



**2232 Review #01-25**  
**Next-Era Woodside Substation**  
**Staff Report for the Planning Commission**  
**Prepared: September 24, 2025**  
**Staff Contact: John Bishop, Assistant Planning Director**

**Executive Summary:**

Meeting Schedule	
Planning Commission: October 1, 2025	Action: Pending
Board of Supervisors:	Action: NA
Property Information	
Property Identification Number (PIN)	33-12-24 and 33-A-88
Address	Thistle Lane, Winchester
Magisterial District	Stonewall
Acreage	+/- 72.01 acres
Zoning & Present Land Use	Zoning: RA (Rural Areas) Land Use: Vacant
Adjoining Property Zoning & Present Land Use	
North: RA (Rural Areas) & M1 (Light Industrial)	Land Use: Commercial & Vacant
South: RA (Rural Areas)	Land Use: Residential
East: NA	Land Use: I-81
West: RA (Rural Areas)	Land Use: Residential
Proposed Use	
<p>This is a request for a Planning Commission review and determination of Comprehensive Plan Compliance under VA 15.2-2232. The proposed use is a power substation. This substation would connect to existing electrical infrastructure in the form of the Dominion 500 KV Bismark-Doubs transmission line and FirstEnergy's Stonewall 138 KV substation with the applicant stated intent to deliver grid benefits by connecting Frederick County users to the regional grid and enabling future economic growth and development as well as enhancing overall reliability of the electrical system.</p>	
Positives	Concerns
Proposed facility is adjacent to and supporting of existing infrastructure.	A portion of the property (33-12-24) is the Rural Preservation Tract from the Ridgeway Estates Subdivision (Jolene Drive). The intent

<p>Proposed facility is located on land that is designated for industrial use in the Comprehensive Plan and bordered by other parcels also designated industrial.</p> <p>Proposed facility supports development of the surrounding parcels in keeping with the Comprehensive Plan by providing enhancement to the electrical grid which is often an important component of industrial location decisions for new businesses.</p> <p>Proposed facility concept plans indicate intention to construct comprehensively planned north south road through the property.</p>	<p>stated in the Frederick County Comprehensive Plan is that these Rural Preservation Tracts could potentially be used for agricultural purposes or to preserve natural and environmental features.</p>
--	---

### **Planning & Zoning Staff Analysis:**

#### **Conceptual Site Plan, Site Access, and Transportation:**

The applicant has provided a Conceptual Site Plan of the proposal. All buffers and setbacks displayed on the conceptual site plan are conceptual and the Zoning Administrator would make the final determination of the Ordinance as to the required setbacks and buffers.

The subject parcels are currently accessed via Thistle Lane; however, the conceptual site plan accommodates a future Comprehensive Plan through road on the parcel.

Traffic generation for the proposed use would be expected to be minimal.

