SCOTTSVILLE SUBSTATION EXPANSION PROJECT

ALBEMARLE COUNTY SPECIAL USE PERMIT NARRATIVE

PROJECT PROPOSAL

Appalachian Power Company ("Appalachian Power" or "Company") is seeking to amend the previously approved special use permit (SP-79-44) to expand the existing Scottsville Substation to accommodate electrical equipment upgrades and improve access to the site (the Project). The Project is part of the Company's larger transmission area improvements project, the Central Virginia Transmission Reliability Project ("CVTRP"), which will ensure adequate and reliable electric service and accommodate future growth in central Virginia counties, including Albemarle County. The remaining components of the CVTRP were approved and provided a Certificate of Public Convenience and Necessity by the Virginia State Corporation Commission (Case No. PUR-2021-00001) in September 2021. In addition to the CVTRP's other improvements to the electrical system to mitigate thermal and voltage criteria violations, the improvements at the Scottsville Substation and eventually to the Esmont – Scottsville 46 kV transmission line will further enhance system reliability by replacing certain assets (largely installed in the 1920s and 1940s) that are at the end of their useful lives. The end result will be a more robust electrical system in Albemarle County. Construction for the Scottsville Substation improvements is expected to begin in Spring 2024 and last about one year.

Appalachian Power owns two adjoining "Rural Areas" zoned properties (totaling approximately eight acres) located on the west side of James River Road, south of Irish Road (Route 6) and southwest of the Town of Scottsville (Attachment 1). The two properties associated with the Project include: 454 James River Road (Tax Map 130-41A), which is currently used for the existing substation; and 8756 Bryant Lane (Tax Map 130-41C1), which will accommodate the proposed detention pond and access road entrance. The expansion will accommodate two new 138kV/46kV 30 MVA transformers, one 46kV/12kV 20 MVA distribution transformer, a 12 kV bay, a Parkline control building, and associated 138 kV upgrades, all on the existing substation property (Tax Map 130-41A). The detention pond and entrance access off James River Road will be located on the adjoining Company-owned property north of the existing substation (Tax Map 130-41C1).

The following improvements are proposed (see Attachment 2):

- **Substation Expansion Areas:** The existing substation will be expanded on Tax Map 130-41A. The substation will be expanded approximately 40 feet x 180 feet to the west to accommodate the new transformers and distribution bay equipment. The substation also will be expanded approximately 45 feet x 55 feet to the east to accommodate the new Parkline control building. The new transformers and control building will help increase electric reliability and support the voltage upgrades during construction. The expanded substation will be located within a fenced, gravel pad in accordance with SP-79-44.

- **Substation Entrance Access:** The proposed entrance off James River Road will be located on Tax Map 130-41C1 and approximately 350 feet north of the existing entrance near Bryant Lane to improve sight distance and mitigate safety risks of the existing entrance. The existing entrance

near Bryant Lane will be used as the temporary construction entrance and removed at the end of construction.

- **Detention Pond:** A detention pond will be built on Tax Map 130-41C1 given the size constraints of the existing substation parcel.

The Project is subject to the special use requirements noted in Section 10.2.2 of the Zoning Ordinance as the existing Scottsville Substation will be expanded in two areas on its current parcel and the construction of the detention pond and associated stormwater controls on an adjoining property, thus amending its special use. Members of the Project Team met with Albemarle County's Department of Community Development staff in Fall 2020 to Fall 2021 to discuss various substation expansion plans that meet the needs of the Project and minimize impacts to the agricultural and natural environment in Rural Areas. The Application was submitted to Albemarle County on February 18, 2022. A local public meeting was held virtually on April 19, 2022 with limited input or concern received from the community. The conceptual grading plan is provided in Attachment 3 and adheres to the conditions set forth in SP-79-44.

The Scottsville Substation has existed on the current property for the last 80 years and is bounded by six "Rural Area"-zoned properties located off James River Road and Bryant Lane consisting of residential, forested, and agricultural uses. As mentioned above, the existing Scottsville Substation will be expanded in two areas on its current parcel to accommodate the electrical upgrades. The necessary stormwater controls as required by the Virginia Department of Environmental Quality cannot be located on the substation parcel due to size constraints. After a site review process and discussions with county staff, the Company purchased a four-acre parcel north of Bryant Lane and adjoining the substation in November 2020 to accommodate the detention pond. This parcel (Tax Map 130-41C1) was previously used for residential purposes and contains an unoccupied residential structure and outbuildings along Bryant Lane that will be removed. The detention pond is located at the southeastern extents of the parcel in order to avoid sensitive wetlands to the northwest and existing utility facilities, including two Company-owned overhead transmission line rights-of-way (ROWs) and distribution poles. Distribution poles currently located on the property will be relocated near their existing locations (Attachment 3). The location of the proposed detention pond is also bound by an existing tree line along James River Road, which will be retained as to preserve vegetative buffers and protect the natural environment (Attachment 3).

