

WOODRIDGE SOLAR

CRITICAL SLOPES WAIVER – SPECIAL EXCEPTION REQUEST SE 2022-_____

MAY 16, 2022

PREPARED BY:



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

608 PRESTON AVENUE, SUITE 200
CHARLOTTESVILLE, VA 22903
CRAIG KOTARSKI, PE

Introduction

A Special Exception is being requested per Section 4.2.5.(a) of the Albemarle County Zoning Ordinance for a waiver to grade within critical slopes to support the development of a solar energy facility (SP 2022-____). Per Section 4.2 of the Albemarle County Zoning Ordinance, the intent of the critical slopes ordinance is to *“implement the comprehensive plan by protecting and conserving steep hillsides together with public drinking water supplies and flood plain areas because of the increased potential for soil erosion, sedimentation, water pollution and sewage disposal problems associated with the disturbance of critical slopes.”* Within this application, we plan to demonstrate both the need for approximately 11.4 acres of critical slopes impact, as well as the mitigation efforts implemented to ensure slopes are impacted responsibly to protect downstream land and waters.

Existing Conditions

The subject property (parcels 11400-00-05100, 11400-00-00-05500, 11400-00-00-05800, 11400-00-00-06800, 11400-00-00-06900, 11400-00-00-07000) is about 2,259.5 acres located in southeastern Albemarle County, adjacent to Secretarys Road. It is zoned Rural Areas (RA) and is currently undeveloped; it has been used for silviculture and commercial timbering since at least 1937, as long as pertinent records have been kept, as shown in the historic imagery and wetlands delineation report provided with the Special Use Permit application. The subject property contains several environmental features, including delineated streams and wetlands, corresponding buffer areas, a 100-year floodplain, and critical slopes.

Proposed Special Exception

Per the attached exhibit entitled “Conceptual Site Plan”, prepared by Timmons Group and dated May 16, 2022 (**Exhibit A**), a solar energy facility will be developed on the subject property. Critical slopes disturbance is proposed to grade and install solar arrays, as well as construct supporting utilities and access roads. As stated above, the subject property contains a variety of environmental features, including delineated wetlands and streams, their accompanying 100-foot buffers, and a floodplain. Critical slopes, which account for 62.6 acres on the property, then further decrease buildable area on site and divide the property into smaller areas of less connected, less developable space. See **Image 1** below. There are multiple areas of critical slopes scattered throughout the site, a majority of which are not associated with streams or stream buffers or are part of a large system of slopes.