#### **Comprehensive Plan Compliance – Staff Recommendation:**

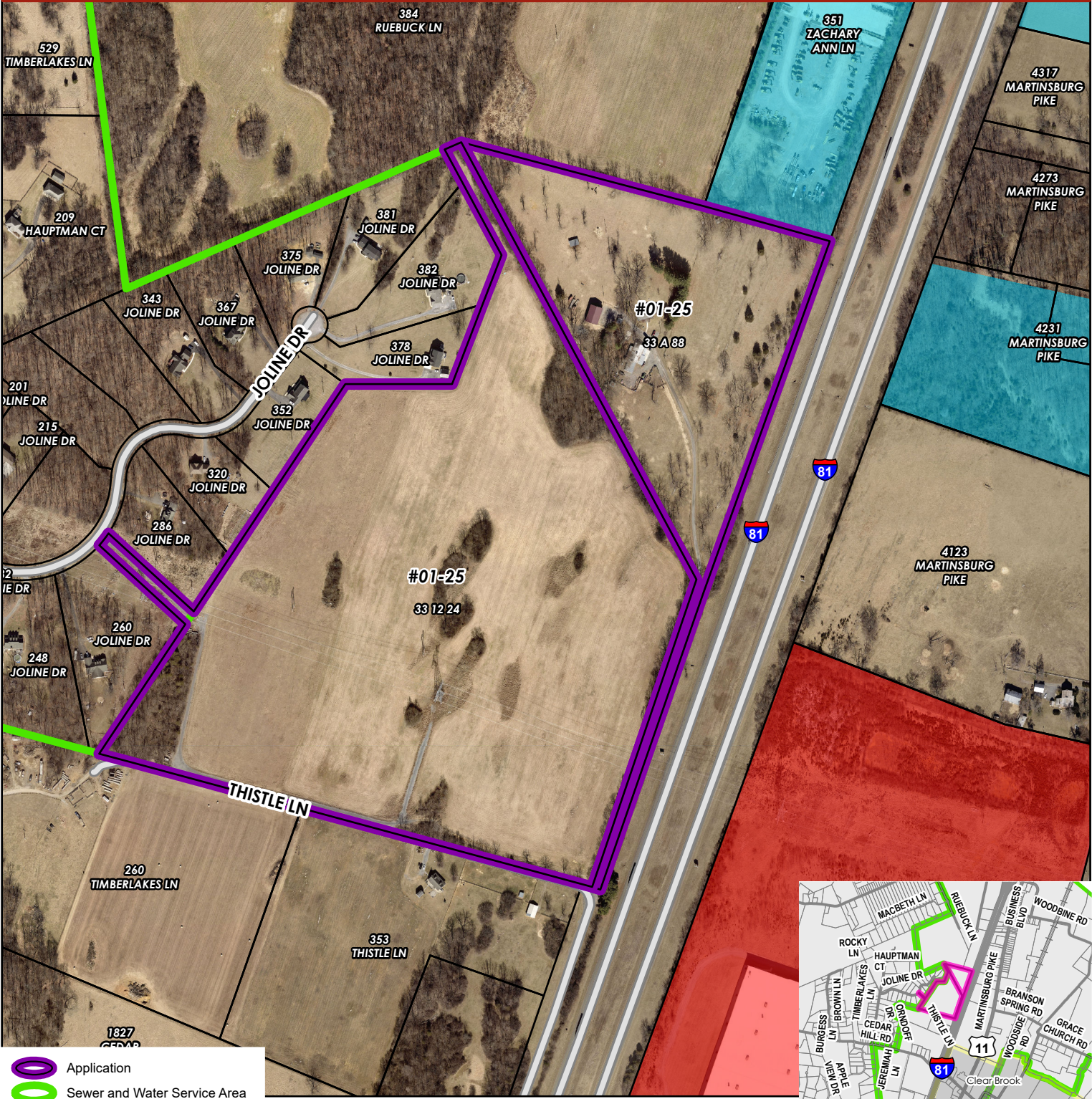
The *Comprehensive Plan* provides guidance when considering any land use action. The property is located within the Sewer and Water Service Area (SWSA). The long-range land use of the property is designated as “Industrial.” The property is located within the *Northeast Frederick Land Use Plan (NELUP)*, last updated in 2023. As noted earlier, the property in question as well as the majority of the surrounding property is designated in the Comprehensive Plan to be Industrial and Mixed-Use Industrial/Office. The NELUP notes that uses that are outside of the those specifically targeted by the Economic Development Authority should only be considered if they are secondary and complementary to targeted businesses. A portion of the property (33-12-24) is the Rural Preservation Tract from the Ridgeway Estates Subdivision (Jolene Drive). The intent stated in the Frederick County Comprehensive Plan is that these Rural Preservation Tracts could potentially be used for agricultural purposes or to preserve natural and environmental features. However, due to the nature of the use, the long-range land use designation of “Industrial”, as well as its role as a use supportive of planned Industrial development in the area, staff would recommend that the proposal be found to be in substantial accord with the Comprehensive Plan.

***Following a public hearing, staff is seeking a determination of Comprehensive Plan Compliance from the Planning Commission on this 2232 Review request.***

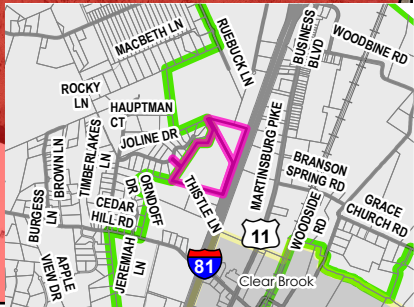
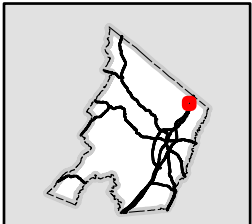


# 2232 Review # 01 - 25: NextEra Energy Transmission

PINs: 33 - 12 - 24, 33 - A - 88  
Zoning Map



- Application
- Sewer and Water Service Area
- Parcels
- B3 (Industrial Transition District)
- M1 (Light Industrial District)

