatients, employees, or visitors. This use may include ambulance stops, helicopter landing sites, and other incidental and subordinate uses integral to providing outpatient care. This would include medical offices in excess of ten thousand (10,000) square feet of floor area.

Micro-brewery, distillery, cidery.\ See "Brewery, distillery, cidery" listed under industrial use types. A micro-brewery, distillery, cidery shall not exceed fifteen thousand (15,000) barrels per year in production.

Mini-warehouse.\ A building designed to provide rental storage space in cubicles where each cubicle has a maximum floor area of four hundred (400) square feet. Each cubicle shall be enclosed by walls and ceiling and have a separate entrance for the loading and unloading of stored goods.

Motor vehicle dealership, new.\ The use of a building, land area or other premises for the display of new and used automobiles, trucks, vans, or motorcycles for sale or lease, including warranty repair work and other major and minor repair service conducted as an accessory use.

Motor vehicle dealership, used.\ Any lot or establishment where two (2) or more used motor vehicles, including automobiles, trucks, and motorcycles are displayed at one (1) time for sale or lease, including warranty repair work and other major and minor repair service conducted as an accessory use.

Motor vehicle/outdoor storage.\ The outdoor storage of ten (10) or more operable motor vehicles, and/or watercraft, except when used in conjunction with a bonafide agricultural operation. Motor vehicles in this use shall include such items as cars, trucks, sports utility vehicles, motorcycles, watercraft, motor homes or RVs. This use shall specifically include vehicle impound areas for operable vehicles.

Motor vehicle parts/supply, retail.\ Retail sales of automobile parts and accessories. Typical uses include automobile parts and supply stores which offer new and factory rebuilt parts and accessories, and include establishments which offer minor automobile repair services.

Motor vehicle/rental.\ Rental of motor vehicles and light trucks and vans, including incidental parking and servicing of vehicles for rent or lease. Typical uses include auto rental agencies and taxicab dispatch areas.

Motor vehicle repair service/major.\ Repair of construction equipment, commercial trucks, agricultural implements and similar heavy equipment, including automobiles, where major engine and transmission repairs are conducted. Typical uses include automobile and truck repair garages, transmission shops, radiator shops, body and fender shops, equipment service centers, machine shops and other similar uses where major repair activities are conducted.

Motor vehicle repair service/minor.\ Repair of automobiles, noncommercial trucks, motorcycles, motor homes, recreational vehicles, or boats, including the sale, installation, and servicing of equipment and parts. Typical uses include tire sales and installation, wheel and brake shops, oil and lubrication services, automobile glass repair and similar repair and service activities where minor repairs and routine maintenance are conducted.

Pawn shop.\ A use engaged in the loaning of money on the security of property pledged in the keeping of the pawnbroker and the incidental sale of such property.

Peddler.\ A person who shall carry from place to place any goods, wares or merchandise and offer to sell or barter the same or actually sell or barter the same. All persons who do not keep a regular place of business, whether it is a house or a vacant lot or elsewhere, open at all times in regular business hours and at the same place, who shall offer for sale goods, wares and merchandise, shall be deemed a "peddler."

Personal improvement service.\ Establishment primarily engaged in the provision of informational, instructional, personal improvements and similar services. Typical uses include driving schools, health fitness centers or gyms, reducing salons, dance studios, handicraft and hobby instruction, and baseball and basketball instruction facilities.

Personal service.\ Establishment or place of business engaged in the provision of frequently or recurrently needed services of a personal nature. Typical uses include beauty and barber shops; grooming of pets; seamstresses, tailors, or shoe repairs; florists; and laundromats and dry-cleaning stations serving individuals and households, massage therapy and chiropractic services.

Real estate office, temporary.\ A Class A or B manufactured home, single-family home or other structure used on a temporary basis as a real estate sales office in conjunction with residential development.

Recreational vehicle sales and service.\ Retail sales of recreational vehicles and boats, including service and storage of vehicles and parts and related accessories.

Restaurant, drive-in fast food.\ An establishment primarily engaged in the preparation of food and beverages, for either take-out, delivery or table service, primarily served in disposable containers at a counter, a drive-up or drive-through service facility or offers curb service.

Restaurant, general.\ An establishment engaged in the preparation of food and beverages. This use is characterized by table service to customers in nondisposable containers.

Retail sales.\ Sale or rental with incidental service of goods and merchandise for personal or household use which is not otherwise specifically described in the listing of commercial use types contained herein. Such uses include bakeries, drug stores, bookstores, furniture, gifts, hardware, grocery stores, clothing stores, and floral retail shops.

Short Term Rental.\ The provision of a room or space that is suitable or intended for occupancy for dwelling, sleeping, or lodging purposes, for a period of fewer than thirty consecutive days, in exchange for a charge for the occupancy. A short-term rental operator shall be further defined as the proprietor of any dwelling, lodging, or sleeping accommodations offered as a short-term rental, whether in the capacity of owner, lessee, sublessee, mortgagee in possession, licensee, or any other possessory capacity.

Studio, fine arts.\ A building, or portion thereof, used as a place of business for visual art, which may include sculptors, artists or photographers.

Tattoo parlor.\ Any establishment placing designs, letters, scrolls, figures, symbols or any other mark upon or under the skin of any person with ink or other substance resulting in the permanent coloration of the skin, including permanent makeup or jewelry, by the aid of needles or any other instrument designed to touch or puncture skin, except when performed by a medical doctor, veterinarian, registered nurse or other medical professional licensed pursuant to Title 54.1 of the Code of Virginia in the performance of professional duties. Such establishment may also perform body piercing.

Taxidermy.\ A building where animal skins are prepared, stuffed and mounted for sale.

Truck stop.\ An establishment containing a mixture of uses which cater to the traveling public and in particular motor freight operators. A truck stop might include such uses as fuel pumps, restaurants, overnight accommodations, retail sales related to the motor freight industry, and similar uses.

Truck terminal.\ See "warehousing and distribution" listed under industrial use types.

Veterinary hospital/clinic.\ Any establishment rendering surgical and medical treatment of animals. Boarding of animals shall only be conducted indoors, on a short-term basis, and shall only be incidental to such hospital/clinic use, unless also authorized and approved as a commercial kennel.

Wholesale sales.\ Businesses engaged in the sale of goods primarily via mail order to other businesses and/or businesses engaged in the repackaging and resale of goods. Included in this use type are businesses that publish and operate mail order catalogues and wholesale operations that buy in large quantities for repackage or resale to mail order and internet sales customers. This use shall exclude warehousing and distribution, which is regulated as a separate use.

Article IV. - Zoning Districts and Boundaries.

Part 1. - Zoning Districts and Boundaries.

Sec. 4-1005. - Table of permissible uses.

Table 1
Table of Permissible Uses

P = Permitted, C = Conditional Use, (*) = Supplementary Use Regulations																	
Use Descriptions	RAC	RR	VC	NC	SE	SR	UR	LC	GC	LI	GI	GIC	PDR	PDMH	PDCP	PDMX	PDIP
AGRICULTURAL USE TYPES																	
Agricultural Crop Service Tower and Antenna (*)	P	C	P	C													
Agricultural Farm Equipment Sales and Service	C		C					P	P	P	P	P			P	C	P
Agricultural Farm Product Processing, Warehousing and Distribution Service	P		P					C		P	P	P			P		P
Agricultural Feed Seed and Farm Supply Service	C		P					P	P	P	P	P			P	C	P
Agricultural Service/Agent	P	P	P					P	P	P	P	P			P		P
Agriculture	P	P	P	C						C	C	C					C
Agritourism (See Part 2A)	P	P	P														
Aquaculture	P	P	P	C					C	C	C	C					C
Aquaculture, Waterfront Business	C	C	P						C	C	C	C					C
Commercial Feedlot (*)	P		C							C	P	C					C
Fair, Agricultural	P		C														
Family Burial	P																

Plot																	
Farm Employee Housing (*)	C	C	C														
Farmer's Market	P		P					P	P				P			P	
Forestry Operation, Silvicultural and/or Timbering (*)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Greenhouse, Commercial and/or Nursery																	
• In conjunction with residence	P	C	P	C	C												
• Not in conjunction with residence	P		P					P	P	P	P	P			P	C	P
Greenhouse, Private	P	P	P	P	P	C	C	C	C				C			C	
Livestock Auction Market (*)	P		C							C	P	C			C		P
Reptile Breeding (*)	C								C	C	C						
Sawmill, Private (*)	P																
Stable, Commercial (*)																	
• In conjunction with residence	P	C	C	C	C								C			C	
• Not in conjunction with residence	P		C					C	C								
Stable, Private (*)	P	P	C	C	C								C				
Viticulture	P	P	P	C						C	C	C					C
Wayside Stand (*)	P	P	P	C													
RESIDENTIAL USE TYPES																	

Accessory Apartment (*)																	
Residential Accessory Apartment (*)	P	P	P	C	P	C	C						P			P	
Commercial Accessory Apartment (*)			C					P	P				P		C	P	
Boathouse (*)	P	P	P	P	P	P	C						C			C	
Community Recreation (*)		C		C	C	C	C						P	P		P	
Condominium (*)				C			P						P			P	
Congregate Housing (*)			C			C	P						P			P	
Dwelling, Multifamily Conversion (*)	C		C	C	C	C	P						C			C	
Dwelling, Single-Family	P	P	P	P	P	P	P						P			P	
Dwelling, Single-Family, Farm	P																
Dwelling Two-Family Duplex (*)	C	C	C	C		P	P						P			P	
Family Day Care Home (*)	P	P	P	P	P	P	P						P			P	
Group Home	P	P	P	P	P	P	P	C					C			C	
Guest House (*)	P	P		C	C												
Home Occupation, Type I (*)	P	P	P	P	P	P	P						P	P		P	
Home Occupation, Type II (*)	P	P	C	C													
Kennel, Private (*)	P	P															
Manufactured	P	P	C											P			

Home, Class A (*)																	
Manufactured Home, Class B (*)	P												P				
Manufactured Home, Class C																	
Manufactured Home, Family Member Residence (*)	P																
Manufactured Home, Temporary Residence (*)	P																
Manufactured Home Park													P				
Manufactured Home Subdivision													P				
Multifamily Dwelling (*)			C			C	P						P			P	
Temporary Emergency Housing (*)	P	P	P	P	P	P	P						P			P	
Townhouse (*)			C	C		C	P						P			P	
CIVIC USE TYPES																	
Administrative Service	P		P					P	P	P	P	P			P	P	P
Adult Care Center (*)	C		C					C	P	P	P	P	C		P	C	P
Assisted Living Facility	C		C					C	P				C			C	
Cemetery (*)																	
• Animal	C	C	C	C													
• Church	C	C	C	C	C	C	C	C	C				C			C	
• Private	C	C	C	C				C	C	C					C	C	C
• Public	C	C	C	C				C	C	C					C	C	C

Child Care Center (*)	C	C	C	C	C	C		P	P	P			C		P	C	C
Child Care Institution (*)	C	C	C					C	C				C			C	
Club	C	C	C	C	C	C	C	P	P				C		P	C	
Community Center (*)	C		P					P	P				P		P	P	
Correctional Facility	C										C	C					C
Crisis Center	C	C	C					P	P						P		
Cultural Service	C	C	P	C	C	C	C	P	P				P			P	
Educational Facility College/ University	C							C	C				C		C	C	
Educational Facility Primary/Secondary (*)	C	C	C	C	C	C	P	P	P				P		P	P	
Halfway House	C	C	C	C	C	C	C	P					C			C	
Life Care Facility	C	C	C	C	C	C	P	P	P				P			P	
Modular Classroom (*)	P	P	P	P	P	P	P	P	P				P		P	P	
Nursing Home (*)	C	C	C	C	C	C	C	P	P				P		P	P	
Park & Ride Facility	P		C					P	P	P	P	P	C	C	P	C	P
Post Office	P		P		C	C	C	P	P				P		P	P	
Public Sports/Event Facility	C		C					C	P	P					P	C	P
Public Maintenance & Service Facility (*)	C		C					C	C	P	P	P			P		P
Public Park and Recreational Area (*)	P	P	P	P	P	P	P	P	P				P			P	

Public Safety Service	P	C	P	C	C	C	C	P	P	P	P	P	C		P	P	P
Religious Assembly (*)	C	C	C	C	C	C	C	C	C				C			C	
Rehabilitation Service			C					P	P						P	P	
Transit Station	C		C					C	P	P	P	P			P	P	P
Utility Service/Major (*)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	P
Utility Service/Minor (*)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
OFFICE USE TYPES																	
Financial Institution			C					P	P						P	P	
General Office			C				C	P	P	P		P			P	P	C
Laboratory			C					P	P	P	P				P	C	P
Medical Office			C				C	P	P						P	C	
COMMERCIAL USE TYPES																	
Adult Entertainment Establishment (*)											C						
Auction Establishment	C		C					C	P	P	P	P			P		P
Bed and Breakfast (*)	C	C	P	C	C	C	C	C	C				C			C	
Boarding House	C	C	C	C	C	C	C						C			C	
Boating and Fishing Facilities	C		C					C	C	C	P	P			P	C	P
Business Support Service								P	P	C					P	P	P
Business or Trade School	C		C					C	P	P	P	P			P	C	P
Campground (*)	C																

Campground, Workforce (*)	C																
Car Wash			C					P	P	P	P				P	C	
Catering								C	P						P	C	
Commercial Equipment Repair, Accessory to Dwelling (*)	P	C	P	C	C	C											
Commercial Indoor Amusement			C					C	P	P					C	C	
Commercial Indoor Entertainment			C					C	P	P			C		P	C	
Commercial Indoor Sports & Recreation (*)	C		C				C	P	P	P			C		P	C	P
Commercial Outdoor Entertainment/Sports & Recreation (*)	C							C	C	C	C				C	C	C
Commercial Outdoor Swimming Pool & Tennis Facility (*)	C	C	C	C	C	C	C	C	C				C		C	C	
Construction Office, Temporary (*)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Construction Sales & Service								C	P	P	P	P			C		P
Contractor Office and Storage Facility (*)	C		C					C	P	P	P	P			P		P
Convenience Store (*)	C		C					C	C	P	P				C	C	P
Crematorium (*)	C		C					C	C	C					C		C

Dance Hall								C	C	C						
Equipment Sales and Rental	C								C	P	P	P			C		P
Event center	C		P					P	P						P	P	
Flea Market (*)	C		C					C	C	C	C						
Funeral Home (*)	C		C					P	P	C					P	C	
Garden Center (*)	C		C					P	P	P	P	P			P	P	P
Gasoline Station (*)	C		C					C	C	C	C				C	C	C
General Store, Country	C	C	P	C													
Golf Course (*)	C	C	C	C	C	C	C	P	P				P		P	P	
Golf Driving Range (*)	C		C					P	P	P					P	C	
Hospital								C	P						C	C	
Hospital, Special Care								C	C						C	C	
Hotel/Motel/Motor Lodge/Inn			C					C	P	C					P	C	C
Itinerant Merchant			P					P	P						P	P	
Kennel, Commercial (*)	C							C	C	C	C				C		C
Laundry									C	P	P						P
Lawn and Garden Services	P							P	P	P	P						P
Manufactured Home Sales									C	C					C		
Marina (*)	C	C	C	C	C	C	C	C	P	C			C		P	C	P
Medical Clinic			C					C	P						C	C	
Micro-Brewery, Distillery, Cidery (*)								C	P	P	P	P			P	P	P
Mini-Warehouse (*)								C	C	P	P	P			P		P

Motor Vehicle Dealership/New (*)								C	P						P		
Motor Vehicle Dealership/Used (*)								C	C						C		
Motor Vehicle/ Outdoor Storage									C	P	P	P			C		P
Motor Vehicle Parts/ Supply, Retail (*)			C					P	P	P	P				P	P	P
Motor Vehicle/ Rental (*)								C	P	P	P				P		P
Motor Vehicle Repair Service/Major (*)			C					C	P	P	P				C		P
Motor Vehicle Repair Service/Minor (*)			C					C	P	P	P				C	C	P
Pawn Shop								C	P	P							
Peddler			P					P	P						P	P	
Personal Improvement Service			C					P	P	C					P	P	P
Personal Service			C					P	P	C					P	P	P
Real Estate Office, Temporary	P	P	P	P	P	P	P						P	P		P	
Recreational Vehicle Sales & Service								C	C						C		
Restaurant, Drive-In Fast Food (*)			C					C	P	C					P	P	P
Restaurant, General			C				C	C	P	C					P	P	P
Retail Sales			C				C	P	P	P					P	P	

Short-Term Rentals (*)	P	P	C	C	C	C	C						C	C		C	
Studio, Fine Arts	C		C				C	P	P	P					P	P	
Tattoo Parlor								C	P	P	P				P	C	P
Taxidermy (*)	P		C					C	P	P	P						
Truck Stop								C	C	P	P						P
Veterinary Hospital/ Clinic	P		C				P	P	P						P	P	
Wholesale Sales	C		C					P	P	P	P	P			P	P	P
INDUSTRIAL USE TYPES																	
Abattoir or Livestock Processing (*)	C										C	P					C
Asphalt or Concrete Plant (*)											C	C					C
Brewery, Distillery, Cidery										P	P	P					P
Construction Yard (*)	C								C	P	P	P			C		P
Custom Manufacturing	C		C					C	P	P	P				P	C	P
Industry, Type I	C									P	P	P			C		P
Industry, Type II										C	P	P					P
Industry, Type III											C	C					C
Landfill, Industrial (*)	C									C	C	C					
Landfill, Rubble (*)	C									C	C	C					C
Landfill, Sanitary (*)	C																
Meat Packing											P	P					P
Recycling Center (*)	C									P	P	P					P

Refuse and Recycling Center	C		C						C	P	P	P			C		P
Resource Extraction (*)	C										C	C					C
Sawmill, Commercial										C	P	P					
Scrap and Salvage Service (*)	C									C	C	C					C
Shipping Container (*)	C	C		C	C	C		C	C	P	P	P			C		P
Towing Service Storage										C	C	C					
Yard (*)																	
Transfer Station	C									P	P	P					P
Warehousing and Distribution	C									P	P	P					P
MISCELLANEOUS USE TYPES																	
Amateur Radio Tower (*)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Aviation Facility, Commercial (*)	C										C	C					C
Aviation Facility, General (*)	C										C	C			C		C
Aviation Facility, Private (*)	C	C									C	C			C		C
Communication Tower (*)	C	C	C	C				C	C	C	C	C			C	C	C
Composting System, Confined Vegetative Waste or Yard (*)	C																
Hunt Club	P		C														

Parking Facility, Surface/Structure								C	C	C	C	C			C	C	P
Reconstructed Wetland (*)	P	C	C	C	C	C	C	C	C	C	C	C	P	C	C	P	C
Shooting Range, Outdoor (*)	C										C	C					C
Turkey Shoot (*)	P										C	C					C

Sec. 4-2002. Permitted uses.

The following uses are permitted by right subject to all other applicable requirements contained in this ordinance. An asterisk (*) indicates additional, modified or more stringent standards which are listed in section 5-5000, supplementary use regulations, for those specific uses.

A. Agricultural uses:

Agricultural crop service towers and antennas

Agricultural farm product processing, warehousing and distribution service

Agricultural service/agent

Agriculture

Agritourism (See Part 2A, Agritourism)

Aquaculture (See Part A, Agritourism)

Aquaculture, waterfront business

* Commercial feedlot

Fair, agricultural

* Family Burial Plot

Farmer's market

* Forestry operation, silvicultural and/or timbering

* Greenhouse, commercial and/or nursery

Greenhouse, private

* Livestock auction market

* Sawmill, private

* Stable, commercial

• In conjunction with residence

• Not in conjunction with a residence

* Stable, private

Viticulture

* Wayside stand

B. Residential uses:

* Accessory apartment

• Residential accessory apartment

* Boathouse

Dwelling, single-family

Dwelling, single-family, farm

* Family day care home

Group home

* Guest house

* Home occupation, Type I

* Home occupation, Type II

* Kennel, private

* Manufactured home, Class A

* Manufactured home, Class B

* Manufactured home, family member residence

* Manufactured home, temporary residence

* Temporary emergency housing

C. Civic uses:

Administrative service

Modular classroom

• Park and ride facility

Post office

Public park and recreational area

Public safety service

* Utility service/minor

D. Commercial uses:

* Commercial equipment repair, accessory to dwelling

* Construction office, temporary

Lawn and garden services

Real estate office, temporary

* Short-Term Rental

* Taxidermy

Veterinary hospital/clinic

E. Miscellaneous uses:

* Amateur radio tower

Hunt club

* Reconstructed wetland

* Turkey shoot

Sec. 4-2006. Bulk regulations.

A. Maximum building height: All buildings: Thirty-five (35) feet or three (3) stories, whichever is lesser.

B. Minimum front yard setback:

1. Where right-of-way is > fifty (50) feet, the minimum front yard setback is sixty (60) feet from property line.
2. Where right-of-way is < fifty (50) feet, the minimum front yard setback is eighty-five (85) feet from center line of road.

C. Minimum side yard setback:

1. Principal structures: Fifteen (15) feet.
2. Accessory structures: See supplementary density and dimensional requirements for accessory building requirements.

D. Minimum rear yard setback:

1. Principal structures: Thirty-five (35) feet.
2. Accessory structures: Five (5) feet.

Sec. 4-3002. Permitted uses.

The following uses are permitted by right subject to all other applicable requirements contained in this ordinance. An asterisk (*) indicates additional, modified or more stringent standards which are listed in section 5-5000, supplementary use regulations, for those specific uses.

A. Agricultural uses:

Agricultural service/agent

* Agriculture

Agritourism (See part 2A)

Aquaculture

* Forestry operation, silvicultural and or timbering

Greenhouse, private

* Stable, private

Viticulture

* Wayside stand

B. Residential uses:

* Accessory apartment

• Residential accessory apartment

Boathouse

Dwelling, single-family

* Family day care home

Group home

* Guest house

* Home occupation, Type I

* Home occupation, Type II

* Kennel, private

* Manufactured home, Class A

* Temporary emergency residence

C. Civic uses:

Modular classroom

Public park and recreational area

* Utility service/minor

D. Commercial uses:

* Construction office, temporary

Real estate office temporary

* Short-Term Rental

E. Miscellaneous uses:

* Amateur radio tower

Sec. 4-3007. – Bulk regulations

A. Maximum building height:

1. All buildings: Thirty-five (35) feet or three (3) stories, whichever is lesser.

B. Minimum front yard setback:

1. Where right-of-way is > fifty (50) feet, the minimum front yard setback is sixty (60) feet from property line.
2. Where right-of-way is < fifty (50) feet, the minimum front yard setback is eighty-five (85) feet from center line of road.

C. Minimum side yard setback:

1. Principal structures: Fifteen (15) feet.
2. Accessory structures: See supplementary density and dimensional requirements for accessory building requirements.

D. Minimum rear yard setback:

1. Principal structures: Thirty-five (35) feet.
2. Accessory structures: Five (5) feet.

Sec. 4-4003. - Conditional uses.

E. Commercial uses:

* Antique shop
Auction establishment
Boarding house
Boating and fishing facilities
Business or trade school
Car wash
Commercial indoor amusement
Commercial indoor entertainment
* Commercial indoor sports and recreation
* Commercial outdoor swimming pool and tennis court
* Contractor office and storage facility
* Convenience store
* Crematorium
* Flea market
* Funeral home
* Garden center
* Gasoline station
* Golf course
* Golf driving range
Hotel/motel/motor lodge/inn
* Marina
Medical clinic
* Motor vehicle parts/supply retail
* Motor vehicle repair service/minor
Personal improvement service
Personal service

* Restaurant, drive-in fast food
Restaurant, general
Retail sales
* Short-Term Rental
Studio, fine arts
* Taxidermy
Veterinary hospital/clinic
Wholesale sales

Sec. 4-5003. - Conditional uses

D. Commercial uses:
* Bed and breakfast
Boarding house
* Commercial equipment repair, accessory to dwelling
* Commercial outdoor swimming pool and tennis facility
General store, country
* Golf course
* Marina
*Short-Term Rental

Sec. 4-5005. – Bulk regulations

C. Minimum front yard setback:

1. Where rights-of-way is fifty (50) feet or greater, the minimum front yard setback is thirty-five (35) feet from property line.
2. Where rights-of-way is less than fifty (50) feet, the minimum front yard setback is sixty (60) feet from centerline of road.
3. In the case that there are existing lots of record in a subdivision having a width that would require a front setback to be lesser or greater than the other lots within the subdivision, the setback met by the majority of the lots shall be required.

Sec. 4-6003. - Conditional uses:

D. Commercial uses:
* Bed and breakfast
Boarding house
* Commercial equipment repair, accessory to dwelling
* Commercial outdoor swimming pool and tennis facility
* Golf course
* Marina
* Short-Term Rental

Sec. 4-7003. - Conditional uses:

D. Commercial uses:
* Bed and breakfast
Boarding house
* Commercial equipment repair, accessory to dwelling
* Commercial outdoor swimming pool and tennis facility
* Golf course
* Marina
* Short-Term Rental

Sec. 4-7005. – Bulk regulations

D. Minimum side yard setback: Ten (10) feet.

Sec. 4-8003. - Conditional uses:

E. Commercial uses:
* Bed and breakfast
Boarding house
* Commercial indoor sports and recreation
* Commercial outdoor swimming pool and tennis facility
* Golf course
* Marina
Restaurant, general
Retail sales
* Short-Term Rental
Studio, fine arts

Sec. 4-8004. - Lot size requirements

Lot size requirements are for Single Family Detached Residential lots. Public water and sewer are required. Refer to section 5-5002 for supplementary use regulations for townhomes and multifamily.

A. Minimum lot area: Eight thousand five hundred (8,500) square feet
B. Minimum lot width: Sixty (60) feet
C. Minimum lot frontage: Fifty-six (56) feet
D. Minimum frontage on a cul-de-sac: No less than fifty percent (50%) of minimum lot width of district.

Sec. 4-10003. - Conditional uses.

The following uses are allowed only by conditional use permit pursuant to section 1-1017. An asterisk (*) indicates additional, modified or more stringent standards which are listed in section 5-5000, use and design standards, for those specific uses.

A. Agricultural uses:
Aquaculture

Aquaculture, waterfront business
Greenhouse, private
* Reptile Breeding
* Sawmill, commercial
* Stable, commercial Not in conjunction with residence

Sec. 4-15003. - Conditional uses:

D. Commercial uses:
* Bed and breakfast
Boarding house
Commercial indoor entertainment
* Commercial indoor sports and recreation
* Commercial outdoor swimming pool and tennis facility
* Marina
*Short-Term Rental

Sec. 4-16003. - Conditional uses.

The following uses are allowed only by conditional use permit pursuant to section 1-1017. An asterisk (*) indicates additional, modified or more stringent standards which are listed in section 5-5000, supplementary use regulations for those specific uses.

C. Commercial Uses
* Short-Term Rental

Sec. 4-18003. - Conditional uses:

E. Commercial uses:
* Bed and breakfast
Boarding house
Boating and fishing facilities
Business or trade school
Car wash
Catering
Commercial indoor amusement
Commercial indoor entertainment
* Commercial indoor sports and recreation
* Commercial outdoor entertainment/sports and recreation
* Commercial outdoor swimming pool and tennis facility
* Convenience store
* Funeral home
* Garden center
* Gasoline station
* Golf driving range
Hospital
Hospital, special care

Hotel/motel/motor lodge/inn
* Marina
Medical clinic
* Motor vehicle repair service/minor
*Short-Term Rental
Tattoo parlor

Article V. Supplementary Use Regulations.

Sec. 5-1004. - Accessory uses.

C. Portable on demand storage (POD) units, shipping containers or dumpsters used for renovation or construction work shall be considered temporary structures. They are permitted for use for a total of sixty (60) days, after which a zoning permit must be obtained through the planning and zoning department for a period not to exceed six months.

Sec. 5-2000. - Supplementary density and dimensional regulations.

A. Accessory building requirements.
1. The square footage of an accessory building shall not exceed the square footage of the primary structure.
2. The following provisions shall regulate the location of accessory buildings with respect to required yards:
a. Accessory buildings shall be prohibited in any required yard which adjoins a street, except as permitted under subsection 5-2000.E.3.
b. Accessory buildings shall be located at least five (5) feet from any required rear and side lot boundary lines where such building is entirely to the rear of the principal structure.
c. Accessory structures in the RAC and RR districts may be located in the side yard and shall be located at least five (5) feet from any required rear and side lot boundary lines. Such buildings shall be a maximum of fifteen (15) feet in height and shall be no more than 500 square feet. Anything larger must meet principal building setbacks.
d. Accessory buildings shall not exceed the maximum height restriction for the zone in which such structures are located, except as specified in subsection 5-2000.D.2.
e. Shipping containers may be used as residential, commercial and industrial accessory structures subject to the criteria in subsection 5-5006.J.

Sec. 5-5001. - Supplementary use regulations for agricultural use types.

G. Reptile breeding.
1. In additional to obtaining a conditional use permit, reptile breeding shall comply with the following provisions:

a. Each reptile shall be kept in an escape proof, temperature-controlled cage. The only exception shall be during breeding and no more than two (2) reptiles shall be kept in a cage for breeding purposes at in any given time.
b. Each cage shall contain proper housing, shelter, feeding and water accommodations.
c. An operational plan shall accompany the conditional use permit application to describe how the business will operate, what structures/facilities will be devoted to the use, what species of reptiles will be kept, how large they grow and how will they will be caged long term, how the reptiles will be cared for including feeding, medical check-ups, how the cages will be cleaned and maintained to prevent the spread of bacteria, how waste disposal will be handled, and any other information as may be determined by the zoning administrator, planning commission and board of supervisors. The owner/operator shall be responsible for keeping a current report on file with the County Department of Emergency Services with a list of any poisonous species to be kept on the property.
d. The keeping of reptiles shall comply with all local, state and federal requirements.

H. Private Sawmill.

1. A private sawmill shall be no less than three hundred (300) feet from any lot line or street right-of-way.
2. A permanent or temporary structure shall not be located on environmentally sensitive lands (RPAs) and wetlands.
3. All power saws and machinery will be secured against tampering or locked when not in use.
4. A private sawmill shall only be established to process timber cut from the parcel on which the private sawmill is located or on immediately adjacent parcels or to process timber for personal use only.
5. No processing, milling, finishing or artificial means of drying green lumber shall be associated with a private sawmill.
6. Green lumber and all other products and by-products from the private sawmill shall be removed from the site at least every sixty (60) days.
7. Buildings associated with a private sawmill shall be limited to shelter for the sawmill equipment and essential shelter for personnel. No building shall be erected for the storage, processing, or drying of green lumber.

Sec. 5-5002. - Supplementary use regulations for residential use types.

Q. Short Term Rentals

1. Zoning permit is required.
2. Local contact who is available to respond to and resolve complaints during the entire length of the rental period. Failure to respond and resolve complaints will result in the revocation of the permit.
3. Operators must obtain a business license and register for transient occupancy and state sales tax.
4. Must meet current building and zoning regulations and be subject to a safety inspection from the County to confirm the installation of smoke alarms, fire extinguisher and a posted emergency exit plan prior to permit approval.

5. $500 penalty for failure to obtain required permits. Repeated violations may result in the prohibition on rental of applicable properties.
6. One off-street space per guest room is required in addition to the parking required for the house.
7. Rentals are limited to owner-occupied residences. No visible evidence of the conduct of a short-term rental is allowed on the outside of the property.
8. Event rentals are not permitted.
9. No meals may be prepared for or provided to guests.

Sec. 5-5003. - Supplementary use regulations for civic use types.

M. Utility services, major.

4.Utility Scale Solar Energy Facilities.

a. In addition to any conditional use permit application requirements, the applicant shall provide the following at the time of application:

i. A conceptual plan showing the proposed layout of all structures, adjacent properties, screening, landscaping, internal roadways, easements, environmentally sensitive features including proposed wildlife corridors;

ii. A visual impact analysis demonstrating through project siting and proposed mitigation, if necessary, that the solar project minimizes impacts on the visual character of a scenic landscape, vista, or scenic corridor;

iii. A transportation plan showing vehicular access to the site, proposed construction traffic route to the site, parking areas, and laydown yards;

iv. An estimated time frame and proposed hours of operation for construction activity;

v. Economic impact analysis of the project including projected net new tax revenue as well as loss of active agricultural and silvicultural lands and its indirect impact to associated local businesses;

vi. An environmental resource impact analysis discussing any proposed activities within designation resource conservation areas;

vii. A historical and cultural resources impact analysis; and

viii. Written comments from the relevant electric company regarding the capacity of the transmission lines as part of any use permit application. An applicant can satisfy this requirement by submitting proof of application for interconnection to the electricity system.

b. Ground-mounted systems shall not exceed fifteen (15) feet in height when oriented at maximum tilt, except when temporarily stowed in a vertical position for vegetation management or for inspection, maintenance and/or repair.

c. Audible sound from a solar energy system shall not exceed 60 dBA (A-weighted decibels), as measured at any adjacent non-participating landowner's property line. The level, however, may be exceeded during short-term exceptional circumstances, such as severe weather.

d. All equipment, accessory structures and operations associated with a large solar energy system shall be setback at least seventy-five (75) feet from all property lines and at least one hundred and twenty-five (125) feet from any residential

parcels, and are subject to the following:

i. Setbacks shall be kept free of all structures and parking lots; and

ii. Setbacks shall not be required along property lines adjacent to other parcels which are part of the solar energy system; however, should properties be removed from the system, setbacks must be installed along all property lines of those properties remaining within the project and which are adjacent to a parcel which has been removed.

e. The following landscaping standards shall apply:

i. Along public roadways with at least fifty (50) feet of right-of-way, a minimum fifty-foot wide bufferyard shall be installed or retained with at least seventy-five (75) landscaping points per one hundred (100) linear feet shall be required in the bufferyard;

ii. Along public roadways with less than fifty (50) feet of right-of-way, twenty-five (25) landscaping points per one hundred (100) linear feet shall be required in the bufferyard;

iii. Where solar facility properties abut residential parcels, one hundred twenty (120) landscaping points per five hundred (500) square feet of bufferyard shall be required;

iv. Existing vegetation that meets the minimum landscaping specifications may be used to meet required landscaping points; and

v. No silvicultural activities or removal of required landscaping materials shall occur in the required bufferyards.

f. Provide soil testing for any contaminants directly attributable to the solar panels before and after construction and every five (5) years during the interim until the facility is decommissioned. Owner/operator must provide copies of initial baseline report and subsequent reports to the zoning administrator. Should a negative finding indicating contamination from the solar panels occur, contamination must be remedied by the owner/operator to applicable state and federal standards.

g. Prior to final site plan approval, an owner, lessee, or developer of real property shall enter the following agreement and provide them to the zoning administrator for review and approval:

i. A written agreement to decommission solar energy equipment, facilities, or devices upon the following terms and conditions:

a) If the party that enters into such written agreement with the county defaults in the obligation to decommission such equipment, facilities, or devices in the timeframe set out in such agreement, the locality has the right to enter the real property of the record title owner of such property without further consent of such owner and to engage in decommissioning; and

b) Such owner, lessee, or developer shall provide financial assurance of such performance to the county in the form of certified funds, cash escrow, bond, letter of credit, or parent guarantee, based upon an estimate of a professional engineer licensed in the commonwealth, who is engaged by the applicant, with experience in preparing decommissioning estimates and approved by the county; such estimate shall not exceed the total of the projected cost of decommissioning, which may include the net salvage

value of such equipment, facilities, or devices, plus a reasonable allowance for estimated administrative costs related to a default of the owner, lessee, or developer, and an annual inflation factor.

c) Decommissioning of discontinued or abandoned large solar energy systems shall include the following:

i. Physical removal of all solar energy equipment and above-ground appurtenant structures from the subject property including, but not limited to, buildings, machinery, equipment, cabling and connections to transmission lines, equipment shelters, security barriers, electrical components, roads, unless such roads need to remain to access buildings retrofitted for another purpose, or the landowner submits a request to the board of supervisors that such roads remain.

ii. Below-grade structures, such as foundations, underground collection cabling, mounting beams, footers, and all other equipment installed with the system shall be completely removed: however, these structures may be allowed to remain if a written request is submitted by the landowners and a waiver is granted by the Board of Supervisors.

iii. Compacted soils shall be decompacted as agreed to by the landowner.

iv. Restoration of the topography of the project site to is pre-existing condition, except that any landscaping or grading may remain in the after-condition if a written request is submitted by the landowner and a waiver is granted by the board of supervisors.

v. Proper disposal of all solid or hazardous materials and wastes from the site in accordance with local, state, and federal solid waste disposal regulations.

h. During and at the end of project construction, any damage done to public roads by solar farm construction equipment shall be repaired in accordance with VDOT standards and specifications. Post construction damage shall be identified based on inspections by VDOT with the developer or their agent, prior to construction and upon completion, identifying the items for repair. Additionally, at the request of VDOT, in order to ensure the safety of the traveling public, some damages may need to be addressed immediately.

i. Facilities shall not be located within the limits of the County's Development Service Districts. This prohibition shall not apply to those solar facilities classified as minor utility use types and are considered incidental and accessory to the principal use of the property.

j. The facilities themselves must be partially or wholly located within a two mile radius of existing substations and/or high voltage transmission lines.

Article VI. Overlay Districts.

Sec. 6-1001. - Highway Corridor Overlay (HCO) District.

Sec. 6-1010. - Architectural and development guidelines for all nonresidential uses.

B. Development standards. Proposed development within the district should provide for visual compatibility and harmony with surrounding natural landforms and vegetation; be protective of views and vistas from the arterial highways within the district; and provide continuity of site design within the proposed development. These objectives include the following standards:

6. Vehicular movement and parking areas requiring twenty (20) spaces or more shall be paved with concrete, asphalt, or other similar material. Vehicular movement and parking areas requiring less than twenty (20) spaces may be surfaced with gravel, slag, or other similar material but must be served by paved entrances meeting Virginia Department of Transportation standards. Off street parking areas shall be clearly designated by the use of borders around the perimeter of these areas using fences, walls, wooden timbers, brickwork, or other similar treatment. Drainage shall be designed so as not to interfere with pedestrian traffic.

Sec. 6-2000. - Newport Development Service Overlay (NDSO) District.

Sec. 6-2009. - Development standards.

E. Vehicular movement and parking areas requiring twenty (20) spaces or more shall be paved with concrete, asphalt, or other similar material. Vehicular movement and parking areas requiring less than twenty (20) spaces may be surfaced with gravel, slag, or other similar material but must be served by paved entrances meeting Virginia Department of Transportation standards.

F. Off street parking areas shall be clearly designated by the use of borders around the perimeter of these areas using fences, walls, wooden timbers, brickwork, or other similar treatment. Drainage shall be designed so as not to interfere with pedestrian and bicycle traffic.

Article VII. General Design Guidelines and Development Review Procedures.

Sec. 7-2007. - Preliminary site development plan review procedures and approval authority.

D. Administrative review by the zoning administrator.

1. Eight (8) full-sized copies, one (1) "eleven-inch x seventeen-inch" copy, and one digital copy of the preliminary site development plan and associated application documents as required by the county, including, but not limited to, traffic impact studies, water quality impact assessments. An alternative number of copies may be determined necessary by the zoning administrator. An initial determination shall be made as to whether the preliminary site development plan is complete. In the event it is not complete, it shall be returned to the applicant with a written description of the deficiencies within ten (10) calendar days

of the submittal date.

DATE:_____

READ AND PASSED: _____
Chairman

TESTE: _____
Clerk

Approved as to Form:

_____
Robert W. Jones, Jr., County Attorney

Proposed Subdivision Ordinance Revisions
Revised February 16, 2022

The draft revisions are listed by section below. New, proposed language is in red underlined text. Language proposed to be deleted is shown in ~~red text with strikethrough~~ markings.

3.2. Review and approval procedures.

3.2.1. General.

A. Authority to file applications.

1. Applications may be initiated by the owner of the land being subdivided or the owner's authorized representative. The subdivision agent may require an applicant to present evidence of authority to submit the application.

2. All real estate taxes and any outstanding fees or charges shall be current prior to submission of an application for any activity regulated under this ordinance.

B. Pre-application conference.

1. Before submitting an application for development approval, it is recommended that each applicant schedule a pre-application conference with the subdivision agent to discuss the procedures, standards and regulations required for development approval in accordance with this ordinance.

2. A mandatory pre-application conference with the subdivision agent shall be required for the following development reviews:

a. Any subdivision that will require public infrastructure; and

b. All applications for major subdivision.

C. Application requirements. The following requirements shall apply to all applications for subdivision approval. Applications for re-approval of an expired approval shall be processed in the same manner as any other application.

1. Forms. Applications required under this ordinance shall be submitted on forms and in such numbers as required by the appropriate department. All forms shall include, at a minimum, the following information:

a. Contact information for the individual or firm submitting the application and all property owners, including principals of a corporation or other entity;

b. Contact information for the individual or firm on whose behalf the application is being submitted;

c. Identification of the property affected by the application, such as a legal description, address, or parcel identification as may be appropriate; and

d. Any other information required by the subdivision agent or the provisions of this ordinance.

2. Fees.

a. Filing fees shall be as set forth in the Isle of Wight County Uniform Fee Schedule, as adopted by the board of supervisors, as it may be amended, in order to defray the actual cost of processing the application.

b. Fees shall be paid with the appropriate department.

c. An applicant who has paid the appropriate fee pursuant to the submission of an application, but who chooses to withdraw such application prior to its distribution for review shall be entitled to a refund of the total amount paid, less ten (10) percent for administrative costs, upon written request to the appropriate department. Once distribution for review has begun, no refund shall be available.

3. Applications sufficient for processing.

a. Applications shall contain all required information listed on forms available from each department involved in the review process, unless modified by the department, in writing, pursuant to item b., below. Incomplete applications shall not be entitled to review.

b. The presumption shall be that all of the information required in the application forms is necessary to satisfy the requirements of this section. However, it shall be recognized that each application is unique, and therefore more or less information may be required according to the needs of the particular case. The applicant may rely on the recommendations of the appropriate department as to whether more or less information should be submitted.

c. Once the application has been determined sufficient for processing, copies of the application shall be distributed by the subdivision agent to the appropriate reviewing entities.

4. Development review meeting after application submitted.

a. Upon receipt of comments from appropriate review entities, the subdivision agent may convene a development review meeting including all appropriate review agencies, which may include the applicant, to ensure compliance with the following:

1. The applicable requirements of this ordinance;

2. That the applicant has submitted all of the information he/she intends to submit; and

3. That the application represents precisely and completely what the applicant proposes to do.

b. Once the subdivision agent deems that all options have been exhausted to address all review comments and recommendations, and all requirements have been met, the application shall be placed on the agenda of the appropriate reviewing board, department, or committee in accordance with standard procedures. However, if the subdivision agent believes the

application is incomplete, a recommendation to deny the application on that basis shall be provided to the appropriate board, department, or committee.

5. Related or concurrent applications.

   a. Applications for necessarily related development approvals may be filed and reviewed simultaneously, at the option of the applicant. Any application that also requires a rezoning shall not be eligible for final approval until the rezoning has been granted (see section 3.2.3.C, zoning requirements).

   b. Related applications submitted simultaneously are subject to approval of all other related applications; deferral or denial of any concurrently submitted application shall stop consideration of any related applications until the deferred or denied application is resolved.

6. Administrator's comments--Term of validity.

   a. The Administrator's comments or commitments on a proposed plat or construction plan that did not achieve approval shall maintain efficacy for six months from the date the comments are rendered. After this period, these comments or commitments shall be void.

3.2.3.B. Exception to subdivision requirements.

4) Boundary line adjustments to any valid and properly recorded plat, including vacation or alteration, provided the requirements of Section 15.2-2275 of the Code of Virginia and the following requirements are met:

~~(a) The adjustment does not result in the creation of irregularly shaped lots;~~

(a) The adjustment is executed by the owner or owners of such land as provided in Section 15.2-2264 of the Code of Virginia;

(b) The adjustment does not result in any new violations to the dimensional requirements of the zoning ordinance;

(c) The adjustment does not involve the relocation or alteration of streets, alleys, easements for public passage, or other public areas; and

(d) No easements or utility rights-of-way shall be relocated or altered without the express written consent of all persons or entities holding any interest in the easement or rights-of-way.

5.11.1. Shape. Lots should be designed, arranged, and shaped so that they provide satisfactory and desirable sites for buildings, be properly related to natural topography, and conform to requirements of this ordinance and the zoning ordinance. Lots shall be generally regular in shape, such as rectangular or pie-shaped, and may not contain peculiarly shaped elongations ~~solely to provide necessary square footage of area~~ which would be unusable for normal purposes, the only exception to this rule being elongations ~~for use as~~ to provide access to a public street within a flag lot. For lots with a width of sixty (60) feet or greater, lot proportions should provide approximately two and one-half (2.5) feet of lot depth for every one (1) foot of lot width.

5.11.4. Side lines. Side lines of lots shall be reasonably straight and approximately at right angles or radial to the street line.

AN ORDINANCE
TO AMEND AND REENACT THE FOLLOWING SECTIONS OF APPENDIX A. SUBDIVISIONS: ARTICLE 3 (ADMINISTRATION AND PROCEDURES) AND ARTICLE 5 (DEVELOPMENT STANDARDS)

WHEREAS, the Board of Supervisors of Isle of Wight County, Virginia, has the legislative authority to make reasonable changes to the ordinances that govern the orderly growth and development of Isle of Wight County; and

WHEREAS, the Isle of Wight County Board of Supervisors is also concerned about the compatibility of uses on public and private lands within Isle of Wight County and seeks to allow flexibility in the administration of the ordinance regulations while protecting the health, safety, and general welfare of present and future residents and businesses of the County.

NOW, THEREFORE, BE IT ORDAINED by the Isle of Wight County Board of Supervisors that the following specific sections of the Articles of Appendix A, Subdivisions, of the Isle of Wight County Code be amended and reenacted as follows:

Article 3. Administration and Procedures

3.2. Review and approval procedures.

3.2.1. General.

A. Authority to file applications.

1. Applications may be initiated by the owner of the land being subdivided or the owner's authorized representative. The subdivision agent may require an applicant to present evidence of authority to submit the application.

2. All real estate taxes and any outstanding fees or charges shall be current prior to submission of an application for any activity regulated under this ordinance.

B. Pre-application conference.

1. Before submitting an application for development approval, it is recommended that each applicant schedule a pre-application conference with the subdivision agent to discuss the procedures, standards and regulations required for development approval in accordance with this ordinance.

2. A mandatory pre-application conference with the subdivision agent shall be required for the following development reviews:

a. Any subdivision that will require public infrastructure; and

b. All applications for major subdivision.

C. Application requirements. The following requirements shall apply to all applications for subdivision approval. Applications for re-approval of an expired approval shall be processed in the same manner as any other application.

1. Forms. Applications required under this ordinance shall be submitted on forms and in such numbers as required by the appropriate department. All forms shall include, at a minimum, the following information:

    a. Contact information for the individual or firm submitting the application and all property owners, including principals of a corporation or other entity;

    b. Contact information for the individual or firm on whose behalf the application is being submitted;

    c. Identification of the property affected by the application, such as a legal description, address, or parcel identification as may be appropriate; and

    d. Any other information required by the subdivision agent or the provisions of this ordinance.

2. Fees.

    a. Filing fees shall be as set forth in the Isle of Wight County Uniform Fee Schedule, as adopted by the board of supervisors, as it may be amended, in order to defray the actual cost of processing the application.

    b. Fees shall be paid with the appropriate department.

    c. An applicant who has paid the appropriate fee pursuant to the submission of an application, but who chooses to withdraw such application prior to its distribution for review shall be entitled to a refund of the total amount paid, less ten (10) percent for administrative costs, upon written request to the appropriate department. Once distribution for review has begun, no refund shall be available.

3. Applications sufficient for processing.

    a. Applications shall contain all required information listed on forms available from each department involved in the review process, unless modified by the department, in writing, pursuant to item b., below. Incomplete applications shall not be entitled to review.

    b. The presumption shall be that all of the information required in the application forms is necessary to satisfy the requirements of this section. However, it shall be recognized that each application is unique, and therefore more or less information may be required according to the needs of the particular case. The applicant may rely on the recommendations of the appropriate department as to whether more or less information should be submitted.

    c. Once the application has been determined sufficient for processing, copies of the application shall be distributed by the subdivision agent to the appropriate reviewing entities.

4. Development review meeting after application submitted.

a. Upon receipt of comments from appropriate review entities, the subdivision agent may convene a development review meeting including all appropriate review agencies, which may include the applicant, to ensure compliance with the following:

1. The applicable requirements of this ordinance;
2. That the applicant has submitted all of the information he/she intends to submit; and
3. That the application represents precisely and completely what the applicant proposes to do.

b. Once the subdivision agent deems that all options have been exhausted to address all review comments and recommendations, and all requirements have been met, the application shall be placed on the agenda of the appropriate reviewing board, department, or committee in accordance with standard procedures. However, if the subdivision agent believes the application is incomplete, a recommendation to deny the application on that basis shall be provided to the appropriate board, department, or committee.

5. Related or concurrent applications.

a. Applications for necessarily related development approvals may be filed and reviewed simultaneously, at the option of the applicant. Any application that also requires a rezoning shall not be eligible for final approval until the rezoning has been granted (see section 3.2.3.C, zoning requirements).

b. Related applications submitted simultaneously are subject to approval of all other related applications; deferral or denial of any concurrently submitted application shall stop consideration of any related applications until the deferred or denied application is resolved.

6. Administrator's comments--Term of validity.

a. The Administrator's comments or commitments on a proposed plat or construction plan that did not achieve approval shall maintain efficacy for six months from the date the comments are rendered. After this period, these comments or commitments shall be void.

D. Notice and public hearings.

1. Summary of notice required. Notice shall be required for applications for development approval as shown in the table below:

Procedure	Published	Posted
Waiver		✓
Subdivision ordinance text amendment	✓	

2. Public notice requirements.

a. Published notice. Published notice shall be provided in conformance with Section 15.2-2204 of the Virginia Code. A distinctive advertisement shall

be placed in a local newspaper of general circulation once a week for two (2) successive calendar weeks, the first notice being published not more than twenty-one (21) days before the date fixed for the public hearing and the second notice being published at least five (5) days before the hearing. At minimum, the notice must contain the following information:

1) The time, date and location of the public hearing;
2) A description of the action requested;
3) A phone number to contact the county; and
4) A statement that interested parties may appear at the public hearing.

b. Posted notice. In addition to notice of hearings as required by the applicable statutes of the Commonwealth of Virginia, when posted notice is required, the applicant must erect on or immediately adjacent to, the subject property a sign or signs as specified below giving public notice of the action required.

1) The sign must meet the following criteria:
    [a) Reserved.]
    b) The wording, size and color of such sign shall be as specified by the subdivision agent and approved by the board of supervisors.
    c) One (1) sign must be erected so as to be visible and legible to each abutting public street. where the property has extensive road frontage, one (1) sign shall be erected for each five hundred (500) feet of frontage.
    d) When a property has no frontage directly on a public street, it shall be posted adjacent to the nearest public street from which future access is contemplated.
2) Signs must be erected at least seven (7) calendar days before the hearing where the application is to be considered and removed by the applicant within two (2) days after the final public hearing on the application.
3) Signs are required for each hearing at which the application is considered.
4) It is unlawful for any person to pull down, write on, cut or otherwise injure or deface required posted notice, which will constitute violation of this ordinance.
    a) The applicant is responsible for the maintenance or replacement of signs obliterated or destroyed during the posting period.
5) The additional requirements for public notice and posting on the property are for the benefit of the public to identify the location of the property in question and advanced knowledge of a hearing only and is not a legal requirement of notice. The failure to comply with the

provisions herein does not defeat the action of the approving authority concerning the application. The only legal notice requirements are those provided by the statutes of the Commonwealth of Virginia.

3. Constructive notice. Minor defects in notice shall not impair the notice or invalidate proceedings pursuant to the notice if a bona fide attempt has been made to comply with applicable notice requirements.

E. Required hearings and meetings. A hearing shall be required for development review as shown in the table below:

Procedure	Planning Commission	Board of Supervisors
Waiver	Public meeting	Public meeting
Subdivision ordinance text amendment	Public hearing	Public hearing
Appeal of administrative decision		Public hearing

F. Notice of decision. Within fourteen (14) days after a decision is made, a copy of the decision shall be sent to the applicant.

G. Withdrawal or postponement of application.

1. An applicant may withdraw an application at any time, by filing a statement of withdrawal with the subdivision agent.

2. The statement of withdrawal shall be signed by all persons who signed the application, or in the event of death or incompetence, by the estate's lawful personal representative.

3. An applicant may postpone a scheduled hearing once per application for up to ninety (90) days after the date the first hearing was scheduled to occur, after which the subdivision agent may withdraw the application.

3.2.2. Interpretation of this ordinance.

A. Applicability. When uncertainty exists, the subdivision agent shall be authorized to make all interpretations concerning the provisions of this ordinance.

B. Deferral of interpretation. The subdivision agent may defer interpretations of this ordinance to the appropriate county officials.

C. Application requirements. A request for interpretation shall be submitted in writing.

D. Action by subdivision agent. The subdivision agent shall:

1. Review and evaluate the request in light of the text of this ordinance, the zoning ordinance, the comprehensive plan and any other relevant information;

2. Consult with the other officials, including the county attorney, as necessary;

3. Render an opinion; and

4. Cause the interpretation to be provided to the applicant in writing.

E. Official record. The subdivision agent shall maintain an official record of all interpretations. The record of interpretations shall be available for public inspection during normal business hours.

F. Appeal. Final action on an official interpretation of this ordinance by the subdivision agent (or other administrative official) may be appealed in accordance with section 3.2.12, appeal of administrative decision.

3.2.3. Subdivision, general.

A. Applicability. Subdivision review is required for any division of land within the county. However, certain subdivision activities may be eligible to receive an exception of compliance from certain requirements of this ordinance as described in section 3.2.3.B, below.

B. Exception to subdivision requirements.

1. Actions eligible for exception. Upon submittal of a survey plat prepared by a licensed professional, the subdivision agent may grant an exception allowing one (1) or more of the following actions without further compliance with the requirements of this ordinance. However, this shall not be construed as an exemption from this ordinance.

a. Agricultural, horticultural, or silvicultural. The division of land into parcels greater than ten (10) acres for bona fide agricultural, horticultural, or silvicultural purposes where no street right-of-way dedication is involved and where there is no change in the intensity of use, provided such divisions shall have the following notation prominently set forth on the recorded plat:

"Residential development on any lots shown will require Residential Zoning pursuant to Section 3.2.3.C of the Subdivision Ordinance of Isle of Wight County, Virginia, as amended."

b. Lots not fronting on a public road.

1) Subject to the required zoning, the division of a tract in single ownership into two (2) lots not fronting a public road, where a twenty-foot access easement is provided, and both lots comply with the requirements of this ordinance.
2) Subject to the required zoning, the division of a tract for commercial lots not fronting on a public road provided that the lots front on a private road that is built to the minimum VDOT street standards, and where the private road shall be maintained by adjacent property owners and guaranteed in writing with a private road maintenance agreement. This agreement shall be revised upon any change in ownership and prior to any additional subdivision approval on lots served by the private road.

c. Boundary line adjustments.

1) The public acquisition of strips of land for the widening or opening of streets.

2) The combination or recombination of portions of previously subdivided and recorded lots where the total number of lots does not increase and each resulting lot conforms to the requirements of this ordinance and applicable requirements of the zoning ordinance.
3) The plat making the transfer(s) related to the sale, exchange or other transfer of parcels between adjoining property owners, where it does not create additional lots or make existing lots of lesser width or area than required by this ordinance.
4) Boundary line adjustments to any valid and properly recorded plat, including vacation or alteration, provided the requirements of Section 15.2-2275 of the Code of Virginia and the following requirements are met:
    (a) The adjustment is executed by the owner or owners of such land as provided in Section 15.2-2264 of the Code of Virginia;
    (b) The adjustment does not result in any new violations to the dimensional requirements of the zoning ordinance;
    (c) The adjustment does not involve the relocation or alteration of streets, alleys, easements for public passage, or other public areas; and
    (d) No easements or utility rights-of-way shall be relocated or altered without the express written consent of all persons or entities holding any interest in the easement or rights-of-way.

d. Well lot and pump station lots. That will be dedicated to the county upon completion and meet the applicable yard setbacks for the zoning district of subject lot and applicable screening standards in the zoning ordinance.

e. Family burial plots. Family burial plots shall meet the requirements of the zoning ordinance.

f. Lots with existing established metes and bounds and/or divided by existing public roads. The agent or his designee may permit the separation of one (1) parcel from a tract of land without complying with all of the requirements of this ordinance if it is not in conflict with the general meaning and purpose of the ordinance.

2. Conditions for exception. In order to approve an exception from the requirements of this ordinance, the subdivision agent must find the following:

a. No subdivision shall result in the creation of a nonconforming lot or lots as set forth in the zoning ordinance.

b. Where applicable, the recorded plat must include a private easement at least twenty (20) feet wide for ingress and egress to each lot which does not abut on an existing public road unless otherwise expressly permitted by this ordinance. The board of supervisors may require larger or smaller easement widths in special circumstances.

c. Where applicable, the following language must be prominently set forth on the face of the recorded plat of survey and added as a covenant in every deed for every lot in any subdivision in which streets are proposed to be established to a standard less than those set by VDOT for acceptance as part of the secondary system:

a) The streets in this subdivision do not meet the standards necessary for inclusion in the system of state highways and will not be maintained by the Virginia Department of Transportation (VDOT) or the county and are not eligible for rural addition funds or any other funds appropriated by the General Assembly and allocated by the Commonwealth Transportation Board;
b) It is not the policy of the Board of Supervisors of Isle of Wight County, Virginia, or VDOT to accept or maintain private streets until the streets are constructed pursuant to the specifications for construction of secondary roads as promulgated by VDOT;
c) The streets in this subdivision will have to be constructed in full compliance with VDOT requirements in effect at the time of the request by the property owners prior to requesting addition of the street into the State Secondary Road System of Isle of Wight County.
d) It is not the policy of the School Board of Isle of Wight County, Virginia, to allow school buses to travel on other than publicly maintained roads.

