

Historic Resources Survey

Bright Mountain Solar Project

City of Bonnyman, Perry County, Kentucky

KYSHPO Registration Number: FY22-4723

Prepared for:

Bright Mountain Solar, LLC

a subsidiary of Avangrid Renewables, Inc.
1125 NW Couch Street, Suite 600
Portland, OR 97209

Prepared by:



Environmental Design & Research
Midwest Region
5 E Long St, Suite 700
Columbus, OH 43125
833-337-0010
www.edrdpc.com

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MANAGEMENT SUMMARY

Project Registration Number: FY22-4723

Involved Agencies: Kentucky State Board on Electric Generation and Transmission Siting

Phase of Survey: Reconnaissance Historic Resources Survey

Location Information: Bonnyman, Perry County

Survey Area:

Project: An 80-megawatt (MW) solar project consisting of ground-mounted photovoltaic (PV) panels and associated infrastructure.

Facility Area: An approximately 825-acre area that will host the main facility components of the Project.

T-Line Area: A 3.5-mile electric Transmission Line (T-Line) and 1.0-mile electric Alternate T-Line associated with the Facility Area.

Area of Potential Effects (APE): The Area of Potential Effects (APE) for Direct Effects represents the maximum area of potential soil disturbance associated with the Project and includes the Facility Area and T-Line Area. The APE for Indirect Effects includes those areas determined to have potential visibility of the Facility within a one-mile buffer and a half-mile buffer from the T-Line Area.

USGS 7.5-Minute Quadrangle Map: *Krypton, Kentucky and Hazard North, Kentucky*

Historic Resources Overview: There is one previously recorded historic resource and four previous cultural resources surveys mapped within 1 mile of the Facility Area and T-Line Area.

A total of 16 newly identified historic resources were surveyed within the APE. EDR recommends that two newly surveyed resources are eligible for National Register of Historic Places (NRHP) listing. Neither resource is located within the Project Area. Seven historic-era cemeteries are located within the APE; however, only three cemeteries were accessible during field survey. None of the cemeteries are located within the Project Area.

Report Authors: Elizabeth Williams and Michael Kenneally

Date of Report: October 2022

TABLE OF CONTENTS

INTRODUCTION.....	1
1 Purpose and Goals of the Investigation.....	1
2 Project Location and Description	3
3 Project Components.....	6
CULTURAL CONTEXT	7
4 Background Research and SHPO Consultation.....	7
4.1 KHC Previously Recorded Historic Resources.....	7
4.2 Kentucky Cemeteries	7
5 Historic Context.....	9
6 Historic Maps Review	14
6.1 1793 <i>A Map of Kentucky from Actual Surveys</i>	15
6.2 1891 <i>Hazard, Kentucky</i> USGS topographic quadrangles	15
6.3 1913 <i>Buckhorn, Kentucky</i> and 1914 <i>Troublesome, Kentucky</i> USGS topographic quadrangles..	15
6.4 1937 Highway and Transportation Map Perry County Kentucky.....	15
6.5 1972 <i>Krypton, Kentucky</i> and 1972 <i>Hazard North, Kentucky</i> USGS topographic quadrangles ...	20
6.6 1995, 2004, 2008, 2014, 2018, and 2022 Aerial Photographs	20
SURVEY DESIGN.....	22
7 Survey Goals and Objectives.....	22
8 Criteria for Evaluating the Significance of Historic Resources.....	22
9 Survey Methodology.....	22
RESULTS OF HISTORIC RESOURCES SURVEY	24
10 Conditions and Constraints.....	24
11 Previously Identified Historic Resources.....	24
12 Newly Identified Historic Resources	25
CONCLUSIONS AND RECOMMENDATIONS	31
REFERENCES.....	32

LIST OF FIGURES

Figure 1. Regional Project Location	2
Figure 2. Facility Area and T-Line Area	4
Figure 3. APE for Indirect Effects	5
Figure 4. Previously Identified Cultural Resources	8
Figure 5. 1793 <i>A Map of Kentucky from Actual Surveys</i>	16
Figure 6. 1891 <i>Hazard, Kentucky</i> USGS topographic quadrangle	17
Figure 7. 1913 <i>Buckhorn, Kentucky</i> and 1914 <i>Troublesome, Kentucky</i> USGS topographic quadrangles	18

Figure 8. 1937 Highway and Transportation Map Perry County Kentucky 19
 Figure 9. 1972 Krypton, Kentucky and 1914 Hazard North, Kentucky USGS topographic quadrangles..... 21
 Figure 10. Previously Recorded and EDR Recommended NRHP Eligible Resources within Indirect APE..... 26

LIST OF TABLES

Table 1. Cemeteries Located within 0.25 miles of the Project.....9
 Table 2. Previously Identified Resource within APE for Indirect Effects..... 25
 Table 3. Newly Identified Resources within APE for Indirect Effects..... 27

LIST OF APPENDICES

- Appendix A – Staff Resumes
- Appendix B – SHPO Correspondence
- Appendix C – Photographs – Previously Identified and New Identified Historic Resources

INTRODUCTION

1 PURPOSE AND GOALS OF THE INVESTIGATION

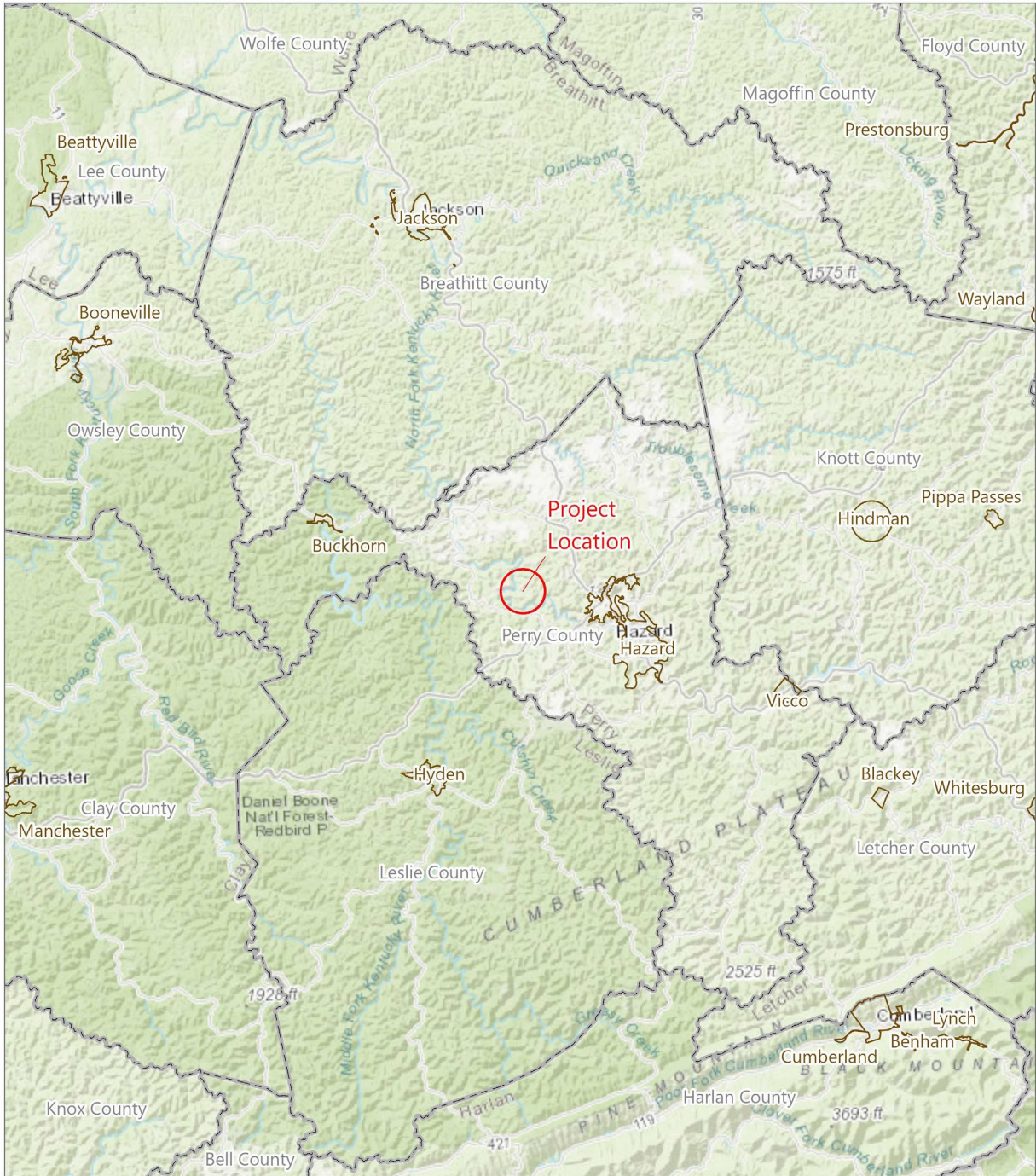
Bright Mountain Solar, LLC (the Applicant), a subsidiary of Avangrid Renewables, LLC, is proposing to construct the Bright Mountain Solar Project, which includes an up to 80-megawatt (MW) photovoltaic (PV) solar project and associated infrastructure located in Bonnyman, Perry County, Kentucky (the Project) (Figure 1). This report was prepared for the Applicant as part of their due diligence for their application to the Kentucky State Board on Electric Generation and Transmission Siting. Please note that this report addresses only historical and architectural resources; information concerning the Facility's potential effect on archaeological resources is provided under separate cover.

The purpose of this Historic Resources Survey is to:

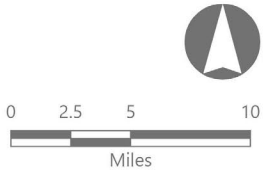
- Define the Project's area of potential effect (APE) for Indirect Effects relative to historic resources;
- Determine whether previously identified historic resources of significance are located within the APE for Indirect Effects; and,
- Identify historic resources located within the APE for Indirect Effects, evaluate their eligibility for the National Register of Historic Places (NRHP), and assess the potential effect of the Project on those resources.

This report includes a records review of maps and documents intended to assist in EDR's review of historic resources that could potentially be affected by the construction and/or operation of the Project.

All historic resource services provided by EDR for the Project were conducted by individuals who meet the Secretary of the Interior's Guidelines (per 36 CFR, Part 61) for Professional Qualifications in Architectural History and/or History.