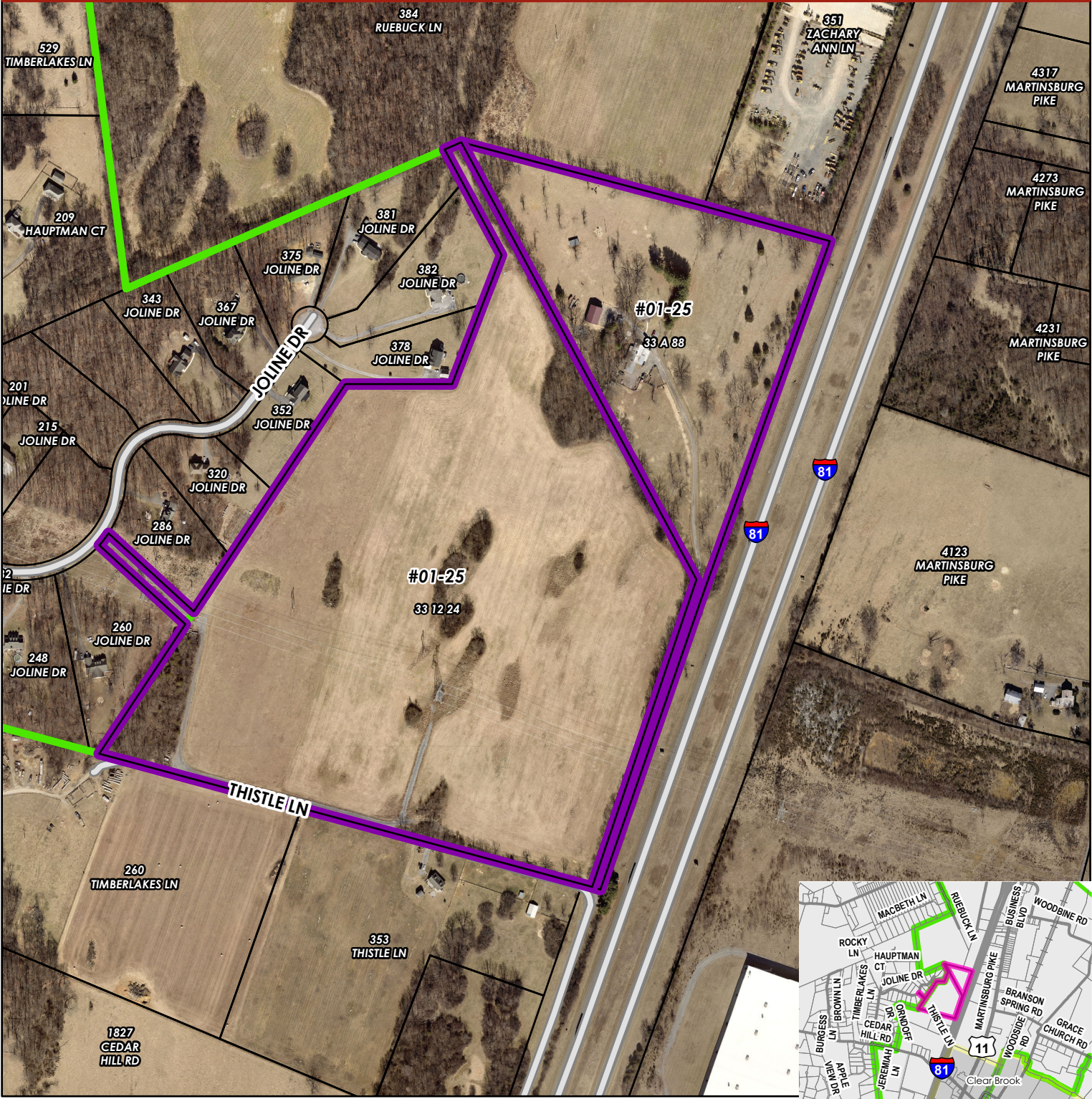


0 290 580 1,160 Feet

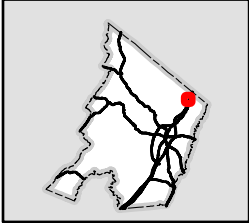


# 2232 Review # 01 - 25: NextEra Energy Transmission

PINs: 33 - 12 - 24, 33 - A - 88  
Location Map



- Application
- Sewer and Water Service Area
- Parcels





# **NextEra Energy Transmission Virginia Woodside Substation Narrative**

September 5, 2025

Pursuant to Section 15.2-2232 of the Code of Virginia, NextEra Energy Transmission Virginia, Inc. (“Company”), hereby requests a 15.2-2232 determination that the location, character, and extent of a proposed electric substation (“Project”) is substantially in accordance with the Frederick County Comprehensive Plan (“Comprehensive Plan”).

The intent of the Project is to connect to existing infrastructure – specifically Dominion’s 500 kV Bismark-Doubs transmission line and FirstEnergy’s Stonewall 138 kV substation – to deliver immediate grid benefits by connecting Frederick County homes and businesses with the regional electric grid, while enabling future economic growth and development in the County and enhancing overall reliability and resiliency of the electric system. Additionally, the Project is designed to accommodate future connection to FirstEnergy’s upgraded Gore-Stonewall-Doubs 500 kV transmission line which is expected to be constructed in existing right-of-way.

The Project will be constructed on two parcels identified as Tax Map No. 33-12-24 and Tax Map No. 33-A-88 (“Site”) in northeastern Frederick County (“County”). The Site is in the Stonewall Magisterial District and both parcels are zoned Rural Areas (“RA”) Zoning District. The County Zoning Ordinance specifies that electric substations are permitted by-right in RA under the classification of “public utilities, transmission and distribution facilities.” The Site is located within the Sewer and Water Service Area as depicted within the Comprehensive Plan.

The following narrative provides the information required by the County’s VA 15.2-2232 Policy and demonstrates the Project’s compliance with Frederick County’s Comprehensive Plan.

## **A. PROPOSED USE AND NEED**

### **1. Proposed Use**

The proposed substation will be located on two parcels (Tax Map No. 33-12-24 and Tax Map No. 33-A-88) that total an approximately 72-acre site, of which approximately 35.6 acres will be disturbed. Disturbed acreage is defined as lands utilized for the substation, roads, vegetative buffers not naturally existing, and acreage within fences. Sitting approximately 7.1 miles north of the City of Winchester, along Interstate 81 (“I-81”), the Site is between Carter Machinery and the Fruit Hill site to the north, the Ridgeway Estates Subdivision to the west, Thistle Lane to the south, and I-81 to the east.

The Project will interconnect with existing infrastructure including the Dominion Bismark-Doubs 500 kV transmission line and two new FirstEnergy 138 kV transmission lines that will connect the Project with the nearby existing FirstEnergy Stonewall 138 kV substation. The substation is also designed to accommodate future connection to the FirstEnergy Gore-Doubs-Goose Creek 500 kV transmission line.

Approximate heights of the equipment within the substation shall generally be as follows: transformers (40'), STATCOM (35'), capacitor banks (35'), static poles (110'), deadend structures (105'), and proposed security fence (12').