The existing substation entrance off James River Road is inadequate in meeting safety and sight distance requirements. As a result, the proposed entrance has been relocated to the northern property with the detention pond. The proposed entrance off James River Road adjoins a vacant, wooded lot and avoids sharing access with residential landowners using Bryant Lane. As discussed with County officials in the Pre-Application meeting in Fall 2021, the revised entrance location enhances sight distance and reduces safety concerns as compared to the existing entrance off James River Road, which has limited sight distance leaving the substation. The existing entrance near Bryant Lane will be used temporarily during the substation construction but removed once construction is completed (Attachment 3). No permanent parking is proposed for any entrance location. The proposed entrance replaces AEP's existing substation entrance, improves sight distance, and should not increase traffic volume on this section of James River Road. Once construction is completed, traffic to the substation will be limited to future access and

maintenance. Therefore, the proposed entrance meets the purpose of the Zoning Ordinance to ensure convenience of access and minimize disruption to communities and landowners by minimizing use of Bryant Lane to the extent practicable.

The residential and agricultural lots adjoining the Project are largely separated by existing transmission line ROWs, Bryant Lane, James River Road, and wooded vegetation. The existing tree line around the proposed entrance and along James River Road will be retained to the extent practicable to minimize visual impacts on James River Road. Additional vegetative buffers are proposed at locations that minimize impacts to adjacent properties and for the reclamation of the old access road (Attachment 3). Redwood colored slats will be installed in the chain link fence to screen the substation along James River Road, where vegetation cannot be retained or does not exist currently and complies with SP-79-44. After additional review, the shrub species along the eastern substation fence (facing James River Road) have been removed from the Conceptual Plan. In Appalachian Power Company's experience plantings beside the substation fence increase the likelihood of attracting wildlife, which are more likely to cross over the fence due to the proximity of the plantings to the fence, and which then create reliability concerns when the wildlife come in contact with substation equipment. Additionally, vegetation adjacent to substation fences have difficulty growing due to the heat and use of herbicides along fence perimeters. Therefore, this amendment to the previously approved special use will not be a substantial detriment to adjacent lots, change the character of the zoning district, or be in contrast with purpose and intent of the Zoning Ordinance, its regulations, or the public health, safety and general welfare.

CONSISTENCY WITH COMPREHENSIVE PLAN

According to Albemarle County's Comprehensive Plan (adopted June 10, 2015), the Project is located in the "Rural Areas" land use designation (Tax Maps 130-41A and 130-41C1) and outside of the designated "Development Areas" for which future development including residential, commercial, industrial and mixed-use is encouraged. According to the Plan, the "Rural Area" designation is primarily intended for agriculture, forestry, and conservation uses, and makes up 95% of the county's land area. The values specific to the "Rural Areas" in the Comprehensive Plan include protection for natural resources and the rural and historic landscapes within Albemarle County and impacts are minimized to the extent practical. The existing substation has been at this location for the last 80 years. The expansion areas are required to upgrade the substation facilities and allow the Project to remove aging equipment. Expanding the existing substation at its current parcel and the construction of a detention pond near existing facilities does not conflict with the character of the existing and surrounding land uses. The location of the proposed facilities minimizes the use of Bryant Lane, avoid sensitive environmental features, and retain existing vegetative cover where practicable. As a result, the improvements at the Scottsville Substation will not conflict with Objective 10 of the Comprehensive Plan and supports adequate electric services while minimizing impacts on the visual and natural environment.