-  Municipal Boundary
-  County Boundary



Basemap: USDA NAIP "2019 Kentucky 60 cm" orthoimagery map service

Figure 1. Regional Project Location

Bright Mountain Solar Project
 Perry County, Kentucky
 Historic Resources Survey

2 PROJECT LOCATION AND DESCRIPTION

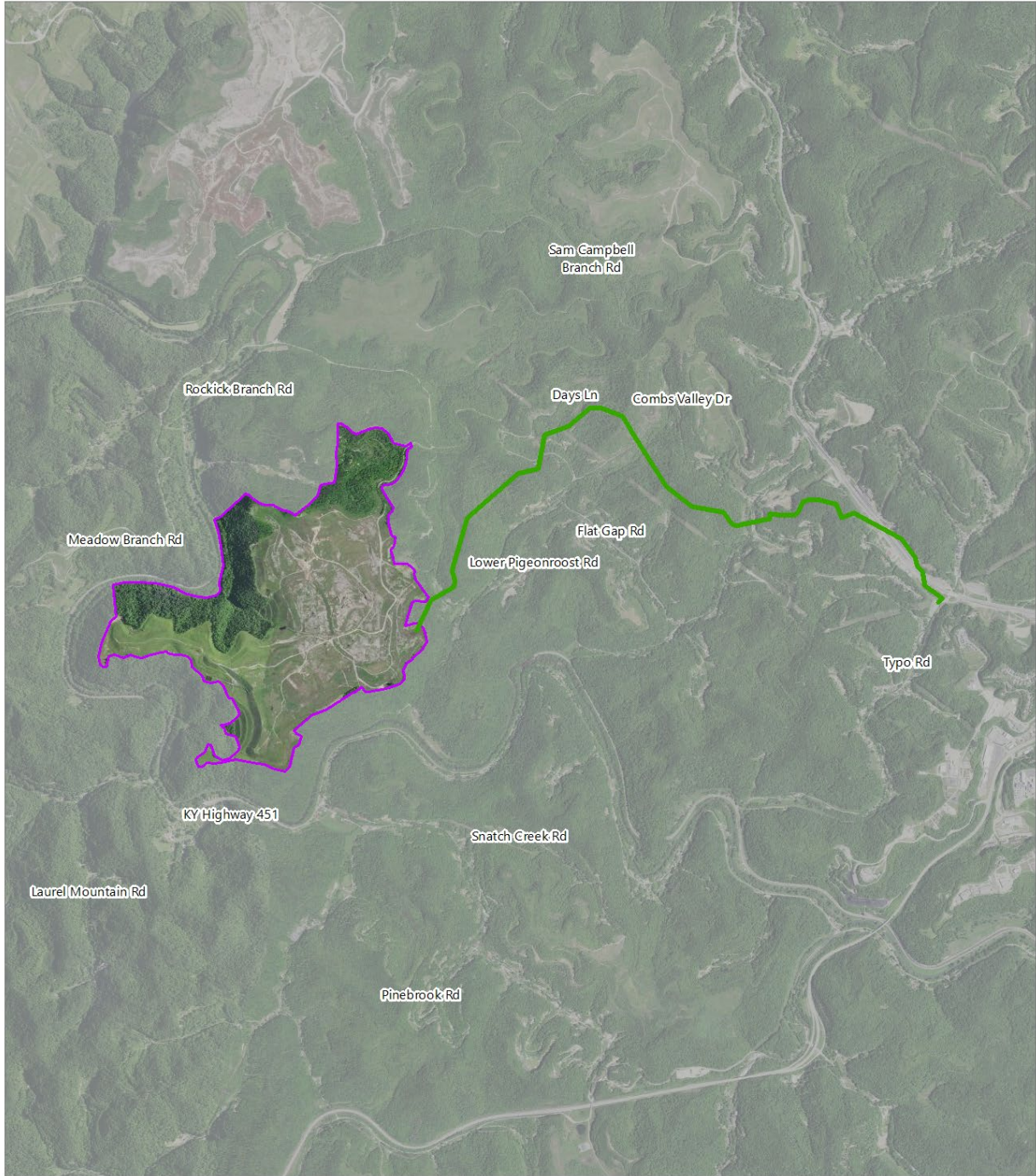
The Project includes approximately 825 acres for main facility components (the Facility Area) and 4.5 miles of associated electric transmission line infrastructure (the T-Line Area) (Figure 2). The Facility Area is located within a reclaimed mountain top removal coal mine that is roughly bound by the North Fork of the Kentucky River to the west and south and forested mountains to the north and east. The T-Line Area traverses steep wooded mountains and narrow valleys and extends east from the Facility Area.

The following terms are used throughout this document to describe the proposed action:

<u>Project:</u>	Collectively refers to all components of the Project and associated infrastructure, such as solar panels, collection lines, substation, and other equipment.
<u>Facility Area:</u>	An approximately 825-acre area that will host the main facility components of the Project.
<u>T-Line Area:</u>	A proposed 3.5-mile electric Transmission Line route and 1-mile electric Alternate Transmission Line route associated with the Facility Area.
<u>APE for Direct Effects:</u>	The APE for Direct Effects represents the maximum area of potential soil disturbance associated with the Project and includes areas within the Facility Area and T-Line Area.
<u>APE for Indirect Effects:</u>	The APE for Indirect Effects represents the area within a 1-mile buffer of the proposed Facility Area determined to have potential Project visibility based on a viewshed analysis and 0.5-mile buffer of the proposed T-Line Area.

The Facility Area is set in an area of generally moderate topographic relief. This is due primarily to past mountain top removal, particularly over the last twenty years. The Buildable Area within the Facility Area (i.e., area of ground disturbance) is specifically located within areas of the former mountain top removal and will not be located within forested areas. Areas along the northwest boundary of the Facility Area (e.g., outside the Buildable Area) and along the T-Line Area, consist of steep wooded ridges and narrow valleys with steeply sloped topography. These woodlands are punctuated by local roads, creeks, and minor tributaries.

The Project will consist of the construction, operation, and decommissioning of PV solar panels mounted on racking, inverters that will convert direct current (DC) electricity to alternating current (AC) electricity, a network of racking-mounted and buried cables to collect the electricity, a collection substation, access roads, laydown yards, and perimeter fencing contained within the Facility Area.

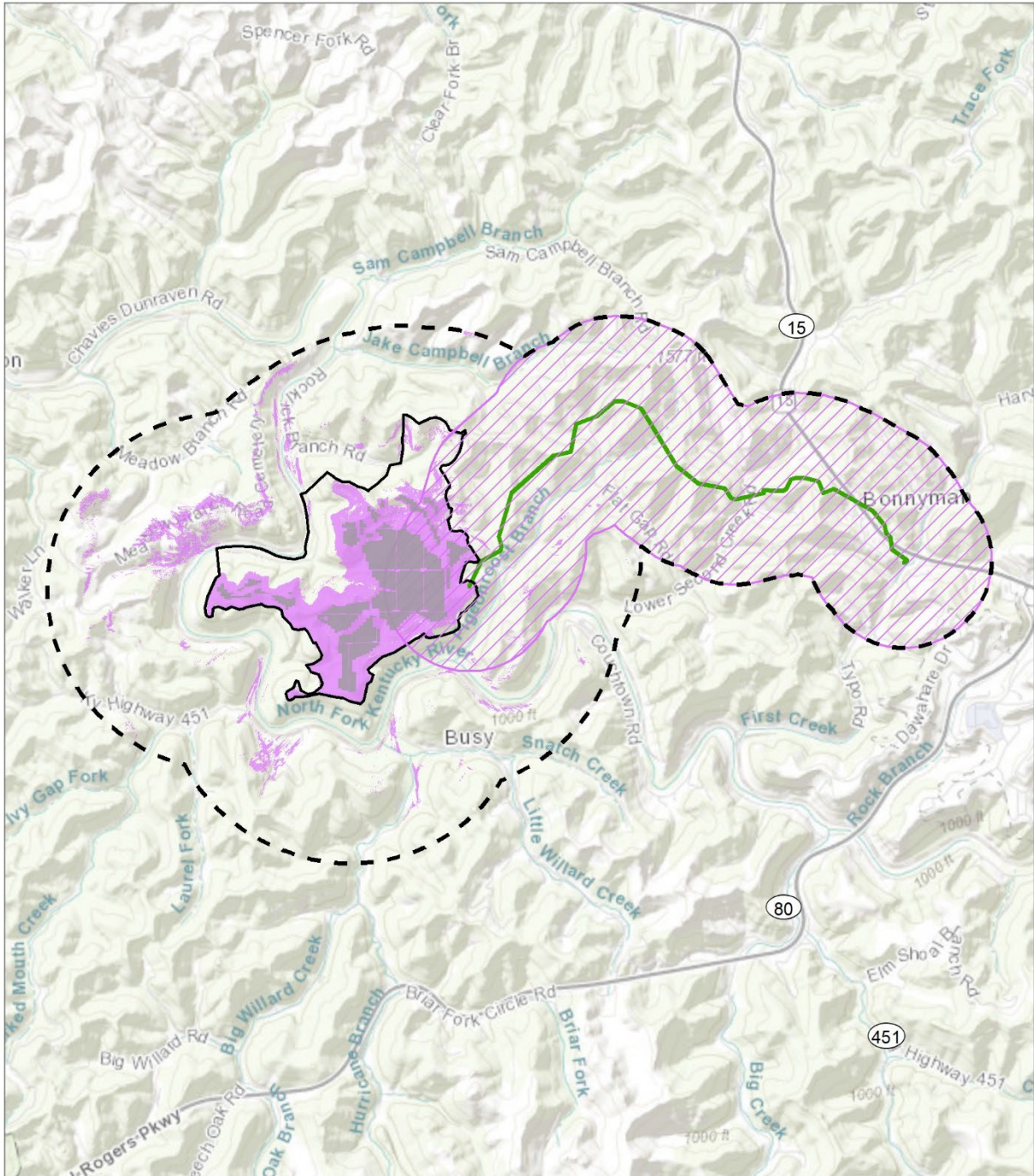


— T-Line Area
 Facility Area
— Transmission Line
— Alternate Transmission Line



Esri ArcGIS Online "World Imagery" map service

Figure 2. Facility Area and T-Line Area



Basemap: Esri "World Topographic Map" map service

Figure 3. APE for Indirect Effects

Bright Mountain Solar Project
 Perry County, Kentucky
 Historic Resources Survey

3 PROJECT COMPONENTS

The Project components and proposed layout are currently under design; however, all Project components will be placed on privately owned land that make up the Facility Area and T-Line Area, and APE for Direct Effects by extension. Potential project components of the proposed Project may include, but are not limited to:

- Solar Panels and Racking
- Inverters and Collection Lines
- Project Substation, Utility Substation and Gen-Tie
- Access roads
- Laydown Yards
- Pyranometers
- Transmission Lines and associated infrastructure

Relative to conventional energy generation methods of a similar scale, solar facilities result in minimal impacts to the environment. Construction and operation of solar generation facilities require large, contiguous areas of land for the collection and distribution of energy. The Applicant is committed to minimizing impacts to cultural and natural resources.

CULTURAL CONTEXT

4 BACKGROUND RESEARCH AND SHPO CONSULTATION

This Historic Resources Survey Report has been prepared for the Applicant as part of their due diligence for their application to the Kentucky State Board on Electric Generation and Transmission Siting. KYSHPO outreach and consultation has included the following:

- On March 31, 2022, EDR (on behalf of the Applicant) submitted a Project Registration Form to the KHC Site Identification Program requesting data on historic resources within and/or near the Facility Area and T-Line Area.
- On May 1, 2022, the KHC responded with historic resources site data within 1.24-miles (2-kilometers) of the Project and assigned a project registration number (FY22-4723). The 1.24 miles (2-kilometer) buffer was utilized per recommendations from the KYSHPO.

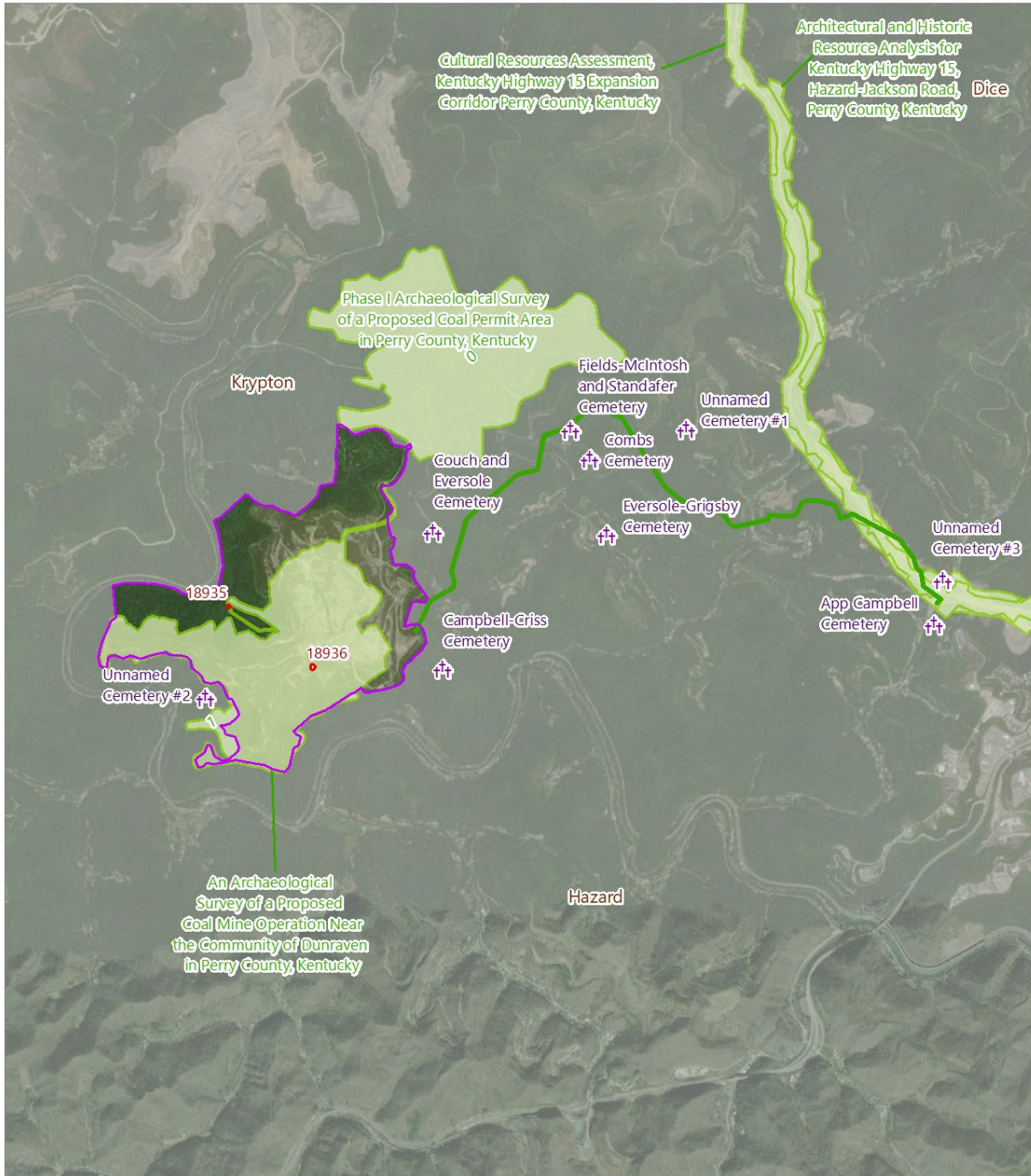
Previously recorded historic resources within the vicinity of the Project identified by the KHC are described in Section 4.1 and depicted on Figure 4. Information concerning the Facility's potential effect on archaeological resources is being provided under separate cover.

