Bright Mountain Solar Project

Case No. 2022-00274

TAB 2

TAB 2 PROPOSED SITE DESCRIPTION

KRS 278.706(2)(b) *A full description of the proposed site, including a map showing the distance of the proposed site from residential neighborhoods, the nearest residential structures, schools, and public and private parks that are located within a two (2) mile radius of the proposed facility.*

The proposed Project includes a solar-powered electric generation facility with an alternating current (AC) generating capacity of up to 80 MW (the Facility) and an associated 69-kilovolt (kV), approximately 4-mile long, nonregulated transmission line (the Transmission Line). The Facility will be located on a reclaimed, mountaintop-removal coal mine site in an unincorporated area of Perry County, Kentucky. The area leased for the Facility includes approximately 805 acres of private land (the Facility Area). Within this Facility Area, the footprint of the Facility will only be approximately 360 acres based on the area underneath the solar arrays, inverters, and private access roads. Access roads will be gravel-surfaced and approximately 14 feet in finished width.

The Facility will use approximately 200,000 ground-mounted photovoltaic (PV) modules, commonly known as solar panels, to provide renewable energy to the Kentucky bulk power transmission system. Solar panels will be affixed to a metal racking system mounted on piles that will be installed into the ground in arrays. Arrays will be grouped into separate, contiguous clusters, and all of the array clusters will be within a contiguous agricultural-style fence which will be gated for equipment security and public safety.

There are two PV array layout alternatives currently under consideration for the Facility, one of which consists of a single-axis, tracking-style racking system (tracking layout), while the other consists of a fixed-tilt racking system (fixed-tilt layout). For the fixed-tilt layout, the arrays will be oriented in an east-west direction and tilted approximately 28 degrees to face southward toward the sun. For the tracking layout, arrays will be oriented in a north-south direction with panels facing east at sunrise, rotating throughout the day to track the location of the sun in the sky, and facing west at sunset. At night, the panels will rest at an angle of approximately 50 to 60 degrees.

The panel arrays will be connected to approximately 21 inverters which will convert the direct current (DC) power generated by the solar panels to AC. From the inverters, a series of below-

ground collection cables will deliver the electricity to the Facility substation. At the Facility substation, the voltage will be stepped up to allow connection to the regional electrical grid through the Transmission Line. The Transmission line will be approximately 4 miles in length, generally traversing through vacant timberland to the point of interconnection (POI) at the existing Bonnyman Substation, which is owned by Kentucky Power Company (Kentucky Power), a wholly-owned subsidiary of American Electric Power, Inc.

A map showing the Facility Area with residential structures and residential neighborhoods within a 2-mile radius is included in this Tab as Attachment A. Residential neighborhoods have been identified pursuant to Kentucky Revised Statute (KRS) 278.700(6)[1]. Areas of 5 or more acres containing at least 1 residential structure per acre were digitized manually, according to the approximate area of land upon which the residential structures are situated. This resulted in a qualitative identification of residential neighborhoods which included some clusters of only 5 to 7 houses along a roadway, in addition to larger groupings of residences. Point density tools and other forms of computerized analysis were not utilized, as analyses of this kind could result in shapes of residential neighborhoods that contain large amounts of unpopulated area or are incompatible with roadways or the topography of the land. Parcel boundary data was not considered in the identification of residential neighborhoods. Residential structures in the vicinity of the Project are generally clustered along roadways.

There are no schools, public parks, or private parks within a 2-mile radius of the Facility Area. Additional maps showing the preliminary Facility layouts in greater detail are included with Tab 12, the Site Assessment Report.

[1] **KRS 278.700(6):** "Residential neighborhood" means a populated area of five (5) or more acres containing at least one (1) residential structure per acre.