3. Plat recordation required. Documents showing lots created with an exception under this section must be stamped by the subdivision agent noting their exception, and signed so they may be recorded with the clerk in conformance with section 3.2.3.D, plat approval and recordation required.

C. Zoning requirements.

1. Residential zoning required. Except as provided below, all proposed subdivisions for residential purposes must be zoned residential as defined in section 5.4.2 (RR, NC, SE, SR, UR, VC, PD-R, PD-MH, or PD-MX) or conditional residential (C- RR, C-NC, C-SE, C-SR, C-UR, C-VC, C-PD-R, C-PD-MH or C-PD-MX,) pursuant to the zoning ordinance prior to final subdivision plat approval.

2. Exempt from zoning requirement.

a. Family member subdivision. The subdivision agent may waive the requirement for residential zoning for a subdivision approved as a family member subdivision (see section 3.2.4).

b. Manufactured home. The subdivision agent may waive the requirement for residential zoning for the placement of a manufactured house on a permanent foundation on an existing individual lot located in the rural agricultural conservation (RAC) district as established in the zoning ordinance.

c. Clustering/sliding scale "by-right" provisions for single-family residential development in rural agricultural conservation district as designated in the Isle of Wight County Comprehensive Plan.Under the sliding scale development provision, a tract of land containing one hundred (100) contiguous acres or greater zoned rural agricultural conservation will be allowed four (4) divisions. One (1) additional lot or dwelling unit will be permitted for every additional forty (40) acres encompassed by the overall tract. For example, a one hundred forty-acre tract will yield five (5) lots. Minimum permissible lot sizes shall be encouraged so as not to allow subdivision development which is land consumptive; however, each lot must meet the minimum lot requirements for the rural agricultural conservation (RAC) district.

1. In addition to the base density permitted above and the minimum lot size, width and frontage requirements of the underlying zoning district, the following standards shall be met:

    a) All residential lots created through the act of subdivision shall be contiguously grouped and served by one (1) point of access to county roads and shall comply with section 5.9 (streets) of the Isle of Wight County Subdivision Ordinance.

    b) Residential structures in the subdivision shall be located at least one hundred (100) feet from the existing county road right-of-way and screened from the right-of-way by an existing or planted landscaped buffer.

    c) All residential structures should be set back at least one hundred (100) feet from all active farm operations.

    d) A central water supply system shall be provided to serve the subdivisions with over fourteen (14) lots.

    e) The maximum lot size for any new lot created shall be ten (10) acres, unless otherwise approved by the board of supervisors or required by the county health department.

    f) No lot shall be designed, approved or employed for use in which an area more than thirty percent (30%) of the prescribed minimum lot area is comprised of one (1) or more of the environmentally sensitive areas referenced in the net developable calculations of the zoning ordinance. This shall not apply to lots specifically created exclusively to preserve and maintain environmentally sensitive areas.

    g) Lots shall be located to preserve seventy percent (70%) of the original tract size in order to maximize continued use of the residual parcel for agricultural and silvicultural purposes.

    h) All areas not included in lots or public street rights-of-way shall be incorporated into common open space and may be

used for natural or landscaped buffers; agricultural uses including farmland and pasture not generating noxious odors such as land application of sewage sludge, hog or poultry farms or similar uses; horticulture; recreational use; historic preservation; forests; wildlife reservations and conservation areas; private stables for personal enjoyment; or other similar use.

i) The common open space shall be arranged and designed so as to facilitate its use, ensure continuity of design, and preserve sensitive environmental features. Failure to achieve these goals shall be sufficient reason for the agent to deny applications for open space development plan approval or require modifications that may include loss of lots.

j) Recreational areas shall not abut the exterior boundary of the open space development unless entirely adjacent to a publicly-owned facility or community recreation facility of an adjoining residential development.

k) Adequate pedestrian and bicycle facilities shall be provided which fully interconnect the development and its recreation areas both internally and with existing, planned or desirable external pedestrian and bicycle facilities.

l) Final plats recorded and all deeds for lots within the cluster development shall bear a statement indicating that the land is within an approved residential cluster subdivision and shall also bear a statement indicating the ownership status of the development's open space system and shall reference the covenants creating a property owners' association which shall also be recorded at the time final plats are put to record.

m) With approval of the planning commission, common open space within a cluster subdivision may be held by other than a property owner association for agricultural uses including farmland, pasture, horticulture, recreational use, historic preservation, forests, wildlife reservations and conservation areas or other similar use.

n) Family member subdivisions shall be prohibited.

o) Manufactured homes, Class A and B, and residential accessory apartments shall require a conditional use permit.

D. Plat approval and recordation required.

1. All subdivision plats within the county must be submitted, approved, and certified by the subdivision agent in conformance with this ordinance prior to recordation with the clerk of the circuit court of Isle of Wight County.

2. A plat or other instrument showing the approved division of any land subdivided within Isle of Wight County shall be recorded with the clerk of the circuit court of Isle of Wight County within six (6) months of final plat approval. Plat approval shall be deemed void if the plat is not recorded within this period, and a new application for final plat approval shall be required prior to recordation. However, in any case where construction of facilities to be dedicated for public use has commenced pursuant to an approved plan or permit with surety approved by the county, or where the developer has furnished surety to the county by certified check, cash escrow, bond, or letter of credit in the amount of the estimated cost of construction of such facilities, the time for plat recordation shall be extended to one (1) year after final approval or to the time limit specified in the surety agreement approved [by the] county, whichever is greater. The following language shall be prominently stamped on the face of the approved plat and certified by the subdivision agent:

   "This subdivision plat has been found to be in conformance with the Isle of Wight County Subdivision Ordinance and must be recorded with the Office of the Clerk of Circuit Court of Isle of Wight County within six months of the date of approval. Approval will be deemed void after six months and the plat must be resubmitted for approval."

Date of Approval:	Subdivision Agent:

3. No lot shall be transferred by deed in any subdivision before the subdivision plat has been recorded.
4. No land dedicated to the county, as shown on the plat, shall be accepted by the county unless and until the agent has accepted the dedication. Such acceptance of dedication shall be evidenced by signature of the subdivision agent after the following notation on the recorded plat:

   "I, the Director of Planning and Zoning for the Isle of Wight County, Virginia, as Subdivision Agent, do hereby accept the dedication(s) made to Isle of Wight County, Virginia, as set forth herein."
5. Other signatures or approval certifications may be required prior to plat recordation.

3.2.4. Subdivision, family member.

A. The subdivision agent may approve a family member subdivision subject to the provisions of this section, and any express requirement contained in the Code of Virginia (see specifically Section 15.2-2244, et seq. of the Code of Virginia). The purpose of a family member subdivision may not be to circumvent this ordinance or other county regulations. To approve an application for family member subdivision, the subdivision agent must find the following:

1. The property owner requesting the family member subdivision shall hold fee simple title to the subject property.

2. No person who has previously received land within the county via family member subdivision is eligible to receive additional land through family member subdivision.

3. The approval shall include the proposed deed(s) of sale or transfer from the property owner to the receiving family member.

4. No more than one (1) lot resulting from a single tract may be accessed from a single easement of right-of-way unless approved by the board of supervisors upon recommendation from the planning commission.

5. No lot shall be designed, approved or employed for use in which an area more than thirty (30) percent of the prescribed minimum lot area is comprised of one (1) or more of the environmentally sensitive areas referenced in the net developable calculations of the zoning ordinance. This shall not apply to lots created exclusively to preserve and maintain environmentally sensitive areas, as approved by the zoning administrator.

6. No singular subdivision shall extend over a political boundary line.

7. All applicable requirements of the zoning ordinance, the erosion and sediment control ordinance, the Isle of Wight County Department of Public Utilities' Master Water and Sewer Ordinance, and the Chesapeake Bay Preservation Area Ordinance shall apply.

8.. A person receiving land through a family member subdivision may not sell, transfer, subdivide, or otherwise convey such property for a period of five (5) years after plat approval; unless:

   a. The conveyance or proposed conveyance results from the foreclosure of a mortgage (deed of trust) lien on the property.

   b. The subdivision is directed by court action.

   c. Upon application from said recipient, the board of supervisors, upon recommendation from the planning commission finds at least one (1) of the following:

      1. The proposed conveyance must be made to satisfy a financial obligation that was not contemplated at the time of the transfer of the lot through the family member subdivision, and that cannot be satisfied from other assets.
      2. The property is granted rezoning approval.

   d. The board of supervisors may specify additional conditions to be imposed on a family member subdivision (if an administrative decision goes through appeal or an exception is sought from the board of supervisors for sale prior to five (5) years.)

B. Water. One (1) of the following shall apply:

1. Well water. The applicant must provide proof that a water source for the lot has been identified in accordance with the requirements of the Virginia Department

of Health. In such case, the following note must be placed on the final plat prior to final approval by the subdivision agent:

No zoning permit or building permit shall be issued for any lot until a well or water source has been approved by the County Health Department.

2. Public water. Family member subdivisions resulting in more than four (4) lots may be required to connect to a public water supply system in accordance with the master water and sewer ordinance. In such case, the following note must be placed on the final plat prior final approval by the subdivision agent:

Any lot shown on this plat must be served by public water before any use can be made on such lot. However, no service has been extended to such lots at the time of approval of the plat. No zoning permit or building permit shall be issued for any lot until public water has been extended to such lot in accordance with the Master Water and Sewer Ordinance. The owner of each lot shown on this plat shall grant, without compensation, such reasonable easements as are necessary to permit such extension of public water to all lots.

C. Sewer.

1. Private individual septic. Private individual septic systems shall be designed and constructed to meet the requirements of the Virginia Department of Environmental Quality, the Virginia Department of Health, Isle of Wight County Department of Public Utilities, and any other state or local regulation having authority over such installation, including the zoning ordinance for alternative discharge sewer disposal systems. The following note must be placed on the final plat prior to approval from the subdivision agent:

No zoning permit or building permit shall be issued for any lot until a septic system has been approved by the County Health Department and any drainfield is identified on the plat.

Refer to Section 5.13.2 for additional on-site sewage system requirements.

2. Public sewer. Public sewer systems shall be designed and constructed in accordance with the design standards and specifications for sewerage construction and improvements in Isle of Wight County, Virginia, and meeting the approval of the subdivision agent.

D. Recordation and enforcement.

1. The approved family member subdivision plat, road maintenance agreement (if applicable) and deed(s) of sale or transfer shall be recorded simultaneously. The family member subdivision approval shall automatically terminate if all required documents are not filed within six (6) months.

2. The property owner shall place a restrictive covenant on the subdivided property that would prohibit the transfer of the property to a person other than the immediate family for which it is created for a period of five (5) years following the date of subdivision, unless a rezoning is granted.

3. No zoning permit or building permit shall be issued for any lot or parcel found to be in violation of this ordinance until such violation has been corrected.

3.2.5. Subdivision, conceptual plan review.

A. Applicability, conceptual plan recommended. It is recommended, but not required, that an applicant submit a conceptual plan for review by the subdivision agent for all subdivision activity. The purpose of this conceptual plan is to permit the agent to advise the applicant whether the plans are in general accordance with the requirements of this ordinance and advise the applicant if it appears that changes would be necessary.

B. Conceptual plan requirements.

1. The conceptual plan shall be drawn on white paper, or on a print of a topographic map of the property. The conceptual plan must be to drawn to an acceptable scale. The following are accepted: one (1) inch equals ten (10), twenty (20), thirty (30), forty (40), fifty (50), sixty (60) or one hundred (100) feet.

2. The conceptual plan shall show, in simple sketch/schematic form, the proposed layout and approximate dimensions of streets, lots, parks, playgrounds and other features in relation to existing conditions both within and in the areas surrounding the proposed subdivision. In addition, the plan should contain the following information:

a. Boundary lines of the subject property.

b. Existing land conditions to include: 1) existing topography at a maximum of ten-foot contour intervals; and 2) soils information.

c. Zoning of the subject property and adjacent parcels.

d. Location of entrances and points of ingress and egress.

e. Distance to the nearest state road intersection.

3. Whenever part of a tract is proposed for platting and it is intended to subdivide additional parts in the future, a conceptual plan for the entire tract shall be submitted with the preliminary plat. This plan is merely for informational purposes and is not binding on the subdivider, subdivision agent, planning commission, or the board of supervisors.

3.2.6. Subdivision, preliminary plat review and approval.

A. Applicability, preliminary plat required. A preliminary plat shall be required for all subdivisions of fifty (50) lots or more. The submission of a preliminary plat for tentative approval shall be voluntary for all other subdivisions.

B. Pre-application conference. A pre-application conference is encouraged for all subdivision applications and may be required (see section 3.2.1.B).

C. Application requirements.

1. General.

a. An application for preliminary plat shall be filed in conformance with section 3.2.1.C. A listing of the minimum required information to be included in the

preliminary plat may be found in article 4, plat requirements and more specifically in section 4.2.2, preliminary plat requirements.

b. All required application and review fees shall be paid by the applicant as shall be set forth in the Isle of Wight County Uniform Fee Schedule, as adopted by the board of supervisors, as it may be amended.

2. Preparer. The preliminary plat shall be prepared by a land surveyor or other person(s) licensed by the state board for the examination and certification of architects, professional engineers and land surveyors to do land surveying as defined by Section 54.1-406 of the Code of Virginia, as amended, who shall endorse upon each plat a signed certificate setting forth the source of the title of the land subdivided, and the plat of record of the last instrument in the chain of title. When the proposed plat is comprised of land acquired from more than one (1) source of title, the outlines of the several tracts shall be indicated upon the preliminary plat, within an inset block, or by means of a dotted boundary line upon the preliminary plat.

3. Owner's statement. In conformance with Section 15.2-2264 of the Code of Virginia, every such preliminary plat, or the deed of dedication to which the preliminary plat is attached, shall contain a statement to the effect that the subdivision as it appears on this preliminary plat is with the free consent and in accordance with the desires of the owners, proprietors and trustees, if any. This statement shall be signed by the owners, proprietors and trustees or their duly authorized agent, and shall be duly acknowledged before some officer authorized to take acknowledgements of deeds. If the preliminary plat is incorporated by reference to a deed, the signatures of the owners on the deed will suffice to show that the subdivision is with their free consent and in accordance with their desires.

D. Subdivision types.

1. Minor subdivisions. Any subdivision involving fewer than ten (10) lots which satisfies the following requirements may be considered a minor subdivision:

a. No new public or private streets are created;

b. No public stormwater facilities for water quality or quantity are required; and

c. No new public utilities are to be installed.

2. Major subdivisions. Any subdivision not meeting the definition of family member subdivision (as defined in section 3.2.4) or minor subdivision is considered a major subdivision.

3. Cluster/sliding scale "by-right" subdivisions.Any subdivision meeting the requirements of section 3.2.3.C.

E. Approving authority.

1. Minor and major subdivision—Administrative approval.The subdivision agent shall have the authority to approve preliminary and final plat applications for minor and major subdivisions (see section 3.2.6.D.1, above).

2. Cluster/sliding scale "by-right" subdivisions—Administrative approval.The subdivision agent shall have the authority to approve cluster/sliding scale "by-right" applications.

F. Public notice.

1. Public notice shall be provided in conformance with the table in section 3.2.1.D. At minimum, all applications to be acted upon at a hearing before the planning commission (see section 3.2.1.E) shall be advertised.

2. Notification may also be required to the Virginia Department of Transportation, Isle of Wight County School Board, Isle of Wight County Health Department, or any other agency with review or approval authority on the application.

G. Action by subdivision agent.

1. Review agencies (internal and external) shall review the preliminary plat application to determine whether or not the preliminary plat generally conforms to the requirements of this subdivision ordinance, the zoning ordinance, and other applicable rules and regulations, and transmit comments back to the subdivision agent. This review may include a meeting with the applicant.

2. Within sixty (60) days of receipt of a completed application the subdivision agent shall provide written comments to the applicant stating any revisions that will be required, and the character and extent of public improvements that will have to be made. A bona fide estimate of the cost of construction or improvements must be furnished by the applicant upon submittal of the construction plan. The amount of the performance bond (if required) must be reviewed and approved as a prerequisite to approval of the final plat. In determining the cost of required improvements and the amount of the performance bond (if required), the agent may consult with a duly licensed engineer who shall prepare this data for the agent.

3. If the subdivision agent determines that only minor corrections to the application are required, the agent may approve the preliminary plat with conditions that the corrections be remedied prior to final plat approval. If required corrections are extensive, the applicant shall correct the preliminary plat before further action is taken by the subdivision agent.

H. Action by other review bodies.

1. Upon receipt of a completed application, the subdivision agent shall transmit copies of the application to all other agencies and entities with review authority over the proposed subdivision. This may include, but is not limited to:

a. Isle of Wight County Superintendent of Schools;

b. Isle of Wight County Health Department;

c. Virginia Department of Transportation (VDOT);

d. Virginia Department of Conservation and Recreation (VDCR);

e. Virginia Department of Environmental Quality (VDEQ); and

f. Virginia Marine Resources Commission (VMRC).

It will be the responsibility of the applicant to obtain required permits from the U.S. Army Corps of Engineers and submit plans to them accordingly.

2. The review body shall review the application for conformance with all of its pertinent rules and regulations and provide written comments to the subdivision agent. It is anticipated that external review of an application will be completed in thirty (30) days or less. However, additional time may be required due to the scope of complexity of an application. Appeals of decisions or comments made by external review entities may be taken in the manner provided by the specific entity.

I. Appeal.

1. Appeal of subdivision agent decision. Appeal of a decision by the subdivision agent may be taken in conformance with section 3.2.12, appeal of administrative decision.

2. Appeal of board of supervisors' decision. Appeal of a decision by the board of supervisors on an application for preliminary plat may be taken by filing a written petition for certiorari with the circuit court of Isle of Wight County within sixty (60) days of the action.

J. Revisions to approved preliminary plat.

1. The subdivision agent may approve minor revisions to an approved preliminary plat which do not change the basic street and/or lot configuration, or result in any changes that would require review by an external review body (see section 3.2.6.H, above).

2. Significant changes to an approved preliminary plat, as determined by the subdivision agent, shall be resubmitted for review and approval as if a new application.

K. No guarantee. Preliminary plat approval does not constitute a guarantee of approval of construction plans or the final plat.

L. Duration of preliminary plat validity. The applicant shall have not more than twelve (12) months after receiving official notification concerning the preliminary plat to file an application for final plat approval with the subdivision agent in accordance with section 3.2.8, subdivision, final plat. Failure to do so shall make the preliminary plat approval null and void. The subdivision agent may, on written request by the applicant, grant a one-time extension of this time limit for up to ninety (90) days.

3.2.7. Construction plans.

A. Applicability. All subdivision activities that will include, the installation of public facilities shall be required to comply with the requirements of this section.

1. Preparer. The construction plans shall be prepared by a land surveyor or other person(s) licensed by the state board for the examination and certification of

architects, professional engineers and land surveyors to do land surveying as defined by Section 54.1-406 of the Code of Virginia.

B. Timing. Subsequent to approval or conditional approval of the preliminary plat and prior to the submission of the final plat, the applicant shall submit copies of the construction plans to the subdivision agent for approval in conformance with county requirements for construction plans (as established by the county department of planning and zoning). In order to allow the applicant time for revisions between submittals and sufficient time for all reviewing agencies to thoroughly review the construction plans, the plan should be resubmitted as soon as possible following preliminary plat approval.

C. Application requirements. Applications for construction plan approval shall be submitted in conformance with section 3.2.1.C. At minimum, plans shall show the following information:

1. All information contained on the approved preliminary plat (see section 3.2.2).
2. A cross section showing the proposed street construction, depth and type of base, and type of surface.
3. A profile or contour map showing the proposed grades for the streets and drainage facilities including elevations of existing and proposed ground surface at all street intersections and at points of major grade change along the center line of streets together with proposed grade lines.
4. Proposed connections with existing sanitary sewers and existing water supply or alternate means of sewage disposal and water supply.
5. Any additional county requirements for construction plans.

D. Action by subdivision agent.

1. The subdivision agent shall distribute the construction plan application to the applicable review bodies for review and approval.
2. The subdivision agent and other review bodies shall review the construction plan application for conformance with the approved proffered conditions, the approved preliminary plat and all other applicable county, state, and federal requirements.
3. Within sixty (60) days of receipt of the completed application, the subdivision agent shall provide written comments to the applicant indicating areas where the application is not conforming with county requirements.
4. The applicant shall have one hundred twenty (120) days to correct the errors on the application. This time period may be extended by the subdivision agent for up to sixty (60) days for a total period of up to one hundred eighty (180) days upon written request by the applicant.
5. The subdivision agent may approve or deny the application at the end of the time period.

6. Within forty-five (45) days of receipt of a resubmittal of plans previously disapproved, the subdivision agent shall provide written comments to the applicant indicating areas where the application is not conforming with county requirements, or approval of the plans if applicable.

E. Appeal of subdivision agent decision. Appeal of a decision by the subdivision agent (or any other administrative decision) may be taken in conformance with section 3.2.12, appeal of administrative decision.

F. Duration of construction plan validity. An approved construction plan shall remain valid for five (5) years, if:

1. A permit to begin development pursuant to the construction plan, such as a building permit or zoning permit, has been issued within twelve (12) months of construction plan approval, and has remained continuously valid; and

2. Building or land disturbing activity has begun on the property.

3. No major modifications to the layout were made on the final plat that would affect the construction plan.

G. Record drawings. Upon the satisfactory completion of the installation of the required improvements shown on the approved construction plan and profiles, the developer must submit two (2) copies of the completed record drawings to the subdivision agent.

3.2.8. Subdivision, final plat.

A. Applicability.

1. A final plat shall be required for all subdivisions except family member subdivisions (see section 3.2.4).

2. In the case of an application for final plat approval for a minor subdivision (see section 3.2.6.D.1), the subdivision agent may allow the approved preliminary plat to serve as the final plat provided all required notes and certifications are inserted in conformance with this section.

B. Application requirements.

1. General.

a. An application for the final plat shall be filed in conformance with section 3.2.1.C. A listing of the minimum required information to be included in the preliminary plat may be found in article 4, plat requirements and more specifically in section 4.2.4, final plat requirements.

b. All required application and review fees shall be paid by the applicant. A current list of required fees is available from the planning and zoning department.

2. Preparer. The final plat shall be prepared by a land surveyor or other person(s) licensed by the state board for the examination and certification of architects, professional engineers and land surveyors to do "land surveying" as defined by Section 54.1-406 of the Code of Virginia, as amended, who shall endorse upon

each plat a signed certificate setting forth the source of the title of the land subdivided, and the plat of record of the last instrument in the chain of title. When the proposed plat is comprised of land acquired from more than one (1) source of title, the outlines of the several tracts shall be indicated upon the final plat, within an inset block, or by means of a dotted boundary line upon the final plat.

3. Owner's statement. In conformance with Section 15.2-2264 of the Code of Virginia, every such final plat, or the deed of dedication to which the final plat is attached, shall contain a statement to the effect that the subdivision as it appears on this final plat is with the free consent and in accordance with the desires of the owners, proprietors and trustees, if any. This statement shall be signed by the owners, proprietors and trustees or their duly authorized agent, and shall be duly acknowledged before some officer authorized to take acknowledgements of deeds. If the final plat is incorporated by reference to a deed, the signatures of the owners on the deed will suffice to show that the subdivision is with their free consent and in accordance with their desires.

C. Approving authority. The subdivision agent shall be responsible for final action on all final plat applications.

D. Action by the subdivision agent.

1. Upon receipt of a completed application, the subdivision agent shall forward the final plat documents to the appropriate entities for review.

2. The subdivision agent shall have sixty (60) days to review the application and approve the final plat as is, approve it subject to additional corrections, defer action for additional information and corrections, or deny it.

3. The final plat shall be approved by the subdivision agent if it meets the following criteria:

   a) Conforms with all of the provisions and requirements of this ordinance, proffered conditions, the zoning ordinance, and other applicable county rules and regulations;

   b) Conforms with the approved preliminary plat;

   c) Conforms with approved construction plans;

   d) Required improvements have been satisfactorily installed and completed or an acceptable performance guarantee has been filed with the county (see section 3.2.8.E, below).

4. Approved or corrected final plats shall be certified by the subdivision agent denoting approval.

5. Within forty-five (45) days of receipt of a resubmittal of plans previously disapproved, the subdivision agent shall provide written comments to the applicant indicating areas where the application is not conforming with county requirements, or approval of the plans if applicable.

E. Performance guarantee. In lieu of installing and completing all required public improvements, the subdivision agent may approve a performance bond, cash, cash bond, or other acceptable performance guarantee to cover the costs of necessary improvements, in conjunction with all applicable legally binding performance agreements that include terms adequate to provide for future increases in costs.

F. Issuance of required permits. Upon construction plan approval by all pertinent authorities and receipt of required bond amounts, the applicant may apply for the necessary permits to begin site work and the installation of improvements. All site work shall be performed in compliance with the approved construction plan, the requirements of this ordinance, and other applicable county, state, or federal regulations. No required permit may be issued prior to construction plan approval.

G. Appeal of subdivision agent decision.

1. If the final plat is deferred or denied, the subdivision agent shall notify the applicant (in writing) of the reasons for deferral or denial. The applicant may appeal a decision to defer or deny in conformance with section 3.2.12, appeal of administrative decision.

2. Nothing in this section shall be interpreted so as to preclude the filing of a new final plat application for the same property if no appeal is pending and if the corresponding preliminary plat remains valid.

H. Expiration of approval. An approved final plat shall be recorded by the subdivider in the office of the clerk of the circuit court of Isle of Wight County within six (6) months of the date of final approval, or it is void (see section 3.2.3.D, plat approval and recordation required).

I. Duration of plat validity.

1. Generally. In compliance with Section 15.2-2261 of the Code of Virginia, an approved final plat which has been properly recorded in the office of the clerk of the circuit court of Isle of Wight County shall remain valid for a period of five (5) years from the date of final plat approval.

2. Specifically.

a. The subdivider or developer may submit a written request for an extension of the expiration period if the request is submitted prior to the end of the initial period of validity. The planning commission may grant one (1) extension for a period of up to one (1) year taking into consideration the size and phasing of the proposed development, and the laws, ordinances and regulations in effect at the time of the request for an extension.

b. Application for minor modifications to a recorded plat made during the period of validity does not constitute a waiver of the terms of plat validity nor does the approval of minor modifications extend the period of validity of a plat.

c. Nothing contained in this section shall be construed to affect:

1) The authority of the county to impose valid conditions upon approval of any

special use permit, conditional use permit or special exception;

2) The application of the Chesapeake Bay Preservation Ordinance (or other county ordinances adopted pursuant to the Chesapeake Bay Preservation Act) to individual lots on recorded plats; or
3) The application of any county ordinance adopted to comply with the requirements of the federal Clean Water Act to individual lots on recorded plats.

3.2.9. Vacation of plat.

A. Generally. Any recorded final plat or portion of a recorded final plat, or any interest in streets, alleys, easements for public rights of passage, or easements for drainage granted to the board of supervisors as a condition of the approval, may be vacated according to the provisions of Sections 15.2-2270 through 15.2-2278 of the Code of Virginia.

B. Specifically.

1. Any interest in streets, alleys, easements for public rights of passage, easements for drainage, and easements for a public utility as a condition of approval may be vacated in conformance with Section 15.2-2270 of the Code of Virginia.

2. Plats may be vacated before the sale of lots in conformance with Section 15.2-2271 of the Code of Virginia.

3. Plats may be vacated after the sale of lots in conformance with Sections 15.2-2272 and 15.2-2274 of the Code of Virginia.

4. Boundary lines may be vacated in conformance with [section] 3.2.3.B, waiver of subdivision requirements, and Section 15.2-2275 of the Code of Virginia provided the vacation does not involve the relocation or alteration of streets, alleys, easements for public passage, or other public areas.

5. A plat of subdivision may be vacated in conformance with Section 15.2-2278 of the Code of Virginia.

C. Approving authority. The board of supervisors shall serve as the approving authority for all plat vacation applications.

D. Application requirements. An application for vacation of plat approval shall be filed in conformance with section 3.2.1.C.

E. Action by the subdivision agent.

1. Upon receipt of a completed application, the subdivision agent shall forward the application documents to the appropriate entities for review.

2. The subdivision agent shall have sixty (60) days to review the application and approve the application as is, defer action for additional information and corrections, or deny it.

3. Approved applications shall be certified by the subdivision agent in writing.

F. Appeal of subdivision agent decision. If an application is deferred or denied, the subdivision agent shall notify the applicant (in writing) of the reasons for deferral or

denial. The applicant may appeal a decision to defer or deny in conformance with section 3.2.12, appeal of administrative decision.

G. Duty of the clerk. Upon receipt of an approved and certified plat vacation, the clerk of circuit court of Isle of Wight County shall write in plain legible letters across such plat, or the part thereof so vacated, the word "vacated," and also make a reference on the plat to the volume and page in which the instrument of vacation is recorded (see Section 15.2-2276 of the Code of Virginia).

3.2.10. Waiver.

A. Applicability. The board of supervisors may consider" waivers from certain requirements of this ordinance where the strict application of the requirement would cause unnecessary hardship to the subdivider.

B. Application requirements. A request for a waiver shall be filed in conformance with section 3.2.1.C.

C. Action by the subdivision agent. The subdivision agent shall review the request and place the completed application and the agent's recommendation on the next available board of supervisors meeting agenda.

D. Action by the board of supervisors.

1. The subdivision agent shall present the application at the board of supervisors meeting.

2. The applicant shall be present at the meeting to respond to questions.

3. Following the hearing on the application, the board of supervisors may approve, approve with conditions, deny, or continue an application.

E. Criteria for waiver. To approve a request for waiver, the board of supervisors shall make an affirmative finding that all of the following criteria are met:

1. That granting the waiver will not have an adverse impact on land use compatibility;

2. That strict adherence to the general regulations would result in substantial injustice or hardship;

3. The waiver has not been opposed in writing by the county, VDOT engineer, or health official;

4. That granting the administrative waiver shall be consistent with the purposes and intent of this ordinance.

3.2.11. Ordinance text amendment.

A. Applicability.

1. The board of supervisors shall consider amendments to the text of this ordinance, as may be required from time to time.

2. Amendments to the text of this ordinance shall be made in accordance with the provisions of this section and Section 15.2-2223 et seq. of the Code of Virginia.

3. A request to amend the text of this ordinance may be initiated by the board of supervisors, the planning commission, the subdivision agent, or a citizen.

B. Action by the subdivision agent. The subdivision agent shall prepare a staff report that reviews the proposed text amendment request in light of any applicable plans and the general requirements of this ordinance.

C. Action by the planning commission.

1. General procedures.

a. Before making any recommendation on a text amendment, the planning commission shall consider any recommendations from the subdivision agent and shall conduct a public hearing where interested parties may be heard.

b. Notice and public hearing requirements shall be in accordance with section 3.2.1.D, notice and public hearings.

c. The commission shall make its recommendation within ninety (90) days of its initial public hearing.

d. When a recommendation is not made within the time period, the board of supervisors may process the request without a commission recommendation.

2. Changed application. If the applicant makes significant changes to the application for a text amendment after the commission has made its recommendation, the subdivision agent may refer the modified request back to the commission for an additional public hearing.

D. Action by the board of supervisors.

1. Before taking action on a text amendment, the board of supervisors shall consider the recommendations of the planning commission and subdivision agent and shall conduct a public hearing.

2. Notice and public hearing requirements shall be in accordance with section 3.2.1.D, notice and public hearings.

3. Following the public hearing, the board of supervisors may approve the amendment, deny the amendment, or send the amendment back to the planning commission or a committee of the board of supervisors for additional consideration.

3.2.12. Appeal of administrative decision.

A. Applicability. An appeal by any person aggrieved by a final order, interpretation or decision of the administrative official authorized to make decisions in regard to the provisions of this ordinance may be taken to the board of supervisors, except as otherwise provided in this ordinance.

B. Application requirements.

1. An appeal of an administrative decision shall be taken by filing a written notice of appeal specifying the grounds for the appeal with the subdivision agent and the board of supervisors.
2. An application for an appeal of an administrative decision shall be filed with the planning and zoning department in accordance with section 3.2.1.C, application requirements.
3. A notice of appeal of an administrative decision shall be considered filed when a complete application is delivered to the subdivision agent.

C. Deadline for submission of application. Unless specified otherwise, an appeal of an administrative decision shall be filed with the board of supervisors within thirty (30) days of receipt of the decision.

D. Notice and public hearings. Upon receipt of a completed application, the subdivision agent shall schedule a public hearing at the first available board of supervisors meeting and give public notice as set forth in section 3.2.1.D, notice and public hearings.

E. Action by the subdivision agent. The subdivision agent shall transmit to the board of supervisors all the papers constituting the record of the action being appealed.

F. Action by board of supervisors.
1. The board of supervisors may reverse or affirm (wholly or partly) or may modify the order, requirement, decision, or determination being appealed and shall make any order, requirement, decision or determination that in its opinion ought to be made in the case before it. To this end, the board of supervisors shall have all the powers of the official being appealed.
2. If a motion to reverse or modify is not made, or fails to receive the necessary number of votes to overturn the decision, then appeal shall be denied.
3. Any motion to overturn or modify a decision shall state the specific reasons or findings of fact that support the motion.

G. Effect of appeal.
1. An appeal shall stay all further activity resulting from the action appealed, unless the administrative official being appealed certifies to the board of supervisors that a stay would, in his or her opinion, cause imminent peril to life or property or that because the appeal is transitory in nature a stay would seriously interfere with the effective enforcement of this ordinance.
2. An appeal shall not stop action lawfully approved (including construction activities authorized by a building permit); only actions impacted by the appeal and presumed in violation of this ordinance are stayed.

H. Appeal of elected official decision. Appeal of the board of supervisors' action under this subsection may be taken by filing a petition for certiorari with the circuit court for Isle of Wight County. (Ord. No. 2011-15-C, 8-4-11; Ord. No. 2012-11-C, 10-18-12; 5-1-14; 11-19-15; 10-20-16; 8-8-19; 9-17-20.)

Article 5. - Development Standards

5.1. Land suitability.

5.1.1. The subdivision agent shall not approve the subdivision of land if, from adequate investigations conducted by all public agencies concerned, it has been determined that in the best interest of the public the site is not suitable for platting and development purposes of the kind proposed.

5.1.2. Land subject to flooding and land deemed to be topographically unsuitable may not be platted for residential occupancy, nor for such other uses as may increase danger of health, life or property or aggravate erosion or flood hazard.

5.1.3. Lands within the subdivision that are subject to flooding or deemed to be topographically unsuitable for residential occupancy must be reserved for uses that are not endangered by periodic or occasional inundation or do not produce conditions contrary to public welfare.

5.2. Responsibility for improvements.

A. The applicant is responsible for providing all required improvements in conformance with the requirements of this ordinance and any other applicable ordinances, codes, rules, or regulations. All costs associated with the installation of said improvements remains the responsibility of the applicant and any bond or other fiscal surety posted as a condition of approval may not be released until construction has been inspected and approved by the appropriate engineer or regulating authority (see section 3.2.8.E, performance guarantee). The following forms of fiscal surety will be accepted:

Cash
Cashier's check
Certified check
Surety bond
Letter of credit

Any other form of surety must be approved by the Isle of Wight County Attorney prior to acceptance.

B. The amount of such fiscal surety shall not exceed the total of the estimated cost of construction based on unit prices for new public or private section construction in the county and a reasonable allowance for estimated administrative costs, inflation, and potential damage to existing roads or utilities, which shall not exceed ten (10) percent of the estimated construction costs. (9-24-09; 9-17-20.)

5.3. General subdivision design.

The following principles shall guide the design and layout of proposed subdivisions in the county.

5.3.1. Subdivisions should be designed to protect and maintain existing natural features on the site, including existing terrain, drainageways, stands of trees, and other elements. Where possible, existing trees and other vegetated areas should be utilized

to satisfy landscaping and buffering requirements. Naturally occurring drainage paths should be maintained and utilized to the extent possible.

1. No lot shall be designed, approved or employed for use in which an area more than thirty (30) percent of the prescribed minimum lot area is comprised of one (1) or more of the environmentally sensitive areas referenced in the net developable calculations of the zoning ordinance. This shall not apply to lots specifically created exclusively to preserve and maintain environmentally sensitive areas, as approved by the zoning administrator.

5.3.2. Additional open spaces suitable for passive and active recreational use should be reserved where possible.

5.3.3. Streets and lots should be laid out to provide a coordinated and efficient use of land and minimize the need for costly expansion of the external roadway system outside of the subdivision. This may include providing an interconnected network of streets within the subdivision and providing both roadway and pedestrian connections to adjacent compatible developments.

5.3.4. Construction of the subdivision should be undertaken in a manner that minimizes the clear cutting and mass grading of land.

5.3.5. No singular subdivision shall extend over a political boundary.

5.4. Subdivision types.

5.4.1. Purpose.The zoning ordinance establishes twelve (12) different base zoning districts. These zoning districts are based on the intended character of development located within the district. Understanding that the character of the development also contains implications for subdivision design, certain standards within this ordinance have been tailored to accommodate appropriate layout and construction. This may not be construed as allowing any use or development that is not in conformance with the zoning ordinance or the zoning requirement for residential development (reference section 3.2.3.C, zoning requirements in this ordinance for information on required zoning prior to subdivision approval).

5.4.2. Subdivision types.

A. Rural subdivisions.Rural subdivisions are those subdivisions in the following zoning districts:

1. RAC Rural Agricultural Conservation
2. RR Rural Residential

B. Other residential, commercial, industrial, civic, miscellaneous, and planned development subdivisions.Subdivisions in the following zoning districts:

1. SE Suburban Estate
2. SR Suburban Residential
3. UR Urban Residential
4. VC Village Center
5. NC Neighborhood Conservation

6. LC Limited Commercial
7. GC General Commercial
8. LI Limited Industrial
9. GI General Industrial
10. GIC General Industrial Conservation
11. PD-R Planned Development - Residential
12. PD-MH Planned Development - Manufactured Home
13. PD-CP Planned Development - Corporate Park
14. PD-MX Planned Development - Mixed Use
15. PD-IP Planned Development - Industrial Park

5.5. Name duplication.

The name of a proposed subdivision may not duplicate nor closely approximate the name of an existing subdivision within the county.

5.6. Subdivision activity in Chesapeake Bay Preservation Area.

Any subdivision activity subject to the provisions of this ordinance and contained wholly or in part within the designated Isle of Wight County Chesapeake Bay Preservation Area must be designed and performed in compliance with the Isle of Wight County Chesapeake Bay Preservation Area Ordinance.

5.7. Subdivision activity in wetlands.

Development activities within wetland areas may require additional permits from entities other than Isle of Wight County, including the US Army Corps of Engineers, the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission, and other agencies.

5.7.1. Any subdivision activity proposing to fill, build in, on or in any way disturb any waterway or wetland area must obtain approval from the Virginia Department of Environmental Quality (VDEQ), the US Army Corp of Engineers (COE) and/or the county wetlands board prior to initiating any construction.

5.8. Stormwater management.

5.8.1. Applicability.

A. Applicants may be required to provide stormwater management improvements or make other improvements to the existing drainage system to address water quantity concerns, water quality concerns, or both if the proposed development will increase potential flood damages to existing properties or significantly increase pollutant levels in downstream receiving waters.

B. The need for stormwater management improvements to address offsite impacts must be determined by the county engineering division. The applicant shall be required to

provide surety to guarantee completion of required improvements prior to final plat approval.

5.8.2. Stormwater management program.

A. Subdivision applications disturbing one (1) or more acres of land or two thousand five hundred (2,500) square feet within the Chesapeake Bay watershed, as well as all modifications to existing stormwater systems shall require the submittal of a stormwater management plan in accordance with the county stormwater management ordinance.

B. When a separate stand-alone stormwater management plan is not required, the proposed stormwater management improvements must be indicated on the preliminary plat, construction plans, and final plat.

C. The stormwater management concept plan and stormwater management final plan shall be prepared in accordance with the county stormwater management ordinance.

5.8.3. Stormwater design standards.

A. The applicant must provide all necessary information needed to determine what improvements are necessary to properly develop the subject property, including contour intervals, drainage plans and proposed stormwater management improvements.

B. Stormwater management improvements must be designed and installed in accordance with the Isle of Wight County Stormwater Management Ordinance as well as all other applicable codes and ordinances. Plans for all improvements must include a certification by a properly qualified engineer or surveyor that proposed improvements, when properly installed, will be adequate for proper development and conform to all design standards and requirements.

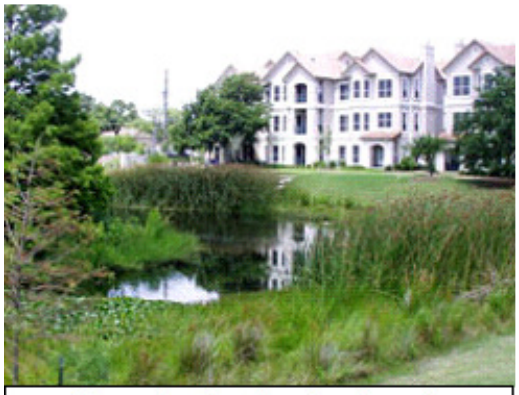
C. Piping and modification of streams and other natural watercourses should be minimized and shall be considered on a case-by-case basis to determine if it is necessary and environmentally sound. Such facilities must be designed, constructed and maintained to minimize flooding, protect downslope properties, preserve water quality, and adequately transport existing and projected stormwater flows.

D. The use of best management practices (BMPs) to manage stormwater is strongly encouraged. Examples of BMPs include: Bioretention and biofiltration, rain gardens, infiltration, detention, and structural controls.

Note: The following table illustrates some (but not all) of the BMPs that may be considered.

Example BMP	Illustration
Rain garden	
Roadside Infiltration Swale	
Dry Detention Basin	
Media Filter	

F. When stormwater ponds or management facilities are used, they shall be designed, landscaped, and integrated into the overall site design as a community amenity as follows:



Stormwater Pond used as Amenity

1. Stormwater retention and detention areas shall meander through the development as a greenbelt, rather than as a single basin. Stormwater retention areas shall be improved so as to be useable and accessible for recreational purposes. Retention areas shall be designed such that when inundated (following a rain event), they shall remain usable for their designated recreational purposes.

G. Stormwater retention and detention areas shall be designed with a natural character and shall be constructed of natural materials. Terracing, berming, and contouring is required in order to naturalize and enhance the aesthetics of the basin. Such features shall be approved by the subdivision agent. Basin slopes may not exceed a three (3) to one (1) slope and shall be designed to permit ready access for maintenance. In addition, the final design must incorporate child safety features through signage or other appropriate means.

H. Roadway drainage improvements must be provided in accordance with the VDOT Drainage Handbook. Drainage facilities located within the right-of-way must be approved by the VDOT engineer prior to dedication.

I. The subdivision agent may require that easements for drainage through adjoining property be provided by the applicant. An access easement that is at least ten (10) feet in width may be required to allow routine maintenance and repairs to stormwater facilities.

5.8.4. Maintenance and ownership.

A. Maintenance bond required. The applicant shall submit a maintenance bond on a form acceptable to the county until the stormwater facility is turned over to the property owner's association.

B. Ownership. Stormwater facilities shall be owned and maintained by a property owner's association (POA) representing owners of the land within the subdivision. Membership in the association shall be mandatory and automatic for all landowners

of the subdivision and their successors. The POA shall have lien authority to ensure the collection of dues from all members.

C. Maintenance agreement. A stormwater management facility maintenance agreement, maintenance easement agreement and formal maintenance covenant shall be submitted and recorded with the clerk's office of the circuit court prior to the issuance of any permits and shall be binding on all subsequent owners of land served by the facility. The stormwater management facility maintenance agreement shall be prepared in accordance with the requirements of the county stormwater management ordinance.

D. Failure to maintain. In the event the POA responsible for maintenance of the stormwater facility fails to maintain all or any portion in reasonable order and condition, the county may assume responsibility for its maintenance and may enter the premises and take corrective action, including the provision of extended maintenance. The costs of such maintenance may be charged to the POA, or to the individual property owners that make up the association, and may include administrative costs and penalties. Such costs shall become a lien on all subdivision properties.

5.9. Streets.

5.9.1. General standards.

A. All streets in the proposed subdivision shall be designed and constructed in accordance with the minimum requirements found in this section at no cost to the county.

B. Road widening and right-of-way dedication must meet or exceed VDOT standards.

C. Unless specifically modified in this ordinance, all new streets must be public and be improved to comply with the VDOT road and bridge standards.

5.9.2. Description of public and private streets.

A. Public street. A street (or portion of a street) that has been improved to comply with the requirements of this ordinance and the VDOT subdivision street design guide and has been accepted or is proposed to be accepted into the state primary or secondary road system.

B. Private street. A street (or portion of a street) that has not been accepted into the state primary or secondary road system.

5.9.3. Connectivity requirements.

A. Required. Unless exempted below, stub outs are required on each side of a subdivision (as defined by each of the cardinal directions) as follows:

1. Rural subdivisions. At least one (1) stub out for every two thousand eight hundred (2,800) linear feet on any single side of the proposed development.

2. Other subdivisions. At least one (1) stub out for every one thousand four hundred (1,400) linear feet on any single side of the proposed development.

B. Exemptions.

1. Stub outs are not required when the existing street pattern in the area of the proposed subdivision already provides for vehicular connections at intervals no greater than one-half (½) mile apart in rural subdivisions, and one-quarter (¼) mile apart in all other subdivisions.

2. Stub outs may not be required adjacent to existing development that has not made any accommodation for such connections or to adjoining sites that are permanently protected from development through conservation easements or ownership that precludes development.

3. Stub outs may not be required if the only point of access would require crossing floodplains, wetlands, or other similar natural features.

5.9.4. Street classification.

A. Guidelines.

1. In all new subdivisions, streets that are dedicated to public use shall be classified as provided in this section;

2. The functional classification is based on the general design and the projected volume of traffic to be carried by the street, stated in terms of the number of average daily vehicle trips per day;

3. The number of dwelling units to be served by the street may be used as an indicator of the number of trips but is not conclusive;

4. Whenever a proposed subdivision street continues an existing street that previously ended outside the subdivision or it is expected that a subdivision street will be continued beyond the subdivision at some future time, the classification of the proposed street is based upon the entire street, both within and outside of the subdivision.

B. Functional classification.

1. Arterial (primary).A street specifically designed to move high volumes of traffic from collector streets through the county and not designed to serve abutting lots except indirectly through intersecting streets. Arterial streets include all U.S. Highways, state primaries with one-, two- or three-digit numbers, and any other streets which the subdivision agent determines as functionally equivalent to these transportation department classifications.

2. Collector (secondary).A relatively low-speed, low-volume street that provides circulation within and between neighborhoods. Collector streets usually serve short trips and are intended for collecting trips from local streets and distributing them to the arterial network. They also form a secondary network of cross county connectivity. It is intended to serve, directly or indirectly, up to one hundred (100) dwelling units and is intended to carry up to eight hundred (800) average daily vehicle trips per day.

3. Local (secondary).These streets provide direct access to adjacent land and serve travel of short distances as compared to the higher systems. It serves or is designed to serve no more than twenty-five (25) dwelling units or expected to or does handle between seventy-five (75) and two hundred (200) average daily vehicle trips per day.

4. Alley (private).A service easement which affords only a secondary means of access to abutting property for utilities, sanitation, garages, backyards and any accessory units and are not intended for general traffic circulation

5. Service drive (marginal access street, frontage road).A street that is parallel to and adjacent to an arterial street and that is designed to provide access to abutting properties so that these properties do not directly access the arterial street. Properties fronting on a service drive are somewhat sheltered, and the flow of traffic on the arterial street is not impeded by numerous direct driveway access points from a large number of properties.

5.9.5. Street alignment and layout.

A. The proposed street layout in a new development must be coordinated with the existing street system with connections made at all stub outs existing on adjacent properties. Per chapter 11 of the comprehensive plan, the street layout shall be a modified grid pattern adapted to the topography and unique features of the site. Where full connection cannot be made as a result of the topography of the site being developed, the subdivision agent may allow the installation of a cul-de-sac or other turnaround facility in accordance with section 5.9.10 of this ordinance.

B. Half streets along the boundary of land proposed for subdivision are prohibited (this is not deemed to prohibit the construction of service drives or one-way streets).

C. Street intersections should be as close as possible to ninety (90) degrees (right angle), and may not be less than seventy (70) degrees without express approval by the subdivision agent, in consultation with VDOT.

D. Whenever a proposed subdivision contains or is adjacent to a limited access highway or expressway, provisions must be made for a service drive or marginal access street approximately parallel to such right-of-way at a distance suitable for an appropriate use of the land between such highway and the proposed subdivision. Such distances shall be determined with due consideration of the minimum distance required for ingress and egress to the main thoroughfare.

E. The proposed street arrangement may not cause unnecessary hardship to owners of adjoining property when they plat their own land and seek to provide for convenient access to it. Where, in the opinion of the subdivision agent, it is desirable to provide for street access to adjoining undeveloped property, proposed streets must be extended by one (1) of the following methods:

1. The developer may construct a stub out street in conformance with section 5.9.10, cul-de-sac streets or section 5.9.11, loop lanes. Where stub outs are less than fifty (50) feet in length and do not provide access for nonresidential or

multifamily uses, the subdivision agent may waive the requirement for a turnaround facility.

2. The developer of the proposed subdivision may dedicate a stub out easement to the county of sufficient width to accommodate the future extension of the subject street when the adjacent property is developed. If this alternative is selected, the developer must provide a construction bond sufficient to pay for the proposed improvements. The developer must provide notice to all future owners of lots fronting on the easement that a roadway may be installed at a future date. This easement and notice must be prominently indicated on the final subdivision plat. The applicant must post a sign of a design approved by the county.

5.9.6. Traffic calming. Traffic calming measures must be installed in accordance with VDOT standards. When traffic calming measures are proposed, such measures should be shown on subdivision construction plans and profiles or site plan submissions. If desired, a comprehensive traffic calming plan indicating proposed calming measures can be submitted for review and approval for the entire development with the first preliminary plat application.

5.9.7. Street grades. The grades of streets submitted on subdivision plats shall be approved by the county engineering division in consultation with the VDOT engineer. Wherever feasible, street grades may not exceed five (5) percent.

5.9.8. Street cross-section.

A. Applicability. Unless the use of alternative street design standards has been authorized (see section 5.9.16), all public and private streets must comply with VDOT street cross-section standards.

B. Pavement construction requirements.

1. Pavement design for new public and private streets must be in accordance with VDOT standards.

5.9.9. Cul-de-sac streets.

A. Description. Generally, cul-de-sac streets (minor terminal streets) are designed to have one (1) end permanently closed. Cul-de-sacs should be avoided unless natural barriers (wetlands, topography, floodplains) limit the opportunities for an interconnected grid network.

B. Length.

1. The length of a cul-de-sac street is measured from the end of the right-of-way of the turnaround portion of the cul-de-sac street to the nearest intersection with a street which provides a means of direct or indirect egress from the subdivision.

2. Cul-de-sac streets may not exceed the greater of five hundred (500) linear feet or ten (10) times the width of the lot (measured at its narrowest point).

C. Landscaped medians and islands.

1. All cul-de-sac streets must have a landscape island at the center of the turnaround circle a minimum of fifty-four (54) feet in diameter for any cul-de-

sac on a street serving more than sixteen (16) or more dwelling units or any use other than residential, and twenty-four (24) feet in diameter for any street serving fifteen (15) or less dwelling units and only residential uses. These islands may be designed as bioretention gardens and surface grading of cul-de-sac may be adjusted up to ten (10) percent to allow water to drain to the landscape island.

2. In the event that a cul-de-sac street is authorized to exceed eight hundred (800) feet in length, then such a cul-de-sac street shall be designed with a landscaped median that divides the cul-de-sac street into two (2) distinct and separate lanes. However, such a cul-de-sac street may be continuously undivided for the final two hundred (200) feet of the street. This undivided section is measured from the end of the right-of-way of the turnaround portion of the cul-de-sac street.

3. Median breaks must be provided at street intersections and at other appropriate locations along the cul-de-sac street to ensure safe and efficient traffic circulation and delivery of emergency services. One (1) median break should occur approximately every four hundred (400) feet of the cul-de-sac street.

4. When the cul-de-sac street serves commercial, institutional, or industrial lots or structures, the requirement for a landscaped median or island may be modified or waived by the subdivision agent upon approval by the board of supervisors due to the additional fire protection requirements incorporated into such structures.

5. All non-vehicular movement areas such as medians and islands shall be located in the right-of-way of the cul-de-sac street.

D. Turnaround. New cul-de-sac streets must terminate in a circular vehicle turnaround. The minimum diameter (measured to the edge of pavement or face of curb) of this turnaround is:

1. Sixty (60) feet on residential cul-de-sac streets serving fifteen (15) or fewer dwelling units and no other uses.

2. Ninety (90) feet on all other cul-de-sac streets.

E. Other terminal access (dead-end) streets.

1. "T" Turnarounds. T-turnaround are discouraged. The subdivision agent may approve the use of "T" (shaped) turnarounds in lieu of cul-de-sacs when upgrading existing streets.

2. Stub out streets.

a. Description. Stub out streets are continuations of internal streets to the perimeter of a project for future connection to adjacent properties.

b. Standards. A temporary cul-de-sac (standard or "T") must be provided at the end of all stub out streets. The right-of-way lines and constructed pavement must be extended to the boundary line of the proposed subdivision if the adjacent property is undeveloped.

Suitable barricades and "Street Closed" signs must be erected at the street end during the construction phase. At the completion of the street construction, "End of Street" signs must be erected at the street end. The following notation must be placed on the subdivision plat:

"Future access connection for adjacent development, to be constructed upon the extension of the street."

5.9.10. Loop lane.

A. Description. A loop lane is the recommended alternative to the use of cul-de-sac streets, "T" turnarounds, or other terminal access streets. Loop lanes shall be designed as two (2) one-way lanes separated by a central bioretention area or grassed, planted median at least sixty (60) feet in width.

B. Length. Loop lanes may not exceed five hundred (500) linear feet from the point of intersection with the connecting roadway.

5.9.11. Alleys. Dead-end alleys should be avoided wherever possible. If dead-end alleys are unavoidable, the end shall be provided with adequate turnaround facilities (see section 5.9.10.E, above) as determined by the subdivision agent.

5.9.12. Planting strips. When required, planting strips a minimum of six (6) feet in width and in accordance with the current VDOT Subdivision Street Guide must be located between the roadway and the sidewalk. Additional planting strip width may be required to avoid conflict with required utility easements.

5.9.13. Street names.

A. Proposed streets which are obviously in alignment with other already existing and named streets must continue the names of the existing streets. Names of existing streets may not be changed except by approval of the board of supervisors.

B. In no case may the names of a proposed street duplicate existing street names irrespective of the use of the suffix "road", "street", "avenue", "boulevard", "drive", "way", "place", "lane", or "court".

C. Street names must be indicated on the preliminary and final plats, and must be approved by the subdivision agent in consultation with the county's information technology and emergency management departments.

5.9.14. Street identification signs. Street identification signs of a design approved by the subdivision agent and VDOT, where applicable, must be installed at all intersections.

5.9.15. Alternative street design standards. The use of VDOT authorized alternative street design standards for subdivisions located in a planned development may be granted by the board of supervisors following a recommendation from the planning commission.

5.10. Blocks.

5.10.1. Block length. Blocks shall be a minimum of two hundred fifty (250) feet and a maximum of five hundred (500) feet in length. The subdivision agent may allow longer block lengths in limited cases where shorter block lengths would be impractical.

5.10.2. Block width. Blocks shall be wide enough to allow two (2) tiers of lots at minimum depth as required by the underlying zoning. The subdivision agent may approve a single tier of lots of minimum depth where environmental conditions restrict the lot layout.

5.10.3. Block orientation. Where a proposed subdivision will adjoin a major road, the subdivision agent may require that the greater dimension of the block front or back upon such major thoroughfare to avoid unnecessary ingress or egress.

5.11. – Lots.

5.11.1. Shape. Lots should be designed, arranged, and shaped so that they provide satisfactory and desirable sites for buildings, be properly related to natural topography, and conform to requirements of this ordinance and the zoning ordinance. Lots shall be generally regular in shape, such as rectangular or pie-shaped, and may not contain peculiarly shaped elongations-which would be unusable for normal purposes, the only exception to this rule being elongations to provide access to a public street within a flag lot. For lots with a width of sixty (60) feet or greater, lot proportions should provide approximately two and one-half (2.5) feet of lot depth for every one (1) foot of lot width.

5.11.2. Location. All lots shall front on a street dedicated by the subdivision plat, or on an existing publicly dedicated street, or on a road within the Virginia Department of Highways system. With the exception of corner lots, no lots shall have double frontage on any road unless suitably bermed. When a proposed subdivision abuts one (1) side of any existing street or road that is shown on a plat of record or has been included in the system of highways and streets in Isle of Wight County, the subdivider shall be required to dedicate one-half (½) of the land necessary to comply with the applicable minimum VDOT right-of-way requirements.

5.11.3. Corner lots. Corner lots shall have extra width sufficient to maintain required building setbacks from both streets as specified in the zoning ordinance or as determined by the subdivision agent.

5.11.4. Side lines. Side lines of lots shall be reasonably straight and approximately at right angles or radial to the street line.

5.11.5. Remnants. All remnants of lots below minimum size left over after subdividing of a tract must be added to adjacent lots or otherwise disposed of rather than allowed to remain as unusable parcels.

5.11.6. Separate ownership. Where the land covered by a subdivision includes two (2) or more parcels in separate ownership, and lot arrangement is such that a property ownership line divides one (1) or more lots, the land in each lot so divided shall be transferred by deed to single ownership, simultaneously with the recording of the final plat. Said deed is to be deposited with the clerk of the court and held with the

final plat until the subdivider is ready to record same, and they both shall then be recorded together.