4.1 KHC Previously Recorded Historic Resources

The site data provided by the KHC indicates that there are no historic resources within the Facility Area or T-Line Area. However, one historic structure was recorded within 1.24 miles (2 kilometers) of the Project (Figure 3). The historic resource (PE 12), a Greek Revival house constructed between 1850 and 1874, is located approximately 1.05 miles (1.7 kilometers) to the northwest of the Facility Area in Dunraven, Kentucky. The NRHP status for the historic resource is "undetermined." However, the KHC states that "Resources for which National Register status is listed as 'undetermined' may include those that have been previously determined eligible for listing in the NRHP as part of a consensus determination between the KYSHPO and a Federal agency, but for which the determination field has not yet been updated."

4.2 Kentucky Cemeteries

No cemeteries are recorded within the Facility Area or T-Line Area. However, nine cemeteries are mapped within 0.25 mile of the Project based on the 1972 *Krypton, Kentucky* and 1972 *Hazard North, Kentucky* USGS topographic quadrangles, as well as mapping from Findagrave.com (2022a-2022f). Only three of these cemeteries are visible via aerial imagery (Google Earth, 2022). Of these cemeteries, the Fields-McIntosh and Standafer Cemetery is located within proximity to the T-Line Area, specifically the Alternate Transmission Line on Days Lane Cemetery Road. The cemetery is located approximately 100 feet south of the Alternate Transmission Line based on aerial imagery. The Fields-McIntosh and Standafer Cemetery is a



- Cemeteries
- Historic Structures
- T-Line Area
- Transmission Line
- Alternate Transmission Line
- Archaeological Sites
- Previous Cultural Surveys
- Facility Area



Esri ArcGIS Online "World Imagery" map service

Figure 4. Previously Identified Cultural Resources

large family cemetery predominantly containing the surname Colwell, Fields, and Standafer (Findagrave.com, 2022f). A total of 73 gravestones have been recorded, with burials ranging from 1909 to 2017. However, no Project related impacts to the cemetery are anticipated. A brief description for each mapped cemetery is detailed in Table 4.

Table 1. Cemeteries Located within 0.25 miles of the Project.

Cemetery Name	Location¹	Number of Gravestones	Earliest Burial	Latest Burial	Distance to Project (miles)
App Campbell Cemetery	37.289569, -83.236374	2	2012	2017	0.11
Campbell-Criss Cemetery	37.28759, -83.28023	5	1997	2019	0.14
Combs Cemetery	37.30195, -83.26672	23	1941	2021	0.16
Couch and Eversole Cemetery	37.29720, -83.28079	19	1945	2020	0.14
Eversole-Grigsby Cemetery	37.29661, -83.26527	4	2011	2020	0.21
Fields-McIntosh and Standafer Cemetery	37.30426, -83.26825	73	1909	2017	0.02
Unnamed Cemetery #1	37.303980, -83.257966	Unknown	Unknown	Unknown	0.25
Unnamed Cemetery #2	37.285735, -83.301410	Unknown	Unknown	Unknown	0.1
Unnamed Cemetery #3	37.292748, -83.235528	Unknown	Unknown	Unknown	0.09

¹: Please note that the location of the cemeteries is based on georeferencing from USGS topographic quadrangles and publicly reported data from Findagrave.com. As such, locational data is an approximation and should not be taken as exact.

5 HISTORIC CONTEXT

While the identity of the first European to explore Kentucky is unknown, it is generally accepted that European exploration within the state occurred by at least the late seventeenth century. Early known European explorers include Father Jacques Marquette and fur trader Louis Joliet on their 1673 trip down the Mississippi River, La Salle on his 1682 trip on the Mississippi River, and British exploration of westward-flowing rivers (McBride, 2008:906; Alvord, 1920). These explorations by the French and British initiated conflict between each sovereign nation and Native Americans, in a struggle that would continue through the next century.

By the late seventeenth century, many of the Ohio Valley tribes had become dependent on the Iroquois and the fur trade and were living in the northeastern United States. Exploration within Kentucky and neighboring

regions was spurred by the fur trade, with numerous evidence of French fort construction within Illinois. The Ohio Valley fur trade was controlled by the Iroquois, while the Cumberland and Tennessee Valleys were controlled by the Chickasaw and Cherokee (Alvord, 1920).

While Illinois has numerous evidence of fort construction during the late seventeenth century, no evidence of fort or post construction is present within Kentucky until the first half of the eighteenth century. However, it is possible that small private posts were established in western Kentucky (McBride, 2008:906-907). By the 1720s, Native American groups, such as the Shawnee and Delaware, were returning or moving into the Ohio Valley, and by the 1740s, Pennsylvanian traders had begun moving into the Ohio Valley and establishing trading houses in Native American villages. At least one trading house was established in Kentucky along the Ohio River by 1752 to 1754 (Hunter, 1978:591; Alvord, 1920).

Throughout the eighteenth century, land cessions of Native American lands were a continual occurrence. In 1744, the Treaty of Lancaster was negotiated and signed, and entailed that the Iroquois cede their lands south of the Ohio River to Europeans. As a direct result of this treaty, two land companies received land grants, which included the Loyal Company and the Ohio Company. Agents from these companies who traveled into Kentucky included Dr. Thomas Walker in 1749 via Appalachia and Christopher Walker via the Kentucky and Licking Rivers (McBride, 2008:908).

During the French and Indian War, the French controlled trade between 1754 and 1758 in the Ohio Valley. After 1758, French settlements were contained to western Kentucky, as the Treaty of Paris granted lands east of the Mississippi River to Great Britain; however, no definitive evidence exists of their occupation (McBride, 2008:908-909). During this time, trade and settlement along Kentucky's borders increased. By the end of the French and Indian War, land speculators and settlers began moving into the Trans-Appalachian lands. While European settlement was temporarily stopped by the Proclamation of 1763 and Pontiac's Uprising from 1763 to 1765, afterwards speculators pressured British and colonial officials to shift the ceded lands line westward. Additional treaties during this time that removed Native American claims to their lands, included the Treaty of Hard Labor (1768), the Treaty of Fort Stanwix (1768), and the Treaty of Lochaber (1771), which relinquished Cherokee lands east of the Kanawha-New River, ceded Iroquois lands south of the Ohio River, and established the western boundary of Kentucky, respectively. Soon after the latter of these treaties was signed into effect, surveyors from various land companies and the Colony of Virginia began entering Kentucky, which rapidly spurred Euro-American exploration and settlement (Hammon and Taylor, 2002). In addition, during the late 1760s, hunters from Pennsylvania, Virginia, and North Carolina (also called "Long Hunters") entered Kentucky, staying in the state for months or years and moving from camp to camp. Their exploration was important to later settlement in Kentucky, as the information they reported back was utilized by land companies and speculators to encourage settlers to move to the state (McBride, 2008:910).

During the late eighteenth century and early nineteenth century, most of the land in Kentucky was claimed by Europeans, road infrastructure was established, towns were created, and counties were formed (Pollack, 2008a:7; McBride, 2008:911). While the previously mentioned treaties spurred European settlement,

settlement remained relatively slow until after the Revolutionary War and due to continued conflict between Europeans and Native Americans. By 1784, Euro-American settlers numbered 30,000, and by 1790 Euro-Americans numbered 61,133, enslaved Africans numbered 12,430, and free African Americans numbered 114 (McBride, 2008:913). Statehood was granted to Kentucky in 1792, with the Treaty of Greenville (1795), which ceded all Native American claims to Kentucky, leading to a dramatic increase of settlers in the state. By 1800, 41 counties were formed, and the population of the state rose to 220,955 Euro-Americans and 40,433 enslaved Africans. Settlement within the Project's region was relatively slower than the rest of the state. However, the population of the region did increase from 20,297 to 34,602 between 1810 and 1820, with iron furnaces being centered in the region (McBride, 2008:914-919). By 1820, Perry County, where the Project is located, was formed (Pilcher, 1917).

During the early nineteenth century, growth in Kentucky resulted from a highly productive agricultural economy (Pollack, 2008a:7). The state continued to be predominantly agricultural throughout the nineteenth century, with agriculture recovering rapidly after the Civil War. By 1870, Kentucky was first in hemp production, third in the production of mules, fifth in swine, and eighth in the production of corn, wheat, and flax. By 1900, the value of farm products was the highest in the South except for Texas (Axton, 1975; Tapp and Klotter, 1977).

By the mid-nineteenth century, farm tenancy and farm mortgages increased throughout Kentucky, with tenancy increasing from 26.5% of farm operators in 1880 to 33.9% in 1900. Share-renting and sharecropping increased, as well, all of which may be tied to freed slaves who had a great knowledge of agriculture but no means of acquiring land (McBride, 2008:944). The increase has also been attributed to the economics of tobacco production, in which high prices coupled with high labor demands and high land prices often made renting and working small acreage a more profitable way to farm (McBride, 2008:944). However, within the Project's region, and much like other less fertile portions of the state, focus remained more oriented toward subsistence crops, such as corn and livestock, rather than tobacco (Burrough, 1924; Martin, 1988). In Perry County, crops grown included corn, potatoes, and hay, as well as apples and berries. Livestock included swine, cattle, mules, sheep, and horses (Randolph, 1936:3-4).

During the late nineteenth century and early twentieth century, agricultural deterioration within the region of the Project was evident. This was in part due to the extractive industries of lumber and coal. The timber industry caused erosion and loss of fertility, while coal towns often occupied the flatter, more valuable farmland. Additional factors that effected soil fertility and agricultural production within or near the Project included the loss of labor to the timber and coal industries, the demand of food from miners, and the demand for livestock feed for oxen (Caudill, 1963; Jones, 1985). As a result, many farmers began cultivating the less fertile lands (i.e., slopes), and livestock declined to only 39% of its 1880 level by 1930 (Kirby, 1987). Within the region, lumber and mining began to create a dependence on wage labor and/or sharecroppers (i.e., landless farmers).

From the mid-nineteenth century to the early twentieth century, over 600 coal towns were formed within the Appalachian Mountain region, with many people arriving from northern cities or western Kentucky

(McBride, 2008:957, 962). Much of the state's best timber and coal was located within the Appalachian Mountain region in areas without established towns. Therefore, a number of entire communities were constructed due to the timber and coal industries. Essential components of a coal town included a railroad line, mine entrance, dump areas, sorting sheds, mine office, small frame houses for the miners, larger frame houses for the mine managers and other officials, at least one store, and a blacksmith shop. Other components could include a bank, service shops for the railroad, doctor's office, boarding house or hotel, wash houses, community buildings, schools, or churches. However, one definitive feature of mining towns was the lack of a municipal government, city council, and a low number of retail outlets per capita, otherwise called a "company town" (McBride, 2008:963; Pickard, 1969). Terraces and floodplains were common locations for these company towns, as the necessity for flat land for a railroad heavily influenced the location (McBride, 2008:965). Hazard, the county seat of Perry County, was a company town owned and controlled by mining companies. In 1920 the population was 537, and by 1936 the population was approximately 10,000 (Randolph, 1936:19).

By the second half of the nineteenth century, there was an increase in road and railroad chartering and construction. Other than the Louisville and Nashville feeders from the Ohio River to Lexington, few rail lines and formalized roads had been constructed before interruption by the Civil War. Most major roads and railroads were built during the Antebellum period (1865-1915), with the majority of roads consisting of private toll roads. Within Kentucky, violence against toll gates and houses, which protested rising tolls amidst falling agricultural prices, peaked in 1896 (Hepner and Whyne, 1992). In addition, roads during this time primarily consisted of a dirt surface or, at best, crushed rock that consisted of limestone or chert (McBride, 2008:955).