Once constructed, the substation will remain in continuous operation. Maintenance of the Site is based on inspection requirements of the substation, and it is expected that two trained professionals will visit periodically for maintenance and operating procedures. The facility will be secured in accordance with applicable requirements and will not be open to the public.

## 2. Need

PJM Interconnection LLC ("PJM") routinely conducts a long-range Regional Transmission Expansion Plan ("RTEP") process that identifies what changes and additions to the electric grid are needed to ensure reliability. When undertaking its 2022 RTEP, PJM identified severe reliability issues resulting from changes in power generation sources and additional electricity demand in the region. In response, NextEra Energy Transmission subsidiaries submitted the MidAtlantic Resiliency Link as a proposed solution to help address the reliability concerns.

PJM selected the MidAtlantic Resiliency Link as a superior and cost-effective solution for addressing this need by building a new approximately 105-mile transmission line and the new Woodside 500/138 kV substation to connect with the new line and existing transmission lines in the area.

The Woodside Substation has independent utility and will provide immediate grid benefits by acting as an on/off ramp on the electricity highway that serves homes and businesses in Frederick County, while enabling future economic growth and development in the County and enhancing overall reliability and resiliency of the electric system.

## **B. GENERAL LOCATION, CHARACTER, AND EXTENT**

### 1. General Location

The proposed Site is ideal for the Project because it directly satisfies PJM's requirements to connect to existing infrastructure while providing multiple practical benefits for Frederick County. The Site offers excellent access to existing electrical infrastructure through the Dominion 500 kV Bismark-Doubs transmission line physically present on the Site and the FirstEnergy Stonewall 138 kV substation located very close by. By locating this substation along the existing Dominion 500 kV transmission line and route of the proposed FirstEnergy 500 kV line, the location reduces the impacts from additional infrastructure and avoids the need for additional transmission lines to interconnect this substation to those lines. This infrastructure positioning enables the substation to deliver immediate grid benefits by serving as an essential access point to the regional power grid for Frederick County residents and businesses. The location's adjacency to I-81 ensures the substation integrates compatibly with the existing industrial landscape rather than impacting pristine rural areas. Additionally, the site accommodates the FirstEnergy 138 kV transmission line that is being upgraded to the new 500 kV Gore-Doubs-Goose Creek line.

The location is supported by current zoning as both parcels are zoned RA where electric substations are permitted by-right. Tax Map No. 33-12-24 is a Rural Preservation tract which

prohibits subdivision while maintaining all allowed uses within the RA Zoning District. The 72-acre site provides adequate space for the substation footprint, and preliminary geotechnical and environmental assessments confirm site suitability. The location aligns with Frederick County's long-term light industrial land use plans as outlined in the Comprehensive Plan and benefits from potential public water and sewer access through its placement within the Sewer and Water Service Area. By co-locating the substation with existing transmission and transportation infrastructure, this location minimizes impacts on the community while maximizing benefits for Frederick County residents and businesses.

A comprehensive search of sites was conducted in the general area. Multiple factors guided the site selection process including appropriate zoning classifications, proximity to required interconnection points, sufficient acreage requirements, alignment with existing industrial uses, and Frederick County's long-term land use plan. Viable sites were further analyzed for topographical suitability, engineering feasibility including geotechnical surveys and analysis, residential impacts, and potential effects on areas of historical, cultural, recreational, or environmental significance. Environmental assessments conducted included wetland delineations and preliminary cultural resource surveys. Following this evaluation process, the selected Site was determined to best align with the Project requirements and Frederick County's Comprehensive Plan and Zoning Ordinance.

## 2. Character and Extent

Site design for the Project includes an approximately 50- to 75-foot-wide landscape buffer along the western and southern property line where it abuts residential properties. The landscape buffer includes a mix of deciduous and evergreen trees and shrubs to adequately screen the Site from adjacent uses. Use of deciduous and evergreen trees allow for year-round screening and prevents "leaf-off" conditions during the fall and winter months. Existing vegetation along the Project's eastern property boundary will be maintained to the extent possible to screen the Project from I-81 to the east.

The Project is set back at least 100 feet from the eastern property line nearest to I-81, at least 40-feet from the property lines of residences to the west of the Project, and at least 100 feet from the northern and southern property lines.

The Project is not anticipated to increase traffic on local roads once construction is complete. Construction is anticipated to begin in 2029, and the facility is expected to be operational in 2031. During construction, most hauling is expected to use Thistle Lane, with some deliveries possibly using the site access along Joline Drive. Following construction, the Company does not anticipate any increase in or impacts to vehicular access to the Project, as the facility will require only periodic visits by trained professionals for maintenance and operating procedures.

There are no anticipated impacts on environmental features, cultural resources, air quality, or water quality as a result of this project.



## **C. ANALYSIS OF COMPREHENSIVE PLAN CONSISTENCY**

### **1. Future Land Use Designation**

The County Comprehensive Plan's Eastern Frederick County Long Range Land Use Plan designates the subject property (together with surrounding parcels to the north and south along I-81) for "industrial" uses. The proposed electrical substation facility is consistent with this designation, and, as described below, would also play an important role in the future development of other industrial uses within the County.