5.12. Sidewalks and paths (pedestrian and bicycle facilities).

5.12.1. General.Sidewalks and paths shall be designed to provide a safe and convenient pedestrian circulation system within the subdivision as well as connections to adjacent areas. These systems should be designed to connect with all elements within the development, adjacent areas, existing sidewalks/greenways, and transit stops and may include sidewalks along public or private streets, bike lanes on roadways, greenways, and walkways and trails in alternative locations as appropriate.

5.12.2. Sidewalks.

A. Where a sidewalk is specifically required by this ordinance, it must be located within the right-of-way. However, the subdivision agent may approve alternate walkway locations when it is determined that the location within the right-of-way is not feasible.

B. Sidewalks located within the public right-of-way must be constructed to VDOT standards. Curb ramps or sloped areas must be provided where sidewalks cross curbs, as required by current Americans with Disabilities Act standards. Inlets may not be located within sidewalks. Catch basin and manhole frames must have closed lids when located within the sidewalk.

C. On roads with curb and gutter, sidewalks must be separated from the back of curb by a planting strip that is at least six (6) feet in width. Trees are to be located between the sidewalk and the curb. Wider planting strip(s) may be required by the zoning ordinance, depending on any inclusion of on-street parking or other layout particularities.

D. Along roads with shoulders and ditches, sidewalks must be located behind the roadside ditch or a guardrail. The subdivision agent may authorize the use of alternative walkways ([section] 5.12.3) when shoulders and ditches are used.

E. In order to be accepted for dedication by VDOT, sidewalks must be located completely within the right-of-way and constructed in compliance with the VDOT Subdivision Street Design Guide.

F. Any proposed subdivision that includes, directly abuts or provides direct access to a proposed greenway location as identified in the county bicycle and pedestrian master plan, must provide a greenway easement or sidewalk to either continue the path in its intended location or allow unencumbered access to the greenway for all future residents.

5.12.3. Alternative walkway.

A. Pedestrian walkways may be provided outside of the right-of-way when the subdivision agent determines the walkway will have the same functionality as the conventional sidewalk required.

B. The subdivision agent may approve alternative construction materials including asphalt, crushed stone, and other surfaces.

5.12.4. Bicycle lanes. When a proposed street may serve as a potential connection between identified bicycle routes in the county bicycle and pedestrian master plan, on-street bicycle lanes must be installed in conformance with VDOT Subdivision Street Design Guide.

5.13. Water and sewer facilities.

5.13.1. Public facilities.

A. Water.

1. Connection requirements.

a. Unless specifically exempted below, all subdivisions located within a development service district (DSD) and all subdivisions that have public water service passing adjacent to the subject property (whether or not in a DSD) must connect to the Isle of Wight [County] public water system and the service shall be extended to all lots and all fire hydrants within the subdivision.

b. The subdivision agent may grant an exception to the connection requirement for subdivisions of four (4) or fewer total lots that do not have public water service passing adjacent to the property (whether or not in a DSD).

2. Construction standards. All water supply and distribution systems, whether public or private, shall be installed by the subdivider in accordance with the design standards and specifications for water, construction and improvements in Isle of Wight County and shall require design approval of the subdivision agent, in consultation with the department of public utilities and other appropriate review entities. Mains shall be sized for friction loss and must be shown on construction plans (along with fire hydrants).

3. Dedication to the county.All water supply and distribution systems that are connected to the county's public water service shall be dedicated to the county upon completion and after public utilities/engineering have approved the completed facility's construction and verified proper operation.

B. Sewer.

1. Connection requirements.

a. Unless specifically exempted below, all subdivisions located within a development service district (DSD) and all subdivisions that have public sewage service passing adjacent to the subject property (whether or not in a DSD) must connect to the Isle of Wight [County] public sewage system and the service shall be extended to all lots within the subdivision. Septic tanks will not be permitted.

b. The subdivision agent may grant an exception to the connection requirement for subdivisions of four (4) or fewer total lots that do not have

public sewage service passing adjacent to the property (whether or not in a DSD). In such case, private facilities will be allowed in conformance with section 5.13.2, private facilities (below).

2. Construction standards. Every subdivision shall be provided by the subdivider with a satisfactory and sanitary means of sewage collection and disposal in accordance with the design standards and specifications for sewerage construction and improvements in Isle of Wight County, Virginia, and meeting the approval of the subdivision agent.

3. Dedication to the county. All sewage facilities that are connected to the county's public sewage service shall be dedicated to the county upon completion and after public utilities/engineering have approved the completed facility's construction and verified proper operation.

5.13.2. Alternative discharge/private facilities.

A. Nothing in this ordinance shall prevent the installation of privately owned water and/or sewerage facilities in areas where public facilities are not available or their installation would be cost prohibitive. When private facilities are provided:

1. A conditional use permit may be required (see zoning ordinance).

2. The facilities must meet all the requirements of the Virginia Water Control Board, the Virginia Department of Environmental Quality, the Virginia Department of Health, Isle of Wight County Department of Public Utilities, and any other state or local regulation having authority over such installation, including the provisions of the zoning ordinance for alternative discharge sewage disposal systems; and

3. Upon completion of the facilities, the developer or owner may be required to convey, without cost, said facilities and all appurtenances, including sufficient land, easements and rights-of-way, to the county.

B. Lots may be required to provide greater area than the minimum required for the zoning district where individual septic tanks or individual wells are used if the health official determines that there are factors of drainage, soil and condition or other conditions to cause potential health problems. Where septic tanks are to be used for sewage disposal, the subdivision agent shall require the submittal of an onsite sewage disposal system subdivision review package from an authorized onsite soil evaluator, a sewage disposal system certification letter as issued by the health department or a sewage disposal system construction permit as issued by the health department prior to preliminary plat approval or, if a preliminary plat is not required, prior to subdivision approval.

C. When individual (on-site) septic sewage disposal systems are used on newly created lots within the Chesapeake Bay watershed, each lot must contain an adequate area of suitable soil for the location of the primary sewage disposal system and at least one (1) reserve drainfield must be provided totally within the boundary lines of said lot.

D. Alternative discharge sewage systems shall be subject to review and approval by the state health department and the Department of Environmental Quality.

E. Lots to be served by individual (on-site) sewage disposal systems shall be pumped out as required by the septic pump-out ordinance in article 6 of the Chesapeake Bay Preservation Area Ordinance.

F. Subdivisions with fifteen (15) or more lots that will not be served by a county-owned or contracted water system shall be served by a privately-owned, complete central water supply and distribution system which provides service to each and every lot. Subdivisions to be developed in phases shall count the total number of lots to be created by all phases of the project.

5.13.3. Fire protection. When a subdivision is to be served by a central water system or a public water system, the subdivision agent, in consultation with the county departments of emergency management and public utilities, may specify the installation of fire hydrants. Hydrant location must be approved by the subdivision agent, but in no case may hydrants be spaced more than eight hundred (800) linear feet apart along a street or roadway.

5.14. Utilities (other than water and sewer).

5.14.1. Costs. The applicant shall be responsible for the installation of all improvements listed below, all of which shall be installed at no cost to the County of Isle of Wight unless otherwise provided in this ordinance.

5.14.2. Underground installation. All new transmission, distribution and customer service utility facilities, carrying or used in connection with electric power, telephone, telegraph, internet, cable television, petroleum, gas or steam, installed within the boundaries of any subdivision shall be placed below the surface of the ground; provided that:

A. All required improvements shall be in accordance with accepted standards of utility practice for underground construction.

B. Temporary overhead facilities required for construction purposes will be permitted;

C. Equipment such as electric distribution transformers, transmission thirty-three (33) KV and above, switchgear, meter pedestals and telephone pedestals, which are normally installed aboveground in accordance with accepted utility practices for underground distribution systems may be so installed;

D. Meters, service connections and similar equipment normally attached to the outside wall of the premises it serves may continue to be so installed;

E. Whenever relocation of utility facilities is compelled by any construction undertaken by any unit of government, the provisions of this section may be waived by the board of supervisors or the subdivision agent;

F. Overhead farm and industrial customer utility services and wiring which is on property owned and/or occupied by the property owner or user is allowed;

G. With the exception of cluster/sliding scale "by-right" development, underground utilities will not be required in those areas of the county zoned rural agricultural conservation (RAC);

H. Overhead utilities services existing as of October 29, 1974, may be repaired, replaced or increased in capacity, and relocated parallel and adjacent to pre-existing state roads;

I. Overhead utilities services may be extended within a subdivision where the average lot size (excluding the original parcel) is at least five (5) acres and may further be extended in any case where such extension would be parallel and adjacent to public roads existing as of services along roads not existing as of October 29, 1974, and internal to a subdivision where the average lot size (excluding the original parcel) is five (5) acres or less must be underground. Overhead utilities services may be extended along or across other public roads as authorized by the subdivision agent.

5.15. Easements.

5.15.1. Easements must be provided for water, sewer, power lines, landscape, open space, access and no-access, maintenance, future road expansion, drainage, greenways, sidewalks and multi-use paths, and other utilities in the subdivision when required by the subdivision agent.

5.15.2. All utility easements must be a minimum of ten (10) feet in width unless a narrower easement width is expressly authorized by the subdivision agent. Easements wider than ten (10) feet may be required by the subdivision agent.

5.15.3. No easements or utility rights-of-way may be relocated or altered without the express written consent of all persons holding any interest in the easement.

5**.16. Traditional neighborhood design (TND).**

The objective of the traditional neighborhood design type is a compact, pedestrian-scaled development incorporating a diverse, mixed range of uses to promote community interaction, convenience, housing options for all income levels, and civic participation. The following regulations are offered to guide this type of development in accordance with design principles compatible with the historic nature of the county, and in harmony with the applicable county ordinances and the comprehensive plan.

A. Applicability. These provisions apply to new developments of fifty (50) acres or more, zoned PD-R, PD-MH, and PD-MX.

In the case of expanding existing subdivisions of ten (10) lots or more, these guidelines can be applied to any development residentially zoned and proposing at least five (5) additional lots. The following standards do not exempt the applicant from compliance with the other sections of this ordinance which protect the general health, safety, and welfare of residents.

B. Development standards.

1. [Location:]All residents should be within approximately one-fourth (¼) mile radius or a five-minute walk from existing or proposed commercial, civic, and open space areas.

2. Open space: At least forty (40) percent of the gross acreage of the traditional neighborhood development must be open space. Open space may include undevelopable areas such as steep slopes and wetlands, and stormwater detention and retention basins. At least fifty (50) percent of the open space must be common open space dedicated to the public for recreation. Additionally, ninety (90) percent of the dwelling units shall be within a one-fourth (¼) mile radius or a five-minute walk from common open space.

3. Stormwater management: The design of the traditional neighborhood development should minimize off-site stormwater runoff, promote on-site filtration, and minimize the discharge of pollutants to ground and surface water. Natural topography and existing land cover should be maintained/protected to the maximum extent practical. New development shall meet the standards of section 5.8, stormwater management.

4. Lot and block standards:

   A. Street layouts should provide for blocks that are a minimum of two hundred fifty (250) feet in length and a maximum of five hundred (500) feet in length; however, longer length shall be allowed with mid-block pedestrian pass-throughs every five hundred (500) feet.

   B. Blocks should be wide enough to allow two (2) tiers of lots at minimum depth as required by the underlying zoning. The subdivision agent may approve a single tier of lots of minimum depth where environmental conditions restrict the lot layout.

   C. A variety of lot sizes should be provided to facilitate housing diversity and choice and meet the projected requirements of people with different housing needs.

C. Circulation standards. The circulation system shall allow for different modes of transportation. The circulation system shall provide functional and visual links within the residential areas, mixed use area, and open space of the community and shall be connected to existing and proposed external development. The circulation system shall provide adequate traffic capacity, provide connected pedestrian and bicycle routes (especially off-street bicycle or multi-use paths or bicycle lanes on the streets), control through traffic and promote safe and efficient mobility through the neighborhood. All TND transportation elements should be presented to the locality and VDOT for discussion and approval of unique features.

1. Pedestrian circulation. Convenient pedestrian circulation systems that minimize pedestrian-motor vehicle conflicts shall be provided continuously throughout the TND. Where feasible, any existing pedestrian routes through the site shall be preserved and enhanced. All streets, except for alleys, shall be bordered by sidewalks on both sides. The following provisions also apply:

   1. Sidewalks in residential areas. Clear and well-lighted sidewalks, five (5) feet in width, shall connect all dwelling entrances to the adjacent public sidewalk.

2. Sidewalks in mixed use areas. Clear and well-lighted walkways shall connect building entrances to the adjacent public sidewalk and to associated parking areas. Such walkways shall be a minimum of five (5) feet in width.

3. Disabled accessibility. Sidewalks shall comply with the applicable requirements of the Americans with Disabilities Act and VDOT standards.

4. Crosswalks. Intersections of sidewalks with streets shall be designed with clearly defined edges. Crosswalks shall be well lit and clearly marked with contrasting paving materials at the edges or with striping. In addition, curb extensions shall be incorporated where pedestrian facilities intersect higher-volume streets within the development to protect parking areas and reduce pedestrian crossing times.

2. Bicycle circulation. Bicycle circulation shall be accommodated on streets and/or on dedicated bicycle paths. Where feasible, any existing bicycle routes through the site shall be preserved and enhanced. Facilities for bicycle travel may include off-street bicycle multimodal paths and separate, striped, five-foot bicycle lanes on streets. If a bicycle lane is combined with a lane for parking, the combined width should be thirteen (13) feet and the bicycle travel lane shall be located between the vehicular travel lane and parking lane.

3. Public transit access. Where public transit service is available or planned, convenient access to transit stops shall be provided. Where transit shelters are provided, they shall be placed in highly visible locations that promote security through surveillance, and shall be well-lighted.

4. Motor vehicle circulation. Motor vehicle circulation shall be designed to minimize conflicts with pedestrians and bicycles. Traffic calming features such as "queuing streets," curb extensions, traffic circles, and medians may be used to encourage slow traffic speeds. Arterial streets should not bisect a TND if pedestrian cross-access is not feasible.

    a. Street hierarchy. Each street within a TND shall be classified according to section 5.9.5 of this ordinance.

5. Street layout. The traditional neighborhood development should maintain the existing street grid, where present, and restore any disrupted street grid where feasible. In addition:

    i. Intersections shall be at right angles whenever possible, but in no case less than seventy (70) degrees. Low volume streets may form three-way intersections creating an inherent right-of-way assignment (the through street receives precedence) which significantly reduces accidents without the use of traffic controls.

    ii. Corner radii. The roadway edge at street intersections shall be rounded by a tangential arc with a radius of fifteen (15) feet for local streets where the receiving street is projected to have less than four hundred (400) vehicle trips per day, and twenty-five (25) feet for intersections involving collector or arterial streets. Any reduction or increase in the proposed corner radii

shall be subject to the approval of VDOT. The intersection of a local street and an access lane or alley shall be rounded by a tangential arc with a maximum radius of ten (10) feet.

iii. Curb cuts for driveways to individual residential lots shall be prohibited along collector and subcollector streets with residential access recommended from alleys only. Additionally, curb cuts shall be limited to intersections with other streets or access drives to parking areas for commercial, civic or multifamily residential uses. Clear sight triangles (twenty-five (25) feet × twenty-five (25) feet) or as approved by VDOT shall be maintained at intersections unless controlled by traffic signal devices.

iv. The orientation of streets should enhance the visual impact of common open spaces and prominent buildings create lots that facilitate passive solar design, and minimize street gradients. All streets shall terminate at other streets or at public land, except local streets may terminate in stub streets when such streets act as connections to future phases of the development. Local streets may terminate other than at other streets or public land when there is a connection to the pedestrian and bicycle path network at the terminus.

6. Parking requirements.Parking areas for shared or community use should be encouraged. The number of parking spaces shall be in accordance with the zoning ordinance requirements. In addition:

   a. In the mixed use area, any parking lot shall be located at the rear or side of a building.

   b. A parking lot may not be adjacent to or opposite a street intersection.

   c. A shared parking agreement must be established and approved by the zoning administrator prior to site plan approval.

   d. Parking lots or garages must provide not less than one (1) bicycle parking space for every ten (10) motor vehicle parking spaces.

   e. Paving. Reduction of impervious surfaces through the use of interlocking pavers is strongly encouraged for areas such as remote parking lots and parking areas for periodic uses.

7. Guidelines for lighting.

   a. Street lighting shall be provided along all streets. Generally more, low-intensity lights, as opposed to fewer, high-intensity lights, should be used. Street lights shall be installed at all street intersections (including alleys), at the end of all cul-de-sac streets, and on both sides of a street, alternating from one side of the street to the other at intervals of three hundred (300) to four hundred (400) feet. Lights shall not exceed ten thousand (10,000) lumens and shall be directed downward and opaquely covered at the top. Regardless of type of fixture and bulb and illumination characteristics, street lighting design shall follow dark sky guidelines and principles.

b. Exterior residential lighting shall be shielded and directed downward in order to reduce glare onto adjacent properties.

c. All commercial lighting shall be in compliance with article 11 of the zoning ordinance.

8. Landscaping and screening standards.Overall composition and location of landscaping shall complement the scale of the development and its surroundings. In general, larger, well-placed contiguous planting areas shall be preferred to smaller, disconnected areas. Plant materials, specifications, installation and maintenance shall be in accordance with the zoning ordinance landscaping requirements.

a. Street trees.A minimum of one (1) deciduous canopy tree per forty (40) feet of street frontage per street side, shall be required. Trees can be clustered and do not need to be evenly spaced. Trees should be located between the sidewalk and the curb, within the landscaped area of a boulevard, or in tree wells installed in pavement or concrete.

5.17. Solid waste refuse collection.

All subdivision lots on new streets in subdivisions platted subsequent to August 1, 1997, shall be required to utilize the door-to-door solid waste refuse collection by the duly authorized and franchised collectors and haulers as determined by the board of supervisors of Isle of Wight County, Virginia. (Ord. No. 2012-11-C, 10-18-12.)

DATE:_____

READ AND PASSED: _____
Chairman

TESTE: _____
Clerk

Approved as to Form:

_____
Robert W. Jones, Jr., County Attorney

PLANNING REPORT

APPLICATION:

Proposed Revisions to the Isle of Wight County Zoning and Subdivision Ordinances

ELECTION DISTRICT:

All

BACKGROUND:

Planning and Zoning staff has worked closely with the Planning Commission and Board of Supervisors to develop the proposed Zoning and Subdivision Ordinance changes. The Planning Commission discussed the proposed changes at their January 25, 2022, regular meeting. After their discussion, Commission members directed staff to advertise the changes for public hearing.

DESCRIPTION:

The purpose of the recommended ordinance changes is to provide clarity of regulatory intent, ensure compliance with the *Code of Virginia*, provide additional flexibility, and offer some relief from the regulatory burden on property owners.

ORDINANCE REVIEW:

Applications for text amendments may be initiated by resolution of the Board of Supervisors, by motion of the Planning Commission, or by application petition of any property owner(s) addressed to the Board of Supervisors. An application for text amendment will set forth the new text to be added and the existing text, if any, to be deleted or amended.

AGENCY REVIEW:

County staff worked with the County Attorney in developing the proposed ordinance changes.

STAFF RECOMMENDATION:

Staff recommends approval of the proposed ordinance changes.

ATTACHMENTS:

Description	Type	Upload Date
Zoning Ord Change Redline 021622	Backup Material	2/22/2022
Zoning Ord Changes Draft BOS Ordinance 021622	Backup Material	2/22/2022
Subdivision Ordinance Revision Redline 021622	Backup Material	2/22/2022
Subdivision Ord Draft BOS Ordinance 021622	Backup Material	2/22/2022

ISSUE:

Transportation Capital Projects and Grant Opportunities Update

BACKGROUND:

Transportation staff will give an update of recently completed transportation projects and studies, and review upcoming transportation grant opportunities with the Board.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

For the Board's information.

ATTACHMENTS:

Description	Type	Upload Date
Broadwater Road Reconstruction Report	Backup Material	3/8/2022
STARS Route 17 Final Report	Backup Material	3/8/2022

Local Roots, Global Reach

ISLE OF WIGHT COUNTY, VIRGINIA

ATCS

BROADWATER ROAD RECONSTRUCTION FROM BLACKWATER RIVER TO STRAWBERRY PLAINS ROAD

Cost Estimate/Design Review & Alternatives Analysis

APRIL 28, 2021



CLIENT ▪ EMPLOYEE ▪ COMPANY ▪ COMMUNITY



COST ESTIMATE/DESIGN REVIEW & ALTERNATIVES ANALYSIS

BROADWATER ROAD RECONSTRUCTION

ALTERNATIVES ANALYSIS

Overview

The purpose of this memorandum is to document an assessment of the design and cost estimate information that had previously been prepared in 2018 by VDOT for the Broadwater Road (Route 620) Reconstruction between Strawberry Plains Road and the Blackwater River and to identify high-level alternative concept designs that can achieve the project purpose and need and potentially reduce project costs.

Broadwater Road (Route 620) between Blackwater River and Strawberry Plains Road is classified as a Rural Major Collector roadway and currently carries 1,900 vehicles per day with 7% trucks according to 2019 VDOT traffic count data. The speed limit through the section being evaluated is not posted, so a statutory speed limit of 55 miles per hour applies. The current roadway cross-section varies slightly throughout the length of the project, but generally consists of 10-foot lanes with a zero to one-foot gravel shoulder.

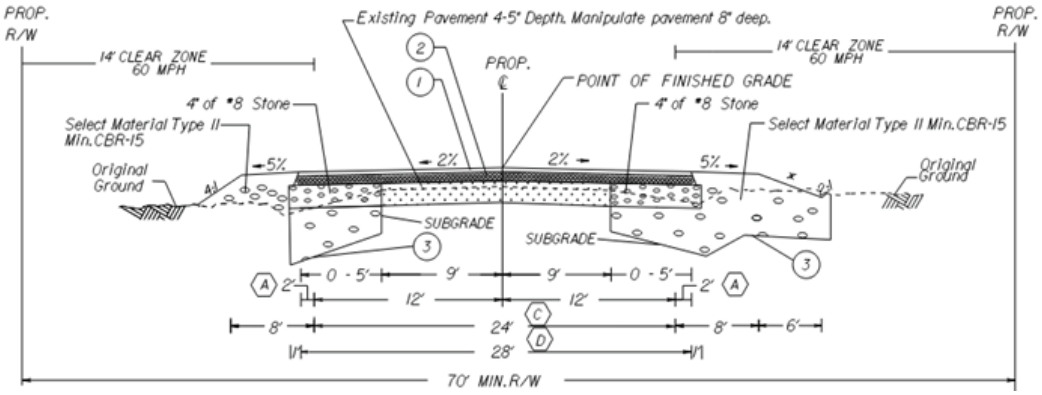
The proposed project purpose and need of the project to reconstruct the 1.6-miles of Broadwater Road between Blackwater River and Strawberry Plains Road to improve roadway safety by widening the roadway to provide wider travel lanes, shoulders, and clear zone.

2018 VDOT Proposed Design

VDOT's design in 2018 proposed to reconstruct Broadwater Road between Blackwater River and Strawberry Plains Road and consisted of a typical section with two 12-foot travel lanes, a 2-foot paved shoulder, and 6-foot graded shoulders (shown below). VDOT prepared a cost estimate in support of a Smart Scale application in August 2018. At that time, the project was estimated to be $8,732,351, which includes $628,562 for PE, $2,548,365 for R/W and Utilities, and $5,555,424 for Construction.

Figure 1 - 2018 VDOT Proposed Typical Section

FOR WITH WIDENING BOTH SIDES



Map view of Broadwater Road (Route 620) between Blackwater River and Strawberry Plains Road which is classified as a Rural Major Collector roadway and currently carries 1,900 vehicles per day with 7% trucks according to 2019 VDOT traffic count data.

Cost Estimate Review



ATCS performed a review of the cost estimate developed by VDOT for the previous design. Below is a summary of findings:

VDOT Right-of-Way and Utility Estimate (2018) ESTIMATE

Right-of-Way		$353,710
Inflation	7.06% (until FY '21)	$24,967
Utility:		
Electric		$451,000
Telephone (Aerial)		$20,000
Telephone (Underground)		$960,000
Telephone (Misc.)		$98,000
Natural Gas		$264,000
Inflation	21.01% (FY '26)	$376,688
	Right-of-Way Phase Estimate:	$2,548,365

- Inflation factors will need to be adjusted to meet new project schedule. For instance, if the project is developed and advertised by 2022 and constructed in 2025, the inflation would be 15.9% and result in a reduction of $91,000.
- Telephone/copper wire is located at the edge of the pavement on both sides of the roadway from station 50+25 to station 93+50 (approximately 4,325 feet). VDOT's PCES estimate includes 19,200 feet of relocated wire costing $960,000. Further exploration with the utility providers will need to be completed, but the reduced quantity could result in a potential cost savings of up to $527,500.
- As assessment of the electrical utility impacts could be reduced from impacting 25 overhead poles to 16, resulting in a potential cost savings of $148,500. Further exploration with the utility provided will need to be completed to confirm this.
- Costs assumed for Natural Gas is to accommodate strengthening around the gas line crossing located at station 56+75 may be able to be avoided if roadway widening is not completed.

VDOT Construction Estimate (2018) – BASELINE ESTIMATE

Construction Cost		$3,533,740
Construction Contingency	5% of Construction (Tier I)	$176,687
Contract Requirements		$13,301
Construction Engineering & Inspection	20% of Construction	$706,748
Inflation	25.39% (AD FY '26 + 3 yr. Constr.)	$1,124,949
	Construction Phase Estimate:	$5,555,424

The review of VDOT's detailed construction cost estimate included the following quantity and bid item discrepancies. It should be noted that all identified discrepancies will need to be verified upon re-initiation of the project design:

- Item Code 10027 NS MANIPULATION Reclamation8" is quantified in CY. This item should be revised to Item Code 10028 MANIPULATION 8" quantified in SY per 2020 VDOT Specification Section 306. This change would result in potential cost increase of approximately $80,000.
- Item Code 27451 INLET PROTECTION TYPE A should be revised to Item Code 27505 TEMP. SILT FENCE TYPE A per the VDOT quantity calculation spreadsheet: *Summary of Estimated Quantities for Rte 620_07072016.xls*. This is a significant potential error in the previous estimate calculation that would result in a potential cost savings of approximately $1.4 million.
- Item Code 27461 INLET PROTECTION TYPE B should be revised to Item Code 27504 TEMP. SILT FENCE TYPE B per the VDOT quantity calculation spreadsheet: *VDOT Summary of Estimated Quantities for Rte 620_07072016.xls*. This would result in a potential cost savings of approximately $22,000.
- Bid item unit prices were estimated in 2018. ATCS has updated key bid item unit costs to reflect the recent bid climate through 2020, which resulted in overall potential cost increase of approximately $600,000. This increase includes the adjustments to the items and quantities noted in the previous 3 bullets.
- Inflation factors will need to be adjusted to meet new project schedule. For instance, if the project is developed and advertised by 2023 and constructed by 2025, the inflation would be 15.9% and result in a reduction of $91,000.
- **No bid risk/design contingency was assumed in VDOT's 2018 estimate.** Typical scoping-level construction estimates usually include 40% contingency to account for the numerous project engineering unknowns that typically are present at this phase of design.
- Contract requirements only included a construction field office for 6 months compared to a 3-year construction estimate (according to VDOT's PCES worksheet dated 8/7/2018). It would be assumed construction for this project could last between 12 and 18 months which would result in a potential cost increase of approximately $20,000.

For comparison purposes, the revisions described above have been implemented to provide a **REVISED BASELINE** estimate (note: the costs below do NOT include R/W and Utilities estimates identified previously):

	Construction Only Estimate (2018)	REVISED BASELINE Construction Only Estimate (2021)
Construction Cost	$3,533,740	$4,122,091
5% Contract Contingency	$176,687	$206,105
Contract Requirements (assumed 18-month construction)	$13,301	$35,022
Construction Engineering & Inspection	$706,748	$824,418
Inflation (21.1% vs. 15.9%)	$930,790	$826,251
Mid-point Construction inflation (4.38%)	$194,159	$227,340
Construction Phase Estimate:	$5,555,424	$6,241,226

	Construction Only Estimate (2018)	REVISED BASELINE Construction Only Estimate (2021)
Bid Risk/ Design Contingency (40% of constr. cost)	Not included	$1,648,836
TOTAL	$5,555,424	$7,890,062

Below are additional construction costs (not including utilities) that will require further evaluation and have not been included in the above construction cost comparison:

- The number, size and types of stormwater management facilities are not well defined in the 2018 design or the estimate. The current estimate includes approximately $40,000 for basin excavation. Additional evaluation is required to better quantify costs associated with meeting current storm water regulations. This may result in a potential cost increase of an undetermined amount.

Safety Evaluation

The most recent crash data between 2014 and 2020 was pulled from VDOT Tableau and PowerBI online tools and assessed to determine if there are strategies to change or reduce the scope of the project in order to address the specific safety concerns on this section of roadway in a more cost-efficient manner. It was identified that 22 crashes occurred over a 7-year period from 2014 through 2020. A table of the crashes by type, condition, and severity is presented below.

Table 1 – Crash Types, Condition, and Severity

	Type of Collision						Lighting Condition		Roadway Surface Condition			Severity				
YEAR	Rear End	Other	Animal	Side swipe	Non-Collision	Fixed Object	Daylight	Dark	Dry	Wet	Snow	A.Severe Injury	B.Visible Injury	C.Non visible Injury	PDO	TOTAL
2014	0	2	0	1	0	3	5	1	4	1	1	0	1	0	5	6
2015	0	1	0	0	1	2	2	2	2	0	2	1	0	0	3	4
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	1	0	0	1	1	1	2	0	0	1	0	0	1	2
2018	1	0	1	0	0	2	4	0	1	2	1	0	0	0	4	4
2019	1	0	0	0	1	2	4	0	3	1		1	0	0	3	4
2020	0	1	0	0	0	1	1	1	2	0	0	1	1	0	0	2
TOTAL	2	4	2	1	2	11	17	5	14	4	4	4	2	0	16	22

Exhibit 1 – Broadwater Road Crash Types

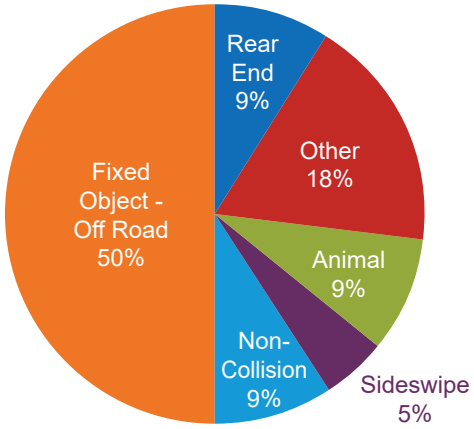
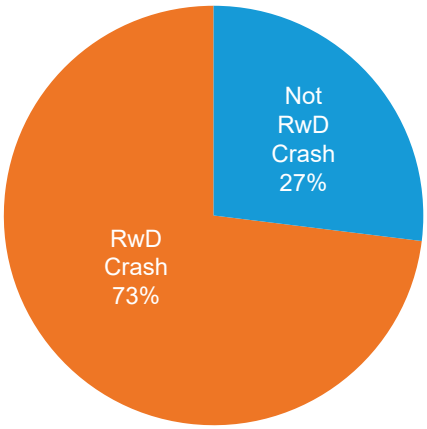


Exhibit 2 – Broadwater Roadway Departure Crashes

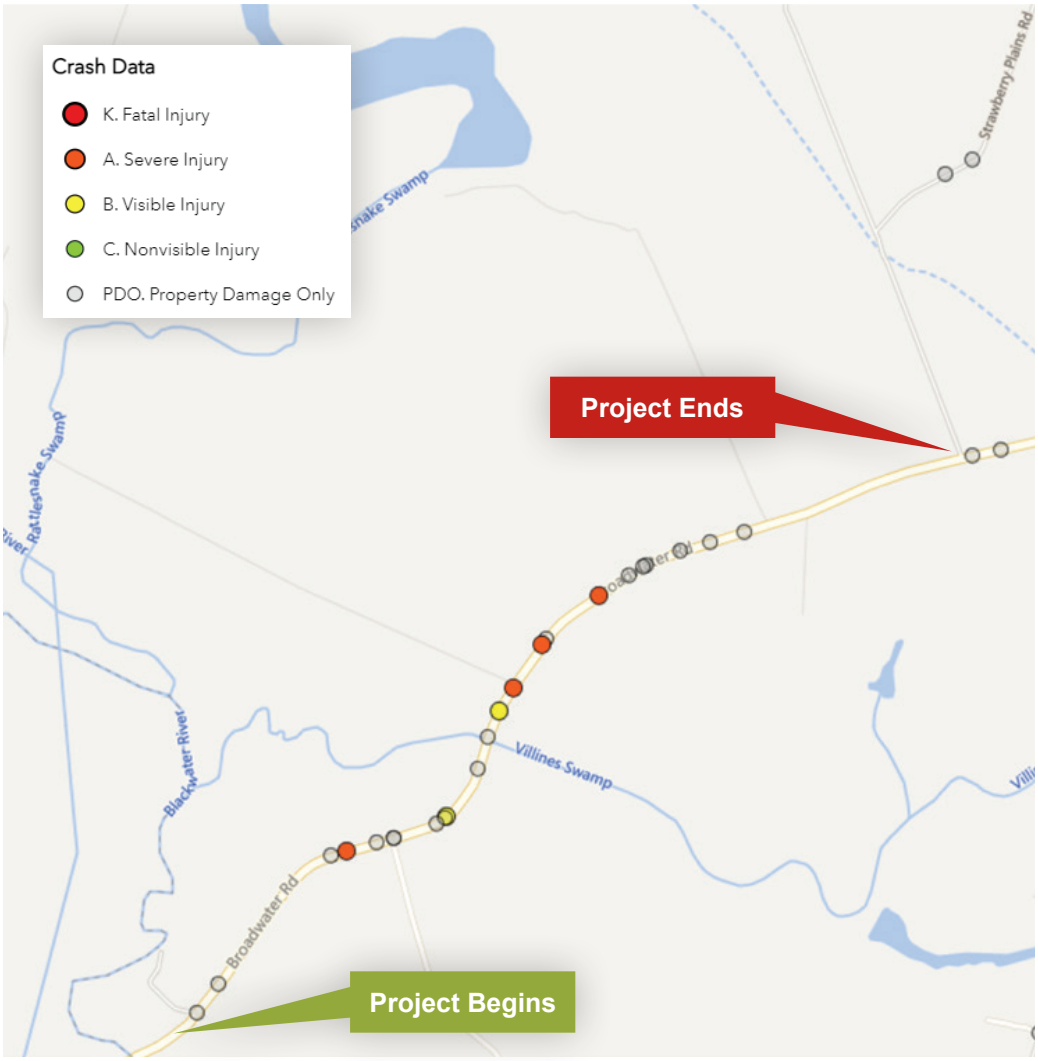


The evaluation of the crash data reveals that 73% of all crashes on the roadway segment that is proposed to be widened are roadway departure crashes, which can be mitigated through the provision of wider lanes, wider shoulders, and the provision of clear zone. In fact, all roadway departure crashes over the last 7 years have occurred between mile posts 0.4 and 1.4, where the existing roadway alignment travels through wooded area with multiple horizontal curves.

The calculation of the crash rate over the 1.6-mile segment yields a total crash rate of 282.0 and an injury crash rate of 77.2 per 100 million vehicle-miles of traveled. The statewide average crash rate for Rural Major Collectors as determined from the VDOT Tableau Crash Summary Tool is 208.0 (with an injury crash rate of 66.8) and the Hampton Roads District average for secondary roadways such as Broadwater Road is 182.0 (injury crash rate of 70.1). Thus, the segment of Broadwater Road is continuing to experience higher than average crash rates.

A map of the recorded crash locations is presented below. As demonstrated in the map, the crash experience along the segment occurs mainly through the multiple horizontal curves between mileposts 0.4 and 1.4, with the exception of one property damage crash at mile post 0.14. The cluster of crashes experienced through the curve sections indicates **that lane and shoulder widening would have the most effect between mile posts 0.4 to 1.4, which correlates to stations 19+00 and 69+00 in the project stationing in the 2018 VDOT plans**.

Figure 2 Broadwater Road Crash Map



A safety analysis comparing crash reductions for various typical sections was completed to assist in determining the most cost-efficient design to meet the safety needs of the project. In order to determine the safety benefits of various typical sections for widening, a safety analysis was completed using the FHWA's Highway Safety Manual Rural Two-Lane Road Safety Spreadsheet tool. Factors including lane widths, shoulder widths and shoulder types, and clear zone can be input into the spreadsheet tool to determine the predicted crash modification factors and corresponding predicted crash reductions per section. The tool results revealed the following crash reductions associated with the proposed sections:

Table 2 – Safety and Cost Comparison of Typical Sections

Typical Section ID#	Lane Width (ft)	Shoulder Width (ft)	Clear Zone (ft)	Predicted Overall Crash Reduction	CMF (Crash Mod. Factor)	Benefit ($ M)	Constr. Cost ($ M)	B/C Ratio
1	11	3	14	32.8%	0.672	1.78	4.73	0.376
2	12	3	14	35.1%	0.649	1.90	4.81	0.395
3	12	3	26	39.3%	0.607	2.13	5.67	0.376
4	12	8	14	41.0%	0.590	2.23	4.96	0.450
5	12	8	26	44.8%	0.552	2.43	5.82	0.418

The Benefit/Cost and construction cost variations of typical sections analyzed in Table 2 reveal that the typical section with the highest B/C ratio is a Typical Section ID # 4 consisting of **12-foot lanes, 8-foot composite shoulders, and 14 feet of clear zone**. This typical section is estimated to cost $4.96 million in construction costs over the full length of the project (9,350 feet) and is predicted to have $2.23 million dollars of safety benefit over a 20-year life cycle.

It should also be noted that the Typical Section ID # 2 consisting of **12-foot lanes, 3-foot composite shoulders, and 14 feet of clear zone** is a slightly less costly improvement, with a cost of $4.81 million (approximately $150,000 less than the highest safety performing section). This section is predicted to have $1.90 million in safety benefits over a 20-year life cycle, and has the 3rd best B/C ratio.

Typical Section ID #5 has the 2nd highest B/C ratio, but costs significantly more than both Typical Sections #4 and #2, with cost increases of $860,000 (17%) and $1,010,000 (21%), respectively. Therefore, this typical section is not recommended for further consideration.



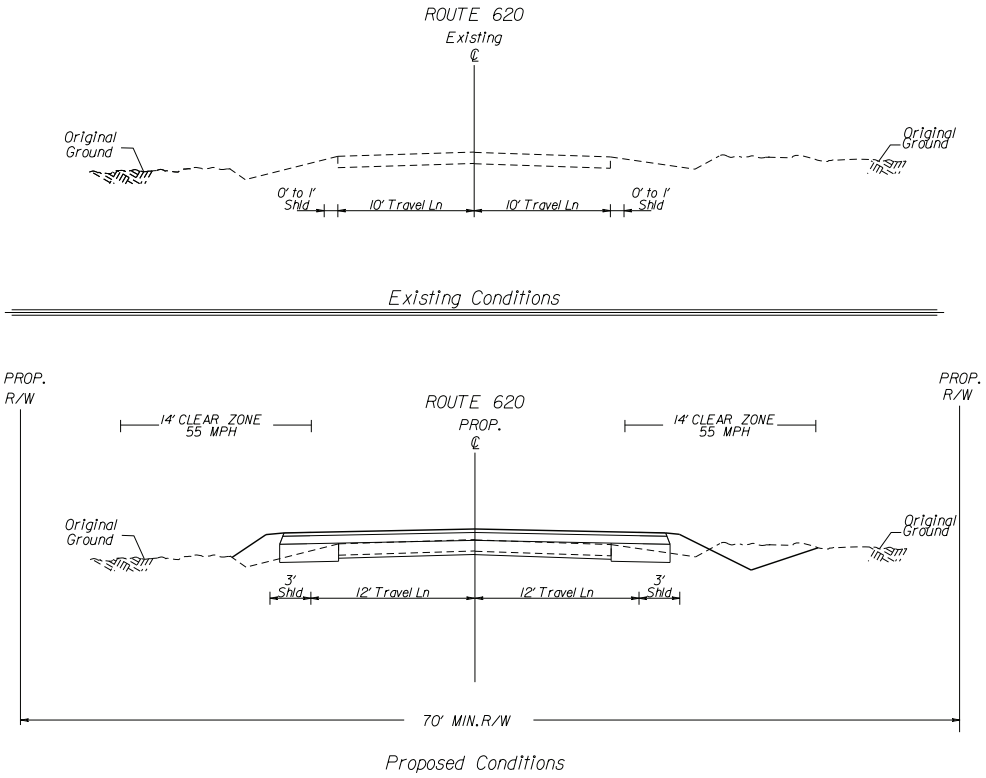
Cost Savings Strategies

Based on the safety analysis performed and a review of the 2018 VDOT proposed design, ATCS has developed the following potential strategies to reduce project costs. It should be carefully noted that this effort is based on preliminary information provided by VDOT in order to develop order-of-magnitude costs saving estimates. Further investigation and design is required to advance alternatives and better define project budgets. The following are proposed cost savings strategies:

1. Widen the roadway only along its existing alignment and eliminate the realignment/ reconstruction of the two major horizontal curves radii to meet 55 or 60 mph design standards, as proposed in the 2018 VDOT design. The existing curves can be repaved to provide adequate or improved superelevation and also be treated with warning signs and other safety measures, if required. The reconstruction of the roadway on its existing alignment would reduce the cost of new roadway construction as well as right-of-way and utility impacts. It is recommended to pursue a proposed speed limit reduction from the statutory speed limit of 55 to 50 miles per hour through the reconstructed roadway segment in order to safely accommodate the existing horizontal curves on this segment of Broadwater Road. This concept also includes maintaining the existing road alignment through the large-radius reverse curves on the portion of Broadwater Road located immediately west of Strawberry Plains Road, as the crash history over the past 7 years show no evidence of safety issues in those curves.

2. Based on the review of safety performance, pursue constructing Typical Section ID #2 that has provides a balance of overall project cost and safety benefits. This section is proposed to have to two 12-foot lanes, with 3-foot shoulders (2-foot paved), with 14-foot clear zone.

Figure 3 Proposed Typical Section



The potential cost savings associated with items 1 and 2 above are presented in Table 3. It should be carefully noted that the cost estimates prepared and presented in Table 3 do not include utility and right-of-way costs and are all based on early preliminary information, and will need to be confirmed through preparation of a more detailed design. Table 3 shows that there are potential savings in project construction costs in the range of $1.8 million dollars.

Table 3 - Proposed Reductions in Construction Costs

	REVISED BASELINE Construction Only Estimate (2021)	ATCS Proposed Alignment & Typical Section
Construction Cost	$4,122,091	$3,172,774
5% Contract Contingency	$206,105	$158,000
Contract Requirements (assumed 18-month construction)	$35,022	$35,002
Construction Engineering & Inspection	$824,418	$634,555
Inflation (21.1% vs. 15.9%)	$826,251	$637,249
Mid-point Construction inflation (4.38%)	$227,340	$175,337
Construction Phase Estimate:	$6,241,226	$4,813,576
Bid Risk/ Design Contingency (40% of constr. cost)	$1,648,836	$1,269,110
TOTAL	$7,890,062	$6,082,686

3. Further investigate right-of-way and utility avoidance alternatives, including limiting the right-of-way to include the roadway and clear zone width only (52-feet vs 70-feet) and meeting with utility companies to better understand the design constraints and to determine alternative designs and avoidance measures. More specifically, it is recommended to meet with Verizon South to determine alternative designs to minimize the impact to the telephone/copper wires, Columbia Gas for the gas-line crossing, and Community Electric Co-op for the overhead electric wires. Table 4 below presents possible future costs that may be able to be achieve through detailed coordination with the utility companies. These include potential reductions in the amount of copper wire impacted as previously discussed, elimination of impacts to approximately 9 overhead electric poles, and elimination of roadway widening across the Columbia Gas lane. As shown in Table 4, with realistic avoidance measure, the R/W & Utilities estimate could be reduced in the range of $1.2 million.
4. Further investigate the need (or lack of need) for full-depth pavement reclamation of the existing alignment. A large percentage of the construction cost for the roadway widening as estimated in this summary is based on the assumption that the pavement section does not meet VDOT standards and that the pavement section would need to be rebuilt to meet those standards. This assumption on based on the adjacent VDOT reconstructed segments to the east, where the pavement section had to be increased over the current condition. A preliminary estimate has identified that much as $1 – 3 million of cost savings could be achieved if the existing pavement section is not rebuilt as part of the proposed roadway widening over the full 1.6 miles of the proposed project length. In order to determine the cost savings, it is recommended to take pavement cores along the roadway section to verify the pavement section, depth, and condition and confirm with VDOT if a reduced pavement section could be permitted.

Table 4 Potential Costs for R/W & Utilities

	VDOT Utility and R/W Estimate (2018)	Possible Reduced Costs with Alt. Design Measures
Right-of-Way	$353,710	$304,690
7.06% inflation factor	$24,967	$21,507
Utility:		
Electric	$451,000	$302,500
Telephone (Aerial)	$20,000	$20,000
Telephone (Underground)	$960,000	$432,500
Telephone (Misc.)	$98,000	$98,000
Natural Gas	$264,000	$0
Inflation (21.01% vs. 15.9%)	$376,688	$135,855
Right-of-Way Phase Estimate:	$2,548,365	$1,315,053

5. The combination of cost savings measures presented in Tables 3 and 4 result in a total reduced construction, right-of-way, and utilities cost estimate of $7,397,739 (compared to $10,438,427 for 2018 VDOT design, not including PE costs). Adding in 15% of the construction cost for preliminary engineering (PE) fees of $600,148 to complete the design, the total project cost would be approximately $7,997,887. This is still well beyond the available funding for the project. Therefore, based on the detailed evaluation of the safety data that demonstrates that the safety concerns primarily exist in the curves and wooded areas between mileposts 0.4 and 1.4 (Stations 19+00 and 69+00), the roadway reconstruction could be reduced from 8,350 feet in length to 5,000 feet and still have a similar safety benefit. Although no detailed analysis or design has yet been done to confirm the amount of the cost reduction, based on costs per linear-foot, **this could reduce the overall project cost down to approximately $4,789,153**. It should be noted that all of the cost savings measures discussed previously would need to be implemented to achieve these costs.
6. An alternative to reducing the project length as described in item 4., would be to divide the project into two separate projects and reconstruct the road in two 4,175-foot segments. On a linear-foot cost basis, each project would theoretically cost approximately $3.94 million, but this would need to be confirmed with more detailed design. Since Broadwater has already been widened to the east of Strawberry Plains Road, it is recommended to construct the easternmost half of the project first. It should be noted that all of the cost saving measures discussed previously would need to be implemented to achieve these costs.

PROJECT DEVELOPMENT OPTIONS

Based on the information assessed for this preliminary effort, the following project development options can be pursued going forward. It should be noted that the project costs identified in this document are based on high-level preliminary estimates and are not based on a detailed design and are subject to change:



OPTION A Develop the project as designed by VDOT in 2018. **Cost = $11,066,990** (includes CN, RW, UT, & PE costs)

OPTION B Minimize project costs by redesigning the project to include the items below. **Cost = $7,997,887** (includes CN, RW, UT, & PE costs)

1. Widen the road along the existing alignment to include no new roadway realignments
2. Reduce the typical section to include 12-foot lanes and 3-foot composite shoulder
3. Pursue other reductions in impacted utility costs as previously discussed

OPTION C Pursue Option B, but split it into 2 equal segments. **Cost = $3,998,943** (includes CN, RW, UT, & PE costs)

OPTION D Pursue Option B, but reduce the length of the project to widen 1-mile focused on the areas of crash history between milepost 0.4 and 1.4. **Cost = $4,789,153** (includes CN, RW, UT, & PE costs)

NEXT STEPS

Next Steps for Pursuing Cost Reductions Identified in Cost Saving Strategies 1 through 4:

Should the County desire to pursue obtaining further information regarding the cost savings strategies discussed previously in items 1 through 4, the following are some recommended next steps:

1. Discuss the various proposed cost savings measures and design elements with VDOT to gain buy-in on the pursuit of design waivers for the following design criteria, or any other criteria that will require VDOT approval such as:
   a. 14-foot clear zone instead of 26 ft
   b. Shoulder width reduction to 2-foot paved and 1-foot gravel shoulder
   c. Speed limit/ design speed reduction on Broadwater to 50 mph for the full length of the segment
   d. 50 mph design criteria for horizontal curves and super-elevations
2. Meet with the following utility owners to discuss project goals and determine avoidance measures to better identify and reduce project costs:
   a. Verizon South
   b. Columbia Gas (crossing)
   c. Community Electric Co-op
3. Perform drilling of pavement cores, assess the feasibility of using the existing pavement section (without reclamation), and discuss the design approach with VDOT to gain buy-in.
4. Perform a more detailed design of the proposed reduced typical section and the re-evaluate project risk to develop budget contingencies for each phase, potentially reducing the assumed 40% design contingency on the project. Establish project schedule that will help to minimize inflation costs.



COST ESTIMATE/DESIGN REVIEW
& ALTERNATIVES ANALYSIS



APPENDICES

COST ESTIMATE/DESIGN REVIEW
& ALTERNATIVES ANALYSIS

ATCS

CLIENT ▪ EMPLOYEE ▪ COMPANY ▪ COMMUNITY



COST ESTIMATE/DESIGN REVIEW & ALTERNATIVES ANALYSIS

APPENDIX A

COST SAVING STRATEGY UPDATES (FEBRUARY 2022)

ATCS was tasked by the County to coordinate with pertinent stakeholders to assess the viability of the six cost saving strategies that were suggested in the original analysis. ATCS has since met with representatives from VDOT and the utility companies to validate and further refine the cost saving strategies in an effort to identify cost reduction strategies. It should be noted that this effort was based on the very preliminary information available, and as such the information obtained is subject to change as additional detailed information becomes available.

The following are updates on the six strategies originally addressed:

1. **Eliminate realignment/reconstruction of two major horizontal curves:**
   UPDATE: The two horizontal curves located at the beginning of the project do not meet AASHTO Horizontal Curve and Superelevation Rate design criteria for a 60-mph design speed. In order to eliminate the reconstruction of these curves as recommended in the original VDOT design, Design Exceptions would be required for each curve from VDOT. ATCS conducted a conference call with representatives from VDOT Hampton Roads District on August 13, 2021 to discuss this issue, and they were not opposed to maintaining the existing alignment; however, the Design Exception request would have to submitted and approved by VDOT's Central Office. VDOT's approval would be based on providing additional information to properly evaluate these locations including a safety analysis that identifies the number, location and type of crashes and proposed mitigation measures to ensure the deviation does not degrade the overall safety of the facility. Mitigation measures would need to be incorporated into the design to include additional signage (curve ahead, chevrons, etc.), additional shoulder width, and curve widening. At this time a decision regarding the horizontal curvature deviations could not be made, typically the decision would be made before the NEPA document / public hearing is completed. Based on the preliminary accident data reviewed, maintaining the existing horizontal alignment is a feasible option, but there always is a risk VDOT may not approve the Design Exception request.

2. **Proposed alternative typical section:**
   UPDATE: Typical Section ID #2 (shown in the original analysis) requires a deviation to VDOT standards for shoulder width. While the VDOT District representatives were not opposed to the proposed section during on our August 13, 2021 conference call, additional information would be required to properly evaluate the section. This would include a safety analysis that identifies the number, location and type of crashes to ensure the deviation does not degrade the overall safety of the facility before a decision could be made. Based on the preliminary accident data reviewed, reducing the shoulder width is a feasible option, but there is a risk VDOT may not approve the Design Waiver request.

3. **Investigate utility avoidance:**
   UPDATE: ATCS coordinated with each of the three subject utility companies to obtain their input on more accurate utility relocation cost associated the Route 620 proposed improvements. Each utility company was provided the original VDOT plans, as well as the reduced section that ATCS is proposing, and asked to provide a high- level budgetary cost that the County could use for programming purposes.

The following table summarizes the original VDOT estimated utility relocation costs (from 2018) versus the revised budgetary costs provided by the utility companies. It should be noted that these estimated costs are fluid due volatile material costs and may need to revised. Additionally, these costs do not include the cost of any easement acquisition. All preliminary costs provided by the utility companies are subject to further field investigation and actual design by the utility companies:

Table 4 (UPDATED) Potential Costs for R/W & Utilities

	VDOT Utility and R/W Estimate (2018)	Possible Reduced Costs with Alt. Design Measures
Right-of-Way	$353,710	$304,690
7.06% inflation factor	$24,967	$21,507
Utility:		
Electric	$451,000	$250,000
Telephone (Aerial)	$20,000	$50,000
Telephone (Underground)	$960,000	
Telephone (Misc.)	$98,000	
Natural Gas	$264,000	$0
Inflation (21.01% vs. 15.9%)	$376,688	$47,700
Right-of-Way Phase Estimate:	$2,548,365	$673,897

4. **Full depth pavement reclamation:**
UPDATE: ATCS discussed the proposed pavement section with VDOT Materials section to determine if there are other feasibility pavement cost savings strategies. VDOT indicated that the existing pavement is in poor condition, and that the original base material was not intended to accommodate the current traffic volumes and the pavement is showing signs of base failure. The proposed pavement section presented in the VDOT's concept plan included full-depth pavement reclamation of the existing alignment which was used on the adjacent Route 620 improvement projects and is thought to be the most economical pavement section. As such, it was determined that conducting pavement cores at this time would not be in the best interest of the County.

5. **Reduced project length:**
UPDATE: The combination of cost savings measures presented in Tables 3 and 4 (UPDATED) result in a total reduced construction, right-of-way, and utilities cost estimate of $6,756,583 (compared to $10,438,427 for 2018 VDOT design, not including PE costs). Adding in 15% of the construction cost for preliminary engineering (PE) fees of $600,148 to complete the design, the total project cost would be approximately $7,356,731. This is still well beyond the available funding for the project. Therefore, based on the detailed evaluation of the safety data that demonstrates that the safety concerns primarily exist

in the curves and wooded areas between mileposts 0.4 and 1.4 (Stations 19+00 and 69+00), the roadway reconstruction could be reduced from 8,350 feet in length to 5,000 feet and still have a similar safety benefit. Although no detailed analysis or design has yet been done to confirm the amount of the cost reduction, based on costs per linear-foot, **this could reduce the overall project cost down to approximately $4,414,038**. It should be noted that all of the cost savings measures discussed previously would need to be implemented to achieve these costs.

6. **Splitting project into two separate phases:**
UPDATE: An alternative to reducing the project length, as described in item 5, would be to divide the project into two separate projects and reconstruct the road in two 4,175-foot segments. On a linear-foot cost basis, each project would theoretically cost approximately $3.38 million, but this would need to be confirmed with more detailed design. Since Broadwater has already been widened to the east of Strawberry Plains Road, it is recommended to construct the easternmost half of the project first. It should be noted that all of the cost saving measures discussed previously would need to be implemented to achieve these costs.



COST ESTIMATE/DESIGN REVIEW
& ALTERNATIVES ANALYSIS

APPENDIX B

COORDINATION MEMOS

MEMORANDUM

ATCS

Broadwater Road (Route 620) Reconstruction

Fr. Blackwater River
To Strawberry Planes Road

VDOT Coordination

Distribution Date:	August 20, 2021
Date of Meeting:	August 13, 2021
Projects:	**Broadwater Road Reconstruction**
UPC:	**n/a**
Meeting Location:	via MS TEAMS
Attendees:	Jamie Oliver, Isle of Wight County Emmanuel Darko, VDOT Dave Beardsley, VDOT Chris Colson, ATCS
Notes by:	ATCS

A meeting was held on August 13, 2021 via MS Teams for the Broadwater Road Reconstruction project to discuss potential cost saving concepts with VDOT Hampton Roads District Location and Design.

Background

ATCS has performed an assessment of the Broadwater Road (Route 620) Reconstruction between Strawberry Plains Road and the Blackwater River design and cost estimate information that had been prepared by VDOT in 2018 to identify high-level practical design alternative recommendations that can achieve the project purpose and need and reduce project costs. The purpose of this meeting was to gain VDOT feedback on Practical Design Recommendations that allow the project to move forward based on budgetary constraints. It was noted the Department is open to implementing practical design solutions on projects, if the solutions deviate from standards, they will need to follow the proper VDOT process as documented in IIM-227; where deviations from VDOT standards are approved at the District level and deviations to AASHTO standards will need to be approved by Central Office (Rick Worrsam and Susan Keen). Emmanuel stressed the importance of clearly identifying the Purpose and Need (P&N) for the project and ensuring practical design solutions support the P&N.

Practical Design Recommendations

Design Speed

The speed limit on Broadwater Road through this section is currently not posted, the statutory speed limit (55 mph) was used to establish the design speed (Vd = 60 mph) for 2018 roadway concept plan. It was noted there have been recent improvement projects along Broadwater Road adjacent to these project limits that were designed using a 60 mph design speed, and this project should ensure design consistency through the corridor to maintain driver expectations. A change in the design speed would require a Design Exception (DE) and would need to be approved by VDOT Central Office. In order to use a different design speed, the project team would need to coordinate with VDOT Traffic, and follow VDOT policy for evaluating speed limits, including conducting a speed study. Emmanuel also mentioned there may have been recent guidance from VDOT Central Office (George Rogerson) regarding project design speed – **ATCS will contact VDOT Central Office to get a copy of the guidance**. An alternative to a design speed DE would be to evaluate individual design features and propose deviations for only those project elements that do not meet the 60 mph design criteria.

Typical Section

ATCS evaluated several typical section configurations to optimize the roadway cross section elements. The existing roadway section includes two 10-foot travel lanes and approximately 1-foot graded shoulder. The table below shows predicted crash reductions associated with various cross-sectional configurations. Typical Section 4 was used in the 2018 preliminary plans and meets current VDOT Geometric Standards for a Rural Collector system (GS-3) for lane and shoulder width and is predicted to reduce overall crashes by 41%. To reduce costs Typical Section 2 is proposed which reduces the shoulder width to 3-feet and is predicted to reduce overall crashes by 35.1%.