After World War I, the rural population of Kentucky increased more slowly than the urban population, as people moved to cities for work. For example, from 1910 to 1920, the rural population increased by only 2.8% while the urban population increased by 14.1%. This trend reversed in the 1930s due to the Great Depression and mass layoffs, with the rural population increasing by 10% and the urban population increasing only by 6.3% (U. S. Census, 1943). Within Perry County, the population somewhat differed from the state-wide trend between 1910 and 1920, with Pilcher (1917) stating that the "population is now over double what it was a year ago when the railroad arrived." Between 1910 and 1920, spurred by the mining industry, the population of Perry County increased from 11,255 to 26,042, and by 1930 the population was 42,186.

Throughout the twentieth century, there was a continuation of the previous trends from the nineteenth century, with a general decline of farming as a way of living, the increased prevalence of wage labor, continued urbanization, major improvements in roads, decline in river traffic, increase in stores and access to consumer goods, and the continued extraction of natural resources such as timber and coal (McBride, 2008:967). The 1920s was a period of agricultural stagnation in Kentucky, as well as much of the South. While 26.6% of farms were classified as tobacco farms and 19.1% were classified as commercial orientation, almost 29% were classified as self-subsistence (Odum, 1936:170). As discussed above, lands within the Project's region contained poor agricultural soils that produced low yields. As a result, many farmers were

pushed to marginal lands, such as steep slopes. By the mid-1920s, many fields were abandoned and were marked by secondary growth of sassafras, persimmon, and other small shrubs (David, 1927). In addition, outbuildings associated with farms were relatively rare compared to farms in the North.

While the agricultural industry made modest gains during World War II as farm income rose, the resurgence of the mining industry, particularly within the Appalachian Mountain region, interrupted these agricultural improvements (Caudill, 1963). Between 1920 and 1940, the number of persons engaged in farming declined from 70% of the Kentucky population to 55% (Kirby, 1987). According to Randolph (1936:4), 23.8% of Perry County was employed in agriculture in 1936, with most production little more than what the farmer's family could consume. In addition, over 132,000 acres of the county were farmsteads. Tenancy continued to increase during the twentieth century possibly associated with the increase of farmers becoming part-time wage laborers. Tenancy increased from 33% in 1920 to 38% of all farms by 1940 (U. S. Census, 1943). Between 1929 and 1934, the number of tenant farmers within Perry County more than doubled, with corn, potatoes, and hay being the leading farm crops (Randolph, 1936:4-5).

One of the most dramatic changes during the early to mid-twentieth century was the improvements of roads and the increased prevalence of automobiles. In 1918, Kentucky roads totaled almost 58,000 miles, only 13,900 miles of which had any surface (Clark, 1960). Because road traffic continued to increase and caused a faster rate of wear, the need for road surfaces increased significantly. However, efforts in the Appalachian Mountain region were drastically reduced, with only one in 20.4 persons owning a vehicle by the early 1930s as compared to one in 6.9 within the Lexington and Frankfort region (Odum, 1936:366). In rural Kentucky, small farms and rural residences began to be established along roads, with many people migrating from farms to the "pike." As a result, they could continue to have a garden and some animals on several acres, but also take advantage of the improved roads to commute to outside jobs or nearby towns and cities (Sauer, 1927:145). By 1936, Perry County contained 70.9 miles of state-maintained highways, with 222 miles of improved and unimproved county roads (Randolph, 1936:2).

The lumber industry began to decline in Kentucky as compared to the nineteenth century. Many lumber camps were abandoned with few new lumbering sites established (McBride, 2008:983). However, within Perry County, particularly near the county seat of Hazard, the timber industry was within its initiative stage (Pilcher, 1917). According to Pilcher (1917), "Timbermen and lumber dealers and sawmills the country over have made Hazard the headquarters and the hotels are crowded with agents buying lands and logs and walnut stumps... the registers of the Combs Hotel and the Hotel Beaumont have names daily from Virginia, Tennessee, and other states." It was also during this time, in the twentieth century, that public dismay over deforestation began to grow. As a result, several National Forests were established in eastern Kentucky during the 1910s and 1920s (Eller, 1982:119). In 1923, approximately 15,000 acres in Breathitt, Knott, and Perry Counties were conveyed by the E. O. Robinson Mountain Fund to the University of Kentucky for agricultural experiment work, teaching, and practical demonstration of reforestation (Overstreet, 1984).

The coal mining industry in Kentucky was significantly prosperous from the mid-1910s to the mid-1920s, for both the coal companies and miners. It is estimated that by 1925, there were over 500 coal towns in

Appalachia (Shifflet, 1991), with 37 coal camps or towns in Perry County, Kentucky. According to Pilcher (1917), coal mining was in its infancy within Perry County in 1917, with only three mines opened: Raccoon Coal Company, Jewel Coal Company, and D. Y. Combs mines. By 1926, however, the County was producing over 6.5 million tons of bituminous coal, making the county the third highest producer in Kentucky. However, this prosperity ended between 1927 and 1929 with a sharp decline in coal and the closing of small mines due to the Great Depression. Coal mines declined from 742 in 1919 to 479 by 1939, while people employed in the mining industry declined from almost 58,000 in 1929 to approximately 49,000 in 1939 (U. S. Census, 1943). By the end of the 1930s, mining in the Appalachian Mountain region resumed due to World War II. However, improvements in transportation and the lower labor demands introduced by mechanization resulted in more dispersed and scattered housing throughout rural Kentucky (Caudill, 1963; Pickard, 1969). By 1936, coal mining employed 44.4% of Perry County's employed population. In addition, there were 46 active coal mines and 129 abandoned coal mines (Randolph, 1936:3).

In addition to coal mining in the Appalachian Mountain region of Kentucky, large-scale strip mining was introduced beginning in 1928. The largest of these strip-mining industries were in Pike, Perry, and Breathitt counties (Currens and Smith, 1977:8-10). The industry continued to grow in popularity, although the tonnage never outnumbered the tonnage recovered from underground mining from the 1920s to the 1970s. In addition, due to strip mining operations being more dispersed than underground mines, as well as the growth of the automobile, many nucleated company towns began to decline (McBride, 2008:984).

In addition to agriculture, timber, and coal, additional Perry County industries included retail establishments, transportation (i.e., the Eastern Kentucky Division of the Louisville and Nashville Railroad and the Southeastern Greyhound Bus line between Hazard and Lexington), hospitals, the Perry County Health Department (established 1927), public works, newspapers (*The Hazard Herald*, *the Hazard Plain Dealer*, and the *Union Advocate*), an electric power plant maintained by the Kentucky and West Virginia Power Company, fire department, banks, churches, hotels, a YMCA, and wholesale establishments (Randolph, 1936:4-5, 20). A steel plant was also erected in Hazard in order to take advantage of the coal industry.

6 HISTORIC MAPS REVIEW

Historic maps and aerial photographs depict nineteenth and twentieth century settlement and development within the Project and surrounding vicinity. Maps and historical aerial photographs reviewed include:

- The 1793 *A Map of Kentucky from Actual Surveys*
- The 1891 *Hazard, Kentucky* USGS topographic quadrangle
- The 1913 *Buckhorn, Kentucky* and 1914 *Troublesome, Kentucky* USGS topographic quadrangles
- The 1937 Highway and Transportation Map Perry County Kentucky
- The 1972 *Krypton, Kentucky* and 1972 *Hazard North, Kentucky* USGS topographic quadrangles
- 1995, 2004, 2008, 2014, and 2022 Aerial Photographs (Google Earth, 2022)

Each map and aerial photograph are discussed in detail below.

6.1 1793 A Map of Kentucky from Actual Surveys

An early map of the Project Area was published in 1793 that depicts the rivers and creeks within the area, including the North, South, and Middle Forks of the Kentucky River, but does not depict any development within the general vicinity of the Project Area (Figure 5). The map notes that the numerous headwaters feeding Licking Creek to the east of the Project Area had cane growing along the banks, but there was nothing else of note depicted within the general region (Barker and Carey, 1793).

6.2 1891 Hazard, Kentucky USGS topographic quadrangles

The area within the Project and the surrounding vicinity was primarily rural throughout the nineteenth century, with little development or occupation by Euro-Americans until the twentieth century (USGS, 1891; Figure 6). Few structures or towns are mapped within the vicinity on the 1891 *Hazard, Kentucky* USGS quadrangle map. Notable mapped waterbodies in 1891 that continue to be present near or within the Project today include the North Fork of the Kentucky River, First Creek, and Second Creek (presently an unnamed stream). Hazard, the county seat, is located southeast of the Project, with few mapped structures present. Mapped roads near or within the Project include Couchtown Road, portions of Sam Campbell Branch Road, portions of State Route 451, and an unnamed road that would eventually become the Lexington and Eastern Railway.

6.3 1913 Buckhorn, Kentucky and 1914 Troublesome, Kentucky USGS topographic quadrangles

Development within the Project and surrounding vicinity increased exponentially between 1891 and 1913/1914 (USGS, 1891, 1913, and 1914; Figures 6 and 7). One of the most notable changes included the construction of the Lexington and Eastern Railway, which paralleled the North Fork of the Kentucky River and connected Perry County to major cities within and outside of Kentucky. Mapped structures and schoolhouses significantly increased throughout the vicinity of the Project between 1891 and 1913/1914, particularly around waterbodies such as the North Fork of the Kentucky River, First Creek, Pigeonroost Branch, and Lower Second Creek (presently an unnamed stream). Mapped roads near or within the Project included portions of Highway 15, Lower Pigeonroost Road, portions of Couchtown Road, portions of State Route 451, Flatgap Road, Rocklick, and Rocklick Branch Road. Mapped towns near the Project included Yerkes and Krypton.

6.4 1937 Highway and Transportation Map, Perry County, Kentucky

Development within or near the Project continued to increase between 1913/1914 and 1937, most likely spurred by the mining and lumber industries (see Section 9.4). Mapped mines are significantly prevalent to the east of the Project, and to the southeast near the county seat of Hazard and along Highway 15 (Figure 8). Numerous mapped structures are centralized along major roads and waterbodies, most likely due to the steep topography of the county and in keeping with state-wide trends (see Section 9.4). Mapped towns