### **2. Fiscal Benefits of Industrial Development**

Under the County Comprehensive Plan, the attraction and expansion of industrial uses within the County is described as a critical component of the County's economic strategy, and one that will provide important benefits to all of the County's citizens. One of the County Board of Supervisors "core values" set forth on Page 7 of the Comprehensive Plan is "[a] government concerned with expanding commercial and industrial tax base in order to insure a viable and thriving economy." Further, Page 29 of the Comprehensive Plan states that "[t]he value of office and industrial business development to Frederick County is immeasurable ...industrial growth is a key component for ensuring a broad selection of employment opportunities for ....citizens....The continuation of a low residential tax rate is a direct result of the expansion of the commercial and industrial tax base.... The County's fiscal survival is dependent upon recruiting office and industrial occupants."

### **3. Importance of Electrical Infrastructure**

As the Comprehensive Plan notes on Page 29, reliable and robust electrical infrastructure is a key component to the attraction and expansion of industrial uses within the County. The Comprehensive Plan states that "with regards to infrastructure (ie:...electricity), manufacturers will require adequate supply and availability, but will also be interested in quality and service reliability. There is a finite capacity of these resources that must be managed accordingly." The proposed electrical substation facility (and the associated electrical transmission line) will provide upgrades to the electrical grid serving the County, both in terms of additional capacity and reliability. Accordingly, the proposed substation would be part of the additional utility infrastructure the Comprehensive Plan identifies as being necessary to the continued attraction and expansion of industrial uses within the County.

### **4. Contribution to Transportation Network**

Finally, the Eastern Frederick County Road Plan and the Northeast Land Use Plan contemplate a New Major Collector roadway running north-south parallel to Interstate 81. To accommodate the roadway proposed by these Plans, the Company has reserved area for potential future right-of-way, as shown on the conceptual site plan submitted with this application.

## **D. CONCLUSION**

The Company respectfully requests the Frederick County Planning Commission's approval of this Section 15.2-2232 Review Application, finding that the Woodside Substation is substantially in accord with the County's Comprehensive Plan.

# WOODSIDE SUBSTATION

## 2232 SITE PLAN

FREDERICK COUNTY, VIRGINIA  
SEPTEMBER 2025

### LIST OF DRAWINGS

DRAWING NO.	TITLE	REVISION
C000	COVER	0
C001	GENERAL NOTES	0
C100	EXISTING CONDITIONS PLAN	0
C200	SITE PLAN OVERVIEW	0

**DRAFT  
CONCEPTUAL SITE  
PLAN**

APPROVED BY THE FREDERICK  
COUNTY ZONING ADMINISTRATOR

WOODSIDE SUBSTATION COVER		DISCIPLINE
NEXTERA ENERGY		REV
FREDERICK COUNTY, VIRGINIA		0
SCALE	AS NOTED	DESIGNED BY
DATE DRAWN	29/09/2025	PROJECT NUMBER
		0718654
		SHEET
		C000
Environmental Resources Management, Inc.		

PREPARED FOR:  
DEVELOPER

**NEXTERA ENERGY TRANSMISSION VIRGINIA, INC.**

700 Universe Boulevard  
Juno Beach, FL 33408



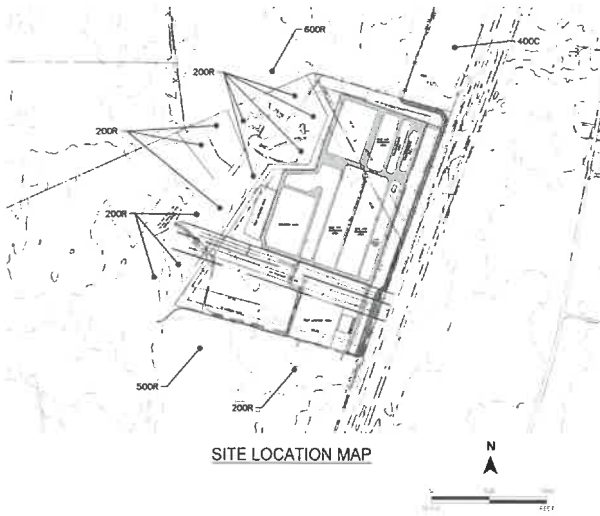
**Environmental Resources Management, Inc.**

1776 I Street NW Suite 725  
Washington, DC 20006

**ISSUED FOR PERMIT,  
NOT FOR CONSTRUCTION**

Rev	Date	Description	By	Chk
01/09/25		ISSUED TO CLIENT	GP	SL





#### CONTACT INFORMATION

**PROJECT OWNER/DEVELOPER**  
 NEXTERA ENERGY TRANSMISSION  
 A/T/N: KATHY MCCORMICK  
 700 UNIVERSE BLVD.  
 JAND BEACH, FL 33408  
 833-849-1461

**PROJECT CIVIL ENGINEER**  
 ENVIRONMENTAL RESOURCES MANAGEMENT, INC.  
 A/T/N: STEPHEN LINDSAY  
 1776 ST NW, STE. #225  
 WASHINGTON, DC 20006  
 +1(410)-372-0046  
 STEPHEN.LINDSAY@ERM.COM

## DRAFT CONCEPTUAL SITE PLAN

#### LEGEND:

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- BUILDING RESTRICTION LINES
- EXISTING FENCING
- EXISTING ELECTRICAL LINE
- EXISTING ROADS
- EXISTING STRUCTURE
- EXISTING TREE LINE
- EXISTING TREE
- PROP. GRAVEL ROAD
- PROP. ROAD AND SHOULDER
- LANDSCAPE BUFFER AREA
- GRASS AREA
- PROP. FENCING