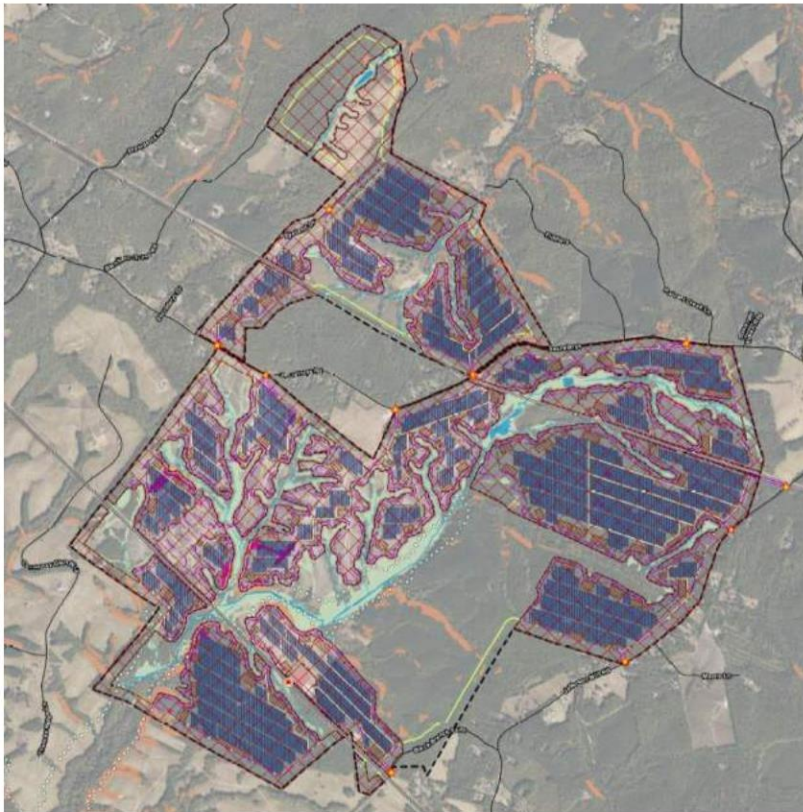


Image 1 Critical slopes outside of the limits of disturbance area are depicted in orange. Critical slopes within the limits of disturbance are depicted in magenta.

While not avoiding completely, the proposed solar energy development aims to minimize disturbance to critical slopes; as evidenced in **Image 1**, most of the critical slope areas on site are found adjacent to the delineated wetlands and streams and are thus removed from the proposed limits of disturbance area. Only 8.55 acres of the total 62.6 acres of critical slopes on site are proposed to be disturbed. A majority of the slopes that are requested to be disturbed are not part of a system of slopes, are scattered around the site, and are less than 10,000 square feet in size. A breakdown of the parcel, project, and critical slope limits is provided in **Table 1** below.

Table 1: Project Area Breakdown	
Total Area of Property	2,259.5 AC
Total Special Use Permit Area	1,500.0 AC
Total Limits of Disturbance Area	1,000.0 AC
Total Area of Critical Slopes on Property	62.6 AC
Total Area of Critical Slopes within Buildable Area	8.55 AC
Percentage of Critical Slopes to be Disturbed	13.7%

In accordance with Section 4.2.5(a)(1) of the Zoning Ordinance, the disturbance of the critical slopes is addressed in the following ways (ordinance requirements in italics):

1. *Rapid and/or large-scale movement of soil and rock, excessive stormwater run-off*
Care will be taken throughout the design process to minimize critical slopes disturbance and to mitigate any downstream impacts of the disturbance. The proposed grading will mimic the existing topography

to the nearest extent practical while also maximizing the solar arrays' sun exposure. Additionally, the proposed solar array grading will utilize slopes of 15% or flatter, which in many areas is less steep than the existing condition.

In addition to reducing the amount of critical slopes that are being disturbed, the site is intentionally designed with setbacks and buffers to lessen the impact of the development on surrounding land and downstream waters. A 200-foot setback is being provided from the solar arrays to all outer property lines and a minimum 100-foot non-disturbance buffer is being provided adjacent to all wetlands and streams; outside of this non-disturbance buffer an additional buffer of up to 70 feet is provided to allow for placement of stormwater management facilities, shade management, and meadow habitat.

2. *Siltation of natural and man-made bodies of water*

The erosion and sediment control design will be extensive to protect the downstream environmental features. Sediment basins will capture sediment-laden runoff; perimeter diversion ditches will direct water to the proposed sediment basins, and silt fence will be located downstream as an extra measure of protection during construction. Upon completion of construction, the site will be stabilized and left in a good condition.

3. *Loss of aesthetic resources*

As discussed above, this property is currently used for commercial timbering; as such, the forest is regularly cut down for this activity. While the solar energy development will require tree removal, this is already the condition of the site at times, and large buffers will be maintained along the site perimeter and within wetland/stream buffers to minimize this impact aesthetically.

4. *In the event of septic system failure, a greater travel distance of septic effluent (collectively referred to as the "public health, safety, and welfare factors") that might otherwise result from the disturbance of critical slopes.*

Not applicable.