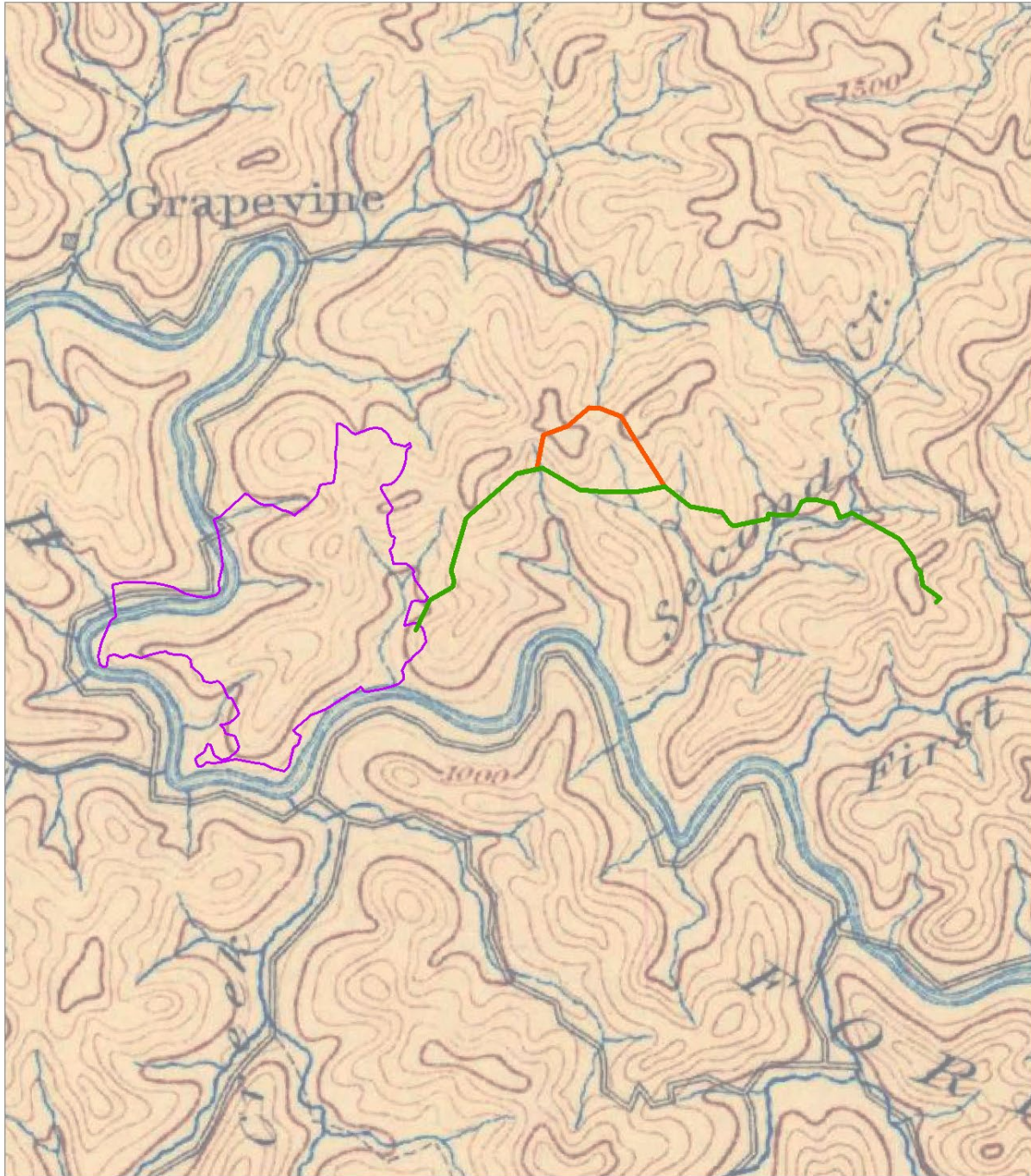


 Project Location



Figure 5. 1793 A Map of Kentucky from Actual Surveys

Bright Mountain Solar Project
Perry County, Kentucky
Historic Resources Survey



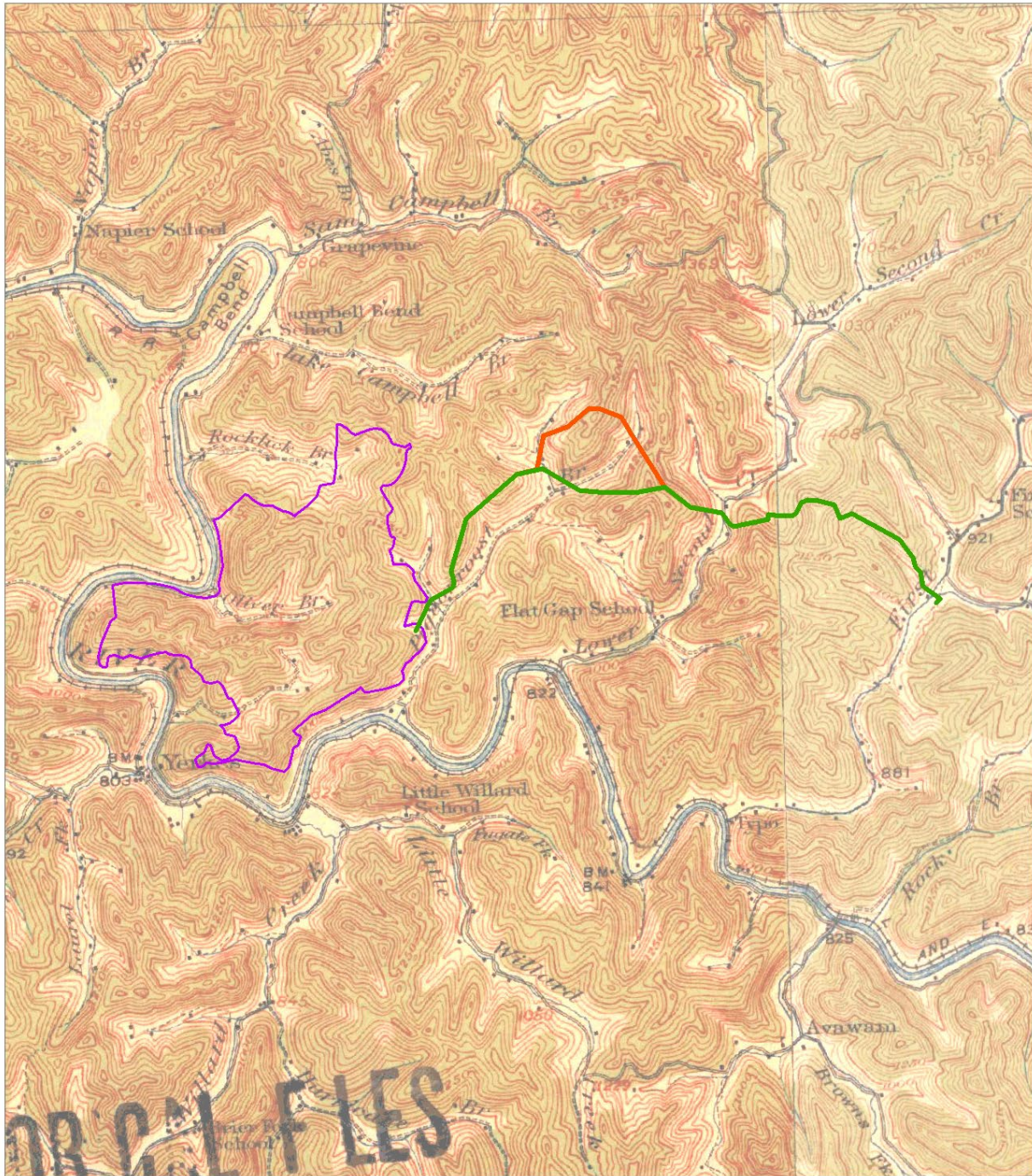
T-Line Area
 — Transmission Line
 — Alternate Transmission Line

Project Area



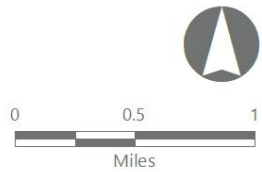
Basemap: 1891 USGS Hazard, Kentucky 1:125,000 Topographic Quadrangle

Figure 6. 1891 Hazard, Kentucky USGS topographic quadrangle



T-Line Area
 — Transmission Line
 — Alternate Transmission Line

Project Area



Basemap: 1913 USGS *Buckhorn, Kentucky* and 1914 *Troublesome, Kentucky* 1:62,500 Topographic Quadrangles

Figure 7. 1913 Buckhorn, Kentucky and 1914 Troublesome, Kentucky USGS topographic quadrangles

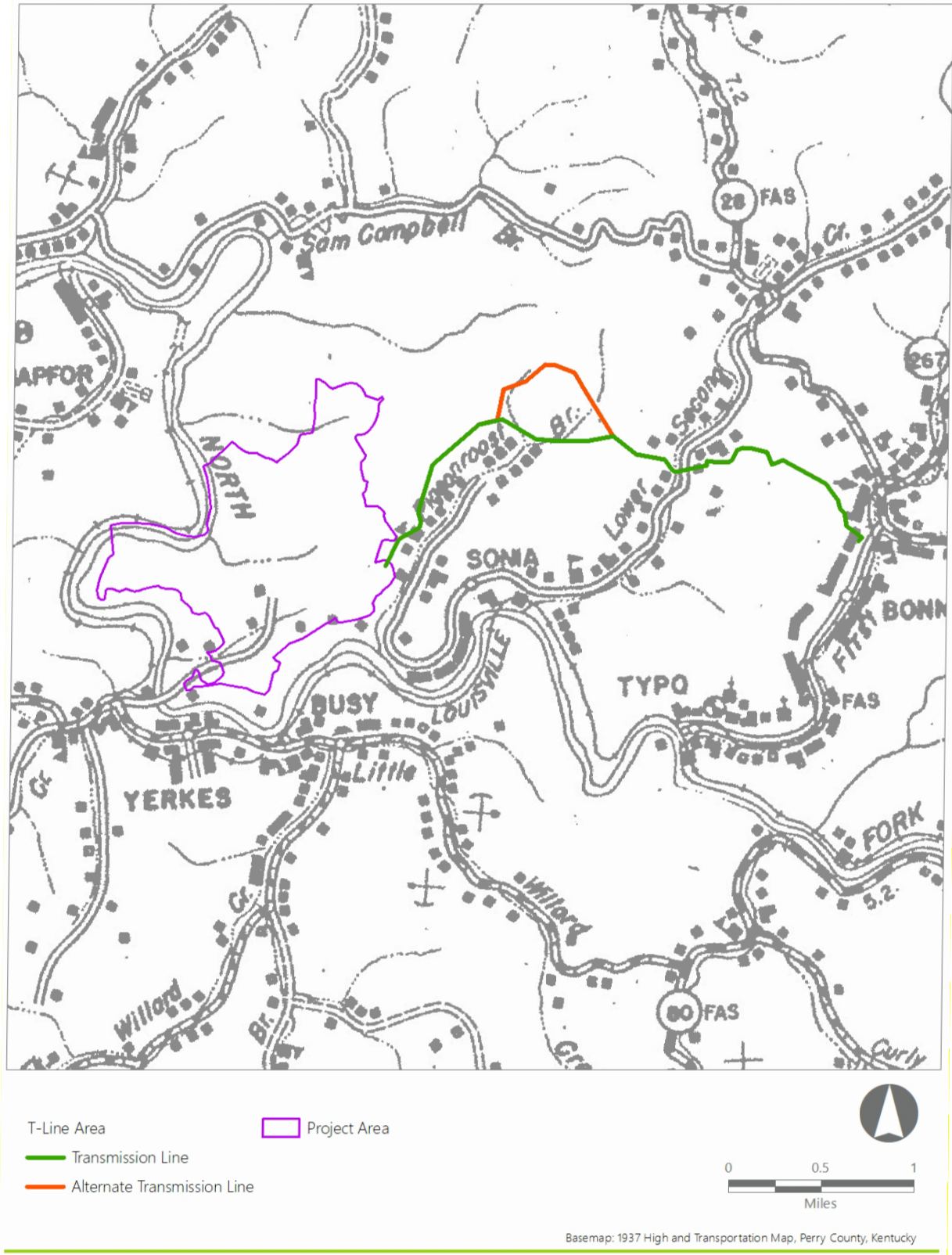


Figure 8. 1937 Highway and Transportation Map, Perry County, Kentucky

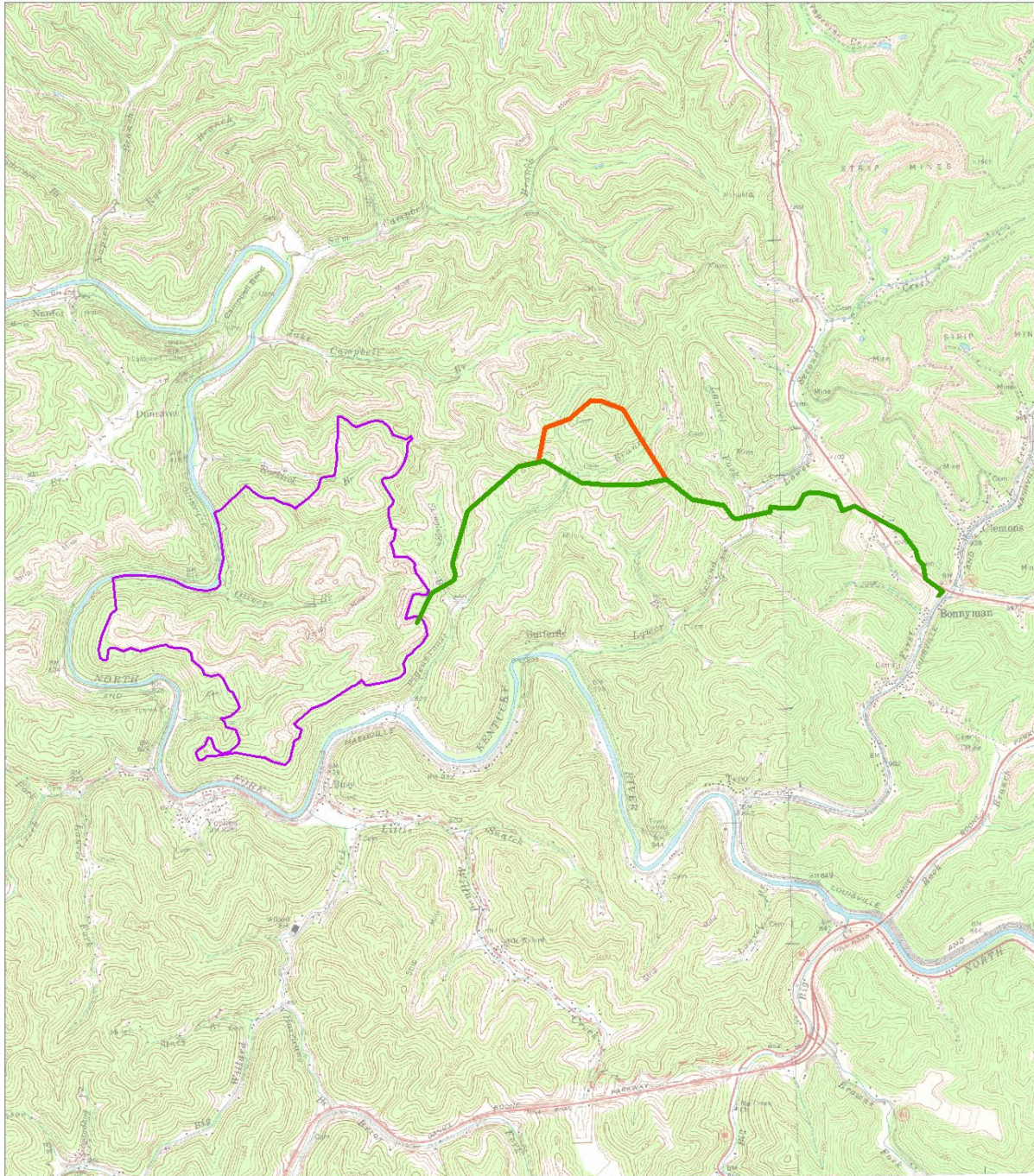
near the Project that were not present on the 1913/14 USGS topographic maps include Bonnyman, Typo, Busy, and Napfor.