IMPACTS ON PUBLIC FACILITIES & PUBLIC INFRASTRUCTURE

No public facilities such as schools, parks, libraries or public safety buildings are located in the vicinity of the Project and therefore, no impacts are anticipated. Modern equipment upgrades to the existing infrastructure can reduce the need for fire and rescue emergency services. The Project will not require fire/rescue training related to the new equipment and materials to be installed. Intermittent traffic is

expected along James River Road during construction of the Project, which is expected to begin in Spring 2024 and last about one year. The revised entrance location will be built and used during construction of the detention pond and the existing entrance near Bryant Lane will be used temporarily during the substation construction but removed once construction is completed (Attachment 3). Tree clearing will be held to a minimum necessary when constructing the entrance location and ditches to comply with the previously approved SP-79-44. After construction, traffic to the substation is reduced to future operations and maintenance activities in which the revised entrance location will be used. As a result, the Project is not anticipated to have a substantial detriment to public facilities and public infrastructure.

Currently, there are three 46 kV transmission lines entering the station from the north, a 138 kV transmission line that goes in and out of the substation from the east and west, and associated distribution lines (Attachment 2). Further, there is a U.S. Rubber plant and industrial area less than 0.5 mile east of the existing substation. Impacts to the surrounding area are minimized given the nearby infrastructure, additional vegetative screening where practicable, and because the substation will remain at its existing location. As noted in Section 5 of the Zoning Ordinance, the proposed special uses at these locations will not endanger the health and safety of workers and/or residents in the community and will not impair or prove detrimental to neighboring properties or the development of same.