Conclusion and Findings

While the Zoning Ordinance recommends the protection and preservation of critical slopes within the County, it also allows the Board of Supervisors to grant a modification or waiver given the following:

Section 4.2.5(a)(3) *Findings: if the Board of Supervisors finds that the modification or waiver would not be detrimental to the public health, safety or welfare, to the orderly development of the area, or to adjacent properties; would not be contrary to sound engineering practices; and at least one of the following:*

a. *Strict application of the requirements of section 4.2 would not forward the purposes of this chapter or otherwise serve the public health, safety or welfare;*

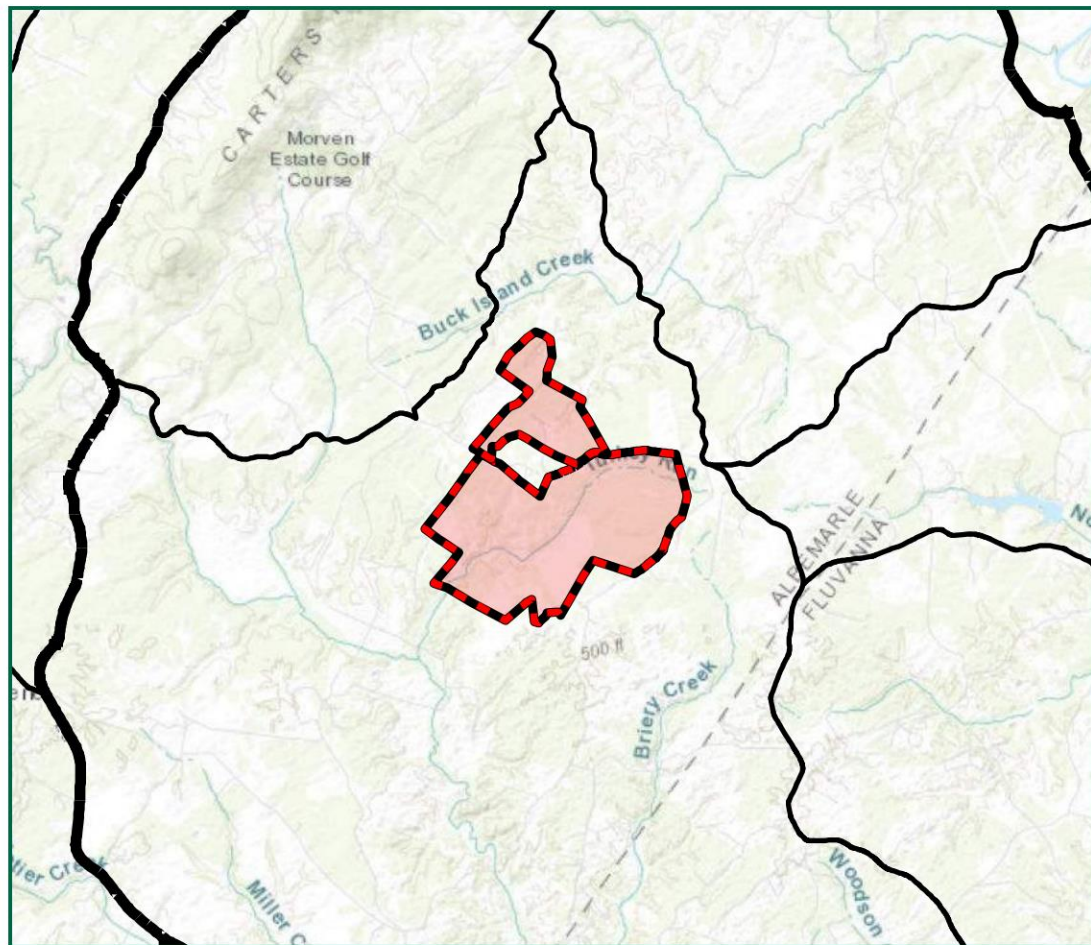
b. *Alternatives proposed by the developer or subdivider would satisfy the intent and purposes of section 4.2 to at least an equivalent degree;*

c. *Due to the property's unusual size, topography, shape, location or other unusual conditions, excluding the proprietary interest of the developer or subdivider, prohibiting the disturbance of critical slopes would effectively prohibit or unreasonably restrict the use of the property or would result in significant degradation of the property or adjacent properties; or*

d. Granting the modification or waiver would serve a public purpose of greater import than would be served by strict application of the regulations sought to be modified or waived.