PARCEL DATA	
APPLICANT	NEXTERA ENERGY
PN	33-12-24, 33-A-88
GPS COORDINATES	38°16'34", 76°05'40"
MAGISTERIAL DISTRICT	05: STONEWALL
DRAINAGE SUB-BASIN	T. RAY + RUN - PROQUON CREEK
EXISTING USE	500V AGR/VOLDE / - VAC
PROPOSED USE	ELECTRICAL SUBSTATION
MAXIMUM FAR	
SITE FAR	0.05
GROUND FLOOR AREA	15,000 SF
TOTAL FLOOR AREA	15,000 SF
TOTAL LOT AREA	72.01 AC
TOTAL DEVELOPED LOT AREA	35.6 AC
TOTAL EX. WOODLANDS AREA	3.62 AC
TOTAL EX. WOODLANDS AREA	2.32 AC
PERCENTAGE OF EX. WOODLANDS	64%
DISTURBED	

**ISSUED FOR PERMIT,  
NOT FOR CONSTRUCTION**

Rev	Date	Description	By	Che
1	09/30/25	ISSUED TO CLIENT	SP	SL



#### WOODSIDE SUBSTATION GENERAL NOTES

NEXTERA ENERGY

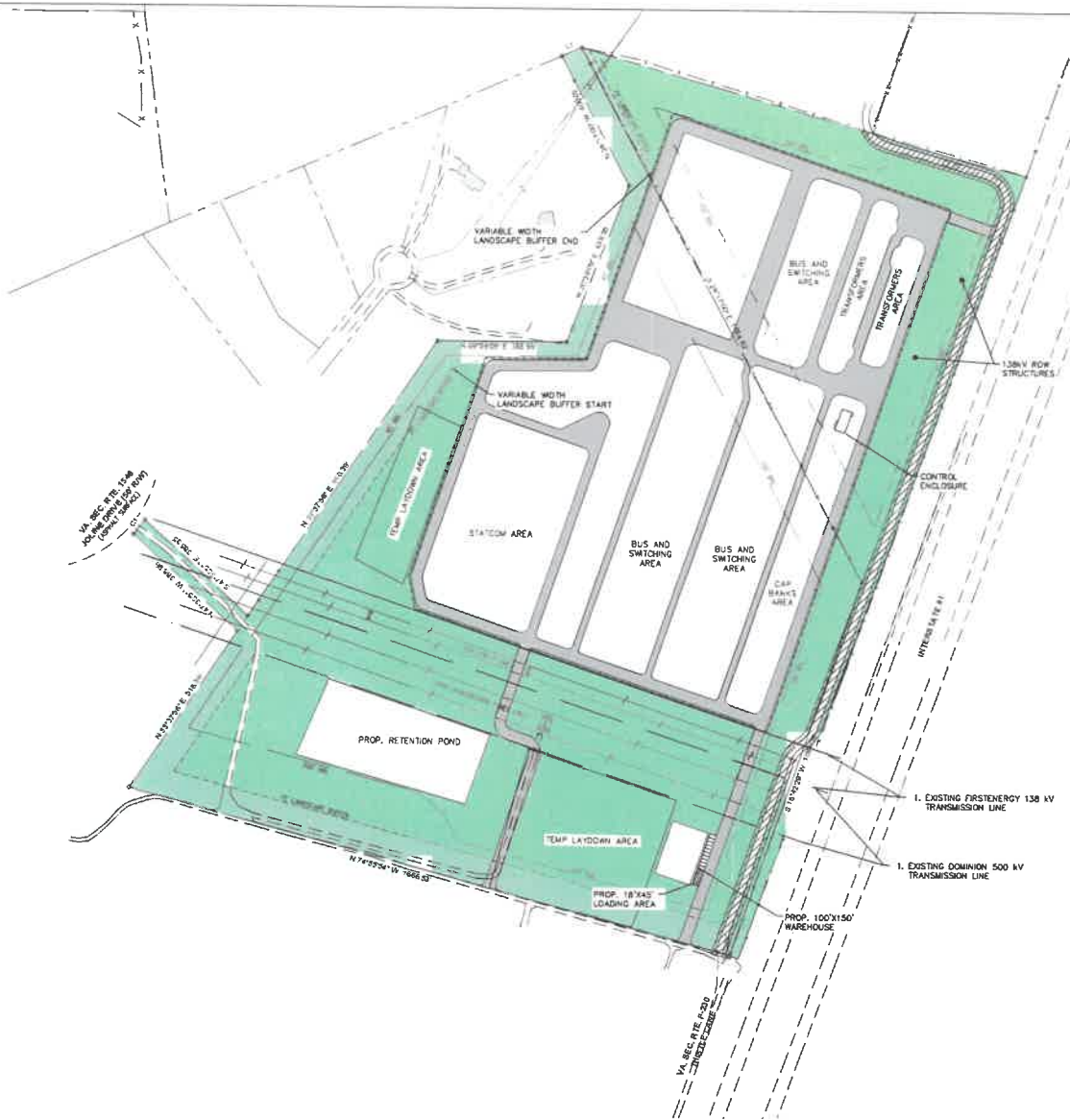
FREDERICK COUNTY, VIRGINIA

SCALE: AS NOTED  
 DATE: 09/30/25  
 DRAWN BY: GMP  
 PROJECT NUMBER: 0718854  
 SHEET: 0001

Environmental Resources Management, Inc.