6.5 1972 Krypton, Kentucky and 1972 Hazard North, Kentucky USGS topographic quadrangles

Between 1937 and 1972, surface mining activities began within the Facility Area and T-Line Area, which paralleled state-wide trends (see Section 9.4). Additionally, mapped structures from 1913/1914 and 1937 within or near the Project somewhat decreased, possibly from demolition tied to the surface mining activities. Mapped cemeteries near the Project also appeared on the USGS topographic quadrangles, which were not mapped in 1937. In general, however, the Project and nearby vicinity appeared relatively similar to their present-day conditions (Figure 9).

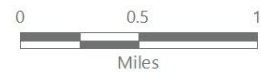
6.6 1995, 2004, 2008, 2014, 2018, and 2022 Aerial Photographs

While surface mining activities have been prevalent near the Project since the mid-twentieth century, significant changes did not occur within the Facility Area until the late twentieth century. According to aerial photographs from 1995 and 2004 (Google Earth, 2022), strip mining activity exponentially increased between 1995 and 2004, transforming the ground surface of the Facility Area. This activity continued to increase between a 2008 and 2014 aerial photograph. Between 2014 and 2018, however, the surface mining activity appeared to cease, with the Facility Area appearing overgrown by vegetation in a 2018 and 2022 aerial photograph (Google Earth, 2022).



T-Line Area
 — Transmission Line
 — Alternate Transmission Line

Project Area



Basemap: 1972 USGS Hazard, Kentucky and Krypton, Kentucky 1:24,000 Topographic Quadrangles

Figure 9. 1972 Krypton, Kentucky and 1914 Hazard North, Kentucky USGS topographic quadrangles

SURVEY DESIGN

7 SURVEY GOALS AND OBJECTIVES

The goals of this historic resources survey were to identify historic resources within the APE for Indirect Effects that are potentially eligible for listing in the NRHP, and to provide updated information and recommendations of NRHP eligibility for the previously identified historic resource (PE 12).

8 CRITERIA FOR EVALUATING THE SIGNIFICANCE OF HISTORIC RESOURCES

Historically significant resources are defined herein to include buildings, districts, objects, structures and/or sites that have been listed in the NRHP, as well as those resources that the SHPO has formally determined are eligible for listing in the NRHP. Criteria set forth by the National Park Service (NPS) for evaluating historic resources (36 CFR Part 60.4) state that a historic building, district, object, structure, or site is significant (i.e., eligible for listing in the NRHP) if the resource is typically 50 years old or older and conveys:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- (A) that are associated with events that have made a significant contribution to the broad patterns of our history; or*
- (B) that are associated with the lives of persons significant in our past; or*
- (C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
- (D) that have yielded, or may be likely to yield, information important in prehistory or history.*

Cemeteries are considered eligible for the NRHP only if they independently meet NRHP Criterion D, are nominated along with a church that meets the NRHP criteria, are an integral part of an NRHP-eligible historic district, or meet the requirements of NRHP Criterion Consideration D. Under Criterion Consideration D, a cemetery is considered eligible if it “derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events” (NPS, 1995).

9 SURVEY METHODOLOGY

The historic resources survey was conducted in accordance with the SHPO *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* by professionals who satisfy the qualifications per the Secretary of the Interior’s Standards for Historic Preservation (36 CFR Part 61).

Site visits within the APE for Indirect Effects were conducted on September 13, 2022, to identify and photograph historic resources, with the goal of identifying and documenting those buildings, sites, structures, objects, and/or districts within the APE for Indirect Effects that, in the opinion of EDR's architectural historians, appear to satisfy NRHP eligibility criteria. In addition, EDR is providing updated photographs and recommendations of eligibility for the previously identified resource within the APE for Indirect Effects. EDR also photo-documented previously unidentified historic resources within the APE for Indirect Effects that, in the opinion of EDR's architectural historians, did not meet NRHP eligibility criteria, but appeared to be over 50 years old.

When resources that were not previously identified appeared to satisfy NRHP eligibility criteria (per Section 8), the existing conditions of the resource were documented. The condition and integrity of all resources were evaluated based solely on the visible exterior of the structures. Note that all properties included in the historic resources survey were assessed from public rights-of-way. This may have included photographs of the building(s) and associated property. Information describing the style, physical characteristics, and materials (e.g., number of stories, plan, external siding, roof, foundation, and sash), condition, physical integrity, and other noteworthy characteristics for each resource was recorded by qualified architectural historians, based on the site photographs. No inspections or evaluations requiring access to the interior of buildings, or any portion of private property, were conducted as part of this assessment.

EDR's evaluation of historic resources within the APE for Indirect Effects focused on integrity (with respect to design, materials, feeling, and association) to assess the potential architectural significance of each resource. To better understand development patterns, EDR conducted setting and context research for the Study Area prior to conducting the survey (see Section 5).

RESULTS OF HISTORIC RESOURCES SURVEY

Section 10 describes the conditions present in the APE for Indirect Effects during EDR's site visits. The results of the field investigation are described in Sections 11 (previously identified resources) and 12 (newly identified NRHP eligible and ineligible resources).

10 CONDITIONS AND CONSTRAINTS

Weather conditions during the site visit on September 13th were typical of the season with daytime temperatures between 70- and 75-degrees Fahrenheit during fieldwork with clear visibility, and mostly clear skies and an early morning fog that evaporated by the mid-morning.

Views from public rights-of-way within the APE for Indirect Effects were dominated by the undulating topography consisting of steep ridges set above the North Fork of the Kentucky River and its various tributaries within the APE for Indirect Effects. Dwellings were largely confined to the narrow valleys between these ridges.

The area within the APE for Indirect Effects is rural and lightly populated, with the principal communities in the APE consisting of Bonnyman, Busy, Krypton, Yerkes, and Dunraven. Development occurs at a very low density throughout most of the APE for Indirect Effects and is for the most part widely spaced along local roads within the narrow valleys or ridge tops. Historic-era residential architectural styles primarily included one-story early twentieth century examples of the Craftsman style; however, most of the dwellings are built in a vernacular style. Newer construction from the 1970s to the present is most prevalent and there is little historic fabric remaining in the APE for Indirect Effects.

A major flood event took place in this area of eastern Kentucky in late July of 2022. Heavy rain triggered flash flooding and more than 10 inches of rain fell over a 24-hour period. As a result, several roads in the APE for Indirect Effect were impassable and the road conditions were at times unpredictable. Many areas within the APE for Indirect Effects were still affected by debris and poor road conditions at the time of survey.

11 PREVIOUSLY IDENTIFIED HISTORIC RESOURCES

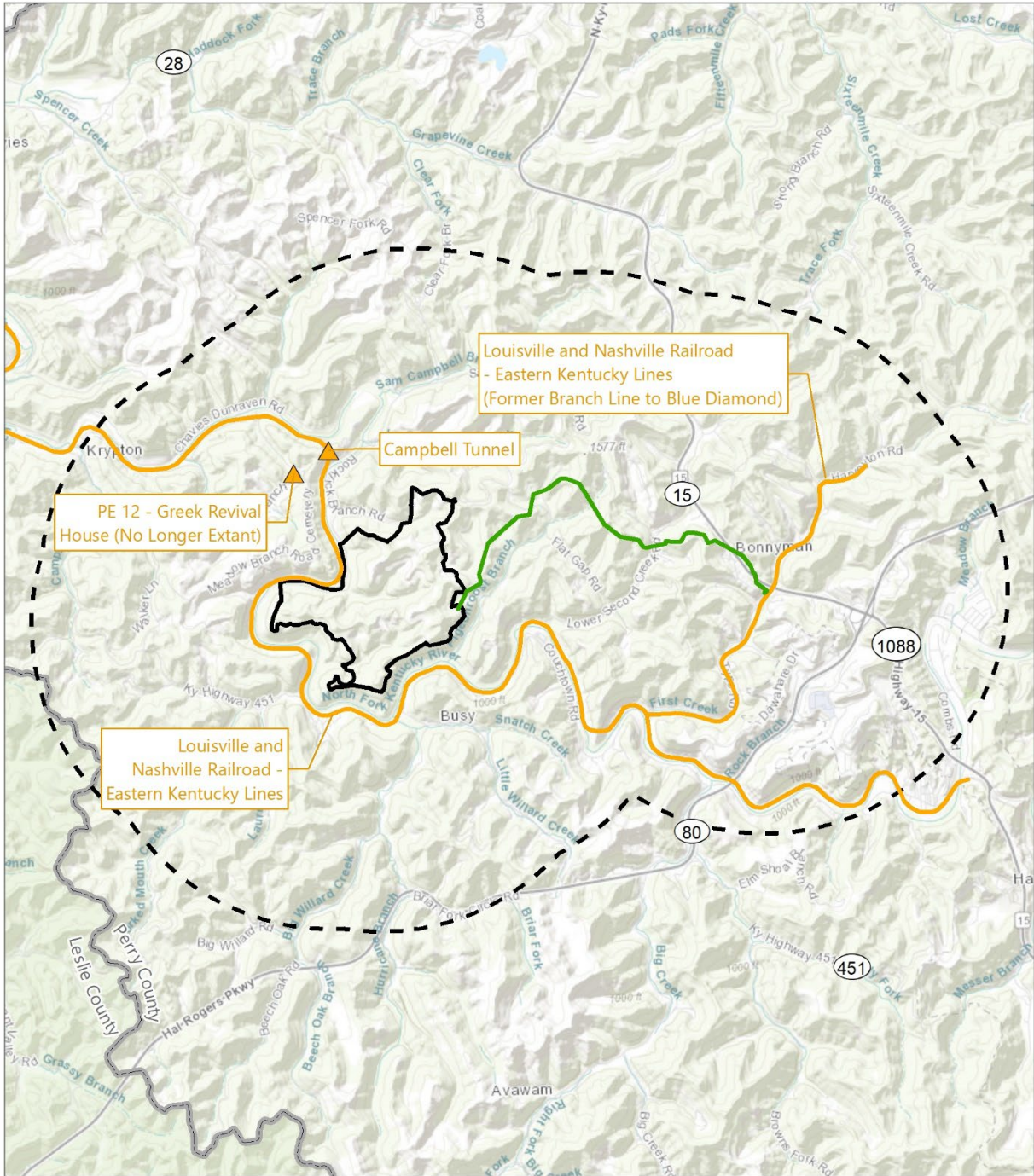
One previously recorded historic resource (PE 12), consisting of a circa 1850-1874 Greek Revival residence, was surveyed and evaluated as part of the Project's historic resources survey (Table 2). This resource is not located within the Project Area and field survey revealed the resource is no longer extant and has been replaced with a ca. 2011 dwelling. The resource's location is depicted on Figures 3 and 10 and photographs are provided in Appendix C.