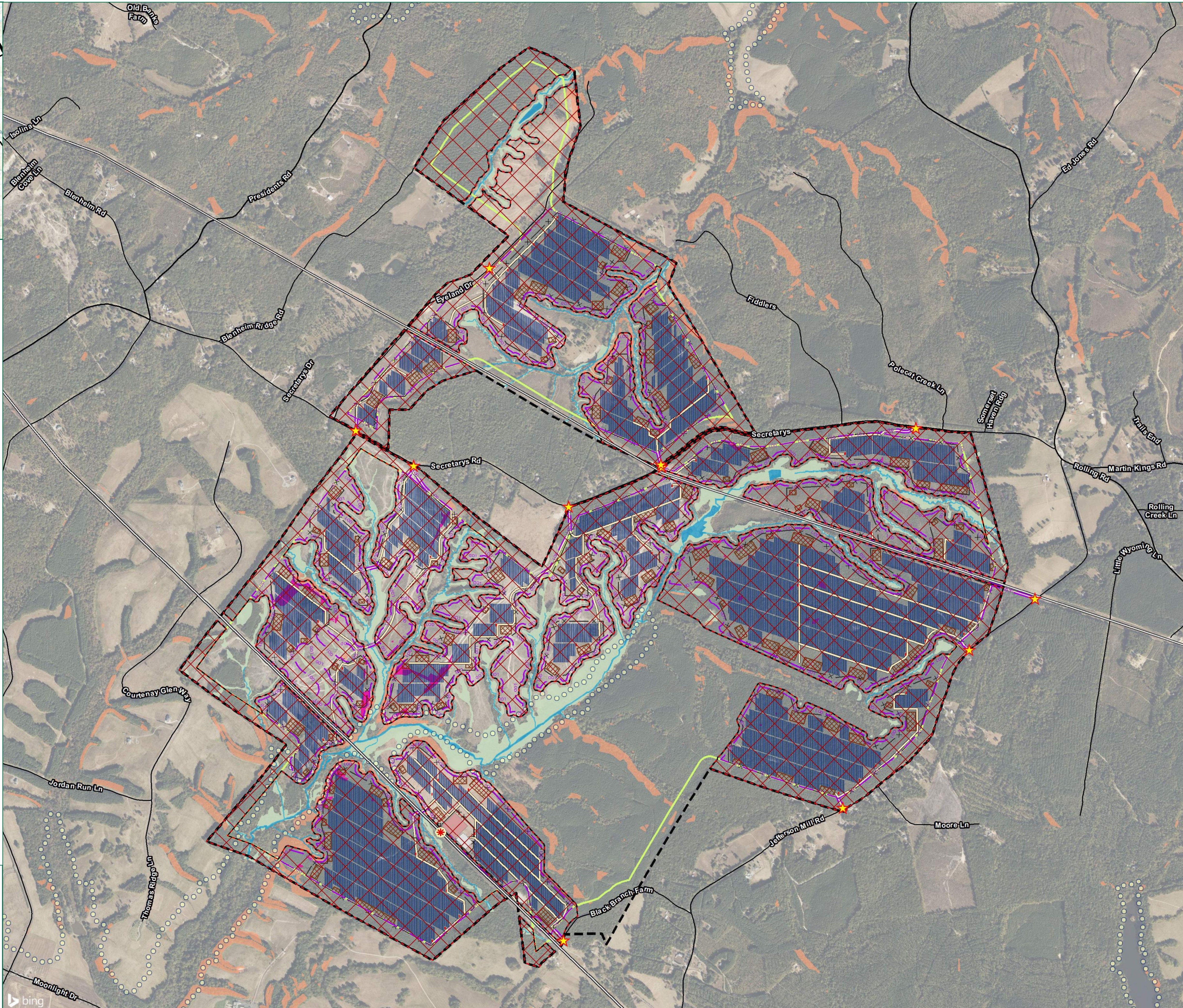
Strict adherence to the Zoning Ordinance regulations would unreasonably restrict the subject property by reducing developable area across the site and eliminating it entirely in some areas when combined with the required wetland/stream buffers. Alternatively, the proposed solar energy facility will be designed intentionally to mimic existing topography and reduce critical slopes disturbance as much as possible while protecting the streams, stream buffers, and wetlands within the site. Erosion and sediment control measures will be put in place to protect the buffers and streams and thus maintain the public health, safety, and welfare. With the careful grading and erosion control measures in place, the small number of slopes requested to be disturbed many of which are less than 10,000 square feet in size, the intent and purposes of section 4.2 has been met to an equivalent degree.