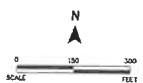


1



LEGEND:	
---	PROPERTY BOUNDARY
---	ADJACENT PROPERTY BOUNDARY
---	BUILDING RESTRICTION LINES
X	EXISTING FENCING
---	EXISTING ELECTRICAL LINE
---	EXISTING ROADS
---	EXISTING STRUCTURE
---	PROP. GRAVEL ROAD
---	PROP. ROAD AND SHOULDER
---	LANDSCAPE BUFFER AREA
---	GRASS AREA
---	PROP. FENCING

**DRAFT  
CONCEPTUAL SITE  
PLAN**



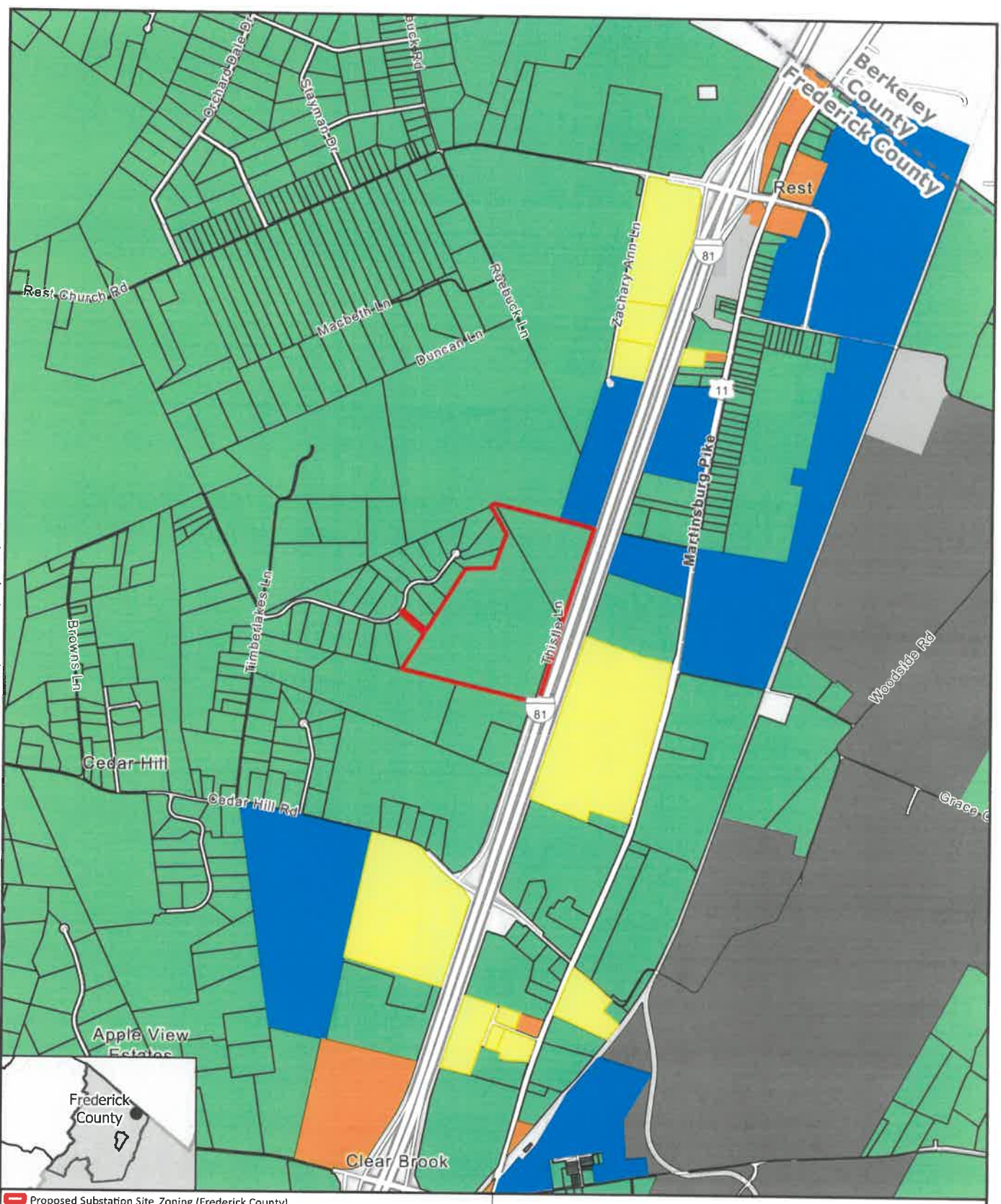
**ISSUED FOR PERMIT,  
NOT FOR CONSTRUCTION**

				WOODSIDE SUBSTATION SITE PLAN OVERVIEW		DATE: 01/14/2025
				NEXTERA ENERGY		REV: 0
				FREDERICKSBURG, VIRGINIA		
				SCALE: AS NOTED	DESIGNED BY: JWP	PROJECT NUMBER: 0718654
				DATE: 01/14/2025	DATE: 01/14/2025	DATE: 01/14/2025
				BY: CJA	DATE: 01/14/2025	DATE: 01/14/2025
				Environmental Resources Management, Inc.		C200