Typical Section ID#	Lane Width (ft)	Shld Width (ft)	Clear Zone (ft)	Predicted Overall Crash Reduction	CMF	Benefit ($ M)	Constr. Cost ($ M)	B/C Ratio
1	11	3	14	32.8%	0.672	1.78	$4.73	0.376
2	12	3	14	35.1%	0.649	1.90	$4.81	0.395
3	12	3	26	39.3%	0.607	2.13	$5.67	0.376
4	12	8	14	41.0%	0.590	2.23	$4.96	0.450
5	12	8	26	44.8%	0.552	2.43	$5.82	0.418

Using Typical Section 2 a shoulder width deviation would be required. While the District was not opposed to the proposed section, additional information would be required to properly evaluate the section including a safety analysis that identifies the number, location and type of crashes to ensure the deviation does not degrade the overall safety of the facility before a decision could be made.

Maintaining the Existing Alignment

The 2018 preliminary design alignment consisted of several locations on new alignment which resulted in increased project impacts and associated costs. Maintaining the existing alignment is a way to reduce the impacts. There are two curves located at the beginning of the project that do not meet AASHTO Horizontal Curve and Superelevation Rate design criteria for a 60-mph design speed. These curves would require Design Exception for each curve. While the District was not opposed to maintaining the existing alignment, Central Office would need to approve these deviations. Additional information would be required to properly evaluate these locations including a safety analysis that identifies the number, location and type of crashes and proposed mitigation measures to ensure the deviation does not degrade the overall safety of the facility. A few potential mitigation measures were suggested to include additional signage (curve ahead, chevrons, etc.), additional shoulder width, and curve widening. At this time a decision regarding the horizontal curvature deviations could not be made.

Pavement Design

The proposed pavement section shown in the 2018 preliminary plans included full depth pavement reclamation, if the project could salvage the existing roadway and overlay and widen through the limits there would be a significant cost savings. It was suggested to talk with VDOT Materials (Tom Tate) to discuss the work that had been performed previously within the area – **ATCS to contact Tom Tate**. It was noted that VDOT will be responsible for maintenance on the facility and the pavement design will

need to be reviewed by the District, also it has been the District's experience the full depth pavement reclamation is a very economical option.

NEXT STEPS & ACTION ITEMS

- It was suggested to further study each of these recommendations; evaluate the accident history, develop mitigation measures and then follow up with the District and Central Office to further discuss the Exceptions and / or Waivers. The Department will need more site-specific information before a decision can be made, but they are open to cost saving measures that still meet the project purpose and need.
- ATCS to discuss with the County the next steps in moving this project forward.

MEMORANDUM

ATCS

Broadwater Road (Route 620) Reconstruction

Fr. Blackwater River
To Strawberry Planes Road

Utility Company Coordination

Distribution Date: October 26, 2021

Project: **Broadwater Road Reconstruction**

Notes by: ATCS (Kevin Siegel, PE)

ATCS made contact with each of the three subject utility companies to obtain a more accurate utility relocation cost associated the Rte 620 proposed improvements. Each utility company was provided the original VDOT plans as well as the reduced section that ATCS is proposing and asked to provide a high-level budgetary cost that the County could use for programming purposes.

The following table summarizes the original VDOT estimated utility relocation costs (from 2018) versus the revised budgetary costs provided by the utility companies. It should be noted that these estimated costs are fluid due volatile material costs and may need to revised. Additionally, these costs do not include the cost of any easement acquisition.

	Verizon	Community Electric Cooperative	TC Energy Gas
VDOT Estimate (2018)	$1,078,000	$451,000	$264,000
Utility Company Estimate	$50,000	$250,000	$0

The following outlines the point-of-contact and response received from each of the utility companies.

Verizon

Roy Wiggins
Network Engineering
Verizon
D: 757-807-9016
roylander.wiggins@verizon.com

October 7, 2021 (email)
Verizon reviewed the original VDOT plans and estimated that approximately 9400 LF of 25x22 cable would need to be relocated at an approximate cost of $50,000. Verizon indicated that their infrastructure was not as significant as indicated in the original VDOT estimates.

Community Electric Cooperative

Scott Smith, P.E.
Manager of Engineering
Community Electric Cooperative
D: 757-242-0382
scott.smith@comelec.coop

October 21, 2021 (email)
Community Electric Cooperative reviewed the original VDOT plans and determined that approximately 1.7 miles of the Cooperative's existing overhead distribution facilities located adjacent to the road will be impacted. The Cooperative would need to trim approximately 0.9 miles of wooded right of way and construct 1.7 miles of new overhead facilities. A budgetary construction cost of approximately $250,000 was provided

TC Energy / Columbia Gas

Johnathan C. Frazier
Pipeline Crossings Engineer
USGO Integrity
M: 304-590-4269
D: 304-357-2209
Johnathan_Frazier@tcenergy.com

October 5, 2021 (telephone conversation)
TC Energy reviewed the reduced width improvements proposed by ATCS and is anticipating that no modifications to their facility would be required. This was based upon an assumption that paved roadway and shoulder would not extend past the extents of the existing casing pipe. TC Energy is assuming that the casing pipe runs from existing ROW to ROW lines, which is typical, and evidenced by the vent pipes on the north side of the existing road past the northern ROW. This could only be further confirmed by utility test pitting. Additionally, they stated that 36" of cover from the top of existing casing pipe must be maintained, including any roadside ditches proposed overtop of the pipe. If these two constraints are met, then they anticipate zero cost for their utility.

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STRATEGICALLY TARGETED AND
AFFORDABLE ROADWAY SOLUTIONS

STARS Route 17 (Carrollton Boulevard) Corridor Improvement Study

Isle of Wright, VIRGINIA

February, 2022

Route 17 (Carrollton Boulevard) Corridor Improvement Study

Between James River Bridge and Route 258

Isle of Wight, Virginia

Date:

February, 2022

Prepared for:

List of Acronyms

AADT – Annual Average Daily Traffic

CMF – Crash Modification Factor

CoSS+ – Corridor of Statewide Significance

FYA – Flashing yellow arrow

HCM – Highway Capacity Manual

LOS – Level of Service

MOE – Measure of Effectiveness

PDO – Property Damage Only

RCUT – Restricted crossing U-turn

RN – Regional Network

RNS – Roadway Network System

SPS – Statewide Planning System

STARS – Strategically Targeted and Affordable Roadway Solutions

SWG – Study Work Group

SYIP – Six Year Improvement Plan

TIA – Traffic Impact Assessment

TMC – Turning Movement Count

VDOT – Virginia Department of Transportation

VTrans – Virginia's Transportation Plan

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1. Introduction

1.1 Background and Study Initiation

The Virginia Department of Transportation Hampton District (VDOT), VDOT Transportation Mobility and Planning Division (TMPD) and the Isle of Wight County identified the need to evaluate the Carrollton Boulevard (U.S. Route 17) corridor in Isle of Wight County for study under the Strategically Targeted and Affordable Roadway Solutions (STARS) program. The STARS program uses a data-driven process to identify candidate projects with critical traffic and safety challenges. The study corridor experiences heavy congestion during peak hours especially during afternoon in the southbound direction. The STARS program seeks to develop comprehensive, innovative transportation solutions to relieve congestion bottlenecks and resolve safety issues. The goals of STARS studies include:

- Develop innovative, cost-effective solutions
- Evaluate potential solutions more thoroughly
- Identify potential project risks and costs
- Build stakeholder consensus
- Improve readiness for project implementation

This study is entitled as STARS Route 17 Corridor Improvement Study and will be referred to as the Study in this report. Also, Carrollton Boulevard will be referred as Route 17 throughout the report.

1.2 Purpose and Need

The purpose of this project was to evaluate existing operational and safety conditions and identify improvements that can be programmed into the Virginia Department of Transportation's (VDOT) Six-Year Improvement Program (SYIP). Route 17 is the primary north-south thoroughfare within the study area, providing connections to Brewers Neck Boulevard, the City of Suffolk, and the James River Bridge which provides direct access to/from the City of Newport News. Within the study area, it is a four lane divided road and classified as "Other Principal Arterial" by VDOT. This section of Route 17 carries about 29,000 vehicles/day. The study area is identified as part of the Arterial Preservation Network (Mobility Enhancement Segment). The Arterial Preservation Network includes segments of selected major highways that are part of the Corridors of Statewide Significance (CoSS) or are functionally classified as principal or other principal arterials. Route 17 is congested, especially during afternoon in the southbound direction. Traffic congestion is anticipated to increase within the study area with several planned and proposed developments along the corridor. The primary need for this study was to improve progression and operations on Route 17 where the congestion occurs. The 2021 Virginia's Transportation Plan (VTrans) needs identified for the Route 17 study corridor are listed below:

- Congestion Mitigation (CoSS & RN)
- Capacity Preservation (CoSS & RN)
- Transportation Demand Management (Non-Limited Access RN)
- Transit Access (RN)
- Bicycle Access (RN)
- Roadway capacity (UDA)
- Roadway operations (UDA)
- Transit frequency (UDA)
- Transit operations (UDA)
- Transit capacity (UDA)
- Street Grid (UDA)
- Bicycle Infrastructure (UDA)
- Pedestrian Infrastructure (UDA)
- Complete Streets (UDA)
- Safety features (UDA)
- On-street parking (UDA)
- Off-street parking (UDA)
- Intersection design (UDA)
- Signage/wayfinding(UDA)
- Traffic calming (UDA)
- Environment (UDA)
- Sidewalks (UDA)
- Safety Improvement (Segment & Intersection)
- Safety Improvement (CoSS Segment & CoSS Intersection)
- Pedestrian Safety Improvement

1.3 Study Work Group

A study work group (SWG) was formed for the Study to capture input from local stakeholders and to shape the development of improvement concepts. The SWG provided local and institutional knowledge of the corridor; reviewed study methodologies; provided input on key assumptions; and reviewed and approved proposed improvements created through the study process. The SWG included members representing the following organizations:

1. VDOT Hampton Roads District Office
2. Isle of Wight county, Virginia
3. Transportation Mobility and Planning Division, VDOT Central office

1.4 Study Area

The study area limits along Route 17 extended between Brewers Neck Boulevard (Route 258) and James River Bridge and totaled approximately 2.37 miles in length. The study area map is shown in ***Figure 1*** and includes the following corridor and intersections:

Corridor

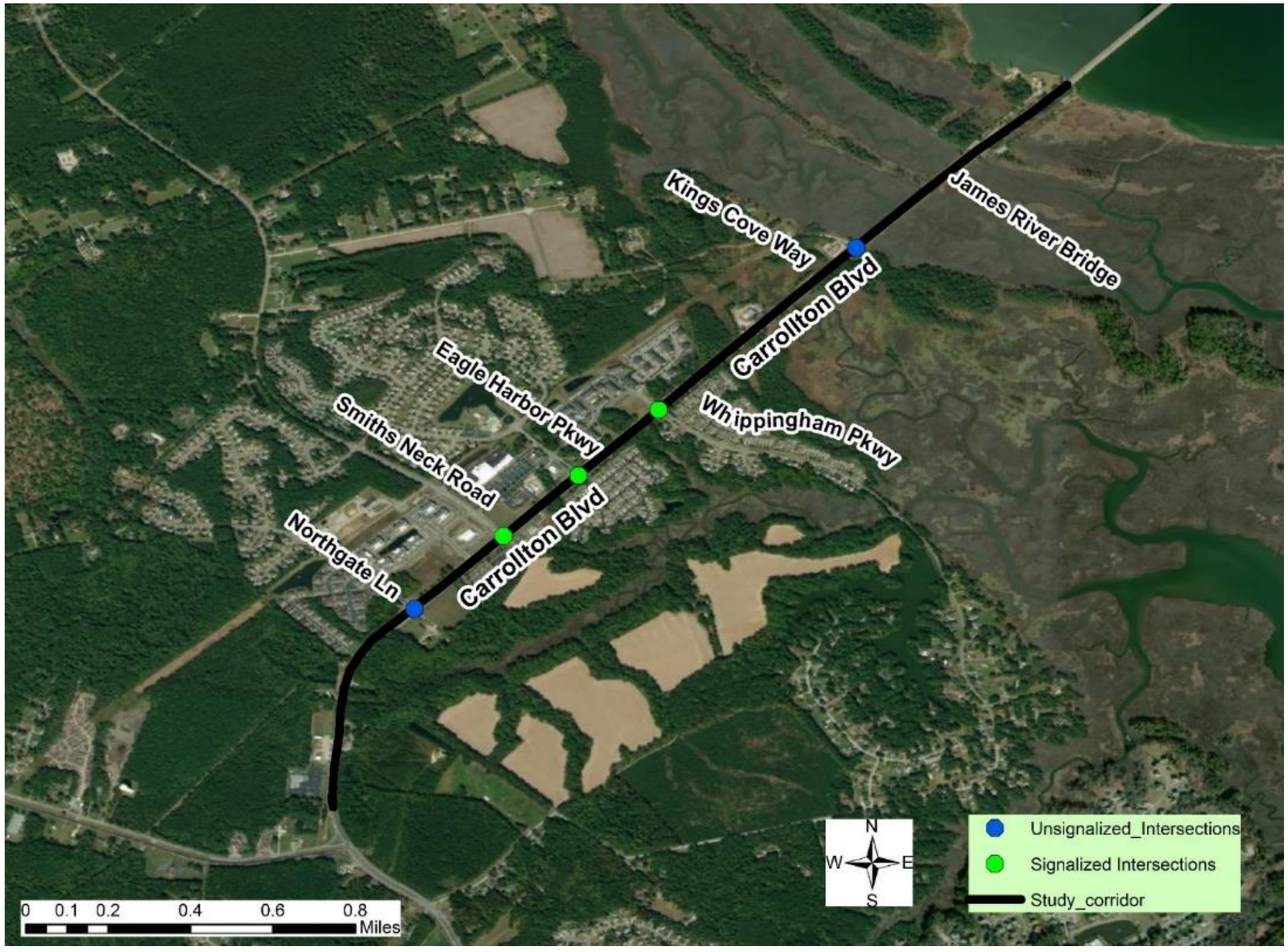
- Route 17*(Carrollton Blvd)* between Brewers Neck Boulevard (Route 258) and James River Bridge

Intersections

The following intersections are included in the study area:

- Route17/Northgate Lane (Unsignalized)
- Route 17/Smiths Neck Road (Signalized)
- Route 17/Eagle Harbor Parkway/Kings Cross (Signalized)
- Route 17/Harbor Point Lane/Whippingham Parkway (Signalized)
- Route17/ Kings Cove Way (Unsignalized)

Figure 1 Study Area



2. Data Collection and Inventory

2.1 Field Review

A field review of the study area was conducted during PM peak period on December 4th, 2019 to observe existing geometric conditions, traffic control devices, peak hour traffic conditions, and driver behavior. The following observations were made:

1. Maximum queues were observed in the field, starting from Smiths Neck Road and extending beyond bridge along Route 17 in the southbound direction.
2. Traffic signal at the intersection of Route 17 and Smiths Neck Road operates as protected only for left turn movements in the northbound direction. In the southbound direction, there is a Yield on flashing yellow arrow (FYA) sign for left turning traffic. However, during the field survey it was noted that it operates as protected only. It was later confirmed by the traffic engineering that the left turn operates as a protected-permissive left-turn (PPLT), FYA 24/ 7 with exception of 2:00pm to 6:00pm from Monday through Friday due to safety concerns.
3. Three to four feet wide shoulder is present along Route 17 northbound except it is missing at some places between Smiths Neck Road and Kings Cross road.
4. Three to four feet wide shoulder is present along Route 17 southbound in the vicinity of Ragged Island parking area and between Smiths Neck Road and Brewers Neck Boulevard.
5. Pedestrian accommodations were noted at the following locations within the study area:
    - Sidewalk present along the west side of Route 17 from Smiths Neck Road to Fiddler Lane. Additionally, a sidewalk is present along the south side of Smiths Neck Road from Route 17 to Chickahominy Loop.
    - A sidewalk present along the east side of Route 17 from the southern access to The Shoppes at Eagle Harbor to the right-in/right-out only access to serving the 7-Eleven entrance to the north.
    - A short segment of multi-use path located along west side of Route 17 at the frontage of Dunkin Donuts. A sidewalk is also present along the south side of Eagle Harbor Parkway between the intersection of Route 17 and Eagle Harbor Parkway and the intersection of Eagle Harbor Parkway and Marsh Landing.
    - Sidewalk along east side of Route 17 between the intersection of Route 17 and Eagle Harbor Parkway/ Kings Cross and the intersection of Route 17 and Whippingham Parkway/Harbor Point Lane. Additionally, at intersection of Route 17 and Whippingham Parkway/Harbor Point Lane, sidewalk is present along north side of Whippingham Parkway and on the south side of Eagle Harbor Parkway.

2.2 Existing Roadway Geometry

The existing roadway geometry in the study area was observed and documented during the field review. ***Figure 2*** on the next page summarizes the existing lane configuration of the roads within the study area. Posted speed limit on Route 17 is 55 mph with the exception of the corridor starting approximately 600 feet north of Harbor Point Lane until approximately 440 feet south of Smiths Neck Road which has posted speed limit of 45 mph.

Figure 2 Existing Roadway Geometry of the Study Area



2.3 Land Use

The existing (2020) land use map for Isle of Wight County is provided in ***Appendix B-1*** and was obtained from the Isle of Wight County Interactive GIS Map. This map shows that most parcels surrounding Route 17 within the study area are designated for mixed use development and urban residential use. At the northern end of the corridor, near James River Bridge, parcels are designated for Environment Conservation.

2.4 Traffic Volume Data

Turning movement counts (TMCs) were provided by VDOT Hampton District. The traffic volume counts were collected on May 29th, 2019 and recorded for 7 hours from 6:00 AM to 10:00 AM and 4:00 PM to 7:00 PM. Traffic counts were provided for the following intersections:

- Route17/Brewers Neck Boulevard (Signalized)Route17/Northgate Ln (Unsignalized)
- Route 17/Smiths Neck Road (Signalized)
- Route 17/Harbor Point Ln/Whippingham Pkwy (Signalized)
- Route17/ Kings Cove Way (Unsignalized)

It should be noted that intersection of Route 17 and Brewers Neck Boulevard is only included for traffic forecasting and peak hour determination purposes. No recommendations will be provided for this intersection. This intersection is being studied as a part of another ongoing study - US 17 Arterial Preservation Plan.

A comparable time period was used if data was not available during the same time period. Traffic counts for one the signalized intersection - Route 17/Eagle Harbor Pkwy/Kings Cross were not available. Hence, peak hour turning movements (TMCs) for this intersection were estimated using 2017 peak hour TMCs from Traffic Impact Analysis for The Pitt & Lippe (2019) report. In addition, 2017 existing conditions Synchro model, existing traffic signal timing data and traffic signal design plan details were provided by VDOT Hampton District.

2.5 Peak Hour Determination and Heavy Vehicle Percentages

A network-wide peak hour was developed for both the AM and PM peak periods. The AM and PM peak hours for the study area were determined by first reviewing the individual intersection and arterial peak hours. Traffic volumes during each hour were then compared to the traffic volumes during the peak hour at each location. The hours that captured the highest percentage of overall traffic in the network when compared to individual peaks were identified as the peak hours for the Study. The network-wide peak hours were determined to be 6:30 AM – 7:30 AM and 4:45 PM – 5:45 PM. The peak hour determination summary tables are provided in ***Appendix B-2*****.** Additionally**,** heavy vehicle percentages for each movement were calculated for all study intersections during the AM and PM peak hours based on raw traffic data.

2.6 Traffic Volume Balancing

Traffic volumes were hand balanced, where appropriate, throughout the study area in preparation for the existing conditions operations analyses. The following assumptions were used to balance traffic volumes:

- Raw traffic volumes should not be adjusted by more than 10 percent, if possible
- Peak hour traffic volumes were balanced between all study area intersections except at locations where imbalances existed due to the presence of significant roads or driveways.

The balanced 2019 AM and PM peak hour traffic volumes in the study area are shown in ***Figure 3*** and ***Figure 4.***

Figure 3. Existing 2019 AM Peak Hour Balanced Traffic Volumes

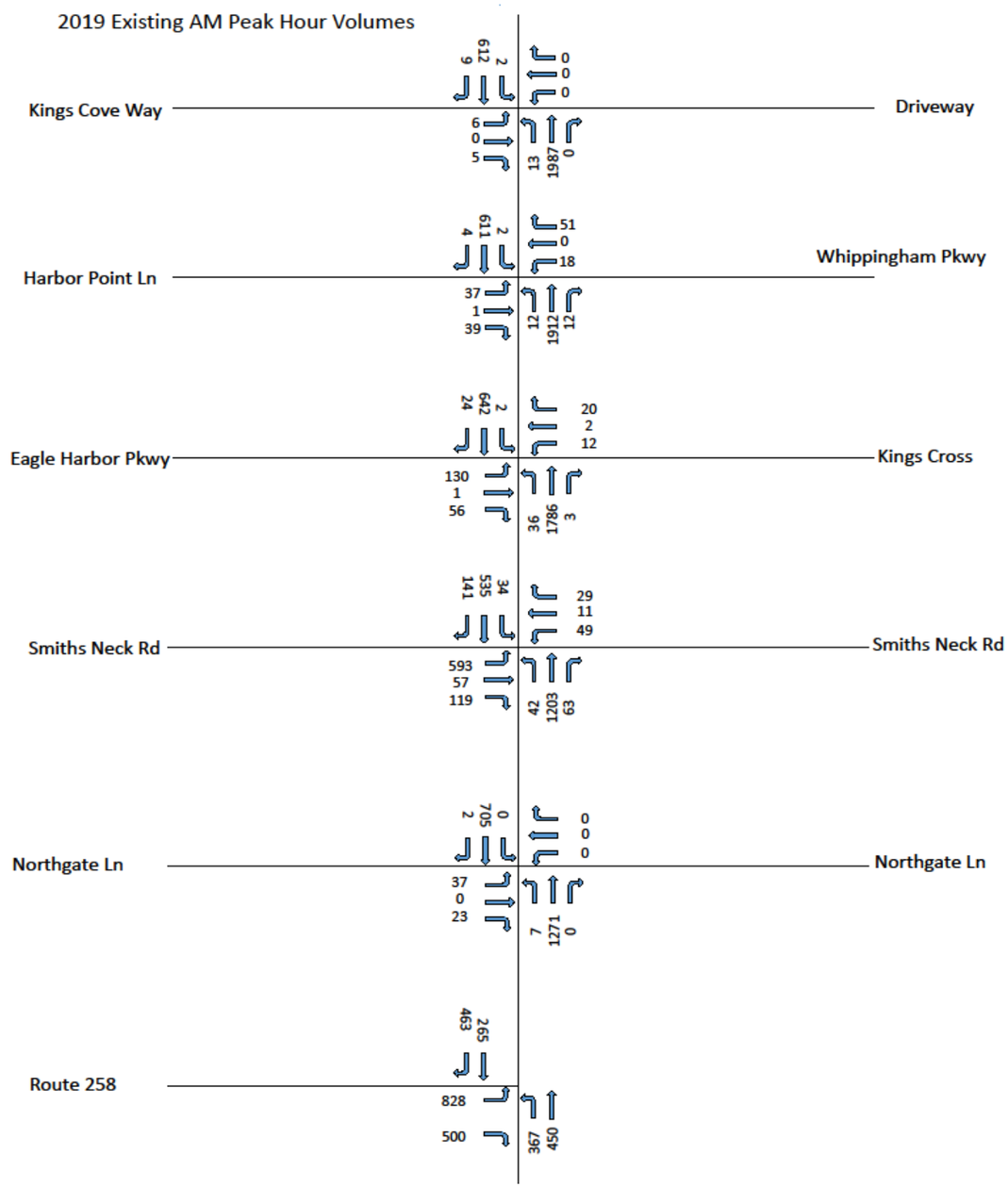
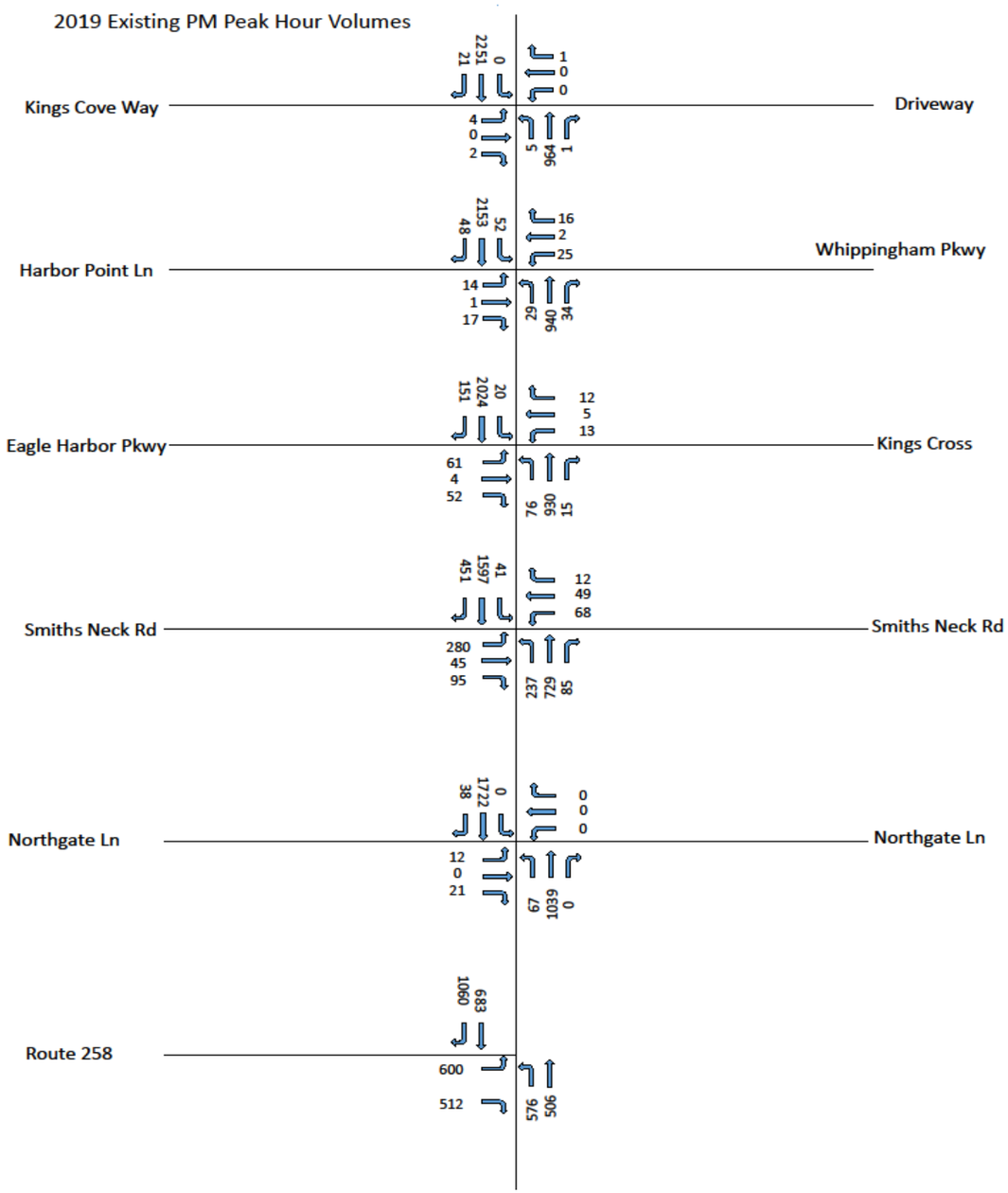


Figure 4. Existing 2019 PM Peak Hour Balanced Traffic Volumes



3. Safety Analysis

Crash data for the most recent five (5) years (January 1st, 2015 through December 31st, 2019) was obtained from VDOT Roadway Network System (RNS). Crash data was used to evaluate corridor safety and identify crash patterns. The following sections provide a summary of the crashes that occurred within the project study area during the five-year period.

3.1 Summary of Corridor Crashes

Crashes by Year and Severity

Over the five year period, 253 crashes has been reported within the study area. One fatal crash was reported during this 5-year study period. This fatality is pedestrian fatality which occurred at Route 17 and Harbor Point Lane intersection. In addition, there were 76 injury crashes and 176 crashes involving property damage only (PDO). A yearly summary of crashes by crash severity is shown in ***Table 1*****.**

Table 1 Study Area Crashes by Crash Severity

	Number of Crashes					
Year	**Fatality (K)**	**Incapacitating Injury (A)**	**No Injury (O)**	**Non-Incapacitating Injury (B)**	**Possible Injury (C)**	**Grand Total**
2015		1	27	6		34
2016		5	41	12		58
2017	1	6	39	15		61
2018		2	26	14	1	43
2019		5	43	8	1	57
Total	**1**	**19**	**176**	**55**	**2**	**253**

Crashes by Type

As shown in ***Table 2*****,** the majority of crashes that occurred were rear-end crashes (48 %), followed by angle crashes (17%) and fixed object –off road (8 %). This follows a typical pattern for roadways with signalized intersections, as the most common type of crash are rear-end.

Table 2 Study Area Crashes by Crash Type

	Crashes By Type					
Crash Type	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**
Rear End	14	24	28	23	32	121
Deer	2	2	5		5	14
Ped			1			1
Backed Into			1			1
Other	2	6	5	1	2	16
Angle	7	8	13	7	9	44
Head On	1	2	1	3		7
Sideswipe - Same Direction	3	4	4	3	3	17
Sideswipe - Opposite Direction	1	2				3
Fixed Object in Road				2		2
Non-Collision		5	2	1		8
Fixed Object - Off Road	4	5	1	3	6	19
Total	**34**	**58**	**61**	**43**	**57**	**253**

Crashes by Roadway and Weather Conditions

Table 3 indicates the number of crashes by roadway surface condition. The majority (87%) of crashes occurred during dry roadway conditions. Wet conditions accounted for 11% of crashes.

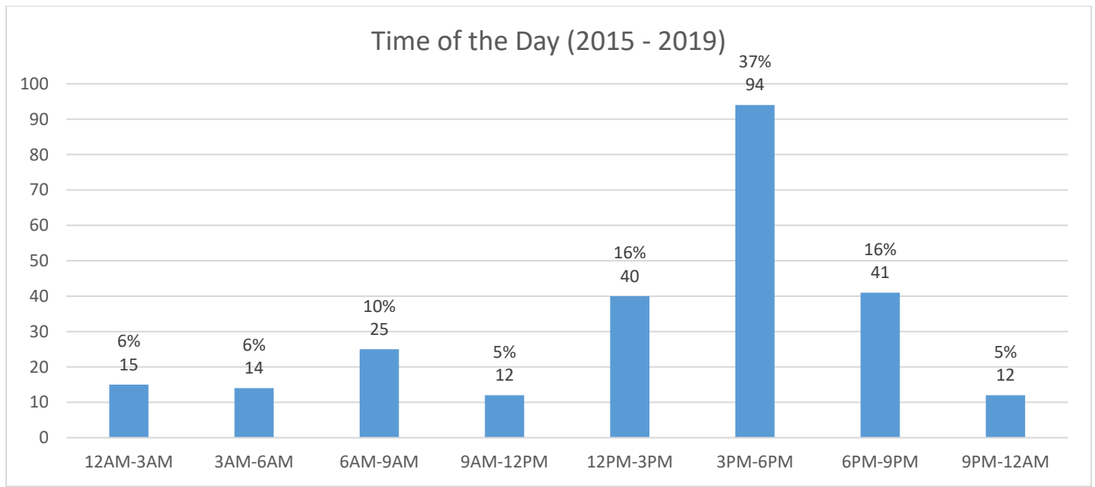
Table 3: Crashes by Roadway Surface condition

Surface Condition Type	Number of Crashes
Dry	220
Wet	29
Snowy	1
Icy	2
Other	1
Total	**253**

Crashes by Time of Day

Figure 5 displays the number of crashes that occurred by time of day, presented in 3-hour increments. The highest frequency of crashes occurred from 3PM-6PM (37%), from 6PM-9PM (16%), from 12PM-3PM (16%), from 6AM-9AM (10%).

Figure 5 Crashes by Time of the Day



3.2 Crash Analysis by Intersection

The study area crashes were assigned to intersections using intersection influence areas. For purpose of analysis, 250 ft. buffer was used as catchment area for intersection related crashes. However, the intersection influence areas were extended to the back of tapers for turn lanes on each approach to include intersection related crashes. ***Table 4*** shows number of crashes at intersection. Highest number of crashes occurred at signalized intersections such as Route 17 and Smiths Neck Road (38%), followed by Harbor Point Lane (25%) and Eagle Harbor Parkway (23%).

Table 4: Crashes by Intersections

Intersection	Number of Crashes
Route 17 at Eagle Harbor Parkway	35
Route 17 at Harbor Point Lane	39
Route 17 at Kings Cove Way	16
Route 17 at Northgate Lane	5
Route 17 at Smiths Neck Road	59
Total	154

Table 5 shows crashes by intersection by severity. As mentioned in previous section, one pedestrian fatality occurred at the intersection of Route 17 and Harbor Point Lane/Whippingham Parkway. Additionally, there is a funded SMARTSCALE 2018 application at the intersection of Route 17 and Eagle Harbor Pkwy. It includes installation of one crossing at Route 17 and one side street crossing parallel to Route 17 at Eagle Harbor Parkway. It will require the construction of a pedestrian refuge island in the median of Route 17, along with replacing the existing ADA curb ramps, adding crosswalk striping, and pedestrian signals with pedestrian pushbuttons. At the intersection of Route 17 and Smiths Neck Road, out 59 crashes, Incapacitating Injury (A) and Non-Incapacitating Injury (B) together, comprised of about 47 percent of crashes at this intersection.

Table 5: Crash Severity by Intersection

Crash Severity by Intersection	Number of Crashes
Route 17 at Eagle Harbor Pkwy	**35**
No Injury (O)	30
Non-Incapacitating Injury (B)	5
Route 17 at Harbor Point Lane	**39**
Fatality (K)	1
Incapacitating Injury (A)	1
No Injury (O)	26
Non-Incapacitating Injury (B)	9
Possible Injury (C)	2
Route 17 at Kings Cove Way	**16**
Incapacitating Injury (A)	1
No Injury (O)	12
Non-Incapacitating Injury (B)	3
Route 17 at Northgate Lane	**5**
No Injury (O)	4
Non-Incapacitating Injury (B)	1
Route 17 at Smiths Neck Road	**59**
Incapacitating Injury (A)	11
No Injury (O)	31
Non-Incapacitating Injury (B)	17
Total	**154**

Table 6 shows crash types at study intersections. Most of the rear-ended crashes occurred at Eagle Harbor Pkwy, Harbor Point Lane and Smiths Neck Road. Additionally, out of 39 angle crashes, 22 of these crashes occurred at the intersection of Route 17 and Smiths Neck Road.

Table 6: Crash Types at Study Intersections

Crash Type	Route 17 at Eagle Harbor Parkway	Route 17 at Harbor Point Lane	Route 17 at Kings Cove Way	Route 17 at Northgate Lane	Route 17 at Smiths Neck Road	Grand Total
Rear End	25	25	3	1	18	72
Deer	2	1			1	4
Pedestrian		1				1
Backed Into		1				1
Other	2		4		4	10
Angle	4	7	5	1	22	39
Head On		1			5	6
Sideswipe - Same Direction			1		5	6
Sideswipe - Opposite Direction			1		2	3
Fixed Object in Road		1				1
Non-Collision	1		1		1	3
9. Fixed Object - Off Road	1	2	1	3	1	8
Total	**35**	**39**	**16**	**5**	**59**	**154**

3.3 Average Crash Rate

The 2019 average crash rate for primary roads in Hampton district is 105.3 crashes per 100 million vehicle-miles traveled. This information was extracted from Tableau version of the Crash Summary Book[1] published by VDOT Traffic Engineering Division. The calculated crash rate of the study corridor is 202 crashes per 100 million vehicle-miles traveled. The formula used to calculate average crash rate is provided below:

$$R = \frac{C \times 100{,}000{,}000}{V \times 365 \times N \times L}$$

The variables in this equation are:

- R = Roadway crash rate for the road segment expressed as crashes per 100 million vehicle-miles of travel
- C = Total number of roadway departure crashes in the study period
- V = Traffic volumes using Average Annual Daily Traffic (AADT) volumes
- N = Number of years of data
- L = Length of the roadway segment in miles

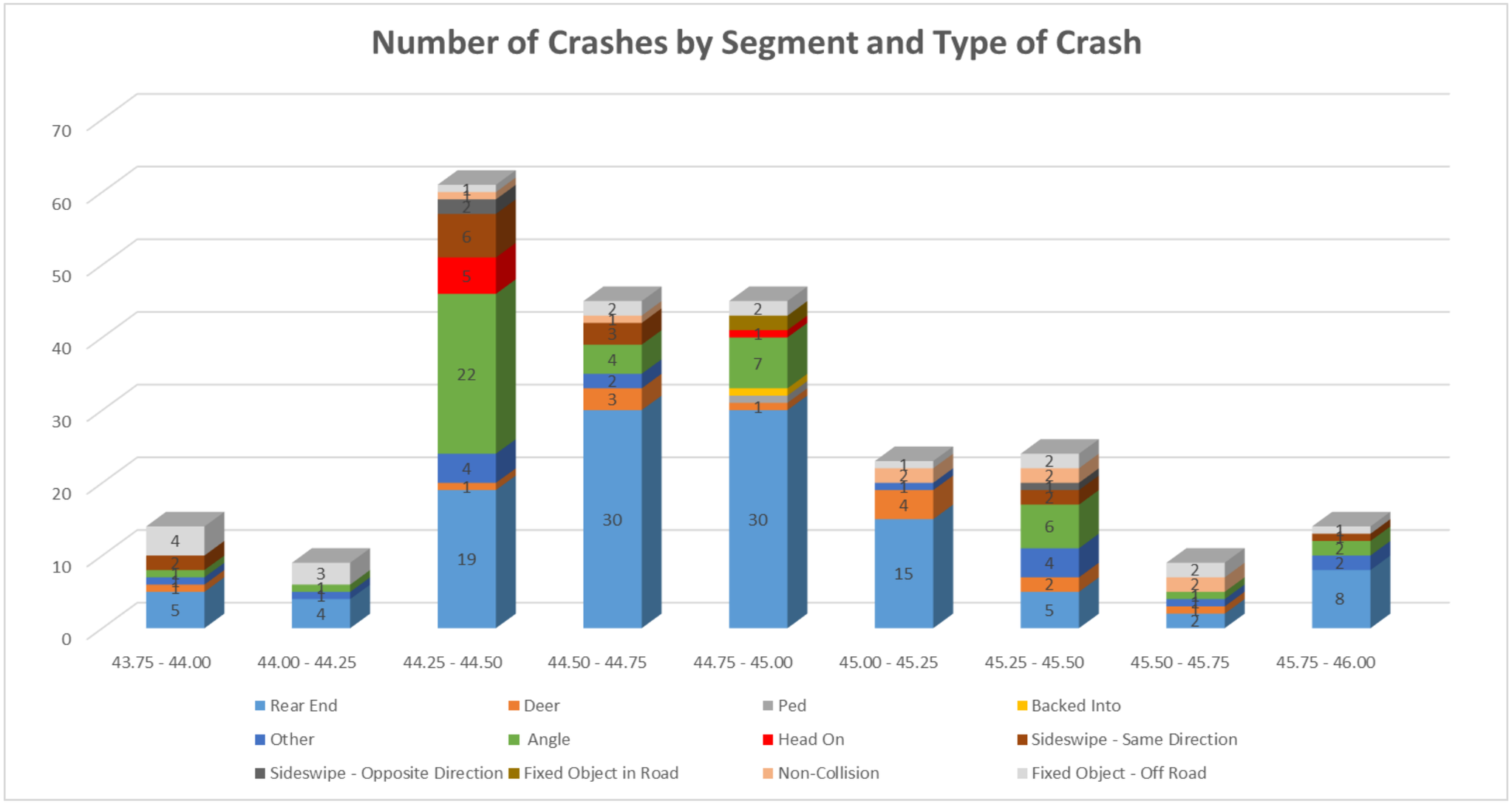
The average crash rate comparison indicates that the study corridor crash rate is much higher than similar roads in the Hampton Roads district.

[1] CRASH SUMMARY BOOK
https://public.tableau.com/app/profile/tien.simmons/viz/CRASHSUMMARYBOOK/TITLE_1)

3.4 Crash Analysis by Segment (0.25 miles)

For purpose of analysis, the study area was divided into 0.25 miles segments using mileposts in GIS. As shown in ***Figure 6,*** the highest number of crashes (61) were found from milepost (mp) 44.25 to 44.50, followed by 45 crashes each along 44.50 to 44.75 mp and 44.75 to 45.00 mp. These segments correspond to roadways along intersection of Route 17 at Smiths Neck Road, Eagle Harbor Pkwy and Whippingham Parkway.

Figure 6 Number of Crashes by Segment and Type of Crash



3.5 Access Spacing

An evaluation of the existing driveways and access points along the study area corridor was completed to assess compliance with VDOT Access Management Design Standards for Entrances and Intersections, which is included as Appendix F of the VDOT Roadway Design Manual. The assessment involved analysis of existing spacing of driveways and intersections and complies with VDOT minimum spacing standards for access points. ***Table 7*** provides a summary of the minimum spacing requirements for a design speed limit of 45 mph to 55 mph for a Principal Arterial. ***Table 8*** through ***Table 11*** show assessment of access point spacing within the study corridor.

Table 7 Access Management Design Standards

Functional Class	Design Speed	Minimum Spacing Standard (feet)			
		Type 1 (Spacing between Signalized Intersection and Signalized Intersection)	Type 2 (Spacing between Unsignalized Intersection/Full Median Crossover and Signalized Intersection/Unsignalized Intersection/Full Median Crossover)	Type 3 (Spacing between Full Access Entrance or Directional Median and Any Intersection, Full Access Entrance, or Median Crossover)	Type 4 (Spacing between Partial Access Entrance and Any Entrance, Intersection, or Median Crossover)
Principal Arterial	35 to 45 mph	1,320	1,050	565	305
	≥ 50 mph	2,640	1,320	750	495

Table 8 Access Spacing for Type 1 Access Points

Route 17 Segment	Distance (in ft.)	Compliance with VDOT Access Spacing Standards	Deficient length (in ft.)
Between Route 258 and Smiths Neck Road	4600	Compliant	N/A
Between Smiths Neck Road and Eagle Harbor Parkway	1068	Non-Compliant	252
Between Eagle Harbor Parkway and Whippingham Parkway	1172	Non-Compliant	148

Table 9 Access Spacing for Type 2 Access Points

Route 17 Segment	Distance (in ft.)	Compliance with VDOT Access Spacing Standards	Deficient length (in ft.)
Between Route 258 and Northgate Lane	3291	Compliant	N/A
Between Northgate Lane and Smiths Neck Road*	1307	Compliant	N/A
Between Kings Cove Way and Whippingham Parkway*	2892	Compliant	N/A
Between Kings Cove Way and median crossover at Ragged Island Parking Area	1720	Compliant	N/A

*Design Speed varies between 45 mph and 55 mph

Table 10 Access Spacing for Type 3 Access Points

Route 17 Segment	Distance (in ft.)	Compliance with VDOT Access Spacing Standards	Deficient length (in ft.)
Between Route 258 and Median Cross Over at Dashing Dogs/Ferguson's Automotive & Electrical Repair	1178	Compliant	N/A
Between median crossover at Dashing Dogs/Ferguson's Automotive & Electrical Repair and Northgate Lane	2103	Compliant	N/A
Between Whippingham Parkway and median crossover at Dock of the Bay*	1462	Compliant	N/A
Between median crossover at Dock of the Bay and Kings Cove Way	1427	Compliant	N/A

*Design Speed varies between 45mph and 55 mph

It should be noted that median crossover at Dashing Dogs/ Ferguson's Automotive & Electrical Repair is proposed to be a signalized intersection (Route 17 and Nike Park Ext. Road). In this case, access spacing between proposed Nike Park Ext. Road and Route 258 signal will not adhere to VDOT access spacing standards and would be deficient by 1470 ft. approximately.

Table 11 Access Spacing for Type 4 Access Points

Route 17 Segment	Distance (in ft.)	Compliance with VDOT Access Spacing Standards	Deficient length (in ft.)
Between entrance at Johns Brothers Security and median crossover at Dashing Dogs/Ferguson's Automotive & Electrical Repair	248	Non-Compliant	247
Between median crossover at Dashing Dogs/Ferguson's Automotive & Electrical Repair and entrance at 14114 Carrollton Blvd	725	Compliant	N/A
Between entrance at 14114 Carrollton Blvd and Northgate Lane	1396	Compliant	N/A
Between median crossover at Dashing Dogs/Ferguson's Automotive & Electrical Repair and James River Trail	1265	Compliant	N/A
Between James River Trail and Northgate Lane	823	Compliant	N/A
Between Northgate Lane and Fiddler Lane	856	Compliant	N/A
Between Fiddler Lane and Smiths Neck Road	456	Compliant	N/A
Between Northgate Lane and entrance to Virginia Barbeque/Bayview Physical Therapy	620	Compliant	N/A
Between entrance to Virginia Barbeque/Bayview Physical Therapy and Smiths Neck Road	672	Compliant	N/A
Between Smiths Neck Road and entrance at 7-Eleven	464	Compliant	N/A
Between entrance at 7-Eleven and Kings Cross Road	577	Compliant	N/A
Between Smiths Neck Road and entrance to Bank/Sonic Drive	555	Compliant	N/A
Between entrance to Bank/Sonic Drive and Eagle Harbor Parkway	510	Compliant	N/A

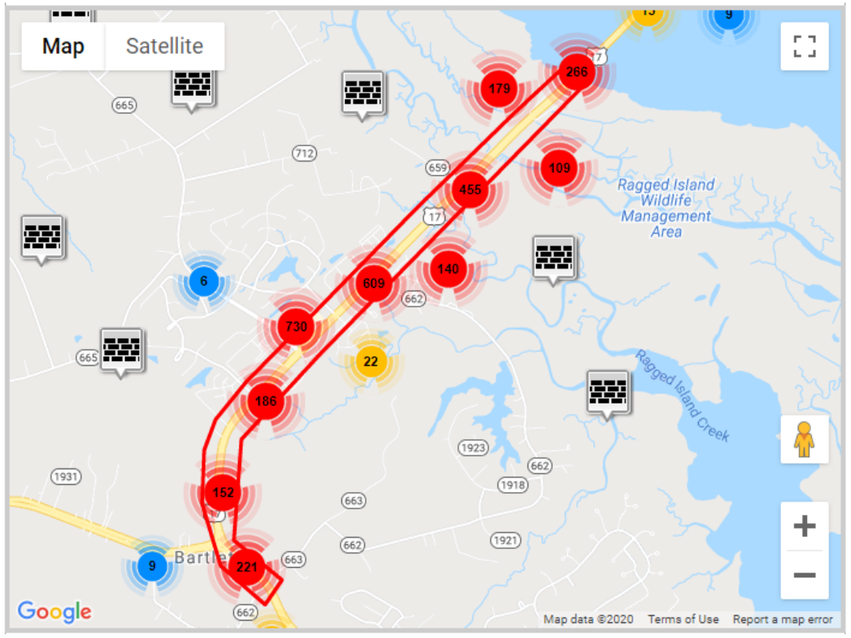
4. MetroQuest Public Involvement: Existing Conditions Survey Feedback

The Route 17 MetroQuest survey was launched to virtually collect public feedback on existing traffic and safety issues within the study corridor. The survey was live from 10th January, 2020 to 21st January, 2020 during which 1808 participants responded to the survey. Following is the summary of the public survey:

- Most respondents traveled the corridor 'Daily' followed by a 'A few times per week'
- 'Work' was the primary reason respondents traveled along the corridor followed by 'Shopping/Errands'
- Highest ranked mode of travel is 'Personal vehicle' followed by 'Truck/Commerical Vehicle'
- Congestion was noted as an issue in the 'weekday afternoons' followed by 'weekday evenings/nights' in southbound travel directions during these time periods
- 'Through travel' followed by 'difficulty making left turns' and 'Vehicle blocking entrances' were the top ranked accessibility issues
- 'Congestion' followed by 'sudden stops and rear-end' and 'aggressive or distracted behavior' were the top ranked safety issues
- 'Sidewalks / crosswalks' were the most requested multimodal facilities followed by 'shared used path '

Figure 7 shows the areas along the corridor where congestion, safety and other issues were identified by the participants.

Figure 7 Hotspots within the Study Area



5. Existing Conditions Analysis

Traffic operational analyses were conducted to evaluate the overall performance of the study corridor under existing (2019) AM and PM peak hour conditions. The intent of the existing conditions analyses was to provide a general understanding of the baseline traffic conditions as a starting point for developing future improvement strategies. Existing conditions were modeled using Synchro, Version 10 and SimTraffic, Version 10. Five simulations were conducted for both the AM and PM models using different random seeds.

5.1 Traffic Analysis Results

Three measures of effectiveness were selected to measure the quantitative performance of the study area intersections:

- Control delay by lane group, approach, and intersection – measured in seconds per vehicle [Synchro 10]
- Maximum queue length by lane group – measured in feet [SimTraffic 10]
- Travel time by direction – measured in seconds [SimTraffic 10]

Level of Service

Level of Service (LOS) was used to supplement control delay results from Synchro 10 based on the criteria outlined in the *Highway Capacity Manual (HCM) 2000*. LOS is a quality measure describing operating conditions and the driver's perception of those conditions. LOS A indicates a condition of little or no congestion whereas LOS F indicates a condition of severe congestion, unstable traffic flow, and stop-and-go conditions. ***Delay*** is reported from Synchro using HCM 2000 methodology ***Table 12*** summarizes the delay thresholds associated with each LOS category for signalized and unsignalized intersections. If intersection traffic volume exceeds capacity, LOS F is automatically reported.

Table 12.Signalized and Unsignalized Intersection LOS Criteria

LOS	Control Delay (sec/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Control Delay and LOS Results

Table 13 summarized existing conditions LOS and control delay for study intersections by lane group, approach, and intersection at each study area intersection. The results show, Route 17 at Whippingham Parkway and Eagle Harbor Parkway are operating at an acceptable overall LOS B and intersection of Route 17 and Smiths Neck Road is operating at LOS D during the PM peak hour. In the AM peak hour, Route 17 at Whippingham Parkway and Eagle Harbor Parkway are operating at an acceptable overall LOS C and intersection of Route 17 and Smiths Neck Road is operating at LOS D.

Table 13. Existing (2019) LOS and Delay for signalized intersections

Intersection Name	Type of Control	Lane Group	Eastbound				Westbound				Northbound				Southbound				Overall	
			AM		PM		AM		PM		AM		PM		AM		PM		AM	PM
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
Route 17/Kings Cove Way	Two-Way Stop	Left	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Delay**	**Delay**
		Through	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
		Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**LOS**	**LOS**
		Approach	55.3	F	691.2	F	0.0	A	12.2	B	-	-	-	-	-	-	-	-	**-**	**-**
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	-	-	-	-	-	-	-	8.1	A	99.7	F	16.5	B	4.4	A	**Delay**	**Delay**
		Through	54.1	D	97.1	F	53.7	D	98.4	F	31.6	C	2.0	A	8.9	A	15.3	B	**27.3**	**13.7**
		Right	50.8	D	93.8	F	52.2	D	92.8	F	6.6	A	5.2	A	7.0	A	4.9	A	**LOS**	**LOS**
		Approach	52.4	D	95.4	F	52.6	D	96.3	F	31.3	C	4.9	A	8.9	A	14.8	B	**C**	**B**
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	-	-	-	-	-	-	-	9.0	A	93.9	F	33.1	C	6.3	A	**Delay**	**Delay**
		Through	53.9	D	98.3	F	55.2	E	97.5	F	28.9	C	14.4	B	23.4	C	11.1	B	**29.0**	**17.1**
		Right	44.6	D	87.8	F	53.3	D	93.6	F	9.7	A	6.5	A	11.0	B	4.0	A	**LOS**	**LOS**
		Approach	51.1	D	93.6	F	54.1	D	95.9	F	28.4	C	20.2	C	22.9	C	10.5	B	**C**	**B**
Route 17/Smiths Neck Road	Signal	Left	64.9	E	114.4	F	56.3	E	101.8	F	54.9	D	117.5	F	55.1	E	92.9	F	**Delay**	**Delay**
		Through	61.6	E	112.0	F	51.9	D	94.2	F	35.3	D	17.0	B	37.9	D	36.5	D	47.1	**46.2**
		Right	34.7	C	78.2	E	-	-	-	-	18.7	B	13.4	B	122.0	F	22.3	C	**LOS**	**LOS**
		Approach	58.9	E	105.3	F	54.3	D	98.2	F	35.1	D	39.4	D	55.4	E	34.6	C	**D**	**D**
Route 17/Northgate Lane	Two-Way Stop	Left	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Delay**	**Delay**
		Through	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
		Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**LOS**	**LOS**
		Approach	35.2	E	226.7	F	0.0	A	0.0	A	-	-	-	-	-	-	-	-	**-**	**-**

NOTE: Lane configurations with a shared through lane shown as "through" lane group; with shared left-right lane shown as "left" lane group

Maximum Queue Length and Travel Time Results

Queue length, or the distance to which stopped vehicles accumulate in a lane at an intersection, is another performance measure of intersection operation. Lengthy queues may be indicative of intersection capacity or operational issues, such as absence of or insufficient dedicated turn lanes, inefficient signal timings or inappropriate phasing. A queuing analysis was completed for the study intersections during the peak hours. SimTraffic maximum queue lengths in feet were reported for each lane in ***Table 15***. Results indicate significant queueing in the southbound direction during PM peak hour at Route 17 and Smiths Neck Road intersection and the queue spills back to the next intersection which is Route 17 at Eagle Harbor Parkway. During the field trip, significant rolling queues were observed starting from Smiths Neck Road intersection and extending beyond the James River Bridge in the southbound direction during the PM peak hour. Additionally, at Route17 and Smiths Neck Road intersection, the northbound left and westbound left movement queues exceed storage length in the PM peak hour. At this intersection, northbound left and northbound right movement queues exceed their storage lengths during AM peak hour. At the intersection of Route 17 at Eagle Harbor Parkway, westbound right movement queues exceed the storage length during the peak hours. In addition to queuing analysis, travel times in both the directions are also reported to analyze mobility under existing conditions in ***Table 14.***

Table 14 Travel Time within Study Area in Existing (2019) Conditions

	Travel time (sec)	
Direction	**AM Peak Hour**	**PM Peak Hour**
Northbound	194.7	154.6
Southbound	172.8	245.3

Table 15 Existing (2019) Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	56	43	-	-	18	264	21	23	317	14	-
		Through	-			-	-		-	-	-	-	2	-
		Right	-			-	-		-	-	-	-		-
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	81	64	-	50	80	271	93	102	269	2	140
		Through	-			-			-	364	131	-	115	615
		Right	170	48	64	550	69	26	205	128	17	214	0	177
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	204	168	-	60	78	250	46	162	306	16	197
		Through	-			-			-	310	232	-	201	767
		Right	220	82	105	65	63	60	243	102	58	228	116	228
Route 17/Smiths Neck Road	Signal	Left	465	355	266	140	106	137	285	284	284	298	118	297
		Through*	-	386	304	-	88	180	-	484	451	-	230	954
		Right	-	85	167	-			238	238	117	344	85	344
Route 17/Northgate Lane	Two-Way Stop	Left	-	94	51	-	-	-	245	24	106	73	-	-
		Through	-			-	-	-	-	-	-	-	-	-
		Right	160	44	66	-	-	-	220	-	-	200	-	-

*This movement is shared left-through in the eastbound direction and shared through-right in the westbound direction.
'-'Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

6. Traffic Forecasting

6.1 Traffic Forecasting and Growth Rate Development

The following sources were reviewed to determine growth rates to apply to existing traffic volumes to forecast future volumes:

- Historic AADT Data published by VDOT
- Statewide Planning System (SPS) suggested growth rates
- Growth Rate from HRTPO MODEL
- Previous Studies and TIA's within the corridor

Additionally, annual growth rates were calculated using linear regression. This information was discussed and approved by the SWG. Based on the historic AADT data as shown in ***Table 17***, review of TMPD/SPS recommended growth forecasts, previous studies and an understanding of the potential for development in the study area, the SWG adopted the linear annual growth rate of 1.5% on Route 17 and Route 258; and 1% on side streets within the study corridor.