Table 2. Previously Identified Resource within APE for Indirect Effects

Site ID	Name/Location	Description	NRHP Eligibility (EDR Recommendation)	Distance from Project Area	Photographs (Appendix C)
PE 12	House at Meadow Branch - Dunraven	1850-1874 Greek Revival	Not Eligible (No Longer Extant)	0.69 mile	Photograph 1

12 NEWLY IDENTIFIED HISTORIC RESOURCES

A total of 16 previously unidentified historic resources within the APE for Indirect Effects. Two newly identified resources are being recommended by EDR as eligible for listing in the NRHP (Table 3). EDR identified an additional 14 resources within the APE for Indirect Effects that lack the integrity and/or significance to be considered eligible for listing in the NRHP. A summary table of these resources including addresses, styles/types, construction dates, and thumbnail photographs are provided in Table 3. Additional photographs of properties recommended NRHP-eligible are included in Appendix C while Figure 10 below shows locations for the resources recommended as NRHP eligible.



- ▲ Historic Resource Surveyed
- Louisville and Nashville Railroad
- Transmission Line
- ▭ Project Area
- - - 2-Mile Study Area





Basemap: Esri "World Topographic Map" map service

Figure 10. Previously Recorded and EDR Recommended NRHP Eligible Resources within Indirect APE

Table 3. Newly Identified Resources within APE for Indirect Effects

Name/Address	Style/Type	Year Built	NRHP Eligibility (EDR Recommendation)	Distance from Project Area	Photographs
Louisville and Nashville Railroad – Eastern Kentucky Lines /	Railroad Related	Ca. 1911	Eligible, Criterion A (Transportation; Commerce/Trade)	142 feet	See Appendix C: Photographs 2-5
Campbell Tunnel / Northwest of Thacker Lane, Krypton	Railroad Related	Ca. 1911	Eligible, Criterion A (Transportation)	0.62 mile	See Appendix C: Photographs 6-8
Houses at +/- 40 First Creek Lane, Bonnyman	No Style / Front Gable	Ca. 1945 / Ca. 1910	Not Eligible	0.18 mile	
First Creek Baptist Church / 54 First Creek Lane, Bonnyman	No Style	Ca. 1920	Not Eligible	0.2 mile	
House at 82 First Creek Lane	Front Gable	Ca. 1930	Not Eligible	0.21 mile	
Bill's Grocery / 318 Harveyton Road	Craftsman/Bungalow	Ca. 1920	Not Eligible	0.28 mile	
House at 350 Harveyton Road	Ranch	Ca. 1950	Not Eligible	0.29 mile	

Name/Address	Style/Type	Year Built	NRHP Eligibility (EDR Recommendation)	Distance from Project Area	Photographs
Combs Garage / 30 Bonnyman Circle	Commercial Style	Ca. 1970	Not Eligible	0.08 mile	
Combs Cemetery / Northwest side of Combs Valley Drive	Cemetery	1941	Not Eligible	0.16 mile	
House at +/- 8549 KY Highway 451	Front Gable	Ca. 1920	Not Eligible	0.17 mile	
House at 80 Poplar Lane	Hall and Parlor	Ca. 1915	Not Eligible	0.27 mile	
Yerkes Post Office / 8550 KY Highway 451	No Style	Ca. 1915	Not Eligible	0.2 mile	
House of Refuge Pentecostal Church / 8551 KY Highway 451	No Style	Ca. 1915	Not Eligible	0.16 mile	
House at Peach Tree Drive	I-House	Ca. 1915	Not Eligible	0.26 mile	

Name/Address	Style/Type	Year Built	NRHP Eligibility (EDR Recommendation)	Distance from Project Area	Photographs
House at 9002 KY Highway 451	Craftsman	Ca. 1920	Not Eligible	0.36 mile	
House at 833 Meadow Branch Road	Classical Revival	Ca. 1900	Not Eligible	0.6 mile	

Additional information on resources recommended NRHP-eligible are as follows:

Louisville and Nashville Railroad – Eastern Kentucky Lines roughly follow the winding course of the North Branch of the Kentucky River in Perry County within the APE for Indirect Effects (see Figure 9). The railroad originated as the Kentucky Union Railway Company which was chartered in 1854 and was proposed to travel from Newport, Kentucky on the Ohio River through central Kentucky eventually terminating in Big Stone Gap, Virginia. Plans for the railroad were disrupted by the outbreak of the Civil War but by 1872 plans were again in motion. Rather than a state-wide railroad, the Kentucky Union Railway Company focused their construction efforts on eastern Kentucky in order to access the lucrative coal fields and abundant timber. In 1885, trackage was completed between Lexington and Clay City in Powell County and by 1890 the line reached Jackson in Breathitt County (The Mountain Eagle 2015).

The Kentucky Union Railway Company quickly faced financial difficulties after the construction of the railroad and in 1891 the company was put into receivership and sold at auction for one million dollars. The company was reorganized as the Kentucky and Eastern Railway, but by 1903 the railway again saw financial troubles. It was around this time that Louisville and Nashville Railroad undertook a survey of southeastern Kentucky south of the terminus of the Kentucky and Eastern Railroad in Jackson. The Louisville and Nashville Railroad was chartered in 1850 and quickly became a prominent rail line in the south. The railroad had a wide network throughout the southeast that it achieved through continual acquisitions of smaller rail lines as well as construction of its own rights-of-ways. The railroad originated as a line between Louisville, Kentucky and Nashville, Tennessee but expanded throughout the second half of the nineteenth century reaching Birmingham, Alabama; New Orleans, Louisiana via Mobile, Alabama; the Florida Panhandle; St. Louis; Atlanta; and Cincinnati. It was acquired by the Atlantic Coast Line Railroad in 1902, although the company remained a separate entity and was operated independently (Burns 2022). As coal speculation in

eastern Kentucky increased during the latter half of the nineteenth century, the Louisville and Nashville Railroad was eager to extend its Cumberland Valley Division to the northwest to tap into the market in eastern Kentucky (The Mountain Eagle 2015).

The survey by the Louisville and Nashville Railroad explored potential routes from Jackson south to the headwaters on the North Fork of the Kentucky River in Perry and Letcher Counties (to the southeast on the Virginia border). Although the shareholders initially rejected the results of the survey due to the cost, the proposal was adopted in 1909 and construction quickly began. In 1910, construction on the extension began from Dumont (to the south of Jackson) to Fleming near the Virginia border (The Mountain Eagle 2015; Burns 2022). Several branch lines were also constructed to reach mines in the area (including a branch line from Typo to mines in the vicinity of Clemons within the APE for Indirect Effects [see Appendix C: Photographs 4 and 5]). A double track railroad was constructed between Winchester and Blackey (including through the Project area), and this is likely when the tunnels within the Project were constructed. This segment of the Louisville and Nashville Railroad and its branches were completed in 1912 and called the Eastern Kentucky Lines, although the name Kentucky and Eastern Railroad was maintained. Coal, timber, and general merchandise were the primary goods shipped along the route (The Mountain Eagle 2015; Burns 2022).

The Louisville and Nashville Railroad made consistent repairs and upgrades to their lines and facilities which helped the line to remain one of the largest and most important in the southeast into the twentieth century. The Atlantic Coast Line Railroad was reorganized in 1969 as the Seaboard Coast Line Railroad and its network of railroads became known as the "Family System." The railroad merged with the combined conglomerate of the Chesapeake and Ohio (C&O) and the Baltimore and Ohio (B&O), known as the Chessie System, to form CSX who currently owns the railroad (Burns 2022). Today, the railroad hauls coal, light trucks, containerized consumer goods, semi-finished steel, and iron ore (CSX 2022).

- **Campbell Tunnel** is located approximately 264 feet to the north of Thacker Lane to the southwest of its intersection with Meadow Branch Road in the unincorporated community of Dunraven. The double-track masonry arch tunnels were constructed by the Louisville and Nashville Railroad ca. 1911 after the company acquired the Lexington and Eastern Railroad and extended the line from its southern terminus in Jackson southwest to the Virginia border (Burns 2022). The tunnels were bored through the mountain side likely to avoid Campbell Bend, a feature of the meandering North Fork of the Kentucky River. One additional tunnel, the Yerkes Tunnel, is located within the APE for Indirect Effects approximately 0.26 mile to the southwest of the Facility Area. However, the tunnel was not accessible from the public right-of-way.

CONCLUSIONS AND RECOMMENDATIONS

EDR identified a total of 17 historic resources within the APE for Indirect Effects, including the Louisville and Nashville Railroad – Eastern Kentucky Lines and the associated Campbell Tunnel which are recommended as eligible for listing in the NRHP for their association with the history of Transportation and Commerce/Trade in Perry County and Kentucky. One previously identified resource, the Greek Revival House at 1282 Meadow Branch (PE 12), is no longer extant. The remaining 14 resources lack the integrity and/or significance for inclusion in the NRHP.

The proposed Project is not currently anticipated to directly (physically) impact any known historic resources eligible for or listed on the NRHP. There are no extant previously recorded historic resources within the Project's APE for Indirect Effects. Due to the topography, screening by existing vegetation, and existing ground and tree clearing for previous extractive activities within the Facility Area and T-Line Area, the proposed Project will have No Effect on the Louisville and Nashville Railroad – Eastern Kentucky Lines or the associated Campbell Tunnel. EDR recommends that the Project should proceed without further historic resources investigations.

The Historic Resources Survey Report presented herein was prepared as part of the Applicant's due diligence for an application to the Kentucky State Board on Electric Generation and Transmission Siting for construction of the proposed Project.

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Appendix A
Staff Resumes



Education

- Master of Arts, History, Youngstown State University, Youngstown, Ohio, 2004
- Bachelor of Arts, Anthropology, Youngstown State University, Youngstown, Ohio, 1997

Registration / Certifications

- Meets the Secretary of Interior's Standards for History and Architectural History (36 CFR Part 61)

Employment History

- Historic Preservation Project Manager, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., Columbus, OH, 2020-present
- Senior Architectural Historian/Cultural Resources Lead, Western Pennsylvania, AECOM, Pittsburgh, PA, 2016-2020
- Senior Project Architectural Historian/Architectural History Department Head, GAI Consultants, Inc., Pittsburgh, PA, 2008-2016
- Architectural Historian, Janus Research, Tampa, FL, 2004-2007
- Archaeological Field Technician, Skelly & Loy Consultants & Engineers, Pittsburgh, PA, 1997-2002

Michael is a Historic Preservation Project Manager with EDR. He holds a Master of Arts degree in History with a Graduate Certificate in Historic Preservation from Youngstown State University, and a Bachelor of Arts degree in Anthropology with a specialization in Archaeology from Youngstown State University. Mr. Kenneally has 20 years of experience working on cultural resource management projects and meets the professional qualifications for the Secretary of the Interior's Standards in History and Architectural History (per 36 CFR 61). Mr. Kenneally specializes in managing and conducting cultural resource surveys, including both archaeology and historic resources surveys, and has extensive knowledge of the rules and regulations governing Section 106 and National Register of Historic Places (NRHP) eligibility evaluations. He has managed and conducted numerous large- and small-scale cultural resource assessment surveys for various state and federal agencies, city departments, municipalities, and various organizations in both the public and private sectors. Mr. Kenneally also has experience in Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) documentation and large format photography and brings experience and proficiency to all phases of archaeological surveys.

Project Experience

Dixon Run Solar, Jackson County, Ohio – Project Manager and Architectural Historian for the preparation of a Certificate Application for the OPSB and a Phase IA cultural resources report in support of the OPSB application for a 140-megawatt solar energy project sited on an approximately 2,082-acre area.

Salt City Solar Gen-Tie Easement, Ross County, Ohio – Cultural Resources Task Manager for Phase I Cultural Resources Survey in support of an OPSB Application for a gen-tie line in association with a 49-megawatt solar powered electric generation facility.

Flint Grid Energy Storage System, Licking County, Ohio – Cultural Resources Task Manager for Phase I Cultural Resources Survey in support of an OPSB Application for a 200-megawatt battery storage facility sited on an approximately 15-acre area.

Wild Grains Solar, Van Wert County, Ohio – Cultural Resources Task Manager and Architectural Historian for Phase IA research design and survey methodology, Phase I archaeological survey, and historic resources survey in support of an OPSB Application for a 150-megawatt solar energy project sited on an approximately 2,213-acre area.

Tymochtee Solar, Wyandot County, Ohio – Cultural Resources Task Manager and Architectural Historian for Phase IA research design and survey methodology and historic resources survey in support of an OPSB Application for a 120-megawatt solar energy project sited on an approximately 1,900-acre area.

Willowbrook Solar, Highland and Brown Counties, Ohio -Cultural Resources Task Manager and Architectural Historian for historic resources survey in support of an OPSB Application for a 150-megawatt solar energy project sited on an approximately 2,292-acre area.