IMPACTS ON ENVIRONMENTAL FEATURES

The Project will minimize impacts to the natural and human environments by constructing within or near existing facilities where practicable. The estimated limits of disturbance for the Project is approximately 5.2 acres and consists of two expansion areas around the substation, construction of a detention pond, revised road entrance, associated tree clearing and grading, and demolition of the current residence (Attachment 3). On the substation parcel, vegetation will be replanted near the western expansion area to preserve natural areas. Near the eastern expansion area, redwood-colored slats will be inserted into the chain link fence to minimize viewshed impacts. Moderate tree clearing and grading will be required to construct the substation expansion areas and associated stormwater facilities.

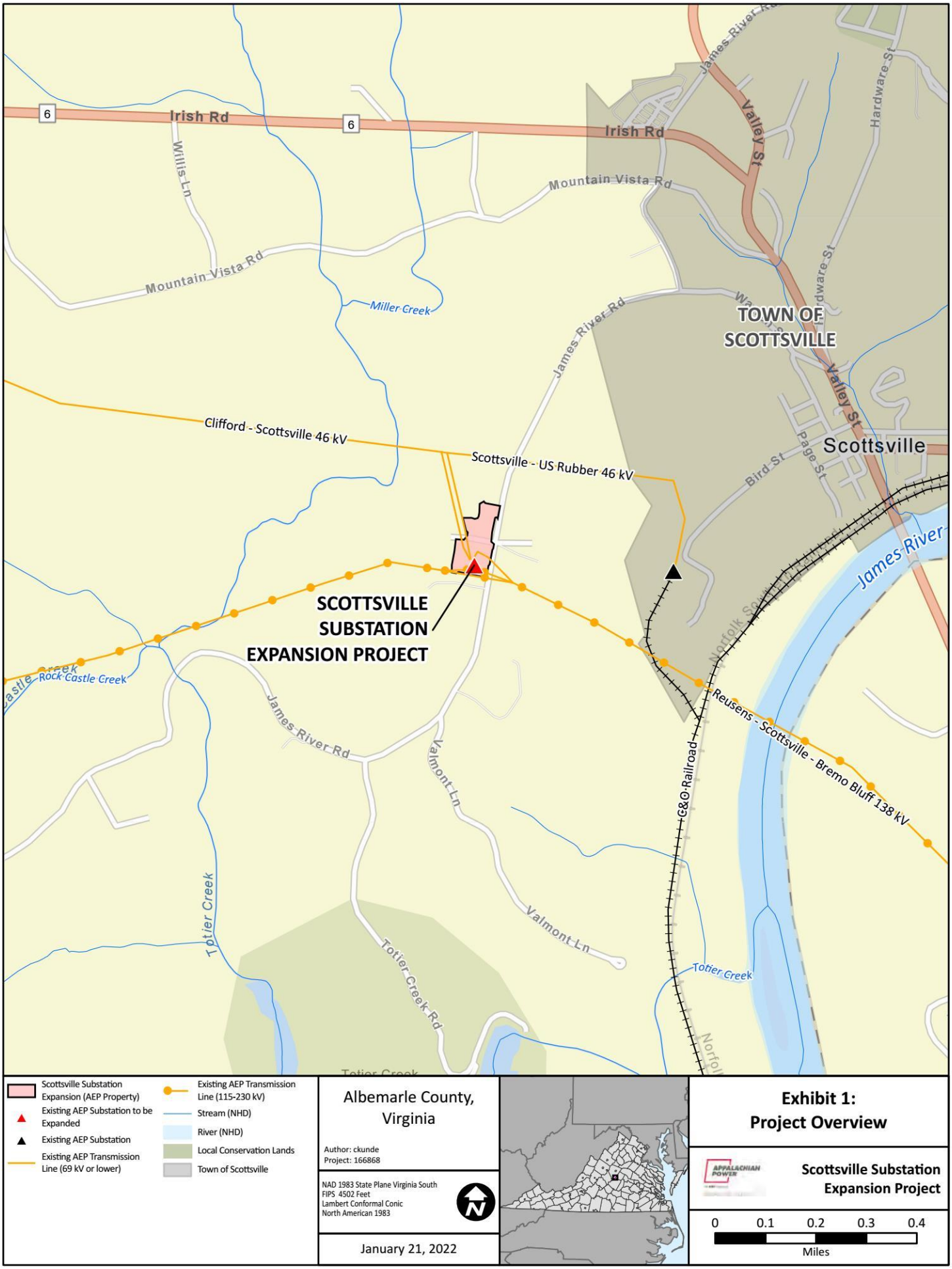
No streams or wetlands are identified on the substation parcel; however, a delineated stream and wetland (about 0.03 acre) was identified on the northwestern extents of the northern property (Attachment 2). As shown on Attachment 3, the detention pond is located on a 3:1 slope at the southeastern corner of the parcel to remain 82 feet from sensitive environmental resources and to minimize impacts. During the site civil design phase, measures such as increasing the detention pond slope will be considered to increase the separation distance from the toe of the detention pond to the environmentally sensitive areas. Tree clearing will be minimized to conserve wooded areas where practicable and maintain existing vegetative screening and buffers per SP-79-44.