These selected growth rates were applied to the existing balanced 2019 traffic volumes to compute 2030 and 2045 background traffic volumes for future conditions analysis. Intersection Turning Movements were forecasted using FRATAR Technique. Future Background volumes were adjusted with Nike Park diversion trips and trip generations of approved developments volumes (See ***6.2 Traffic Assumptions: Land Development and TIA Considerations).***

Table 16 Previous Studies and TIA within corridor

Referenced Study/Data source	Route	Segment	Annual Growth Rate
The Pitt and Lippe TIA Report 2017	Route 17	Whole study corridor and side streets	1.5 percent exponential
Brewer's Neck Study 2014	Route 17	Whippingham Parkway/Harbor Point Ln to Brewer's Neck Boulevard	1.5 percent
	Route 17	Brewer's Neck Boulevard to Omera Drive/Ashby Way	1.25 percent
	Route 258	All	1 percent

Table 17 VDOT Historic Traffic Volumes (veh/day)

Year	Route 17 from Merritt Cove to Brewers Neck Boulevard	Route 17 from Brewers Neck Boulevard to Smiths Neck Road	Route 17 from Smiths Neck Road to James River Bridge	Route 17 from James River Bridge to Newport News CL	Route 258 from Bartlett Cir to Carrollton Boulevard	Smiths Neck Road from Carrollton Boulevard to Reynolds Drive North
1997	18,516	22,631	22,631	22,631	22,631	-
1998	19,000	22,873	22,873	36,698	23,000	-
1999	12,186	22,918	22,918	36,770	20,612	-
2000	12,301	23,134	23,134	37,117	20,882	-
2001	12,931	24,321	24,321	25,180	21,206	-
2002	11,939	25,166	25,166	26,055	22,764	-
2003	12,454	26,251	26,251	27,178	23,201	-
2004	13,009	27,421	27,421	29,337	23,538	-
2005	14,982	27,833	27,833	29,778	25,225	10,407
2006	14,985	27,838	27,838	29,783	25,316	10,444
2007	15,197	28,233	28,233	28,978	26,161	10,793
2008	14,078	27,612	27,612	28,341	22,140	10,864
2009	14,197	27,845	27,845	28,580	22,709	11,143
2010	14,634	27,516	27,516	27,201	23,646	11,603
2011	14,720	27,823	27,823	27,504	24,708	10,674
2012	14,965	28,609	28,609	28,107	24,161	10,438
2013	15,210	28,464	28,464	27,801	24,297	10,497
2014	14,878	28,149	28,149	27,909	24,247	11,310
2015	15,281	28,912	28,912	28,016	24,729	11,535
2016	15,334	29,012	29,012	29,026	25,624	11,952
2017	15,670	28,907	28,907	28,921	24,319	11,171
2018	15,770	29,091	29,091	29,105	24,367	11,193
SPS Growth Rate	0.255	1.029	1.029	0.50	0.002	1.023
TMPD suggested Growth Rate from SPS	0.61	1.80	1.80	0.83	1.21	1.04

Table 18 Calculated Line Regression Growth Rate

Route	SEGMENT_FROM	SEGMENT_TO	Regression Growth Per Year	Forecast Year	Forecast Volume	R^2	2018 Growth rate	Forecast Year	Forecast Volume
Route 17	Merritt Cove	Brewers Neck Boulevard	-1182	2030	33812	0.01917	-7.49367	2045	16085
Route 17	Brewers Neck Boulevard	Smiths Neck Road	310	2030	33812	0.80743	1.06457	2045	38457
Route 17	Smiths Neck Road	James River Bridge	310	2030	33812	0.80743	1.06457	2045	38457
Route 17	James River Bridge	Newport News Cl	-139	2030	25955	0.06511	-0.47898	2045	23864
Brewers Neck Boulevard	Bartlett Cir	Carrollton Boulevard	146	2030	26890	0.38964	0.59766	2045	29074
Smiths Neck Road	Carrollton Boulevard	Reynolds Drive North	67	2030	12247	0.32859	0.60132	2045	13256

6.2 Traffic Assumptions: Land Development and TIA Considerations

The following assumptions were made during the traffic forecasting process:

- With the development of Nike Park Extension Road, 40 percent of the background traffic from Smiths Neck Road is diverted to the intersection of Route 17/ Nike Park Extension. This assumption is adopted from the Pitt and Lippe TIA report.
- Trip generation, distribution and assignments of approved developments were kept same as in The Pitt & Lippe TIA Report. For intersections which do not have this information, traffic volumes were adjusted and balanced based on intersections- upstream or downstream.
- Development traffic of the following approved developments was added to background traffic to arrive at the final traffic forecast:
    - Benns Grant
    - St. Luke's Village
    - Riverside Medical Center
    - Red Oaks
    - Norsworthy
    - Eagle Harbor Tract 8
    - The Crossings
    - Archers Meade
    - Bridge Point Commons
    - Carrollton Manor
    - The Pitte & Lippe

The forecasted 2030 and 2045 volumes are presented in *Figure 8* through ***Figure 11***. Detailed future traffic volume development worksheets are provided in ***Appendix C***.

Figure 8 Future 2030 AM Peak Hour Traffic Volumes

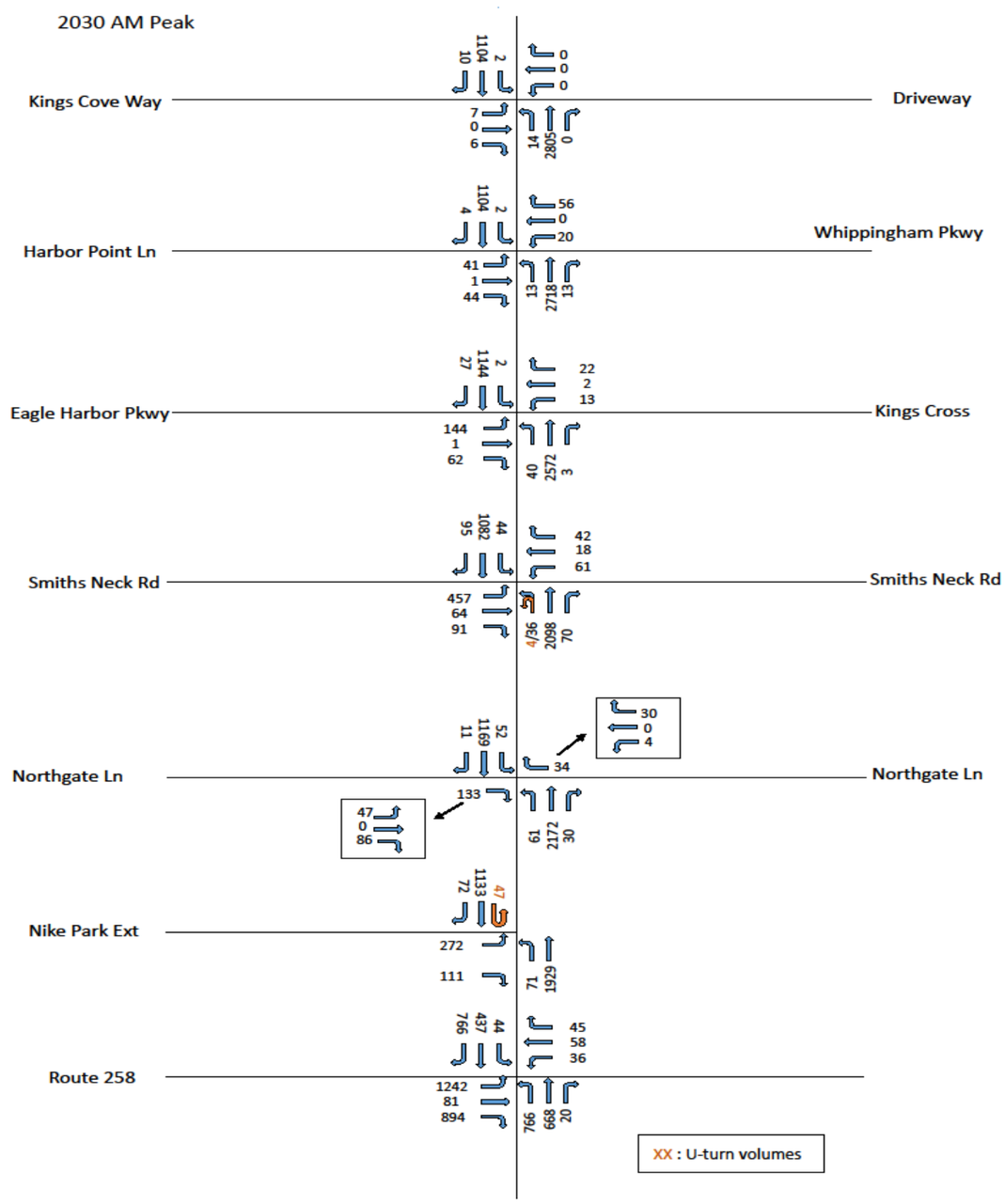


Figure 9 Future 2030 PM Peak Hour Traffic Volumes

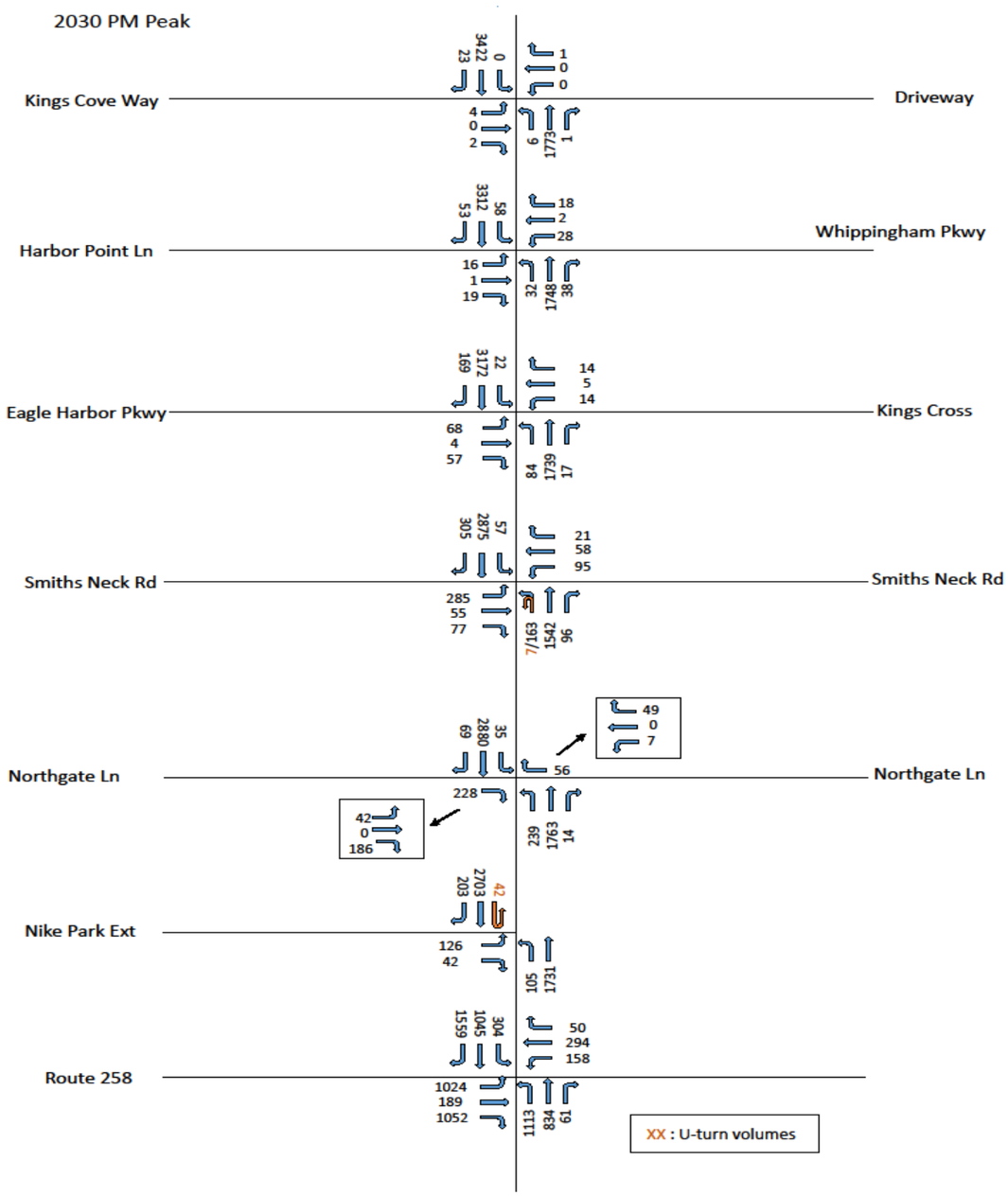


Figure 10 Future 2045 AM Peak Hour Traffic Volumes

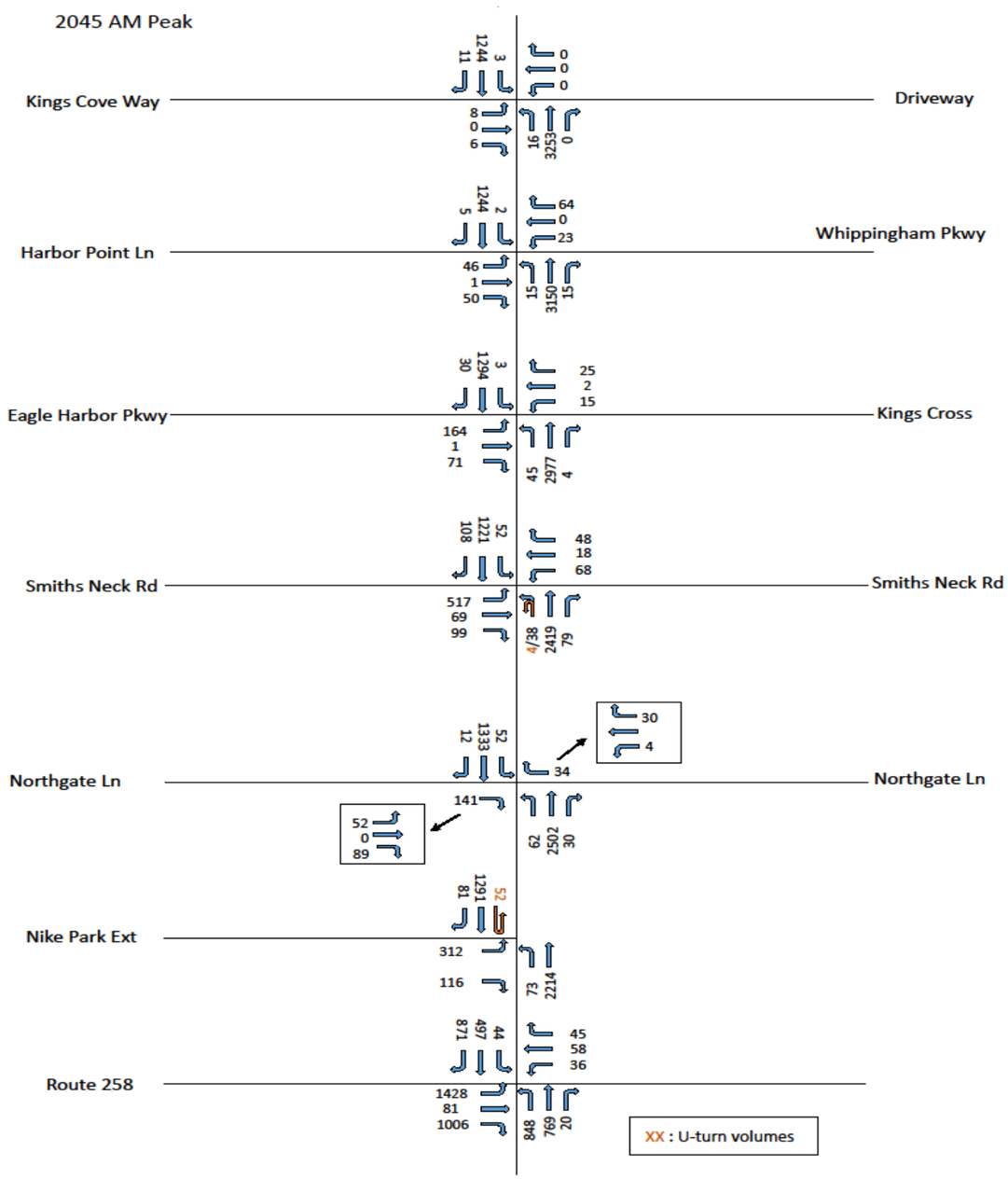
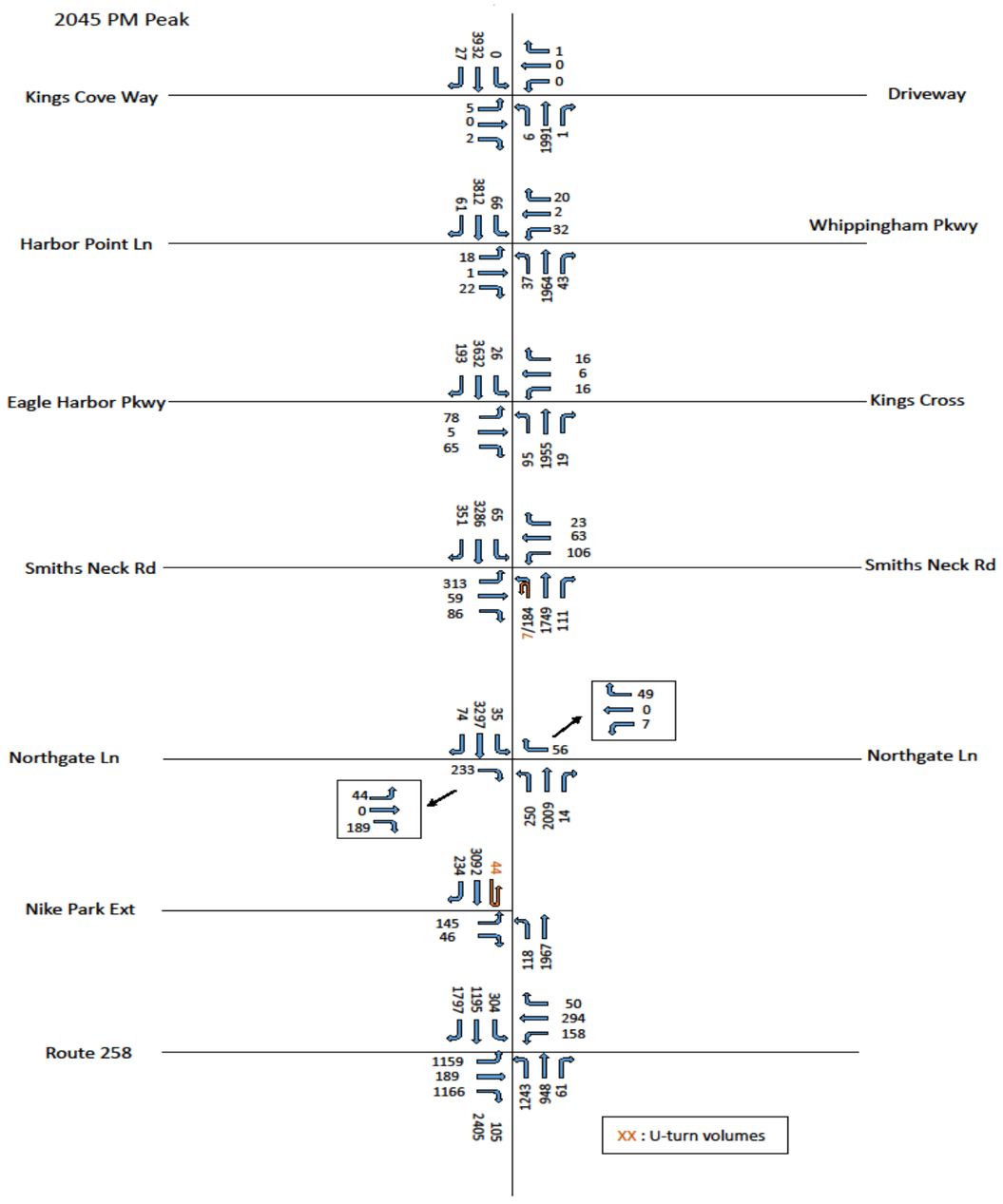


Figure 11 Future 2045 PM Peak Hour Traffic Volumes



7. No-Build Conditions Analysis

Traffic operational analyses were conducted to evaluate the overall performance of the study corridor under No-Build (2030 and 2045) AM and PM peak hour conditions. The intent of the No-Build conditions analyses was to provide a general understanding of the baseline future traffic conditions as a starting point for developing future improvement strategies. No-Build conditions were modeled using Synchro, Version 10 and SimTraffic, Version 10.

7.1 Background Improvements

The following improvements have been or are projected to be completed before 2030 and were included in the 2030 and 2045 No-Build Synchro models:

- A new signalized intersection of Nike Park Extension at Route 17 located between Brewers Neck Boulevard and Northgate Lane. Nike Park Extension will include dual lefts and an exclusive right-turn lane.
- Pedestrian Accommodations at Route 17/Eagle Harbor Parkway as part of the Smart scale application 4971 in Round 3 (FY2020) -This project includes one crossing of Route 17 and one side street crossing parallel to Route 17 at Eagle Harbor Parkway. It requires the construction of a pedestrian refuge island in the median of Route 17, along with replacing the existing ADA curb ramps, adding crosswalk striping, and pedestrian signals with pedestrian pushbuttons. This project was recently completed in December 2020 and included pedestrian push buttons at each corner of Eagle Harbor (1 on the right and 2 on the left) and Kings Cross (1 on the left and 2 on the right) for pedestrians to cross Rte. 17. There is a pedestrian push button (1) in the median of Route 17 also so traffic will not be backed up waiting for the pedestrian to cross the entire Rte. 17 at one time. This area has a refuge island for pedestrians.

The following proffers as described in the Pitt and Lippe TIA Report were also included in the 2030 and 2045 No-Build Synchro models:

<u>Route 17 at Smiths Neck Road</u>

Intersection improvements consist of the following improvements:

- Improve/extend the existing exclusive northbound left-turn lane to consist of 400 feet of storage and a 100-foot taper
- Improve/extend the existing exclusive southbound left-turn lane to consist of 400 feet of storage and a 100-foot taper
- Lane configuration for westbound approach of Smiths Neck Road includes the exclusive left-turn lane, through lane and exclusive right-turn lane.
- Lane configuration change for the eastbound approach of Smiths Neck Road to include dual exclusive left-turn lanes and a shared through/right turn lane.

<u>Route 17 at Northgate Lane</u>

Intersection improvements consist of the following improvements:

- Improve/extend the existing exclusive northbound right-turn lane to consist of 200 feet of storage and a 200-foot taper.
- Improve/extend the existing exclusive southbound left-turn lane to consist of 200 feet of storage and a 200-foot taper.
- Unsignalized Restricted crossing U-turn (RCUT) at the intersection of Route 17 and Northgate Lane.

7.2 Intersection Operations: Future 2030 and 2045 No-Build Conditions

Operational analysis was performed at each of the study intersections for the future 2030 & 2045 No-Build Conditions scenario. ***Table 19*** and ***Table 20*** summarize AM and PM peak hour delay and LOS for each movement for the study intersections along the Route 17 corridor. Synchro output sheets are provided in ***Appendix D***.

The results in ***Table 19*** show that, under Future 2030 No Build conditions in the AM peak period, Route 17 at Whippingham Parkway and Eagle Harbor Parkway are expected to operate at overall LOS F and Route 17 at Smiths Neck Road at LOS E. Additionally, Nike Park Ext and Route 17 intersection is shown to operate at LOS C. In the PM peak period, all signalized intersections are expected to operate at LOS F except the Nike Park Ext and Route 17 intersection which operates at LOS D.

Furthermore, the traffic conditions are anticipated to get worse as shown in ***Table 20***, under the Future 2045 No Build conditions during PM peak hour, all the signalized intersections are expected to operate at severely congested LOS F. In the AM peak hour, all the signalized intersections are expected to operate at LOS F except intersection of Route 17 and Nike Park which operates at LOS D.

In addition of LOS and Delay, queuing results from SimTraffic are summarized in ***Table 21*** and ***Table 22.*** Significant queues are expected in the southbound direction during PM peak hour conditions starting from Smiths Neck Road intersection and extending towards the James River Bridge in future years 2030 and 2045. Additionally, during AM peak hour, queuing is observed in the northbound direction starting from intersection of Route 17 at Nike Park Extension to Eagle Harbor Parkway. In addition to queues in the northbound direction, eastbound queuing is also observed in the AM peak hour at the intersection of Route 17 and Smiths Neck Road during the future years 2030 and 2045.

During 2030 and 2045, in the PM peak hour, northbound left movement and northbound right movement queues at the intersection of Route 17 at Smiths Neck Road intersection are exceeding their storage lengths. Additionally, Route 17 at Northgate Lane and Nike Park Extension has northbound left turn movement queues that exceed their storage lengths during PM peak hour. Furthermore, at the intersection of Route 17 and Eagle Harbor Parkway, westbound right movement queues are expected to exceed their storage lengths during AM and PM peak hours.

Table 19 Future 2030 No-Build Delay and LOS (veh/sec)

Intersection Name	Type of Control	Lane Group	Eastbound				Westbound				Northbound				Southbound				Overall	
			AM		PM		AM		PM		AM		PM		AM		PM		AM	PM
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
Route 17/Kings Cove Way	Two-Way Stop	Left		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Delay**	**Delay**
		Through		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
		Right		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**LOS**	**LOS**
		Approach	498.7	F	Err	F	0.0	A	19.0	C	-	-	-	-	-	-	-	-	**-**	**-**
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left		-	-	-		-	-	-	7.1	A	113.7	F	28.6	C	12.7	B	**Delay**	**Delay**
		Through	54.0	D	97.6	F	53.8	D	98.7	F	118.6	F	4.7	A	11.5	B	132.3	F	85.6	86.3
		Right	51.2	D	93.7	F	52.1	D	92.6	F	6.7	A	5.7	A	7.1	A	5.0	A	**LOS**	**LOS**
		Approach	52.6	D	95.6	F	52.6	D	96.4	F	117.5	F	6.6	A	11.5	B	128.3	F	**F**	**F**
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left		-	-	-			-	-	11.9	B	126.9	F	27.3	C	14.5	B	**Delay**	**Delay**
		Through	55.7	E	97.3	F	56.8	E	97.6	F	168.6	F	4.7	A	19.7	B	167.2	F	116.5	105.5
		Right	45.0	D	86.7	F	54.7	D	93.5	F	10.0	A	6.8	A	11.8	B	7.1	A	**LOS**	**LOS**
		Approach	52.5	D	92.6	F	55.6	E	95.8	F	166.0	F	10.3	B	19.6	B	158.2	F	**F**	**F**
Route 17/Smiths Neck Road	Signal	Left	231.1	F	96.9	F	91.1	F	116.2	F	68.4	E	99.8	F	27.7	C	80.2	F	**Delay**	**Delay**
		Through	61.9	E	99.2	F	53.8	D	97.3	F	81.0	F	24.3	C	16.9	B	273.1	F	76.2	161.1
		Right		-	-	-	52.3	D	88.6	F	10.2	B	25.0	C	6.1	A	7.7	A	**LOS**	**LOS**
		Approach	188.1	F	97.6	F	71.9	E	106.6	F	78.5	E	31.4	C	16.4	B	244.6	F	E	**F**
Route 17/Northgate Lane	Two-Way Stop	Left		-	-	-		-	-	-	-	-	-	-	-	-	-	-	**Delay**	**Delay**
		Through		-	-	-		-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
		Right		-	-	-		-	-	-	-	-	-	-	-	-	-	-	**LOS**	**LOS**
		Approach	17.2	C	658.1	F	27.9	D	22.2	C	-	-	-	-	-	-	-	-	**-**	**-**
Route 17/Nike Park Ext.	Signal	Left	106.1	F	95.8	F	-	-	-	-	122.9	F	141.5	F	113.5	F	100.5	F	**Delay**	**Delay**
		Through		-	-	-	-	-	-	-	15.5	B	9.5	A	9.8	A	52.8	D	25.7	39.2
		Right	81.6	F	87.6	F	-	-	-	-	-	-	-	-	6.3	A	0.0	A	**LOS**	**LOS**
		Approach	99.0	F	93.8	F	-	-	**-**	-	19.3	B	17.0	B	13.5	B	49.8	D	**C**	**D**

NOTE: Lane configurations with a shared through lane shown as "through" lane group; with shared left-right lane shown as "left" lane group.

Table 20 Future 2045 No-Build Delay and LOS (veh/sec)

Intersection Name	Type of Control	Lane Group	Eastbound				Westbound				Northbound				Southbound				Overall	
			AM		PM		AM		PM		AM		PM		AM		PM		AM	PM
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS		
Route 17/Kings Cove Way	Two-Way Stop	Left	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Delay**	**Delay**
		Through	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
		Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**LOS**	**LOS**
		Approach	1463.4	F	Err	F	0.0	A	21.7	C	-	-	-	-	-	-	-	-	**-**	**-**
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	-	-	-	-	-	-	-	8.1	A	94.1	F	28.4	C	24.6	C	**Delay**	**Delay**
		Through	54.2	D	97.7	F	53.8	D	98.8	F	208.8	F	4.7	A	12.9	B	219.5	F	148.1	141.6
		Right	50.4	D	93.6	F	52.0	D	92.2	F	6.9	A	6.1	A	7.3	A	5.3	A	**LOS**	**LOS**
		Approach	52.2	D	95.5	F	52.5	D	96.3	F	206.9	F	6.4	A	12.9	B	212.8	F	**F**	**F**
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	-	-	-	-	-	-	-	15.0	B	123.6	F	27.3	C	21.8	C	**Delay**	**Delay**
		Through	56.1	E	100.0	F	57.0	E	98.0	F	275.3	F	6.4	A	23.4	C	267.1	F	186.9	166.1
		Right	43.9	D	85.9	F	54.6	D	93.3	F	10.6	B	7.5	A	12.6	B	7.6	A	**LOS**	**LOS**
		Approach	52.4	D	93.8	F	55.6	E	96.0	F	271.1	F	11.8	B	23.1	C	252.4	F	**F**	**F**
Route 17/Smiths Neck Road	Signal	Left	307.7	F	98.7	F	114.7	F	124.1	F	72.3	E	99.2	F	28.4	C	80.6	F	**Delay**	**Delay**
		Through	69.9	E	101.3	F	53.8	D	98.7	F	153.7	F	33.2	C	18.5	B	398.1	F	122.9	228.6
		Right	-	-	-	-	52.3	D	88.2	F	10.3	B	31.5	C	6.1	A	8.0	A	**LOS**	**LOS**
		Approach	249.3	F	99.5	F	84.1	F	111.5	F	147.9	F	39.2	D	17.9	B	355.5	F	**F**	**F**
Route 17/Northgate Lane	Two-Way Stop	Left	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Delay**	**Delay**
		Through	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
		Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**LOS**	**LOS**
		Approach	20.4	C	Err	F	37.2	E	27.3	D	-	-	-	-	-	-	-	-	**-**	**-**
Route 17/Nike Park Ext.	Signal	Left	226.0		97.1	F	-	-	-	-	127.9	F	197.5	F	104.7	F	100.6	F	**Delay**	**Delay**
		Through	-	-	-	-	-	-	-	-	19.2	B	12.2	B	9.0	A	124.6	A	36.2	80.6
		Right	85.5	F	86.8	F	-	-	-	-	-	-	-		5.3	A	0.0	A	**LOS**	**LOS**
		Approach	187.9	F	94.6	F	-	-	-	-	22.6	C	22.6	C	12.3	B	115.7	F	**D**	**F**

NOTE: Lane configurations with a shared through lane shown as "through" lane group; with shared left-right lane shown as "left" lane group.

Table 21 2030 No-Build Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	72	118	-	-	18	264	34	43	317	6	-
		Through	-			-	-		-	-	-	-	-	1508
		Right	-			-	-		-	-	-	-	-	
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	94	63	-	53	93	271	186	70	269	14	268
		Through	-			-			-	923	144	-	205	2850
		Right	170	117	58	550	80	28	205	135	28	214	3	214
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	210	158	-	68	69	250	248	157	306	18	250
		Through	-			-			-	986	208	-	380	1132
		Right	220	118	135	65	62	65	243	49	18	228	149	228
Route 17/Smiths Neck Road	Signal	Left	465	1150	280	212	120	163	450	499	446	450	86	449
		Through	-	1146	253	-	89	247	-	1268	530	-	345	997
		Right	-			150	81	112	238	238	238	344	111	344
Route 17/Northgate Lane	Two-Way Stop	Left	-	-	-	-	-	-	245	245	245	300	193	62
		Through	-	-	-	-	-	-	-	1982	891	-	88	10
		Right	-	123	372	-	214	126	300	300	-	-	-	-
Route 17/Nike Park Ext.	Signal	Left	-	492	165	-	-	-	105	129	129	65	64	64
		Through	-	-	-	-	-	-	-	982	898	-	376	669
		Right	-	99	76	-	-	-	-	-	-	300	249	300

'--'Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

Table 22 2045 No-Build Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left		125	162	-	-	6	264	18	32	317	16	-
		Through				-	-		-	540	-	-	-	1516
		Right				-	-		-		-	-	-	
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	142	72	-	61	96	271	96	67	269	10	268
		Through	-			-			-	848	186	-	248	2846
		Right	170	81	70	550	109	44	205	92	34	214	4	214
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	231	186	-	87	102	250	249	198	306	31	305
		Through	-			-			-	997	245	-	462	1133
		Right	220	166	153	65	63	67	243	100	11	228	228	228
Route 17/Smiths Neck Road	Signal	Left	465	1147	303	212	127	164	450	500	499	450	106	449
		Through	-	1146	266	-	114	297	-	1266	683	-	383	993
		Right	-			150	104	128	238	238	238	344	222	344
Route 17/Northgate Lane	Two-Way Stop	Left	-	-	-	-	-	-	245	245	245	300	105	77
		Through	-	-	-	-	-	-	-	2000	683	-	-	-
		Right	-	130	514	-	289	165	300	300	-	200	-	5
Route 17/Nike Park Ext.	Signal	Left	-	1482	184	-	-		105	130	129	65	64	63
		Through	-	-	-	-	-		-	1138	1134	-	371	664
		Right	-	772	99	-	-		-	-	-	300	296	300

'--' Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

8. Concept Development and Screening

Improvement concepts were developed to address operational deficiencies, especially congestion in the southbound direction during afternoons along the study corridor as identified in the existing and no-build analyses, as well as observed during field review. Improvement project concepts were vetted through internal meetings, shared with the SWG at a concept development meeting. This section illustrates all the alternatives (1-5) that were presented during SWG meeting:

8.1 Alternative 1

This alternative recommends the following improvements (See ***Figure 12***)

1. Provide an exclusive right-turn lane in the eastbound direction and an additional left-turn lane in the northbound direction at the intersection of Route 17 and Smiths Neck Road.
2. Connect right-turn lane between Smiths Neck Road and Eagle Harbor Parkway along Route 17 in the southbound direction.
3. Restripe side street approaches at the intersection of Route 17/ Eagle Harbor Parkway/Kings Cross and Route 17/ Harbor Point Lane/Whippingham Pkwy to eliminate split phase on the side streets. Recommended configuration is an exclusive left-turn and shared through/right-turn lane on the side street approaches.
4. Optimize signal timing after implementing the recommended improvements.

8.2 Alternative 2

This alternatives includes the following improvements (See ***Figure 13***):

1. Provide an exclusive right-turn lane in the eastbound direction and an additional left-turn lane in the northbound direction at the intersection of Route 17 and Smiths Neck Road.
2. Provide an additional left-turn lane in southbound direction at the intersection of Route 17 and Smiths Neck Road.
3. Connect right-turn lane between Smiths Neck Road and Eagle Harbor Parkway along Route 17 in the southbound direction.
4. Convert intersection of Route 17/Eagle Harbor Parkway/Kings Cross into Restricted Crossing U-Turn (RCUT) intersection design. This innovative intersection only allows right out from the side street. Through and left turning traffic from side streets is rerouted through U-turn at downstream intersections.
5. Convert intersection of Route 17/Whippingham Parkway/Harbor Point Lane intersection to a Thru-Cut intersection. This design restricts through movement from the side street. Through traffic from Harbor Point Lane is rerouted to Eagle Harbor Parkway intersection through U-turn and followed by right-turn onto Whippingham Parkway. Through traffic from Whippingham Parkway makes a left turn, followed by U-turn at Eagle Harbor Parkway and then turns left onto Harbor Point Lane.
6. Optimize signal timing after implementing the recommended improvements.

8.3 Alternative 3 (builds on improvements from Alternative 2)

This alternative includes the following improvements (See **Figure 14**):

1. Include all the improvements from Alternative 2.
2. Construct a through lane in the southbound direction from Kings Cove Way to Route 258.
3. Optimize signal timing after implementing the recommended improvements.

8.4 Alternative 4

This alternative includes the following improvements (See ***Figure 15***):

1. Add a through lane in the southbound direction from Kings Cove Way to Route 258 along Route 17.
2. Restripe side street approaches at the intersection of Route 17 at Eagle Harbor Parkway/Kings Cross and Route 17 at Harbor Point Lane/Whippingham Pkwy to eliminate split phase on the side street. Recommended configuration is exclusive left-turn and shared through/right-turn lane on the side street approaches.
3. Connect right turn lane between Smiths Neck Road and Eagle Harbor Parkway along Route 17 in the southbound direction.
4. Optimize signal timing after implementing the recommended improvements.

8.5 Alternative 5

This alternatives includes the following improvements (See ***Figure 16***):

1. Add a through lane in the southbound direction from Kings Cove Way to Route 258 along Route 17.
2. Provide an exclusive right-turn lane in the eastbound direction and an additional left-turn lane in the northbound direction at the intersection of Route 17 and Smiths Neck Road.
3. Provide an additional left-turn lane in southbound direction at the intersection of Route 17 and Smiths Neck Road.
4. Convert Route 17 at Eagle Harbor Parkway intersection into Restricted Crossing U-Turn (RCUT) intersection design. This innovative intersection only allows right out from the side street. Through and left turning traffic from side streets is rerouted through U-turn at downstream intersections.
5. Restripe side street approaches at the intersection of Route 17/ Harbor Point Lane/Whippingham Parkway to eliminate split phase on the side streets. Recommended configuration is an exclusive left-turn and shared through/right-turn lane on the side street approaches.
6. Connect right turn lane between Smiths Neck Road and Eagle Harbor Parkway along Route 17 in southbound direction.
7. Optimize signal timing after implementing the recommended improvements.

8.6 Additional Recommendations

The following recommendations were included in all the alternatives:

1. Install a traffic signal at intersection of Route 17 and Northgate lane if MUTCD warrants and VDOT access spacing criteria is met. A Signal justification report (SJR) needs to be prepared to justify this signal. Please note the scope of this study does not include SJR which can be performed under a separate task.
2. Extend the following turn lanes:

<u>Rt. 17/Nike Park Ext.</u>

Improve/extend the exclusive northbound left-turn lane and southbound left-turn lane to consist of 200-foot storage and 200-foot taper

Rt. 17/Northgate Lane.
Improve/extend the existing exclusive northbound left-turn lane to consist of 400-foot storage and 200-foot taper.

8.7. Bike and Pedestrian Recommendations

At present, there are no VDOT bike/pedestrian current or future projects, but the County does require a multi-use trail with applicable site and subdivision plans, so there may be some instances where it is installed in spot locations. Hence, further study needs to be done to assess suitable locations for bike and pedestrian accommodations.

8.8. Concept Screening

Based on the preliminary operational analyses, feasibility and feedback from the SWG, Alternatives 1, 2 and 4 advanced to Build Conditions Analysis. These alternatives were also presented to the public for their feedback through a virtual public survey using MetroQuest platform. The virtual public survey results are discussed in the ***Section 10*** of the report. More detailed analysis, design and cost estimates were developed for these selected improvement projects.

Table 23 Concept Screening

Improvements	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Lane configuration change at Whippingham Parkway/Harbor Point Ln.	X			X	X
Lane configuration change at Eagle Harbor Parkway/Kings Cross	X			X	
Exclusive right-turn lane in the eastbound direction and an additional northbound left-turn lane at the intersection of Route 17 and Smiths Neck Road	X	X	X		X
Add an additional southbound left-turn lane at Route 17 and Smiths Neck Road intersection		X	X		X
Connect right-turn lane between Smiths Neck Road and Eagle Harbor Parkway along Route 17 in the southbound direction	X	X	X	X	X
RCUT at Route 17/Eagle Harbor Parkway/ Kings Cross		X	X		X
Through Cut at Route 17/Whippingham Parkway/Harbor Point Lane		X	X		
Construct a through lane in the southbound direction from Kings Cove Way to Route 258			X	X	X
Increase in storage lengths – Route 17 at Northgate Lane and Nike Park Extension	X	X	X	X	X
Install a traffic Signal at intersection of Route 17 at Northgate Lane	X	X	X	X	X
Advanced to Future Build Analysis	**Yes**	**Yes**	**No**	**Yes**	**No**

Figure 12 Alternative 1 Improvements Exhibit



Figure 13 Alternative 2 Improvements Exhibit



Figure 14 Alternative 3 Improvements Exhibit



Figure 15 Alternative 4 Improvements Exhibit



Figure 16 Alternative 5 Improvements Exhibit



9. Future Build 2030 and 2045 Analysis

Traffic operational and safety analyses were conducted to evaluate the overall performance of the study corridor under build (2030 & 2045) AM and PM peak hour conditions. The intent of the build conditions analysis was to evaluate the effectiveness of the selected improvement alternatives and understand how these improvements projects work in conjunction with one another to mitigate congestion and safety issues. Traffic operations analysis was performed using Synchro and SimTraffic 10.

9.1 Traffic Operations Analysis Assumptions

The no-build conditions Synchro models were used as a basis to develop the build models for the AM and PM peak hour conditions. Roadway geometry and traffic signal timing adjustments were made to reflect the improvement strategies set forth in the preferred build alternatives. The models were updated with the re-routed future traffic volumes to account for changing traffic patterns primarily due to the access management improvements in the build alternatives. At intersections with directional median openings or restricted movements, left-turn and through vehicles were re-routed to turn left at the nearest intersection if feasible (see ***Table 24***). Autoturn analysis was conducted to determine the feasibility and construction of loons if required. Detailed graphics from Autoturn analysis are provided in ***Appendix E-1***.

Table 24 Vehicle Rerouting Method and related Geometric Improvements

Intersection	Restricted movement	Re-routing Method	Geometric Improvements
Route 17 at Eagle Harbor Parkway (RCUT)/Kings Cross	WBL	Turn right and U-turn at the intersection of Route 17 and Whippingham Parkway	Construction of loon in the SW corner of intersection of Route 17/Whippingham Parkway/Harbor Point Lane
	WBT	Turn right and U-turn at the intersection of Route 17 and Whippingham Parkway and then turn right on Eagle Harbor Parkway	Construction of loon in the SW corner of intersection of Route 17/Whippingham Parkway/Harbor Point Lane
	EBL	Turn right and U-turn at the intersection of Route 17 and Smiths Neck Road	Construction of loon in the NE corner of intersection of Route 17 and Smiths Neck Road
	EBT	Turn right and U-turn at the intersection of Route 17 and Smiths Neck Road and then turn right on Kings Cross Road	Construction of loon in the NE corner of intersection of Route 17 and Smiths Neck Road
Route 17 at Whippingham Parkway/Harbor Point Lane	WBT	Turn left onto Route 17, make U-turn at Eagle Harbor Parkway and then turn left onto Harbor Point Lane	-
	EBT	Turn right and U-turn at intersection of Route 17 and Eagle Harbor Parkway and then turn right on Whippingham Parkway	-

Rerouting of traffic was performed for Alternative 2 which includes proposed RCUT and Thru-CUT improvements. For Alternatives 1 and 4, future 2030 & 2045 no-build volumes were used. The projected (2030 & 2045) AM and PM peak hour traffic volumes for the Build conditions of Alternative 2 are shown in ***Figure 17*** through ***Figure 20***.

Figure 17 Future 2030 AM Peak Hour Volumes - Alternative 2

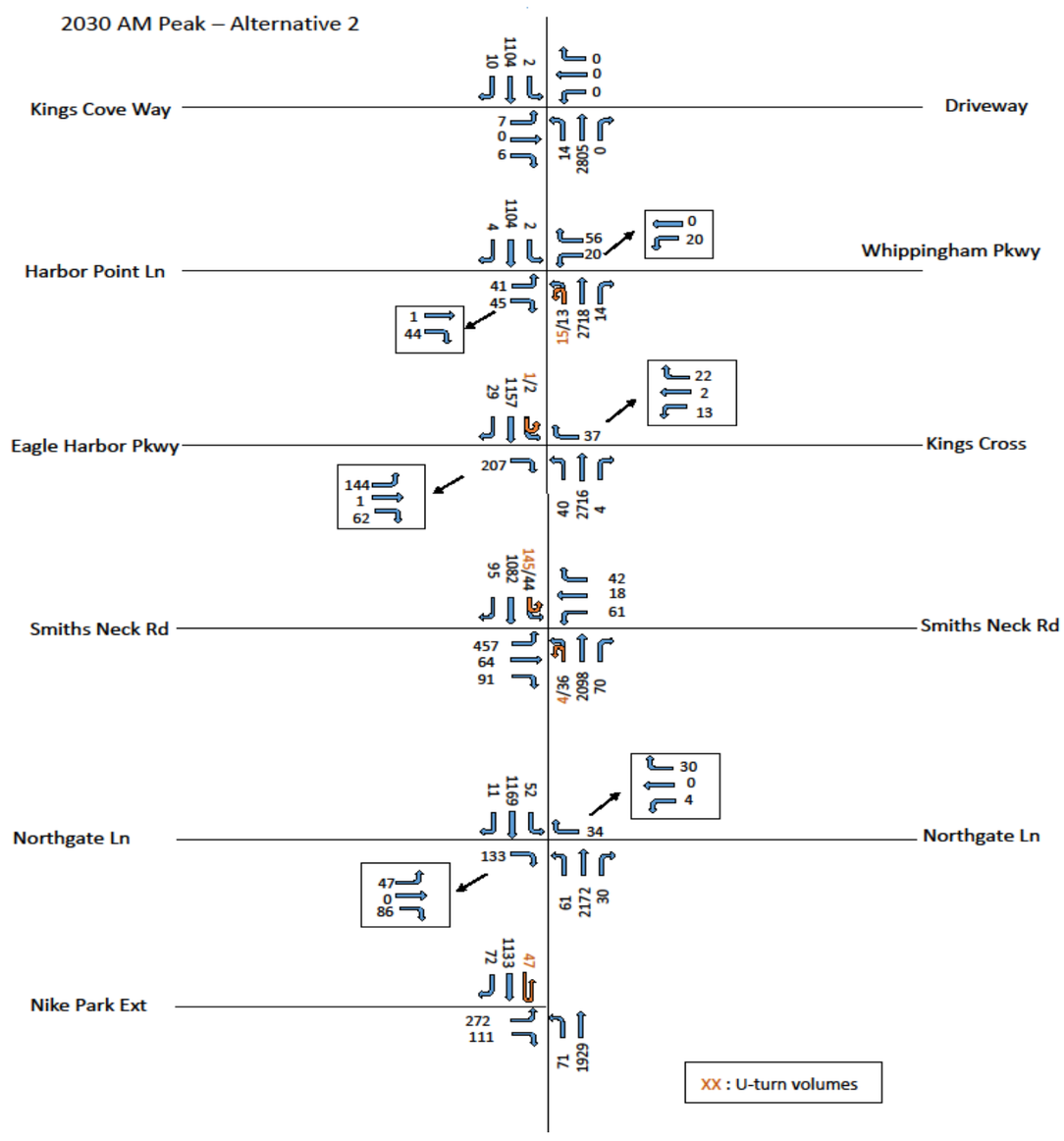


Figure 18 Future 2030 PM Peak Hour Volumes - Alternative 2

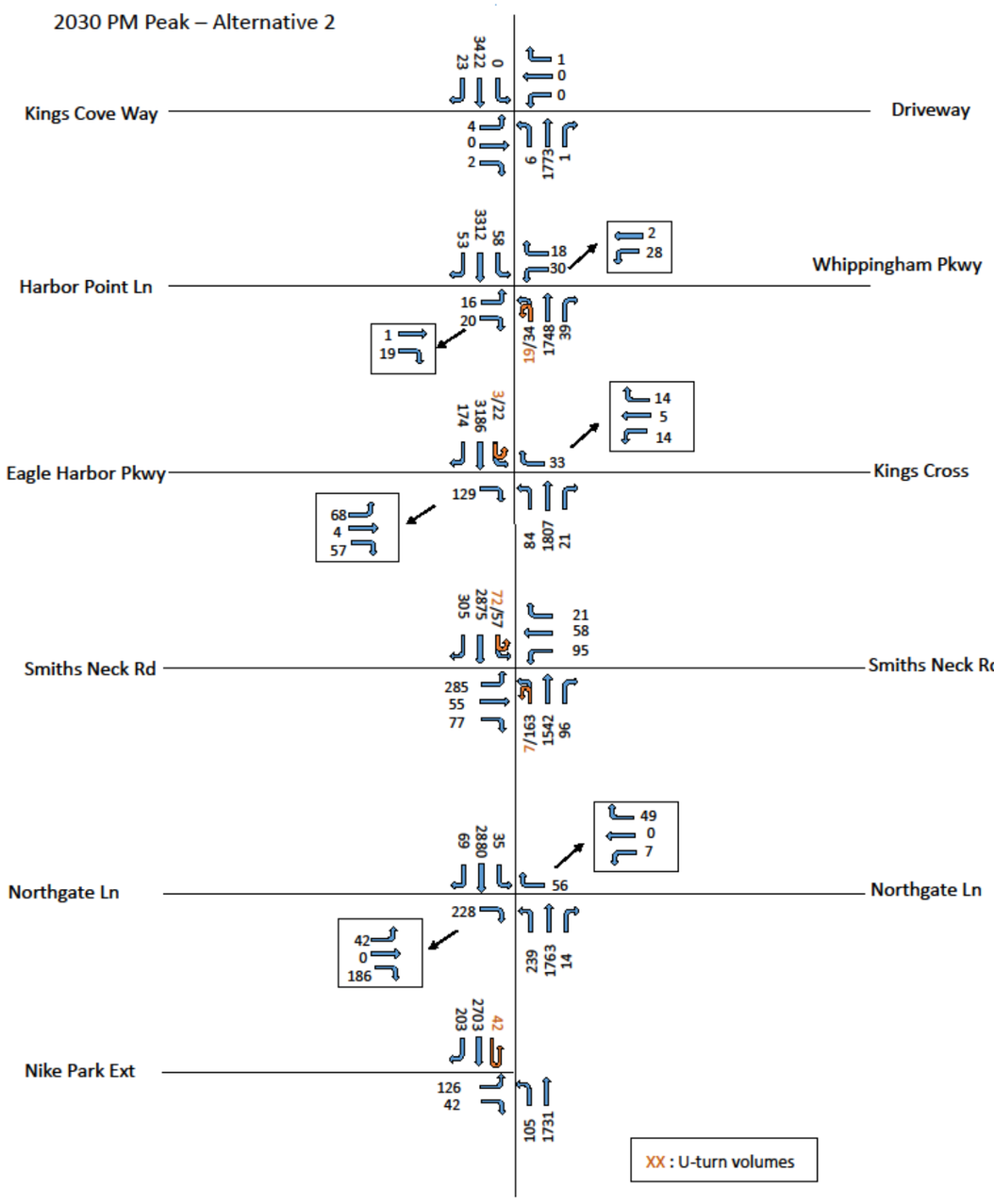


Figure 19 Future 2045 AM Peak Hour Volumes - Alternative 2

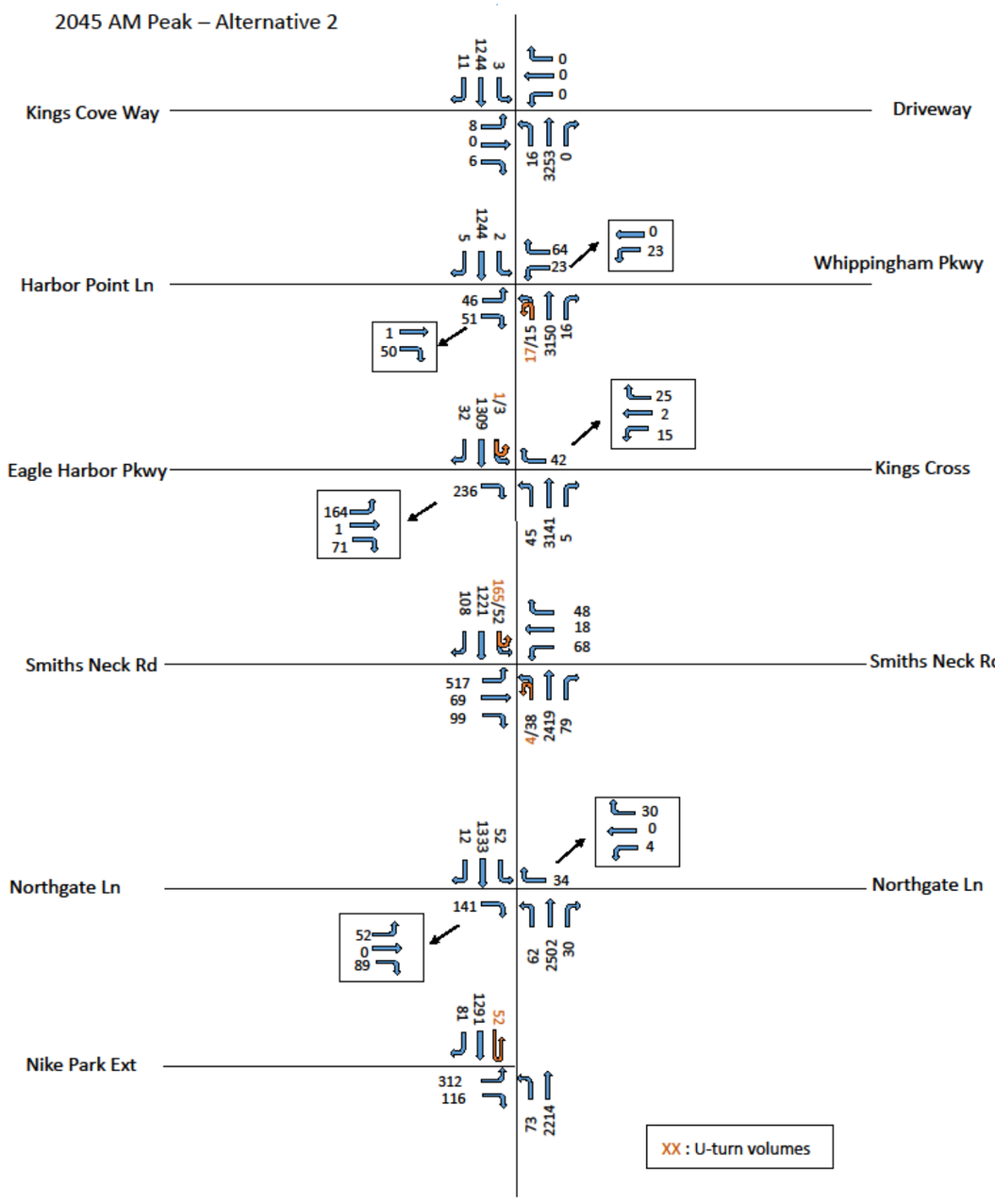
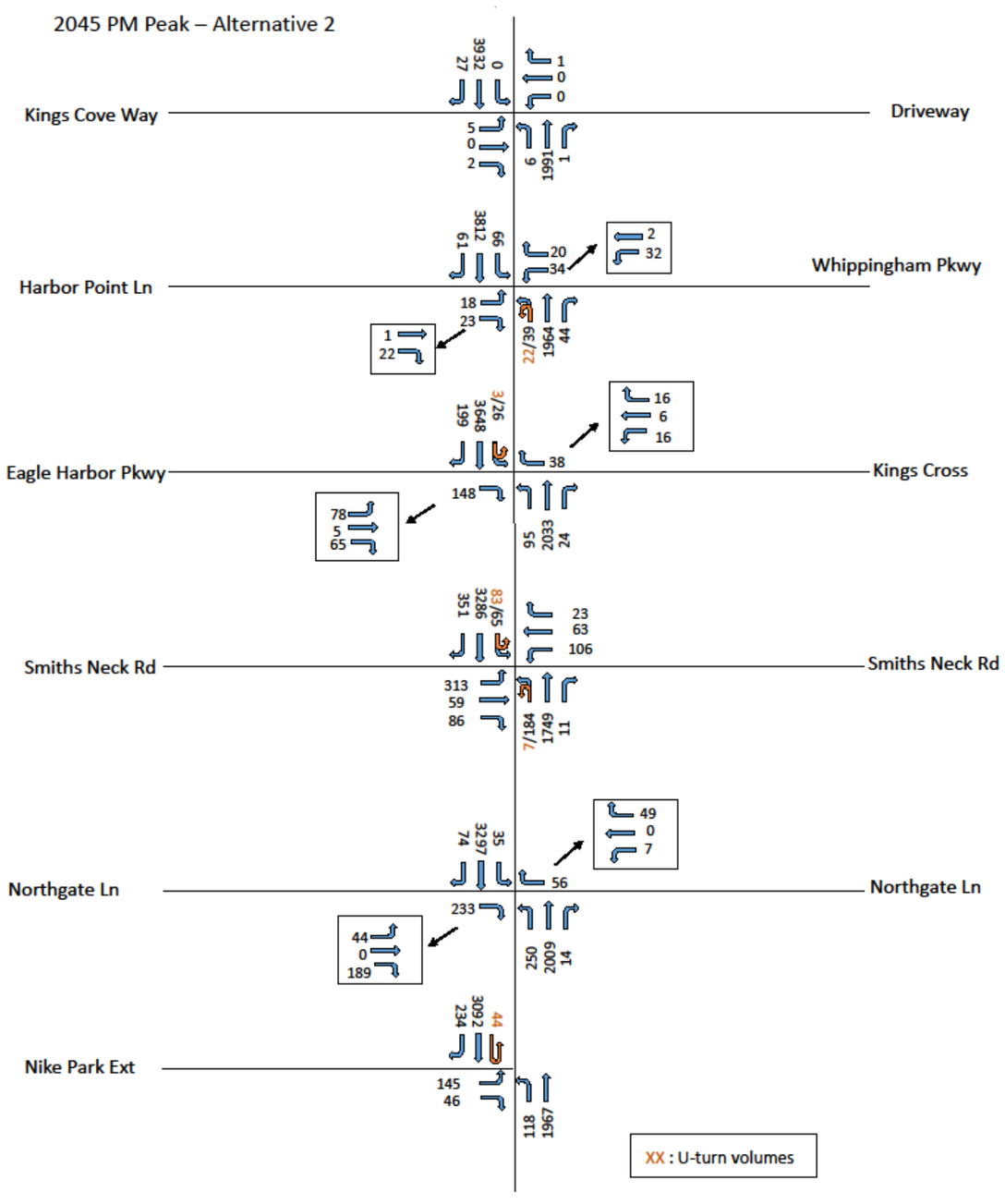


Figure 20 Future 2045 PM Peak Hour Volumes - Alternative 2



9.2 Traffic Analysis Results

The build conditions traffic analysis results are summarized in the following section of the report. The same methodologies used to analyze the existing and no-build conditions were also used to analyze the build conditions. Refer to ***Table 12*** for the delay thresholds associated with each LOS category for signalized and unsignalized intersections.

