

# Hickory Solar

## 1. NOTICE OF INTENT

A Notice of Intent was filed with DEQ. A Notice of Intent was first posted in the Virginia Register of Regulations on March 6, 2017, Volume 33 Issue 14 for Hickory Solar I and Hickory Solar II. A revised Notice of Intent for Hickory Solar was submitted to DEQ on August 2, 2018, and was published in the Virginia Register of Regulations on September 3, 2018, Volume 35, Issue 1. Copies of all associated documentation are included as Attachment A.

## 2. COMPLIANCE WITH LOCAL LAND USE ORDINANCES

A Conditional Use Permit from the City of Chesapeake to operate a Solar facility was granted on February 14, 2018 and is included in Attachment B. The City of Chesapeake granted a variance to raise the fence height surrounding the Site to a maximum of 10' (Attachment B).

## 3. INTERCONNECTION STUDIES

Interconnection studies were completed by Dominion Energy Virginia for VA16106 – Hickory Solar 1, LLC, and VA16112 – Hickory Solar 2, LLC. Both studies are included in Attachment C.

## 4. INTERCONNECTION AGREEMENTS

Small Generator Interconnection Agreements have been made by Dominion Energy Virginia and Caden Energix Hickory LLC for VA16106 and VA16112. Copies of both interconnection agreements are included in Attachment D.

## 5. MAXIMUM GENERATION CAPACITY CERTIFICATION

The maximum generation capacity of this proposed facility is 32 MW. A copy of the Maximum Generation Capacity Certification is included in Attachment E.

## 6. ANALYSIS OF POTENTIAL IMPACT ON AIR QUALITY STANDARDS

Operation of the proposed solar generation facility is not anticipated to have a negative effect to the attainment of national ambient air quality standards. During the operation of the facility, no gases, carbon emissions or related air pollutants are released to the atmosphere.

The proposed project will generate the energy equivalent to the usage of approximately 7,900 homes. Over time, the operation of the facility is anticipated to have a positive impact on ambient air quality as the solar facility has the potential to off-set energy production by traditional (fossil fuel burning) energy production methods. Energy generation from the proposed project would offset the following emissions, improving the air sheds as estimated below:

- 82,760,000 lbs of carbon dioxide
- 77,430 lbs of sulfur dioxide
- 57,780 lbs of nitrogen oxide
- 5,880 lbs of particulate matter 2.5  $\mu\text{m}$

The above calculations are estimates, based on analysis using the EPA Avoided Emissions and Generation Tool at <https://www.epa.gov/statelocalenergy/avoided-emissions-and-generation-tool-avert>. Southeast regional data was utilized for the calculations.

## 7. ANALYSIS OF POTENTIAL BENEFICIAL/ADVERSE IMPACTS ON NATURAL RESOURCES

As part of the site selection due diligence and feasibility analysis conducted for this property, Hickory Solar has analyzed the project with respect to the beneficial and adverse impacts of the proposed project on natural and cultural resources. This analysis includes both desktop and field survey for natural and cultural resources in accordance with appropriate protocols prescribed in 9VAC15-60-40.

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## Natural Resource Analysis

### **Wetland Delineation**

A wetland delineation was conducted on the property in March 2016. The Site was delineated based upon the methodology outlined in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual; the Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0) and subsequently issued USACE regulatory guidance regarding the identification of jurisdictional stream channels through the recognition of field indicators of an ordinary high water mark within drainage features. Using these methodologies, no wetlands were identified onsite, and 5,533 linear feet of WUS (perennial and intermittent streams) were identified onsite.

The U.S. Army Corps of Engineers issued a Preliminary Jurisdictional Determination on July 28, 2017. The Preliminary Jurisdictional determination documentation is included in Attachment F.

Expected beneficial and adverse impacts

Identified WUS on the project site is located along the northern and western perimeter boundaries. These resources will not be impacted by the project development.

### **Coastal Avian Protection Zone**

An analysis of the project limit boundaries' proximity to the Coastal Avian Protection Zone (CAPZ) was prepared (Attachment G). CAPZ areas were determined by consulting DEQ's Coastal GEMS geospatial data system. As a result of analysis, the proposed project site does not fall in part or in whole within one or more CAPZ.

## Wildlife Analysis

### **Threatened and Endangered Species**

An Endangered Species Project Review was conducted to gain insight regarding the potential presence of Endangered Species Act (ESA) listed species as well as State listed species within or in the vicinity of the Site. The following agencies and associated databases were reviewed;

- Virginia Department of Conservation and Recreation (VDCR) – Division of Natural Heritage (DNH) database
- Virginia Department of Game and Inland Fisheries (VDGIF) - Virginia Fish and Wildlife Information Service (VaFWIS) – Wildlife Environmental Review Map Services (WERMS)

Information provided in the VDCR-DNH database (Attachment H) indicates the presence of a stream conservation unit downstream of the project site. Within the Indian Creek – Northwest River Stream Conservation Unit, there is one natural heritage resource, the Pale bluet (*Enallagma pallidum*). The Pale bluet is a damselfly that is neither threatened nor endangered. Further, VDCR-DNH identified Raven's Seedbox (*Ludwigia ravenii*) as a natural heritage resource of concern also located within the Indian Creek – Northwest River Stream Conservation Unit. Raven's Seedbox is under review for listing. VDCR also recommends the planting of native pollinator plants in the buffer areas of the planned facility.