No architectural or archaeological resources are located on the Project properties. The Project is located within 0.5 mile of two National Register of Historic Places (NRHP) Historic Districts. The Scottsville Historic District is located approximately 0.3 miles to the east and the Southern Albemarle Rural Historic District is located approximately 0.2 miles west and surrounds areas along Route 6. A Phase 1 cultural resource survey was completed in January 2021 on the Project properties and determined no previously

recorded architectural or archaeological resources, including the historic districts, are anticipated to be impacted by the Project due to distance or intervening landscape and mature vegetation, which will minimize views.

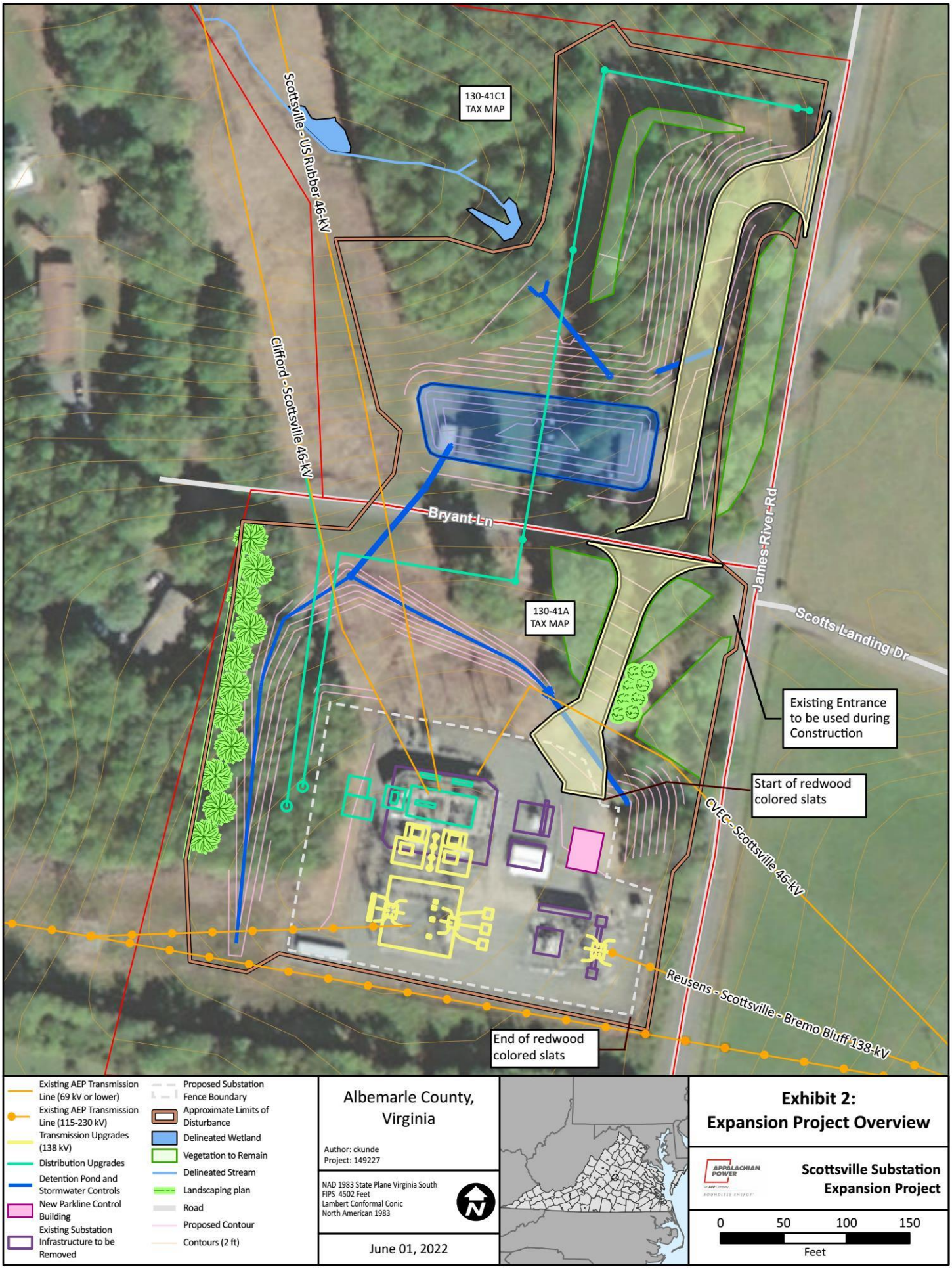
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ATTACHMENT 1 – PROJECT OVERVIEW MAP


Irish Rd
6
Willis Ln
Mountain Vista Rd
Miller Creek
James River Rd
TOWN OF SCOTTSVILLE
Valley St
Hardware St
Scottsville
Page St
Bird St
James River
Clifford - Scottsville 46 kV
Scottsville - US Rubber 46 kV
SCOTTSVILLE SUBSTATION EXPANSION PROJECT
Rock Castle Creek
Reusens - Scottsville - Bremo Bluff 138 kV
C&O Railroad
Valmont Ln
Totier Creek
Totier Creek Rd
Scottsville Substation Expansion (AEP Property)
Existing AEP Substation to be Expanded
Existing AEP Substation
Existing AEP Transmission Line (69 kV or lower)
Existing AEP Transmission Line (115-230 kV)
Stream (NHD)
River (NHD)
Local Conservation Lands
Town of Scottsville
Albemarle County, Virginia
Author: ckunde
Project: 166868
NAD 1983 State Plane Virginia South
FIPS 4502 Feet
Lambert Conformal Conic
North American 1983
January 21, 2022
Exhibit 1:
Project Overview
Scottsville Substation Expansion Project
0 0.1 0.2 0.3 0.4
Miles

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ATTACHMENT 2 – SCOTTSVILLE SUBSTATION EXPANSION PROJECT MAP



Existing AEP Transmission Line (69 kV or lower)
Existing AEP Transmission Line (115-230 kV)
Transmission Upgrades (138 kV)
Distribution Upgrades
Detention Pond and Stormwater Controls
New Parkline Control Building
Existing Substation Infrastructure to be Removed
Proposed Substation Fence Boundary
Approximate Limits of Disturbance
Delineated Wetland
Vegetation to Remain
Delineated Stream
Landscaping plan
Road
Proposed Contour
Contours (2 ft)

Albemarle County, Virginia

Author: ckunde
Project: 149227

NAD 1983 State Plane Virginia South
FIPS 4502 Feet
Lambert Conformal Conic
North American 1983

June 01, 2022

Exhibit 2: Expansion Project Overview

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Scottsville Substation Expansion Project

0 50 100 150
Feet