LOS and Delay Results

Capacity analysis results which includes delay and LOS results by lane group, approach, and intersection at each study for all the alternatives are summarized in ***Appendix E-2***. The corresponding Synchro output sheets are included in ***Appendix E-3*****.**

As shown in ***Table 25*** and ***Table 26***, Capacity results indicate that during 2030 and 2045 AM and PM peak hour conditions, all three alternatives are expected to operate at better LOS and/or show reduction in Control delay as compared to No-build conditions. During 2030 and 2045 AM peak hour conditions, Alternative 1 and 4 show similar delay reductions except during 2045 AM peak hour conditions where Alternative 1 show slightly better delay reduction than Alternative 4 at the intersection of Route 17 at Whippingham Parkway. Under Alternative 1 and 4, all the intersections operate at LOS E or better.

During 2030 & 2045 PM peak hour, Alternative 1 and 2 show similar LOS and Delay reduction results. Alternative 4 which includes widening option, shows the highest reduction in delay for all the intersections. Additionally, all the intersections operate at LOS B or better with the exception of Route 17 at Smiths Neck Road which operate at LOS E during 2045 PM Peak hour conditions. In the no-build conditions, all the intersections are expected to operate at LOS F in the year 2045.

Table 25 2030 LOS and Control Delay Comparison - Alternatives Vs No-Build

Intersection	2030 AM Peak hour								2030 PM Peak hour							
	No-Build		Alternative 1		Alternative 2		Alternative 4		No-Build		Alternative 1		Alternative 2		Alternative 4	
	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)
Route 17/ Harbor Point Lane/Whippingham Parkway	F	85.6	A	8.8	A	8.9	A	8.5	F	86.3	D	51.8	D	52.0	A	8.0
Route 17/Eagle Harbor Parkway/Kings Cross	F	116.5	B	19.7	B	15.1	B	19.6	F	105.5	E	74.2	E	72.1	B	13.1
Route 17/Smiths Neck Road	E	76.2	D	46.4	E	65.7	D	46.7	F	161.1	F	83.0	F	85.0	D	37.8
Route 17/Northgate Lane*	-	-	B	12.7	B	12.3	B	12.2	-		E	73.9	E	68.5	B	14.8
Route 17/Nike Park Ext.	C	25.7	C	23.8	C	25.1	C	25.8	D	39.2	C	31.8	D	35.6	B	12.0

Intersection of Route 17 and Northgate Lane is unsginalized during No-build conditions and signalized during build conditions.

Table 26 2045 LOS and Control Delay Comparison - Alternatives Vs No-Build

Intersection	2045 AM Peak hour								2045 PM Peak hour							
	No-Build		Alternative 1		Alternative 2		Alternative 4		No-Build		Alternative 1		Alternative 2		Alternative 4	
	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)
Route 17/ Harbor Point Lane/Whippingham Parkway	F	148.1	C	34.1	C	34.5	D	43.0	F	141.6	F	98.8	F	99.2	B	11.1
Route 17/Eagle Harbor Parkway/Kings Cross	F	186.9	E	58.3	E	70.8	E	58.4	F	166.1	F	125.3	F	124.9	B	20.0
Route 17/Smiths Neck Road	F	122.9	E	72.1	F	98.3	E	73.1	F	228.6	F	128.5	F	129.3	E	60.1
Route 17/Northgate Lane	-	-	B	14.9	B	15.3	B	13.1	-	-	F	115.8	F	110.5	B	17.6
Route 17/Nike Park Ext.	D	36.2	C	28.7	C	30.2	C	29.7	F	80.6	E	71.6	E	75.9	B	13.3

Intersection of Route 17 and Northgate Lane is unsginalized during No-build conditions and signalized during build conditions.

Queuing Results

Queuing analysis was completed for the study intersections during the AM and PM peak hours for 2030 & 2045 Build conditions. *SimTraffic* Maximum Queue Lengths in feet were reported for each lane. ***Table 27*** through ***Table 32*** summarizes the maximum queue lengths during the 2030 and 2045 AM and PM peak hours. Improvements were developed with the focus to reduce congestion in the southbound direction during PM peak hours. It is observed that:

- Under Alternative 1, during 2030 and 2045 PM peak hour conditions, queueing is observed in the southbound direction at the intersection of Route 17 at Kings Cove Way, Harbor Point Lane and Eagle Harbor Parkway. Additionally, southbound right-turn movements at intersections of Route 17 at Nike Park Ext. and Northgate Lane exceeds storage lengths.
- Under Alternative 2, during 2030 and 2045 PM peak hour conditions, southbound queuing is observed at the intersections of Route 17 at Kings Cove Way, Whippingham Parkway, Eagle Harbor and Smiths Neck Road. Additionally, at the intersection of Route 17 at Nike Park Ext. and Northgate Lane, southbound right-turn movements exceed storage lengths. Southbound left-turn movements exceed storage length at intersection of Route 17 and Northgate Lane during 2045 PM peak hour conditions.
- Alternative 4 is not expected to have queues along Route 17 in the southbound direction that spill back to upstream intersection during 2030 & 2045 PM peak hour conditions with the exception of southbound left-turn movements that exceed storage length. This alternative significantly reduces queues in the southbound direction during PM peak hour conditions as compared to the no-build conditions.
- Under all three alternatives, queueing is observed in the northbound direction at the intersections of Route 17 at Nike Park Extension, Northgate Lane and Smiths Neck Road during 2045 AM peak hour conditions.
- Under all three alternatives, queuing is observed at the intersection of Route 17 and Smiths Neck Road in the eastbound direction during 2045 AM and PM peak hour conditions.

Table 27 2030 Build Alternative 1 Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	143	182	-	-	18	264	21	115	317	18	-
		Through	-			-	-		-	-	45	-	-	1493
		Right	-			-	-		-	-	-	-	-	
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	139	73	-	86	93	271	51	82	269	18	268
		Through	-	79	74	-	133	43	-	254	194	-	140	2802
		Right	170			550			205	22	29	214	3	214
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	347	172	-	48	64	250	134	192	306	21	203
		Through	-	79	154	-	84	61	-	666	277	-	282	1127
		Right	220			65			243	-	28	228	114	228
Route 17/Smiths Neck Road	Signal	Left	465	525	656	212	128	176	450	60	307	450	158	392
		Through	-	131	324		136	279	-	968	291	-	395	838
		Right	-	105	328	150	115	107	238	238	200	344	31	53
Route 17/Northgate Lane	Signal	Left	-	-	-	-	-	-	500	216	499	300	140	266
		Through	-	-	-	-	-	-	-	382	1268	-	166	695
		Right	-	114	512	-	92	80	300	29	23	200	26	200
Route 17/Nike Park Ext.	Signal	Left	-	264	173	-	-	-	300	299	272	300	182	94
		Through	-	-	-	-	-	-	-	543	367	-	352	864
		Right	-	100	100	-	-	-	-	-	-	300	160	300

'-'Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

Table 28 2045 Build Alternative 1 Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	321	173	-	-	12	264	17	92	317	18	-
		Through	-			-	-		-	548	-	-	-	1499
		Right	-			-	-		-	-	-	-		
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	150	64	-	57	101	271	111	85	269	24	268
		Through	-	78	97	-	156	55	-	358	224	-	130	2814
		Right	170			550			205	17	28	214	9	214
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	450	178	-	61	69	250	249	212	306	25	305
		Through	-	170	142	-	69	65	-	665	302	-	219	1126
		Right	220			65			243	105	66	228	68	228
Route 17/Smiths Neck Road	Signal	Left	465	1084	465	212	135	177	450	499	318	450	240	387
		Through	-	945	1149		131	465	-	1253	343	-	345	832
		Right	-	548	753	150	128	150	238	238	200	344	34	59
Route 17/Northgate Lane	Signal	Left	-	-	-	-	-	-	500	500	500	300	140	177
		Through	-	-	-	-	-	-	-	1974	1867	-	219	828
		Right	-	144	576	-	79	104	300	300	19	200	29	200
Route 17/Nike Park Ext.	Signal	Left	-	347	210	-	-	-	300	300	300	300	143	151
		Through	-	-	-	-	-	-	-	1124	1077	-	278	757
		Right	-	108	115	-	-	-	-	-	-	300	94	298

'-'Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

Table 29 2030 Build Alternative 2 Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	169	128	-	-	23	264	30	68	317	11	
		Through	-			-	-		-	-	-	-	-	1492
		Right	-			-	-		-	-	-	-	-	
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	158	90	-	72	131	271	56	122	269	13	268
		Through	-	-	-	-	-	-	-	186	206	-	135	2822
		Right	170	55	76	550	140	31	205	17	28	214	4	214
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	-	-	-	-	-	250	90	189	306	28	253
		Through	-	-	-	-	-	-	-	524	208	-	190	1108
		Right	220	250	248	65	97	82	243	14	16	228	30	228
Route 17/Smiths Neck Road	Signal	Left	465	642	777	212	120	173	450	499	386	500	403	449
		Through	-	134	326		112	376	-	1244	430	-	649	992
		Right	-	84	164	150	109	128	238	238	162	344	36	261
Route 17/Northgate Lane	Signal	Left	-	-	-	-	-	-	500	325	500	300	132	215
		Through	-	-	-	-	-	-	-	1009	1168	-	177	740
		Right	-	139	387	-	95	110	300	244	71	200	63	200
Route 17/Nike Park Ext.	Signal	Left	-	304	178	-	-	-	300	299	287	300	256	193
		Through	-	-	-	-	-	-	-	645	490	-	393	838
		Right	-	100	98	-	-	-	-	-		300	192	300

'--' Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

Table 30 2045 Build Alternative 2 Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	208	183	-	-	12	264	27	90	317	23	-
		Through	-			-	-		-	-	-	-	-	1505
		Right	-			-	-		-	-	-	-	-	-
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	172	98	-	72	243	271	61	116	269	29	268
		Through	-	-	-	-	-	-	-	411	228	-	123	2842
		Right	170	62	93	550	150	39	205	12	30	214	3	214
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	-	-	-	-	-	250	214	187	306	82	208
		Through	-	-	-	-	-	-	-	578	293	-	647	1107
		Right	220	453	254	65	126	73	243	22	40	228	142	228
Route 17/Smiths Neck Road	Signal	Left	465	1140	1026	212	140	177	450	499	340	500	503	448
		Through	-	1140	752		132	473	-	1246	455	-	920	945
		Right	-	1128	549	150	119	150	238	238	163	344	432	247
Route 17/Northgate Lane	Signal	Left	-	-	-	-	-	-	500	500	500	300	155	299
		Through	-	-	-	-	-	-	-	1983	1995	-	222	770
		Right	-	122	382	-	108	118	300	300	67	200	56	200
Route 17/Nike Park Ext.	Signal	Left	-	316	277	-	-	-	300	300	300	300	167	235
		Through	-	-	-	-	-	-	-	1140	1039	-	275	911
		Right	-	120	124	-	-	-	-	-	-	300	88	300

'--' Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

Table 31 2030 Build Alternative 4 Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	159	139	-	-	18	264	13	118	317	14	-
		Through	-			-	-		-	-	-	-	-	1562
		Right	-			-	-		-	-	-	-	-	
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	137	64	-	81	81	271	55	102	269	9	79
		Through	-	91	90	-	112	47	-	333	171	-	88	240
		Right	170			550			205	12	22	214	9	102
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	361	191	-	51	56	250	170	207	306	25	49
		Through	-	165	104	-	86	54	-	654	333	-	161	358
		Right	220			65			243	8	114	228	31	227
Route 17/Smiths Neck Road	Signal	Left	465	480	376	212	141	202	450	499	467	450	114	324
		Through	-	266	412		122	299	-	1141	618	-	278	706
		Right	-			150	104	150	238	238	238	344	49	93
Route 17/Northgate Lane	Signal	Left	-	-	-	-	-	-	500	198	441	300	120	67
		Through	-	-	-	-	-	-	-	503	376	-	244	382
		Right	-	100	350	-	93	88	300	69	11	200	34	64
Route 17/Nike Park Ext.	Signal	Left	-	274	140	-	-	-	300	299	277	300	139	170
		Through	-	-	-	-	-	-	-	597	366	-	267	285
		Right	-	98	86	-	-	-	-	-	-	300	96	113

'-'Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

Table 32 2045 Build Alternative 4 Summary of Maximum Queues (in ft.)

Intersection Name	Type of Control	Lane Group	Eastbound			Westbound			Northbound			Southbound		
			Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)	Storage Bay Distance	AM Queue (ft.)	PM Queue (ft.)
Route 17/Kings Cove Way	Two-Way Stop	Left	-	339	239	-	-	6	264	22	133	317	28	-
		Through	-			-	-		-	-	-	-	-	444
		Right	-			-	-		-	-	-	-	-	
Route 17/ Harbor Point Lane/Whippingham Parkway	Signal	Left	-	150	81	-	69	82	271	77	106	269	19	86
		Through	-	79	64	-	157	50	-	817	132	-	83	242
		Right	170			550			205	131	16	214	3	58
Route 17/Eagle Harbor Parkway/Kings Cross	Signal	Left	-	449	193	-	57	82	250	249	204	306	23	56
		Through	-	118	162	-	81	63	-	605	334	-	163	372
		Right	220			65			243	10	27	228	37	228
Route 17/Smiths Neck Road	Signal	Left	465	1155	452	212	161	206	450	499	500	450	236	188
		Through	-	970	752		245	484	-	1260	928	-	186	586
		Right	-			150	136	150	238	238	238	344	34	80
Route 17/Northgate Lane	Signal	Left	-	-	-	-	-	-	500	500	492	300	103	82
		Through	-	-	-	-	-	-	-	1966	934	-	172	978
		Right	-	108	378	-	93	144	300	300	12	200	21	107
Route 17/Nike Park Ext.	Signal	Left	-	431	184	-	-	-	300	300	299	300	146	120
		Through	-	-	-	-	-	-	-	1123	479	-	207	533
		Right	-	92	107	-	-	-	-	-	-	300	88	251

'-'Storage Bay Length not provided or the movements do not exist.
Red text indicates queue lengths that exceed the available storage lengths or link distance.

Travel Time Analysis Results

Travel time analyses were conducted using SimTraffic to analyze mobility throughout the study corridor under Existing, No-Build, and Build conditions. The analyses evaluated how well the Study recommendations addressed the need to improve progression and operations on Route 17. The travel time was recorded for each analysis period and summarized in ***Table 33***. Under all three alternatives, southbound direction of travel was projected to experience a decrease in travel time in PM peak hour compared to No-Build conditions. Alternative 4 shows the highest reduction in southbound travel time for Route 17 in 2045 PM peak hour conditions. Additionally, under all three alternatives, northbound direction of travel is projected to experience reduction in travel time during AM peak hour conditions. During 2045 AM peak hour, Alternative 4 shows highest travel time reduction in the northbound direction.

Table 33 Travel Time Comparison: No-Build Vs Build Conditions

		Projected Travel Time (in seconds)			
Analysis Period	**Direction**	**No-Build**	**Alternative 1**	**Alternative 2**	**Alternative 4**
2030 AM	NB Route 17	535	256	296	266
	SB Route 17	199	185	188	190
2030 PM	NB Route 17	212	195	210	190
	SB Route 17	1685	888	880	479
2045 AM	NB Route 17	945	494	634	477
	SB Route 17	208	181	214	180
2045 PM	NB Route 17	338	334	344	221
	SB Route 17	2400	1375	1369	899

9.3 Safety Analysis

Crash modification factors (CMFs) were used to determine the potential safety benefits of the recommended improvements. CMFs were chosen from the approved list of CMFs used for the VDOT SMART SCALE safety scoring process and Clearing house. The best applicable CMF was applied to crashes in the influence area of each intersection. The applicable CMFs and potential safety benefits of the recommended improvements are documented in ***Table 34***.

Table 34 Crash Reduction Analysis of Proposed Improvements

Intersection	Improvement	Crash Type	Crash Severity	CMF	Reduction in Crashes (within 5 years)	Reference
Route 17 at Smiths Neck Road	Addition of EBR turn lane	All	K, A, B, C	0.91	2.52	CMF ID: 288
Route 17 at Smiths Neck Road	Addition of NBL turn lane and SBL turn lane	All	All	0.76	14.16	CMF ID: 263
Route 17 at Smiths Neck Road	Connect two right turn lanes between Smiths Neck and Eagle Harbor Pkwy	All	All	0.85	4.8	FHWA Desktop Reference
Route 17 at Northgate Drive.	Install a traffic signal at Northgate Drive	All	All	0.95	0.25	CMF ID: 322
Route 17 at Northgate Drive.	Extend northbound left-turn lane	All	K, A, B, C	0.85	0.15	FHWA Desktop Reference
Route 17 at Smiths Neck Road	Addition of NBL turn lane and SBL turn lane	All	All	0.76	14.16	CMF ID: 263
Route 17 at Eagle Harbor Parkway/Kings Cross	Convert Route 17 at Eagle Harbor Parkway/Kings Cross into signalized RCUT	All	K, A, B, C	0.78	1.1	CMF ID: 9985
Corridor Wide	Add a through lane in the SB direction from Kings Cove Way to Route 258	All	All	0.85	24.15	CMF ID: 7924

10. Virtual Public Survey Results

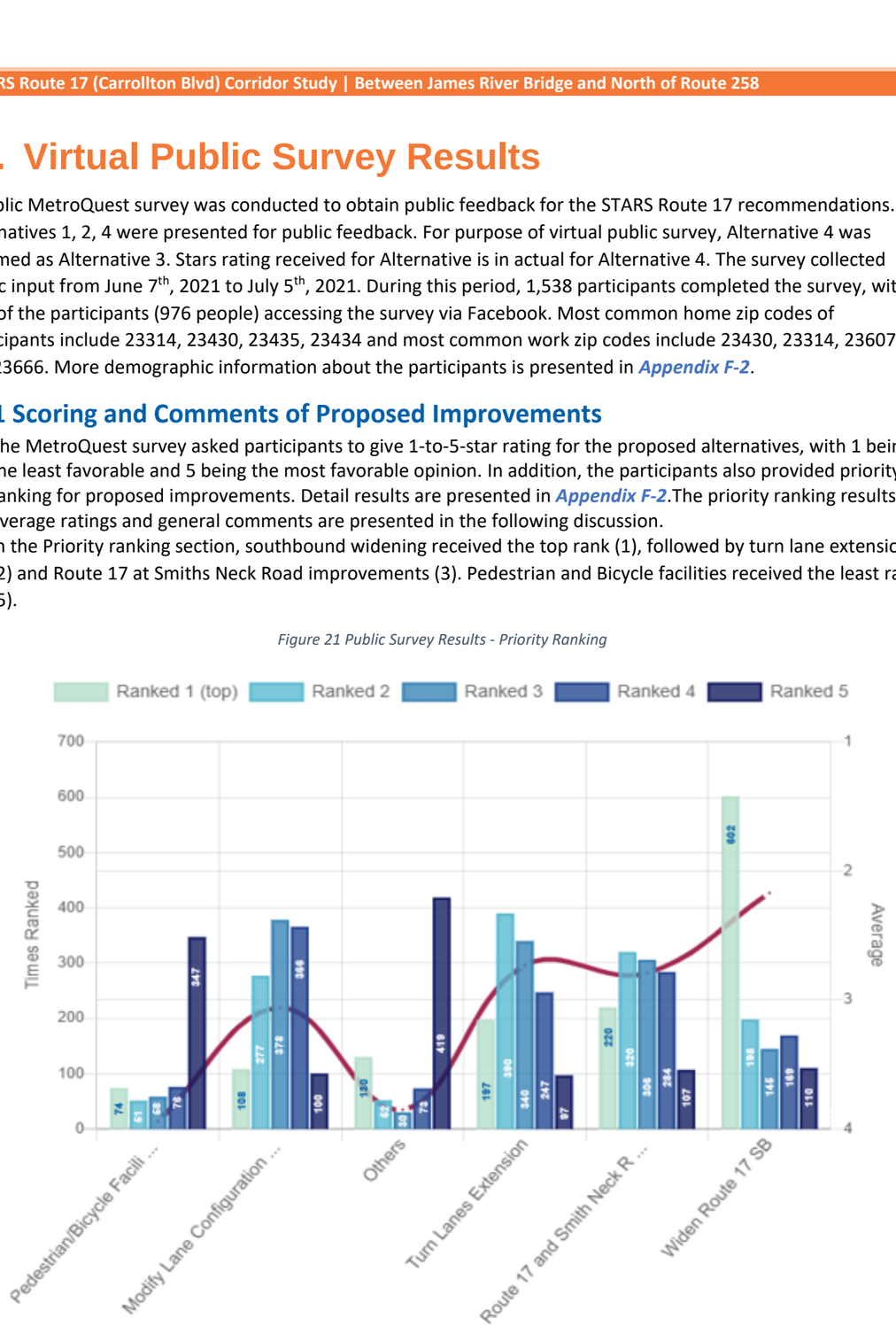
A public MetroQuest survey was conducted to obtain public feedback for the STARS Route 17 recommendations. Alternatives 1, 2, 4 were presented for public feedback. For purpose of virtual public survey, Alternative 4 was renamed as Alternative 3. Stars rating received for Alternative is in actual for Alternative 4. The survey collected public input from June 7th, 2021 to July 5th, 2021. During this period, 1,538 participants completed the survey, with 63% of the participants (976 people) accessing the survey via Facebook. Most common home zip codes of participants include 23314, 23430, 23435, 23434 and most common work zip codes include 23430, 23314, 23607, and 23666. More demographic information about the participants is presented in ***Appendix F-2***.

10.1 Scoring and Comments of Proposed Improvements

The MetroQuest survey asked participants to give 1-to-5-star rating for the proposed alternatives, with 1 being the least favorable and 5 being the most favorable opinion. In addition, the participants also provided priority ranking for proposed improvements. Detail results are presented in ***Appendix F-2***.The priority ranking results, average ratings and general comments are presented in the following discussion.

In the Priority ranking section, southbound widening received the top rank (1), followed by turn lane extensions (2) and Route 17 at Smiths Neck Road improvements (3). Pedestrian and Bicycle facilities received the least rank (5).

Figure 21 Public Survey Results - Priority Ranking

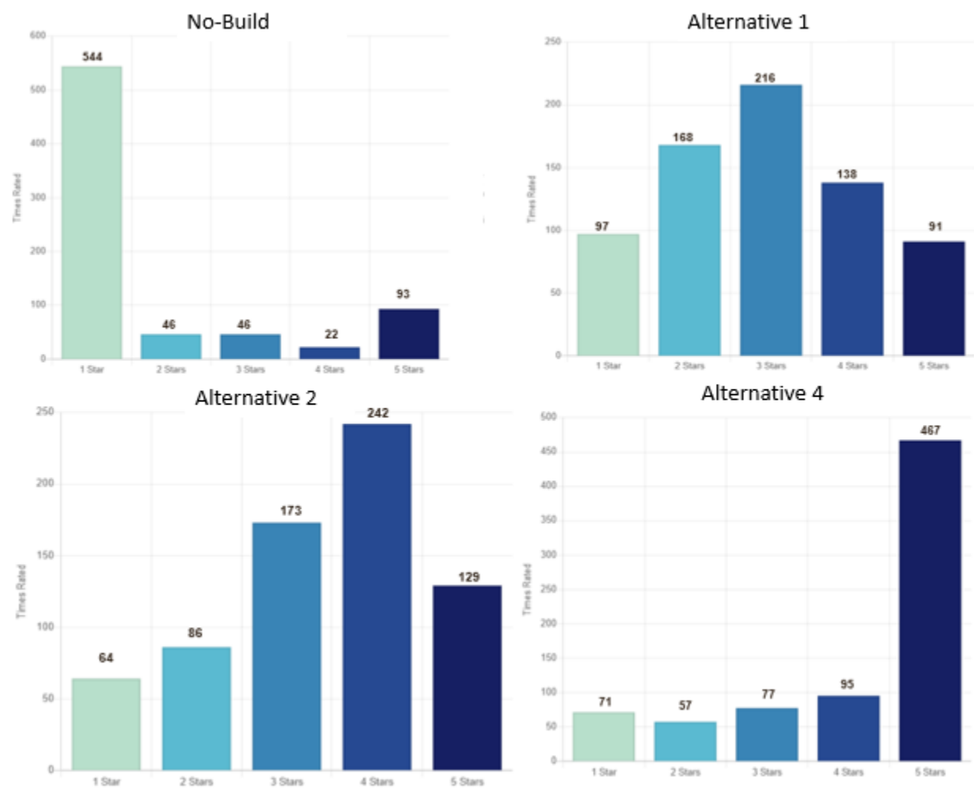


In the average ratings section, three alternatives along with no-build scenario were presented in the survey to solicit public feedback based on the County's decision. The ratings of these three alternatives is discussed below:

The No-Build conditions received 1 star rating 72% of the times it was rated. This scenario had 13 comments which indicated something needs to be done to improve traffic conditions in the area, especially with all the proposed development coming in the near future.

Alternative 1 received 3 stars rating 30% of the times it was rated. There were 9 comments on this option. Some of the comments described it as a great option and like the idea of turn lane extensions. However, there was a concern about increasing the travel time in the northbound direction during PM peak hour conditions and the addition of new traffic lights within the study corridor. Alternative 2 received 4 stars rating 35% of the times it was rated. There were 8 comments on this option which indicated these are good improvements at a more feasible cost. Alternative 4 received 5 stars rating 61% of the times it was rated. The average stars rating of these alternatives is shown below. It should be noted that the five stars rating is better than 1 star rating.

Figure 22 Public Survey Results - Stars Rating



11. Conceptual Design & Cost Estimates

Conceptual designs and planning-level cost estimates were developed for each of the three selected alternatives and discussed below:

11.1 Conceptual Design

Conceptual designs were developed in MicroStation OpenRoads for improvement projects along the Route 17 corridor in accordance with the following applicable guidelines:

- A Policy on Geometric Design of Highways and Streets (AASHTO 2011)
- VDOT Road Design Manual (Issued January 2005, Revised July 2016)
- VDOT Road and Bridge Standards (VDOT 2016, latest revisions)
- Manual on Uniform Traffic Control Devices (MUTCD 2009)
- 2011 Virginia Supplement to the MUTCD
- Design Manual for the Henrico County Department of Public Works

Design criteria and guidance from these documents were applied to roadways within the project limits based on functional classification and roadway design speeds, in concurrence with the VDOT Road Design Manual. All single-lane left-turn movements and U-turns were designed to accommodate the turning radius for a WB-67 vehicle (loons provided where appropriate). All dual-lane left-turn movements were designed to accommodate two concurrent turning vehicles – a SU-40 in the inside lane and a WB-67 in the outside lane. All pedestrian refuges will need to be designed at a minimum of six feet wide; however, the existing median widths at several locations are narrower than six feet. The minimum width for the pedestrian refuge can be obtained by narrowing lane widths by up to one foot. Design to this level of detail was not included in the conceptual design drawings. Curb Ramps (Std. CG-12) are shown at each side street, but were not included across each public/private entrance.

11.2 Planning-Level Cost Estimates

A refined planning-level cost estimate, in 2021 dollars, was developed for all selected improvement projects. A variable percentage preliminary engineering (PE) cost was included, ranging from 16 to 20 percent of construction costs, including contingency. For projects with anticipated right-of-way and/or utility impacts, right-of-way and utility relocation costs were estimated on a project-by-project basis based on the size and complexity of the project, as well as the existing right-of-way limits. Construction (CN) costs were estimated using a combination of design software quantity take-offs, the Transportation and Mobility Planning Division Statewide Planning Level Cost Estimate Spreadsheet, and recent bid costs. In addition, the construction cost included an additional 40 percent contingency of the base roadway construction cost, 20 percent for construction engineering and inspection (CEI), and a 5 percent incentive. ***Table 35*** summarizes the preliminary engineering (PE); right-of-way and utility relocation (RW); construction (CN); and total planning level cost estimates for each improvement project. A more detailed breakdown of the planning level cost estimates is provided in ***Appendix E-5***.

Table 35 Planning-Level Cost Estimates

Improvement	Cost Estimate (2021 dollars)			
	PE	RW	CN	Total
Alternative 1	$ 900,000	$ 922,000	$ 4,300,000	$ 6,100,000
Alternative 2	$ 1,200,000	$ 1,500,000	$ 5,900,000	$ 8,500,000
Alternative 4	$ 2,100,000	$ 5,000,000	$ 13,200,000	$ 20,200,000

12. Project Advancement

This Study should be used as a planning tool to achieve the next steps of planning, programming, designing, and constructing the identified safety and operational improvements in the study corridor. The alternatives identified in the study and the public survey results were presented to the Board of Supervisors on December 9th, 2021 to bring them up to date with the study efforts. With thorough and expansive public involvement efforts of the study, the options put forth demonstrate broad support for Alternative 4, which includes widening of Route 17 in the southbound direction. Based on operational analysis, Alternative 4 is expected to have huge operational benefits in terms of mitigating congestion on Route 17 in the southbound direction during PM peak period. Additionally, intersection of Route 17 and Smiths Neck Road improvements significantly improve traffic operations at this intersection and is also the immediate need. Hence, it is recommended that along with Alternative 4, the improvements at the intersection of Route 17 and Smiths Neck Road should be considered for further development and engineering.

12.1 Prioritize Projects and Apply for Funding

Improvement projects should be prioritized on a local and regional level. Prior to submitting funding applications, applicant must have one of the following:

1. Inclusion of proven consistency with the Constrained Long-Range Transportation Plan (CLRP)
2. Resolution of support from governing body

The following funding sources should be considered for improvement projects identified in this study:

- **Revenue Sharing** – a program that provides a dollar for dollar state match to local funds for transportation projects. Projects eligible for Revenue Sharing funds include construction, reconstruction, improvement, and maintenance projects.
- **Highway Safety Improvement Program (HSIP)** – a program that provides funding for improvements that correct or improve safety on a section of roadway or intersection with a high incidence of crashes.
- **SMART SCALE** – a program that allocates funding from the construction District Grants Program (DGP) and High-Priority Projects Program (HPPP) to transportation projects. SMART SCALE uses a scoring process that evaluates, scores, and ranks project applications based on six measures: congestion mitigation, economic development, accessibility, safety, environmental quality, and land use. All proposed projects included in this study are eligible for SMART SCALE funding.

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
Development Activity Report - March 2022	Activity Report	3/9/2022
Incidents by Zone Data - February 2022	Backup Material	3/1/2022
Incidents by Zone Map - February 2022	Backup Material	3/1/2022
Station Activity Report - February 2022	Backup Material	3/1/2022
Website Statistics - February 2022	Backup Material	3/1/2022
Museum Report - February 2022	Backup Material	3/2/2022

ISLE OF WIGHT COUNTY PLANNING AND ZONING

APPLICATION LOG 2022

Date Received	Application Type	Project Title	Case Number	Munis #	Tax Map #	Project Address
1/3/2022	Simplified Site Plan	Berry Hill Cell Tower	SP-28-21	25327	21-01-002	10683 BERRY HILL
1/3/2022	Conditional Use Permit	Heritage Acc Apartment	CUP-01-22	24963	34-01-106B	23321 SUGAR HILL
1/5/2022	JPA	Charter Cypress Creek	W-1-22	25338	21A-01-452	S CHURCH ST
1/5/2022	JPA	Verizon Cypress Creek	W-2-22	25341	21A-01-452	S CHURCH ST
1/6/2022	JPA	AT&T Cypress Creek	W-4-22	25347	21A-01-452	S CHURCH ST
1/13/2022	Exception	Heritage Height Exception	EXC-1-22	24963	34-01-106B	SUGAR HILL
1/14/2022	JPA	Walters Hwy Driveway	W-3-22	25391	53-01-091	WALTERS HWY
1/14/2022	Family Member Transfer	Walker Family Transfer	SUB-46-21	25405	48-01-050	ORBIT RD
1/19/2022	BLA	FOSTER BLA	SUB-1-22	25409	60-01-017	SUNSET DR
1/20/2022	ZONING CERT LETTER	BG Updated Cert Letter	MISC-1-22	25415	32-01-082	BENNS CHURCH
1/20/2022	SITE PLAN AMENDMENT	THE HERITAGE	SP-1-22	21565	34-01-106B	SUGAR HILL
1/26/2022	FMT	MONROE/BOSTIE FMT	SUB-2-22	25442	53-01-010	W BLACKWATER RD
1/27/2022	SITE PLAN AMENDMENT	BG CLUBHOUSE TRAIL	SP-2-22	25450	32-01-075A	OAK HILL LN
1/27/2022	BLA	GALFORD BLA	SUB-3-22	25455	60-01-008A	SPIVEY TOWN RD
1/28/2022	BLA	BAILEY BLA	SUB-4-22	25458	23B-02-143	TALL HO DR
2/11/2022	ZONING CERT LETTER	17466 BENNS CHURCH	MISC-2-22	25536	42-01-007B1	BENNS CHURCH
2/11/2022	Hardy Line Relocation	Hardy Circle	SP-3-22	25543	13B-02-A003	HARDY CIR
2/16/2022	JPA	LIVING SHORELINE	W-5-22	25559	22-08-003	MOONEFIELD DR
2/23/2022	Simplified Site Plan	VIRGINIA HAIR & NAIL	SP-4-22	25475	53-03-001	WINDSOR BLVD
2/24/2022	SUBDIVISION	CUT THRU SUBDIVISION	SUB-5-22	24324	46-01-024	CUT THRU RD
3/1/2022	Water Line Extension	Route 10	SP-5-22	25637	13B-02-A003	Route 10
3/1/2022	Rte 10 AMENDED ES PLAN	SHIRLEY T HOLLAND	SP-6-22	25614	54-01-082	OLD SUFFOLK RD
3/1/2022	SITE PLAN AMENDMENT	IWCS LANDSCAPE	SP-7-22	25639	39-01-014A	POOR HOUSE RD
3/2/2022	JPA	BOAT DOCK/PIER	W-6-22	25646	21A-01-407	S CHURCH ST
3/2/2022	Conditional Zoning Amend	Sawco South Self Storage	Z-11-21		34-01-108 & 108B	Route 17
3/4/2022	CBPA	KITZ RPA MODIFICATION	CBPA-1-22	25659	23F-04-040	SHALLOWFORD CIR

ISLE OF WIGHT

Incidents by Zone

Agency: IWFR, Event date/Time range: 02/01/2022 00:00:00 - 02/28/2022 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
	MEDIC STANDBY	1	0	1	100%	0:00:00	0:00:00	0:00:22	0:00:22	0:00:22
	Subtotals for EMS	**1**	**0**	**1**	**100%**	**0:00:00**	**0:00:00**	**0:00:22**	**0:00:22**	**0:00:22**
	Totals for	**1**	**0**	**1**	**100%**	**0:00:00**	**0:00:00**	**0:00:22**	**0:00:22**	**0:00:22**
1010	ABDOMINAL PAIN	1	3	4	4%	0:01:25	0:06:31	1:14:12	5:20:34	1:20:09
	ACCIDENT UNKNOWN INJURIES	0	7	7	7%	0:01:40	0:04:03	0:33:07	3:28:05	0:29:44
	ACCIDENT WITH ENTRAPMENT	0	1	1	1%	0:01:52	0:05:17	1:51:17	1:58:26	1:58:26
	ACCIDENT WITH INJURIES	0	1	1	1%	0:00:45	0:07:11	0:24:33	0:32:29	0:32:29
	ALARM - MEDICAL	0	4	4	4%	0:02:30	0:09:00	0:35:25	3:07:39	0:46:55
	ALLERGIC REACTIONS	0	2	2	2%	0:01:27	0:07:19	0:59:34	2:16:41	1:08:21
	BLEEDING/HEMORRHAGING	0	1	1	1%	0:01:30	0:07:37	1:00:09	1:09:16	1:09:16
	CARDIAC ARREST	0	1	1	1%	0:01:23	0:02:29	1:22:15	1:26:07	1:26:07
	CHEST PAIN	0	6	6	6%	0:01:27	0:07:10	1:22:57	9:09:22	1:31:34
	CHILD OR ANIMAL LOCKED IN CAR	0	1	1	1%	0:00:10	0:04:49	0:04:57	0:09:56	0:09:56
	DIABETIC PROBLEMS	0	2	2	2%	0:02:10	0:05:42	0:47:04	1:49:52	0:54:56
	DIFFICULTY BREATHING	0	15	15	14%	0:01:17	0:06:53	1:18:54	21:46:14	1:27:05
	FALLS AND RELATED INJURIES	0	5	5	5%	0:02:37	0:10:11	0:44:12	4:44:59	0:57:00
	FRACTURES OR BROKEN BONES	0	1	1	1%	0:00:50	0:05:34	1:42:55	1:49:19	1:49:19
	HEAD INJURY	0	1	1	1%	0:00:47	0:05:28	1:05:59	1:12:14	1:12:14
	HEADACHE	0	1	1	1%	0:00:04	0:01:51	0:21:24	0:23:19	0:23:19
	HEART PROBLEMS	0	5	5	5%	0:01:35	0:07:44	0:48:12	4:47:32	0:57:30
	LIFT ASSIST	0	4	4	4%	0:01:17	0:09:18	0:09:22	1:19:48	0:19:57
	PAIN	0	3	3	3%	0:02:20	0:11:03	0:49:14	3:07:53	1:02:38
	SEIZURE	0	1	1	1%	0:00:54	0:09:46	1:42:24	1:53:04	1:53:04

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
	SICK / ILL OR RESCUE	2	11	13	12%	0:01:09	0:08:00	0:58:10	14:16:59	1:05:55
	STROKE	0	4	4	4%	0:00:53	0:06:24	0:53:26	4:02:51	1:00:43
	UNCONSCIOUS OR FAINTING	0	7	7	7%	0:00:55	0:05:14	0:38:31	4:55:08	0:42:10
	Subtotals for EMS	**3**	**87**	**90**	**84%**	**0:01:21**	**0:06:43**	**0:56:01**	**94:47:47**	**1:03:26**
	BRUSH FIRE	0	5	5	5%	0:01:01	0:05:54	0:30:35	2:33:01	0:30:36
	BURNING COMPLAINT	0	1	1	1%	0:03:09	0:26:55	0:04:52	0:34:56	0:34:56
	CAR FIRE	1	0	1	1%	0:01:06	0:00:27	0:00:13	0:01:46	0:01:46
	FIRE ALARM	0	7	7	7%	0:01:43	0:04:56	0:10:01	1:31:43	0:13:06
	SMELL OF GAS INSIDE/OUTSIDE	0	2	2	2%	0:01:36	0:05:22	0:21:18	0:56:31	0:28:16
	SMELL OR ODOR OF SMOKE	0	1	1	1%	0:02:12	0:09:11	0:10:36	0:21:59	0:21:59
	Subtotals for FIRE	**1**	**16**	**17**	**16%**	**0:01:48**	**0:08:48**	**0:12:56**	**5:59:56**	**0:21:46**
	Totals for 1010	**4**	**103**	**107**	**100%**	**0:01:26**	**0:07:09**	**0:47:06**	**100:47:43**	**0:54:48**
2020	ABDOMINAL PAIN	0	2	2	5%	0:01:49	0:10:51	0:49:08	2:03:36	1:01:48
	ABRASIONS BRUISES ETC	0	2	2	5%	0:01:04	0:10:53	0:29:02	1:21:59	0:41:00
	CHEST PAIN	0	3	3	7%	0:01:15	0:07:18	1:13:43	4:06:50	1:22:17
	CHOKING	0	1	1	2%	0:01:41	0:02:56	0:10:20	0:14:57	0:14:57
	DIABETIC PROBLEMS	0	1	1	2%	0:01:06	0:01:33	0:59:12	1:01:51	1:01:51
	DIFFICULTY BREATHING	0	1	1	2%	0:00:40	0:10:21	0:34:59	0:46:00	0:46:00
	FALLS AND RELATED INJURIES	0	4	4	10%	0:01:30	0:10:52	0:43:41	3:44:11	0:56:03
	LIFT ASSIST	0	2	2	5%	0:01:35	0:11:54	0:13:27	0:53:51	0:26:56
	PAIN	0	3	3	7%	0:01:56	0:29:30	0:31:57	3:10:07	1:03:22
	SICK / ILL OR RESCUE	0	6	6	14%	0:01:15	0:11:44	0:48:41	6:10:02	1:01:40
	STROKE	0	1	1	2%	0:02:09	0:03:57	0:43:35	0:49:41	0:49:41
	UNCONSCIOUS OR FAINTING	0	1	1	2%	0:01:07	0:11:10	0:58:04	1:10:21	1:10:21
	Subtotals for EMS	**0**	**27**	**27**	**64%**	**0:01:26**	**0:10:15**	**0:41:19**	**25:33:26**	**0:53:00**

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
	ARCING WIRES DOWN POWER LINES	0	1	1	2%	0:01:29	0:04:40	2:20:59	2:27:08	2:27:08
	BRUSH FIRE	0	3	3	7%	0:01:46	0:08:23	0:13:17	1:10:19	0:23:26
	FIRE ALARM	2	2	4	10%	0:01:11	0:00:00	0:04:02	0:18:42	0:04:41
	FIRE DEPT COMMUNITY RELATIONS	0	1	1	2%	0:00:38	0:06:32	0:00:03	0:07:13	0:07:13
	FIRE OTHER NOT LISTED	0	1	1	2%	0:04:32	0:13:08	0:17:43	0:35:23	0:35:23
	RUPTURE GAS LINE	0	1	1	2%	0:01:48	0:02:16	1:27:08	1:31:12	1:31:12
	SMELL OR ODOR OF SMOKE	0	1	1	2%	0:01:38	0:06:00	0:02:58	0:10:36	0:10:36
	STRUCTURE FIRE	0	3	3	7%	0:01:37	0:07:23	0:44:09	2:39:29	0:53:10
	Subtotals for FIRE	**2**	**13**	**15**	**36%**	**0:01:50**	**0:06:55**	**0:38:47**	**9:00:02**	**0:46:36**
	Totals for 2020	**2**	**40**	**42**	**100%**	**0:01:35**	**0:09:01**	**0:40:18**	**34:33:28**	**0:50:26**
3060	BACK PAIN (NON TRAUMATIC)	0	1	1	10%	0:01:16	0:15:52	1:22:11	1:39:19	1:39:19
	DIFFICULTY BREATHING	0	1	1	10%	0:01:00	0:12:57	1:49:43	2:03:40	2:03:40
	FALLS AND RELATED INJURIES	0	1	1	10%	0:01:00	0:16:00	1:23:57	1:40:57	1:40:57
	HEAD INJURY	0	1	1	10%	0:01:09	0:18:18	0:08:00	0:27:27	0:27:27
	PAIN	0	1	1	10%	0:02:23	0:16:21	1:09:46	1:28:30	1:28:30
	SICK / ILL OR RESCUE	0	2	2	20%	0:01:00	0:17:39	1:48:48	4:14:53	2:07:27
	UNCONSCIOUS OR FAINTING	0	2	2	20%	0:00:58	0:16:30	1:45:53	2:09:57	1:04:59
	Subtotals for EMS	**0**	**9**	**9**	**90%**	**0:01:15**	**0:16:14**	**1:21:11**	**13:44:43**	**1:30:20**
	STRUCTURE FIRE	0	1	1	10%	0:01:48	0:08:43	0:41:14	0:51:45	0:51:45
	Subtotals for FIRE	**0**	**1**	**1**	**10%**	**0:01:48**	**0:08:43**	**0:41:14**	**0:51:45**	**0:51:45**
	Totals for 3060	**0**	**10**	**10**	**100%**	**0:01:19**	**0:15:18**	**1:16:12**	**14:36:28**	**1:25:30**
4070	ABDOMINAL PAIN	0	1	1	1%	0:00:41	0:06:38	0:56:26	1:03:45	1:03:45

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
	ACCIDENT UNKNOWN INJURIES	0	5	5	5%	0:01:36	0:06:26	0:33:19	3:26:49	0:41:22
	ACCIDENT WITH ENTRAPMENT	0	1	1	1%	0:00:57	0:02:48	6:25:56	6:29:41	6:29:41
	ACCIDENT WITH INJURIES	0	2	2	2%	0:01:02	0:06:38	0:48:16	1:51:51	0:55:56
	ALARM - MEDICAL	0	2	2	2%	0:01:19	0:08:13	0:07:41	0:34:26	0:17:13
	ALLERGIC REACTIONS	0	1	1	1%	0:01:12	0:08:41	0:02:49	0:12:42	0:12:42
	BACK PAIN (NON TRAUMATIC)	0	1	1	1%	0:00:49	0:16:23	1:01:32	1:18:44	1:18:44
	BLEEDING/HEMORRHAGING	0	3	3	3%	0:00:59	0:08:01	0:50:04	2:57:10	0:59:03
	CARDIAC ARREST	0	2	2	2%	0:01:19	0:08:50	0:13:37	0:47:32	0:23:46
	CHEST PAIN	0	5	5	5%	0:01:28	0:10:15	0:54:08	5:29:16	1:05:51
	CHOKING	0	1	1	1%	0:01:36	0:07:57	0:48:49	0:58:22	0:58:22
	DIABETIC PROBLEMS	0	1	1	1%	0:00:59	0:06:23	1:04:35	1:11:57	1:11:57
	DIFFICULTY BREATHING	0	8	8	9%	0:01:42	0:10:03	0:51:28	8:25:43	1:03:13
	FALLS AND RELATED INJURIES	0	6	6	7%	0:01:34	0:09:54	0:50:26	6:11:26	1:01:54
	FRACTURES OR BROKEN BONES	0	2	2	2%	0:01:26	0:11:10	1:15:51	2:56:53	1:28:27
	HEAD INJURY	0	2	2	2%	0:01:46	0:08:21	0:18:38	0:57:29	0:28:45
	HEART PROBLEMS	0	1	1	1%	0:01:17	0:12:54	0:17:54	0:32:05	0:32:05
	LIFT ASSIST	0	9	9	10%	0:01:27	0:08:59	0:12:44	3:28:27	0:23:10
	PAIN	0	5	5	5%	0:01:25	0:10:20	1:08:27	6:41:07	1:20:13
	PSYCHIATRIC PROBLEMS	0	1	1	1%	0:00:04	0:25:18	0:11:54	0:37:16	0:37:16
	SEIZURE	0	3	3	3%	0:01:42	0:10:34	0:50:31	3:08:21	1:02:47
	SICK / ILL OR RESCUE	0	10	10	11%	0:01:21	0:09:44	0:55:47	11:08:42	1:06:52
	STROKE	0	2	2	2%	0:01:18	0:14:05	1:19:16	3:09:19	1:34:40
	UNCONSCIOUS OR FAINTING	0	3	3	3%	0:00:41	0:05:35	1:05:16	3:34:36	1:11:32
	Subtotals for EMS	**0**	**77**	**77**	**85%**	**0:01:14**	**0:09:45**	**0:57:44**	**77:13:39**	**1:08:43**
	BACKFILL STATION	0	1	1	1%	0:00:32	0:00:00	2:55:48	2:56:20	2:56:20
	BRUSH FIRE	0	1	1	1%	0:01:08	0:04:10	0:20:46	0:26:04	0:26:04
	FIRE ALARM	0	7	7	8%	0:01:23	0:04:16	0:10:13	2:29:29	0:21:21

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 OTHER NOT LISTED	0	1	1	1%	0:00:09	0:09:07	0:16:38	0:25:54	0:25:54
	LANDING ZONE	0	1	1	1%	0:00:31	0:00:17	0:32:59	0:33:47	0:33:47
	SMELL OF GAS INSIDE/OUTSIDE	0	1	1	1%	0:01:31	0:13:53	0:26:12	0:41:36	0:41:36
	STRUCTURE FIRE	0	2	2	2%	0:01:47	0:07:05	0:12:26	0:42:37	0:21:19
	Subtotals for FIRE	**0**	**14**	**14**	**15%**	**0:01:00**	**0:06:28**	**0:42:09**	**8:15:47**	**0:49:29**
	Totals for 4070	**0**	**91**	**91**	**100%**	**0:01:11**	**0:09:06**	**0:54:12**	**85:29:26**	**1:04:22**
5060	ABDOMINAL PAIN	0	2	2	1%	0:01:11	0:10:21	0:55:29	2:14:02	1:07:01
	ACCIDENT UNKNOWN INJURIES	0	3	3	2%	0:01:49	0:05:31	0:24:49	1:36:31	0:32:10
	ACCIDENT WITH ENTRAPMENT	0	2	2	1%	0:01:44	0:05:27	1:19:36	2:53:33	1:26:47
	ACCIDENT WITH INJURIES	0	4	4	2%	0:00:40	0:06:20	1:13:48	5:23:15	1:20:49
	ALARM - MEDICAL	0	1	1	1%	0:02:01	0:00:00	0:00:00	0:13:50	0:13:50
	ALLERGIC REACTIONS	0	1	1	1%	0:01:32	0:06:43	0:16:44	0:24:59	0:24:59
	BACK PAIN (NON TRAUMATIC)	0	2	2	1%	0:02:36	0:11:57	0:25:42	1:20:29	0:40:15
	BLEEDING/HEMORRHAGING	0	5	5	3%	0:01:07	0:10:31	1:02:37	6:11:17	1:14:15
	BURN INJURIES	0	1	1	1%	0:01:29	0:11:50	0:12:12	0:25:31	0:25:31
	CARDIAC ARREST	0	3	3	2%	0:00:33	0:06:51	0:16:44	1:12:25	0:24:08
	CHEST PAIN	0	9	9	5%	0:01:12	0:08:18	0:37:18	7:01:12	0:46:48
	CHOKING	0	2	2	1%	0:01:10	0:09:04	0:04:11	0:28:50	0:14:25
	DIABETIC PROBLEMS	0	5	5	3%	0:00:27	0:10:02	0:36:25	3:54:34	0:46:55
	DIFFICULTY BREATHING	1	22	23	12%	0:01:29	0:10:20	0:51:10	23:57:04	1:02:29
	FALLS AND RELATED INJURIES	0	21	21	11%	0:01:17	0:12:05	0:45:13	20:30:33	0:58:36
	HEAD INJURY	0	2	2	1%	0:01:03	0:07:38	0:40:58	1:39:17	0:49:39
	HEART PROBLEMS	0	5	5	3%	0:01:02	0:14:21	0:59:14	6:13:07	1:14:37
	LIFT ASSIST	0	15	15	8%	0:01:27	0:13:11	0:14:49	7:18:30	0:29:14
	PAIN	0	4	4	2%	0:01:24	0:11:23	1:05:51	5:14:35	1:18:39
	PSYCHIATRIC PROBLEMS	0	1	1	1%	0:00:09	0:11:53	0:15:34	0:27:36	0:27:36

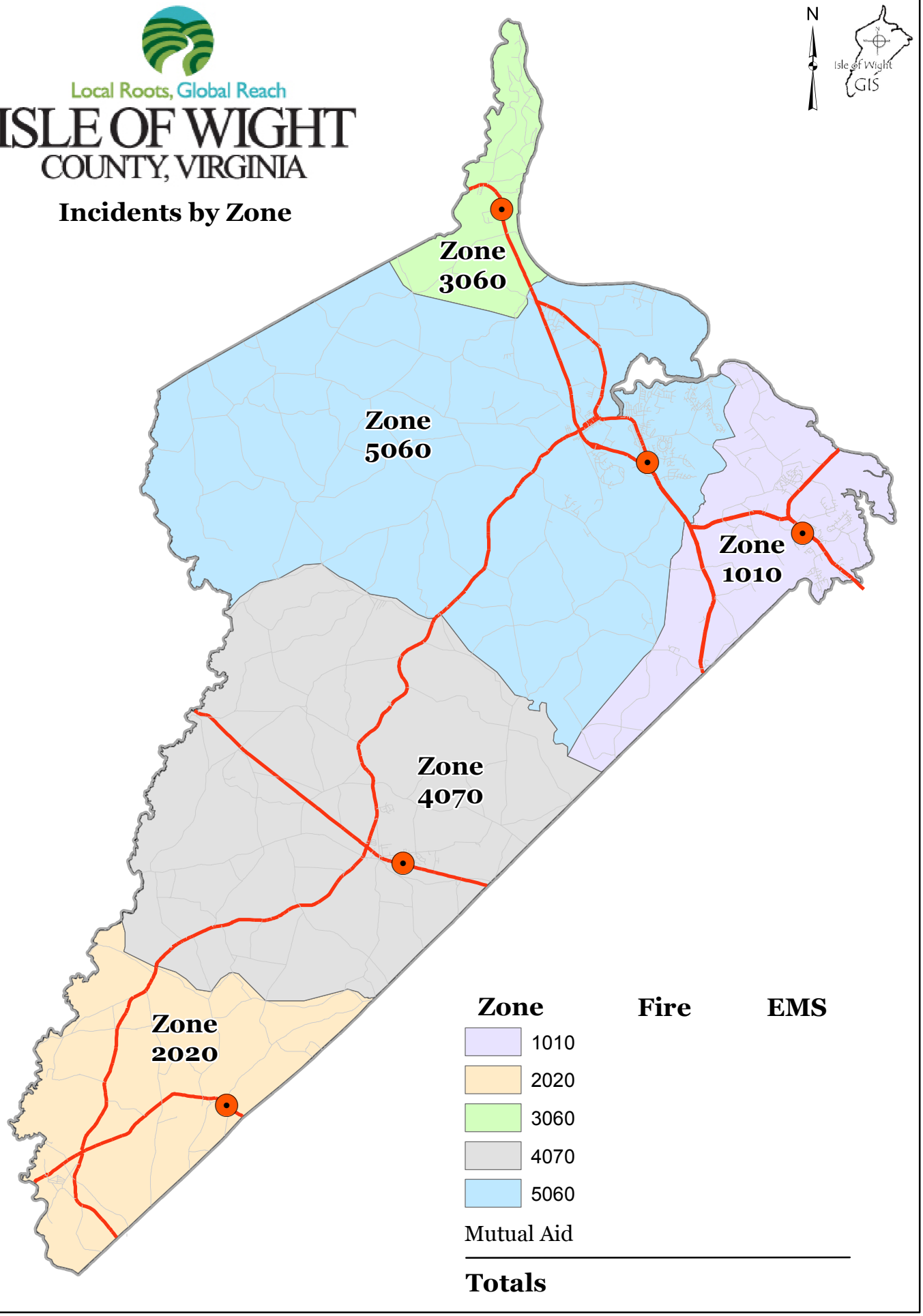
Station/Beat Code	Nature Code	Self Init	CFS	Total	% Total	Avg Disp Time	Avg Resp Time	Avg Scene Time	Total Call Time	Avg Call Time
	SEIZURE	0	8	8	4%	0:01:09	0:07:41	0:37:03	6:07:07	0:45:53
	SICK / ILL OR RESCUE	1	43	44	22%	0:01:34	0:09:57	0:57:41	49:38:40	1:07:42
	STROKE	0	3	3	2%	0:01:06	0:08:12	1:05:40	3:44:58	1:14:59
	UNCONSCIOUS OR FAINTING	0	8	8	4%	0:01:13	0:07:10	1:31:29	13:18:59	1:39:52
	WELFARE CHECK	0	1	1	1%	0:00:12	0:11:32	1:36:10	1:47:54	1:47:54
	Subtotals for EMS	**2**	**173**	**175**	**89%**	**0:01:13**	**0:09:31**	**0:45:16**	**173:18:48**	**0:54:12**
	BACKFILL STATION	3	0	3	2%	0:00:00	0:06:51	2:55:06	8:52:10	2:57:23
	BURNING COMPLAINT	0	2	2	1%	0:02:15	0:10:33	0:05:54	0:37:23	0:18:42
	CAR FIRE	0	1	1	1%	0:00:58	0:05:02	0:02:57	0:08:57	0:08:57
	FIRE ALARM	0	7	7	4%	0:01:30	0:05:21	0:09:44	1:17:40	0:11:06
	FIRE OTHER NOT LISTED	0	2	2	1%	0:00:06	0:00:00	0:01:18	0:05:50	0:02:55
	RUPTURE GAS LINE	0	1	1	1%	0:01:15	0:05:01	0:57:25	1:03:41	1:03:41
	SMELL OF GAS INSIDE/OUTSIDE	0	1	1	1%	0:00:53	0:05:37	0:39:35	0:46:05	0:46:05
	STRUCTURE FIRE	0	4	4	2%	0:01:30	0:06:01	1:20:41	5:52:49	1:28:12
	Subtotals for FIRE	**3**	**18**	**21**	**11%**	**0:01:12**	**0:06:21**	**0:46:35**	**18:44:35**	**0:52:08**
	Totals for 5060	**5**	**191**	**196**	**100%**	**0:01:13**	**0:08:48**	**0:45:36**	**192:03:23**	**0:53:42**
SRY	RESCUE MUTUAL AID	0	1	1	100%	0:00:45	0:20:42	1:27:35	1:49:02	1:49:02
	Subtotals for MUTA	**0**	**1**	**1**	**100%**	**0:00:45**	**0:20:42**	**1:27:35**	**1:49:02**	**1:49:02**
	Totals for SRY	**0**	**1**	**1**	**100%**	**0:00:45**	**0:20:42**	**1:27:35**	**1:49:02**	**1:49:02**
SUF	BACKFILL STATION	0	1	1	50%	0:01:25	0:00:00	0:00:00	1:40:27	1:40:27
	Subtotals for FIRE	**0**	**1**	**1**	**50%**	**0:01:25**	**0:00:00**	**0:00:00**	**1:40:27**	**1:40:27**

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
	RESCUE MUTUAL AID	0	1	1	50%	0:01:19	0:07:09	0:59:25	1:07:53	1:07:53
Subtotals for MUTA		**0**	**1**	**1**	**50%**	**0:01:19**	**0:07:09**	**0:59:25**	**1:07:53**	**1:07:53**
Totals for SUF		**0**	**2**	**2**	**100%**	**0:01:22**	**0:07:09**	**0:59:25**	**2:48:20**	**1:24:10**

Local Roots, Global Reach

ISLE OF WIGHT COUNTY, VIRGINIA

Incidents by Zone



ISLE OF WIGHT COUNTY

FIRE-EMS ACTIVITY REPORT 2022

STATION RESPONSES	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	YTD
CARROLLTON	144	117											261
CARRSVILLE	43	45											88
RUSHMERE	4	2											6
WINDSOR FIRE	30	32											62
SMITHFIELD FIRE	89	50											139
IOW RESCUE	287	213											500
WINDSOR RESCUE	123	83											206
TOTAL STATION RESPONSES													**1262**

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 Website Stats (1 - 28 February 2022)

Page	Rank	Pageviews	Unique Pageviews	Avg. Time on Page	Entrances	Bounce Rate	% Exit
/county_home_page	1	9,448	7,575	0:02:06	7,078	43.19%	42.24%
/government/commissioner_of_the_revenue/real_estate_assessments.php	2	2,093	1,650	0:02:50	1,180	68.47%	64.64%
/our_services/animal_services/index.php	3	1,772	1,289	0:01:00	1,074	49.26%	44.75%
/i_want_to_/pay_for/index.php	4	1,721	1,012	0:00:31	79	36.71%	10.28%
/government/treasurer/making_a_payment.php	5	1,614	1,180	0:03:06	247	57.09%	58.98%
/departments/information_technology/mapping_and_gis.php	6	1,591	1,210	0:02:10	786	60.31%	57.13%
/our_services/permits/index.php	7	1,095	839	0:00:53	194	35.05%	23.38%
/government/commissioner_of_the_revenue/index.php	8	870	662	0:00:41	87	36.78%	17.82%
/departments/index.php	9	843	673	0:00:39	224	28.57%	17.08%
/departments/parks_and_recreation/index.php	10	834	640	0:01:13	406	45.32%	42.69%
/departments/public_utilities/making_payments.php	11	824	671	0:02:06	207	63.77%	63.83%
/our_community/farmers_market/index.php	12	720	581	0:01:41	550	64.55%	59.72%
/government/commissioner_of_the_revenue/real_estate.php	13	630	490	0:00:19	69	10.14%	5.08%
/i_want_to_/index.php	14	592	444	0:00:43	29	62.07%	17.23%
/government/clerk_of_the_circuit_court/index.php	15	578	451	0:01:58	312	51.60%	43.43%
/index.php	16	569	478	0:01:21	53	43.40%	26.71%
/departments/parks_and_recreation/youth_sports.php	17	549	447	0:02:53	325	76.00%	67.58%
/departments/human_resources/index.php	18	547	500	0:03:00	209	69.38%	72.21%
/government/county_board_of_supervisors/board_of_supervisors_agendas.p	19	530	362	0:03:17	130	56.92%	45.09%
/departments/solid_waste/refuse_and_recycling_centers.php	20	436	390	0:04:30	376	85.37%	82.80%
/government/treasurer/personal_property_tax_information.php	21	425	352	0:01:31	265	42.64%	37.65%
/government/treasurer/real_estate_tax.php	22	408	334	0:01:01	238	33.19%	28.43%
/our_services/index.php	23	407	322	0:00:52	37	45.95%	25.31%
/departments/public_utilities/index.php	24	393	303	0:01:19	210	47.14%	38.68%
/government/county_board_of_supervisors/index.php	25	382	317	0:01:59	175	48.00%	42.41%
/departments/planning_and_zoning/index.php	26	359	274	0:01:26	85	50.59%	25.35%
/government/county_board_of_supervisors/meeting_live_stream.php	27	356	253	0:02:31	61	63.93%	38.76%
/our_services/permits/building_permit_forms_applications_fees.php	28	343	275	0:03:44	134	52.99%	41.69%
/government/commissioner_of_the_revenue/personal_property_tax_questic	29	316	265	0:01:55	50	68.00%	33.23%
/departments/information_technology/map_gallery.php	30	312	271	0:02:52	102	74.51%	68.91%

Isle of Wight County Museum &
Isle of Wight County Historic Resources



February 2022 Report

J.L. England, Museum Director & Isle of Wight County Historic Resources Manager

Notable

- COVID-19 Pandemic. The museum was closed from March to July 2020. Now open for visitors, these protocols remain in place:
    - Staff and visitors are required to wear masks even if they are fully vaccinated.
    - A hand sanitizer station was installed at the museum's entrance. A service company refills it each month.
    - Several times daily, staff cleans and documents the sanitizing of high-touch surfaces.
- Volunteer Hours: 81

Isle of Wight County Museum 103 Main Street Smithfield

- Visitation: 401
- Special Events
    - **Feb. 10. Tell Me A Story**. 10:30 a.m. This program, geared for children ages 3 to 5, introduces youngsters to the symbols of Isle of Wight and features books, songs and games. Children must be accompanied by an adult. Theme: Animals in Winter. 5 students.