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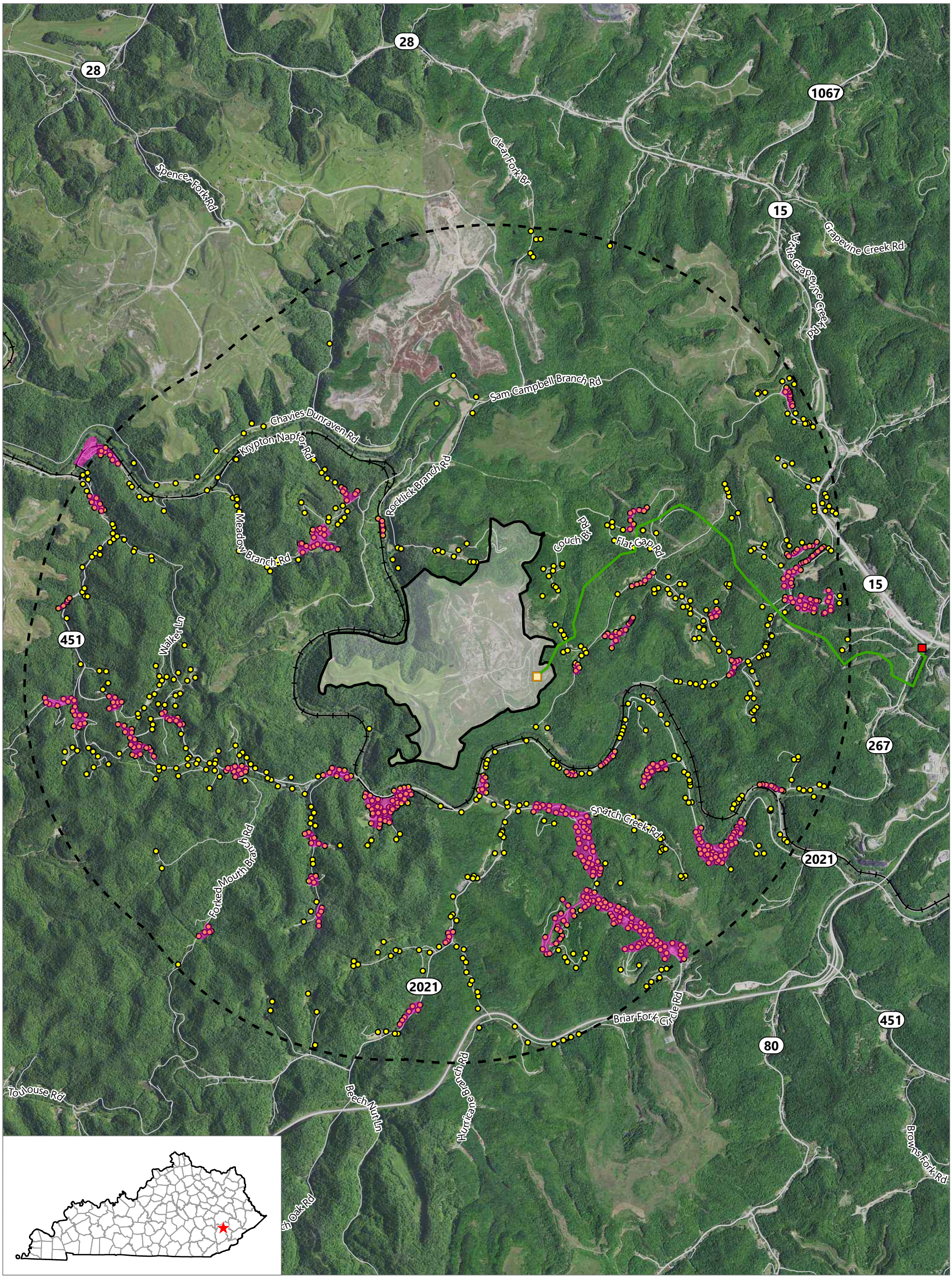
Attachment A – Map of Proposed Project Site

Attachment A. Proposed Project Site



Bright Mountain Solar Project

Perry County, Kentucky

Tab 2 - Proposed Site Description

- Existing Bonnyman Substation
- Residential Structure
- Transmission Line
- Active Rail Line
- Residential Neighborhood
- Facility Substation
- 2-Mile Study Area
- Facility Area

Bright Mountain SOLAR

0 1,000 2,000 4,000
Feet

Prepared September 5, 2023
Basemap: USGS "NAIP Plus" orthoimagery map service