In addition, the disturbance of the critical slopes for the allowance of a solar energy facility will allow the County to meet its goals and objectives contained in the Climate Action Plan. This disturbance will allow more panels to be built on the site, while protecting other environmental features, which serves a public purpose of greater import than would be served by strict application of the regulations.

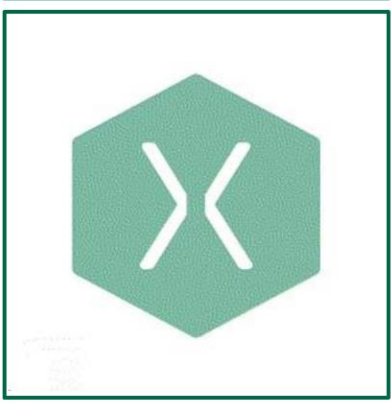


- Special Use Permit Area - 1,500 Acres
- Tax Map Parcel Boundaries - 2,259.5 Acres
- 200' Property Setbacks
- Proposed Features (Conceptual)**
- Limits of Disturbance - 1,000 Acres
- Potential Access Location
- Point of Interconnection
- Internal Roads
- Fence
- Solar Arrays
- Inverters
- Substation/Collection Yard Area
- Parking Area
- Stormwater Basin
- Existing Features**
- Transmission Line
- Delineated Wetland
- Delineated Stream & Open Water
- Floodplain
- Steep Slopes Overlay**
- Critical Slopes
- Critical Slopes within Limits of Disturbance - 8.55 Acres

- NOTES:**
1. PROPERTY LIMITS ARE APPROXIMATE FROM ALBEMARLE COUNTY GIS.
 2. SITE LAYOUT IS CONCEPTUAL AND SUBJECT TO CHANGE. NOT FOR CONSTRUCTION.
 3. PARKING AREAS ARE NOT PROPOSED EXCEPT IN THE SUBSTATION AREA.
 4. ENTRANCE LOCATIONS AND INTERNAL DRIVEWAYS SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE. ANY NOTABLE CHANGES WILL BE SUBJECT TO COUNTY APPROVAL BEFORE CONSTRUCTION BEGINS.
 5. EACH ENTRANCE LOCATION WILL HAVE A KNOX BOX THAT COUNTY EMERGENCY SERVICES WILL BE ABLE TO ACCESS.
 6. STREAMS, WETLANDS, AND OPEN WATER FEATURES HAVE BEEN FIELD DELINEATED BY WILD GINGER FIELD SERVICES.
 7. WATER PROTECTION ORDINANCE BUFFER IS 100 LF FROM THE DELINEATED WETLANDS AND STREAMS OR THE EDGE OF THE FLOODPLAIN, WHICHEVER IS GREATER.
 8. APPROXIMATE CEMETERY LOCATION IDENTIFIED BY STANTEC CONSULTING SERVICES.
 9. FLOODPLAIN DATA FROM FEMA'S NATIONAL FLOOD HAZARD LAYER.
 10. STEEP SLOPES DATA FROM ALBEMARLE COUNTY GIS.
 11. CONTOURS MADE FROM DEM DATA SOURCED FROM USGS.
 12. AERIAL IMAGERY FROM MICROSOFT BING.



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PROJECT NAME & LOCATION
WOODRIDGE SOLAR
 ALBEMARLE COUNTY,
 VIRGINIA

DATE	05/16/2022
PROJECT NUMBER	50445
PROJECT NAME	WOODRIDGE SOLAR
DESIGNED BY / DRAWN BY	L. WHEELER

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REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION
**CONCEPTUAL
 SITE PLAN**

SCALE (FEET)
 0 800 1,600
 PLANS PRINTED AS 11X17 AT HALF SCALE
 SCALE SHEET NUMBER
 H:1" = 800' 1