    - **Feb. 24. LUNCH & LEARN: Africans, the Enslaved and Free Blacks in Isle of Wight County.** 12:30 p.m. Recorded African-American history in English North America dates to August 1619 when the first Africans were involuntarily brought to the shores of Hampton Roads. In 1623, Isle of Wight County, then Warraskoyack Shire, documents its first four Africans at Bennett's Welcome, the plantation belonging to Edward Bennett. Join us for a discussion of the colonial African experience in Isle of Wight County as well as a discussion of the history of African-American education presented by The Schoolhouse Museum. 21 guests.



- Behind These Walls

Behind These Walls

- People, objects and places all tell stories, and it is the history of a community that shows its unique character. This video series allows some of the county's most interesting structures to share their stories. This project launched in 2020. Highlighted this month was **Wharf Hill** on February 25. View all episodes in this series on the museum's YouTube Channel, Facebook page or website.

- Livestreaming Events. We continue to connect to 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:
    - **Feb. 1. LIVE at 12:05: A Visit to Windsor Castle's Kitchen**. Curator Rachel Popp is cataloging some items at Windsor Castle today. Tune in as she talks about the exhibits at the site.
    - **Feb. 3. LIVE at 12:05: Marl, Fertilizer and Poetry.** A discussion the Smithfield Marl, Clay and Transportation Company, a riot that took place at the company in 1912 and a poem written about that incident.
    - **Feb. 8. LIVE at 12:05: Exhibit Improvements and the 1612 Captain John Smith Map.** Curator Rachel Popp highlights some improvements in our First Residents exhibit space including the installation of Captain John Smith's 1612 map of the Chesapeake region.
    - **Feb. 10. LIVE at 12:05: Be My Valentine**. Director Jennifer England highlights a few of the valentines in our collection. You have just a few more days to plan your holiday.
    - **Feb. 15. LIVE at 12:05: Life 100 Years Ago**. The education program we hosted this morning with homeschoolers was all about life 100 years ago. Visit our country store exhibit to learn more.
    - **Feb. 17. LIVE at 12:05: Tell Me A Story (Animals in Winter.)** When the weather turns cold, some animals hibernate while other animals go to warmer areas. In Isle of Wight County, we have animals that hibernate, migrate and remain active in the winter. Director Jennifer England hosts this monthly program virtually and highlights the theme with a craft idea and a reading of "Animals in Winter" by Henrietta Bancroft and Richard G. Van Gelder. This monthly program, geared for children ages 3 to 5, introduces youngsters to the symbols of Isle of Wight and features books, songs and games.
    - **Feb. 22. LIVE at 12:05: 17th Century Wine Bottles.** Curator Rachel Popp discusses 17th century wine bottles, Colonel Joseph Bridger and artifacts in our collection from his plantation White Marsh.
    - **Feb. 24. LIVE at 12:05: Happy 270th Birthday to the Town of Smithfield.** Curator Rachel Popp discusses the 270th anniversary of the







establishment of the Town of Smithfield as well as the record-breaking ham biscuit that was created for the 250th anniversary in 2002.

- Groups/Tours/Programs
  - Feb. 8. Elaine Brown, University of Alabama. Tour of the museum's archives and PastPerfect software system.
  - Feb. 15. Open Door Church Homeschool, Suffolk. 19 students.
  - Feb. 23. Smithfield Hands and Hearts, Smithfield. 15 guests.





- Gift Shop
  - No updates.
- Exhibit/Project Update
  - **Sprigg Wing.** Installation of our updated First Residents exhibit has been completed.
  - **Civil War Trails.** Three new signs for Main Street, Fort Boykin and Fort Huger have been submitted. The sign for Main Street has been finalized. The Smithfield Board of Historic Architecture and Review approved the application while permits from the Town and County have been received. We await installation and subsequent inspection.



  - **Local Treasures**. Currently on display is 19th and 20th Century Woodworking Tools by Roger Healey. This exhibit concept displays the private collections of Isle of Wight County residents and/or those with a connection to the area. For more information and applications: www.historicisleofwight.com/local-treasures.html.

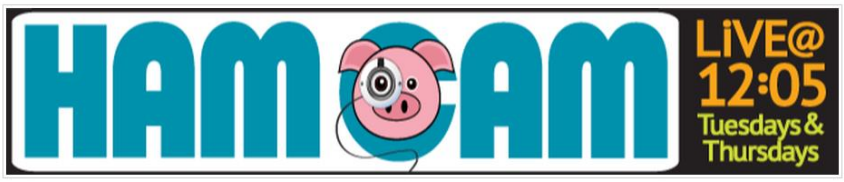
- **English Telephone Box**. The phone box in front of the Bank of Southside Virginia belongs to the Isle of Wight County Museum. It is in need of repairs, media blasting and paint. Dishman Fabrications LLC of Yorktown has taken delivery of the phone box to their shop for the work. Anticipated replacement is 2022.
- **Civil War Trails.** Three new signs for Main Street, Fort Boykin and Fort Huger have been submitted. The sign for Main Street has been finalized. The Smithfield Board of Historic Architecture and Review approved the application while permits from the Town and County have been received. We await installation and subsequent inspection.
- **Steamboats & Life on the Water; Colonial Isle of Wight; Unusual Objects.** Under development.
- **Online Exhibits Under Development**: Vietnam War Veterans in Isle of Wight County, Unsung Heroes of Isle of Wight County.
- **Christmas in Isle of Wight County.** New book project under development.

- Artifacts
  - Photographs and early 20th century bottles were donated to the collection. Also donated were several digitized files of photographs from the Dashiell Family.
- Staff Training and Requirements
  - Webinar: Driving with Distractions, Defensive Driving. Hosted by the Virginia Risk Sharing Association.

Financials

• Gift Shop Sales (including tax):	$ 688.82
• Donations:	$ 145.00
• Admission:	$ 514.00
• Program/Lecture Fees:	$ 0.00
Total Monthly Deposit:	**$ 1,347.82**

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. These programs were seen on the Ham Cam, but since COVID-19, programs and livestreaming from Facebook make these programs more mobile. Our segments – 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: 3,196 likes and 3,505 followers. Daily posts.
- **Facebook:** World's Oldest Ham: 200 likes and 206 followers. Semi-weekly posts.
- **Facebook:** Town of Smithfield. Periodic posts, responses and maintenance.

- **Twitter.** @WorldsOldestHam. The world's oldest ham has his own account. 1,287 followers.
- **Instagram.** @Isleofwightcountymuseum. 858 followers.
- **YouTube.** Isle of Wight County Museum. This channel was created in January 2022 so that we can upload our videos in another location for easier viewing and use by the public, other Town and County departments and media. 2 subscribers.
- **Google Reviews.** 4.8/5 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.
- Feb. 23***: Smithfield Times***, Made In pullout. Article: Hams processed in Smithfield

Outreach Lectures & Events

- Feb. 2. Lee Hall Depot, Newport News. Lecture topic: World War II Trains. 38 guests.
- Feb. 5. Colonel William Allen Chapter, Daughters of the American Revolution, Smithfield. 20 guests.
- Feb. 8. Main Street Baptist Church Preschool, Smithfield. Lecture topic: Animals in Winter. 9 students.
- Feb. 14. Virginia Commonwealth University, Virtual Curation Laboratory, Richmond. The World's Oldest Ham was a special guest star at their Valentine's Day Open House.



Windsor Castle 705 Cedar Street, Smithfield

- **Feb. 6. Walking Tour.** From the site's pre-colonial existence to the present day, Windsor Castle tells the fascinating history of the development of Smithfield. Join us for this free walking tour through history as we tour the house and several of the outbuildings. Meet on the front steps of Windsor Castle, 301 Jericho Road, Smithfield. 25 guests.



Fort Boykin 7410 Fort Boykin Trail, Isle of Wight County

- **Feb. 27. Walking Tour.** 2 p.m. Fort Boykin has been a part of American history since 1623 when a fort known as the Castle was constructed following the 1622 Indian Attack. Today, Fort Boykin constitutes an example of military architecture of the Civil War era. Join us for this free walking tour through history. Meet at Fort Boykin, 7410 Fort Boykin Trail, Smithfield. 18 guests.



Fort Huger 15080 Talcott Terrace, Isle of Wight County

- Feb. 10. Homeschool Group, Suffolk. 22 students.
- Feb. 19. Hampton Roads Digital Shutterbug Club. 23 guests.

Nike-Carrollton Park 13036 Nike Park Road, Carrollton

- Nike-Ajax Missile Restoration. Site plan, restoration specs and lead paint analysis in progress with Isle of Wight County Engineering.

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: 3

Meetings

- Feb. 2. Peninsula Museums Forum.
- Feb. 4. Virginia Association of Museums, Community Conversations Charette.
- Feb. 16 and 28. Isle of Wight County Fair.
- Feb. 17. Genuine Merchants of Downtown Smithfield.
- Feb. 23. Town of Smithfield staff meeting.



Other Events & Notable Information

- Our genealogical research brochure was updated.
- A big thanks to Isle of Wight County Public Works for assisting with the movement of numerous heavy items and the annual cleaning of the ham case on Feb. 7.
- Departmental commentary for the James River Crossing Inc. Tower Site's conditional rezoning application was provided to Isle of Wight County Community Development.



Safety

- Feb. 9. Town of Smithfield Safety Committee meeting.

Selections from Our Website and Social Media



World's Oldest Ham @Worldsoldestham · Feb 9

You can impress from a distance, but you can only impact up close.
--Howard G. Hendricks

#GetCloser #WednesdayMotivation





February 14

Lovebugs Greg and Jennifer of Richmond, Va., are celebrating Valentine's Day Weekend with a visit to Smithfield. The museum is a great place to bring your sweetie!



February 22

Friday's sunset was pastel pretty.

ISSUE:

Discussion of Water Tank Painting Project

BACKGROUND:

At its regular meeting on December 9, 2021, the Board adopted a motion to authorize the maintenance and painting of one of the County's elevated water tanks. Staff will provide additional information for the Board's consideration regarding the project.

The Board may wish to reconsider its direction relative to the logo on the tank as a means of supporting the County's marketing efforts.

BUDGETARY IMPACT:

TBD

RECOMMENDATION:

Per the Board's discussion and direction.

ISSUE:

Resolution to Approve the Employee Health Insurance Plan Offerings for Fiscal Year 2022-23

BACKGROUND:

Each year the County's employee health insurance plan offerings are adjusted based on benefit offerings, claims history, etc. to reflect updated benefits and County/employee contribution rates.

The TLC renewal reflects a 6.3% increase for FY23. Currently the total premium is $4,146,220. The 6.3% increase will bring the total for FY23 to $4,416,044. This is a $261,024 increase over last year.

There are 3 options for the Board's consideration.

- Option 1 - The County absorb the 6.2% increase and the employee semi-monthly rate would remain the same as FY22. This would mean the County's costs for FY23 would be $3,652,239 and the employee portion would remain the same at $763,805. At the bottom of the Option 1 tab, you will find the monthly and semi-monthly rates for employees.

- Option 2 - Maintain the current percentage of premiums paid by the county and the employee share will increase. The County's costs is approximately 81% of the total premium with the employee costs approximately 19%. Under this option, the county's portion would be $3,604,155 (an increase of $212,940) and the employee's portion of $811,889 would increase by $48,491. On the Option 2 tab at the bottom, you will see the increase in rates for employees on both a monthly and semi-monthly. The rates would increase between $2-$6 per pay period.

- Option 3 - Increase employee share to absorb the 6.2% increase. This would pass along the $261,024 increase in total premiums to the employee. At the bottom of the Option 3 tab, you will find the increases to employee rates. The semi-monthly rates would increase $27 - $85 over the current rates. This would equate to a 34% increase in the semi-monthly rates for employees.

The renewal selection needs to be submitted to Health Benefit Direct by March 25, 2022. Open Enrollment will be May 2nd-May 16th.

BUDGETARY IMPACT:

The County's contribution will increase $261,024 for FY2022-23.

RECOMMENDATION:

Adopt a resolution to approve the employee health insurance offerings and rates for FY2022-23.

ATTACHMENTS:

Description	Type	Upload Date
Resolution	Resolution	3/1/2022
Health Benefits Renewal	Backup Material	3/1/2022

RESOLUTION TO APPROVE THE EMPLOYEE HEALTH INSURANCE PLAN OFFERINGS FOR FISCAL YEAR 2022-2023

WHEREAS, the next Employee Health Insurance Plan Year takes effect July 1, 2022; 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, 2022.

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, 2022 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.

Adopted this 17th day of March, 2021.

_____
Rudolph Jefferson, Chairman

_____
Carey Mills Storm, Clerk

Approved as to Form:

_____
Robert W. Jones, Jr., County Attorney



The Local Choice

Health Benefits Program

Fiscal Year 2023 Renewal

The Local Choice Health Benefits Program

To: TLC Group Administrators

From: Ann B. Wohl
TLC Program Manager

Date: January 2022

Re: The Local Choice Health Benefits Renewal

Thank you for your continuing support of The Local Choice (TLC) program. We are pleased to share the enclosed fiscal year 2023 renewal for TLC.

The Virginia Department of Human Resource Management (DHRM) and The Local Choice (TLC) Health Benefits Program are keenly aware of the high priority that TLC groups place on planning and budgeting for health benefits. We are constantly working to find new and innovative ways to add value to our plans and improve our service. Our statewide and regional plan offerings continue to provide choice, competitive pricing, and value-added services that offer opportunities to improve the health of your employees and their families.

TLC plan administrators remain as follows:

- Anthem BCBS: Medical, Behavioral Health, EAP and Routine Vision and Outpatient Prescription Drugs for statewide plans
- Delta Dental: Dental for statewide plans
- Kaiser Permanente: regional HMO
- Optima Health Vantage: regional HMO

TLC will continue to offer five statewide plans to all local employer groups along with two regional HMOs available in defined service areas. Employer plan choices include:

Statewide plans

- Key Advantage Expanded
- Key Advantage 250
- Key Advantage 500
- Key Advantage 1000
- TLC High Deductible Health Plan (HDHP) – HSA compatible

Regional HMO plans

- Kaiser Permanente – available in defined service area
- Optima Health Vantage – available in defined service area

Retiree Plans

- Key Advantage or Regional Plan coverage (only available to retirees not eligible for Medicare)
- Advantage 65
- Advantage 65 with Dental/Vision
- Medicare Complementary (grandfathered for current participant groups, only)

All active employee TLC plans include the CommonHealth Wellness Program at no additional cost. CommonHealth features confidential, at-work medical screenings plus other health and wellness programs such as nutrition, stress management and fitness programs.

Your 2022-2023 renewal notebook includes a Comparison of Benefits brochure outlining the statewide benefits to assist you in determining which plan or plans you want to offer your employees.

Rates for all available plan options are listed in Section 2 (Renewal Rate Sheets and Information). **New this year, we have included a separate page with your COBRA rates.**

Together, the statewide Key Advantage plans, High Deductible Health Plan, the Kaiser Permanente and Optima Vantage HMO fully-insured regional plans (available in certain service areas) offer you a variety of choices with competitive administrative costs and quality coverage.

In an effort to provide the tools and resources for Benefits Administrators to expand their knowledge about the TLC Program, we are coordinating more frequent, focused training in a virtual environment. Please look for information regarding upcoming webinars.

The virtual training sessions will replace the TLC regional meetings.

Please read "IMPORTANT CHANGES FOR 2022-2023 PLAN YEAR" on the next page.

We value your participation, and we look forward to continuing to build upon our partnership of caring for your employees.

Thank you for selecting The Local Choice.

If you have any questions, please contact us at tlc@dhrm.virginia.gov or at 888-642-4414.
Sincerely,



Ann B. Wohl
TLC Program Manager

dhrm Department of Human Resource Management
THE 1ST SOURCE FOR HR INFORMATION

The LOCAL CHOICE

IMPORTANT TLC CHANGES

2022 – 2023 PLAN YEAR

1. All groups must submit their renewal selections in our secure system, Health Benefits Direct (HBD) by the deadlines stated below:
   - **March 25, 2022 for July renewals**
   - **June 24, 2022 for October renewals**

You will **NOT** be allowed to request an extension. Instructions to access Health Benefits Direct (HBD) will be provided at a later date.

2. Cardinal Human Capital Management (HCM), the new eligibility system, will be used for Open enrollment.
   - **You will no longer be allowed to pick your own Open Enrollment dates.**
   - **Open Enrollment for all groups that renew in July will be May 2, 2022 through May 16, 2022.**
   - **Open Enrollment for all groups that renew in October will be August 1, 2022 through August 15, 2022.**

This is not a complete re-enrollment. No action is required if the participant is not making any health plan related changes.

3. It is your group's responsibility to run Open Enrollment reports in Cardinal HCM. Cardinal HCM will provide instructions to access and run these reports at a later date.

4. With the implementation of Cardinal HCM, the Office of Health Benefits (OHB) will provide COBRA administration for all TLC groups. This includes the following:

   - Generating and mailing initial election COBRA Notices
   - Entering COBRA enrollment changes in Cardinal
   - Providing enrollment information to providers
   - Terminating COBRA coverage as appropriate
   - Generating and mailing termination letters
   - **NOTE: Upon your renewal, in accordance with COBRA Federal law, TLC COBRA beneficiaries (enrollees) will be billed the appropriate monthly premium as well as the 2% Administrative Fee. The 2% Administrative Fee will be forwarded to OHB.**
   - **Your renewal will include a separate COBRA rate page for your use.**

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Section 1

Overview & Instructions

Program Overview and Instructions

The Local Choice Health Benefits Program (TLC) is pleased to provide your health care program renewal for July 1, 2022 (October 1, 2022 for certain school groups).

The Local Choice Health Benefits Program Advantage

Thank you for your participation in The Local Choice. Our goal is to provide participating local employer groups with high-quality benefit plans, competitive rates, excellent customer service, and financial stability through rating pools based on group size and stop-loss protection for self-insured plans.

The following self-insured plans can again be chosen as an option by employers for eligible active employees and retirees not eligible for Medicare:

- Key Advantage Expanded
- Key Advantage 250
- Key Advantage 500
- Key Advantage 1000
- TLC HDHP (An HSA compatible High Deductible Health Plan)

The above Key Advantage and HDHP plans are offered with the employee's choice of either Preventive Dental or Comprehensive Dental coverage. Comprehensive Dental includes orthodontics for all participants.

NOTE: To maintain Affordable Care Act compliance, the Preventive Dental option must be offered.

The following fully-insured plans can be chosen as an option by employers for eligible active employees and non-Medicare-eligible retirees who live or work in the plan's service area (see Section 5 for more information):

- Kaiser Permanente HMO (available only in the Kaiser service area—contact Kaiser for additional information)
- Optima Vantage HMO (available only in the Optima service area – contact Optima for additional information)

For Medicare-Eligible Retirees:

- Advantage 65 Medical Only (does not include outpatient prescription drug/Medicare Part D coverage)
- Advantage 65 Medical Only with Dental/Vision (does not include outpatient prescription drug/Medicare Part D coverage)
- Medicare Complementary (grandfathered plan)

The following is a basic overview of the plans offered by TLC. For more details, see the Comparison of Benefits brochure, specific plan benefit summary or Member Handbook.

Statewide Self-Funded Plans: Key Advantage & HDHP Plans

Medical, behavioral health, prescription drugs, and routine vision are administered by Anthem. Routine dental is administered by Delta Dental.

The following provisions apply to both Key Advantage and HDHP Plans:

- Extensive medical, behavioral health, dental and routine vision benefits (through Blue View Vision) are covered in all Key Advantage and HDHP plans.
- These plans also allow for medical care when traveling outside Virginia through the BlueCard PPO and Blue Cross Blue Shield Global Core programs.
- Under all Key Advantage and TLC HDHP plans, in-network preventive medical care is covered with no deductible or coinsurance.
- Under the Employee Assistance Program (EAP), members receive up to four visits per incident per plan year at no cost. The EAP is only available in-network. Contact Anthem for more information.

- Home Delivery is also available through the plans' outpatient prescription drug benefits.
- Copayment/coinsurance expenses for outpatient prescription drugs along with medical and behavioral health copayments/coinsurance costs, accumulate toward the annual out-of-pocket maximum expense limit.
- Dental coverage is provided by Delta Dental with a separate deductible. Members may select either Preventive or Comprehensive Dental.

The following provisions apply only to Key Advantage Plans:

- While members receive the highest level of benefits when visiting an in-network provider, members also receive out-of-network benefits for covered medical and behavioral health services but with higher out-of-pocket costs.
- Under the Key Advantage Plans, if members receive a brand name drug when a generic equivalent is available, they are responsible for the applicable brand copayment plus the cost difference between the allowable charge for the generic equivalent and the brand name.
- Outpatient prescription drugs are divided into 4 tiers based upon the cost and/or type of drug. See the Comparison of Benefits for more information.

The following provisions apply only to HDHP Plans:

- The TLC HDHP plan is a HSA (Health Spending Account) compatible plan. TLC does not provide the HSA account. Each group may choose to offer its own HSA account administrator.
- With the embedded deductible HDHP plan, deductible amounts for each individual member will accumulate toward the family plan year deductible limit. However, no individual family member can contribute more than the single- only deductible amount.
- Under the HDHP plan, covered medical, behavioral health and prescription drug services are subject to the $2,800 single and $5,600 family plan year deductible and 20% coinsurance.

Regional Plan: Kaiser Permanente HMO

- Kaiser Permanente offers a regional HMO plan in its service area, which includes Northern Virginia, Fredericksburg, Washington D.C., and parts of Maryland and is available only to members who live or work in those areas as defined by zip code. Kaiser information is only provided in your renewal notebook if your group is eligible to offer Kaiser benefits.
- A detailed outline of the service area and benefits may be found in the Kaiser HMO benefits summary. Medical, behavioral health, EAP, outpatient prescription drug and dental coverage are included in the plan.
- Retirees and / or their dependents eligible for Medicare are not eligible for enrollment in the Kaiser plan. Kaiser does not offer a Medicare supplement option in the TLC Program.

Regional Plan: Optima Vantage HMO

- Optima Health, a local health plan headquartered in Virginia, offers a regional HMO plan in its service area.
- Optima Health's open-access style HMO plan does not require participants to select a primary care physician (PCP) and referrals are not required for specialist care. Optima Health encourages a PCP relationship, but it is not required. PCPs can help members with routine medical care and provide guidance when seeking specialist care within the broad Optima Health network of providers.
- A detailed outline of the service area and benefits may be found in the Optima Health benefits summary. The TLC plan includes preventive care covered in full, dental and vision benefits, emergency travel assistance and Employee Assistance Program (EAP) services.
- In order to enroll in this plan, participants must be eligible for coverage as defined by their employer, employer must select this as a plan option and the participant must live or work in the defined service area.
- Retirees and /or their dependents eligible for Medicare are not eligible for enrollment in the Optima Health plan. Optima Health does not offer a Medicare supplement option in the TLC program.

Retirees Not Eligible for Medicare: Key Advantage and HDHP Coverage

- Employers may choose to offer retiree coverage for those retirees who are not eligible for Medicare. Although allowed, no employer contribution is required for retiree coverage. A local employer may add retiree coverage at renewal by submitting a written request to the Department of Human Resource Management (DHRM) along with an approved resolution from your Board or Governing Body. Adding such coverage may impact your group's renewal rates. All groups (with exception of groups that have been grandfathered) will receive rates for blended premiums. In a blended premium, active employees and non-Medicare-eligible retirees will have the same rates.
- Stand-alone rates for non-Medicare-eligible retirees are grandfathered, which means that they are only available for groups who currently offer them.

Medicare Supplemental Plans for Medicare-Eligible Retirees

- If a group offers coverage to retirees who are not eligible for Medicare, the group may also offer coverage for Medicare-eligible retirees. A local employer may add coverage for Medicare- eligible retirees at renewal by submitting a written request to the Department of Human Resource Management (DHRM) along with an approved resolution from their Board or Governing Body.
- For groups currently offering coverage to Medicare-eligible retirees, the Advantage 65 and Advantage 65 with Dental/Vision plans continue to be available. However, Medicare Complementary is a grandfathered plan and not available to groups that do not currently offer it. The Medicare supplement and routine dental and vision (if selected) are administered by Anthem.
- Groups adding Medicare-eligible retiree benefits to their program for the first time may only offer Advantage 65 or Advantage 65 with Dental/Vision. It is important to remember that a local employer may select only one plan for Medicare-eligible retirees.

- A local employer may also add Dental/Vision coverage to a current Advantage 65 contract at the group level at renewal. Once added, however, it may not be removed.

Enrollees in TLC Medicare supplement plans must be enrolled in Medicare Parts A and B as the primary payer of Medicare-covered services. Neither Advantage 65 nor Medicare Complementary Plans will pay for any services that would have been covered by Medicare had the participant been properly enrolled.

Outpatient prescription drug coverage is not available in any of the Medicare supplemental plans. If prescription drug coverage is desired, members should seek coverage in Medicare Part D.

To prevent claims denial and/or retraction of claims, it is imperative that you communicate the following information to all covered participants, whether active or retired.

Coverage under a Key Advantage plan, the TLC HDHP or a Regional plan (if available is only for:

- Active Employees and their Dependents
- Retirees Not Eligible for Medicare and their Dependents Not Eligible for Medicare, and/or
- Dependents of Medicare-Eligible Retirees who are not Medicare eligible

ONCE COVERAGE IS BASED ON FORMER EMPLOYMENT, MEDICARE BECOMES THE PRIMARY PAYER FOR THOSE WHO ARE MEDICARE ELIGIBLE (the only exception is based on End Stage Renal Disease.)

Active employees and dependents of Active employees cannot participate in our Medicare Supplement plans regardless of Medicare status.

Advantage 65

Advantage 65 provides Medicare supplemental medical benefits and some primary benefits for services not covered by Medicare (see TLC Medicare-Coordinating Member Handbook) for retirees eligible for Medicare and their Medicare-eligible covered family members. It does not include outpatient prescription drug coverage. Anthem administers the Advantage 65 plan.

Advantage 65 with Dental/Vision

As a group option, you may elect to add dental and vision coverage to Advantage 65. This product adds dental and vision to the Advantage 65 plan described above. Dental benefits are administered by Anthem and routine vision is administered through Anthem Blue View Vision.

Medicare Complementary

Medicare Complementary is a "grandfathered" plan available only to groups who already offer the product. It provides Medicare supplemental benefits plus routine dental and vision coverage for retirees eligible for Medicare and their Medicare-eligible covered family members. Medical and routine dental benefits are administered by Anthem, and routine vision is administered through Anthem Blue View Vision.

CommonHealth

The CommonHealth Wellness Program is a value-added benefit included at no additional cost for TLC members. This program's main objective is to provide education, best practices, and effective services that promote wellness and healthy living, improve overall employee engagement, impact behavioral change as well as employee health outcomes, and to assist employees in effectively managing work-life responsibilities. CommonHealth features confidential, at-work medical screenings plus other health and wellness programs such as nutrition, stress management and fitness programs as well as other virtual and on-demand programs.

Since wellness programs foster good health, which often can help to control claims costs, we strongly encourage you to take advantage of all that CommonHealth has to offer. Employees and their dependents covered by any TLC program are eligible to participate.

Choice of Plans - Statewide and Regional

Most employers may select a combination of Key Advantage, HDHP and any available regional plan. **Each employee in a statewide plan has the choice of preventive-only or comprehensive dental.**

- Groups with 14 or fewer eligible employees may offer only one benefit plan with both dental options.
- Groups with 15 to 99 eligible employees may offer two plans, each with both dental options.
- Groups with 100 or more eligible employees may offer two Key Advantage plans plus the HDHP, each with both dental options, and/or one of the Regional plans (if available).

Groups establish their own eligibility (within certain TLC parameters). These may change at renewal. Be sure that any change coincides with your personnel and policy practices. A written request for any changes must be submitted to the Department of Human Resource Management (DHRM) with your electronic renewal Employer Data Sheet (worksheet and instructions will be provided at a later date). DHRM must approve any changes to assure compliance with state regulations.

Group Rating

Totally Pool Rated - no credibility factor - Group size of 1 through 99 employees.

Experience Rating - Group size of 100 or more. A Credibility Factor applies to medical and behavioral health components only. All outpatient prescription drugs and routine dental claims are pooled, based on the combined experience of all current TLC groups, regardless of size.

Group Size	Credibility Factor
100 – 149	58% of the group's medical and behavioral health experience
150 – 199	71% of the group's medical and behavioral health experience
200 - 249	82% of the group's medical and behavioral health experience
250 - 299	91% of the group's medical and behavioral health experience
300 – and above	100% of the group's medical and behavioral health experience

To protect participating employers, TLC provides shared risk/stop loss protection through medical attachment points (Specific Pooling Points) of $125,000 for groups with fewer than 300 participating employees; $150,000 for groups between 300 and 999 participating employees; $200,000 for groups between 1,000 and 1,499 and $250,000 for groups with 1,500 or more employees.

Monthly rates for employee plus one and family are calculated as a factor of the single employee rate. The relationship between the single, dual, and family rates remains the same as in the current plan year: Single = 1, employee plus one = 1.85 X single rate, and family = 2.70 X single rate.

Employer Contribution

The Virginia Administrative Code requires that, as a condition of local employer participation in TLC, the employer must pay a minimum portion of the plan contribution attributable to an active local employee's coverage. Participating local employers must contribute a minimum of 80% of the cost of single coverage and 20% of the cost of dependent coverage as a condition of participation. In the event that an employer enrolls 75% or more of all eligible employees, the employer will not be required to contribute to the cost of dependent coverage.

Local employers allowing part-time employees to participate in the program must contribute a minimum of 50% of the amount contributed toward active full-time employee coverage (at all membership levels) for their participating part-time employees.

If the local employer elects to offer retiree coverage, contributions toward the cost is permitted but not required.

To provide more flexibility, employers offering multiple plans may choose to determine one minimum premium contribution requirement for all plans except for the HDHP, which must be determined separately (see below).

Premium averaging (if selected) will be based on the average single premium for all included plans. Once the average premium has been determined, the 80% employee minimum contribution and 20% dependent minimum contribution, is applied to all applicable plans.

Minimum employer funding for the HDHP is always determined separately from the Key Advantage and Regional plan requirements. If the HDHP is offered, an employer must pay a minimum of 80% of single premium and 20% of the additional dependent premium. If 75% of all eligible employees enroll and the employer funds an HSA/HRA, the 20% dependent contribution requirement is waived. For part-time participants, the 50% rule above will apply. Groups may make a higher contribution if they wish.

Regulations Governing the Local Choice Program

The section of the Virginia Administrative Code governing The Local Choice Program can be found at https://law.lis.virginia.gov/admincode/title1/agency55/chapter20/section20/.

Renewal Acceptance

To renew your coverage with TLC, you must submit the Employer Data Sheet through the DHRM on-line portal.

Detailed instructions for the on-line portal will be provided at a later date.

DHRM must receive the completed Employer Data Sheet for all groups via the on-line portal by March 25, 2022 for July renewals and by June 24, 2022 for October renewals. You will NOT be allowed to request an extension.

Once approved in our system, you will be able to access an approved confirmation of your renewal. The renewal confirmation will include benefit plan selections, premiums and employer /employee contributions.

Termination of Group Participation in TLC

For information on termination, please reference 1 VAC 55-20-160, 1 VAC 55-20-290 and 1 VAC 55-20-300 of the Virginia Administrative Code. According to these regulations, if you choose to terminate participation in The Local Choice Health Benefits Program, DHRM must receive written notification at least 90 days prior to the date of termination. The department will notify a terminating local employer of any Adverse Experience Adjustment (AEA) within six calendar months of the time the local employer terminates participation in the program. Further, the department reserves the right to modify the amount of the experience adjustment applicable to a terminating local employer for a period not to exceed 12 months from the end of the plan year in which such termination occurred.

The Adverse Experience Adjustment shall be payable by the local employer in 12 equal monthly installments beginning 30 days after the date of notification by the department. A terminated local employer may request, in writing, an extension of the 12-month installment payment period. DHRM may approve an extension up to 36 months provided the local employer agrees to pay interest at the statutory rate on any extended payments. Since AEA is an exact look-back limit of liability, it cannot be estimated.

Renewal & Open Enrollment Process

Employer Data Sheet

- This must be submitted by all TLC groups through the DHRM on-line portal by March 25, 2022 for July renewals and by June 24, 2022 for October renewals. You will NOT be allowed to request an extension.

Open Enrollment Materials

- Beginning March 7, 2022, Open Enrollment materials may be ordered based on the selected benefit plans and your total enrollment. It is your responsibility to order and distribute the appropriate materials. Please allow 7-10 business days for delivery.

Open Enrollment Meetings

- It is your responsibility to schedule your own Open Enrollment meetings. Representatives from the health plans are available to assist but you will have to contact them for scheduling.

Open Enrollment - IMPORTANT CHANGES

- The Open Enrollment period is critical to allow employees to make changes. It is your responsibility to communicate these dates to your participants.
- The renewal/open enrollment is not a complete re-enrollment. **No action is required if the employee is not making any health plan related changes.**
- **Open Enrollment for all TLC groups that renew on July 1 will be May 2, 2022 through May 16, 2022.**
- **Open Enrollment for all TLC groups that renew on October 1 will be August 1, 2022 through August 15, 2022.**

The Local Choice Support

If you have questions about eligibility, renewal process or policy administration, please contact The Local Choice at tlc@DHRM.virginia.gov or by calling 888-642-4414.

Thank you for your continued support of The Local Choice program.

URGENT MESSAGE TO TLC GROUPS THAT OFFER RETIREE COVERAGE

Retirees and their covered family members who become eligible for Medicare (due to age or disability) are not eligible to participate in the following TLC plans:

- All Key Advantage plans
- High Deductible Health Plan
- Kaiser HMO
- Optima Health HMO

TLC groups who offer coverage for Medicare eligible retirees must either move the Medicare-eligible retiree to the group's Medicare-primary plan or terminate the retiree coverage. This also applies to their Medicare-eligible family members. Family members who are not eligible for Medicare may remain in their non-Medicare plan until their own Medicare eligibility (or other termination event). However, if the retiree terminates coverage, all family members must also be terminated.

TLC groups who have chosen not to cover Medicare-eligible retirees must terminate the coverage for any retiree or family member of a retiree who becomes eligible for Medicare. When the retiree loses coverage due to Medicare eligibility, all family members will lose coverage, but the family members (not the retiree) should be offered Extended Coverage/COBRA. When a family member becomes eligible for Medicare and the Retiree is not eligible for Medicare, the Retiree (and any other non-Medicare family members) may continue coverage in the non-Medicare plan until the Retiree becomes eligible for Medicare. When that happens, the Retiree should be terminated, but all remaining

family members should be offered Extended Coverage/COBRA. (The family member that was terminated previously due to his/her own Medicare eligibility will not be eligible for Extended Coverage/COBRA. Only Medicare eligibility/entitlement of the employee is a triggering event for Extended Coverage, and only for covered family members.)

TLC tracks Medicare eligibility for groups' retiree population, but it is ultimately the responsibility of the retiree to report their Medicare eligibility to their Benefits Administrator. Retiree participants who have access to TLC Medicare-primary coverage but fail to move to that coverage immediately upon eligibility will be moved to an available TLC Medicare-primary plan back to their Medicare eligibility date or terminated. Any claims paid primary in error will be retracted, and any drug claim payments made in error will need to be paid back to plan.

Each group receives a monthly report of participants who are becoming eligible for Medicare. **You may disregard any active employees and their covered family members**, but retirees and their family members need to be addressed as described above.

TLC is in the process of implementing a Medicare identification process. Your retirees have already begun seeing correspondence in this regard.

Section 2

TLC Renewal Rates

The Local Choice Health Benefits Program

Isle of Wight County

Proposed Rates Effective from
for July 01, 2022 through June 30, 2023

	Single	Dual	Family
With Comprehensive Dental			
ACTIVE EMPLOYEES			
Key Advantage Expanded	$1,017	$1,881	$2,746
* Key Advantage 250	$927	$1,715	$2,503
* Key Advantage 500	$824	$1,524	$2,225
Key Advantage 1000	$785	$1,452	$2,120
* High Deductible Health Plan	$677	$1,252	$1,828
RETIREES NOT ELIGIBLE FOR MEDICARE			
Key Advantage Expanded	$1,017	$1,881	$2,746
* Key Advantage 250	$927	$1,715	$2,503
* Key Advantage 500	$824	$1,524	$2,225
Key Advantage 1000	$785	$1,452	$2,120
* High Deductible Health Plan	$677	$1,252	$1,828
With Preventive Dental Only			
ACTIVE EMPLOYEES			
Key Advantage Expanded	$1,000	$1,850	$2,700
* Key Advantage 250	$910	$1,684	$2,457
* Key Advantage 500	$807	$1,493	$2,179
Key Advantage 1000	$768	$1,421	$2,074
* High Deductible Health Plan	$660	$1,221	$1,782
RETIREES NOT ELIGIBLE FOR MEDICARE			
Key Advantage Expanded	$1,000	$1,850	$2,700
* Key Advantage 250	$910	$1,684	$2,457
* Key Advantage 500	$807	$1,493	$2,179
Key Advantage 1000	$768	$1,421	$2,074
* High Deductible Health Plan	$660	$1,221	$1,782

* Benefit Plans Currently Offered

Coverage under The Local Choice Key Advantage and HDHP contracts is for:

- Active Employees and their Dependents
- Retirees not eligible for Medicare and their Dependents not eligible for Medicare, and/or
- Dependents of Medicare eligible Retirees who are not Medicare eligible.

If coverage is offered to Medicare eligible retirees and their Medicare eligible Dependents, it must be obtained through one of our Medicare Supplemental contracts which require participation in both Parts A and B of Medicare to receive maximum benefits.

The PCORI fee is the responsibility of the group and payment should be submitted directly to HHS, therefore, this fee has not been included in your rates.

The Local Choice Health Benefits Program

Isle of Wight County

Proposed COBRA Rates Effective from
for July 01, 2022 through June 30, 2023

	Single	Dual	Family
With Comprehensive Dental			
ACTIVE EMPLOYEES			
Key Advantage Expanded	$1,037.34	$1,918.62	$2,800.92
* Key Advantage 250	$945.54	$1,749.30	$2,553.06
* Key Advantage 500	$840.48	$1,554.48	$2,269.50
Key Advantage 1000	$800.70	$1,481.04	$2,162.40
* High Deductible Health Plan	$690.54	$1,277.04	$1,864.56
RETIREES NOT ELIGIBLE FOR MEDICARE			
Key Advantage Expanded	$1,037.34	$1,918.62	$2,800.92
* Key Advantage 250	$945.54	$1,749.30	$2,553.06
* Key Advantage 500	$840.48	$1,554.48	$2,269.50
Key Advantage 1000	$800.70	$1,481.04	$2,162.40
* High Deductible Health Plan	$690.54	$1,277.04	$1,864.56
With Preventive Dental Only			
ACTIVE EMPLOYEES			
Key Advantage Expanded	$1,020.00	$1,887.00	$2,754.00
* Key Advantage 250	$928.20	$1,717.68	$2,506.14
* Key Advantage 500	$823.14	$1,522.86	$2,222.58
Key Advantage 1000	$783.36	$1,449.42	$2,115.48
* High Deductible Health Plan	$673.20	$1,245.42	$1,817.64
RETIREES NOT ELIGIBLE FOR MEDICARE			
Key Advantage Expanded	$1,020.00	$1,887.00	$2,754.00
* Key Advantage 250	$928.20	$1,717.68	$2,506.14
* Key Advantage 500	$823.14	$1,522.86	$2,222.58
Key Advantage 1000	$783.36	$1,449.42	$2,115.48
* High Deductible Health Plan	$673.20	$1,245.42	$1,817.64

* Benefit Plans Currently Offered

Coverage under The Local Choice Key Advantage and HDHP contracts is for:

- Active Employees and their Dependents
- Retirees not eligible for Medicare and their Dependents not eligible for Medicare, and/or
- Dependents of Medicare eligible Retirees who are not Medicare eligible.

If coverage is offered to Medicare eligible retirees and their Medicare eligible Dependents, it must be obtained through one of our Medicare Supplemental contracts which require participation in both Parts A and B of Medicare to receive maximum benefits.

The PCORI fee is the responsibility of the group and payment should be submitted directly to HHS, therefore, this fee has not been included in your rates.

THE LOCAL CHOICE HEALTH CARE PROGRAM

Anthem Blue Cross and Blue Shield

Renewal Analysis For:
(Excludes Advantage 65 premiums and claims)

Isle of Wight County
Group #TA2R7G
for July 01, 2022 through June 30, 2023

I.	Income at Current Rates (1)	$4,219,164
II.	Projected Medical Claims Related Charges (2)	
	A. Paid Claims for 12/1/2020 through 11/30/2021	$2,864,498
	B. Claims in excess of the $125,000 pooling limit	($300,117)
	C. Subtotal	$2,564,381
	D. Change in Incurred But Not Reported Claims	$25,644
	E. Benefit Adjustment	$0
	F. Trend	$253,822
	G. Impact of blending	($35,520)
	H. Total Medical Projected Incurred claims	$2,808,327
III.	Projected Reinsurance Charges	$472,922
IV.	Projected Medical Administrative Charges, Network Access Fees, and Affordable Care Act(3)	$164,429
V.	Projected Dental Capitation	$154,707
VI.	Projected Drug Capitation	$886,911
VII.	TLC Contingency Reserve or Risk Fee(4)	$44,873
VIII.	Total Income Requirements (II. + III. + IV. + V. + VI. + VII.)	$4,532,169
	Percentage Adjustment	7.4%
IX.	One-time TLC Adjustment	-1.0%
X.	**Revised Percentage Adjustment**	**6.3%**

[1] Illustrative income is based on current enrollment as follows:

	KA 250	KA 500	HDHP	TOTAL
Single	48	59	3	110
Dual	50	43	1	94
Family	24	28	2	54
TOTAL:	122	130	6	258

[2] There are 3 claims in excess of the $125,000 pooling limit.
Medical trends used in the renewal development were 6.1% annual.
For a 19 month projection, this equates to 9.8%

[3] Administrative charge as a percent of income requirements is 3.6%

[4] Includes DHRM Program Administration and CommonHealth

Assumes all have Comprehensive Dental.

23 PARTICIPANTS WITH LARGE CLAIMS OVER 25000
FOR ISLE OF WIGHT COUNTY - TA2R7G, A2R7G
CLAIMS PROCESSED: '2020-12-01' - '2021-11-30'
CLAIMS INCURRED: '1900-01-01' - '9999-12-31'
INCLUDES VISION, EXCLUDES MEDICARE AND DRUGS

PRODUCT	SEX REL	TIER	MBR-EMP CURRENT CVRG STATUS	DIAGNOSIS	MEDICAL EXPENSE AT 100%	VISION EXPENSE	BENEFIT EXPENSE
PAR-PPO	5	Emp-Child	A - A	CONGENITAL DEFORMITIES OF FEET	270,054.32	0.00	270,054.32
PAR-PPO	1	Emp-Family	A - A	CROHNS DISEASE REGIONAL ENTERITIS	235,449.16	0.00	235,449.16
PAR-PPO	4	UNK	U - U	MALIGNANT NEOPLASM OF OROPHARYNX	169,613.50	0.00	169,613.50
PAR-PPO	5	Emp-Family	A - A	FRACTURE OF LOWER LEG INCLUDING ANKLE	91,989.29	0.00	91,989.29
PAR-PPO	2	Emp Only	A - A	COMP CARDIC & VASC PROSTH DEVICES IMPLANT GRAFT	87,342.80	0.00	87,342.80
PAR-PPO	1	Emp-Spouse	A - A	OTHER SEPSIS	82,181.02	0.00	82,181.02
PAR-PPO	3	Emp-Spouse	C - A	OTHER LACK OF COORDINATION	64,265.27	108.08	64,373.35
PAR-PPO	3	Emp-Spouse	A - A	OTHER SEPSIS	61,846.82	0.00	61,846.82
PAR-PPO	3	Emp-Spouse	A - A	OTHER SPONDYLOPATHIES	51,692.96	0.00	51,692.96
PAR-PPO	2	Emp-Family	A - A	OVERWEIGHT AND OBESITY	45,909.91	0.00	45,909.91
PAR-PPO	1	Emp-Spouse	A - A	OSTEOARTHRITIS OF KNEE	40,167.69	0.00	40,167.69
PAR-PPO	4	Emp-Spouse	A - A	EMERGENCY USE OF U07	39,419.41	98.46	39,517.87
PAR-PPO	6	Emp-Family	C - A	ABNORMAL FINDINGS ON ANTENATAL SCREENING MOTHER	38,210.02	0.00	38,210.02
PAR-PPO	2	Emp-Child	A - A	EMERGENCY USE OF U07	37,172.52	0.00	37,172.52
PAR-PPO	3	Emp-Family	A - A	INTRACRANIAL INJURY	34,438.56	0.00	34,438.56
PAR-PPO	1	Emp-Spouse	A - A	FRACTURE OF LOWER LEG INCLUDING ANKLE	33,497.10	15.00	33,512.10
PAR-PPO	4	Emp-Family	A - A	ASTHMA	33,452.30	0.00	33,452.30
PAR-PPO	2	Emp-Child	A - A	FRACTURE OF RIBS STERNUM AND THORACIC SPINE	32,991.43	0.00	32,991.43
PAR-PPO	3	Emp-Family	A - A	OTHER INTERSTITIAL PULMONARY DISEASES	29,662.26	0.00	29,662.26
PAR-PPO	1	Emp-Child	C - C	OTHER SEPSIS	28,720.95	0.00	28,720.95
PAR-PPO	4	Emp-Family	A - A	CHOLELITHIASIS	28,239.52	0.00	28,239.52
PAR-PPO	3	Emp-Spouse	C - A	FRACTURE OF LOWER LEG INCLUDING ANKLE	27,546.52	0.00	27,546.52
PAR-PPO	2	Emp Only	A - A	OSTEOARTHRITIS OF KNEE	27,075.24	58.46	27,133.70
					1,590,938.57	**280.00**	**1,591,218.57**

SEX_REL CODES

1 MALE EMPLOYEE	2 FEMALE EMPLOYEE
3 MALE SPOUSE	4 FEMALE SPOUSE
5 MALE DEPENDENT	6 FEMALE DEPENDENT
7 MALE DEPENDENT	8 FEMALE DEPENDENT

STATUS

A ACTIVE
C CANCELLED

The Local Choice Health Benefits Program

Proposed Rates effective from

JULY 1, 2022 THROUGH JUNE 30, 2023

The following fully-insured regional plan is available through The Local Choice:

	SINGLE	DUAL	FAMILY
OPTIMA HEALTH VANTAGE HMO	**$ 782**	**$1,447**	**$2,095**

The Local Choice Health Benefits Program

Proposed COBRA Rates effective from

JULY 1, 2022 THROUGH JUNE 30, 2023

The following fully-insured regional plan is available through The Local Choice:

	SINGLE	DUAL	FAMILY
OPTIMA HEALTH VANTAGE HMO	**$ 797.64**	**$1,475.94**	**$2,136.90**

Section 3

Renewal Forms

Employer Renewal Data Sheet

Instructions for accessing the FY23 Employer Renewal Data Sheet will be provided through an eNews at a later date.

Online Material Ordering.

To order enrollment packages, benefit summaries and forms:

- Go to the materials ordering portal at tlcorders.com. Register a user account on the portal. If you already have a user account, enter your username and password then select "Login".
- Select from one of the following tabs to order materials
  - Enrollment Packages (see addendum for additional ordering instructions)
  - Benefit Summaries
  - Brochures/Forms
  - All Products TLC
- Enrollment Packages:
  1. Select "Order Now" under the appropriate Enrollment Packages tab.
  2. Enter the number of enrollment packages needed in the Quantity field.
  3. **Enter a "1" next to the plan or plans your group offers**.
  4. Add to Cart, or to add additional materials to your order, select "Continue Shopping" in the lower left.
  5. Once you have ordered all of the materials, select "Continue".
  6. Your shipping information will be populated into the form from your user account. Enter your group name in the Company field, select "Save" and then "Continue". If you need the items shipped to another address, complete the form, select "Save" and then "Continue". Confirm your shipping information then select "Continue".
  7. Confirm the items in your order and "Place My Order"
  8. You will:
     - be directed to a confirmation screen of your order.
     - receive an email confirming your order that will include a link back to the order confirmation screen.
     - receive a shipping confirmation email with tracking information on the date your order ships.
- Benefit Summaries*, Forms or All Products TLC.
  - Enter the quantity needed for each, select "Order Now" and follow steps 4 – 8 above.

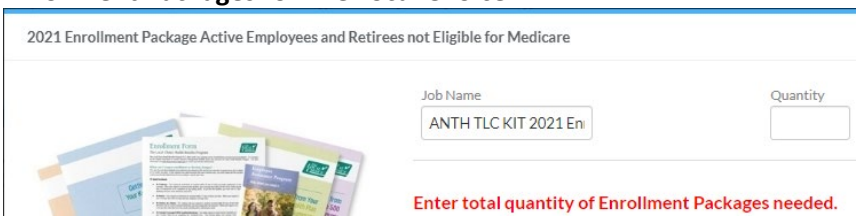
*Only if you need extra summaries in addition to your enrollment packages.

For questions about materials ordered, call or email Janet Browning at janet.browning@anthem.com or (804) 354-3904.

5/3/2021

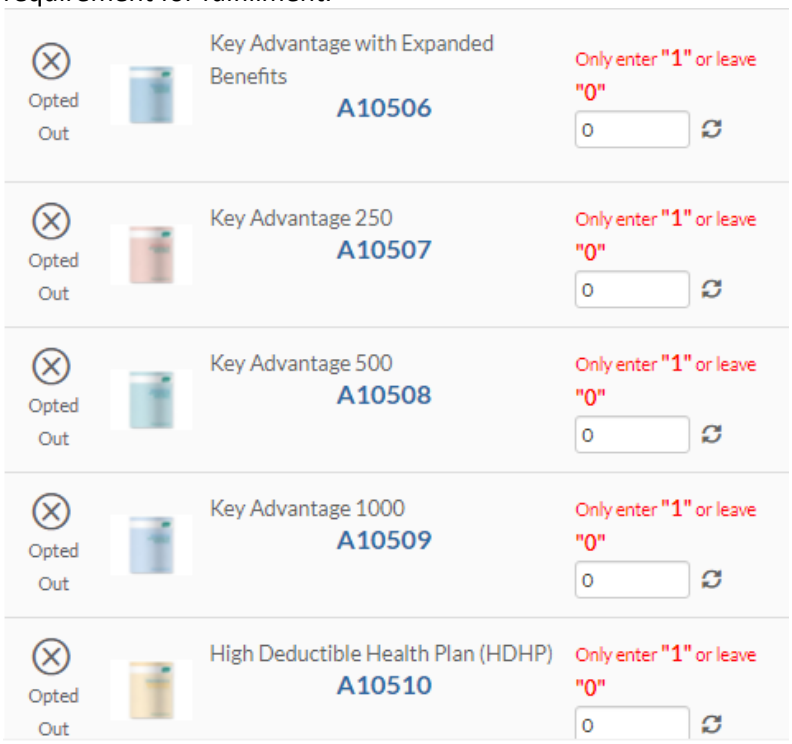
Addendum

Enrollment Packages for The Local Choice



The number of enrollment packages you enter **does not** match the number of benefit summaries you enter in the next section.

Enter a "1" **only next the benefit summaries you would like included in each package**. One benefit summary of each plan selected will be included in each enrollment envelope.
Ignore the Opted Out section – this automatically changes when you enter a "1" and is a system requirement for fulfillment.



Be sure to update the Company field with your group name. "Anthem-TLC" is the default until you update this field with your group name.



Once you save your address to your Address Book, your information will be saved for future orders unless you choose to send to another address.



Delta Dental of Virginia
4818 Starkey Road
Roanoke, VA 24018
888.335.8296

Date: _____

GROUP REQUEST FORM

Group Name: The Local Choice

Group Number: 047000000 & 048000000 Telephone Number: _____

Group Administrator: _____

Group Address: _____

_____

Mail to (If Different from Above): _____

_____

Quantity Needed

☐ _____ Benefits Brochure

Delta Dental of Virginia Use Only

Date Received: _____

Date Completed: _____

Sign off: _____

Method Sent: Next Day Air ____ 2nd Day Air ____ UPS Ground ____ Regular Mail ___

Please send request to:

Delta Dental of Virginia

Attn: Marketing Administration

4818 Starkey Road, Roanoke, VA 24018

Fax to 540-774-7574

Email to MktgAdmin@deltadentalva.com

If you have questions or need additional information please contact Allison Gaines at:

804.915.2690 or allison.gaines@deltadentalva.com

COVA Materials Order Form

This form is for Commonwealth of Virginia Benefit Administrators with employees who are covered under the Optima Health HMO plan. Please allow ten business days for delivery of materials. To submit requests, please email this form to: covamaterials@optimahealth.com.

Name:		**Telephone:**		**Date:**	
Agency Number:		**Agency Name:**			
Shipping Address*:					
Special Shipping Notes:					

**Orders cannot be delivered to P.O. Box addresses*

Consider going green. Information is available for benefit administrators, members, and all employees at our dedicated website: optimahealth.com/cova.