MPLS:M:\US\Projects\W-CIN\ER\MAR\GIS\2025\WML\_WDR\_Figures\MARL\_WDR\_Figures.aprx | SCALE: 1:20,000 | 1 in = 1,667 ft



Proposed Substation Site Zoning (Frederick County)

Ownership Parcel

B2 (General Business District)

B3 (Industrial Transition District)

EM (Extractive Manufacturing District)

M1 (Light Industrial District)

M2 (Industrial General District)

RA (Rural Areas District)

0

500

1,000

Feet

# Overview Map Woodside Substation Frederick County, Virginia

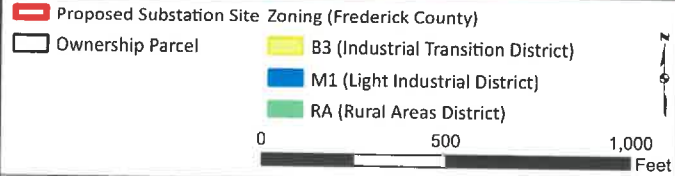
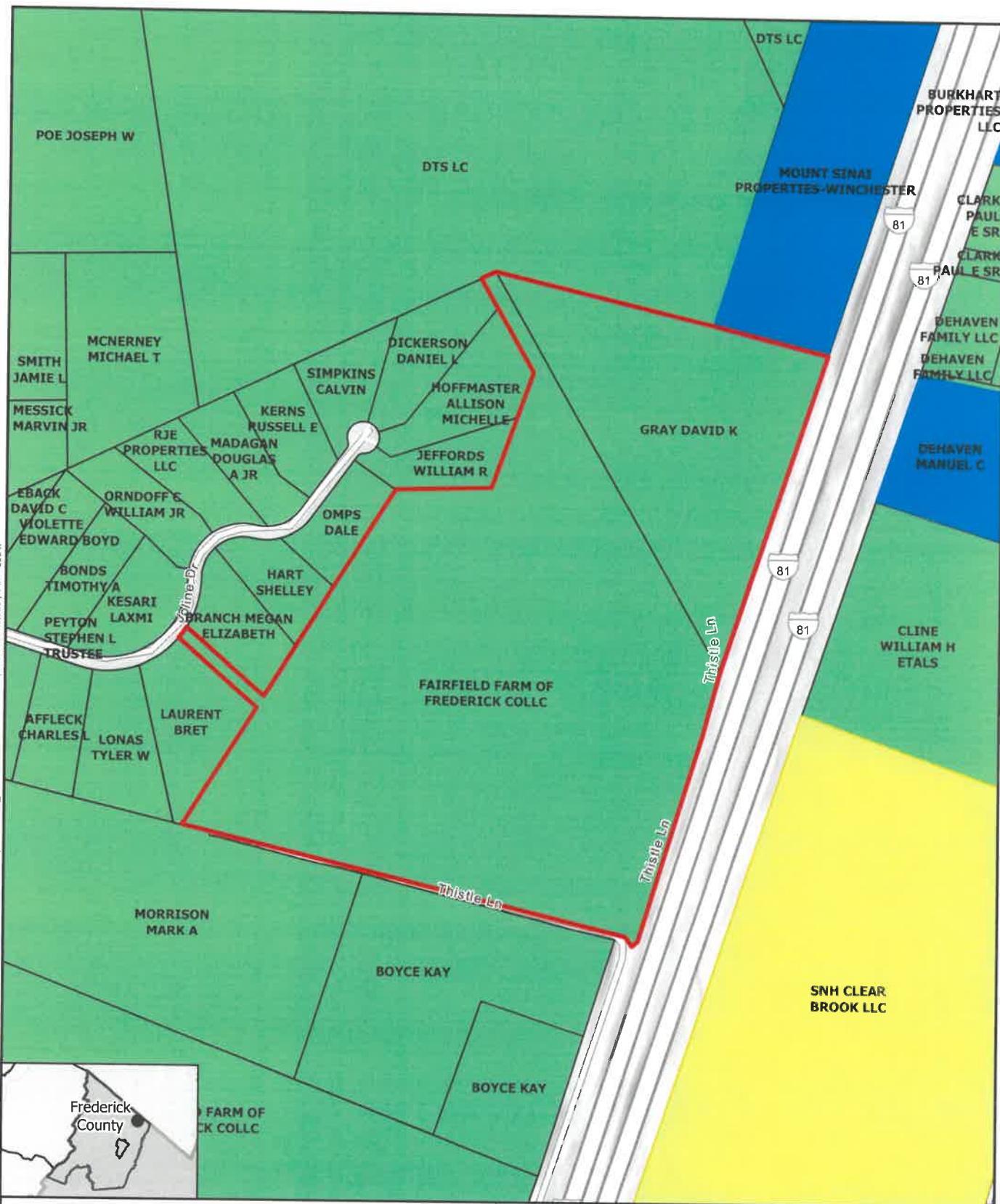


ERM

DRAWN BY: RJC



MPLS M:\USProjects\IM-ONNext\EmMARC\GIS\2025\MARL\_WDR\_Figures\aprx\Fig\_2232\_AdjacentLands\_6k | REVISED: 09/02/2025 | SCALE: 1/8,000 | 1 in = 500 ft



**Property Identification Map**  
**Woodside Substation**  
Frederick County, Virginia



DRAWN BY: RJC