The WERMS map (Attachment H) indicates the presence of species in the general vicinity of the property. The majority of species within a two-mile buffer of the project are non-threatened and non-

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endangered; however, the canebrake rattlesnake (non-threatened, state endangered) and spotted turtle (non-threatened, collection concern) are located within the buffer.

### Expected beneficial and adverse impacts

As the project area has previously been developed for agricultural use, adverse impacts to threatened and endangered species is expected to be minimal or non-existent for this project. VDCR has determined that the project will not affect any documented state-listed plants or insects. The applicant will seek to incorporate the use of pollinator-friendly species within areas of disturbance that require seeding.

Species were identified within a two-mile buffer of the project area using the WERMS database; however, no state-listed threatened and endangered wildlife are found to occur within the disturbance zone (9 VAC 15-60-50.A.1). Therefore, no adverse impacts are expected for this project.

### Historical/Cultural Resource Analysis

Hickory Solar has conducted analyses of historic resources through both desktop and field review by a professional meeting the qualification standards of the Secretary of the Interior's Standards for Archeology and Historic Preservation (9VAC15-60-120 B 2) in the appropriate discipline. The analyses include desktop analysis through accessing the Virginia Department of Historic Resources' (VDHR) Virginia Cultural Resource Information Service (VCRIS), conducting a field survey of all architectural resources, and conducting limited shovel testing to investigate archaeological resources within the disturbance zone. An initial report, "*Management Summary – Hickory Solar Farm*" (Attachment I) concluded that no further archaeological work is needed, and recommended completion of a Phase I Architectural Report.

The Phase I Architectural Report identified two potentially-eligible listing for the National Register of Historic Places (NRHP), Site 131-5441 and 131-5958. In addition, one site, 131-5720, has been determined eligible for the National Register. VDHR issued a letter concurring with the results of the Phase I Architectural Survey on August 31, 2018 (Attachment I).

### Expected beneficial and adverse impacts

There are no direct impacts to historical or cultural resources within the project limits. There are multiple resources identified on the adjoining properties and within a half-mile buffer; recommendations from the Phase I architectural report recommended "No adverse effect" or "No further work" for each of the resources. Further, among the resources identified as potentially-eligible, Site 131-5441 (a house) and Site 131-5958 (the circa 1880 Norfolk Southern Railroad) will not be impacted by the project. Site 131-5720 is the circa 1762 Northwest River Basin Rural Historic District, and consists of approximately 40,000 acres of wetlands, woods, and agricultural fields. The project area is located in the northwestern section of the district and represents a small portion on the northern edge of the district. In its review, DHR recommended expanding the extant tree line to provide vegetative screening. By providing vegetative screening, there will be no adverse impacts on the historical and cultural resources. No further architectural survey work is recommended.

There are no identified archaeological resources within the project area that require further analysis.

## 8. MITIGATION PLAN

A screening plan was recommended to reduce the visual impact of the Northwest River Basin Historic District's agrarian setting and feeling. As a result, and in accordance with the Conditional Use Permit issued by the City of Chesapeake (Attachment B), an evergreen buffer will be maintained/placed along

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the entirety of the property line. The extant tree line will be expanded to encircle the project area and will be supplemented with additional vegetation to maintain cover in all seasons.

In addition to the vegetative buffer, careful planning and design was undertaken to ensure that no adverse impacts will occur. These include:

- 1) incorporating a deliberate site selection process that seeks to avoid sensitive natural resources, including avoidance of wetlands with a 50' buffer around identified resources;
- 2) avoidance of stream impacts, and maintenance of riparian buffers;
- 3) identification and avoidance of cultural resource attributes;
- 4) site selection that prioritizes lands that have been previously disturbed through past land use;
- 5) site selection that includes consideration of interconnection location in close proximity to the proposed solar development and avoidance of long distribution line construction to the point of interconnection; and
- 6) strict adherence to applicable erosion and sediment control requirements throughout construction.

No additional measures will be specifically incorporated into this mitigation plan, as no additional impacts to natural or cultural resources are anticipated.

### 9. CERTIFICATION OF DESIGN INCORPORATING MITIGATION PLAN

According to 9VAC15-60-80, the design and installation of small solar energy projects shall incorporate requirements of a mitigation plan, if that mitigation plan is required according to 9VAC15-60-60.

The certification of design form is attached as Attachment J.

### 10. OPERATION PLAN INCORPORATING MITIGATION PLAN

An operating plan is included within Attachment K.

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## 11. SITE PLAN & CONTEXT MAP

A site plan and context map have been provided in accordance with 9VAC15-60-70 in **Figures 2 and 3** below, and are also included as Attachment L in greater detail.