Clearview Solar, Champaign County, Ohio – Cultural Resources Task Manager for Phase IB archaeological survey in support of an OPSB Application for a solar energy project sited on an approximately 1,196-acre area.

Powell Creek Solar, Putnam County, Ohio – Cultural Resources Task Manager for supplemental archaeological survey services in support of an OPSB Application and the preparation of Programmatic Agreement for avoidance of archaeological sites for a solar energy project sited on an approximately 2,013-acre area.



Elizabeth Williams is a Project Architectural Historian at EDR with 9 years of experience in the field. She exceeds the Qualifications for the Secretary of the Interior's Standards for Architectural History (per 36 CFR 61) and has conducted numerous large-scale historic resource survey efforts in Pennsylvania, West Virginia, Maryland, Virginia, Ohio, and Missouri. In addition to her extensive survey experience, Ms. Williams is adept at completing historic resource survey forms including determinations of eligibility, authoring historic contexts and reports, and conducting archival and background research. She is familiar with federal and state guidelines that broadly includes Section 106 of the National Historic Preservation Act.

As a Project Architectural Historian, Elizabeth's responsibilities include providing support to the Cultural Resources Division by conducting historic resources survey fieldwork, research, writing, mapping, geographic information systems (GIS) analysis, and preparation of report figures. Coordinates project implementation with, and on behalf of, project managers and senior staff and assumes primary responsibility for completion of cultural resources reports and deliverables that meet EDR's standards of quality.

Education

- Bachelor of Fine Arts, Historic Preservation, Savannah College of Art and Design, Savannah, GA, 2011

Certifications

- Meets the Secretary of Interior's Standards for Archaeology (36 CFR Part 61)
- National Safety Council First Aid, CPR, and AED Certified
- OSHA 30-hour Construction Safety and Health Training

Employment History

- Project Architectural Historian, Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C., Syracuse, NY, 13202, 2022
- Architectural Historian, The Markosky Engineering Group, Inc., Ligonier, PA, 2017-2022
- Architectural Historian/Senior Architectural Historian, GAI Consultants, Inc., Pittsburgh, PA, 2013-2017

Project Experience

Richwood Solar Project, Field Survey and Historic Resources Survey Report, Union County, Ohio – Field survey and authoring of Historic Resources Survey report.

Skipjack Wind Farm, Field Survey and Pre-Field Desktop Analysis and Evaluations, Offshore, MD, DE, NJ – Field survey and intensive desktop analysis and evaluations of potential historic resources for a proposed 120-MW offshore wind farm located off the coast of Delaware and Maryland.

Pennsylvania Baseline Survey Year 1 Contract B - Susquehanna, Wyoming, and Lackawanna Counties, PA – *(prior to EDR)* This ongoing project through the Pennsylvania State Historic Preservation Office aims to collect the minimum record of over 27,000 historic resources in 52 counties in Pennsylvania over a span of three years. As a subconsultant to JMT, Ms. Williams completed surveys in three counties in northeastern Pennsylvania over five weeks and captured over 2,000 resources total. The minimum record was recorded using the mobile app Survey123 and data was entered into PA SHPO's Survey Manager platform. Ms. Williams also completed brief county and municipality histories for each county using templates provided by PA SHPO. The project also involved multiple meetings with representatives from PA SHPO to provide feedback about this new project and its components.

Magnolia Levee Dam Safety Modification National Register of Historic Places Evaluation, Carroll and Stark Counties, OH – *(prior to EDR)* Architectural Historian on a two-person team that completed a National Register of Historic Places (NRHP) Evaluation for this United States Army Corps of Engineers (USACE) project to make improvements to the Magnolia Levee and the former Sandy and Beaver Canal. Ms. Williams conducted the evaluation of above ground resources including Magnolia Levee, the canal, two early 20th century houses, and a late 19th century blacksmith shop, as well as an effects evaluation for the NRHP listed Elson-Magnolia Flour Mill.

Allegheny Circle, Allegheny County, Pittsburgh, PA – *(prior to EDR)* Architectural Historian who completed the research, field survey, and drafting of the eligibility form for the Allegheny Center Historic District (2019RE03220) urban renewal complex, which transformed 40-acres from a dense urban grid to a distinct island of modernity separated from its surroundings by the ring road and offering a distinctly new vision for commercial, business, and residential urban planning. She also contributed to the preparation of both a Determination of Effects report and Section 4(f) checklists for historic resources.

West Virginia Multi-County Historic Resources Survey, Various Counties, WV – *(prior to EDR)* Was a part of a two-person team that completed a multi-county survey of historic structures for the West Virginia State Historic Preservation Office (WV SHPO). A total of 750 historic structures were recorded, with 150 resources allotted to each of the five counties in north-central WV: Tyler, Ritchie, Gilmer, Braxton, and Doddridge. The survey reports for the individual counties contained a historic context, methodology, summaries of the resources that were identified, mapping and figures, and individual eligibility documentation for all resources. This grant-funded project was designed to supplement and enrich existing information on the historic built environment of these counties by identifying and documenting heretofore unrecorded resources.

Corry Historic District National Register Nomination, Erie County, PA - *(prior to EDR)* As a part of this ongoing project, Ms. Williams is preparing the nomination to list the Corry Historic District, which contains approximately 300 properties, to the National Register of Historic Places. The historic district is significant for its association with transportation, industry, and community planning and development. The project builds on preliminary eligibility studies Ms. Williams conducted in Corry and includes a public outreach component.

Appendix B

SHPO Correspondence

From: [Konkol, Nicole N \(Heritage Council\)](#)
To: [Janna Napoli](#)
Subject: Re: Letter attached
Date: Wednesday, June 1, 2022 1:18:30 PM
Attachments: [image001.png](#)
[Outlook-m4o0uyuj.png](#)
[Antiquities Act.pdf](#)

[EXTERNAL SENDER]

Hi Janna.

We would be happy to review a lit and rec submission and we do get due diligence submissions, particularly for solar projects. Sadly, there is not always a federal hook for these projects so they are not considered undertakings meaning there is no required environmental or cultural resource reviews. As far as state level permits there is no explicit requirement to comply with NHPA and NEPA; however, there have been many applicants that do still choose to reach out to us.

That being said, the Commonwealth of Kentucky does have a state antiquities law that comes into play sometimes. Significant archaeological sites on state or locally owned or managed property are subject to this law. It requires applicants to contact the Office of State Archaeology to get a permit prior to ground disturbing activities.

Here is the link for more information on that. Hope it helps.

<https://anthropology.as.uky.edu/office-state-archaeology>

I've attached a pdf of the state law too.

Sincerely,

N. Nicole Konkol
Site Protection Program Manager
Kentucky Heritage Council
410 High Street
Frankfort, Kentucky 40601
Email: nicole.konkol@ky.gov



EFFECTIVE IMMEDIATELY - We are **no longer accepting paper** documents for above or below ground review. **Please submit all electronic documents for Section 106 Review to khc.section106@ky.gov.** DO NOT SUBMIT ANY INITIAL SECTION 106 REVIEW MATERIALS

TO AN INDEPENDENT REVIEWER. Failure to submit documents to the dedicated Section 106 email address **will** result in our staff not receiving these documents for review.

Please see www.heritage.ky.gov for information about office hours and services.

From: Janna Napoli <jnapoli@edrdpc.com>
Sent: Wednesday, June 1, 2022 9:31 AM
To: Konkol, Nicole N (Heritage Council) <nicole.konkol@ky.gov>
Subject: RE: Letter attached

Nicole,

Thanks so much for all your help. I really appreciate it!

I was wondering if you could help with one other thing – my coworkers and I are a little confused on the requirements for a proposed solar farm that we are working on. It is a solar farm entirely within a strip mine plus a transmission line through steep wooded hills in Perry County, KY. They cannot seem to find anything in the permitting (Kentucky State Board on Electric Generation and Transmission Siting) that requires an archaeological or historic resources survey – and that includes a literature review.

We've gotten different answers from some people we've emailed, and are unsure if we need to submit anything, other than doing our due diligence with a site check. Right now, we're wondering if a Phase IA literature review would even be reviewed by the KYSHPO if we sent this to you. If you could direct me to the right person, or answer this email yourself, I'd really appreciate the help.

Thanks,

Janna

Janna Napoli, MAA, RPA
EDR Project Archaeologist

From: Konkol, Nicole N (Heritage Council) <nicole.konkol@ky.gov>
Sent: Friday, May 27, 2022 3:57 PM
To: Janna Napoli <jnapoli@edrdpc.com>
Subject: Letter attached

[EXTERNAL SENDER]

Hi.

This one made it through the pipeline very quickly.

Have a good weekend.

Sincerely,

N. Nicole Konkol
Site Protection Program Manager
Kentucky Heritage Council
410 High Street
Frankfort, Kentucky 40601
Email: nicole.konkol@ky.gov



EFFECTIVE IMMEDIATELY - We are **no longer accepting paper** documents for above or below ground review. **Please submit all electronic documents for Section 106 Review to khc.section106@ky.gov.** DO NOT SUBMIT ANY INITIAL SECTION 106 REVIEW MATERIALS TO AN INDEPENDENT REVIEWER. Failure to submit documents to the dedicated Section 106 email address **will** result in our staff not receiving these documents for review.

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Appendix C
Photographs



Photo 1

Resource ID: PE 12

Greek Revival House
(no longer extant) showing
replacement ca. 2011 dwelling

Location: 1282 Meadow Branch
Road, Krypton

Coordinates:
37.30710851688452,
-83.30693120238506

Direction of View: Northwest

Date: September 13, 2022

EDR Recommendation:
Not Eligible (No Longer Extant)



Photo 2

Louisville and Nashville
Railroad - Eastern Kentucky
Lines, right-of-way on the north
side of Couchtown Road to
the southwest of the
community of Butterly

Location: Roughly follows the
North Branch of the Kentucky
River within the APE for Indirect
Effects

Direction of View: Southwest

Date: September 13, 2022

EDR Recommendation:
Eligible (Criterion A)

Bright Mountain Solar Project

City of Bonnyman, Perry County, Kentucky

Historic Resources Survey



Photo 3

Louisville and Nashville Railroad - Eastern Kentucky Lines, right-of-way on the north side of Couchtown Road to the southwest of the community of Butterly

Location: Roughly follows the North Branch of the Kentucky River within the APE for Indirect Effects

Direction of View: Northeast

Date: September 13, 2022

EDR Recommendation:
Eligible (Criterion A)



Photo 4

Louisville and Nashville Railroad - Eastern Kentucky Lines, branch line to Blue Diamond Mine in the community of Clemons

Location: Northwest and southeast sides of Harveyton Road (KY 267) to the northeast of the intersection with KY 15

Direction of View: Southwest

Date: September 13, 2022

EDR Recommendation:
Eligible (Criterion A)

Bright Mountain Solar Project

City of Bonnyman, Perry County, Kentucky

Historic Resources Survey



Photo 5

Louisville and Nashville Railroad - Eastern Kentucky Lines, branch line to Blue Diamond Mine in the community of Clemons

Location: Northwest and southeast sides of Harveyton Road (KY 267) to the northeast of the intersection with KY 15

Direction of View: Northeast

Date: September 13, 2022

EDR Recommendation:
Eligible (Criterion A)



Photo 6

Campell Tunnel, view of southern tunnel portal showing dual tunnels

Location: North of Thacker Lane to the southwest of the intersection with Meadow Branch Road

Coordinates:
37.309688787115995,
-83.3015613283098

Direction of View: Northeast

Date: September 13, 2022

EDR Recommendation:
Eligible (Criterion A)

Bright Mountain Solar Project

City of Bonnyman, Perry County, Kentucky

Historic Resources Survey



Photo 7

Campbell Tunnel, view of southern tunnel portal showing western-most tunnel

Location: North of Thacker Lane to the southwest of the intersection with Meadow Branch Road

Coordinates:
37.309688787115995,
-83.3015613283098

Direction of View: Northeast

Date: September 13, 2022

EDR Recommendation:
Eligible (Criterion A)



Photo 8

Campbell Tunnel, view of southern tunnel portal showing eastern-most tunnel

Location: North of Thacker Lane to the southwest of the intersection with Meadow Branch Road

Coordinates:
37.309688787115995,
-83.3015613283098

Direction of View: Northeast

Date: September 13, 2022

EDR Recommendation:
Eligible (Criterion A)

Bright Mountain Solar Project

City of Bonnyman, Perry County, Kentucky

Historic Resources Survey