Item	Quantity	Description of Document
Optima Health Benefits Brochure		Eight-page document describing overview of plan design and additional features
Disease Management Program Flyer		Summarizes the Optima Health disease management program
5 in 5 EAP Orientation Flyer		Summarizes Employee Assistance Program benefits
Partners in Pregnancy Flyer		Details the Optima Health pregnancy program
Bariatric Surgery Flyer		Provides details on the Optima Health bariatric surgery benefit
Out-of-Area Dependent Form		Necessary form needed to cover out-of-area dependents
Dominion National Dental Brochure		Information about the dental benefits included in the Optima Health offering
Vision Summary of Benefits and Discount Flyer		Information about the vision benefits included in the Optima Health offering
All documents are available at optimahealth.com/cova. A password is not needed.		

Section 4

Comparison of Benefits

The Local Choice

2022 Comparison Of Statewide Plans

Effective July 1, 2022 or October 1, 2022

The Local Choice 2022 Comparison of Statewide Plans

	Key Advantage Expanded			Key Advantage 250		
Plan Year Deductible (Key Advantage: Applies to Certain Medical Services as Indicated on Chart) (HDHP: Applies to Medical, Behavioral Health, and Prescription Drug Services)	**In-Network:** One Person $100 **Out-of-Network:** $200	Two People *See Family* *See Family*	Family $200 $400	**In-Network:** One Person $250 **Out-of-Network:** $500	Two People *See Family* *See Family*	Family $500 $1,000
Plan Year Out-of-pocket Expense Limit	**In-Network:** One Person $2,000 **Out-of-Network:** $3,000	Two People *See Family* *See Family*	Family $4,000 $6,000	**In-Network:** One Person $3,000 **Out-of-Network:** $5,000	Two People *See Family* *See Family*	Family $6,000 $10,000
Out-of-Network Benefits	Yes. Once you meet the out-of-network deductible, you pay 30% coinsurance for medical and behavioral health services. Copayments do not apply to medical and behavioral health services. Copayments and coinsurance for routine vision, outpatient prescription drugs and dental services will still apply.			Yes. Once you meet the out-of-network deductible, you pay 30% coinsurance for medical and behavioral health services. Copayments do not apply to medical and behavioral health services. Copayments and coinsurance for routine vision, outpatient prescription drugs and dental services will still apply.		
Medical Care When Traveling (BlueCard)	Included			Included		
Lifetime Maximum	Unlimited			Unlimited		
Covered Services	**In-Network You Pay**			**In-Network You Pay**		
Ambulance Travel	20% coinsurance after deductible			20% coinsurance after deductible		
Autism Spectrum Disorder	Copayment/coinsurance determined by service received			Copayment/coinsurance determined by service received		
Behavioral Health and EAP *Inpatient treatment* • Facility Services • Professional Provider Services *Outpatient Professional Provider Visits*	 $300 copayment per stay $0 $15 copayment			 $400 copayment per stay $0 $20 copayment		
Employee Assistance Program (EAP) 4 visits per issue (per plan year)	$0			$0		
Dental Care **Preventive Dental Option** *(diagnostic and preventive services only for lower premium)*	$0			$0		
Comprehensive Dental Option *(for higher premium)* Dental Plan Year Deductible Plan Year Maximum (Except Orthodontics) • Preventive Dental Care • Primary Dental Care • Major Dental Care • Orthodontic Services (Includes Adult Ortho)	 *One Person* $25 $1,500 $0 20% coinsurance after dental deductible 50% coinsurance after dental deductible 50% coinsurance, no dental deductible, with $1,500 lifetime maximum	*Two People* $50	*Family* $75	 *One Person* $25 $1,500 $0 20% coinsurance after dental deductible 50% coinsurance after dental deductible 50% coinsurance, no dental deductible, with $1,500 lifetime maximum	*Two People* $50	*Family* $75

Key Advantage 500			Key Advantage 1000			High Deductible Health Plan		
In-Network:			**In-Network:**					
One Person	Two People	Family	One Person	Two People	Family	One Person	Two People	Family
$500	*See Family*	$1,000	$1,000	*See Family*	$2,000	$2,800	See Family	$5,600
Out-of-Network:			**Out-of-Network:**			Deductible is combined for In-Network and Out-of-Network services.		
$1,000	*See Family*	$2,000	$2,000	*See Family*	$4,000			
In-Network:			**In-Network:**			**In-Network:**		
One Person	Two People	Family	One Person	Two People	Family	One Person	Two People	Family
$4,000	*See Family*	$8,000	$5,000	*See Family*	$10,000	$5,000	See Family	$10,000
Out-of-Network:			**Out-of-Network:**			**Out-of-Network:**		
$7,000	*See Family*	$14,000	$9,000	*See Family*	$18,000	$10,000	See Family	$20,000
Yes. Once you meet the out-of-network deductible, you pay 30% coinsurance for medical and behavioral health services. Copayments do not apply to medical and behavioral health services. Copayments and coinsurance for routine vision, outpatient prescription drugs and dental services will still apply.			Yes. Once you meet the out-of-network deductible, you pay 30% coinsurance for medical and behavioral health services. Copayments do not apply to medical and behavioral health services. Copayments and coinsurance for routine vision, outpatient prescription drugs and dental services will still apply.			Yes. Once you meet the combined deductible you pay 40% coinsurance for medical, behavioral health and prescription drug services from Out-of-Network providers.		
Included			Included			Included		
Unlimited			Unlimited			Unlimited		
In-Network You Pay			**In-Network You Pay**			**In-Network You Pay**		
20% coinsurance after deductible			20% coinsurance after deductible			20% coinsurance after deductible		
Copayment/coinsurance determined by service received			Copayment/coinsurance determined by service received			20% coinsurance after deductible		
20% coinsurance after deductible			20% coinsurance after deductible			20% coinsurance after deductible		
$0			$0			20% coinsurance after deductible		
$25 copayment			$25 copayment			20% coinsurance after deductible		
$0			$0			$0		
$0			$0			$0		
One Person	*Two People*	*Family*	*One Person*	*Two People*	*Family*	*One Person*	*Two People*	*Family*
$25	$50	$75	$25	$50	$75	$25	$50	$75
$1,500			$1,500			$1,500		
$0			$0			$0		
20% coinsurance after dental deductible			20% coinsurance after dental deductible			20% coinsurance after dental deductible		
50% coinsurance after dental deductible			50% coinsurance after dental deductible			50% coinsurance after dental deductible		
50% coinsurance, no dental deductible, with $1,500 lifetime maximum			50% coinsurance, no dental deductible, with $1,500 lifetime maximum			50% coinsurance, no dental deductible, with $1,500 lifetime maximum		

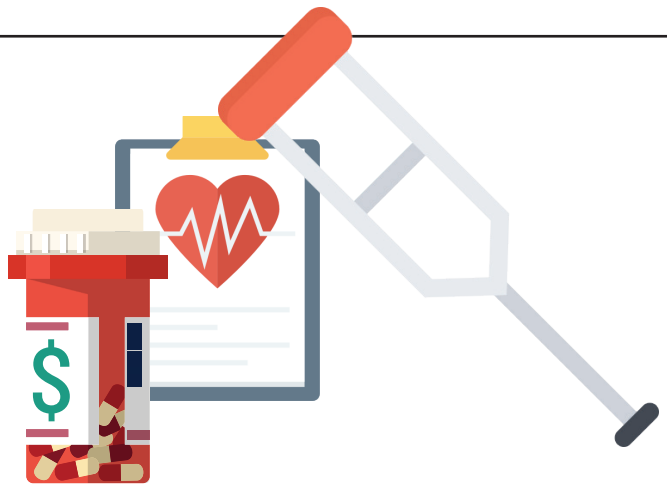
The Local Choice 2022 Comparison of Statewide Plans (continued)

Covered Services	Key Advantage Expanded In-Network You Pay	Key Advantage 250 In-Network You Pay
Diabetic Education	$0	$0
Diabetic Equipment	20% coinsurance after deductible	20% coinsurance after deductible
Diabetic Supplies - See Outpatient Prescription Drugs		
Diagnostic Tests and X-rays (for specific conditions or diseases at a doctor's office, emergency room or outpatient hospital department)	20% coinsurance, no deductible	20% coinsurance after deductible
Doctor Visits – on an Outpatient Basis *Primary Care Physicians* *Specialty Care Providers*	 $15 copayment $25 copayment	 $20 copayment $35 copayment
Early Intervention Services	Copayment/coinsurance determined by service received	Copayment/coinsurance determined by service received
Emergency Room Visits *Facility Services* *Professional Provider Services* - Primary Care Physicians - Specialty Care Providers *Diagnostic Tests and X-rays*	 $250 copayment per visit (waived if admitted to hospital) $15 copayment $25 copayment 20% coinsurance, no deductible	 $350 copayment per visit (waived if admitted to hospital) $20 copayment $35 copayment 20% coinsurance after deductible
Home Health Services (90 visit plan year limit per member)	$0	$0
Home Private Duty Nurse's Services	20% coinsurance after deductible	20% coinsurance after deductible
Hospice Care Services	$0	$0
Hospital Services *Inpatient Treatment* • Facility Services • Professional Provider Services - Primary Care Physicians - Specialty Care Providers *Outpatient Treatment* • Facility Services • Professional Provider Services - Primary Care Physicians - Specialty Care Providers *Diagnostic Tests and X-Rays*	 $300 copayment per stay $0 $0 $100 copayment $15 copayment $25 copayment 20% coinsurance, no deductible	 $400 copayment per stay $0 $0 $150 copayment $20 copayment $35 copayment 20% coinsurance after deductible
LiveHealth Online *(Online doctor's visits)*	$0	$0





Key Advantage 500 In-Network You Pay	Key Advantage 1000 In-Network You Pay	High Deductible Health Plan In-Network You Pay
$0	$0	20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
$25 copayment $40 copayment	$25 copayment $40 copayment	20% coinsurance after deductible 20% coinsurance after deductible
Copayment/coinsurance determined by service received	Copayment/coinsurance determined by service received	20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
$25 copayment $40 copayment 20% coinsurance after deductible	$25 copayment $40 copayment 20% coinsurance after deductible	20% coinsurance after deductible 20% coinsurance after deductible 20% coinsurance after deductible
$0	$0	20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
$0	$0	20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
$0 $0	$0 $0	20% coinsurance after deductible 20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
$25 copayment $40 copayment 20% coinsurance after deductible	$25 copayment $40 copayment 20% coinsurance after deductible	20% coinsurance after deductible 20% coinsurance after deductible 20% coinsurance after deductible
$0	$0	Determined by services received



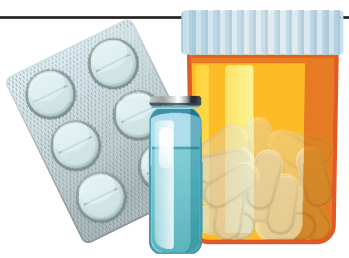
The Local Choice 2022 Comparison of Statewide Plans (continued)

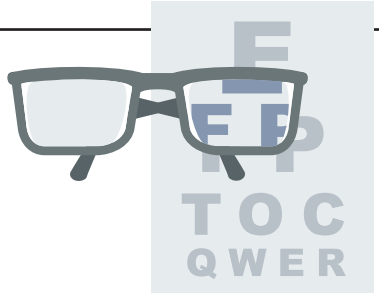
Covered Services	Key Advantage Expanded In-Network You Pay	Key Advantage 250 In-Network You Pay
Maternity		
Professional Provider Services (Prenatal & Postnatal Care)		
– Primary Care Physicians	$15 copayment	$20 copayment
– Specialty Care Providers	$25 copayment	$35 copayment
	If your doctor submits one bill for delivery, prenatal and postnatal care services, there is no copayment required for physician care. If your doctor bills for these services separately, your payment responsibility will be determined by the services received.	
Delivery		
– Primary Care Physicians	$0	$0
– Specialty Care Providers	$0	$0
Hospital Services for Delivery (Delivery Room, Anesthesia, Routine Nursing Care for Newborn)	$300 copayment per stay*	$400 copayment per stay*
Outpatient Diagnostic Tests	20% coinsurance, no deductible	20% coinsurance after deductible
Medical Equipment, Appliances, Formulas, Prosthetics and Supplies	20% coinsurance after deductible	20% coinsurance after deductible
Outpatient Prescription Drugs - Mandatory Generic		
*Retail up to 34-day supply**	Tier 1 – $10 copayment	Tier 1 – $10 copayment
*You may purchase up to a 90-day supply at a retail pharmacy by paying multiple copayments, or the coinsurance after the deductible	Tier 2 – $30 copayment Tier 3 – $45 copayment Tier 4 - $55 copayment	Tier 2 – $30 copayment Tier 3 – $45 copayment Tier 4 - $55 copayment
Home Delivery Services (Mail Order) Covered Drugs for up to a 90-Day Supply	Tier 1 – $20 copayment Tier 2 – $60 copayment Tier 3 – $90 copayment Tier 4 - $110 copayment	Tier 1 – $20 copayment Tier 2 – $60 copayment Tier 3 – $90 copayment Tier 4 - $110 copayment
Diabetic Supplies	20% coinsurance, no deductible	20% coinsurance, no deductible
Prescription Insulin Drugs to Treat Diabetes	34-day supply not to exceed $50 90-day supply not to exceed $150	34-day supply not to exceed $50 90-day supply not to exceed $150
Routine vision - Blue View Vision Network (Once Every Plan Year)		
Routine Eye Exam	$25 copayment	$35 copayment
Eyeglass Lenses	$20 copayment	$20 copayment
Eyeglass Frames	Up to $100 retail allowance**	Up to $100 retail allowance**
Contact Lenses (In Lieu of Eyeglass Lenses)		
• Elective	Up to $100 retail allowance	Up to $100 retail allowance
• Non-Elective	Up to $250 retail allowance	Up to $250 retail allowance
Upgrade Eyeglass Lenses (Available for Additional Cost)		
• UV Coating, Tints, Standard Scratch-Resistant	$15	$15
• Standard Polycarbonate	$40	$40
• Standard Progressive	$65	$65
• Standard Anti-Reflective	$45	$45
• Other Add-Ons	20% off retail	20% off retail
Shots – Allergy & Therapeutic Injections (At Doctor's Office, Emergency Room or Outpatient Hospital Department)	20% coinsurance, no deductible	20% coinsurance after deductible

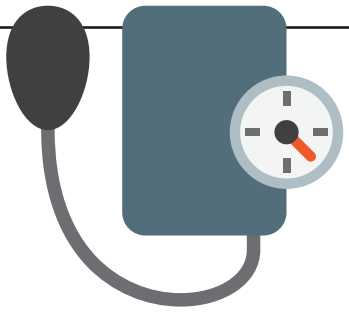
**This plan will waive the hospital copayment if the member enrolls in the maternity management pre-natal program within the first 16 weeks of pregnancy, has a dental cleaning during pregnancy and satisfactorily completes the program.*

***You may select a frame greater than the covered allowance and receive a 20% discount for any additional cost over the allowance.*

Key Advantage 500 In-Network You Pay	Key Advantage 1000 In-Network You Pay	High Deductible Health Plan In-Network You Pay
$25 copayment $40 copayment If your doctor submits one bill for delivery, prenatal and postnatal care services, there is no copayment required for physician care. If your doctor bills for these services separately, your payment responsibility will be determined by the services received.	$25 copayment $40 copayment	20% coinsurance after deductible 20% coinsurance after deductible
$0 $0	$0 $0	20% coinsurance after deductible 20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
Tier 1 – $10 copayment Tier 2 – $30 copayment Tier 3 – $45 copayment Tier 4 - $55 copayment	Tier 1 – $10 copayment Tier 2 – $30 copayment Tier 3 – $45 copayment Tier 4 - $55 copayment	20% coinsurance after deductible
Tier 1 – $20 copayment Tier 2 – $60 copayment Tier 3 – $90 copayment Tier 4 - $110 copayment	Tier 1 – $20 copayment Tier 2 – $60 copayment Tier 3 – $90 copayment Tier 4 - $110 copayment	20% coinsurance after deductible
20% coinsurance, no deductible	20% coinsurance, no deductible	20% coinsurance after deductible
34-day supply not to exceed $50 90-day supply not to exceed $150	34-day supply not to exceed $50 90-day supply not to exceed $150	34-day supply not to exceed $50 90-day supply not to exceed $150
$40 copayment $20 copayment Up to $100 retail allowance**	$40 copayment $20 copayment Up to $100 retail allowance**	$15 copayment $20 copayment Up to $100 retail allowance**
Up to $100 retail allowance Up to $250 retail allowance	Up to $100 retail allowance Up to $250 retail allowance	Up to $100 retail allowance Up to $250 retail allowance
$15 $40 $65 $45 20% off retail	$15 $40 $65 $45 20% off retail	$15 $40 $65 $45 20% off retail
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible





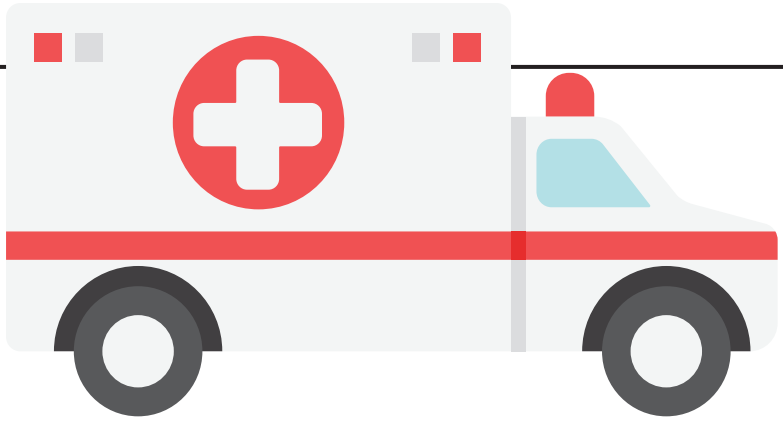


The Local Choice 2022 Comparison of Statewide Plans (continued)

Covered Services	Key Advantage Expanded In-Network You Pay	Key Advantage 250 In-Network You Pay
Skilled Nursing Facility Stays (180-Day Per Stay Limit Per Member)		
Facility Services	$0	$0
Professional Provider Services	$0	$0
Spinal Manipulations and Other Manual Medical Interventions (30 Visits Per Plan Year Limit Per Member)		
Primary Care Physicians	$15 copayment	$20 copayment
Specialty Care Providers	$25 copayment	$35 copayment
Surgery – See Hospital Services		
Therapy Services *Infusion Services, Cardiac Rehabilitation Therapy, Chemotherapy, Radiation Therapy, Respiratory Therapy, Occupational Therapy, Physical Therapy, and Speech Therapy*		
Facility Services	20% coinsurance after deductible	20% coinsurance after deductible
Professional Provider Services		
– Primary Care Physicians	20% coinsurance after deductible	20% coinsurance after deductible
– Specialty Care Providers	20% coinsurance after deductible	20% coinsurance after deductible
Wellness services *Well Child (Office Visits at Specified Intervals Through Age 6)* – Primary Care Physicians; – Specialty Care Providers; – Immunizations and Screening Tests	No copayment, coinsurance, or deductible	No copayment, coinsurance, or deductible
Routine Wellness – Age 7 & Older • Annual Check-Up Visit (One Per Plan Year) – Primary Care Physicians – Specialty Care Providers – Immunizations, Lab and X-Ray Services	No copayment, coinsurance, or deductible	No copayment, coinsurance, or deductible
• Routine Screenings, Immunizations, Lab and X-Ray Services (Outside of Annual Check-Up Visit)	No copayment, coinsurance, or deductible	No copayment, coinsurance, or deductible
Preventive Care (One of Each Per Plan Year) • Gynecological Exam • Pap Test • Mammography Screening • Prostate Exam (Digital Rectal Exam) • Prostate Specific Antigen Test • Colorectal Cancer Screenings	No copayment, coinsurance, or deductible	No copayment, coinsurance, or deductible



Key Advantage 500 In-Network You Pay	Key Advantage 1000 In-Network You Pay	High Deductible Health Plan In-Network You Pay
$0	$0	20% coinsurance after deductible
$0	$0	20% coinsurance after deductible
$25 copayment $40 copayment	$25 copayment $40 copayment	20% coinsurance after deductible 20% coinsurance after deductible
20% coinsurance after deductible	20% coinsurance after deductible	20% coinsurance after deductible
20% coinsurance after deductible 20% coinsurance after deductible	20% coinsurance after deductible 20% coinsurance after deductible	20% coinsurance after deductible 20% coinsurance after deductible
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No copayment, coinsurance, or deductible	No copayment, coinsurance, or deductible	No copayment, coinsurance, or deductible



Health & Wellness Programs

Be your healthy best! The TLC plans include access to a host of health and wellness programs to help you manage your health issues.

- **Sydney:** The **Sydney Health mobile app** acts like a personal health assistant, answering your questions and connecting you to the right resources at the right time. And you can use the chatbot to get answers quickly. Download from the App Store (iOS) or Google Play (Android).
  - Find care and check costs
  - View and use digital ID cards
  - Check all benefits and view claims
- **ConditionCare:** Take advantage of free and confidential support to manage these conditions:
  - Asthma
  - Heart failure
  - Diabetes
  - Hypertension
  - Coronary artery disease (CAD)
  - Chronic obstructive pulmonary disease (COPD)

  You may receive a call from ConditionCare if your claims indicate you or an enrolled family member may be dealing with one or more of these conditions. While you're encouraged to enroll and take advantage of help from registered nurses and other healthcare professionals, you may also opt out of the program when they call.
- **Future Moms:** Enroll and receive pre- and post-natal support. Access a nurse coach and other maternity support specially designed to help women have healthy pregnancies and healthy babies.
- **MyHealth Advantage:** Receive personalized health-related suggestions, tips, and reminders via mail or email to alert you of potential health risks, care gaps or cost-saving opportunities.
- **24/7 NurseLine & Audio Health Library:** Sometimes you need health questions answered right away – even in the middle of the night. Call 24/7 NurseLine (800-337-4770) to speak with a nurse. Or use the Audio Health Library if you want to learn about a health topic on your own. Your call is always free and completely confidential.
- **CommonHealth** is the employee wellness program for The Local Choice. The main objectiveof CommonHealth is to promote wellness in the workplace. Yearly programs cover a variety of health and wellness subjects and are presented in a variety of formats - including onsite programs and video presentations that make it easy to participate. Not only are the programs educational and fun, they help you stay fit and healthy. For more information, visit **www.commonhealth.virginia.gov/tlc**.



See more information on Health & Wellness programs at **www.anthem.com/tlc.**

LiveHealthOnline.com

LiveHealth Online lets you have a face-to-face doctor visit from your mobile device or computer with a webcam at **no cost**. Go to **livehealthonline.com** or download the app so you'll be ready whenever you need these LiveHealth Online services.

- **LiveHealth Online Medical** – Use your smartphone, tablet or computer to see a board-certified doctor in minutes, any time, day or night. It's a fast, easy way to get care for common medical conditions like the flu, colds, allergies, pink eye, sinus infections, and more.
- **LiveHealth Online Psychology** – Use your device to make an appointment to see a therapist or psychologist online.
- **LiveHealth Online Psychiatry** – Unlike therapists who provide counseling support, psychiatrists can also provide medication management. Use your device to set up a visit online.
- **LiveHealth Online EAP** – You can access your free EAP counseling sessions from your device. Contact your EAP to learn more.
- **LiveHealth Online Healthy Sleep** – Access board certified Sleep Specialists who can diagnose and manage a wide range of sleep disorders.

Employee Assistance Program (EAP)

Your EAP gives you, your covered dependents and members of your household **up to four free confidential counseling sessions per issue** each plan year.

Turn to your EAP for information and resources about:

- Emotional well-being
- Addiction and recovery
- Work and career
- Childcare and parenting
- Helping aging parents
- Financial issues (including free credit monitoring and identity theft recovery)
- Legal concerns
- Smoking cessation

We're here for you – in many languages

The law requires us to include a message in all of these different languages. Curious what they say? Here's the English version: "You have the right to get help in your language for free. Just call the Member Services number on your ID card." Visually impaired? You can also ask for other formats of this document.

Spanish
Usted tiene derecho a recibir ayuda en su idioma en forma gratuita. Simplemente llame al número de Servicios para Miembros que figura en su tarjeta de identificación.

Chinese
您有權免費獲得透過您使用的語言提供的幫助。請撥打您的 ID 卡片上的會員服務電話號碼。若您是視障人士，還可索取本文件的其他格式版本。

Vietnamese
Quý vị có quyền nhận miễn phí trợ giúp bằng ngôn ngữ của mình. Chỉ cần gọi số Dịch vụ dành cho thành viên trên thẻ ID của quý vị. Bị khiếm thị? Quý vị cũng có thể hỏi xin định dạng khác của tài liệu này."

Korean
귀하는 자국어로 무료지원을 받을 권리가 있습니다. ID 카드에 있는 멤버 서비스번호로 연락하십시오.

Tagalog
May karapatan ka na makakuha ng tulong sa iyong wika nang libre. Tawagan lamang ang numero ng Member Services sa iyong ID card. May kapansanan ka ba sa paningin? Maaari ka ring humiling ng iba pang format ng dokumentong ito.

Russian
Вы имеете право на получение бесплатной помощи на вашем языке. Просто позвоните по номеру обслуживания клиентов, указанному на вашей идентификационной карте. Пациенты с нарушением зрения могут заказать документ в другом формате.

Armenian
Դուք իրավունք ունեք ստանալ անվճար օգնություն ձեր լեզվով: Պարզապես զանգահարեք Անդամների սպասարկման կենտրոն, որի հեռախոսահամարը նշված է ձեր ID քարտի վրա:

Farsi
"شما این حق را دارید تا به صورت رایگان به زبان مادری تان کمک دریافت کنید. کافی است با شماره خدمات اعضا (Member Services) درج شده روی کارت شناسایی خود تماس بگیرید." دچار اختلال بینایی هستید؟ می توانید این سند را به فرمت های دیگری نیز درخواست دهید.

French
Vous pouvez obtenir gratuitement de l'aide dans votre langue. Il vous suffit d'appeler le numéro réservé aux membres qui figure sur votre carte d'identification. Si vous êtes malvoyant, vous pouvez également demander à obtenir ce document sous d'autres formats.

Arabic
لك الحق في الحصول على مساعدة بلغتك مجانًا. ما عليك سوى الاتصال برقم خدمة الأعضاء الموجود على بطاقة الهوية. هل أنت ضعيف البصر؟ يمكنك طلب أشكال أخرى من هذا المستند.

Japanese
お客様の言語で無償サポートを受けることができます。IDカードに記載されているメンバーサービス番号までご連絡ください。

Haitian
Se dwa ou pou w jwenn èd nan lang ou gratis. Annik rele nimewo Sèvis Manm ki sou kat ID ou a. Èske ou gen pwoblèm pou wè? Ou ka mande dokiman sa a nan lòt fòma tou.

Italian
Ricevere assistenza nella tua lingua è un tuo diritto. Chiama il numero dei Servizi per i membri riportato sul tuo tesserino. Sei ipovedente? È possibile richiedere questo documento anche in formati diversi

Polish
Masz prawo do uzyskania darmowej pomocy udzielonej w Twoim języku. Wystarczy zadzwonić na numer działu pomocy znajdujący się na Twojej karcie identyfikacyjnej.

Punjabi
ਆਪਣੀ ਭਾਸ਼ਾ iਵੱਚ ਮੁਫ਼ਤ iਵੱਚ ਮਦਦ ਹਾiਸਲ ਕਰਨ ਦਾ ਿਅਧਕਾਰ ਹੈ। ਬਸ ਆਪਣy ਆਈਡੀ ਕਾਰਡ ਤੇ iਦੱਤੇ ਸਿਰਵਸ ਨੰਬਰ ਤੇ ਕਾਲ ਕਰੋ। ਨਜ਼ਰ ਕਮਜ਼ੋਰ ਹੈ? ਤੁਸ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੇ ਹੋਰ ਰੂਪਾਂਤਰ ਮੰਗ ਸਕਦੇ ਹੋ।

TTY/TTD:711

It's important we treat you fairly

We follow federal civil rights laws in our health programs and activities. By calling Member Services, our members can get free in-language support, and free aids and services if you have a disability. We don't discriminate, exclude people, or treat them differently on the basis of race, color, national origin, sex, age or disability. For people whose primary language isn't English, we offer free language assistance services through interpreters and other written languages. Interested in these services? Call the Member Services number on your ID card for help (TTY/TTD: 711). If you think we failed in any of these areas, you can mail a complaint to: Compliance Coordinator, P.O. Box 27401, Mail Drop VA2002-N160, Richmond, VA 23279, or directly to the U.S. Department of Health and Human Services, Office for Civil Rights at 200 Independence Avenue, SW; Room 509F, HHH Building; Washington, D.C. 20201. You can also call 1-800- 368-1019 (TDD: 1-800-537-7697) or visit https://ocrportal.hhs.gov/ocr/portal/lobby.jsf

Quick Access to Your Plan

Anthem.com/tlc

Your dedicated website for health benefits documents, no log in needed

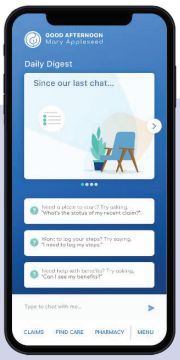
- Download your health benefits summary and member handbook
- Find care
- Register for *LiveHealth Online* video doctor visits
- Learn about your Employee Assistance Program (EAP)

Anthem.com

Log in to your confidential and secure account

- View your claims
- Download your ID card
- Find care
- Refill prescriptions online
- Compare costs for hundreds of medical procedures

Sydney Health mobile app



Download on the App Store

GET IT ON Google Play

Log in using your anthem.com username and password to:

- View your ID card
- See all your medical and pharmacy benefits in one place
- Use the chatbot to get answers and resources quickly
- Connect easily to care
- Track your health goals and fitness

thelocalchoice.virginia.gov

This is your resource for forms, Cardinal information and member notifications.



Explore a comprehensive and personalized view of your company's benefit offerings, view and pay your Anthem bill, and get the latest news **through EmployerAccess**.

Getting started

- Identify the main administration contact or *Site Administrator* for your business. They will register for EmployerAccess and be responsible for adding additional users.
- Register at **employer.anthem.com/eea**.
- You will receive an email to complete the registration process.
- Once you're registered, download the EmployerAccess app for benefits management, news and alerts on the go.

The LOCAL CHOICE

Language Access Services - (TTY/TDD: 711)
(Spanish) - Tiene el derecho de obtener esta información y ayuda en su idioma en forma gratuita. Llame al número de Servicios para Miembros que figura en su tarjeta de identificación para obtener ayuda.
(Korean) - 귀하에게는 무료로 이 정보를 얻고 귀하의 언어로 도움을 받을 권리가 있습니다. 도움을 얻으려면 귀하의 ID 카드에 있는 회원 서비스 번호로 전화하십시오
The Commonwealth of Virginia complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. ©2019 Anthem Inc.
Anthem Blue Cross and Blue Shield is the trade name of Anthem Health Plans of Virginia, Inc. Serving all of Virginia except for the City of Fairfax, the Town of Vienna, and the area east of State Route 123. Independent licensee of the Blue Cross and Blue Shield Association. Anthem is a registered trademark of Anthem Insurance Companies, Inc.

A10558 (11/2021)

Section 5

Regional Plan Benefit Summary (if offered in your area)

OPTIMA HEALTH VANTAGE HMO PLAN

The Local Choice

Benefits Summary



For July 1, 2022 and October 1, 2022 effective dates

OptimaHealth

v112021


OptimaHealth

OptimaHealth

About

OPTIMA HEALTH

Optima Health, a local health plan headquartered in Virginia, is proud to serve The Local Choice (TLC) employers. The Optima Health Plan is a comprehensive benefit plan that includes dental, vision, and hearing.

The plan is a regional health maintenance organization (HMO) plan available to Commonwealth of Virginia employees and TLC employers. With the open-access style HMO plan, members are not required to select a primary care physician (PCP) and they do not need referrals for specialist care. Optima Health encourages, but does not require a PCP relationship. PCPs can help members with routine medical care and provide guidance when seeking specialist care within the broad Optima Health network of over 37,000[1] providers. The plan also includes preventive care covered in full, out-of-area coverage for eligible dependent children, dental and vision benefits, emergency travel assistance, Employee Assistance Program services, and more[2].

Members may receive services with any participating provider in the Optima Health Vantage (HMO) network throughout Virginia and northeastern North Carolina. In order to enroll in the plan, members must be eligible for coverage as defined by their employer, and they must live or work in the greater Hampton Roads region, which includes:

Chesapeake, City of Franklin, Gloucester, Hampton, Isle of Wight, James City, Mathews, Newport News, Norfolk, Poquoson, Portsmouth, Southampton, Suffolk, Surry, Virginia Beach, Williamsburg, and York.

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THE LOCAL CHOICE

The Local Choice (TLC) is a unique health benefits program managed by the Commonwealth of Virginia Department of Human Resource Management (DHRM). TLC employer groups with employees who live or work in the Greater Hampton Roads area have the option to offer the Optima Health Plan to eligible employees.

This guide is an overview of the Optima Health benefits available for TLC groups. For a complete description of benefits, exclusions and limitations please see the Optima Health Group Evidence of Coverage available at **optimahealth.com/cova**.

[1] Sentara Health Plans, Inc. Provider Database, 2021.

[2] Certain preventive care services and medications for individuals covered by an Optima Health insurance plan are available at no charge through an in-network physician or pharmacy. An office visit copayment may be charged to health plan members for some services.

OptimaHealth

Plan Features At a Glance

Plan Features At A Glance	
All-in-one easy-to-use plan	Comprehensive benefits include dental benefits through Dominion National, vision benefits through EyeMed Vision Services, and Employee Assistance Program services.
A network focused on quality and access	Members may receive services with any participating provider in the Optima Health Vantage network throughout Virginia and northeastern North Carolina. The network includes 100% of major hospitals in Hampton Roads and over 37,000 participating providers. This plan includes lower copayments for primary and specialist care when members seek care through the Sentara Quality Care Network (SQCN) as well as credentialed, in-network doctors within Riverside Health System and Tidewater Physicians Multispecialty Group (TPMG).
Focused on affordability	Low annual deductible (which may not apply for most services) and copayments for many frequently used services
Improving health everyday	Health and wellness programs and services, caring disease management nurses, and a special incentive program for those managing certain chronic diseases
Out-of-Area Dependent Program	Access to a national network of providers outside of the Optima Health service area through PHCS/Multiplan at the in-network benefit level for eligible covered dependents
More plan extras	Wellness services, Partners in Pregnancy, emergency travel assistance, and member discounts on health and wellness products and services
Member Services – Virginians serving Virginians	Dedicated local member services team

OptimaHealth

Optima Health Benefits

The following is an abbreviated summary of the benefits. For a complete listing of all benefits, refer to the Evidence of Coverage found at **optimahealth.com/cova** under **Plan Information**.

Medical and Pharmacy	Description	Medical and Pharmacy
Deductible	Per plan year	$150 individual $300 family
Maximum Out of Pocket (MOOP)	This is the most you would pay in the plan year	$1,500 individual $3,000 family
Office Visits	PCP or Specialist visits copayments Tier 1: Sentara Quality Network (SQCN), Riverside affiliated physicians and Tidewater Physicians Multispecialty Group (TPMG) - refer to **optimahealth.com/cova** for full listing	PCP Tier 1: $5 PCP Tier 2: $25 Specialist Tier 1: $10 Specialist Tier 2: $40 MDLIVE: $0
Preventive Care	Includes routine wellness visits, well-baby care, well-woman care	Covered at 100%
Therapy	Combined 30 visit limit for both Physical Therapy (PT) and Occupational Therapy (OT); 30 visit limit for Speech Therapy (ST)	Per visit PT: $25 copayment OT: $25 copayment ST: $25 copayment
Outpatient Services	Outpatient diagnostics, labs, X-Rays (OP Diagnostics) Outpatient surgery (OP Surgery)	OP Diagnostics: 20% after deductible OP Surgery: $125
Inpatient Services	Services rendered at an inpatient facility	$300 per inpatient stay
Emergency Services	Includes physician and ancillary services provided in an Emergency Department	$150 copayment (waived if admitted)
Behavioral Health	Inpatient (IP), Outpatient Office (Office); Outpatient Facility (Facility)	IP: $300 copayment Office: $10 copayment Facility: $125 copayment MDLIVE: $0 copayment
Chiropractic Care	Includes examination, re-examination, manipulation, conjunctive therapy, radiology, one chiropractic appliance and lab tests	$35 copayment
Pharmacy	Formulary based on 4 tiers: Preferred Generic, Preferred Brand and Other Generic, Non-Preferred Brand, Specialty Drugs	Retail: $15/$30/$45/$55 Mail Order: $30/$60/$90/* * 90-day mail order on Tier 4 specialty drugs not available

Note: This is a brief summary of benefits. For a complete description of the benefits, exclusions, limitations, and other plan information, please refer to the Optima Health Evidence of Coverage.

OptimaHealth

Optima Health Benefits

The following is an abbreviated summary of the benefits. For a complete listing of all benefits, refer to the Evidence of Coverage found at **optimahealth.com/cova** under **Plan Information**.

Dental Benefits	Description	Benefit
General Features	Deductible and benefit maximum	$50 individual; $150 family $2,000 Annual Benefit Maximum
Diagnostic/Preventive	Cleanings, X-rays, fluoride	Covered at 100%
Basic Services	Fillings, root canals, extractions, periodontics	20% after deductible
Major	Crowns, bridges, dentures, implants	50% after deductible
Orthodontia	For children and adults	50% with lifetime maximum of $2,000
Contracted with Dominion National		

Vision Benefits	Description	Benefit
Exam	Exam and dilation as needed	$15 copayment
Glasses	Frames lenses and lens options	Frame allowance and discount; with many lens options at a copayment
Contact Lenses	Conventional or disposable	Lens allowance and discount
Contracted with EyeMed		

Employee Assistance Program	Description	Benefit
Help with life's challenges	Short-term, solution focused counseling for all members of household	Up to four counseling sessions at no cost to member
Provided through Optima Health		

Visit **optimahealth.com/cova** to view:

- Evidence of Coverage
- Summary of Benefits
- EyeMed Summary of Benefits
- Dominion National Dental Summary of Benefits
- Summary of Benefits and Coverage
- Transition of Care Assessment
- Out-of-Area Dependent Form

Note: This is a brief summary of benefits. For a complete description of the benefits, exclusions, limitations, and other plan information, please refer to the Optima Health Evidence of Coverage.

OptimaHealth

Health Plan Extras

Making the Most of Your Benefits

MEDICAL AND PHARMACY

The Optima Health Plan designed for TLC groups is an integrated, comprehensive benefit plan. Members enjoy the convenience of one member ID card, low deductibles, predictable copayments, and the freedom to seek specialist care without a referral. The broad medical network in Greater Hampton Roads includes all major hospital systems, and the pharmacy network includes major retail chains and local pharmacies.

SAVE WITH LOWER COPAYMENTS

The unique benefit plan includes a lower copayment for primary care and specialist care when members seek care through a specific list of physicians. This list includes the Sentara Quality Care Network (SQCN) as well as credentialed, in-network doctors within Riverside Health System and Tidewater Physicians Multispecialty Group (TPMG). SQCN is a Clinically Integrated Network (CIN) that includes not only Sentara Medical Group, but also many other independent, top-quality providers in the Greater Hampton Roads area. A current list of these physicians is found at **optimahealth.com/cova**.

DISEASE MANAGEMENT INCENTIVES

Members who are managing asthma/chronic obstructive pulmonary disease (COPD), diabetes, and hypertension may be eligible to earn financial incentives by participating in Optima Health disease management programs. Members can receive a waived medical deductible of $150 (single) or $300 (family) and have a waived copayment for prescription drug Tier 1 and Tier 2 medications for their condition. These programs offer support and guidance to better manage these conditions and include care plan development, provider coordination, and more.

COMPREHENSIVE DENTAL & VISION

Comprehensive benefits include dental benefits through Dominion National and vision benefits through EyeMed Vision Services. The plan is packaged together with one premium for medical, dental, and vision coverage.

MDLIVE*

The Optima Health Plan includes our partnership with MDLIVE®, a national telehealth company, to expand access to quality, convenient healthcare by offering virtual appointments. With MDLIVE, members can speak with a board-certified doctor or licensed therapist at any time, from anywhere in the United States by video conference or phone.

AFTER HOURS AND ONLINE

Members also have access to after-hours health guidance through our 24/7 Nurse Advice Line as well as health and wellness tools through WebMD Health Services.

MORE PLAN EXTRAS

- weight management programs
- the Partners in Pregnancy program
- bariatric surgery program
- health coaching and wellness programs
- discounts on health products and services
- personalized health assessment
- gym discounts
- emergency travel assistance
- Optima Health mobile app

Have questions?

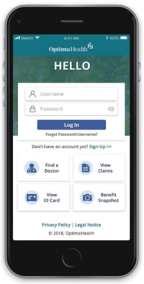
For more information about Optima Health Plan:

Call: **1-866-846-2682, 8 a.m.–6 p.m., Monday to Friday**

Email: members@optimahealth.com

Online: visit **optimahealth.com/cova**

Take us with you anywhere



Members can take advantage of the Optima Health mobile app once they join the plan. The app can be downloaded from the App Store or Google Play. Members must register and sign in to the app to access secure plan information.

Safely and securely access important health information—at home, at the doctor, and even on the road.

With the touch of the screen members can:

- find doctors and urgent care centers
- securely view benefit information
- view and email member ID cards
- access claims information, including in-network plan expenses, deductibles, and balances
- view user profile and update email address
- access Optima Health contact information
- chat directly with an Optima Health representative
- receive important preventive care notifications

We Improve Health Every Day

Optima Health is the trade name of Optima Health Plan, Optima Health Insurance Company, and Sentara Health Plans, Inc. This Plan is underwritten by Optima Health Plan. All Optima Health plans have benefit exclusions and limitations and terms under which the policy may be continued in force or discontinued.

Section 6

Medicare Plans Benefit Summaries (if you cover eligible retirees)

Section 7

Miscellaneous Information

2020-21 Language Assistance Statement
State Health Benefits Program

Virginia Department of HUMAN RESOURCE MANAGEMENT

The Commonwealth of Virginia's State and Local Health Benefits Programs (the "Health Plan") complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. Our Nondiscrimination Notice lists the services available and how to file a complaint if you feel that the Health Plan has failed to provide these services or discriminated in another way.

ATTENTION: If you need help in the language you speak, language assistance services are available to you free of charge. Send your request for language assistance to appeals@dhrm.virginia.gov or fax to 804-786-0356.

Spanish:
ATENCIÓN: Si necesita ayuda en el idioma que habla, servicios de asistencia lingüística están a su disposición de forma gratuita. Envíe su solicitud de asistencia lenguaje para appeals@dhrm.virginia.gov~~V o por fax al 804-786-0356.

Korean:
주의 : 당신이 말하는 언어로 도움이 필요한 경우, 언어 지원 서비스를 무료로 당신에게 사용할 수 있습니다. 804-786-0356에 언어 appeals@dhrm.virginia.gov~~V하는 지원이나 팩스에 대한 요청을 보냅니다.

Vietnamese:
Chú ý: Nếu bạn cần giúp đỡ trong ngôn ngữ bạn nói, các dịch vụ hỗ trợ ngôn ngữ có sẵn cho bạn miễn phí. Gửi yêu cầu để được hỗ trợ ngôn ngữ để appeals@dhrm.virginia.gov~~V hoặc fax 804-786-0356.

Chinese:
注意：如果你需要在你講的語言幫助，語言協助服務提供給您免費。發送您的語言協助 appeals@dhrm.virginia.gov~~V或傳真至804-786-0356請求。

Arabic:
تنبيه: إذا كنت بحاجة إلى مساعدة باللغة التي تتحدثها، فإن خدمات المساعدة اللغوية متوفرة لك مجانًا.
أرسل طلبك للحصول على المساعدة اللغوية عبر البريد الإلكتروني إلى appeals@dhrm.virginia.gov
أو عبر الفاكس إلى 804-786-0356.

Persian:
توجه: اگر شما نیاز به کمک در زبان شما صحبت می کنند، خدمات کمک زبان در دسترس شما هستند رایگان می باشد. ارسال درخواست خود را برای کمک به زبان appeals@dhrm.virginia.gov~~V.0356-786-804 یا فکس به

Amharic:
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Urdu:
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Bassa:
Dè ɖɛ nìà kɛ dyéɖé gbo: Ɔ jŭ ké m̀ [Ɓàsɔ́ɔ̀-wùɖù-po-nyɔ̀] jŭ ní, nìí, à wuɖu kà kò ɖò po-poɔ̀bɛ́ìn m̀ gbo kpáa. Đá 804-786-0353.

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Ntị: Ọ bụrụ na ị chọrọ enyemaka na asụsụ ị na-asụ, asụsụ aka ọrụ dị ka ị n'efu. Send gị arịrịọ maka asụsụ aka appeals@dhrm.virginia.gov~~V ma ọ bụ faksị ka 804-786-0356.

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Akiyesi: Ti o ba nilo iranlọwọ ninu ede ti o sọrọ, ede iranlowo iṣẹ ni o wa wa si o free ti idiyele. Fi ìbéèrè rẹ fun ede iranlowo to appeals@dhrm.virginia.gov tabi Faksi to 804-786-0356.

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TLC Procedures for Determining Adverse Experience Adjustment (AEA)

Sections 1VAC55-20-160 D and 1VAC55-20-300 of the Virginia Administrative Code, the regulations under which The Local Choice (TLC) program operates, provide for a potential Adverse Experience Adjustment to withdrawing employers. This adjustment requires any withdrawing employer to contribute their pro rata share of any operating loss experienced during prior plan years. Although the regulations permit a multi-year review of profits and losses, it is the policy of the Department to confine any applicable Adverse Experience Adjustment to the experience of the last plan year during which the employer was a member. The following illustrations have been prepared to assist our members in understanding how an Adverse Experience Adjustment would be calculated.

The basis for determining any Adverse Experience Adjustment will be (1) the amount of the program's loss for the most recent plan year, (2) the experience of the employer, and (3) the proportion of the employer's enrollment to the enrollment for the entire category. Employers are divided into three categories.

1. Employers with 1 to 99 enrollees (Pooled)
2. Employers with 100 to 299 enrollees (Blended)
3. Employers with over 299 enrollees (Experience Rated)

A statement of income and expenses is prepared for each category based upon its experience. (The third category is comprised of experience rated employers. Each group is responsible for their own claims, whether or not the entire category of experience rated employers sustains a loss.)

EMPLOYERS WITH FEWER THAN 300 ENROLLEES (CATEGORIES 1 & 2)
The first step in the adjustment process is to determine the total number of contract units (C/Us) for each category for the past plan year. A contract unit is determined by the following factors applied to the type of membership times the number of month's participation for each enrollee: an employee only contract has



one C/U; an employee plus one contract has 1.85 C/Us; a family contract has 2.7 C/Us. Therefore, the number of contracts by each membership type is accumulated, and the total contract units for that category is computed based on the stated factors as follows:

Type of Membership	Total Contracts	C/U Factor	Total C/Us
Employee only x 12 =	4,500	1.0	4,500
Employee + One x 12 =	2,200	1.85	4,070
Family x 12 =	3,300	2.7	8,910
Total	**10,000**		**17,480**

The next step is to determine the total number of contract units for the withdrawing employer during the plan year using the same method illustrated above. The withdrawing employer's pro rata share of the contract units is then applied to the category's loss to determine the adverse experience adjustment for the withdrawing employer. The following example illustrates an adverse experience calculation for employers in categories 1 and 2.

EXAMPLE *:
ASSUMPTIONS: Loss for the category is $1,000,000. Total category contract units equal 17,480. The terminating employer had 1,878 C/Us during the review year.

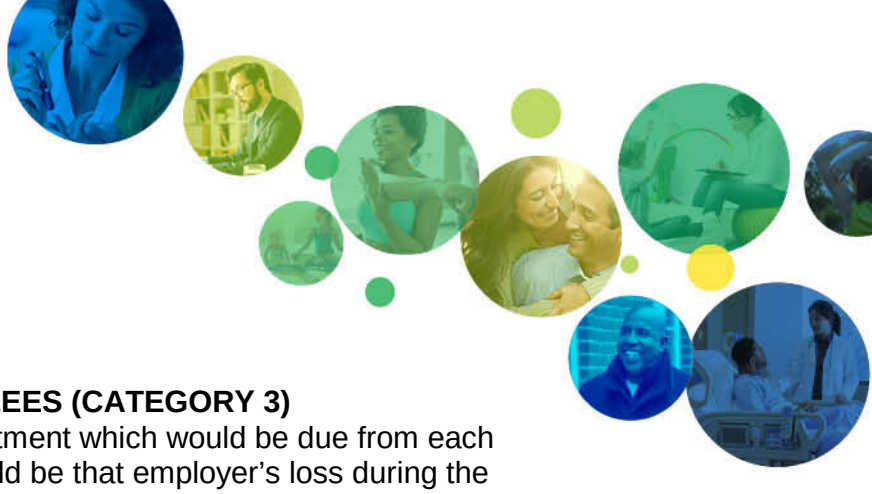
1. Employer's C/Us divided by category's C/Us equals employer's pro rata share.
2. Employer's share times the category's loss equals the employer's Adverse Experience Adjustment.

CALCULATIONS: 1,878 / 17,480 = 10.74% X $1,000,000 = $107,437

In the example, the employer would have an Adverse Experience Adjustment of $107,437 at the time of termination. The terminating employer would be notified of this amount within 6 months of termination, and the employer would be required to pay the adjustment in up to 12 equal installments beginning 30 days after the notification by the Department.

It is possible that one category could experience a loss, subjecting employers in that category to an Adverse Experience Adjustment, while another category could operate at a surplus and require no Adverse Experience Adjustment to a terminating group.

* Examples are for illustration only and have no bearing on the actual experience of a pool/category or individual group.



EMPLOYERS WITH OVER 299 ENROLLEES (CATEGORY 3)
The maximum Adverse Experience Adjustment which would be due from each terminating employer in this category would be that employer's loss during the immediate past plan year based upon the employer's plan(s) expenses and its pro rata share of the program overhead. Prior years' performance during which the employer was experience rated would be taken into consideration, if favorable to the employer, but the Adverse Experience Adjustment would never exceed the last plan year's loss.

An employer in this category withdrawing at the end of a year in which they did not have a loss would not be assessed an Adverse Experience Adjustment. Another employer that withdrew with a $100,000 loss during the last plan year would be subject to a maximum Adverse Experience Adjustment of the $100,000 loss paid in equal installments over a 12-month period. An illustration follows:

SAMPLE ILLUSTRATION *

ANY CATEGORY 3 EMPLOYER
THE LOCAL CHOICE HEALTH CARE PROGRAM
Operating Statement
July 1, 2010 through June 30, 2011

INCOME	$1,519,543
EXPENSES:	
Incurred Claims	$1,417,129
Contractor Administration	128,107
Pooled Capitation (Rx, Dental and MISA)	55,290
Program Overhead	19,017
Total Expenses	$1,619,543
GAIN OR (LOSS)	($100,000)

If this employer had withdrawn on June 30, 2011, the maximum Adverse Experience Adjustment would have been the operating loss of $100,000. However, prior year's accumulated gains could be applied to reduce any current year loss.

Likewise, if an employer withdraws from the program and the review analysis reflects a gain for the immediate past plan year, there would be no Adverse Experience Adjustment, even if their accumulated experience was a loss.

* Examples are for illustration only and have no bearing on the actual experience of a pool/category or individual group.

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October 29, 2021

Ann Wohl
Program Manager, The Local Choice
Department of Human Resource Management
101 N. 14th St., 13th Floor
Richmond, VA 23219

RE: GASB Liability Information

The Local Choice (TLC) program is a self-funded health benefit program, administered by the Commonwealth of Virginia that allows local Virginia municipalities, schools and political subdivisions to benefit from the Commonwealth's purchasing power. From an employer's perspective, TLC works like an insured arrangement in which each TLC group pays the Commonwealth on a fixed per contract per month basis for the health care program that they choose. If the TLC group has more than one benefit option, they have different rates for each option. This fixed payment represents the full cost to the group during the plan year in return for reimbursement of all covered expenses, claims and administrative cost for the group.

Annually, each TLC group is presented with a renewal rate for the next coverage year and may either agree to the new fixed rate or leave the program. New groups can enter the program at any time by agreeing to the proposed fixed rate. There is no settlement from the group or refund to the group if expenses are more or less than the fixed contract payment. A settlement is only applied if a group terminates coverage while the pool in which they participated is in a deficit position or in the case of groups over 300 employees, if their plan experiences a deficit. This settlement for terminating groups is known as an Adverse Experience Adjustment.

The rates charged for TLC are developed based on competitive industry practices for prospective premium development for groups of similar size. For example, the rates for groups under 300 are developed on a prospective basis using a community rating by class methodology. Community rates are developed for each group size block of business. (The three block sizes are 1-99, 100-299, and 300+ enrolled employees.) These community rates are then blended based on a size specific medical claim credibility factor with group specific claims experience. The rates for groups over 300 are 100% prospectively experience rated. Rates for outpatient prescription drug and dental are pooled for all TLC groups regardless of size.

For groups with Retirees Not Eligible for Medicare, the group is either charged separate active employee and Stand-Alone Retiree Not Eligible for Medicare rates or rates are blended with active employee rates. All groups under 100 lives are charged a blended rate to include Early Retirees, if applicable. Groups over 100 lives may choose either a blended rate or Stand-Alone rates. Stand-Alone Retiree Not Eligible for Medicare rates are two (2) times the active rate. The Retiree Not Eligible for Medicare loading represents the additional morbidity costs of the Retirees Not Eligible for Medicare in the population covered.

The Commonwealth maintains a separate health insurance fund for TLC in which premiums are deposited and from which claims and administrative costs are paid. The program administrator's goal is to pay claims and maintain an adequate balance in the fund to cover required IBNP reserves, other liabilities and a contingency margin. Any fund deficits are the responsibility of the Commonwealth and may not be charged to a TLC group that remains in the plan.

Since a TLC group's only liability is the fixed fee paid to the Commonwealth for coverage, it is our opinion that these prospectively rated groups should not use actual group claims experience in the development of GASB liability but should use the actual rate charged in the development of their claim cost assumption.

Sincerely,



Elizabeth Hanson, F.S.A., M.A.A.A.
AAA Number: 17280
Consulting Actuary



Karen Fischer, F.S.A, M.A.A.A.
AAA Number: 35224
Consulting Actuary

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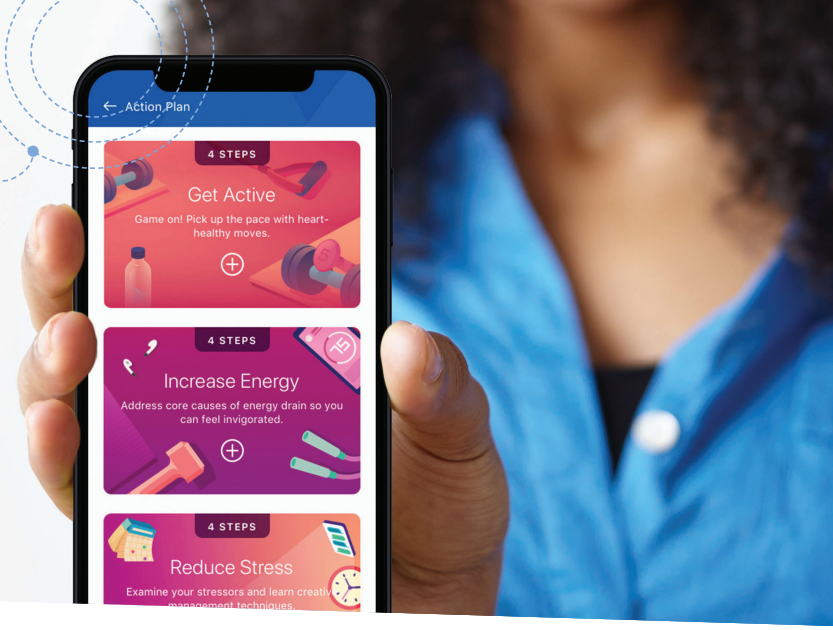
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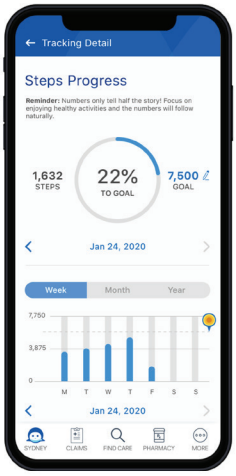
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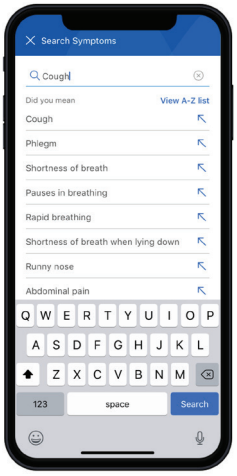
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ISSUE:

Consideration of a Stormwater Management Grant Pilot Program

BACKGROUND:

The County has established a stormwater management fee to fund the County's capital, operational, and maintenance requirements. The County Stormwater Advisory Committee (SAC) has been tasked to review this issue and found the program would benefit certain communities/owners in the County.

The County has identified an opportunity to start a grant program to provide assistance to communities for private stormwater management facility maintenance and repair.

BUDGETARY IMPACT:

To be determined. Stormwater Fund balance can be used for pilot program funds.

RECOMMENDATION:

Authorize the Stormwater Division in conjunction with the SAC to develop a pilot grant project.

ISSUE:

Consideration of Establishment of a Commission for Adults with Special Needs

BACKGROUND:

At its regular meeting on February 17, 2022, the Board requested that staff return to the Board's March meeting with an outline of how a Special Needs Commission will be formed, its makeup and its mission statement.

BUDGETARY IMPACT:

None.

RECOMMENDATION:

For the Board's discussion and direction.