**Figure 2 – Site Plan**

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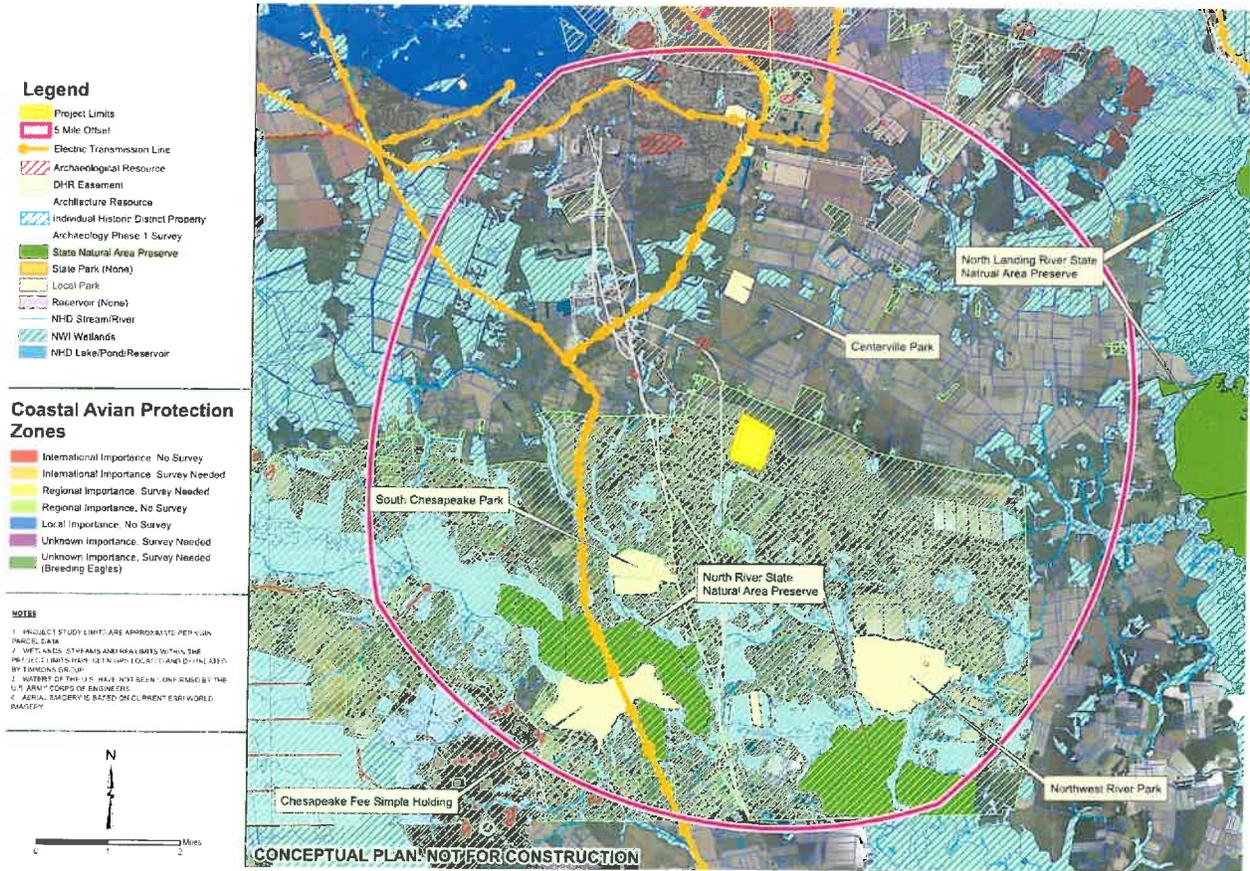


Figure 3 – Context Map

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### 12. CERTIFICATION OF APPLICATION FOR ENVIRONMENTAL PERMITS

As certified in the Environmental Permit Certification Form (Attachment M), the applicant has identified and will obtain all necessary environmental permits. Caden Energix Hickory LLC has made contact with the appropriate erosion and sediment control and stormwater program authorities. Further submission to obtain a Virginia Stormwater Management Program – General Permit will occur as site plans develop in the near future.

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### 13. NON-UTILITY CERTIFICATION

As certified in the Non-Utility Certification Form (Attachment N), the applicant is not a utility regulated pursuant to title 56 of the Code of Virginia.

### 14. PUBLIC REVIEW

A public review and comment period occurred in October-November 2018. In accordance with § 10.1-1197.6 B 13 and 14 of the Code of Virginia, there was a 30-day public review and comment period from October 22 to November 21, 2018. Materials were available for viewing during this time at the Chesapeake Planning Department offices at 306 Cedar Road, Chesapeake VA 23322. The public review and comment period was advertised once a week for two consecutive weeks, on October 5<sup>th</sup> and 12<sup>th</sup>, 2018 in the Virginian-Pilot. Pursuant to 9VAC15-60-90, there was a public meeting held on Wednesday, November 7<sup>th</sup> from 5:30 to 6:30 pm at the Hickory Ruritan Club at 2752 Battlefield Blvd South in Chesapeake, VA. Materials in support of the public review process including copies of the public notice, public meeting comments, and the public meeting sign-in sheet are included in Attachment O.

### 15. PERMIT FEE

In accordance with 9VAC15-60-110, a payment of \$10,000 was provided with this application as stipulated by the PBR.